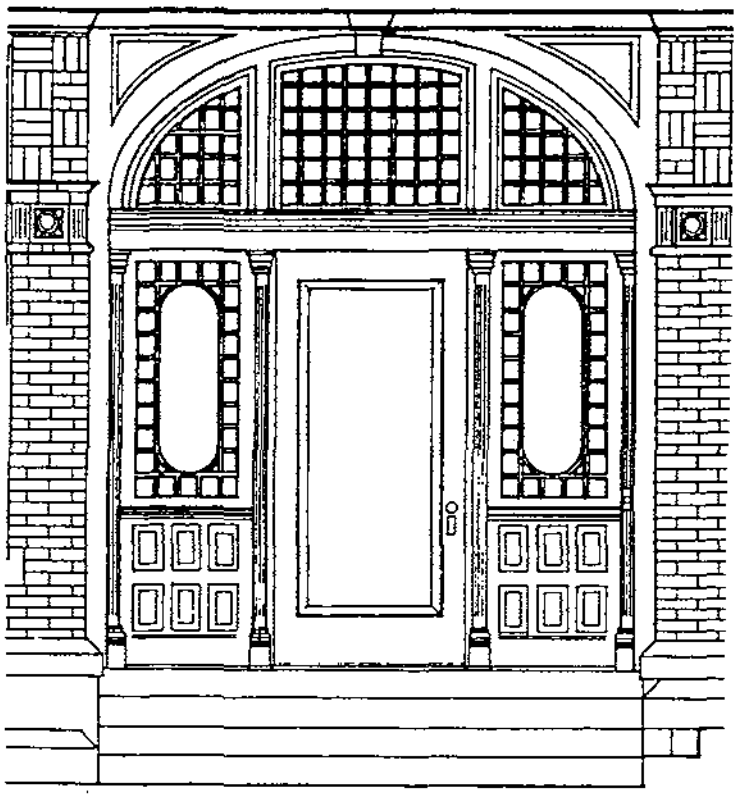
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Vol. 1 of 2

THE HOUSE AT GLENMONT

HOME OF THOMAS EDISON

Edison National Historic Site

Volume I



ON MICROFILM

Historic Structure Report

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To: Technical Information Assistant, Technical Information Center
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From: Director, Northeast Cultural Resources Center, Northeast Region

Subject: Transmittal of Historic Structure Report for Glenmont

Enclosed please find one copy of the historic structure report for Glenmont, the home of Thomas Edison, at Edison NHS. If you have any questions, or would like additional copies, please contact me or Cultural Resources Center Publications Editor Sharon Ofenstein at (978) 970-5120.

Myra F. Harrison

Myra F. Harrison

Enclosure

THE HOUSE AT GLENMONT

HISTORIC STRUCTURE REPORT

Edison National Historic Site
West Orange, New Jersey

VOLUME I

By

Barbara A. Yocum

Building Conservation Branch, Cultural Resources Center
North Atlantic Region, National Park Service
U.S. Department of the Interior
Lowell, Massachusetts

Written 1995

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TABLE OF CONTENTS

VOLUME I

LIST OF FIGURES AND CREDITS viii
PREFACE xxiii
INTRODUCTION xxiv

I. ADMINISTRATIVE DATA 1

HISTORICAL BACKGROUND 3

NPS PLANNING DOCUMENTS 4

PERIOD OF SIGNIFICANCE 6

II. ARCHITECTURAL HISTORY 7

PEDDER OWNERSHIP: CONSTRUCTION AND ALTERATIONS, 1880-84 . . . 9

The Pedders and Llewellyn Park 9
The Architect: Henry Hudson Holly 10
The Pedder House 14
Estate Name 19
Final Year: 1884 20
Value of the Pedder Estate 21

ARNOLD CONSTABLE & COMPANY OWNERSHIP, 1884-86 30

EDISON OWNERSHIP AND ALTERATIONS, 1886-1931 32

Purchase of the "Pedder Place" 32
Transfer to Mrs. Edison 33
Estate Name "Glenmont" 34
Household Management 34
Glenmont in the Press 37
Maintenance and Major Alterations 38
Inventories and Appraisals 46

MRS. EDISON ALONE, 1931-47 63

Introduction 63
Renovations 63
Sale of Glenmont 64

OWNERSHIP BY THOMAS A. EDISON, INC., 1946-59 66

FEDERAL OWNERSHIP, 1959-85 73

Administrative History 73
Work on the House 74
Determination of Restoration Date 78

III. **ARCHITECTURAL DESCRIPTION: PHYSICAL EVOLUTION AND EXISTING CONDITIONS** 85

STRUCTURAL SYSTEM 87

General Description 87
Early History 87
National Park Service Work 89

EXTERIOR ELEMENTS 92

General Description 92
Foundation 94
Walls 95
Porches and Roof Decks 98
Doorways and Entrance Steps 105
Windows 114
Roof 125
Rooftop Ventilator 132
Gutter System 133
Lightning-Protection System 138
Chimneys 140
Painted Finishes 146

INTERIOR ROOMS 154

CELLAR 154

General Description 154
Boiler Room (Room B1) 166

Unexcavated Area B2 169
Unexcavated Area B3 169
Coal Room #2 (Room B4) 170
Coal Room #2/Heater Room (Room B5) and Room B5a 172
Coal Room #1 (Room B6) and Unexcavated Area B7 175
Hall (Room B8) 178
Closet (Room B8a) and Dumbwaiter Shaft (Room B8b) 181
Store Room #2 (Room B9) 183
Hall (Room B10) 187
Store Room #1 (Room B11) and Unexcavated Area B12 189
Bulkhead Entrance (Room B13) 193
Pump Room (Room B14) 195
Wood Room (Room B15) 200
Closet (Room B16) 202
Store Room #3 (Room B17) 204
Ash Room (Room B18) and Unexcavated Area B19 207
Unexcavated Areas B20-B24 209

FIRST STORY 210

General Description 210
Drawing Room (Room 100) 212
Conservatory (Room 101) 233
Reception Room (Room 102) 250
Hall (Room 103) 268
Main Stairway 287
Entrance (Room 103a) 294
Library (Room 104) 298
Service Dining Room (Room 105) 315
Laundry (Room 106) 322
Kitchen (Room 107) 333
Refrigerator Room (Room 107a) 346
Pantry (Room 108) 352
Laboratory Entrance (Room 109) 363
Laboratory (Room 110) 368
Pantry Closet (Room 111) 381
Flower Room (Room 112) 387
Butler's Room (Room 113) 391
Den (Room 114) 396
Dining Room (Room 115) 428
Fern Room (Room 116) 454
Service Hall (Room 117) 460
Coat Closet (Room 118) 470
Telephone Room (Room 119) 473
Lavatory (Room 120) 477
Kitchen Entrance (Room 121) 482

VOLUME II

SECOND STORY 483

General Description 483
South Room (Room 200) 485
South Bathroom (Room 201) 500
Second-Story Porch (Room 202) 508
Owner's Room (Room 203) 516
Owner's Bath (Room 204) 540
Living Room (Room 205) 553
Mr. Theodore's Room (Room 206) 585
Northeast Bathroom (Room 207) 601
Service Bathroom (Room 208) 607
North Room Lavatory (Room 209) 612
North Room (Room 210) 617
Hall Bathroom (Room 211) 629
West Bathroom (Room 212) 640
West Room (Room 213) 652
Second Floor Hall (Rooms 214 and 214b) 673
Store Room (Room 214a) 687
Service Hall (Room 215) 693

THIRD STORY 701

General Description 701
Mr. Charles' Room (Room 300) 704
Miss Bogue's Room (Room 301) 716
Sun Room (Room 302) 727
Bathroom (Room 303) 730
Blue Room (Room 304) 739
Sewing Room (Room 305) 749
Bed Room #1 (Room 306) 760
Bed Room #2 (Room 307) 765
Bed Room #3 (Room 308) 771
Bed Room #4 (Room 309) 776
Bed Room #5 (Room 310) 781
Hall: Service Portion (Room 311) 786
Hall: Master Portion (Room 312) 793

ATTIC 802

General Description 802
Bed Room (Room A1) 804
Storage Area (Room A2) 810
Stair Hall (Room A3) 811
Cedar Closet (Room A4) 815
Store Room (Room A5) 817
Unfinished Attic (Room A6) 819

UTILITIES 824

Gas System 824
Electrical System 829
Heating System 842
Cooling System 851
Plumbing System 852

PROTECTION SYSTEMS 865

Fire Detection and Suppression Systems 865
Security Systems 870
Pest Management 874

IV. **RECOMMENDATIONS** 877

V. **APPENDICES** 887

APPENDIX A. Measured Drawings, Historic American Buildings Survey 889

APPENDIX B. Doorways and Windows (Floor Plans and Window Charts) . . . 919

APPENDIX C. Paint Analysis 951

VI. **BIBLIOGRAPHY** 1009

LIST OF FIGURES AND CREDITS

VOLUME I

Figure *page*

1. Early sketch of the Pedder house, signed in the lower right-hand corner, "H. Hudson Holly Architect, 111 BWAY NY, Jan. 30TH 1880." Edison NHS catalog #102,915 23

2. Exterior elevation drawing and first-floor plan, published as Plate 296 in *American Architect and Building News*, Aug. 27, 1881 24

3. Detail of "Map of Residence and Grounds Belonging to H.C. Pedder Esq., Llewellyn Park, Orange N.J.," by Mead and Taylor, Engineers, 1882. Edison NHS catalog #144,424 25

4. Earliest-known exterior photograph of the Pedder house, circa 1882-83. This date is based on the presence of the Conservatory addition and the absence of the Drawing Room addition. Reproduced from *American Victorian Architecture: A Survey of the 70's and 80's in Contemporary Photographs*, reprinted by Dover Publications, Inc. The photograph is Plate III.11, labeled "H.H. Holly; Henry C. Pedder Residence, Llewellyn Park, Orange, N.J." 26

5. Photograph of the south elevation, taken sometime after July 1884 and before May 1890. This is a partial view of a framed panoramic photograph that hangs in the Den. The dates were arrived at based on the construction of the Den addition in July 1884, and the absence of the large awning over the Conservatory installed in May 1890. It was definitely taken before June 1891, when hinged covers were made for the Den's skylight windows. Edison NHS catalog #103,738 27

6. Photograph of the north and east elevations, taken sometime between circa 1884 and 1890. The date circa 1884 was determined based on the presence of the west Laboratory addition; the date 1890 is based on the fact that the gutter leaders and leader heads are still a light color (they were a dark color by 1890). This view was definitely taken by 1899, before the "well house" was moved away from the main house. A framed print is at Edison NHS 28

7. Detail of figure 6, showing the "well house" 29

8. Photograph of the south and east elevations, taken by W.K.L. Dickson circa 1890. The date is based on the presence of the large second-story awning installed in May 1890, and the fact that the photograph was published in a booklet dated August 1890 about the Minneapolis Exposition. This view was also published in 1892 in a trade catalog on "Wire Screens" by E.T. Burrowes and Co. of Portland, Maine. A framed print with the caption, "W.K.L. Dickson—Handy Scott and Co. Photo Gravure, N.Y." hangs in the second-story hall. Edison NHS catalog #12.420/1; glass negative #L-5998-B; copy negative #6921 47

9. Photograph of the south elevation by W.K.L. Dickson, circa 1890. There is no doubt that this view was taken at the same time as figure 6, based on the plantings and the position of the window awnings. It was published in 1892 in the book, *The Life and Inventions of Thomas Edison*. A print is also framed and in the collection of Edison NHS catalog #12.420/10; glass negative #L-5998-A; copy negative #6922 48

10. Two close-up views of the Conservatory and Service Wing, taken by W.K.L. Dickson circa 1890-92. Both photographs were published in 1892 in *The Life and Inventions of Thomas A. Edison* 49

11. Photograph of the east elevation, circa 1891-97. The date 1891 is based on the presence of the hinged skylight covers at the Den that were installed in June of that year (see figure 12); the date 1897 is based on the dark trim color that was lightened by 1897. Edison NHS catalog #12.420/16, no negative 50

12. Two photographs joined together to show the entire southwest elevation. Both views were taken at the same time as figure 11, circa 1891-97. Edison NHS catalog #12.420/29 (left side) 51

13. Photograph of the south elevation, 1897. Date attributed by the site. Edison NHS catalog #14.335/9 (no negative) 52

14. Photograph of the east elevation, circa 1897-1902. The earlier date is based on the monochromatic paint scheme; the later date is based on the extant multi-paned sashes in the south window of Room 300, which were changed to single-pane sashes in 1902. Edison NHS catalog #12.420/50, copy negative #6968 53

15. Photograph of Theodore Edison standing on the south roof deck, above the Conservatory, circa 1902. The date is based on the fact that Theodore, born in 1898, appears to be about three or four years old. The photograph is in an album at Edison NHS, catalog #14,239 54

16. Photograph of the south and east elevations, September 1903. This is one view in a series of eight originally found in an envelope labeled "Sept. 1903 Measurements Proposed Sitting Room [sic: Living Room] and Carriage Porch." Edison NHS 55

17. Photograph of the east elevation, September 1903 (see figure 16) 56

18. Photograph of the southeast elevation, 1907. Written in the lower left-hand corner is "Byron N.Y. 24277." Edison NHS catalog #12.420/13, negative #8363 57

19. Photograph of the west elevation, circa 1907-10. The date 1907 is derived from the existence of the south screened porch; the later date is based on the unaltered configuration of the windows in Rooms 212 and 213. Edison NHS 58

20. Detail of figure 19, showing the original back doorway 59

21. Photograph of the east elevation, 1914. Date attributed by the site. Edison NHS catalog #12.420/31, negative #2674 60

22. Photograph of Thomas Edison seated on the front lawn, with the southeast corner of the house in the background, 1917. Photograph is copyrighted "T.A.E. 6-30-17." Edison NHS catalog #14.220/47, negative #4670 61

23. Photograph of the east elevation labeled "Luncheon in Honor of the Edison Scholarship Candidates, 8/1/29." Edison NHS catalog #13.100/17, negative #5762D 62

[Note: The next five photographs, all dated 1947, were taken on August 28, 1947, the day after Mina Edison's death. The photographer was George Van of Court Street, Newark, New Jersey.]

24. Photograph of the south and east elevations, 1947. Edison NHS catalog #12.430/33, negative #0-1160-9 68

25. Photograph of the south elevation, 1947. Edison NHS catalog #12.430/36, negative #0-1160-12 69

26. Photograph of the west elevation, 1947. Edison NHS catalog #12.430/35, negative #0-1160-11 70

27. Photograph of the west elevation, 1947. Edison NHS catalog #12.430/34, negative #0-1160-10 71

28. Photograph of the north elevation, 1947. Edison NHS catalog #12.430/37, negative #0-1160-13 72

[Note: The next six photographs, all dated 1960, were taken by the National Park Service on October 20 or 21, 1960. The photographer was Ralph and Ralph.]

29. Photograph of the south and east elevations, 1960. Edison NHS catalog #12.430/54, negative #6822 79

30. Photograph of the south elevation, 1960. Edison NHS catalog #12.430/53, negative #6821 80

31. Photograph of the west elevation, 1960. Edison NHS catalog #12.430/52, negative #6820 81

32. Photograph of the north and west elevations, 1960. Edison NHS catalog #12.430/50, negative #6818 82

33. Photograph of the north and east elevations, 1960. Edison NHS catalog #12/430/57, negative #6825 83

34. Photograph of the roof, looking northwest, taken from the roof deck, 1960. Edison NHS catalog #12.430/43, negative #6807 84

35. Rough plan of Glenmont chimneys, with chimney numbers, drawn by Melvin J. Weig, November 12, 1959 (revised August 14, 1961) 143

36. Cellar floor plan. Measured drawing prepared for the Historic American Buildings Survey (HABS) under the supervision of Professor John D. Shaw, Cornell University, for the Eastern Office Design and Construction (EODC), NPS, 1962; adapted by John G. Waite, EODC, 1963. Library of Congress 156

37. Photograph of the Store Room #2 (Room B9), northeast corner, showing the obsolete Springfield Gas Machine, 1960 185

38. Photograph of the Store Room #1 (Room B11), northeast corner, showing the fresh-air plenum for the original heating system and the electrical panel for incoming service, 1960 190

39. Photograph of the Pump Room (Room B14), northwest corner, showing the cistern valves and water pumps, 1960 196

40. First-floor plan. Measured drawing prepared for the Historic American Buildings Survey (HABS) under the supervision of Professor John P. Shaw, Cornell University, for the Eastern Office Design and Construction (EODC), NPS, 1962; adapted by John G. Waite, EODC, 1963. Library of Congress 211

41. Sketch of the Drawing Room (Room 100), looking northwest. Published in *The Decorator and Furnisher*, 1891 223

42. Three views of the Drawing Room (Room 100), photographed by W.K.L. Dickson and published in *The Life and Inventions of Thomas A. Edison* in 1892, pp. 343-45 224

43. Photograph of the west alcove of the Drawing Room (Room 100), on the occasion of Madeleine Edison's marriage to John Sloane, June 18, 1914. Edison NHS catalog #12.425/17, negative #0-8229 225

44. Photograph of the Drawing Room (Room 100), looking west, June 18, 1914 (see figure 43). Edison NHS catalog #12.425/16, negative #0-8228 226

45. Photograph of the Drawing Room (Room 100), northwest corner, on the occasion of Grace Miller's wedding, February 15, 1916. Edison NHS catalog #12.425/14, no negative 227

46. Photograph of the Drawing Room (Room 100), looking south, 1947. Edison NHS catalog #12.435/12, negative #0-1160-21. Three additional photographs taken at this time document the appearance of the entire room (catalog #12.435/13, negative #0-1160-22; catalog #12.435/14, negative #0-1160-23; and catalog #12.435/15, negative #0-1160-24). They are not included in this report due to their dark quality, and because no significant changes were made to the room between 1947 and 1960 228

47. Photograph of the Drawing Room (Room 100), looking southwest, 1960. Edison NHS catalog #12.435/71, negative #6749 229

48. Photograph of the Drawing Room (Room 100), looking north, 1960. Edison NHS catalog #12.435/73, negative #6751 230

49. Photograph of the Drawing Room (Room 100), looking southeast, 1960. Edison NHS catalog #12.435/72, negative #6750 231

50. Photograph of the Drawing Room (Room 100), looking northwest, 1960. Edison NHS catalog #12.435/74, negative #6752 232

51. Photograph of the Conservatory (Room 101), looking south, on the occasion of Grace Miller's wedding, February 15, 1916. Edison NHS, catalog #12.425/18 245

52. Photograph of the Conservatory (Room 101), looking south, 1947. Edison NHS catalog #12.435/25, negative #0-1160-34 246

53. Photograph of the Conservatory (Room 101), looking northwest, 1947. Edison NHS catalog #12.435/26, negative #0-1160-35 247

54. Photograph of the Conservatory (Room 101), looking south, 1960.
Edison NHS catalog #12.435/69, negative #6747 248

55. Photograph of the Conservatory (Room 101), looking northwest, 1960.
Edison NHS catalog #12.435/70, negative #6748 249

56. Two views of the Reception Room (Room 102), photographed by W.K.L. Dickson. The inset view was published in *The Life and Inventions of Thomas A. Edison* (p. 345) in 1892 260

57. Photograph of the Reception Room (Room 102), looking southwest, 1918.
Edison NHS catalog #12.425/13 261

58. Photograph of the Reception Room (Room 102), looking south, 1947.
Edison NHS catalog #12.435/10, negative #0-1160-19 262

59. Photograph of the Reception Room (Room 102), looking northwest, 1947.
Edison NHS catalog #12.435/11, negative #0-1160-20 263

60. Photograph of the Reception Room (Room 102), looking east, 1947.
Edison NHS catalog #12.435/9, negative #0-1160-18 264

61. Photograph of the Reception Room (Room 102), looking southeast, 1960.
Edison NHS catalog #12.435/66, negative #6744 265

62. Photograph of the Reception Room (Room 102), looking north, 1960.
Edison NHS catalog #12.435/68, negative #6746 266

63. Photograph of the Reception Room (Room 102), looking east, 1960.
Edison NHS catalog #12.435/67, negative #6745 267

64. Sketch of the Hall (Room 103), looking southwest. Published in *The Decorator and Furnisher*, 1891 278

65. Photograph of the Hall (Room 103), looking west, 1947.
Edison NHS catalog #12.435/5, negative #0-1160-14 279

66. Photograph of the Hall (Room 103), looking north, 1947.
Edison NHS catalog #12.435/6, negative #0-1160-15 280

67. Photograph of the Hall (Room 103), looking south, 1947.
Edison NHS catalog #12.435/7, negative #0-1160-16 281

68. Photograph of the Hall (Room 103), southeast corner, 1947.
Edison NHS catalog #12.435/8, negative #0-1160-17 282

69. Photograph of the Hall (Room 103), looking west, 1960.
Edison NHS catalog #12.435/58, negative #6736 283

70. Photograph of the Hall (Room 103), looking northwest, 1960.
Edison NHS catalog #12.435/60, negative #6738 284

71. Photograph of the Hall (Room 103), looking northeast, 1960.
Edison NHS catalog #12.435/61, negative #6739 285

72. Photograph of the Hall (Room 103), looking southeast, 1960.
Edison NHS catalog #12.435/59, negative #6737 286

73. Front entrance doorway, 1960. Edison NHS catalog #12.435/57,
negative #6735 297

74. Photograph of the Library (Room 104), by W.K.L. Dickson. Published in
The Life and Inventions of Thomas A. Edison, 1892 307

75. Photograph of the Library (Room 104), looking northwest, circa 1918.
Edison NHS negative #XE 6571-18 308

76. Photograph of the Library (Room 104), looking south, 1947.
Edison NHS catalog #12.435/24, negative #0-1160-33 309

77. Photograph of the Library (Room 104), looking north, 1947.
Edison NHS catalog #12.435/23, negative #0-1160-32 310

78. Photograph of the Library (Room 104), looking southwest, 1960.
Edison NHS catalog #12.435/65, negative #6743 311

79. Photograph of the Library (Room 104), looking northeast, 1960.
Edison NHS catalog #12.435/62, negative #6740 312

80. Photograph of the Library (Room 104), northeast alcove, 1960.
Edison NHS catalog #12.435/64, negative #6742 313

81. Photograph of the Library (Room 104), looking southeast, 1960.
Edison NHS catalog #12.435/63, negative #6741 314

82. Photograph of the Service Dining Room (Room 105), looking east, 1960.
Edison NHS catalog #12.435/89, negative #6767 321

83. Photograph of the Laundry (Room 106), looking east, 1960.
Edison NHS catalog #12.435/88, negative #6766 332

84. Photograph of the Kitchen (Room 107), looking southeast, 1960. Edison NHS catalog #12.435/87, negative #6765 345

85. Photograph of the Pantry (Room 108), looking west, 1960. Edison NHS catalog #12.435/86, negative #6764 362

86. Photograph of Thomas and Mina Edison in Laboratory (Room 110), 1903. This view is believed to have been printed backwards originally, because the circa-1884 doorway is not visible in the "west" wall (to the right side of the fireplace and behind Thomas Edison—see figure 86). Written at the bottom edge of the photograph is "In The Laboratory 1903." The photograph is in an album (catalog #14,239) at Edison NHS 378

87. Photograph of the Laboratory (Room 110), looking west, 1960. Edison NHS catalog #12.435/84, negative #6762 379

88. Photograph of the Laboratory (Room 110), looking east, 1960. Edison NHS catalog #12.435/85, negative #6763 380

89. Sketch of the Den (Room 114), looking southwest. Published in *The Decorator and Furnisher*, 1891 415

90. Photograph of the Den (Room 114), by W.K.L. Dickson. Published in *The Life and Inventions of Thomas A. Edison* (p. 342), 1892 416

91. Photograph of the Den (Room 114), south window bay, 1907. Written in the lower left-hand corner is "Byron N.Y. 24282." Edison NHS, catalog #12.425/22, negative #8365 417

92. Photograph of the Den (Room 114), southwest corner, 1907. Written in the lower left-hand corner is "Byron N.Y. 24288." Edison NHS, catalog #12.313/7, negative #8362 418

93. Photograph of the Den (Room 114), looking north, 1947. Edison NHS catalog #12.435/19, negative #0-1160-28 419

94. Photograph of the Den (Room 114), looking southeast, 1947. Edison NHS catalog #12.435/22, negative #0-1160-31 420

95. Photograph of the Den (Room 114), looking south, 1947. Edison NHS catalog #12.435/20, negative #0-1160-29 421

96. Photograph of the Den (Room 114), looking west, 1947. Edison NHS catalog #12.435/21, negative #0-1160-30 422

97. Photograph of the Den (Room 114), looking northeast, 1960. Edison NHS catalog #12.435/83, negative #6761 423

98. Photograph of the Den (Room 114), looking southeast, 1960. Edison NHS catalog #12.435/82, negative #6760 424

99. Photograph of the Den (Room 114), looking southwest, 1960. Edison NHS catalog #12.435/81, negative #6759 425

100. Photograph of the Den (Room 114), looking northwest, 1960. Edison NHS catalog #12.435/80, negative #6758 426

101. Photograph of the Den (Room 114), looking northwest, 1967. Edison NHS catalog #12.435/136, negative #0-1717 427

102. Two early sketches of the Dining Room (Room 115). The top sketch, published by *The Decorator and Furnisher* in 1891, shows the southeast corner of the room. The bottom sketch, published in the *New York Recorder*, August 19, 1894, is a view looking west 443

103. Photograph of the Dining Room (Room 115), looking southwest and showing Thomas Edison seated at the Dining Room table. The date is based on the drop light over the table installed in 1902, and the absence of the Dutch hall clock at the west wall that was introduced in 1915-16. Edison NHS catalog #14.220/84, no negative 444

104. Photograph of the Dining Room (Room 115), looking northeast, 1916. Edison NHS catalog #12.425/20, negative #0-8669 445

105. Photograph of the Dining Room (Room 115), showing Mina Edison and Mr. Hitchcock standing at the west-doorway portiere, 1932. Edison NHS catalog #14.352/33, negative #0-8667 446

106. Photograph of the Dining Room (Room 115), looking west, 1947. Edison NHS catalog #12.435/16, negative #0-1160-25 447

107. Photograph of the Dining Room (Room 115), looking east, 1947. Edison NHS catalog #12.435/17, negative #0-1160-26 448

108. Photograph of the Dining Room (Room 115), looking southwest, 1960. Edison NHS catalog 12.435/76, negative #6754 449

109. Photograph of the Dining Room (Room 115), looking northwest, 1960. Edison NHS catalog #12.435/75, negative #6753 450

110. Photograph of the Dining Room (Room 115), looking northeast, 1960. Edison NHS catalog #12.435/78, negative #6756 451

111. Photograph of the Dining Room (Room 115), looking east, 1960. Edison NHS catalog #12.435/77, negative #6755 452

112. Photograph of the Dining Room (Room 115), looking southeast, 1960. Edison NHS catalog #12.435/79, negative #6757 453

113. Photograph of the Fern Room (Room 116), looking northwest through the Drawing Room doorway, 1916. Edison NHS catalog #12.425/15, no negative 459

114. Photograph of the Service Hall (Room 117), south part, looking north, 1960. Edison NHS catalog #12.435/91, negative #6769 467

115. Photograph of the Service Hall (Room 117), south part, looking south, 1960. Edison NHS catalog #12.435/90, negative #6768 468

116. Photograph of the Service Hall (Room 117), south part, looking up at the service stairway, 1960. Edison NHS catalog #12.435/92, negative #6770 469

VOLUME II

117. Second-floor plan. Measured drawing prepared for the Historic American Buildings Survey (HABS) under the supervision of Professor John P. Shaw, Cornell University, for the Eastern Office Design and Construction (EODC), NPS, 1962; adapted by John G. Waite, EODC, 1963. Library of Congress 484

118. Photograph of the South Room (Room 200), looking north, 1947. Edison NHS catalog #12.435/53, negative #0-1160-62 496

119. Photograph of the South Room (Room 200), looking southwest, 1947. Edison NHS catalog #12.435/54, negative #0-1160-63 497

120. Photograph of the South Room (Room 200), looking northeast, 1960. Edison NHS catalog #12.435/111, negative #6789 498

121. Photograph of the South Room (Room 200), looking southwest, 1960. Edison NHS catalog #12.435/110, negative #6788 499

122. Photograph of the Second Story Porch (Room 202), looking west, circa 1907-14. The date 1907 is based on the original construction date of the screened porch; 1914 is when a solid deck existed on the porch roof, as seen in figure 21. The photograph is in an album (catalog #14239) at Edison NHS 511

123. Photograph of the Second Story Porch (Room 202), looking east, 1947.
Edison NHS catalog #12.435/43, negative #0-1160-52 512

124. Photograph of the Second Story Porch (Room 202), looking west, 1947.
Edison NHS catalog #12.435/42, negative #0-1160-51 513

125. Photograph of the Second Story Porch (Room 202), looking east, 1960.
Edison NHS catalog #12.435/112, negative #6790 514

126. Photograph of the Second Story Porch (Room 202), looking west, 1960.
Edison NHS catalog #12.435/113, negative #6791 515

127. Photograph of the Owner's Room (Room 203), looking northwest, 1947.
Edison NHS catalog #12.435/41, negative #0-1160-50 532

128. Photograph of the Owner's Room (Room 203), looking northeast, 1947.
Edison NHS catalog #12.435/40, negative #0-1160-49 533

129. Photograph of the Owner's Room (Room 203), looking southeast, 1947.
Edison NHS catalog #12.435/39, negative #0-1160-48 534

130. Photograph of the Owner's Room (Room 203), looking southwest, 1947.
Edison NHS catalog #12.435/38, negative #0-1160-47 535

131. Photograph of the Owner's Room (Room 203), looking northwest, 1960.
Edison NHS catalog #12.435/108, negative #6786 536

132. Photograph of the Owner's Room (Room 203), looking northeast, 1960.
Edison NHS catalog #12.435/109, negative #6787 537

133. Photograph of the Owner's Room (Room 203), looking southeast, 1960.
Edison NHS catalog #12.435/106, negative #6784 538

134. Photograph of the Owner's Room (Room 203), looking southwest, 1960.
Edison NHS catalog #12,435/107, negative #6785 539

135. Photograph of the Owner's Bath (Room 204), looking southeast, 1947.
Edison NHS catalog #12.435/45, negative #0-1160-54 551

136. Photograph of the Owner's Bath (Room 204), looking northwest, 1947.
Edison NHS catalog #12.435/44, negative #0-1160-53 552

137. Photograph of the Living Room (Room 205), looking southwest, 1903.
Edison NHS catalog #12.425/31, no negative 570

138. Photograph of the Living Room (Room 205), looking west, 1903. Edison NHS catalog #12.425/30, no negative 571

139. Photograph of the Living Room (Room 205), looking northwest, 1903. Edison NHS catalog #12.425/28 572

140. Photograph of the Living Room (Room 205), looking northeast, 1907. Written in the lower left-hand corner is "Byron N.Y. 24285." Edison NHS catalog #12.425/26, negative #8364 573

141. Photograph of the Living Room (Room 205), looking northeast, circa 1916. Published in the *New York Tribune* on March 12, 1916, with the caption, "A characteristic pose of Mr. Edison seated in his favorite corner in the living room." Edison NHS catalog #14.220/83 574

142. Photograph of the Living Room (Room 205), looking northeast, 1929. Edison NHS catalog #12.425/27 575

143. Photograph of the Living Room (Room 205), looking northwest, 1947. Edison NHS catalog #12.435/36, negative #0-1160-45 576

144. Photograph of the Living Room (Room 205), east side of the north wall, 1947. Edison NHS catalog #12.435/33, negative #0-1160-42 577

145. Photograph of the Living Room (Room 205), northeast corner, 1947. Edison NHS catalog #12.435/31, negative #0-1160-40 578

146. Photograph of the Living Room (Room 205), southeast corner, 1947. Edison NHS catalog #12.435/32, negative #0-1160-41 579

147. Photograph of the Living Room (Room 205), looking southwest, 1947. Edison NHS catalog #12.435/35, negative #0-1160-44 580

148. Photograph of the Living Room (Room 205), looking northwest, 1960. Edison NHS catalog #12.435/104, negative #6782 581

149. Photograph of the Living Room (Room 205), looking northeast, 1960. Edison NHS catalog #12.435/102, negative #6780 582

150. Photograph of the Living Room (Room 205), looking east, 1960. Edison NHS catalog #12.435/101, negative #6779 583

151. Photograph of the Living Room (Room 205), looking southwest, 1960. Edison NHS catalog #12.435/103, negative #6781 584

152. Photograph of Mr. Theodore's Room (Room 206), looking northwest, 1947. Edison NHS catalog #12.435/48, negative #0-1160-57A 597

153. Photograph of Mr. Theodore's Room (Room 206), looking northeast, 1947. Edison NHS catalog #12.435/50, negative #0-1160-59 598

154. Photograph of Mr. Theodore's Room (Room 206), looking southeast, 1947. Edison NHS catalog #12.435/49, negative #0-1160-58 599

155. Photograph of Mr. Theodore's Room (Room 206), looking southeast, 1960. Edison NHS catalog #12.435/100, negative #6778 600

156. Photograph of the North Room (Room 210), southwest corner, circa 1898. This view shows the room furnished as a play/school room, with Charles and Madeleine on the left side and Mina on the right side. The date "circa 1898" is based on the age of Madeleine, born in 1888, who appears to be about 10 years old. It was definitely taken before the southwest closet was built circa 1909. The photograph was published by the National Park Service in an undated brochure entitled "Glenmont." Edison NHS catalog #14.354/2, no negative 624

157. Photograph of the North Room (Room 210), looking west, 1947. Edison NHS catalog #12.435/46, negative #0-1160-55 625

158. Photograph of the North Room (Room 210), looking northeast, 1947. Edison NHS catalog #12.435/47, negative #0-1160-56 626

159. Photograph of the North Room (Room 210), looking northwest, 1960. Edison NHS catalog #12.435/99, negative #6777 627

160. Photograph of the North Room (Room 210), looking southeast, 1960. Edison NHS catalog #12.435/98, negative #6776 628

161. Photograph of the Hall Bathroom (Room 211), looking east, 1960. Edison NHS catalog #12.435/97, negative #6775 639

162. Photograph of the West Room (Room 213), looking east, 1914. The room displays the wedding gifts of Madeleine Edison and John Sloane, who were married in the Drawing Room on June 18, 1914. Edison NHS album #113 668

163. Photograph of the West Room (Room 213), looking west, 1914. Taken the same time as figure 162. Edison NHS album #113 669

164. Photograph of the West Room (Room 213), looking east, 1947. Edison NHS catalog #12.435/51, negative #0-1160-60 670

165. Photograph of the West Room (Room 213), looking west, 1947.
Edison NHS catalog #12.435/52, negative #0-1160-61 671

166. Photograph of the West Room (Room 213), looking southwest, 1960.
Edison NHS catalog #12.435/96, negative #6774 672

167. Photograph of the Second Floor Hall (Room 214), looking northwest, 1947.
Edison NHS catalog #12.435/27, negative #0-1160-36 681

168. Photograph of the Second Floor Hall (Room 214), looking northeast, 1947.
Edison NHS catalog #12.435/29, negative #0-1160-38 682

169. Photograph of the Second Floor Hall (Room 214), looking southwest, 1947.
Edison NHS catalog #12.435/28, negative #0-1160-37 683

170. Photograph of the Second Floor Hall (Room 214), looking southeast, 1960.
Edison NHS catalog #12.435/93, negative #6771 684

171. Photograph of the Second Floor Hall (Room 214), looking southwest, 1960.
Edison NHS catalog #12.435/94, negative #6772 685

172. Photograph of the Second Floor Hall (Room 214), looking northwest, 1960.
Edison NHS catalog #12.435/95, negative #6773 686

173. Photograph of the Store Room (Room 214a), looking south, 1947.
Edison NHS catalog #12.435/55, negative #0-1160-64 692

174. Third-floor plan. Measured drawing prepared for the Historic American Buildings Survey (HABS) under the supervision of Professor John P. Shaw, Cornell University, for the Eastern Office Design and Construction (EODC), NPS, 1962; adapted by John G. Waite, EODC, 1963. Library of Congress 703

175. Photograph of Mr. Charles' Room (Room 300), looking southwest, 1960.
Edison NHS catalog #12.435/121, negative #6799 714

176. Photograph of Mr. Charles' Room (Room 300), looking northeast, 1960.
Edison NHS catalog #12.435/122, negative #6800 715

177. Photograph of Miss Bogue's Room (Room 301), looking southeast, 1960.
Edison NHS catalog #12.435/123, negative #6801 725

178. Photograph of Miss Bogue's Room (Room 301), looking northwest, 1960.
Edison NHS catalog #12.435/124, negative #6802 726

179. Photograph of the Blue Room (Room 304), looking east, 1960.
Edison NHS catalog #12.435/118, negative #6796 748

180. Photograph of the Sewing Room (Room 305), looking southeast, 1960. Edison NHS catalog #12.435/117, negative #6795 758

181. Photograph of the Sewing Room (Room 305), showing the marble-counter lavatory at the west wall, 1960. Edison NHS catalog #12.435/116, negative #6794 759

182. Photograph of Bed Room #4 (Room 309), looking southwest, 1960. Edison NHS catalog #12.435/120, negative #6798 780

183. Photograph of the Hall: Service Portion (Room 311), looking southwest, 1960. Edison NHS catalog #12.435/119, negative #6797 792

184. Photograph of the Hall: Master Portion (Room 312), looking south, 1960. Edison NHS catalog #12.435/114, negative #6792 800

185. Photograph of the Hall: Master Portion (Room 312), looking north, 1960. Edison NHS catalog #12.435/115, negative #6793 801

186. Attic floor plan. NPS schematic drawing by Barbara A. Yocum, 1995 803

187. Photograph of the Bed Room (Room A1), looking north, 1960. Edison NHS, catalog #12.435/125, negative #6803 809

188. Photograph of the Unfinished Attic (Room A6), looking southwest, 1960. Edison NHS catalog #12.435/128, negative #6806 821

189. Photograph of the Unfinished Attic (Room A6), looking west, 1960. Edison NHS catalog #12.435/127, negative #6805 822

190. Photograph of the Unfinished Attic (Room A6), looking northeast, 1960. Edison NHS catalog #12.435/126, negative #6804 823

191. Schematic Drawing of the 1907 Heating System (reduced in size). Prepared by the Laboratory Construction and Engineering Department, Thomas A. Edison Laboratory, March 1920. Edison NHS Archives 844

Appendix A. Elevation drawings and floor plans by the Historic American Buildings Survey, 1963. Selected drawings are color-coded to indicate architectural evolution 889

Appendix B. Doorway and window numbers, keyed to the HABS floor plans 919

PREFACE

This historic structure report on the house at Glenmont has been 10 years in the making. I began work in 1984, as an employee of the North Atlantic Historic Preservation Center (NAHPC), North Atlantic Region (NAR), National Park Service (NPS). My first visit to Glenmont was with E. Blaine Cliver, then the Chief of Historic Preservation for the North Atlantic Region. Blaine had fond memories of working at Glenmont in 1962 as a member of the Historic American Buildings Survey team. As my supervisor, he had assigned me the daunting task of pulling together a comprehensive report on the Edison mansion.

Little did I know at the time what a mountain of research faced me. I spent weeks in Vault 12 at Edison National Historic Site (NHS), combing through original contractors' bills and receipts, private bill books, miscellaneous legal files, and laboratory notebooks. Stacks of historic photographs and architectural drawings were assessed and studied. I found myself rereading Matthew Josephson's book *Edison*, so as to better understand the history of the Edison family when they lived in Llewellyn Park. I also found an out-of-print copy of a book by the architect of the house, Henry Hudson Holly. In short, I became immersed in Glenmont.

The house itself offered its own surprises. A cardboard box filled with correspondence from the 1930's was found in the closet of the old third-story billiard room, which shed light on changes made to the house after Thomas Edison's death in 1931. Typewritten labels dated 1939 identified obsolete circuits in the cellar's electrical boxes. Perhaps the most exciting discoveries, however, were two notes with signatures, dating to the early 1900's, that had been penciled in hidden locations by repairmen. One, dated 1911, was on the underside of a marble lavatory; the other, dated 1912, was inside the Kitchen annunciator. Both attest to the privilege that these men felt to be working on Thomas Edison's house.

I, too, am grateful for having the opportunity to work on the house at Glenmont. While I have not secreted a penciled message, I do leave this historic structure report. It is finally completed, despite numerous interruptions, including the metamorphoses of the NAHPC into the Building Conservation Branch (BCB) of the Cultural Resources Center (CRC), and the relocation of the CRC offices from Boston to Lowell, Massachusetts. I hope this report will be helpful in the interpretation and management of the house for years to come.

Many people at Edison NHS deserve recognition and thanks for their assistance with this project. They include former Superintendents Roy Weaver and Faye Whitaker, and current Superintendent Maryanne Gerbauckas, whose support and patience made this project possible; Leah Brodbeck Burt, Glenmont Curator, whose insights and encouragement were invaluable; Nancy Waters, Supervisory Museum Curator, and her predecessor, Edward Pershey; Bob Zimmerman, Chief of Maintenance; Doug Tarr, Archives Technician; and Frank McGrane, former Archives Technician.

INTRODUCTION

The purpose of this historic structure report is to bring together in one comprehensive report all of the information that is known about the Edison house at Glenmont. Numerous historic structure reports had previously been written about Glenmont. However, most were partial reports that addressed only certain aspects of the house, such as "The Conservatory" or the "Chimneys." In addition, the original household accounts and contractors' invoices had been recently organized and made accessible by Glenmont Curator Leah Burt. Finally, a major structural stabilization contract commenced in 1985, which required that walls and floors be disassembled for the installation of structural steel. It was therefore decided that this would be a good time to gather both the physical and documentary information on the house.

Research into the primary documentary sources included reviewing the Glenmont household and general accounts, Thomas A. Edison's private bill books, miscellaneous legal files and laboratory notebooks of Thomas A. Edison, Inc., photographic and architectural drawing collections, and Glenmont appraisals. The files of Edison NHS were examined to learn about more recent work at the house. Secondary sources such as books and unpublished reports also provided information.

Site visits were made in 1984 and 1986 to take detailed notes on the individual features of the interior rooms. The first and second stories were examined in September 1984, and the cellar and attic in April 1986. These handwritten notes are on file at the Cultural Resources Center in Lowell.

A concerted effort has been made to present the information in this report in an orderly and logical sequence. Chapter I summarizes the administrative history of the site; Chapter II is the architectural history of the house; and Chapter III is the description of existing conditions and physical evolution. Recommendations for future treatment may be found in Chapter IV, while Chapters V and VI are the appendices and bibliography, respectively. Annotated color drawings in Appendix A summarize the evolution of the house.

In the description of existing conditions (Chapter III), exterior elements are presented beginning with the foundation and moving up to the roof. Interior rooms are numbered sequentially, based on the numbers assigned by the Historic American Buildings Survey (HABS) in 1962-63 (see Appendix A). Room names also appear in the title for each room, which are based on the residence appraisal of 1931. The evolution and use of each room and its name is explained in the subsection entitled, "General Description." Compass directions are used throughout the report to describe various features (such as the "east porch"). The front of the house actually faces southeast. However, for simplicity's sake, it was decided to call this the east elevation, and so on.

Numerous contractors have worked on the house at Glenmont since it was constructed, in a seemingly endless sequence of remodeling, adding, renovating, and repairing. The names of these contracting firms are referenced in this report exactly as found on the billheads submitted for the specified work, even though many of them contain awkward abbreviations and capitalization. This was the only way to avoid possible errors in citation, given that the names and principals of the firms tended to change over time.

I. ADMINISTRATIVE DATA

ADMINISTRATIVE DATA

Glenmont was the home of Thomas Alva Edison and his second wife, Mina Miller, from 1886 until his death in 1931; Mina Edison continued to live here until her own death in 1947. Glenmont is in West Orange, New Jersey, in a private residential development known as Llewellyn Park. The name "Glenmont" was used by the Edison family to refer to their 13.5-acre estate that eventually included a house, a large barn, a cow shed and chicken yard, a garage, a greenhouse, and a gardener's cottage. One of the oldest buildings on the property, the house, was part of the Henry C. Pedder estate that Thomas Edison purchased in January 1886. The house had been designed in 1880 in the Queen Anne style by New York architect Henry Hudson Holly, and was built shortly thereafter. The house as it exists today is altered from its original design by additions that were constructed for both the Pedder family and the Edison family.

A year before her death, Mrs. Edison sold Glenmont to Thomas A. Edison, Inc., in hopes that the house "and its contents, particularly the living-room on the second floor, should be preserved as a memorial to my dear husband and his work."[1] National recognition of the site was bestowed nine years later, on December 6, 1955, when the United States Secretary of the Interior designated Glenmont as the "Edison Home National Historic Site."

The property was deeded to the United States of America by the McGraw-Edison Company (formerly Thomas A. Edison, Inc.) on July 22, 1959. Restrictions on the use of the site were imposed on the National Park Service by the Proprietors of Llewellyn Park as defined in a Memorandum of Agreement dated August 3, 1959.[2]

Since 1959, the NPS has administered the site along with the Edison Laboratory National Monument, which was established in 1956. The home and laboratory were renamed the "Edison National Historic Site" by Act of Congress on September 5, 1962. Additional land adjacent to Glenmont was donated by the McGraw-Edison Glenmont Company in 1963.[3] This is the same year that Thomas and Mina Edison were reinterred on the Glenmont property west of the house. Glenmont is listed in the National Register of Historic Places as part of the Edison NHS and as part of the Llewellyn Park Historic District.[4]

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[1] Letter, Mrs. Edison to Thomas A. Edison, Inc., Dec. 31, 1945; also Essex County Registry of Deeds, Book 2107, p. 124, June 27, 1946.

[2] The Memorandum of Agreement has 18 provisions with the purpose of preserving the historic scene and the secluded atmosphere of Llewellyn Park.

[3] McGraw-Edison donated 2.13 acres to the Federal government on Nov. 29, 1963. This land, known as the Johnson-Tilney property, is located northwest of the historic Glenmont property. It is the site of the present visitor parking lot.

[4] Edison NHS is National Register number 66000050, dated Oct. 15, 1966; Llewellyn Park Historic District is National Register number 86000423, dated Feb. 26, 1986.

The house at Glenmont is included in the NPS List of Classified Structures as number 00264, building number 10. It is classified as a management category "A" building, meaning that it "must be preserved and maintained."

Two NPS planning documents have addressed the treatment of the house at Glenmont. The *Final Master Plan*, dated April 1977, includes the following: "preserve and restore as practicable the historic environment of c. 1931." The *Statement for Management*, approved January 1, 1980, states: "Management emphasis is on the 1921-1931 period, although subsequent changes by Mrs. Edison through 1947 have not been removed." In fact, the work that has been done over the years by the National Park Service appears to have been approached on a case-by-case basis, with some parts of the house restored to their 1930-31 appearance and others maintained at their 1947 appearance. A good example of this is the Den (Room 114), where the ceiling was restored in 1966 to its 1930-31 appearance, while the rest of the room remains as redecorated in 1935. Other anomalies are the absence of a sun porch (Room 202) that was built in 1935 and removed in 1965, and the presence of a second-story bathroom (Room 207) visible on the exterior that was built in 1940 and not subsequently removed.

Sixteen reports have been written by or for the National Park Service about the house at Glenmont. Most were prepared in response to specific work projects and therefore focused on a particular component of the house. Others were more general, dealing with the administrative history of the site, the known history of the house, its physical condition, and/or recommendations for repair. All of the reports are listed below in the order in which they were written. Unless otherwise noted, the authors were members of the National Park Service professional staff. The author of many of the reports, Melvin J. Weig, was both a historian and the superintendent of the Edison National Historical Site from 1956 until 1970. The 16 reports are as follows:

"Historic Structures Report - Part I, 'Glenmont' Chimneys," by Melvin J. Weig and Henry A. Judd; August 14 and 17, 1961.

"Historic Structures Report - Part I, 'Glenmont,' Home of Thomas Alva Edison, Historical Data," by Melvin J. Weig, December 22, 1961.

"Historic Structure Report - Part I, 'Glenmont' Architectural Data," by James Crawford, February 15, 1962.

"Progress Data and Research Notes, Architectural Study of Glenmont, Home of Thomas Alva Edison," by John P. Shaw (supervisor of the Historic American Buildings Survey team that prepared architectural drawings of the existing conditions), Summer 1962.

"Historic Structures Report - Part I, 'Glenmont,' Home of Thomas Alva Edison, Administrative Data," by Melvin J. Weig, November 26, 1963.

"Historic Structure Report - Part I, Architectural Data Section on Rehabilitation of Glenmont, Home of Thomas A. Edison," by Newton P. Bevin, February 1964.

"Historic Structures Report - Part II (Portion), The Conservatory, Edison Home, Building No. 10," by Melvin J. Weig and Gordie Whittington, July 1964 and January 1965.

"Historic Structures Report - Part II (Portion), Rehabilitation of Main Roof, Edison Home, Building No. 10, Historical Data," by Melvin J. Weig, June 17, 1965.

"Historic Structure Report - Part II (Portion), Architectural Data Section on Den Ceiling, Glenmont Mansion," by Norman M. Souder, January 1966.

"Historic Structures Report - Part II (Portion), The Den Ceiling, Edison Home, Building No. 10, Administrative Data," by Melvin J. Weig, March 16, 1966.

"Structural Investigation—Glenmont," by Keast & Hood Co., Structural Engineers, February 7, 1975.

"Historic Structure Report: Glenmont and Laboratory Unit Fire and Intrusion Protection and Replacement of Electrical Systems: Architectural Data," by Simmonds, Siroky, Case, and Kozel; December 1976.

"Historic Paint Colors and Recommendations for Repainting the Exterior of Glenmont, Edison NHS" [incomplete draft], by Carole L. Perrault, December 1977.

"An Analysis of the First Floor Decorative Finishes at Glenmont, Llewellyn Park, West Orange, New Jersey," by Camille Agricola (Student, Columbia University), 1980.

"Historic Furnishings Report: The House at Glenmont" [draft], by Leah B. Burt and Kristin Herron, 1994.

"Cultural Landscape Report: Glenmont" [draft], by Leah B. Burt, August 19, 1987.

PERIOD OF SIGNIFICANCE

The National Park Service uses National Register of Historic Places criteria to determine significance. The period of significance, specified in National Register documentation, is the length of time when a property was associated with important events, activities, or person, or attained the characteristics which qualify it for National Register listing.

In the case of Glenmont, however, two National Register district nominations include the mansion. The first, addressing the site as a nationally significant resource, is that for Edison National Historic Site, which is comprised of the Glenmont estate and the Laboratory complex. This nomination states that Glenmont's period of significance is **1886-1931**, the years of Thomas Edison's occupancy.[5]

The Glenmont estate, however, is also included in the Llewellyn Park Historic District. The property contributes to this district's significance at the local level in the areas of architecture, community planning, and landscape architecture. At the local level, the estate's period of significance dates to **1880**, when Henry Pedder began its construction.

DATE OF RESTORATION

The date of restoration agreed upon by NPS cultural-resource professionals for both the house and its furnishings is **1930**.[6] This date was selected for the following reasons:

- the appearance of the furnishings in 1930 is documented by an appraisal of the "Household Furnishings, Art Objects, and Miscellaneous Effects" made by The Atlantic Appraisals Company, Inc., on November 6, 1930.

- the appearance of the structure in 1930 is documented by an appraisal of the "Residence Construction" by The Atlantic Appraisals Company, Inc. The appraisal was dated January 16, 1931, but it undoubtedly reflected conditions that existed in late 1930.

- the 1930 date reflects the appearance of the house before Thomas Edison's death in October 1931.

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[5] The Keeper of the National Register has determined that the site is significant also to 1963, the year that Thomas Edison and his wife Mina were reinterred on the property. (See NPS correspondence with the New Jersey State Historic Preservation Officer for written confirmation of this date [Terry W. Savage to Terry Karschner, April 16, 1996; countersigned July 1, 1996]).

[6] NPS memorandum, Superintendent, Edison NHS, to Chief, Division of Historic Furnishings, Harpers Ferry Center, March 13, 1996.

II. ARCHITECTURAL HISTORY

PEDDER OWNERSHIP:
ORIGINAL CONSTRUCTION AND ALTERATIONS, 1880-84

The Pedders and Llewellyn Park

The house that later became the home of Thomas and Mina Edison was constructed in 1880-81 for Henry C. Pedder and his wife Louisa. The Pedders' estate was in Llewellyn Park, a private development in West Orange, New Jersey.[1] Henry and Louisa Pedder had no children of their own, but they are said to have shared their home with Mrs. Pedder's widowed sister, her three children, and a brother-in-law named Mr. Lake. Mr. Pedder commuted about 15 miles from his New Jersey home to New York City, where he worked as a confidential clerk for the large department store Arnold Constable & Company.[2]

Llewellyn Park, known originally as "Eagle Ridge," was one of the first residential parks to be developed in the United States. The land was situated on the east slope of Orange Mountain and beneath the picturesque cliffs of Eagle Rock. It had been developed by Llewellyn S. Haskell, a drug importer from New York City, who had acquired about 350 acres by 1857. Haskell worked with a close friend, Alexander Jackson Davis, who was a well-known designer of landscapes and buildings. The focus of the development was a 50-acre wilderness area with a mountain stream that was originally called "Llewellyn Park" and later became known as "The Ramble." The land around the Ramble was divided into large building lots that were connected by winding roads.[3]

Every owner of property in Eagle Ridge—and later Llewellyn Park—was allowed to use and enjoy the 50-acre park within the development. In return, they were required to comply with certain terms, charges, conditions, restrictions, and regulations. These were described in a deed dated February 28, 1857, in which Llewellyn S. Haskell and his wife Mary Anne conveyed the park land to three trustees. That deed specified that all purchasers of one or more acres of land within Eagle Ridge were required to pay an initial fee of $100.00 per acre, and a yearly fee not to exceed $10.00 per acre. The money was to be used to defray the costs of the common park land and its roads and buildings, including "enclosure, planting, maintenance and decoration," in addition to "necessary incidental charges, and the state, county and township taxes." Management of the park was to be by a committee that was elected yearly by the landowners. The participating owners were in turn granted an easement to "frequent, use and enjoy" the commonly held park land. This park was to be used strictly as a "private pleasure ground"; not permitted within its boundaries were any

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[1] The Township of "West Orange" was established on May 10, 1863; it had previously been "Orange." [Ref., Keith S. Robbins, "A History of the Development of the First Planned American Suburban Community: Llewellyn Park, West Orange," May 1989, p. 85.]

[2] "In And About The City: Mr. Pedder's Luxurious Habits," *The New York Times*, July 19, 1884.

[3] The name of the development was changed from "Eagle Ridge" to "Llewellyn Park" in 1860, at the same time the 50-acre park within the development was renamed "The Ramble." [Ref., Robert P. Guter, "National Register of Historic Places Inventory—Nomination Form: Llewellyn Park Historic District" (nomination dated July 16, 1984; accepted in the National Register Feb. 28, 1986), item number 8.

buildings to be used as a "hotel, livery-stable, slaughter-house, smith-shop, forge, foundry, brewery, distillery, hat-factory, circus or menagerie, or for the carrying on of any trade or business."[4]

Henry and Louisa Pedder eventually owned five parcels of land in Llewellyn Park. They made their first purchase on December 24, 1879, when they acquired one parcel of 10 and 47/100 acres from James M. Ward and his wife.[5] This large lot was situated adjacent to The Ramble on the south side of Llewellyn Park, at the intersection of Glen Avenue and Park Way; it was here that they built their house beginning in 1880. The Pedders increased their holdings in June 1881 when they purchased an adjacent parcel comprising 3 and 7/100 acres from David E. Green.[6] This land was on the north side of their property and on the west side of Glen Avenue, and it was here that several greenhouses were built. The Pedders made one last acquisition in Llewellyn Park in January 1884 when they bought three more parcels totaling 10 and 18/100 acres from David E. Green.[7] These parcels were also on Glen Avenue, but a short distance to the north of the original estate.

The Architect: Henry Hudson Holly

Henry Hudson Holly was the architect of the house and the outbuildings at the Pedder estate in Llewellyn Park. Holly was born in New York City in 1834 and died 58 years later, in 1892, from the complications of a fall incurred at a building site. He began his architectural career at the age of 20 when he went to work for Gervase Wheeler, an English architect and author who had recently moved to New York City. Holly opened his own architectural office in New York City in 1857. He was joined 30 years later by Horatio F. Jelliff, a former apprentice.[8]

Holly was already an established architect and a published author by 1880 when he was commissioned to design a house for Henry and Louisa Pedder. His previous jobs had included the remodeling and new construction of residences, churches, and educational buildings that were located nearby and as far away as Canada.[9] Holly's first book was *Country Seats and Modern Dwellings*,

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[4] Essex County Deed, Llewellyn S. Haskell and Wife to Augustus O. Moore, Thomas B. Merrick, and Edwin C. Burt, Trustees, Feb. 28, 1857, Book C10, pp. 293-315. This deed conveyed "Llewellyn Park"—the 50-acre wilderness area that was renamed "The Ramble" in 1860—to three trustees. Other studies have misinterpreted "Llewellyn Park" to mean the entire development, which name it did not acquire until 1860.

[5] Essex County Deed, Book N20, p. 286. The purchase price was $10,000.

[6] Essex County Deed, Book C21, p. 365. The purchase price was $6,000.

[7] Essex County Deed, Book C22, p. 432. The purchase price was $20,000.

[8] Michael A. Tomlan, "The Domestic Architectural Stylebooks of Henry Hudson Holly," an introduction to *Holly's Country Seats and Modern Dwellings* (Watkins Glen, NY: American Life Foundation, 1980).

[9] *Holly's Country Seats and Modern Dwellings*. Tomlan notes that "Unfortunately, few of Holly's buildings still stand and even fewer remain unaltered. Perhaps this is due in part to their siting, often along principal roadways, railroads, and streetcar lines, on land subject to great redevelopment pressures." Holly

published in 1863. This was followed by a second book entitled *Church Architecture* that was issued in 1871. He wrote several articles on American vernacular architecture that were published in 1878 in the magazine *American Architect and Building News*. These articles were compiled into book form for his third and most popular book, *Modern Dwellings in Town and Country*, which was published in 1878.

Henry and Louisa Pedder may have been acquainted with Henry Hudson Holly's philosophy and ideas on architecture as he expressed them in his last book, *Modern Dwellings*. His preferred location for a country house was a place like Llewellyn Park:

> There is a method adopted in England...in which fine scenery and agreeable company may not be incompatible. It is by a number of families clubbing together, and procuring an attractive spot, filled with shady nooks and pleasant streets, which, by mutual agreement and some slight restrictions, can be laid out in a picturesque manner for building.[10]

Holly was a strong advocate of the Queen Anne style as the preferred vernacular style for American country houses, because "every detail seems so fitted for domestic use." He viewed country houses as sanctuaries,

> where the heads of families are not only recuperating from the deleterious effects of the confinement of city life, but are, with the aid of fresh air and wholesome food, laying the foundation for greater strength and increased happiness for their children.[11]

The siting of a house was important to Holly, particularly in regards to proper drainage, scenery, and orientation. He suggested that the verandahs be placed on the east side where they would receive the most shade. Similarly, it was important to orient the interior rooms properly. The room that was most occupied by the family—usually the parlor or the living room—was best placed on the sunny south side where it would be sheltered from the winter winds and cooled by the summer breezes. Here too should be placed the Conservatory in which plants were grown. The dining room was best situated on the west side where the sunset could be glimpsed at the evening

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himself described several of his commissions in his books *Country Seats* (1863) and *Modern Dwellings* (1878).

Holly had designed four houses in the Oranges by March 1880. A publication of that date states the following: "Mr. Holly recently finished houses for Mr. Edward Winslow, of Harrison Street, and Mr. E.S. Sandord, of Montrose, and is now erecting one for Mr. Watson Matthews, at Montrose, and one for Mr. H.C. Pedder, in Llewellyn Park, each in the colonial style [sic]. [Ref.: *Why, Where and How to Find Homes Half Hour Ride by Rail for New York Business Men. Being a Short Descriptive Guide by Delaware Lackawanna and Western Railroad to the Oranges* (J. Schenk: Orange, NJ, Mar. 1880). Researched and excerpted by Glenmont Curator Leah Burt.]

[10] Henry Hudson Holly, *Country Seats* (New York: D. Appleton and Co., 1863), p. 22; reprinted in *Holly's Country Seats and Modern Dwellings*.

[11] Holly, *Country Seats*, p. 21.

meal. The least desirable exposure was the north side where it was suggested that the kitchen be placed. The north side was also desirable for its steady light, however, so it was also here that the library should be oriented.[12]

Holly had particular views about the presence and use of certain rooms in the Queen Anne house. He believed that a "proper hall" was one that served more as a room than simply as a passageway.[13] The library was a room to be used for both reading and as a place where the head of the household could "gather his dear ones for counsel and instruction."[14] A room for the billiard table was best placed in the parlor story, rather than the cellar or the attic, so that the female members of the household would feel welcome.[15] Finally, Holly was an advocate of humane servants' quarters, including a kitchen that was light and airy, a hall for sitting and dining that was separate from the kitchen, and bedrooms that were warm and furnished. Such quarters, he believed, would cause the "hue and cry against the tyranny of cooks and chambermaids" to become "things of the past."[16]

Mechanical systems were also important considerations in the design of the house. Holly believed that proper heating and good ventilation were essential to healthful living. To that end, he recommended that the rooms be heated via floor registers with a combination of fresh air and air warmed by a steam furnace. He also advised that the registers be surrounded by a skirting of soapstone so as to minimize the possibility of fire. Holly regarded gas lighting as not "the pleasantest mode of lighting," preferring rather the light provided by candles, oil lamps, or kerosene lamps. He assumed that modern dwellings would have interior plumbing, with water supplied from either cisterns or wells. Adequate water pressure could be achieved, he advised, by bringing the water into the house from a higher level—such as from a water tank stored in the attic. The water could be moved up into the water tank from the cistern or well by means of a pump. Battery-powered electrical service was available in 1878 when *Modern Dwellings* was written; its uses then were primarily for household security systems and for telegraphic systems, according to Holly.[17]

Detailed plans and specifications for building were recommended by Holly so that bids—or cost estimates—could be prepared by potential contractors. He suggested employing separate trades rather than a general contractor if the architect was available to superintend the project. Holly himself supervised those projects that were within commuting distance from his office, and communicated via mail with jobs in Canada, Tennessee, and Texas.[18]

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[12] Holly, *Country Seats*, pp. 21, 33-34, and 42-43.

[13] Holly, *Country Seats*, p. 67.

[14] Holly, *Country Seats*, p. 109.

[15] Holly, *Country Seats*, p. 118.

[16] Holly, *Country Seats*, pp. 93 and 114.

[17] Holly, *Country Seats*, pp. 39-40, 75, 94, 100, 102, and 209.

[18] Holly, *Country Seats*, pp. 43, 45-46, and 52.

All details of construction were discussed in Holly's book, from the excavation of the cellar walls to the building of the library bookcases. He suggested that the stones removed from the cellar excavation be reused in the walls or walkways. He was an advocate of the "balloon" system of wood framing, in which the studs were run continuously from the sill to the plate. The best roofs, he believed, should be pitched and covered with sheathing, felt, and slate shingles from Pennsylvania, Vermont, or Virginia. Stained-glass windows were appropriate for residential construction, particularly in stairwells. Ceilings should be furred out prior to plastering so that the shrinking of the floor beams would not crack the ceiling plaster. Fireplace mantels made of wood were "as a general thing, more artistic and attractive than those of marble," but required a fire-protecting border of stone or tile.[19] Bookcases that did not reach to the ceiling were better than taller bookcases because they were easier to reach, the tops could be used for display, and the wall space above could be used to hang pictures.[20]

Holly thought that building materials should be used honestly, and that "all designs should be consistent with the materials in which they are to be executed."[21] Wood, for example, should be used whole as it grew in nature and not as a veneer. He declared that decorative painting, such as graining and veneering, was a "sham which ought never to be tolerated."[22]

Holly believed strongly that the architect should be involved in the finishing details of a house, as he stated in *Modern Dwellings*:

> It has been said that he who designs the outside of a house should also design the interior. I would go a step further, and claim that, in order to secure harmony, the same mind that conceives the original structure should guide the arrangement of all its details, including color, decoration, furniture, and carpets.[23]
>
> An improper application of paint might nullify the effect of his design, and render that ridiculous which was intended to be dignified; small, that which was to appear large; and obtrusive, that which was to appear modest and retiring.[24]

He suggested painting the exterior of the house in colors that harmonized with nature, such as a soft neutral color for the body and a darker shade of the same or a deeper color for the trim. The painting of chimneys was not recommended as a rule unless the chimneys were plain, in which

[19] Holly, *Country Seats*, p. 189.

[20] Holly, *Country Seats*, pp. 48-49, 56-57, 61-62, and 198.

[21] Holly, *Country Seats*, p. 207.

[22] Holly, *Country Seats*, p. 184.

[23] Holly, *Country Seats*, p. 158.

[24] Holly, *Country Seats*, p. 26.

case black or buff-color bands were acceptable. Holly noted that it was customary to delay the painting of the interior walls and ceilings for a year or two so as to allow the house time to settle and the plaster time to season. For this reason, he suggested using wallpaper "in order that the finishing touches may be applied at once."[25] For the upper walls, he recommended an applied frieze in a style appropriate to the room, such as fruits and game in the dining room and flowers in the parlor. The ceilings, on the other hand, should be painted in a flat design except for a border at the perimeter of the room to "break up its broad surface."[26]

The Pedder House

The earliest-known architectural rendering of Mr. and Mrs. Pedder's new residence at Llewellyn Park is a perspective drawing of the exterior dated "Jan. 30th, 1880," and signed by "H. Hudson Holly, Architect."[27] It is likely that Holly prepared this sketch to show his clients the proposed design of the house—as opposed to its as-built appearance—since the Pedders had acquired their property in Llewellyn Park only one month earlier, on December 24, 1879. Not surprisingly, Holly designed the house in the "Queen Anne" style that he advocated in his book *Modern Dwellings* as the preferred vernacular style for American houses. The sketch shows a large house three stories tall with many gables, expansive verandahs, a roof balustrade, and two tall chimneys. A driveway in the foreground curves towards the house and through an attached porte cochere.

Little is known about the actual construction of the Pedders' house. It is likely that Holly prepared detailed plans and specifications as he recommended in *Modern Dwellings*, although these have not survived.[28] The plans and specification would have been used for bidding purposes by the various contractors and as a guide in building the house. Holly himself probably supervised the work because the building site was within commuting distance of his office in New York City. It is therefore likely that he employed individual trades, rather than a general contractor, for the job.

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[25] Holly, *Country Seats*, p. 167.

[26] Holly, *Country Seats*, p. 169; also, pp. 26, 71, and 170.

[27] Catalog number 102,915, Edison NHS. The drawing was made using brown ink and color wash on paper. It is glued to a cardboard backing and framed. The drawing is now in storage at the park. It had previously hung on a wall in the Second Floor hall, according to Leah Burt, Glenmont Curator. A photographic copy of the drawing now hangs in this location.

[28] A search was first made for the architectural plans during Edison's time, when it was recorded "Found architect's name—H. Hudson Holly 111 Broadway—Mr. Walker says dead 20 years thinks little chance to get plans—." (Lab notebook #2, 21-07-01, entry for Mar. 24, 1922). Another search was made 40 years later by the National Park Service, also with no success. The sources that were consulted were the present living members of the Edison family, the American Institute of Architects (New York and Washington, D.C. chapters), the New York and New Jersey State Boards of Architects, the New York Public library, the New York Historical Society, the Avery library at Columbia University, and the Edison Laboratory Archives. (Melvin J. Weig, "Historic Structures Report - Part I, 'Glenmont,' Home of Thomas Alva Edison, Historical Data," Dec. 22, 1961, pp. 2-3).

Of these we know the names of only a few. N.F. Barrett, a landscape designer, laid out the grounds.[29] Christopher Baker dug the well.[30] Mr. Connolly, an engineer and contractor, designed and installed the heating system.[31] George Payne, an artist, designed and made the stained-glass windows.[32] Finally, Pottier & Stymus of New York City decorated and finished the interior.[33]

Work on the house appears to have been well underway by March 1880, based on a publication for prospective home owners by the Delaware Lackawanna and Western Railroad. This gives a detailed description of Mr. Pedder's house that was then under construction:

> Mr. Holly...is now erecting [a house] for...Mr. H.C. Pedder, in Llewellyn Park.... Mr. Pedder's house will be one of the largest in Orange, measuring over all 56 x 88 feet. The basement is built of blue-stone, from the quarries at Greenwich, Conn. The first story is built of Baltimore pressed brick, and trimmed with Wyoming freestone. The entrance lobby has cut-stone steps and ornamental tile flooring, the walls being of molded brick, forming a very effective porch. The second story on the exterior is of half timber construction while the attic and gables are of ornamental shingle. The roof is of slate, being quite steep, and surmounted by a large balcony some 21 feet square, from which a most extended view may be had in every direction.[34]

The house was presumably near completion or completed by August 1881 when it was featured in the magazine *American Architect and Building News*. Appearing on one page is the same

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[29] Letter from N.F. Barrett to Thomas A. Edison, Dec. 28, 1916. Barrett wrote, "It may interest you to know that I laid out your place for H.C. Pedder in the early '80s." Barrett was then living in New Rochelle, New York, and preparing to write about his "life work." For more information, see the "Cultural Landscape Report: Glenmont" [draft] by Leah Burt.

[30] Letter from Charles E. Dodd, Mason and Builder, Orange, NJ, to Thomas Edison, Nov. 8, 1889. Mr. Dodd wrote, "Christopher Baker sunk the well at your residence."

[31] Letter from Mr. Connolly of Sayward-Connolly Company, Engineers and Contractors, to Thomas A. Edison, Mar. 23, 1911. Mr. Connolly wrote, "I recall in the early eighties on heating the residence that you now occupy for Mr. Henry C. Pedder."

[32] *The Oranges and Their Leading Business Men*, published in 1890 (p. 88), describes George Payne, Artist, as the man who "did all the art glass in the residence of Mr. Edison." His place of business is listed as R.R. Place, opposite Brick Church Station, East Orange, NJ.

[33] Invoice from Pottier & Stymus to Henry C. Pedder Esq., May 7, 1882; Edison NHS Archives. Holly described Pottier & Stymus on page 155 of his book *Modern Dwellings* as a firm that was "doing some beautiful work." While previous studies have stated that the firm was hired by Mr. Pedder, it is more likely that they worked under the direct supervision of Holly, based on his belief that the architect should be involved in all details of the house design.

[34] *Why, Where and How to Find Homes*.

perspective view that had been executed by Holly in 1880, with the addition of several enlivening features such as a woman seated on the south verandah, birds in the sky, and smoke wafting out of the north chimney. The upper right-hand corner of the page is entitled "Residence of Mr. Henry C. Pedder, Llewellyn Park, Orange, N.Y., H. Hudson Holly, Architect, New York." The upper left-hand corner of the page is a scale drawing of the first-floor plan. It is interesting to note that the floor plan differs from the drawing in its placement of two exterior stairways: one at the front entrance, the other leading to the verandah on the left side of the house. It is probable that the plan was prepared after the drawing because the stairways were in fact built as shown on the plan.[35]

Other features shown on the floor plan are a front carriage porch, two narrow verandahs on either side of the carriage porch, a wider verandah on the adjacent left side of the house, and a small verandah on the service side of the house. Inside, the rooms are segregated into the main living area on the left side of the house and the service area on the right side. The principal rooms are a large hall with a hat closet, a main stairway, a reception room, a parlor, a dining room, and a library. The service rooms are a back hall with a closet and dumbwaiter, a servants' dining hall, a laundry with tubs, a kitchen, a pantry with a refrigerator, and a butler's pantry with a storeroom at one end.

The building materials that were used to construct the house are described on another page of the magazine, to wit:

> The whole building, above first story, is constructed in wood. The foundation is built of Birum bluestone, from the quarries at Greenwich, Conn. The front-entrance steps are of Wyoming bluestone, the platforms being of tile. The parlor story is built of Philadelphia and moulded brick; the entrance vestibule of buff brick with terra-cotta frieze. All the rooms on the first and second stories are finished in hard wood, the Hall finish being of dark oak, the main stairs of mahogany. The parlor is of rosewood, the reception-room of birch, dining-room ash, Library of mahogany, while the attic and kitchen are finished in natural pine. The floors are all double, with felting between; those on the first story are of inlaid woods, with wide marquetry borders.[36]

It is certain that the house was completed by May 7, 1882, based on an invoice of that date for $31,588.19 from Pottier & Stymus. The invoice details the interior finishing work that was done and the furnishings and the curtains that were provided for the main rooms of the house. It appears that Pottier & Stymus did not do any work in the servants' rooms, because no mention is made in the invoice. Pottier & Stymus supplied and installed the picture moldings and the chair rails for the main rooms of the house, in addition to three carved, gilt, and jeweled ornaments for the ceiling of the Drawing Room. The walls of the rooms were either wallpapered or painted, and most of the

[35] This is based on the earliest-known photograph of the house, taken sometime before Feb. 1884. See figure 4.

[36] "House for Mr. Henry C. Pedder, Llewellyn Park, Orange, N.J.," *American Architect and Building News*, Aug. 27, 1881, p. 98.

ceilings were decorated.[37] Information on the furnishings and curtains is contained in the draft historic furnishings report for Glenmont.[38]

Another indication that the Pedders' house was completed by 1882 is a plan of that date that was prepared by Mead & Taylor, Engineers, entitled, "Residence and Grounds Belonging to H.C. Pedder Esq, Llewellyn Park, Orange N.J."[39] The plan is particularly significant for being the earliest-known view of the Pedders' estate as it was actually built. The plan shows the original parcel that had been purchased by the Pedders in 1879, but not the north adjacent lot acquired in June 1881. The property is shown as being bordered on its east side by Glen Avenue, on its south and west sides by Park Way, and on its north side by an unnamed road known today as Honeysuckle Lane. The focus of the site is the large "dwelling" oriented with its front facing the east. To the east side of the house are a large circular driveway, a "barn," a "chicken yard & cow stables," a "vegetable garden," a "grapery," and a "lower lawn." Behind the house, on the west side, are winding paths and a "croquet lawn."

The 1882 plan is also significant for showing the general form of the completed house. The outer perimeter of the house is delineated by a solid line, and the verandahs on the east and south sides of the house by shading.[40] This plan is identical to the first-floor plan of the house published in *American Architect and Building News* in August 1881, with one exception. Shown as existing in 1882 is an enlarged verandah with a rounded projection on the south side of the house. That this

[37] Rooms in which the walls were papered were the first-story drawing room, dining room, reception room, and library; the second-story sitting room; and the play room (location unknown). No descriptions are given of the wallpaper patterns or the use of wallpaper borders. Painting of the walls occurred mostly in the second-story rooms including the main hall, side hall, room over the reception room, room over the drawing room, room over the library, and room over the dining room. The walls of the third- story billiard room were also painted. Painting of a more elaborate sort was done in the first-story main hall where the walls were "decorat[ed] in bronze," and in Mr. Lake's third-story room where the walls were "decorat[ed]." Also painted decoratively were the ceilings in the following rooms: the first-story drawing room, reception room, dining room, and library; the second-story main hall, side hall, bath, dressing room, sitting room, room over the reception room, room over the drawing room, room over the library, and room over the dining room; and, in the third story, Mr. Lake's Room, the billiard room, the room over the parlor, the room over the dining room, and the room over the library.

[38] Leah B. Burt and Kristin Herron, "Historic Furnishings Report: The House at Glenmont" [draft] (NPS: Edison NHS: 1994).

[39] Catalog number 114,424 (original plan and a tracing), Edison NHS Archives.

[40] Melvin J. Weig, in his "Historic Structures Report - Part II, The Conservatory" dated 1965, stated on page 2, "The exact significance of this shading is not known, but it may have meant, either that those portions were added soon after the original 1880 construction, or that such addition was contemplated in 1882, when the drawing was prepared." It is clear to this author that the shading simply differentiates the open verandahs from the main part of the house.

verandah was actually built is confirmed by its presence in the earliest-known photograph of the house taken sometime before February 1884 (fig. 4).[41] It is known today as the "Conservatory."

Several underground features are shown on the 1882 plan that relate directly to the house. Water was supplied by three cisterns that collected rain water from the roof, and by one deep well. Two of the cisterns are shown in the west lawn, and one is in the south lawn. The well is also shown in the west lawn, to the north side of the cisterns and near the northwest corner of the house. Sewage was channeled away from the east side of the house to two cesspools at the northeast corner of the property. Gas for lighting was supplied by a pipe that entered the house at the northeast corner. This was also the location of the bell wire that enabled communication between the house and its outbuildings.

The earliest-known photograph of the Pedders' house was published in 1886 in a book entitled *L'Architecture Americaine*.[42] The photograph is believed to have been taken sometime after August 27, 1881, when the drawing and plan of the house were published in *American Architect and Building News*, and before February 1884, when materials relating to the later enlargement of the Drawing Room were billed.[43] Shown in the photograph are the same east and west elevations that were drawn by Holly in his sketch of 1880. The season appears to have been late fall, winter, or early spring based on the absence of leaves on the deciduous trees nearby. The plantings around the house are immature, suggesting that the photograph was taken not long after the house was constructed.

The house as seen in this early photograph is similar in both general design and massing to Holly's sketch of 1880. It differs, however, in several details. Most of these are believed to have been changes that were made to the original design either before or during construction. They include the placement of the steps at the front entrance and at the south verandah, the design of the stickwork in the pediments, the brickwork detailing of the two visible chimneys, the design of one of the gables in the second story (Room 200), the configuration of the windows in one of the south-facing rooms in the third story (Room 301), the design of the railing at the roof deck, and the presence of gutter leaders. Also different is the east-facing sun room in the third story (Room 302), which is open in the drawing but enclosed with glass windows in the photograph (later photographs suggest that the windows were in fact removable). One last difference is the presence of the south verandah addition—also known as the Conservatory—in the photograph. This has been discussed previously as an alteration that was made at an early date to the original verandah.

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[41] Evidence that the enlarged verandah was a later alteration of the original verandah exists today in the form of framing members and paint. For more details, see the chapter on the conservatory (Room 101).

[42] The book, published originally in France, was republished by Dover in 1975 as *American Victorian Architecture: A Survey of the 70's and 80's in Contemporary Photographs*. The house appears on page 109 as plate III.11, which is entitled "H.H. Holly; Henry C. Pedder Residence, Llewellyn Park, Orange N.J."

[43] Invoice from Pottier & Stymus to Henry C. Pedder, May 7, 1882; the invoice dated Feb. 8, 1884 is appended.

The Pedders appear to have contemplated more additions to their house, based on an undated plan entitled "Plan of First Story, H.C. Pedder, Esq., Orange N.J."[44] The rooms that are labeled on this plan are the Hall, Reception Room, Parlor,[45] Conservatory, Dining Room, Library, Servants' Passage, Butler's Pantry, Kitchen, Servants' Dining Room, and Laundry. Three of these rooms are shown as enlarged from their configurations as illustrated in the earlier first-floor plan of 1881 and the engineering plan of 1882. These are the Parlor, which was extended to the south; the Laundry, which was extended to the north; and the Butler's Pantry, which was extended to the west. The plan is a design proposal rather than a drawing of as-built conditions, as can be ascertained from the proposed windows in the east wall of the Parlor that were never installed.

The work was actually carried out, based on an invoice from Pottier & Stymus dated February 8, 1884, for new woodwork and other items in the Drawing Room (or parlor). An itemized accounting by Holly dated 1885 also lists the costs of the "enlarged laundry, new addition for servants, [and] butlers pantry and parlor enlarged."[46] Finally, the size of the rooms as they exist today confirms that the remodeling work was mostly done as proposed in the plan.

Estate Name

If Henry and Louisa Pedder named their country estate in Llewellyn Park, no record of it has survived. All historical documents refer to the estate as simply the one "belonging to H.C. Pedder." Some studies have suggested that the name that eventually became associated with the site during the Edison years—"Glenmont"—may have had its origins with the Pedder family.[47] In support of this theory is the fact that it was common practice to name the estates in Llewellyn Park by 1878, one year before the Pedders purchased land there. The city atlas for that year includes 15 estates in the park that were named, one being "Glen Bank" owned by R.C. Browning.[48]

[44] Catalog number 114,425. Edison NHS Archives.

[45] The parlor was also called the drawing room during the Pedder years.

[46] Letter from Henry Hudson Holly to J. Asch, June 12, 1885; Edison NHS. The "new addition for servants" may have been an addition that was constructed after the laundry, butler's pantry, and parlor were enlarged. It is thought to refer to Room 110.

[47] The earliest-known mention of the name is on the "Map of Llewellyn Park, West Orange, New Jersey," dated 1888, that labels the Edison estate as "Glenmont."

[48] Keith S. Robbins, "A History of the Development of the First Planned American Suburban Community: Llewellyn Park, West Orange," May 1989, Table N-2. The other 14 estates were named as follows: Arcadia, Ashley, Blythea, Baronald, Brookside, Castlewood, Evergreen Hall, Fern Cliff, Oakleigh, Locust Grove, Ormsbee, Sunshine, Tyrdyn Terrace, and Undercliff.

In addition, architect Henry Hudson Holly was an advocate of the practice, and wrote of it in his book *Holly's Country Seats* in 1863:

> We...advise the application of some distinctive name to every detached country house, however small, since it cannot be distinguished by a number, as in town. The name should, of course, be suggestive of some fact connected with the house, its owner, or its location, and should be original, or at least not copied from any in the vicinity.[49]

Holly then listed 128 names taken from country seats in England. Among these were "Glen Villa," "Glenfield," and "Glen Cottage."

The name "Glenmont" follows Holly's advice by being suggestive of the estate's location, which is on a rise of land or "mount" on the north side of the park's "Glyn Ellyn" ravine, and on the west side of "Glen Avenue."

Final Year: 1884

Henry and Louisa Pedder made their last purchase of land in Llewellyn Park in January 1884, when they acquired three more parcels on Glen Avenue from David Green.[50] Shortly thereafter, in July 1884, Henry C. Pedder and two fellow employees were accused of embezzling money from their employer, Arnold Constable & Company.[51] As a consequence, all of the Pedders' property in Llewellyn Park, including the house and its contents, was conveyed on July 14, 1884, to the partners in the company. The selling price was $1.00.[52] The Pedders remained in

[49] Holly, *Country Seats*, p. 57.

[50] Essex County Deed, Book C22, p. 432. The three parcels totaled 10 and 18/100 acres and were located a short distance from the Pedder estate.

[51] Very little is known about the affair, except for information in the article "Mr. Pedder's Luxurious Habits." The article says that three employees were accused of defrauding Arnold Constable and Company: Cornelius O'Leary (receiving clerk), Herbert Seymour (cashier), and Henry C. Pedder (confidential clerk). Seymour is said to have conveyed his property to the firm before leaving for Europe. It further states, "Henry C. Pedder . . . returned from a European trip last Monday, and on Tuesday he . . . turned over his property, in partial restitution at least, of the amounts taken. Mr. Pedder entered the employ of the firm when a young man. He worked his way steadily upward until he had the entire confidence of his employees, and it was through him that the mass of the great business was directed. There was no restraint imposed upon his actions, and facilities for fraud were open on every hand. As the firm consider the affair one affecting only themselves, they decline to make public the amount taken by either Seymour or Pedder. The amount stolen by the latter is variously estimated. In the light of recent disclosures it is stated that $250,000 is not far out of the way of the actual sum, though some place it as high as $500,000."

[52] Essex County Deed, Book I22, p. 318.

residence for at least several days after this transaction, according to a reporter for *The New York Times*. He described the Pedder estate in an article dated July 19, 1884:

> Mr. Pedder lives in Llewellyn Park, Orange, N.J., and is one of forty who have homes in that beautiful resort. The house is a many-gabled structure of Queen Anne architecture, surrounded by smooth-shaven lawns dotted with shrubbery and flowers in the highest art of landscape gardening. The house is considered one of the finest in the park, and its interior finish is surpassed by none in the State. It stands on a commanding knoll facing the east. The ground on which it is built encompasses about 10 acres, part of it wooded, but all under the care of gardeners, making a delightful house. It has connected with it extensive greenhouses and stables. The interior finish is throughout of costly woods, and the house is furnished with elegance. It was built about three years ago, but additions and improvements have been constantly making since. The latest addition was a billiard room, only partially completed when the owner returned from Europe. The property as it stands cost Mr. Pedder about $200,000.[53]

An article written seven years later about the house noted the following about previous owner Henry C. Pedder: "Placing his stolen property in the hands of the firm, the employee fled from the country and is still a fugitive and wanderer."[54] No other details are known.

Value of the Pedder Estate

Henry and Louisa Pedder had spent about $271,000 on their Llewellyn Park estate before it was turned over to Arnold Constable & Company in 1884. Of this, $36,000 went for the purchase of the land, while $235,000 was spent on improvements. The numbers were gathered by architect Henry Hudson Holly, who spoke with the contractors and compiled the information in a letter to J. Asch dated June 12, 1885.[55] Mr. Holly determined that the house itself had cost $90,000, including $70,000 for its original construction and $20,000 for its additions.[56] Other expenses of

[53] "Mr. Pedder's Luxurious Habits." The "billiard room" was probably the den (Room 114), based on writing found on one of the ceiling beams in 1966 that reads, "This addition built in July 1884."

[54] Hester M. Poole, "The Residence of Thomas A. Edison," *The Decorator and Furnisher*, 1891. Pedder's name is not included in the directories for either Manhattan or Brooklyn for the year 1885-86; he had been previously listed during the years 1880-84 as being employed in dry goods at 881 Broadway in New York. [Leah Burt, Curator, Edison NHS, to Barbara Yocum, Apr. 6, 1991.]

[55] Letter from Henry Hudson Holly to J. Asch, June 12, 1885. Asch is believed to have been a real-estate appraiser and/or agent; no information on him was found in the files at Edison NHS. [Note: the address on the envelope of Holly's letter has an "M" in front of J. Asch's name, but this most likely stood for "Mister"; the name on the cover sheet of Holly's letter is clearly J. Asch.] See footnote 57 for details of the letter.

[56] The additions are described in Holly's letter as an "enlarged laundry, new addition for servants, butlers pantry and parlor enlarged."

the house were $30,000 for the furniture and decorations and $25,000 for the bric-a-brac, pictures, statuary, curtains and hangings, rugs, library, piano, organ, chandeliers etc., lamps, and bookcases. Other buildings on the property were built at a cost of $55,000, including $15,000 for the stable and outbuildings, and $12,000 for the greenhouses; outfitting the greenhouses was an additional $28,000. The cost of the land was $36,000, and laying out the grounds was another $10,000. Holly also figured that the value of the land was $25,000, perhaps referring to the worth of the newly installed shrubs, plants, and fencing.[57]

Holly itemized the value of the Pedder estate even further in his letter to Mr. Asch by listing the expenses of individual building components. While earlier studies have assumed that the accounting refers to the house exclusively, it is more likely that it included the expenses of constructing all the buildings on the property. These costs are transcribed below as they appear in Holly's letter:

P & Stymus	33,000	
Woodwork	32,000	
Mason	17,000	
Stained Glass	2,000	
Roofing	2,000	
Underpinning & Cut Stone	4,000	
Plumbing	5,000	
Heating Iron Pipes	4,000	
Grates	4,000	
Tiling	3,000	
Gas Fixtures	3,000	
Painting	4,000	
Hardware	2,000	
Plate Glass	1,000	
Carving	4,000	
Pumps & c.	2,000	
Architect	4,000	
Iron Wk	1,000	
Drying Room Deck	2,000	
		Bldg
Window Blinds	2,000	131,000 [Total]

[57] Holly's letter to Asch consists of four parts: a cover sheet, a summary sheet, and two sets of work sheets that tally up the cost of the house and its improvements (excluding Pedder raw land purchases) in two different ways. The first method arrives at a figure of $210,000; the second method totals $208,000. Holly used the $210,000 figure on his summary sheet, and added to it $25,000 for "Value of Land." This gives a figure of $235,000 for the house and all site improvements. The addition of the Pedder raw land purchases ($36,000) gives a total of $271,000. In his cover letter, Holly stated that the cost was $306,000. This number is not supported by the available documentation; there may have been another $35,000 expense that Holly left off his work sheets. Holly's calculations also include two mystifying numbers. One is the "$117,000" in the summary sheet, which does not seem to relate to anything. The other is the "$5,000" in the first set of work sheets, which seems to be a legitimate expense, but which was omitted from the totals.]



Figure 1. Early sketch of the Pedder house, January 30, 1880.

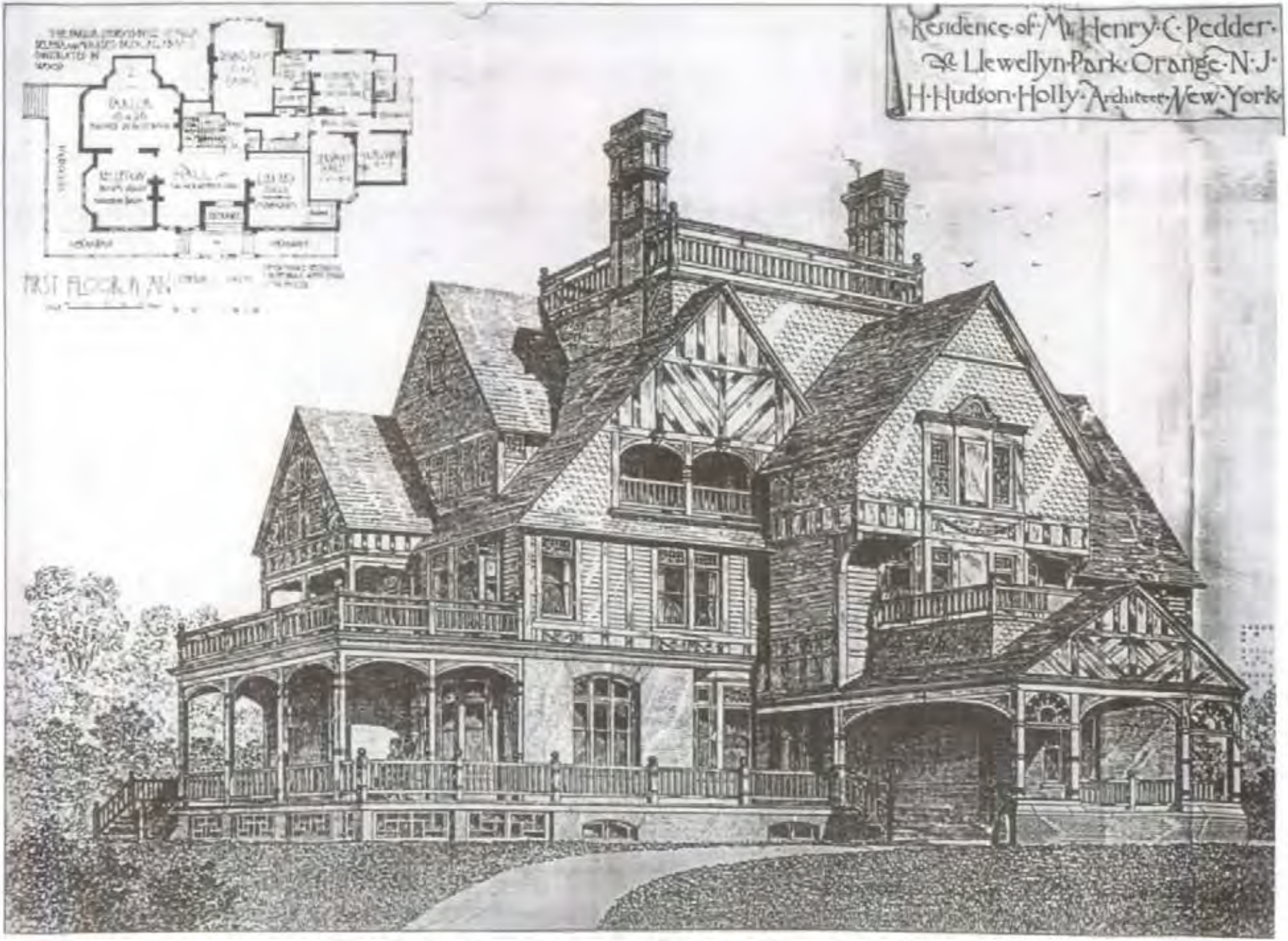


Figure 2. Exterior elevation drawing and first-floor plan, Aug. 27, 1881.

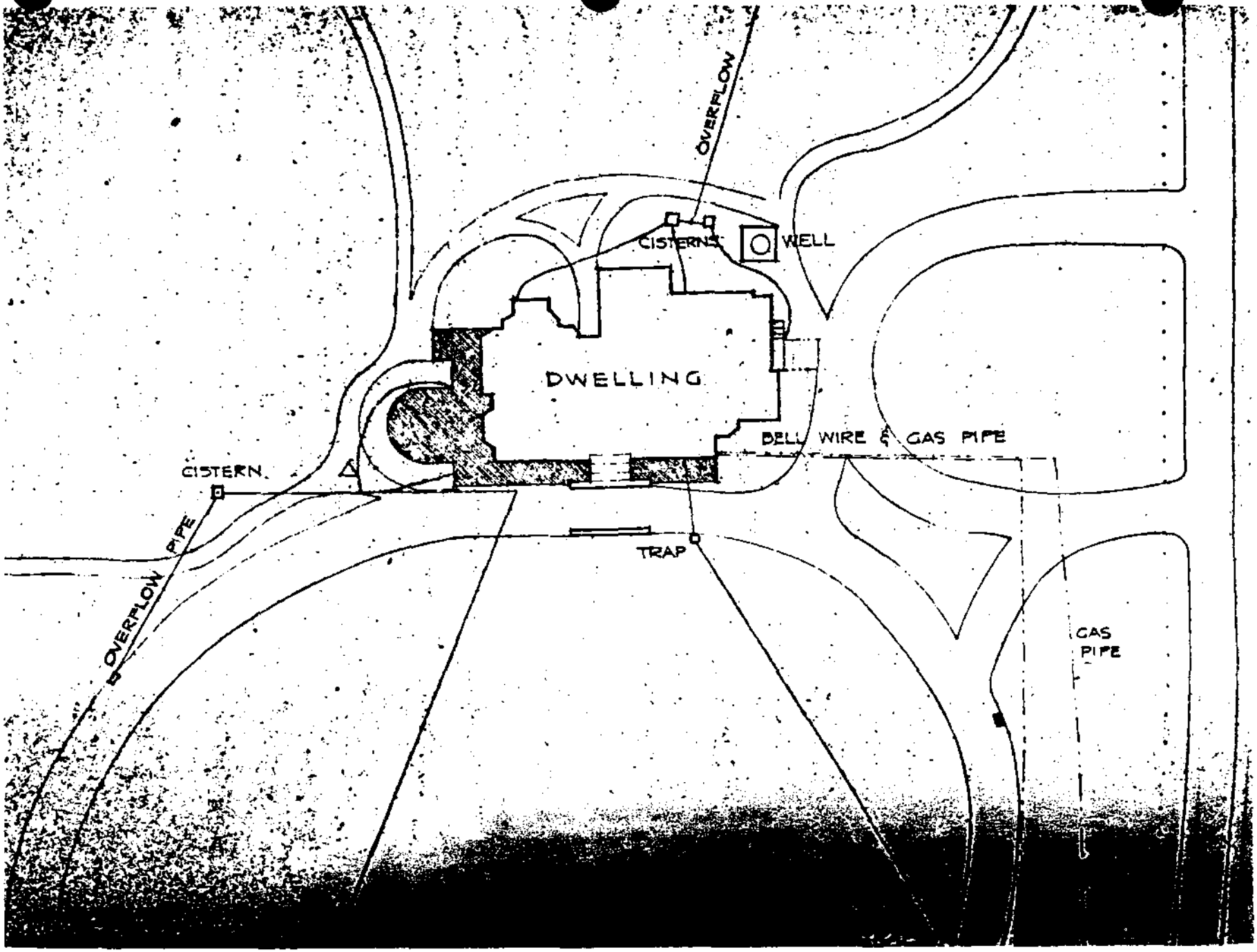


Figure 3. Detail of "Map of Residence and Grounds Belonging to H.C. Pedder Esq.," by Mead & Taylor, Engineers, 1882.



Figure 4. Earliest-known photograph of the Pedder house, circa 1882-83.



Figure 5. South elevation, circa 1884-90. Note the "billiard room" addition on the back (left) side.



Figure 6. Northeast elevation, circa 1884-90.



Figure 7. Detail of Figure 6, showing the "well house."

ARNOLD CONSTABLE & COMPANY OWNERSHIP, 1884-86

Arnold Constable & Company of New York City consisted of four partners in 1884: Hicks Arnold, Richard Arnold, Frederick A. Constable, and James M. Constable. The partners became the co-owners of the Pedder estate in Llewellyn Park when it was conveyed to them by Henry and Louisa Pedder on July 14, 1884, for the purchase price of one dollar.[58] This transaction is said to have transpired in restitution for the large amount of money that had been stolen from the company by its employee, Henry C. Pedder.[59] Unfortunately, the documentation supporting this story is scarce. Furthermore, no mention of the alleged crime is mentioned in the deed conveying the property. The reason for this may be that the situation was handled internally within the company, "as the firm consider[ed] the affair one affecting only themselves."[60] Pedder himself is rumored to have said that he had "lost the money in speculation."[61]

The property that Arnold Constable & Company acquired was all of the Pedders' land in Llewellyn Park, totaling 23 and 72/100 acres.[62] In addition, although not mentioned in the deed, the conveyance included the buildings on the land and the fixtures, furniture, and personal property that were within the buildings.[63]

The company retained ownership of the Llewellyn Park property for one year and five months only—until January 1886. How they maintained the property during that time and whether or not it was leased is not known. An abbreviated note by architect Henry Hudson Holly suggests that some attempt was made the first year to put the house in order.[64] By the spring of 1885, the company appears to have decided to sell the house: it enlisted the services of the previously mentioned J. Asch. Mr. Asch then contacted Henry Hudson Holly in an attempt to determine the value of the property; Holly's response is described in the previous section entitled "Value of the Pedder Estate."

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[58] Essex County Deed, Book I22, p. 318.

[59] "Mr. Pedder's Luxurious Habits."

[60] See footnote 59.

[61] See footnote 59.

[62] Essex County Deed, Book I22, p. 318.

[63] No bill of sale has been found that transfers the contents of the buildings from the Pedders to Arnold Constable & Co. It is known, however, that the company was the recipient of the "fixtures, furniture, and personal property" based on a subsequent bill of sale from Arnold Constable & Company to Thomas A. Edison dated 1886. (Essex County Deed, Book D of Miscellaneous, pp. 95-106).

[64] Letter from Henry Hudson Holly to J. Asch, June 12, 1885. The note reads, "repairing house & A. Constable repairing & decorations [$] 5,000."

Another dealer in real estate, Edward P. Hamilton, offered the property to Thomas A. Edison in a letter dated January 12, 1886:

> We would respectfully submit our services, learning you consider the purchase of Real Estate, and would suggest the property recently occupied by Mr. H.C. Pedder in Llewellyn Park, Orange N.J. The photographs and full particulars we would be pleased to submit. This property has cost some $400,000 [sic] furnished. It can be bought fully at half its cost, either furnished or unfurnished.
>
> Oranges and that section of Country being our specialty, [we] can offer other properties should you not feel inclined toward the Pedder place.[65]

Apparently unbeknownst to Hamilton, Thomas Edison had already signed a purchase-and-sale contract with Arnold Constable & Company for "the Pedder place" the day before, on January 11, 1886.[66]

[65] Letter from Edward P. Hamilton to Thomas A. Edison, Jan. 12, 1886; Edison NHS Archives. The "photographs & full particulars" have unfortunately not been found.

[66] Essex County Deed, Book D of Miscellaneous, p. 95.

EDISON OWNERSHIP AND ALTERATIONS, 1886-1931

Purchase of the "Pedder Place"

It was Thomas Edison's search for a house for his bride-to-be, Mina Miller of Ohio, that brought him to West Orange, New Jersey. Edison is said to have offered Miss Miller a choice of abodes—either a large town house in the city or a house in the country.[67] The house in the country was the former estate of Henry and Louisa Pedder in Llewellyn Park, which Thomas showed to Mina in December 1885. It was apparently to her liking, since the purchase-and-sale contract for the property was signed shortly thereafter, on January 11, 1886.[68] The deed and mortgage documents were signed nine days later, on January 20, 1886.

Thomas Edison thus acquired two parcels of land from the partners of Arnold Constable & Company that together totaled 13 and 54/100 acres. This represented only a portion of the original Pedder estate, which by 1884 comprised five parcels of land in Llewellyn Park. Edison's parcels were the core of the estate and included the dwelling house, a stable and carriage house, a cow and chicken house, several greenhouses, cultivated lawns, and gardens. The purchase price was $125,000.[69] Also acquired by Edison for "one dollar" were "the fixtures and furniture and personal property...now in the house and other buildings now on the land...."[70]

The value of the entire Pedder estate had been calculated in 1885 to be $271,000, which included the three parcels of land not purchased by Edison worth $20,000. The approximate value of Edison's estate in 1886, not including the furnishings, was therefore approximately $271,000 minus $20,000, or $251,000—about twice what Edison actually paid. Edison financed his purchase by obtaining a mortgage from Arnold Constable & Company for the amount of $85,000; he presumably paid the remaining $40,000 in cash.[71]

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[67] Matthew Josephson, *Edison* (New York: McGraw-Hill, 1959), p. 30.

[68] The "contract of sale and purchase" dated Jan. 11, 1886, is mentioned in the "Certified Copy of Bill of Sale" dated Jan. 20, 1886, in Book D of Miscellaneous, Essex Country Registry of Deeds and Mortgages. The actual sale and purchase contract has not been located.

[69] Book X22, pp. 318-22, Essex County Registry of Deeds. There has been much confusion about how much money Thomas Edison paid for his new home. One biography says that the cost was one quarter of $200,000, or $50,000. [Ref., Josephson, *Edison*, p. 309]. Another states that the purchase price was $235,000. [Ref., Robert E. Conot, *A Streak of Luck* (New York: Seaview Books, 1979), p. 239]. Both are incorrect.

[70] Certified Copy of Bill of Sale, Book D of Miscellaneous, pp. 95-106, Essex County Registry of Deeds. Appended to the Bill of Sale is an inventory that lists the contents of the house by room and some of the outbuildings.

[71] Thomas Edison paid $10,000 towards the mortgage on July 8, 1886, and the balance of $75,000 on Apr. 14, 1890. [Ref., Mortgage Book V.8, pp. 132-35, and Discharges of Mortgages Book B, pp. 308-09, Essex County Registry of Deeds.]

Thomas Edison and Mina Miller were married in Akron, Ohio, on February 24, 1886. They moved into their new home in Llewellyn Park in April of that year, following a honeymoon in Florida. Edison spoke of his new home in an interview the following year, in 1887. He told a reporter that he had originally intended to spend no more that $20,000 for a house in the country,

> But when I entered this I was paralyzed. To think that it was possible to buy a place like this, which a man with taste for art and a talent for decoration had put ten years [sic] of enthusiastic study and effort into—too enthusiastic in fact—the idea fairly turned my head and I snapped it up. It is a great deal too nice for me, but it isn't half nice enough for my little wife here...so that secures the fitness of things.[72]

In addition, Edison had recently built a new laboratory on Main Street less than a mile away from his new home. Edison himself wrote during the construction of the facility in 1887, "I will have the best equipped and largest Laboratory extant...."[73]

Transfer to Mrs. Edison

Thomas Edison was the sole owner of the estate in Llewellyn Park from January 1886 until the spring of 1891. In March 1891, Thomas and Mina Edison met with a lawyer regarding the transfer of the property to Mrs. Edison. The reason for this was Edison's concern that his home could be seized by business creditors.[74] The lawyer explained in a subsequent letter that the transaction could be accomplished legally by first transferring the property to a third party, who would in turn transfer the property to Mrs. Edison.[75] This was carried out on May 6, 1891, with Samuel Insull—Edison's financial manager—acting as the third party.[76]

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[72] Josephson, *Edison*, p. 311; original quote from W.A. Crofutt, in the New York *Mail and Express*, Oct. 8, 1887.

[73] Josephson, *Edison*, pp. 314 and 385; original quote is from Edison's laboratory notebook N-87.11.15 for 1887, according to Doug Tarr of Edison NHS; Josephson mistakenly references the 1886 notebooks. The site for the new laboratory in West Orange was purchased by Edison in Jan. 1887; the laboratory was completed in the autumn of 1887.

[74] Josephson, *Edison*, pp. 314 and 385; original quote is from Edison's laboratory notebook N-87.11.15 for 1887, according to Doug Tarr of Edison NHS; Josephson mistakenly references the 1886 notebooks. By 1891, the Edison General Electric Company had an accumulated debt of $3.5 million [Ref., Josephson, *Edison*, p. 362].

[75] Letter from Attorney Eugene H. Lewis to Thomas A. Edison, Mar. 24, 1891.

[76] Book X25, p. 446-. Also transferred at this time were the contents of the house and outbuildings as listed in an updated Bill of Sale and recorded in Book D of Miscellaneous, pp. 403-08, Essex County Registry of Deeds.

Three new outbuildings were constructed at Glenmont in 1908, the concrete portions of which were paid for and therefore owned by the Edison Laboratory. Those portions of the buildings were not transferred to Mrs. Edison until 1917, when a formal bill of sale was finally drawn up.[77] Mrs. Edison remained the owner of Glenmont until 1946, the year before her death, when the estate was sold to the corporation Thomas A. Edison, Inc.[78]

Estate Name "Glenmont"

It is not known exactly when the Edisons' estate in Llewellyn Park became known as "Glenmont." While it is possible that the name was assigned during the Pedders' occupancy, no documentation exists to substantiate this.[79] The earliest known reference is the "Map of Llewellyn Park, West Orange, New Jersey," dated 1888, that labels the estate of Thomas A. Edison as "Glenmont."[80] The Edison family used the name "Glenmont" to refer to their New Jersey home throughout their years at Llewellyn Park.[81]

Household Management

The management of Glenmont was the responsibility of Mina Edison as was the custom of the day. Mrs. Edison was only 20 years old when she became the mistress of Glenmont. Her immediate family consisted of a husband who spent much time working away from home, two stepsons ages eight and 10, and a stepdaughter age 12.[82] In addition, three children were born in the house at Glenmont to Mina and Thomas: Madeleine on May 31, 1888; Charles on August 3, 1890; and Theodore on July 10, 1898. The employees of the house lived on the third floor, and

[77] "Bill of Sale: Thomas A. Edison to Mina M. Edison, Concrete portion of garage and greenhouse in Llewellyn Park, Feb. 28, 1917." Edison NHS Archives.

[78] Book 2107, pp. 124-27, Essex County Registry of Deeds.

[79] For more information on the popularity of naming the estates in Llewellyn Park by 1878, and on Architect Henry Hudson Holly's advocacy of the practice, see the section on the Pedders' ownership.

[80] Robbins, "A History," Table T-4.

[81] An early example is a letter from Eugene H. Lewis to Thomas Edison dated Mar. 24, 1891, regarding the "Transfer of Glenmont." A later example is a letter dated Dec. 31, 1945, from Mina M. Edison to Thomas A. Edison, Inc., in which she offered for sale "all the lands, buildings and premises . . . situated in Llewellyn Park . . . known as 'Glenmont.'"

[82] The names of Thomas Edison's children by his first wife were Thomas Junior, William Leslie, and Marion Estell. The first Mrs. Edison died in 1884. While the boys lived at Glenmont initially, they later lived with relatives when they were not away at boarding school. Marion also attended boarding school and spent time traveling with a governess. [Ref., Josephson, *Edison*, p. 325].

consisted almost exclusively of female help between the years 1889 and 1931. These were a cook, a waitress, a maid, a laundress, and a nurse/governess for the children in the early years. Not until 1904 is there mention of a butler on the staff.[83] Other employees on the estate were a gardener, a grounds keeper, and a chauffeur. A private secretary for Mrs. Edison joined the staff in later years.

The Edisons lived for most of the year at Glenmont. They spent approximately six weeks during the winter months at their second home in Fort Myers, Florida. Mina also attended the annual summer gathering of the Chautauqua Association in Chautauqua, New York, with her family, the Millers.

Mina Edison is said to have called herself a "home executive" in the later years of her marriage to Thomas Edison.[84] Her duties relating to the house at Glenmont included planning the meals, supervising the house staff, ordering supplies, requesting repairs and improvements, reviewing the house accounts, and signing checks. It is interesting that most of the bills for repairs and improvements to the house for the years 1888 through 1894 were sent to "Mr. Thomas Edison," even though Mr. Edison appears to have had little involvement with the maintenance and upkeep of the house. Not until the latter part of 1894 were the bills sent directly to the attention of "Mrs. Thomas Edison."

Because Thomas Edison owned his own business, considerable help was available to Mrs. Edison in organizing and keeping track of the household work and expenses. Mrs. Edison appears to have been given an allowance that by 1919 amounted to $1,000 per month; this was increased to $2,000 per month in July of that year. Large expenses that exceeded the monthly budget were occasionally reviewed and approved by Thomas Edison who would write "OK TAE" directly on the bill.[85] Assisting Mrs. Edison between the years of 1890 and 1908 was John Randolph, who was a financial secretary at the laboratory. Mrs. Edison appears to have had some initial concerns about Mr. Randolph's work, based on a letter from him to her Edison dated December 14, 1892:

> I beg to enclose for you herewith a statement of all the money received and paid out by me for you from the beginning of the year May 1 - 1892 to Dec 1 - 1892 which shows where checks were received from and to whom they were paid.
>
> I am prepared to answer any questions which you may ask in regard to these statements and can produce for you the bills approved by you, the checks signed by you, also receipts from the people to whom the checks were sent and to convince you that your accounts are properly kept I am ready at any time to let you or anyone else go over the books and check up all my work

[83] Burt and Herron, "Historic Furnishings Report" [draft]. The house employees are documented by the payroll vouchers in the Edison NHS Archives.

[84] John D. Venable, *Mina Miller Edison* (East Orange, NJ: Charles Edison Fund, 1981), p. 5.

[85] Several bills for the enlargement of the Living Room (Room 205) in 1905 were so approved by Thomas Edison.

> since I have started to keep your account and feel sure that there can be no fault found.
>
> At the end of each month I intend to make up for you a cash statement same as the ones enclosed and today I am going to start and make up a statement for each month showing what each bill is charged to as soon as it is finished I will send it up to you which of course you understand is a great deal of work looking up each bill and takes quite some time.[86]

Printed forms were available beginning in 1910 for Mrs. Edison to use in keeping track of the accounts. These were headed, "Mrs. Thomas A. Edison," and listed the following categories of expenses: "Charity, Club Dues, Mr. T.A. Edison, Mrs. T.A. Edison, Miss Madeleine Edison, Mr. Theodore M. Edison, Entertainment, Fuel, Furniture and Fixture, Garage, General, Gift, Greenhouse and Grounds, Laundry, Library, Living, Medical, Repairs in Residence, Salaries at Residence, and Stable."[87] Blank spaces at the bottom were used to write in other miscellaneous categories as needed, such as "1910 Improvements."[88]

Mrs. Edison also received help from 1902 through the 1930's from her brother, John V. Miller, who was an executive at Thomas A. Edison, Inc. Mr. Miller assisted at Glenmont by obtaining estimates for work, instructing contractors in what needed to be done, reviewing the accounts, and watching over Glenmont when the Edison family was away. Mrs. Edison described her brother in her diary the day before leaving for a trip in 1937: "Johnnie as usual invaluable with his understanding. My rock in need."[89]

By 1919, the practice of hiring staff and contractors from the town to work at Glenmont was being supplanted by an increasing use of employees from the Edison factory. The change is documented in a letter to Mr. Edison from his secretary, R.W. Kellow, dated July 25, 1919:

> For some months past, we have not been charging Mrs. Edison wages of Chauffeurs and watchmen nor with cost of misc. repairs made at the house by factory employees and other items of that nature. These items are charged to an account entitled "House Account" on your Private books and are charged off to your expense monthly....

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[86] Copy of letter from John Randolph to Mrs. Edison, Dec. 14, 1892. In an account book entitled, "Vol. I Statement of Cash Received and Disbursed during May 1892 [through Jan. 1895] for Mrs. Thos. A. Edison." Edison NHS Archives.

[87] Glenmont Household Accounts. Edison NHS Archives.

[88] See footnote 87.

[89] Venable, *Mina Miller Edison*, p. 21. Mr. Miller's involvement at Glenmont is documented by his memoranda and letters to Mrs. Edison, by the contractors' estimates and bills that mention his name, and by the entries in his "Miscellaneous Note Books" for the years 1921 and 1922. All are preserved in the Edison NHS Archives.

> I have spoken with Mrs. Edison about her paying absolutely all of the accounts in connection with the house and Mrs. Edison agrees that this would be more satisfactory to her.... For Mrs. Edison to do this, it would probably be necessary to increase her allowance from the present $1,000 monthly to $1,500 or $2,000 monthly [handwritten, "OK TAE"] to enable her to pay the items which are now being charged to the House Account. I think it would also further Mrs. Edison's convenience if Harry [John] Miller and I had a fund from Mrs. Edison out of which we could pay all of the bills incurred for the house after a very careful checking of them by us and approval by Mrs. Edison of such of them as we are unable to check at the office, a statement to be sent to Mrs. Edison daily, weekly, or monthly, as thought best. I think we could watch the accounts in Mrs. Edison's interest much more closely than she is able to do under the present system.[90]

This new system appears to have remained in effect throughout the remaining Edison years, since few bills from contractors exist in the Edison Archives after 1919. The few exceptions are invoices for major remodeling projects and for interior redecoration work.

Glenmont in the Press

Thomas Edison's name was well-known by the public by the time he relocated his home and laboratory to West Orange, New Jersey. His earlier successes at Menlo Park, including the perfection of the first practical incandescent lamp, had earned him the title of the "Wizard of Menlo Park." Edison's popularity followed him to West Orange, where he was often visited by news reporters.

Edison's private life was also considered to be newsworthy in the early 1890's, when several articles were written about his home at Glenmont. These articles were descriptive in style and written from the point of view of a visitor walking through the house. One article by Hester Poole appeared in the magazine *The Decorator and Furnisher* in 1891. It was accompanied by sketches of three rooms in the first story: the Hall, the Den, and the Drawing Room. Poole described the house as "beautiful" and "a home of regal bearing." An entire chapter on Glenmont was published the following year in a book on Thomas Edison by W.K.L. and Antonia Dickson. W.K.L. Dickson, who worked as a laboratory assistant for Edison and who had a passion for photography, illustrated the book with his own photographs. These included both exterior and interior views of the house. The Dicksons saw the house as "extensive and superbly appointed...built of brick, stone and wood, in the most unexceptional style, and surrounded by well-kept grounds."[91] A reporter from the

[90] Memorandum from R.W. Kellow to Thomas Edison, July 25, 1919. In the Miscellaneous Legal Files, File Folder E: "Thomas A. Edison Family et. al. Allowances." Edison NHS Archives.

[91] *The Life and Inventions of Thomas A. Edison* (New York: Thomas Y. Crowell & Co., 1892; reprinted in 1893, 1894), p. 385.

newspaper the *New York Recorder* noted in 1894 that the Edisons' home "might be described as a fairy palace."[92]

Maintenance and Major Alterations[93]

It was a never-ending job to maintain the large house at Glenmont. Some household chores were seasonal, being done every year in the spring and the fall. Spring jobs included repairing and installing the window awnings, the window screens, and the screen doors. These were removed in the fall when storm windows were installed in their place in some of the windows on the north side of the house. Another fall task was to clean and recondition the furnaces in the cellar in preparation for the winter heating season.

Other periodic maintenance was also necessary, such as painting, roofing repairs, gutter repairs, and cleaning of the chimney flues and stoves. However, the one component of the house that required the most maintenance on a regular basis was the plumbing system, as evidenced by the large number of plumbers' bills. These bills document a long list of ongoing plumbing woes, such as drips, leaks, sewer gas, clogged pipes, and frozen pipes. Worn nickel-plated fixtures were restored occasionally by removing the fixtures and replating them with nickel. Replacement parts were often needed for the pumps that moved the water from the three cisterns and the well to the water tanks in the house. The cisterns, water tanks, and cesspools also required frequent cleaning.

Mr. and Mrs. Edison also undertook several remodeling projects during the years 1886 through 1931 in order to customize the house to their own needs and tastes. While it is true that Thomas Edison spent less time at the house than did his wife and children, he nevertheless influenced its remodeling through his successes in the business world, which provided the money for the work.

Most redecorating projects were the domain of Mrs. Edison. Thomas Edison, however, may have had a say in the design of the Den ceiling in 1890. As originally conceived, the subject of the painting in the coved ceiling was to be "Mercury with Electric Light." The theme of the painting as actually executed, however, was "Muses of Arts and Literature."

[92] The article was entitled "Superb Country Homes: Views of the Interior of Mr. and Mrs. Edison's House."

[93] The maintenance work and major alterations at Glenmont are documented by the correspondence, estimates, contracts, architectural drawings, specifications, laboratory notebooks, invoices, account books, and exterior photographs in the Edison NHS Archives. Specific references are generally not given here, but may be found in Chapter III of this report.

One explanation offered for this change has been that Thomas Edison's idea was overruled by his wife. It is more likely, however, that Edison himself ordered the change, given his increasing disgruntlement with the electric lighting business. This is illustrated by a statement that he made about that time:

> I feel that it is about time to retire from the light business...and devote myself to things more pleasant where the strain and worry is not so great.[94]

The first work undertaken at the Edisons' new residence in 1886-87 was to install telephones, supplement the existing gas-lighting system with electric lighting, and redecorate two rooms. An unknown number of "telephone instruments" were leased from the New York and New Jersey Telephone Company beginning in July 1886. The telephone service was for the local Orange Exchange only, and the cost was $60.00 per year.[95] Work on the electrical wiring commenced the following year, in the spring of 1887. The wires were run underground from the generating plant at the new Edison laboratory outside Llewellyn Park. The work was completed that winter, and electric lights were turned on for the first time at the house 2 days before Christmas, on December 23, 1887. It was not long, however, before it was learned that improper materials and defective methods had been used in wiring the house. The wiring was therefore completely redone the following year, in 1888.

Two rooms in the second story were redecorated in 1887, the same year the electrical wiring was installed. The firm Pottier & Stymus was hired to transform one of the large bedrooms (Room 213) and the small room off it (Room 212). Pottier & Stymus, who had done the original interior finishing of the house for the Pedder family, installed tapestry on the walls of the two rooms, decorated the ceilings, and renewed the furnishings. The smaller of the two rooms (Room 212) was made into a "boudoir" in colors of pink, white, and gold; the color scheme of the bedroom was blue. Elsewhere in the house, the existing decorations were repaired, a panel in the ceiling of the Library (Room 104) was redone, and some new furnishings were provided. The total bill was for $3,763.50.

The exterior of the house was repainted for the first time by the Edisons in the spring of 1888 by Gustav Ahrendt of Newark. Ahrendt's work was almost complete by May 31, 1888, when the first child of Mina and Thomas, named Madeleine, was born at Glenmont.

A burglar-alarm system was installed in the house the following year, in 1889, by the firm of Edwards & Co., Manufacturing - Electricians. This security system protected not only the exterior doorway and window openings, but also the doors on the kitchen ice box, the sideboard in the Dining Rom, and the silver closet in the second story. Its installation coincided with a two-month trip to Europe that the Edison family made in the late summer and early fall of 1889.[96]

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[94] Josephson, *Edison*, p. 361.

[95] Telephone contract signed by Thomas A. Edison on May 22, 1886. Edison NHS Archives.

[96] The Edisons left for Europe on Aug. 3 and returned Oct. 6, 1889. [Ref., Josephson, *Edison*, pp. 333-37].

The year 1890 was an eventful one for the Edison family. The balance of the mortgage on Glenmont, amounting to $76,083.34, was discharged on April 14.[97] Charles Edison, the couple's second child, was born on August 3. Finally, the large unfinished room in the first story (Room 114) was completed that winter by Herts Brothers of New York City at a total cost of $9,404.75. This room became known as the Den, and it was here that lounging chairs and game tables were located. This room had been built in 1884 as a billiard room for Henry C. Pedder, but it was still unfinished when Thomas Edison acquired the property in 1886. The impetus for both finishing the room and paying off the mortgage at this time may have been the $2-million dollar windfall that Thomas Edison had received the previous year, in 1889, when the Edison General Electric Company was created.[98]

No more work was done on the house until the end of 1899. This lapse in remodeling activity no doubt reflects the problems that Thomas Edison was having with his business interests during the 1890's. Not only were there difficulties with the phonographic business, but a new venture into the iron-ore separating business was proving to be both expensive and unsuccessful.[99] Despite these setbacks, public interest in Thomas Edison was keen, as evidenced by two articles and a book that were written about the Edison home at Glenmont.[100] A happy occurrence in the private lives of Thomas and Mina was the birth of their third and last child, Theodore, who was born at Glenmont on July 10, 1898. Edison abandoned his iron-ore business shortly after 1898 and established the Edison Portland Cement Company.[101] The Edisons' financial situation appears to have improved shortly thereafter, because work resumed on Glenmont in the latter part of the following year, 1899.

Work on the house in 1899 included upgrading the electrical and plumbing systems and remodeling one room in the first story as a exercise room. The original "well house" on the north side of the house was moved to an unspecified location and repaired, according to a bill from Adolph Vogel, Carpenter & Builder, from West Orange. A local electrical contractor, S.S. Brouwer, was hired to overhaul the wiring for the electric lights in the house, which was done in October, November, and December. Also hired about this time was Percy Griffin, an architect from New York City, who designed and oversaw remodeling work in two bathrooms. This involved modernizing the existing bathroom (Room 211) off the Second Floor Hall and installing a new bathroom (Room 204) in the dressing room next to the Edisons' bedroom, for a total cost of

[97] Book B of Discharges of Mortgages, pp. 308-09, Essex County Registry of Deeds. As described earlier, Glenmont was transferred from Thomas Edison to Mina Edison via a third party in the spring of the following year.

[98] Josephson, *Edison*, pp. 352-53.

[99] Josephson, *Edison*, pp. 370-79 and p. 389.

[100] Poole, "The Residence of Thomas A. Edison"; Dickson and Dickson, *The Life and Inventions* (Chapter XXIV is about Glenmont); and "Superb Country Homes."

[101] Josephson, *Edison*, p. 423.

$2,476.[102] Finally, various contractors came to Glenmont to finish the large room (Room 110) behind the kitchen as a "gymnasium." The new gymnasium was probably for the use of Mina and the children, since Thomas Edison had no use for exercise or sport; he was once quoted as saying, "I use my body just to carry my brain around."[103]

The first decade of the new century was a prosperous one for Thomas Edison, thanks to the great financial success of his motion-picture machines and films.[104] "Edison Storage Batteries" were also finally sold at a profit beginning in 1910, after many years of research and development.[105] Less successful was another project involving the design and construction of poured-concrete houses.[106] Because of Edison's personal involvement with the concrete project, several concrete buildings were built at Glenmont. Other improvements were also made at Glenmont between 1900 and 1910—most likely funded by the earnings of the profitable Edison industries.

The complete remodeling of the Dining Rom (Room 115) was undertaken in 1902 under the direction of A.H. Davenport Co., an interior decorating firm from New York City. The most significant changes included the painting of the woodwork for the first time, the hanging of a green-stripe material on the walls, and the installation of a new built-in china cabinet in the northwest corner of the room. The ceiling chandeliers were also altered, and three new light fixtures were mounted to the walls.[107]

In 1903 a fire hydrant was installed at Glenmont and hooked up to city water. A "pond" was also built on the property that summer.[108] A small building was constructed next to the fire hydrant the following year, in 1904, to shelter the hydrant hose.

The Edisons were contemplating changes to their living room (Room 205) in the second story in 1903. They hired the services of two architects—Percy Griffin, who had worked on the new bathrooms in 1899, and Allen & Collens, Architects, of Boston. Both submitted drawings for the proposed changes, but neither was chosen for the job. It was not until 1905 that a third architect,

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[102] The plumbing contractor for the job was E.H. Harrison & Bro.

[103] Josephson, *Edison*, p. 436.

[104] Edison's film company is said to have derived profits of up to $1 million a year following the organization of the Motion Pictures Patents Corporation (1908-17). [Ref., Josephson, *Edison*, pp. 401-02.]

[105] Josephson, *Edison*, pp. 404-22.

[106] Josephson, *Edison*, pp. 424-25.

[107] Bill from A.H. Davenport Co. to Thomas A. Edison, Dec. 31, 1902. Edison NHS Archives.

[108] The general household accounts for 1903 record "Sundries in connection with building pond" for the months of July and August. Edison NHS Archives. This may be the same pond on the northeast side of the lawn that later became known as the skating pond.

E.L. Tilton of New York City, was hired and the work was actually done.[109] The general contractor for the job was Hoggson Brothers, Contracting Designers, of New York City. They supervised the enlargement of the existing Library by extending it to the east above the porte cochere, which was also rebuilt at this time.

A number of other improvements were made to the house in 1905. The Edisons' bedroom (Room 203) was made larger by extending its east wall and by relocating its south window bay to project over the Conservatory. A room in the third story (Room 305) was also enlarged by building a new dormer on the east side of the house. Two new bathrooms were installed, making the house even more modern and convenient. One bathroom (Room 201) was in the second story off the southwest bedroom; the other (Room 303) was off the third-story Hall. A new dormer was added to the east side of the house, enlarging the third-story sewing room (Room 305). The plumbing system was also improved at this time by tying the existing cesspools into the trunk sewer line on Glen Avenue. The cost of all the work in 1905, including the Library, exceeded $12,000.

The year 1907 was one of severe business depression for the country, but this did not deter the Edisons from planning future changes to their house. Allen & Collens, the architectural firm from Boston, was hired to make measured drawings of the existing first and second stories and to provide schemes for additions and alterations. Tiffany Studios, the renown interior decorating firm of New York City, was also consulted to provide estimates for extensive work in the first and second stories. None of the work as proposed by the architects and designers was done at this time. One small project that was executed in the spring of that year was the building of a screened porch (Room 202) by local carpenter Adolph Vogel. This porch was above the Drawing Room on the south side of the house, and was accessible from the southwest bedroom (Room 200). Work also needed to be done on the heating system that was more than 25 years old by 1907. A new "Richardson and Boynton" steam boiler was therefore installed that fall, along with several new radiators, for the sum of $2,070.15.

Much building activity took place on the grounds of Glenmont in 1908. Thomas Edison was then in the midst of his concrete project, and he had three new outbuildings constructed in this material at his home.[110] One was a garage that was designed to house the family automobiles in the first story and the chauffeur in the second story. It was built in 1908 east of the house, near the street (Honeysuckle Lane) and opposite the location of the large Pedder barn.[111] This barn

[109] The year 1905 is also when Thomas Edison became ill and underwent an operation for mastoiditis; he is said to have been almost completely deaf thereafter. [Ref., Josephson, *Edison*, p. 417; original reference is the New York *Tribune*, Jan. 25, 1905.]

[110] All three outbuildings survive today. Details on these buildings may be found in individual historic structure reports that have been written by the National Park Service. The concrete portions of the buildings were paid for, and therefore considered to be the property of, the Edison Laboratory.

[111] Information on the garage can be found in three historic structure reports. These are "Historic Structures Report - Part I, Building No. 15, Garage, Edison National Historic Site," by Melvin J. Weig, Benjamin Levy, Arthur Spiegler, and Norman M. Souder, August-September 1964; "Historic Structures Report - Part I, Frame Barn, Building No. 16, Glenmont Unit," also by Weig, Levy, Spiegler, and Souder (NPS: Edison NHS, June 2, 1965); and "Historic Structure Report, Garage, Building No. 15," by Fran Gayle

disappeared sometime prior to October 1931. The new garage sat on the former site of the Pedder cow shed and chicken yard. This structure was moved across Honeysuckle Lane to make way for the garage. Two other new structures were also built on the north side of the lane and to the rear side of the house. These were a greenhouse that replaced an existing greenhouse and a gardener's cottage/potting shed. Plants and flowers were cultivated here that were used both on the grounds and inside the house.

Work continued on the house at a frantic pace during the years 1909-10. A small glassed room, then called the "Ante Room" and now known as the "Fern Room" (Room 116) was built in the southwest nook of the house between the dining and the Drawing Rooms. The Ante Room was designed by and built under the direction of architect Wilbur S. Knowles of New York City.

Knowles may also have been involved in a peripheral way with renovations that were undertaken in several other rooms in the first and second stories in 1909-10. Some of these were the same renovations had been proposed in 1907 but were not carried out until this time. Most of the work was overseen by Proctor & Company, an interior decorating firm from New York City. They completely remodeled the Drawing Room, the Reception Room, and the west bedroom (Room 213) and adjacent boudoir (Room 212), which was converted to a bathroom.

Other work in the house in 1909-10 was done by individual contractors rather than as part of the Proctor & Company contract. An electrician rewired the house and installed 50 ceiling lights in the Conservatory (Room 101). A plumber converted the closet (Room 209) off the North Room into a wash room by installing a lavatory (hand sink). Finally, a tile specialist installed white ceramic tiles in the new wash room (Room 209), the old Hall bathroom (Room 211), and the newest bathroom (Room 212). The total cost of all the work in 1909-10 was approximately $22,000.

The following decade, 1911-20, was characterized by general improvements and redecorations to the house at Glenmont.[112] A.H. Davenport Co., which had remodeled the Dining Rom in 1902, was hired again in 1912. Their workers installed a new sienna marble mantel and hearth in the Dining Rom (Room 115), refinished the floors in various rooms, and did interior painting and upholstery work for the sum of $1,304.25.

Proctor & Company returned in 1913 to do repairing, painting, and reupholstering in the Conservatory (Room 101), the Den (Room 114), the second-story porch (Room 202), the third-story

(NPS: North Atlantic Historic Preservation Center, 1984). The 1964 report gives 1908 as the garage's date of construction, based on construction vouchers dated August and December 1908, and February 1909. The 1965 report states that new research had been found to correct the date to 1907, but no such information is provided. The 1984 report relied on the information provided in the 1964 report. The author of this report on Glenmont found two additional bills that support the 1908 date. One is a water bill for July 1, 1908, which lists all buildings but does not mention the garage; and a bill dated August 18, 1908, to the town's Plumbing Inspector, which included the cost of a sewer permit for a garage.

[112] The house at Glenmont was the setting for two weddings during this period: that of daughter Madeleine, who married John Sloane in the drawing room on June 18, 1914, and Mina's sister Grace Miller, who married in 1916.

service Hall (Room 311), and the children's bedrooms. They also installed new curtains in some of the rooms, all for the sum of $1,913.34.

Twelve Pyrene fire extinguishers were installed in the house in 1915. This action was undoubtedly prompted by the disastrous fire at the Edison factory in West Orange on the evening of December 9, 1914.

A gas range replaced the old coal-fueled ranged in the kitchen in 1917. The old coal-fueled laundry stove was similarly replaced by a gas-fueled stove in 1919.

Beginning in 1919 and continuing throughout the 1920's, regular monthly inspections were made of the house at Glenmont to check on the plumbing system's pumps and motors. Fire-safety inspections also became a monthly routine beginning in the 1920's. These inspections and subsequent repairs were carried out by employees of the Edison company, Thomas A. Edison, Inc., and billed to the Edisons' "private" account. The pumps and motors were the responsibility of the Construction & Maintenance Division, while fire safety was under the jurisdiction of the company's Fire Protection Engineer.

Two architects were hired to work on the house in 1919 and 1920. Wilbur S. Knowles, who had directed the building of the Ante Room in 1909, returned in 1919 to supervise general improvements.[113] These included painting, plumbing work, carpentry work, and the installation of new linoleum, for a total cost of $1,757.09.

Another architect, W. Frank Bower from nearby East Orange, worked on the rehabilitation of the heating system in 1920. Bower directed and oversaw the installation of two new coal-fueled steam boilers that replaced the boiler installed in 1907. A new chimney was also built on the west side of the house to accommodate the new boilers because the flues of the old chimney were considered to be unsafe. The total cost for the heating system work, including the new chimney, was $6,918.38.

A custom-designed "bird fountain" was installed for Mrs. Edison on the lawn near the house in 1920. The fountain was wired with electricity that is said to have heated the water to keep it from freezing in the winter. The fountain was moved from the lawn to the roof of the Conservatory in 1924, where it remained until at least 1940.[114]

Steps were taken in 1922 to enclose the back (north) service entrances with glass panels. John Miller, Mrs. Edison's brother, recorded in his notebook on September 19, 1922, that he had "asked Smith of Struck Co. to make estimates for closing in with glass the porch [Room 121] off

[113] Knowles was practicing with a partner by the name of Thorbjorn Bassoe by 1919.

[114] A sketch of the "Bird Fountain" by "LeBlanc" appears in Edison Laboratory Notebook number 22.09.21. The reference to the heated water is from an interview with former Glenmont gardener C. Thore Hallstrom, Sept. 23, 1969.

kitchen and the little steps and platform between kitchen and laboratory [Room 109 extension]."[115] The estimate submitted by Smith must have been satisfactory, because both these areas are enclosed with glass panels today.

A considerable amount of redecorating work was done to the house in 1923-24 by The Herter Looms, Inc. (formerly Herter Brothers), an interior decorating firm from New York City. They worked on redecorating, painting, refinishing, and installing curtains in the Drawing Room, the Reception Room, the Dining Rom, the Edisons' bedroom and bathroom (Rooms 203 and 204), and the living room (Room 205). Their total bill, submitted in April 1924, was for $11,540.92.

Plans were prepared in both 1925 and 1926 for a concrete-lined skating pond and a small shelter to be constructed to the east side of the house, near the garage. No conclusive evidence has been found, however, to indicate that the project was carried out.[116]

The Edisons spent less time at their Glenmont home and more time at their winter retreat in Fort Myers, Florida, as Thomas Edison's strength and health began to fail in 1927. By 1929, however, they had returned to Glenmont, where Thomas Edison now did most of his work due to his weakened condition.[117] Architect Wilbur Knowles submitted preliminary plans for relocating the Dining Rom (Room 114) in 1929, and for a new terrace on the south side of the house in 1930, but this work was never done.

The last summer of Thomas Edison's life was an uncomfortably hot one, prompting the installation of "Frigidaire Room Coolers" at Glenmont in August 1931. Edison survived the summer, but his health flagged that fall. He died at Glenmont, in his bedroom (Room 203) overlooking the south lawn, in the early morning hours of October 18, 1931.

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[115] John V. Miller, "Miscellaneous Note Book No. 3 (22-05-23)," entry for Sept. 19, 1922. Edison NHS Archives.

[116] This was most likely the same pond that was built in 1903. An earlier report notes that an ice-skating pond, which was supplied with water from the pump house, existed in 1925, but "This pond was abandoned soon after, however, the ground where it was built having proved too porous for the purpose intended." [Melvin J. Weig, Benjamin Levy, and Arthur Spiegler, "Historic Structures Report - Part I, Pump House, Building No. 17," Nov. 25, 1964, p. 3; no references given.] Plans to build a more permanent skating pond are documented by drawings prepared in November 1925 by Pentecost and Martin, Inc., of New York, and in September and October 1926 by Ellen Shipman, Landscape Architect, of New York. These plans are in the Edison NHS Archives.

[117] Josephson wrote, "Edison still tried to work—though usually at his home, in a large room upstairs [Room 205] that served as his den." [Ref., *Edison*, p. 482.]

Inventories and Appraisals

Mr. and Mrs. Edison had reports prepared on the value of their belongings for insurance purposes for the years 1921, 1924, and 1930-31.[118] These reports were detailed documents that listed not only the furnishings and other contents of the house but also the architectural components of the house itself. Several categories of architectural features were examined, ranging from the structural framing and masonry to the interior plastering and tile work. The building systems were also evaluated, including the plumbing fixtures, and the heating and electric equipment. Summaries of the total replacement value of the house itself indicate that the value increased over the years, being $146,203.43 in 1921, $184,577.51 in 1924, and $202,313.51 in 1931.[119]

A schematic plan of the grounds at Glenmont was also attached to the appraisal of 1930-31. This plan delineated both the buildings and other features of interest. Shown 40 feet north of the dwelling is the "laundry yard," and to the west of that yard is the "hose house." The "pump house" is situated west of the hose house, and is 70 feet north of the dwelling. Two other structures about which little other information exists are shown to the northwest of the dwelling. One is labeled the "summer house," and is 50 feet away from the dwelling; the other is labeled the "play house," and is 55 feet north of the summer house.[120] Three other outbuildings farther from the dwelling are the garage, the cow barn, and the gardener's cottage/greenhouse.

[118] The International Appraising Company prepared the 1921 appraisal, and The Atlantic Appraisals Company, Inc., prepared the 1924 and 1930-31 appraisals.

[119] The depreciated values of the house were $113,045.54 in 1921, $148,880.41 in 1924, and $162,663.08 in 1931. The depreciated value was about 20 percent less than the replacement value.

[120] It is believed that one of these buildings may have been the original well house that had been located on the north side of the house. The well house was moved in 1899, according to a bill from carpenter Adolph Vogel dated Dec. 15, 1899. Both buildings were wired for electricity by 1920, according to a memorandum dated Mar. 10, 1920, from the Edison Insurance Service Department.



Figure 8. Southeast elevation, circa 1890.



Figure 9. South elevation, circa 1890.



AT THE OLEMONT CONSERVATORY.



Figure 10. Close-up views of the Conservatory (above) and the Service Wing (below), circa 1890-92.



Figure 11. East elevation, circa 1891-97.



Figure 12. Southwest elevation, circa 1891-97.



Figure 13. South elevation, 1897.



Figure 12. Southwest elevation, circa 1891-97.



Figure 13. South elevation, 1897.



Figure 14. East elevation, circa 1897-1902.



Figure 15. Theodore Edison on the south roof deck, above the Conservatory, circa 1902.



Figure 16. South and east elevations, September 1903.



Figure 17. East elevation, September 1903.



Figure 18. South and east elevations, 1907.



Figure 19. West elevation, circa 1907-10.



Figure 20. Detail of Figure 19, showing the original back doorway.



Figure 21. East elevation, 1914.



Figure 22. Thomas Edison seated in front of the southeast corner of the house, 1917.



Figure 23. East elevation, Aug. 1, 1929.

MRS. EDISON ALONE, 1931-47

Introduction

Mina Edison lived at Glenmont intermittently after the death of her husband in 1931 and until her own death in 1947.[121] She was briefly married to Edward E. Hughes from October 30, 1935, until his death early in 1940.[122] Mr. Hughes also lived at Glenmont, where he used the southwest bedroom (Room 201). Her brother, John V. Miller, continued to help with the management of Glenmont during the 1930's.[123]

Renovations

It has been generally assumed that Mrs. Edison made few changes to Glenmont after 1931. This, however, was not the case. She in fact continued to enlist the services of both interior decorators and architects to alter and modernize the house through 1940.

Mrs. Renner, the interior decorator from New York City who had worked at the house in 1929, renovated several rooms in the 1934-35. These included the Den (Room 114), the Dining Rom (Room 115), and the west bedroom (Room 213). In the Den, the existing wall fabric was removed, the mantel was cut down, the decorative wood grill was removed from the south bay, the walls were painted a blue-green color, and the cove in the ceiling was covered over. Architectural plans for the change to the ceiling had been prepared by an architectural firm from New York City—William E. Frenaye, Jr., James R. Thomson, Architects. The Dining Rom received similar treatment by replacing its wall fabric with a blue-green painted finish; the woodwork and cabinetry were painted the same color as the walls to give the room a "unified" look. The West Room was transformed by removing the old wall fabric, painting the walls in a decorative scrumbled effect, and installing a swag wallpaper frieze.

A local architect from East Orange, Hobart Alexander Walker, was hired in 1935 to prepare plans for and to supervise the renovation of the second-story screened porch (Room 202). This was achieved by removing the existing screens and replacing them with glass panels. The job was completed in the fall of that year at a total cost of $1,875.76.

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[121] Mrs. Edison also lived in Fort Myers, Florida, for several months of the year, and traveled extensively. Glenmont, however, remained her northern home.

[122] Mina changed her name to Mina Edison Hughes during her marriage to Edward Hughes. She reclaimed her old name, Mina Miller Edison, after his death in 1940.

[123] John V. Miller died on Aug. 16, 1940.

Mrs. Renner returned to the house to supervise the repainting of the Conservatory in 1937 and structural repairs to its floor in 1940. She also oversaw the painting of the wall tiles in the south bathroom (Room 201) in a soft blue-green color in 1940.[124]

The last known major renovation to the house was made in 1940 when a new bathroom (Room 207) was built in the second story off the east bedroom (Room 206). This bathroom differed from other bathroom additions in the house because it was not fit into an existing room, but was built as an addition to the house. The reason for its construction is said to have been the impending visit of Spencer Tracey, who was then filming "Edison the Man." The architect was Henry Barrett Crosby of Montclair, New Jersey, and the general contractor was the Hunter Lindsay Corporation. The total cost was $2,344.93.

Sale of Glenmont

Mrs. Edison offered Glenmont for sale to Thomas A. Edison, Inc., the company that had been founded by her first husband, in a letter dated December 31, 1945.[125] She stated that it was her wish that Glenmont be preserved as a memorial to him and his work. It was her particular desire that the living room (Room 205) in the second story remain unchanged, because it was there that her husband had performed much of his research and other work. Mrs. Edison assured the company that she had taken care to preserve his desk, books, papers, and other mementos in the room. She also requested that the company grant her a life estate so that she could continue to occupy the property until her death. She described the property to be conveyed as

> ...all of the lands, buildings and premises with the appurtenances situated in Llewellyn Park, West Orange, Essex Co., N.J., known as "Glenmont", together with the contents thereof except silverware, china and glassware, linens, laces, bedding, pantry and kitchen utensils, furs, wardrobes, jewelry, automobiles and other personal effects of myself and other occupants of the property, and also excepting the articles listed in the attached 26 sheets marked "A."[126]

[124] The year 1937 is also when The Atlantic Appraisals Company conducted their third inventory and appraisal of the household furnishings, art objects, and miscellaneous effects in the house at Glenmont. Unlike their previous appraisals in 1924 and 1930-31, no appraisal was made of the residence construction.

[125] The Edison industries had been reorganized under this name in 1911. [Ref., Josephson, *Edison*, p. 428.]

[126] Letter from Mina M. Edison to Thomas A. Edison, Inc., Dec. 31, 1945. Edison NHS Archives.

The asking price was $180,000. Thomas A. Edison, Inc., accepted Mrs. Edison's offer to purchase Glenmont, and ownership was transferred on June 27, 1946. As was her wish, she retained tenancy until her death on August 24, 1947.[127]

[127] Mina Edison died at the Columbia-Presbyterian Medical Center in New York City following a short illness. She was 82 years old. [Ref., Venable, *Mina Miller Edison*, p. 24.]

OWNERSHIP BY THOMAS A. EDISON, INC., 1946-59

Thomas A. Edison, Inc., purchased Glenmont from Mrs. Edison on June 27, 1946.[128] The purchase price was $180,000, or only $55,000 more than Thomas Edison himself had paid 60 years earlier in 1886.[129] Mrs. Edison, as she had requested, was permitted to stay in the house for the remainder of her life. The company, meanwhile, assumed full responsibility for the real estate taxes, building insurance, and the charges levied by the Trustees of Llewellyn Park. Although it was not stated explicitly, it is assumed that the company also became responsible for the costs of maintaining the buildings and grounds at this time.

The general appearance of the Glenmont grounds at the time of this transaction is documented by an instrument survey that was made in May 1946.[130] The survey delineates and labels five structures and a "crushed stone drive." The largest of the buildings is the house itself, called the "3 Story Brick Dwelling." It is situated on the south side of a narrow east-west road labeled "Private Road." A small "Pump House" is on the north side of the house and only a short distance away, while a "2 Story Concrete Garage" is on the east side of the house and farther away. On the north side of the private road are two buildings: an L-shaped "Frame Barn," and a "2 Sty Concrete Cottage" with attached "Green House." One other feature on the north side of the road is a "Concrete Walled Pit" of rectangular shape—most likely a former swimming pool.

Mrs. Edison died the year after Thomas A. Edison, Inc., purchased Glenmont, on August 24, 1947. Four days later, a photographer from Newark, New Jersey, recorded the appearance of the house.[131] He produced a series of black-and-white photographs showing the exterior of the house and selected rooms in the first and second stories. Not photographed were the cellar, the service rooms in the first story, the rooms in the third story, the attic, and most of the bathrooms.

The house at Glenmont was used by Thomas A. Edison, Inc., after Mrs. Edison's death as a hostelry for visiting dignitaries, as a site for receptions, and later as a limited-use museum. A "List of Work To Be Done At Glenmont" dated August 7, 1950, indicates that the house was then in dire need of cleaning and painting. Work that was done the following year included painting of

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[128] Deed Book 2107, pp. 124-27, Essex County Registry of Deeds. This was the same property that Thomas Edison had purchased from Arnold Constable & Co. in 1886. Included in the purchase were certain furnishings and other objects within the house. These were inventoried and appraised by The Atlantic Appraisals Company in their fourth, and last, appraisal of Glenmont dated Nov. 5, 1947. The appraisal did not include the residence construction.

[129] The improvements that the Edisons had made to the property cost at least $77,000, not including the new outbuildings that had been built in 1908.

[130] The survey was made by Williams and Collins, Surveyors, for the use of the New Jersey Realty Title Insurance Company.

[131] The photographing of the house was arranged by son Charles Edison, who was then the Chairman of the Board of Directors of Thomas A. Edison, Inc. These photographs and their negatives are now in the Edison NHS Archives. [Ref., Weig, "Historic Structures Report - Part I, 'Glenmont,' Historical Data," p. 4.]

the exterior, repointing of the chimneys and south stoop, and painting of the service rooms in the first story. Budgets for proposed work on the house were thereafter submitted to the company's board of directors for the years 1952 through 1956.[132] These budgets document extensive repainting of the interior rooms, carpentry repairs, roof repairs, reupholstering and repair of the furniture, and the procurement of new carpets and new curtains. There is no evidence that particular care was taken to preserve the existing appearance of the house by matching paint colors, curtain styles, or upholstery and carpet patterns. Nor was any attempt made to restore the house to its earlier appearance when Thomas Edison was alive. Rather, the emphasis seems to have been on halting deterioration and presenting a clean, trim appearance.

Glenmont received national recognition on December 6, 1955, when it was designated by the U.S. Secretary of the Interior as the "Edison Home National Historic Site."[133] As part of this designation, a cooperative agreement was made between Thomas A. Edison, Inc., and the United States of America that provided "for the designation, preservation, and use of the Edison Home as a national historic site."[134] Ownership of the property was maintained by Thomas A. Edison, Inc., for four more years only, until 1959.

[132] Beginning in 1953, the budget was prepared by "Miss Nora Foley," an employee of Thomas A. Edison, Inc., who worked at Glenmont. Charles Edison, the Chairman of the Board of Directors, reviewed and approved the Glenmont budgets.

[133] F.R. Doc. 55-10021, filed Dec. 13, 1955. Designation as a National Historic Site was authorized by the Historic Sites Act of 1935.

[134] See footnote 133.



Figure 24. South and east elevations, 1947.



Figure 25. South elevation, 1947.



Figure 26. West elevation, 1947.



Figure 27. West elevation, 1947.



Figure 28. North elevation, 1947.

FEDERAL OWNERSHIP, 1959-PRESENT

Administrative History

Glenmont was donated to the United States of America by the McGraw-Edison Company (the successor to Thomas A. Edison, Inc.) on July 22, 1959.[135] A ceremony to formally transfer the ownership of Glenmont to the Federal Government was held at Glenmont on August 3, 1959.[136] The ceremony took place outside the main entrance of the house, where Charles Edison presented the property deed and the key to the front door to the Assistant Secretary of the Interior. Mr. Edison's words when presenting the key were as follows:

> I hope that in the years ahead, it will also symbolize as a key for unlocking from within the hearts of visitors to Glenmont all full pride in America's heritage and confidence in her future.[137]

That same day, on August 3, 1959, a memorandum of agreement was signed between the National Park Service, U.S. Department of the Interior, and the Trustees and Committee of Managers of Llewellyn Park, West Orange, New Jersey. The agreement acknowledged that Glenmont would be administered by the National Park Service (NPS), and thereby waived the restrictions regarding the use of the property as referred to in the deed. In their place, the agreement imposed other specific restrictions and responsibilities on the National Park Service. These obligate the NPS to pay the fees imposed by the Llewellyn Park Proprietors. They also define the hours of public visitation and the maximum number of daily visitors, identify the roads that may be used by visitors, forbid picnicking on the grounds, forbid the sale of souvenirs, and forbid the installation of a public address system. The memorandum further restricts the building of any new buildings or additions to existing buildings without prior consultation, and forbids anyone from residing at Glenmont except for caretakers, NPS employees, or Mr. and Mrs. Charles Edison (now deceased).

The contents of the buildings at Glenmont, including the furnishings of the house, were also donated to the United States of America by the McGraw-Edison Company in 1959. These were valued at $567,740 by the American Appraisal Company in a report dated August 1, 1959; the bill of sale is dated September 25, 1959. Additional objects relating to Glenmont, valued at $112,996, were donated by McGraw-Edison in a second bill of sale dated December 24, 1959.[138]

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[135] Essex County Registry of Deeds, Book 3653, p. 349.

[136] The Edison laboratory complex had previously been donated to the United States of America and designated as the Edison Laboratory National Monument in 1956.

[137] News release by Wes Bowers, J. Walter Thompson Company, Aug. 3, 1959.

[138] See also Burt and Herron, "Historic Furnishings Report" [draft].

The Edison Home National Historic Site and the Edison Laboratory National Monument were renamed the Edison National Historic Site on September 5, 1962. As before, the site was designated to be administered by the National Park Service, U.S. Department of the Interior.[139]

The McGraw-Edison Company made one last donation to the Federal Government on November 29, 1963, with a gift of 2.13 acres of land adjacent to Glenmont. This land is on the northwest side of Glenmont and is known as the nonhistoric Johnson-Tilney property. It is the site of the present visitor parking lot.

The year 1963 is also when the remains of Thomas and Mina Edison were moved from their resting place in Rosedale Cemetery to the west lawn of Glenmont. Their grave sites are marked by the two carved granite ledger tablets, or slabs, that were used at Rosedale. These ledgers rest on five concrete supporting walls installed over the original hermetically sealed burial vaults.

Work on the House

Work on the house at Glenmont has been accomplished by both NPS preservation and maintenance crews and independent contractors. Any significant intervention in the house has usually been preceded by a historic structure report prepared by NPS staff. The general treatment approach has been one of preserving and restoring the historic fabric. The historic cut-off date has been defined by some projects to be 1931, when Thomas Edison died, and by other projects to be 1947, when Mina Edison died. This has resulted in the removal of some, but not all, of the house's post-1931 features.

The priority in the first two years of the Federal ownership of Glenmont, 1959-61, was to record and document the house and to make emergency repairs. Black-and-white photographs were taken in October 1960 that showed the existing condition of the exterior and the interior rooms of the house. This was followed in 1961 with the photogrammetric recording of the exterior elevations, to be used in the preparation of architectural drawings. Two historic structure reports were prepared in 1961: one summarizing the known historical data on the house, the other recounting the history of the chimneys. Work on the house itself was limited by minimal funding in these early years. The work that was done included carpentry repairs and emergency repairs of the plumbing system, the heating system, the electrical wiring, and the roof.

The year 1962 saw a continuation of the documentation and recording of the house, in addition to its first major preservation project. An architectural investigation was undertaken by NPS employee James Crawford, who wrote his findings in a historic structure report (architectural data section).[140] This report both recorded the existing conditions of the physical fabric and made recommendations for treatment. Existing conditions drawings were prepared that summer by a team

[139] Public Law 87-628.

[140] James Crawford, "Historic Structure Report - Part I, 'Glenmont' Architectural Data" (NPS, Feb. 15, 1962).

of students working for the Historic American Buildings Survey (HABS). These students worked under the direction of John P. Shaw of Cornell University, who also conducted research on the architectural history of the house.[141] Finally, the chimneys were repaired where they projected above the roof, at a cost of $12,888.78.

The year 1962 is also when a log book began to be kept by NPS employee Gordie Whittington on the work accomplished at Glenmont. Mr. Whittington documented the progress of both the large jobs that were performed by outside contractors and the small jobs that were executed by NPS staff. His notes cover the time period from April 23, 1962, through May 19, 1969, and fill six hard-bound notebooks. They are an invaluable record of the work that was carried out at the house in the 1960's.[142]

A large amount of money (exceeding $72,000) was expended on work on the house in 1963. Most of this was used for the preservation of the exterior, with the rest spent on renovation of the interior plumbing system. The sheet metal roofs were either repaired or replaced, the roof ventilator was replaced with an exact replica, new flashings and gutters were installed, and the exterior was repainted with three coats of good-quality paint. Inside the house, many changes were made to the existing plumbing system. The water tank in the attic was disconnected at the suggestion of the Public Health Service. To take its place, new copper plumbing was installed and connected directly to the West Orange water supply. New plumbing fixtures also replaced the old plumbing fixtures in the second-story service bathroom (Room 208), which was completely remodeled at this time.

A lull in work occurred in 1964 and early 1965, when three more historic structure reports were prepared on the house. The first was an updated evaluation of the existing exterior and interior conditions with recommendations; the second was a study of the history and condition of the Conservatory (Room 101); and the third was a short summary of the history of the main slate roof.[143]

Work costing more than $30,000 was carried out in the latter part of 1965 based on the information contained in the three reports. The Conservatory was restored by replacing rotted woodwork with millwork that matched the original woodwork exactly. Structural problems with the Conservatory roof were also repaired after the Sun Porch above it (Room 202) had been

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[141] John P. Shaw, "Progress Data and Research Notes, Architectural Study of Glenmont, Home of Thomas Alva Edison" (NPS, summer 1962). The architectural drawings by HABS consist of 13 sheets with survey number N.J. 729-A. It was on these drawings that numbers were first assigned to the rooms in the house. These are the same room numbers that are used in this historic structure report.

[142] Gordie Whittington was a Restoration and Rehabilitation Specialist for the National Park Service. His notebooks are stored in the Maintenance Office files, Edison NHS.

[143] Newton P. Bevin, "Historic Structures Report - Part I, Architectural Data Section on Rehabilitation of Glenmont, Home of Thomas A. Edison" (NPS: Eastern Office of Design and Construction, Feb. 1964); Melvin J. Weig and Gordie Whittington, "Historic Structures Report - Part II (Portion), The Conservatory, Edison Home, Building No. 10" (NPS: Edison NHS, July 1964 and Jan. 1965); and Weig, "Historic Structures Report - Part II (Portion), Rehabilitation of Main Roof, Edison Home, Building No. 10" (NPS: Edison NHS, June 17, 1965).

disassembled and permanently removed. Extensive repairs were made to the original slate roof of the main house to stop water infiltration into the house. Also done as part of the roofing contract was the installation of a completely new lightning-protection system to replace the existing system. No attempt was made to reproduce the historic appearance of the old lightning-protection equipment.

The focus of concern then moved inside to the first-story Den (Room 114), which had structural problems with the ceiling. Two historic structures reports were therefore prepared in 1966 on the history and the existing condition of the Den ceiling.[144] This was followed in 1966-67 by a complete restoration of the coved portion of the ceiling to its appearance before the cove was covered over by Mrs. Edison in 1935. Not restored at this time was the rest of the room, which had also been extensively altered by the remodeling of 1935.

Complete renovation of the heating and electrical systems occurred in 1967-68 at a total cost of about $75,000. The heating system's coal-fueled steam boiler was replaced by a gas-fueled steam boiler in 1967. The new boiler was altered the following year when it was converted to a hot-water boiler, at the same time that the old radiant heating system was converted to a forced hot- air system. This conversion involved cutting holes in the floors for new registers, installing new ductwork, installing new mechanical equipment, and altering the old dumbwaiter shaft to function as a return air shaft. The house was also fitted with a new electrical system about this time, in addition to a fire-detection system. The system was the cable type that was sensitive to heat; it was installed in the cellar and attic stories only.

Preserving the exterior masonry and woodwork was the priority in the early 1970's. Deteriorated areas of the foundation walls were repaired in 1970, and extensive repointing was done above the level of the foundation in 1973. This included the brickwork that makes up the first story of the house and the portions of the brick chimneys below the level of the eaves. Exterior carpentry repairs and painting completed the work on the house in 1973. The total cost of all of the work that was done between 1970 and 1973 was about $52,000.

Studies on the house resumed in the mid-1970's. Structural engineers conducted a cursory examination in 1974 to determine the cause of a collapsed fireplace hearth in the Laboratory (Room 110) and a severe deflection in the ceiling of the Hall (Room 103). Their recommendation was to open up certain areas of the house in order to do a more complete evaluation; no more action was taken at this time.[145] A study of the fire-protection and security systems for the house at Glenmont

[144] Norman M. Souder, "Historic Structures Report - Part II (Portion), Architectural Data Section on Den - Ceiling, Glenmont Mansion" (NPS: Eastern Office of Design and Construction, Jan. 1966); and Weig, "Historic Structures Report - Part II (Portion), The Den Ceiling, Edison Home, Building No. 10: Administrative Data and Historical Data" (NPS: Edison NHS, Mar. 16, 1966).

[145] The report by Keast & Hood Co., Structural Engineers, is dated Feb. 7, 1975. Their site visit was made in Oct. 1974.

and the buildings at the Laboratory was written in 1976. This study concluded that the house was not protected adequately from either fire or intruders.[146]

An analysis of the exterior and interior painted finishes was undertaken in 1977. The results of this analysis are on file at the Building Conservation Branch, Cultural Resources Center, and are summarized in this report.[147]

Repairs were made to the exterior roofs and chimneys, and a new fire-protection system was installed inside the house in 1978. The exterior work was executed by a contractor at a cost of $20,945. It included repairs to the roof flashing, the metal roof decks, the slate roofing, and chimney caps. The contract also included restoring the historical (circa-1930) appearance of the chimneys by repainting buff-color horizontal stripes on five of the chimneys. Inside the house, another contractor installed a new system for fire detection and suppression.[148] It included ionization smoke detectors that were installed in the cellar through the attic stories; fire extinguishers of halogenated gas were installed in the cellar and attic stories only. The system automatically notified the local fire department, to ensure a quick response.

The exterior of the house was repainted in 1979 at a cost of $11,000. One finish coat of paint was applied to all previously painted surfaces, including the wood siding, trim, shingles, metal roof, leaders and gutters, painted hardware, and exposed porch surfaces. The color of the paint was custom-mixed to match the circa-1930 paint color of the house as determined by the paint analysis of 1977.

A study of the house's interior decorative finishes in the first story was undertaken in 1980 by a student from Columbia University. The rooms that were examined were the Drawing Room (Room 100), the Reception Room (Room 102), the Hall (Room 103), the Library (Room 104), the Den (Room 114), and the Dining Rom (Room 115). The results of this study were written in a thesis that was submitted to Columbia University in partial fulfillment of the degree of Master of Science in Historic Preservation.[149]

Measures were finally taken in 1983 to address the structural deficiencies of the house that had been identified in the earlier structural evaluation of 1975. Structural steel was thus installed by a contractor in the attic and within the walls in 1984-87. For more information on this work, see the portion of Chapter III entitled "Structural System." Working alongside the structural contractor was a NPS restoration crew that carefully opened up—and later reclosed—floors, walls, and ceilings

[146] Simmonds, Siroky, Case, and Kozel, "Historic Structure Report: Glenmont and Laboratory Unit Fire and Intrusion Protection and Replacement of Electrical Systems: Architectural Data" (NPS: Dec. 1976).

[147] Carole L. Perrault, two incomplete drafts including: "Painting Chimneys, Glenmont (Decorative Banding)" and "Historic Paint Colors and Recommendations for Repainting the Exterior of Glenmont, Edison NHS."

[148] A perimeter intrusion-detection system was also specified in the contract but was not installed.

[149] Camille Agricola, "An Analysis of the First Floor Decorative Finishes at Glenmont, Llewellyn Park, West Orange, New Jersey," Graduate School of Architecture and Planning, Columbia University, 1980.

where the structural steel was installed. Other work was also done by the restoration crew, such as repainting selected interior rooms, making carpentry repairs to the porch balustrades and other areas, and completely repainting the exterior.

In 1985, a new security system was installed by the National Park Service. Details of the system are not included in this report.



Figure 29. South and east elevations, 1960.



Figure 30. South elevation, 1960.



Figure 31. West elevation, 1960.



Figure 32. North and west elevations, 1960.



Figure 33. North and east elevations, 1960.



Figure 34. View of the roof, looking northwest, 1960.

III. ARCHITECTURAL DESCRIPTION: PHYSICAL EVOLUTION AND EXISTING CONDITIONS

STRUCTURAL SYSTEM

General Description

The house at Glenmont is three stories tall, with a full cellar and a walk-up attic. The structural system is composed of a variety of materials, including stone, brick, wood, iron, and steel. Masonry makes up the lower part of the house, from the foundation up to and including the first story. The foundation walls are brown sandstone, and the first-story walls and the chimneys are brick. The only exceptions to this are the one-story Conservatory (Room 101) and the Fern Room (Room 116), which are of frame construction and supported by granite piers. Wood frames the upper stories of the house, the roof, and the interior partition walls, except in the cellar where the partitions are brick.[1] Structural iron and steel beams are found in certain floors and ceilings throughout the house. These were installed both during the original construction and in later renovations.

Early History

Early documentation of the structural system is scarce. *American Architect and Building News* described the house in 1881 as having a bluestone foundation, a brick first story, and wood construction above the first story, with floors inside that were "all double, with felting between."[2] Architect Henry Hudson Holly noted in 1885 that the house had been "framed with iron," and that the "Iron Wk" had cost $1,000. Iron beams, some painted with the name of the original owner ("Mr. Pedder") were found during restoration work in 1966 in the ceiling of the Den addition (Room 114) built in 1884. Holly also itemized the costs of the "woodwork," the "mason," and the "underpinning and cut stone."[3]

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[1] Architect Henry Hudson Holly said, "The cellar partitions in all first-class buildings should be stone or brick instead of wood, as the dampness of the cellar is apt to rot the wood, making the foundation, in time, insecure." [Ref., *Modern Dwellings in Town and Country* (New York: Harper and Bros., 1878), pp. 57-58; reprinted in *Holly's Country Seats and Modern Dwellings* (Watkins Glen, NY: American Life Foundation, 1980.]

[2] "House for Mr. Henry C. Pedder, Llewellyn Park, Orange, N.J.," *American Architect and Building News*, p. 98.

[3] Letter from Henry Hudson Holly to J. Asch, Aug. 17, 1881. The cost of the woodwork was $32,000, the mason $17,000, and the underpinning and cut stone $4,000. These expenses may have also included the cost of constructing some of the outbuildings at Glenmont, such as the barn and greenhouse.

A steel beam was installed in the ceiling of the Living Room (Room 205) in 1905 when that room was enlarged over the porte cochere. The beam is documented in a letter from carpenter Adolph Vogel to Mrs. Edison dated November 13, 1905:

> In regards to #7 bill, the part of it amounting to $31.96 for a steel beam placed to support the room above LR [Living Room] was done by own judgement. As you have been away at the time I had no one to consult and thought it would meet with your approval as it was for the welfare of the House.

A structural problem with the Living Room floor was recorded by John Miller in two notebook entries dated March 17 and 24, 1922, entitled, "Glenmont Sinking Floor." Although Mr. Miller did not state explicitly where in the Living Room the floor deflection was occurring, his sketch shows it to the right side of a doorway, thereby making it either the southwest or the northwest corner of the room. Here the floor is noted to have dropped about one-half inch. Mr. Miller had the room examined by several experts, including K.G. Smith of Newark, architect Hobart Walker, Misters Thatcher and Struck, and a steel man. It was their collective opinion that there was "no immediate or particular danger." In fact, Mr. Miller observed that the condition had existed for some time, based on the fact that the baseboard at the bookcase had been cut to fit the deflection. It was therefore decided that no remedial action was necessary.[4]

The structural components of the house were described in three construction appraisals dated 1921, 1924, and 1931. Of these, the most comprehensive was the appraisal of 1931, which gives the following information. Concrete footings provided support for the upper walls and chimneys. Native coursed rubblestone made up the walls of the cellar, while the same stone—cut in blocks 10 by 12 inches and laid in courses—made up the water table. Some 121,400 common bricks were used for the cellar partition walls, the core of the chimneys, and the backing of the exterior brick walls. In addition, 35,900 red pressed bricks were used as a facing for the chimneys and the exterior walls. "Steel ironwork" weighing 10,180 pounds comprised the beams, channels, saddles, stirrups, bolts, and truss rods in the house. Pine and spruce timber framing of various sizes was used for the floor joists (mostly 2 by 12 inches), exterior wall studs (3 by 4 inches), partition wall studs (3 by 4 inches), ceiling rafters in the first story (2 by 6 inches), bridging (2 by 4 inches), plaster grounds (three-quarters of an inch by 2 inches), roof rafters (3 by 6 inches), hip roof rafters (4 by 12 inches), and two roof trusses (4 by 6 inches and 4 by 12 inches). Wood boards sheathed the exterior walls, the roof, and the "underfloors"; these were tongue-and-groove North Carolina pine measuring seven-eights of an inch thick by 6 and 8 inches wide.

[4] "Miscellaneous Note Book No. 2 (21-07-01)," covering the period July 1, 1921 through May 23, 1922. Edison NHS Archives.

National Park Service Work

Three reports prepared in 1962 and 1964 included evaluations of the house's structural condition.[5] All three reports noted evidence of structural deficiencies in several areas of the house. One of these was a deflection in the Hall ceiling/Living Room floor (Rooms 103/205)—the same problem that had been noted by John Miller in 1922. Another area of concern was the south bay window of the Edisons' bedroom (Room 203), which was observed to have settled about 3 inches. The ceiling in the Den (Room 114) was also deflecting in one area, but this was thought to be from the weight of a light fixture rather than from a more serious structural failure. The reports concluded by recommending a thorough structural investigation of these areas.

The problem with the south bay window of the Edisons' bedroom (Room 203) was also addressed in another report prepared in 1964-65 on the Conservatory (Room 101)—the room directly below the south bay window.[6] This report noted that the deflection was causing water to pool on the roof and to infiltrate into the Conservatory ceiling. The report's recommendation was to install "a network of steel beams," and to raise the south bay window to its original position if possible. Extensive work on the Conservatory followed in 1966, including the repair of the Conservatory ceiling and roof structure. Unfortunately, no records have been found to verify that the steel beams were installed, or that the south bay window was repositioned, as suggested.

The deflection of the Den ceiling (Room 114) was addressed in 1966, when two more investigative reports were prepared.[7] These reports concluded that the deflection was caused by a failure of the plaster to adhere to the lath, and recommended that the entire ceiling be removed and replaced by new plaster on wire lath. It was also recommended that the historic ceiling cove that had been covered over in 1935 be restored to its original appearance. This work was carried out in 1966.

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[5] James Crawford, "Historic Structures Report - Part I, 'Glenmont' Architectural Data" (NPS: Feb. 15, 1962); John P. Shaw, "Progress Data and Research Notes, Architectural Study of Glenmont, Home of Thomas Alva Edison" (NPS: Edison NHS, summer 1962); and Newton P. Bevin, "Historic Structure Report - Part I, Architectural Data Section on Rehabilitation of Glenmont, Home of Thomas A. Edison" (NPS: Eastern Office of Design and Construction, Feb. 1964).

[6] Melvin J. Weig and Gordie Whittington, "Historic Structures Report - Part II (Portion), The Conservatory, Edison Home, Building No. 10" (NPS: Edison NHS, July 1964-Jan. 1965).

[7] Norman M. Souder, "Historic Structures Report, Part II (Portion), Architectural Data Section on Den Ceiling, Glenmont Mansion" (NPS: Eastern Office of Design and Construction, Jan. 1966); and Melvin J. Weig, "Historic Structures Report, Part II (Portion), The Den Ceiling, Edison Home, Building No. 10: Administrative Data and Historical Data" (NPS: Edison NHS, Mar. 16, 1966).

A NPS work crew disassembled the structural support for the fireplace hearth in the Hall (Room 103) in 1969. It was rebuilt that same year with a concrete base.[8]

A contract was awarded in 1973 for "Exterior Carpentry Repairs" that included provisions for making repairs to the exterior framing system.[9] The contract specified that structural investigations and repairs would be made in those instances where nails did not "grab" anything solid behind, where settlement was apparent, or where requested to do so by the contracting officer. When unsound structural conditions were found, the contractor was instructed to replace all deteriorated materials with new materials. Structural materials that were noted as candidates for replacement were the studs and rough sills in the walls, and the beams and joists in the exterior steps, porches, and roofs. The contract was executed at a total cost of $17,588. How much of this amount was expended on structural work is not known, nor are the details available of exactly what structural repairs (if any) were made.

Concern revived in 1974 about the structural integrity of the Hall ceiling (Room 103). A cursory examination of the house was made in December 1974 by Keast & Hood Co., Structural Engineers, of Philadelphia. They found the ceiling to be significantly deflected and recommended a complete evaluation of structure in this area and the area above it. They also noted that the fireplace hearth in the Laboratory (Room 110) had collapsed, that the fireplace hearths had settled in the Edisons' bedroom (Room 203) and in the room above it (Room 301), that the two closet doors in the Edisons' bedroom had been previously reworked to conform to deflections, and that diagonal cracks existed in the vicinity of the attic stairway in the third story.[10] Two drawings were included in Keast & Hood's report: one documenting the original hearth construction in the Laboratory (Room 110), the other being a proposed design for its reconstruction. The hearth was presumably rebuilt sometime thereafter, because it is intact today; no record of its reconstruction has been found.

Work to repair the structural deficiency causing the ceiling deformation in the Hall was not undertaken until the 1980's. A memorandum written by a NPS historical architect in 1983 described the deformation area as "a 23-foot 10-inch span...above which bear the second, third and attic floor loads and some of the roof loads." The cause of the failure was described as a combination of undersized structural members, a discontinuous structural member in the attic floor, and damage caused to the structural framework by the multiple installations of heating, electrical, and plumbing equipment.[11]

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[8] Gordie Whittington's log book for Glenmont, "Building No. 10: Starting Jan. 1, 1969," entries dated Feb. 1969. The new concrete base replicated the existing concrete base.

[9] NPS contract CX 4670-3-0003, awarded to the P.J. Grant Company, 1973.

[10] Structural report by Keast & Hood Co., Feb. 7, 1975.

[11] Memorandum from Historical Architect John Robbins to Chief, Historic Preservation, North Atlantic Region, NPS, Jan. 25, 1983.

Plans and specifications for structural stabilization were prepared the following year by the same structural engineers who had examined the house in 1974—Keast & Hood Co. Their specifications describe the work as follows:

> Structural features of work include installation of new supplementary structural system to stabilize, strengthen, and relieve existing interior timber framing. Work includes sequential and interrelated installation of temporary shoring, limited structural demolition, foundations with new masonry work, installation of new steel framing with temporary and permanent suspension assemblies and associated structural carpentry.[12]

The contract was awarded to the Gemini Construction Corporation of Paramus, New Jersey, for $130,000; a contract for structural consultation was awarded to Keast & Hood Co. for $19,746.49.[13] A NPS restoration crew under the supervision of Exhibit Specialist John Darcy worked alongside the contractor to open up and later close up interior walls, ceilings, and floors. The structural stabilization work commenced in October 1984 and finished in 1987. Modifications to the Gemini contract totaled at least $10,000, for a total contract cost of approximately $160,000.

[12] "Stabilization of Interior Structure, Glenmont, Edison NHS."

[13] Gemini Construction Corp. was awarded NPS contract CX 1600-4-0055; Keast & Hood Co. was awarded NPS contract CX 1600-3-0068.

EXTERIOR ELEMENTS

General Description

The house at Glenmont is a large three-story structure in the Queen Anne style with multiple gables, porches, and chimneys. Its extreme dimensions are 123 feet 6 inches wide, by 116 feet deep, by 54 feet 3 inches high.[1] Most of the house exterior is unchanged from its appearance when it was built for Henry C. Pedder and his wife Louisa, who owned the property from 1879 until 1884. Both the original house and its early additions were designed and constructed in 1880-84 under the direction of architect Henry Hudson Holly. The Edison family, who owned the house from 1886 until 1946, made few significant alterations to its exterior appearance. These included the enlargement of the Living Room (Room 205) and the remodeling of the porte cochere in 1905, and the changing of the exterior paint color from gray to red circa 1915. The exterior of the house is preserved today by the National Park Service to look as it did in 1930.

A chronological summary of major construction campaigns follows:

Date	*Event*
Pedder Ownership (1879-84)	
1880-81	• Original house constructed
ca. 1882	• Original south verandah replaced by the Conservatory (Room 101)
ca. 1883-84	• Parlor extension built (Room 100)
	• Laundry extension built (Room 106)
ca. 1884	• Addition for servants built (Room 110)
	• Billiard Room/Den addition built (Room 114)
	• Dining Room extension built (Room 115)
	• West Room extension built (Room 213)
	• Bedroom addition built (Rooms 212 and 213)

[1] Exterior dimensions are taken from the architectural drawings by the Historic American Buildings Survey (HABS), 1963.

Date	*Event*
Edison Ownership (1886-1946)	
1905	• Porte cochere rebuilt to support Living Room extension (Room 205)
	• South extension to Edison bedroom (Room 203) built
	• East Sun Room enclosed with glass (Room 302)
	• New east dormer built to enlarge Sewing Room (Room 305)
	• Several windows altered or newly installed
1907	• New screened porch (Room 202) built on top of Conservatory
1909-10	• Fern Room (Room 116) built
	• Several windows altered or newly installed
ca. 1915	• House painted red
1920	• New west chimney built
1922	• Two verandahs on the north side of the house enclosed with glass (Rooms 109 and 121)
1931	[Thomas Edison dies, October 18]
1935	• South screened porch (Room 202) enclosed with glass, converted to a sun porch
1940	• Bathroom addition (Room 207) built
Thomas A. Edison, Inc. Ownership (1946-1959)	
1947	[Mina Edison dies, August 24]
U.S. Government Ownership (1959-present)	
1965	• South sun porch (Room 202) removed to facilitate repairs to the Conservatory roof

Foundation

Description

The exterior surfaces of the foundation walls are composed of three different materials: bluestone, granite, and stucco.

Bluestone

Bluestone blocks and a bluestone water table finish the foundation walls of the major portions of the house that were built in 1880-81, circa 1883-84, and circa 1884. The foundation bluestone of the original 1880-81 house was described in 1881 as "Birum bluestone" from Greenwich, Connecticut.[2] This same bluestone may have been used for the additions of circa 1883-84 and circa 1884, since the stones have a similar appearance.

The foundation bluestone is cut into various-sized blocks. Each block is tooled with a scabbled (or rough-textured) face and a chiseled edge. A bluestone water table caps the foundation wall in those areas where there is a brick wall above the foundation. This is a thick stone with a downward-sloping bevel about 3 inches wide.

Bluestone blocks of a pinker hue comprise the piers of the porte cochere, and may date to 1905 when the porte cochere was extensively reconstructed. These are tooled in a manner similar to that used for the foundation bluestone blocks.

Granite

Granite piers serve as the foundation for the one-story Conservatory (Room 101) and the Fern Room (Room 116). A curved water table of granite also exists at the Fern Room. The granite piers at the Conservatory are assumed to have been installed at the same time the Conservatory was built circa 1882; the Fern Room was built in 1909-10.

Stucco

Stucco panels fill the spaces between the granite piers at the Conservatory and the Fern Room; these were installed in 1970, as described in the next paragraph. Stucco panels appear to have existed only beneath the Conservatory when the Edison family lived in the house. These panels replaced early wood latticework sometime after 1914, based on a photograph of that date. These panels were described in 1964 as being composed of a stucco veneer adhered to hollow terra cotta blocks measuring 4 inches by 12 inches by 12 inches.[3] The stucco was also described as being in deteriorated condition, and it was recommended that the existing panels be replaced.

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[2] "House for Mr. Henry C. Pedder," *American Architect and Building News*, Aug. 27, 1881, p. 98.

[3] NPS historic structure reports by Newton Bevin and Gordie Whittington, 1964.

National Park Service Work

Extensive repair work to the foundation walls occurred in 1970 under NPS contract CX 14-10-5-337-4, "Repointing and Repair of Masonry Work and Foundations, Glenmont." The contract specified the following: disassemble and reconstruct the granite foundation of the Fern Room; enclose the openings beneath the Fern Room with new stucco-covered cinder-block panels; replace the existing stucco panels beneath the Conservatory with new stucco-covered cinder-block panels; disassemble, repair, and reconstruct the bluestone foundation north of the porte cochere; and finish the new work with a silicone-base water-repellent coating. The recommended pointing mortar mix was one part portland cement, one-fifth part lime putty, three parts sand, and a polyvinyl-acetate adhesive. The work was completed by the Rockwell Newman Company of Raritan, New Jerssey, at a total cost of $6,940.

Walls

Description and History

The walls of the house are of brick construction in the first story (except for the wood-frame Conservatory), with frame construction being used for the upper stories. The siding materials are brick, wood boards, wood shingles, and slate shingles.

Brick Walls

The brick walls of the first story were built in 1880-81, circa 1883-84, and circa 1884. *American Architect and Building News* reported in 1881, "the parlor story is built of Philadelphia and moulded brick; the entrance vestibule [is] of buff brick with terra cotta frieze." The residence appraisals of 1921, 1924, and 1931 noted that the core of the walls was "common brick," while the exterior surface was a red pressed "front" or "facing brick."

The buff-colored bricks were used not only inside the vestibule, but also outside the vestibule under the porte cochere. One of these bricks was removed and saved during masonry repairs in 1973, as explained in the next paragraph. The brick was observed by this author to have been laid using an ochre-color mortar, and to have the name "EH ENWICER"[4] molded on one surface in narrow raised letters. It had been painted red sometime before 1973 to match the red color of the other brick walls.[5]

Repairs to the exterior brick walls were carried out in 1973 under NPS contract CX-4670-3-0001. Contract documents specified cutting out all existing mortar joints, resetting loose bricks, installing new pointing mortar, filling cracks in the brickwork with pointing mortar, cleaning the

[4] "Enwicer" was probably the manufacturer who made the bricks.

[5] The house was first painted red circa 1915. It is unclear, however, if the buff-color bricks were also painted red at this time. See the section on "Finishes" for more information on the exterior paint.

walls with a neutral solution or a muriatic-acid wash, and coating the walls with a silicone water-repellent coating. The pointing mortar was specified to be one part portland cement, two parts lime, and seven parts sand. Attempts by the contractor to cut out the mortar in one area—the wall beneath the porte cochere—resulted in damage to some of the buff-colored bricks because of the hardness of the mortar. It was therefore decided that the contractor would replace the damaged bricks but would not repoint the mortar in this location. The contractor for the job was the Rockwell Newman Company—the same company that had worked on the foundation repairs in 1970. The total contract price was $26,426.

Wood Siding

Wood siding was installed on portions of the first, second, third, and attic stories of the original house in 1880-81. Similar wood siding was also used on later additions built circa 1882, circa 1884, 1905, and 1940. The siding materials included wide applied trim boards, decorative trim boards, clapboards, decorative stickwork, and shingles.

The board siding is applied in a style reminiscent of half-timbered construction, except that the filler material is wood instead of masonry. This siding is found on the west bay window of the first-story Drawing Room, on most of the second story, and on some portions of the third-story gables.

The board siding was described in the residence appraisals of 1921 and 1924 as simply "2340 sq. ft. beveled pine siding laid 4″ to weather to corner boards." In fact, the siding is more complex than this. Stickwork consisting of wide vertical and horizontal boards divides the wall surfaces into panels of various sizes. The larger panels contain window openings or horizontal clapboards; the smaller panels contain recessed, flush boards. Even more elaborate is the wall of the south gable end of the main roof, where the stickwork is diagonal and curvilinear (1880-81), and the north and south sides of the porte cochere (1905), which have a lattice-like design in the fascia.

The wood shingles are most prevalent in the third story and the attic level, where they sheathe the gables, most of the gable side walls, and two dormers. Shingles also exist on the lower stories on the north side of the house, where they are found above the northeast windows of the first-story Laundry, in the west gable of the Refrigerator Room (Room 107a), and on the second-story walls of the main roof gable. The wood shingles date to three periods of construction: 1880-81, when the house was built; circa 1883-84, when the Laundry was extended; and 1905, when the two dormers were added. The 1921 and 1924 appraisals described the wood shingles as being "2925 sq. ft. designed dimension shingles laid 4″ to weather."

There are three styles of wood siding shingles on the house. All three styles were created by shaping the bottom two corners of each shingle. In one style, the shingle corners are cut in a two-stepped, or zig-zag, pattern. These shingles sheathe the primary cross gables on the east and west sides of the house (1880-81), and the west shed dormer of Room 307 (circa 1905). The second style appears to have used a circle template to cut away the corners in a concave, curvilinear shape. These shingles exist in the north and south gable ends of the main roof (1880-81), in the secondary gables on the east and west sides of the house (1880-81), in the west gable of the Refrigerator Room (1880-81), and above the windows of the Laundry extension (circa 1883-84). The third style is

almost identical to the second style except that the curvilinear cutout is more shallow—that is, less of the shingle has been removed. These shingles are found exclusively on the east dormer added to enlarge Room 305 in 1905.

The exterior wood siding required periodic repairs and replacement during the years of Edison family ownership. These are documented by contractors' estimates and invoices preserved in the Edison NHS Archives. The work was done by local woodworkers and carpenters between the years 1887 and 1919, and mostly by Edison company employees after 1919. Carpenter Adolph Vogel, who installed the steel beam in the ceiling of the Living Room in 1905, worked on the house during the years 1900-14. Exterior maintenance of the house appears to have been done less frequently after 1919, so that extensive work was required by 1926. This work, including repairs to the roofs and walls, was carried out in that same year under the direction of architect Wilbur Knowles.

Another important component in the upkeep of the wood siding was the maintenance of its protective painted finish. The siding has always been painted, according to a study of the historic exterior finishes. For more information, see the section of this report, "Exterior Elements: Painted Finishes."

Repairs to the exterior wood siding have continued under National Park Service ownership (1959-present). The general approach has been to replace deteriorated woodwork with new woodwork that matches the old as closely as possible. An evaluation of the house was made in 1962 by architect James Crawford, who concluded that the wood siding had several areas of rot and cracks, and that the painted finish was in very poor condition. Extensive repairs were made the following year by a NPS crew under the direction of Gordie Whittington. These repairs involved replacing substantial areas of deteriorated siding and shingles.

More work was done in 1973 prior to repainting of the exterior. This was carried out under NPS contract CX 4670-3-0003, "Exterior Carpentry Repairs," by the P.J. Grant Company at a total cost of $17,588.

The most recent repairs were made in 1985 by a NPS restoration crew under the direction of John Darcy.

Slate Siding

Slate shingles are used as a siding material in only three locations: on the east elevation, in the southeast corner of the third story; on the north side of the west dormer for Room 310; and at the base of the main roof deck. The shingles in the first two areas are rectangular, similar to the roof shingles. Those at the base of the roof deck differ from the roof shingles by being rounded at the ends to resemble "fish scales."

All of the slate wall shingles are presumed to have been installed when the house was constructed originally in 1880-81. No later documentation has been found for the shingles, perhaps because they were considered to be a component of the slate roof.

Porches and Roof Decks

General Information

The Edison house is replete with porches and roof decks, most of which were built for the original owner of the house between 1880-81 and 1884. Most of the porches and decks have wood balustrades that required frequent repairs and/or replacement, according to the contractors' invoices. They are at the first, second, third, and attic stories of the house. They have been referred to over the years as porches, decks, verandahs, and piazzas. Each is described separately below.

Porte Cochere

Description

The porte cochere is a roofed porch on the east side of the house at the front entrance. Its function was to provide shelter to people as they disembarked from their vehicles and entered the house. The porte cochere is an original feature of the house built in 1880-81; it was extensively rebuilt by the Edisons in 1905.

Early History

The original porte cochere is extensively documented by the early sketch of the house published in *American Architect and Building News* in 1881 and by the early photographs of the house. These show a one-story structure with stone piers, brick columns near the house, slender wood supports on the far side of the driveway, a gable roof, and decorative woodwork at the wide arched openings and in the gable end. An open porch with a wood balustrade was on the roof, abutting the house.

The porte cochere was mentioned by two visitors to the house in the 1890's. Hester Poole observed in 1891, "The approach [to the house], winds under an immense porte cochere."[6] The following year, in 1892, the Dicksons wrote: "A porte-cochere admits our vehicle and ourselves into a paved enclosure."[7]

Sometime after 1892 and before 1905, a flagpole was mounted by the Edisons to the east gable end of the porte cochere. The only record of the flagpole is found in the exterior photographs of the house.

The porte cochere was extensively rebuilt in 1905, when a second story was added to enlarge the Living Room (Room 205). This required making structural changes to the porte cochere so that it could carry the additional load. Although no written documentation has been found concerning

[6] "The Residence of Thomas A. Edison, Orange, N.J.," *The Decorator and Furnisher*, 1891, pp. 93-96.

[7] W.K.L. and Antonia Dickson, *The Life and Inventions of Thomas A. Edison* (New York: Thomas Y. Crowell and Co., 1892; reprinted 1893, 1894), p. 339.

the work, photographs taken after the remodeling clearly show the alteration. It is likely that the same architect and contractor who worked on the remodeling of Room 205 were also involved with the new design for the porte cochere. These were E.L. Tilton and Hoggson Brothers, respectively, both of New York City.

The porte cochere today is little changed from its appearance when it was remodeled in 1905. The photographic evidence suggests that the plan dimensions of the original porte cochere were retained. Two pairs of brick columns on brick piers support the far end of the structure where wood supports had once been.[8] Missing is the decorative woodwork that embellished the arched openings and the former gable. In its place is a wide band with a decorative cross design along the base of the Room 205 addition that now covers the entire roof.

The openings are no longer arched, although curved wood brackets at the upper brick columns are reminiscent of the earlier design. The ceiling of the porte cochere is stuccoed. A light fixture, installed sometime before 1924, hangs from the ceiling over the steps to the front doorway. The earlier flagpole was not reinstalled on the rebuilt porte cochere. An exterior photograph taken in 1917, however, shows that a flag was then draped on the south wall of the porte cochere between the first and second stories.

The features of the porte cochere were itemized in the residence appraisal of 1931 as follows[9]:

210	Sq. ft. 16″ face brick columns
120	Cu. ft. native stone base
40	Sq. ft. 8″ bluestone cap
66	Sq. yds. cement plaster on metal lath
20	Lineal ft. 18″ x 10″ x 18″ encased beam with 10″ x 10″ cornice
60	Lineal ft. 18″ x 12″ x 18″ encased beam
120	Lineal ft. 24″ pine fascia with 10″ x 10″ cornice moulding
60	Lineal ft. 12″ x 24″ moulded pine cornice
1	Wrought iron, opal studded chain hung ceiling fixture[10]

[8] The stone piers are very similar in design to those of the original porte cochere, and may have been reused from that structure.

[9] The residence appraisal for the porte cochere also itemized the bluestone steps and the ceramic tile-floor. These are described in this report in the sections on the front entrance doorway and the front porches.

[10] This same light fixture was listed in the 1924 appraisal as "1 4 Lt. pierced bronzed lantern over entrance, studded with opal glass."

National Park Service Work

It is likely that the original stucco on the ceiling of the porte cochere above the driveway was removed in 1962, when the National Park Service installed plasterboard here and painted it to match the existing cornice. This temporary ceiling was still in place two years later, when it was noted that the original stucco had been replaced by "wallboard."[11] Restoration of the ceiling was finally carried out in 1973 when the plasterboard was replaced by stucco on metal lath.[12]

Entrance Porch

The entrance porch is centered at the east elevation, beneath the porte cochere. It is an original feature of the house (dating to 1880-81). The entrance porch has been described in detail in the section on doorways: see "Front Doorway and Stairway."

Front Porches

Two long, roofless porches stretch across the front of the house on either side of the front entrance. The porches are original features that were labeled "verandahs" on the first-floor plan published in *American Architect and Building News* in 1881. The porches are also documented by an elevation drawing that accompanied the floor plan (fig. 2), and by the earliest photograph of the house taken sometime before February 1884 (fig. 4). Each porch has a bluestone foundation with an end panel of wood lattice, a canvas floor covering, and a wood balustrade.

The stairways to the porches are constructed of bluestone. They are on either side of the front entrance and are protected by the porte cochere.[13] A second flight of steps existed for a short time on the north end of the northern front porch, based on a photograph taken sometime between 1905 and 1929; these steps are missing today.

The residence appraisals of 1921 and 1924 described both porches as "1 Main entrance porch on stone foundation, pine flooring, porch rail, etc., complete." The 1931 appraisal was more detailed, listing:

> Front Porch: 480 Sq. ft. canvas deck, painted, on 1-1/8" x 4" pine floor, on 2" x 6" joists; [and] 48 Lineal ft. 30" high pine Porch rail.

[11] Newton P. Bevin, "Historic Structure Report - Part I, Architectural Data Section on Rehabilitation of Glenmont, Home of Thomas A. Edison" (NPS: Eastern Office of Design and Construction, Feb. 1964), p. 12. Later references to the temporary ceiling material describe it as being plywood.

[12] NPS contract CX 4670-3-0001, "Masonry Rehabilitation," 1973. The specifications directed the contractor "to match the texture and design of the existing stucco ceiling above the main entrance steps."

[13] The 1931 resident appraisal described the steps as "2 Sets of bluestone steps, 5' 0" wide, 4 treads, 8" x 12" x 9'0"."

Repairs were made to the front porches in 1966 when the floor joists, floorboards, and floor canvas were replaced with new materials. Deteriorated portions of the balustrade were replaced using redwood.[14]

More extensive repairs were carried out in 1973 under NPS contract CX 4670-3-0003, "Exterior Carpentry Repairs." New materials replaced the following rotted or deteriorated materials on the northern front porch: a rotted support beam measuring 4 by 8 inches by 32 feet, floorboards measuring 184 square feet, and the wood lattice at the north end of the porch. Other work was performed on both front porches. The deteriorated canvas floor covering was removed and replaced with a heavy cotton duck chemically treated to resist mildew and rot. The floorboards were prepared with a bedding material and the canvas was installed using three-quarter-inch copper tacks. Finally, the porches' balustrades were replaced with reproduction balustrades.

The floor canvas was replaced again and the balustrades were repaired in 1985. The work was done by a NPS restoration crew under the supervision of Exhibit Specialist John Darcy.

Kitchen Entrance

The Kitchen Entrance (Room 121) is on the north side of the house. This entrance was labeled as a "Verandah" on the first-floor plan published in *American Architect and Building News* on August 28, 1881. It was permanently enclosed with glass in 1922. For more details, see the discussion of Room 121 in the interior section.

Laboratory Entrance

The Laboratory Entrance (Room 109) has a glass-enclosed entry vestibule on its north side. This vestibule appears to have been enclosed with glass in 1922. John Miller recorded in his notebook on September 19, 1922, that he had "asked Smith of Struck Co. to make estimates for closing in with glass...the little steps and platform between kitchen and laboratory." This was apparently done, because the glass enclosure exists today. The date of the "steps and platform" is not known; they may be as early as circa 1884, when the Laboratory Entrance was constructed.

Rear Piazza

A piazza, which had been on the rear (north) side of the house, is missing today. It was situated very near to, and may have been attached to, the circa-1884 Laboratory wing. This structure may have been built originally as a well house, based on the 1882 map by Mead & Taylor, Engineers, that shows the well in this same approximate location. Superimposed on the round well

[14] The millwork for the railing was provided under NPS contract CX 14-10-0529-2068, dated 1965; other work is described by Gordie Whittington in his notebook for Mar. 1966 - Dec. 1968, entry for Mar. 3, 1966. Edison NHS Archives.

is a square shape that is shaded in a dark color similar to the house, suggesting that a structure was located here.[15]

The piazza is illustrated by an early undated photograph (figs. 6-7) taken sometime between circa 1884 and 1890. This shows a square structure with a shingled hipped roof, open latticework sides, and what may have been a brick foundation.

The structure appears to have been moved in 1899, based on a bill from carpenter Adolph Vogel. This bill, dated December 15, 1899, listed several contracts including an "Est[imate] for moving and repairing well house 45.00." The work appears to have been done, based on the fact that the bill was "paid" and charged to the Edisons' "repairs acc[ount]." The well house may have been moved to the yard on the northwest side of the house, based on a site plan dated January 19, 1931, that shows a "summer house" and a "play house" in this location.[16] Both buildings are missing today.

Southwest Terrace and Stairways

A small raised terrace flanked by two sets of steps is on the south side of the west wing, next to the Dining Room (Room 115). The stairways lead to two entrance doorways: one to the Den (Room 114), the other to the Fern Room (Room 116).

The terrace and stairways were built in 1909-10 at the same time as the Fern Room. They were designed by architect Wilbur Knowles and built by N.H. Thatcher, Mason and Builder, in brick and bluestone. Landscape gardener Ernest W. Bowditch of Boston featured the terrace and stairways in several garden designs that he prepared for the Edisons in 1909 and 1910.[17]

The "stoops leading to Den and Dining Room [sic]" were repointed in 1951.[18] More extensive repairs were also made in 1970, as part of NPS contract CX 14-10-5-337-4, "Repointing and Repair of Masonry Work and Foundations." Work done at that time included repointing the brick cheek walls, resetting the capstones, and repointing the mortar joints of the stone steps.

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[15] "Residence and Grounds Belonging to Henry C. Pedder Esq., Llewellyn Park, Orange N.J., Mead & Taylor, Engineers," 1882. Edison NHS Archives.

[16] The site plan was submitted, along with the residence and furnishings appraisals of 1931, by The Atlantic Appraisals Company, Inc. Edison NHS Archives.

[17] "Garden Design for Mrs. Thomas A. Edison, October 1909"; "Garden for Mrs. Thomas A. Edison, October 29, 1909"; and "Thomas A. Edison—Sketch for Garden—Jan. 28, 1910"; all by Ernest W. Bowditch, Landscape Designer, Boston MA. The drawings are cataloged by Edison NHS as numbers 114,487, 114,485, and 114,481.

[18] Thomas A. Edison, Inc., purchase requisition no. 356101 dated Oct. 3, 1951. Edison NHS Archives.

Conservatory

The Conservatory is a large enclosed porch on the south side of the house. It was built originally as a smaller open verandah in 1880-81, and was enlarged to its present size circa 1882. The Conservatory is described in detail in the section on interior rooms (see Room 101).

Second-Story East Roof Deck

An original roof deck that is missing today was located outside the Living Room (Room 205), above the original porte cochere. It is illustrated by the elevation drawing published in 1881 and by early photographs of the house. The deck was probably used infrequently, if at all, because the only access to it was through the windows of the Living Room. It was removed in 1905 when the Living Room was extended over the newly rebuilt porte cochere.

Second-Story North Roof Deck

The second-story roof deck off Mr. Theodore's Room (Room 206) was built in 1880-81. It functions as the roofs for the north alcove of the Library (Room 104) and the Service Dining Room (Room 105). The porch is documented by early photographs taken in the 1890's (figs. 6 and 10) as having had a wood balustrade with three posts.

It appears that this porch also was not used frequently, because it could only be reached by climbing through one of the two windows that overlooked it. Madeleine Edison Sloane, who had also used the bedroom, spoke of it and its adjacent porch in a taped tour of the house in 1973:

> It [the room] has a nice view and there's a porch. I always wanted a door cut through so I could use the porch, but it was never put in.

The deck was altered in 1940 by the construction of a second-story bathroom (Room 207) on part of it. The balustrade of the remaining part of the porch was replaced in 1962 under NPS purchase order EDLA 29-150. A new metal floor was installed in 1963 as a consequence of the reroofing of the first-story space below the deck, as part of a contract with the National Park Service.

Second-Story South Roof Deck

The second-story south roof deck consists of the flat roofs of the Conservatory (Room 101) and the extension of the Drawing Room (Room 100); it is adjacent to the Owner's Room (Room 203) and the South Room (Room 200), respectively. The deck is open except for a protective wood balustrade.

A smaller balustraded roof deck was here originally, atop the original south verandah (fig. 2). It was replaced by a larger balustraded roof deck above the Conservatory when the latter was built circa 1882 (fig. 4). Another roof deck was created just west of this deck when the Drawing Room was enlarged southward circa 1883-84. The new roof deck was incorporated into the existing Conservatory roof deck (fig. 5) to form the present-day south roof deck.

The second-story south roof deck was the one used most frequently by the Edison family. A large awning was installed over the Conservatory portion in May 1890.[19] The flooring material was wood boards that were widely spaced for drainage, according to a photograph dated circa 1902 (fig. 15).[20] The Drawing Room portion of the deck, and part of the Conservatory portion, were screened in 1907 and enclosed with glass in 1935. For more information on the enclosed sun porch, see the discussion of Room 202.

Extensive changes and repairs were made to the south roof deck by the National Park Service in 1965-66. The sun porch (Room 202) was removed, the wood floor slats were removed, a new metal floor was installed, and a new redwood balustrade was installed.[21] It was decided at that time not to reinstall the sun porch.

Third-Story East Porch

An original porch (built in 1880-81) is on the east side of the house at the third story. The porch was permanently enclosed with wood casement windows in 1905; this is its appearance today. For more details, see the discussion of Room 302 in the interior section.

Third-Story Roof Deck

A roof deck is on the west side of the house at the third story. This deck is situated on top of, and functions as the roof for, Room 212 and the west addition to Room 213.

The deck and the rooms that it surmounts were both built circa 1884. The north end of the deck was altered circa 1909-10, when the dormer for Room 307 was enlarged and a skylight was installed for Rooms 211-212. The deck was probably used infrequently, because it can be reached only by climbing through the windows that overlook it.

The only record that specifically refers to repairing this deck is NPS purchase order EDLA 29-150, dated 1962, for replacing the deteriorated wood balustrade. A new metal floor covering was installed on the deck in 1963 as a consequence of the reroofing by contract of the first-story space below the deck.

Main Roof Deck

A large deck crowns the top of the main slate roof. This is an original feature (built in 1880-81). It is shown in the elevation drawing by Holly dated 1880 and published in *American Architect and Building News* in 1881 (figs. 1-2), and in the earliest exterior photograph, taken sometime before

[19] The large awning was used only for a few years in the 1890's.

[20] The residence appraisal of 1931 described this as a "1120 sq. ft. pine slat roof deck."

[21] The work is documented by several historic structure reports and by Gordie Whittington's notebooks. Edison NHS Archives.

February 1884 (fig. 4). Access to the deck is from the attic, where a stairway ascends to a hatch in the porch floor.

The floor of the deck is supported from below by exterior side walls that straddle the main gable roof. These side walls are covered with slate shingles that are shaped and laid in a fish-scale pattern. The deck floor is covered with flat-seam metal sheets, as is the hatch cover. The perimeter of the porch is protected by a wood balustrade similar in design to those on the other roof decks.

The roof deck was extensively rebuilt by the National Park Service in 1961. The old flat-seam metal floor covering was replaced with the present covering; new flashings were installed, and the adjacent slate shingles were repaired by the Atlas Roofing Company under NPS purchase order EDLA 29-148. Also at this time, the deteriorated wood balustrade was replaced with reproduction materials supplied by the Reiss Brothers under NPS purchase order EDLA 29-147.

Doorways and Entrance Steps

General Information

There are 15 exterior doorways in the house at Glenmont. Of these, one is in the cellar, nine are in the first story, four are in the second story, and one is in the attic. Four of the doorways may date to the original construction of the house in 1880-81. Three doorways were installed when additions to the house were built circa 1884 and in 1909-10. Two doorways are alterations that were made to the house when the Conservatory was winterized sometime before August 1890. Four doorways were enlarged from existing window openings circa 1890, in 1905, and in 1909-10. Finally, two doorways were added in 1922 when the north service porches were enclosed with glass and storm doors.

Of the original 1880-81 doorways, all survive except for one that was removed in 1909-10. This doorway was on the west side of the house in the first story, beneath the large stained-glass window. It allowed direct entrance from the outside to two small rooms (Rooms 119 and 120) beneath the Main Stairway. The doorway is documented by an exterior photograph taken sometime between 1907 and 1909-10 (figs. 19-20). This photograph shows the upper half of the door as being glazed and the bottom half as being a solid material—most likely wood. The doorway was converted to a window in 1909-10, when the Fern Room (Room 116) was added covering it.

Few alterations have been made to the doorways since August 1947, when Mina Edison died. One exception is the exterior doorway of the south sun porch (Room 202), which was removed when the porch was removed in 1965 by the National Park Service. This sun porch was composed of glass walls that had been installed in 1935; it replaced screened walls and a screen door that had been built by the Edisons in 1907. For more information on the sun porch, see the chapter on Room 202.

The following is a description of the existing exterior doorways. Each doorway has been assigned a number (see Appendix B). The order of presentation is counter-clockwise and upward,

beginning with the first-story entrance doorway and ending with the attic hatch. Information on the seasonal use of screen and storm doors completes this section.

Description and History

Doorway D-101: Front Doorway and Stairway

The front doorway, D-101, is an early feature that may date to 1880-81. It is centered in the primary, east facade beneath the porte cochere. This is the formal entrance to the house, which was used by the Edison family and by visitors. The doorway also served a symbolic function on August 3, 1959, when the key to the front door was presented to the Assistant Secretary of the Interior in a ceremony dedicating Glenmont as a national historic site.

The doorway is reached from the gravel driveway by climbing up one step to a wide tiled platform, and from the platform up four more steps. The steps were described in 1881 by *American Architect and Building News* as being made of "Wyoming bluestone" and the platform as being "tile." The 1931 residence appraisal listed the steps as "2 Bluestone steps, 8" x 12" x 14'0"," and "4 Bluestone steps, 8" x 12" x 9'0"." The platform was described in the 1931 appraisal as "48 Sq. ft. colored ceramic tile floor." Both exist today.

The doorway itself is an impressive portal to the house. It is composed of a wide door that is flanked on either side by pilasters and sidelights and surmounted by a three-part arched transom. The doorway is not shown in the first-floor plan published in *American Architect and Building News* in 1881. Early exterior photographs of the house do not show the doorway, perhaps due to its recessed and relatively dark location. The first documented reference is an article published in 1891 that described "large double doors." The earliest photograph, dated 1914, shows only a glimpse of one of the sidelights as they exist today.

All components of the doorway appear to predate 1891, except for the door itself. The door is oak with one large panel of plate glass. This door replaced earlier double doors that were described in 1891 as "large double doors lighted with beveled glass." The existing door was in place by 1921, based on the residence appraisal of that date that listed "1 42" x 90" oak plate glass vestibule door." The two sidelights are each composed of a vertical sheet of oval-shaped stenciled glass bordered by 26 small panes of clear glass. Below each sidelight is a wood base with six panels. The arched transom window above is glazed with the same small panes of clear glass that make up the border of the sidelights. The appraisal of 1931 described the doorway as "1 Opening, 10'0" x 11'0," with "1 door, 3'6" x 7'6" x 2-1/4", 1 plate glass light, 2 side lights, circle top transom and door check."

A door bell of unknown date is mounted to a pilaster on the far right side of the doorway. It may be the same door bell installed by Edwards & Co. in 1889. Edwards & Co. described the front door bell in a letter dated September 14, 1889, as one that rang in both the Kitchen (Room 107) and in the third-story Hall (Room 311).

Doorway D-102: Cellar Entrance

The exterior entrance to the cellar, D-102, is on the north side of the house, beneath the enclosed porch/verandah of the Kitchen Entrance (Room 121). The cellar doorway is accessed by a stairway that is covered by a wood bulkhead with two side-hinged doors. The stairway and the cellar doorway are both described in the chapter on the cellar's Room B13.

The cellar entrance is probably an original feature of the 1880-81 house because it is located at one of the original foundation walls. It is certain that a bulkhead covered the entrance at an early date, based on an early exterior photograph taken sometime between circa 1884 and 1890 (fig. 6). The bulkhead was described by the residence appraisal of January 1931 as a "hinged pine cover." The wood structure that exists at the opening today is likely of later vintage, however, given its location close to the damp ground. The exact date of the existing bulkhead is not known.

Doorways D-103 and D-104: Kitchen Entrance and Stairway

The Kitchen Entrance (Room 121) is an enclosed porch/verandah on the north side of the house. While it was labeled the "Kitchen Entrance" by the residence appraisal of 1931, it would be more accurately named the "Service Entrance" because it provides access to the service hall, but not direct access to the kitchen. This entrance has two doorways associated with it. One is the original 1880-81 back doorway of the house (D-103);[22] the other is an exterior doorway (D-104) built circa 1922 when the Kitchen Entrance was enclosed with glass.[23]

Doorway D-103 enters the back Service Hall (Room 117). It appears to be little changed today from its original construction in 1880-81. The doorway consists of a glazed wood door with a transom window above it. The door has two lower wood panels, above which are multiple square panes of leaded glass in various shapes and colors. The transom window is also glazed with stained glass. The doorway is listed in the residence appraisals of 1921, 1924, and 1931. Of these, the most descriptive were the last two. The one from 1924 listed a "35 light 2-panel stained leaded glass sash door with leaded glass transom head." That from 1931 cited "1 Entrance door, 3′0″ x 7′4″ x 2″, 1′0″ transom, all stained and leaded glass lights."

The door's stained-glass panel was in need of repair by 1964, according to NPS Architect Newton Bevin. He noted in a historic structure report that five of the stained-glass panes were broken, and recommended installing a door-closing device to prevent further damage. Bevin's advice appears to have been taken, because a spring-loaded lever arm made by "Parker" now closes the door automatically without jarring.

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[22] The doorway is shown on the first-floor plan published in *American Architect and Building News* in 1881.

[23] John V. Miller, "Miscellaneous Note Book No. 3 (22-05-23)," entry for September 19, 1922. Edison NHS archives. Miller noted that he had "asked Smith of Struck Co. to make estimates for closing in with glass the porch off kitchen...." For more information on the verandah, see the section entitled "Porches and Verandahs."

Visitors to the Kitchen Entrance announce their presence by either knocking on the door or ringing the door bell to the right of the doorway (D-103). This may be the same door bell installed by Edwards & Co. in 1889 and described as the "2nd [door bell] Rear button right hand side [that] rings to 3rd Hall."[24]

The outer porch doorway, D-104, was installed when the Kitchen Entrance was enclosed circa 1922. This doorway is in the west wall of the enclosed porch. The doorway consists of a wood door and a three-pane transom window. The door is changed seasonally, being a glazed storm door in the cold months and a screen door in the warm months. The storm door has two lower panels and a glass panel containing nine panes of glass. The screen door is of a similar design, but with a screen panel in place of the glass panel. Both doors presumably date to 1922.

Doorway D-104 is reached by climbing a flight of wood steps. The stairway has a wood balustrade on the north side with a newel post at the bottom step. A stairway in this location is an original feature of the 1880-81 house, as documented by the first-floor plan published in August 1881. The stairway is also documented by an early exterior photograph of the house taken sometime between 1884 and 1890 (figs. 6-7). The date of the present stairway is not known, although it is likely that it has been rebuilt one or more times since 1880-81.

Doorways D-105 and D-106: Laboratory Entrance and Stairway

The Laboratory Entrance (Room 109) is an addition to the house that was built circa 1884. It was so named by the residence appraisal of 1931, although it would be more accurately labeled the "Kitchen and Laboratory Entrance," because it provides access to both rooms. Like the previously described Kitchen Entrance, the Laboratory Entrance is on the north side of the house. Two doorways are associated with this entrance: D-105 and D-106.

Doorway D-105 is believed to have been built at the same time as the Laboratory Entrance, circa 1884. It has a wood door and a single-pane transom, both of which exist today. The door has two wood panels and is glazed with a single pane of glass.

Doorway D-106 opens onto the vestibule on the north side of the Laboratory Entrance. This doorway was probably installed in 1922 shortly after John Miller obtained estimates from the Struck Company for "closing in with glass...the little steps and platform between kitchen and laboratory."[25] Doorway features include a storm door and a two-light transom.

Doorway D-106 is reached by a short flight of exterior wood steps. The stairway has a wood balustrade on its west side with a wood newel post at the bottom step. It is not known when the stairway was constructed, or when it was last repaired. It is certain, however, that a stairway was here in 1922.

[24] Letter from Edwards & Co. to Charles Batchelor, Sept. 14, 1889. Edison NHS Archives.

[25] John V. Miller, "Miscellaneous Note Book No. 3 (22-05-23)," entry for Sept. 19, 1922. Edison NHS Archives.

Doorway D-107: Den Doorway and Stairway

An exterior doorway is in the east brick wall of the Den (Room 114), next to the south bay window. This doorway, D-107, is assumed to have been installed at the same time that the Den addition, then known as the Billiard Room, was built for Henry C. Pedder in 1884.[26] The earliest documentation of a doorway in this location is an exterior photograph taken sometime before 1897 (fig. 12). Although the photograph does not show the doorway itself, it does show a flight of steps that would have been necessary to reach the doorway. The stairway in the photograph has a wood balustrade, two newel posts, and a deep upper stoop. It was replaced in 1909-10 with the brick and stone stairway that exists today.[27]

The doorway has a brick reveal, a stone lintel, a wood casing, and a wood door. The door has eight panels and is believed to be contemporary with the circa-1884 door opening. The door was described by the appraisal of 1921 as being "1 8 panel s/s [single swing] door, frame, trim and hardware." A historic structure report dated 1964 by NPS architect Newton Bevin noted that it was "loose" and in need of being put back in working order.

Doorway D-108: Fern Room Doorway and Stairway

The Fern Room (Room 116) is a small glass-walled conservatory built in 1909-10. It is on the west side of the house, between the Drawing Room and the Dining Room. The Fern Room can be entered today through an exterior doorway, D-108, in its west wall. This doorway is an original feature of the room's design. It has a single hinged door glazed with two vertical panes of glass, so that it appears to be a part of the glass wall.

One interior photograph and the residence appraisals document the doorway. The photograph is a partial view only, taken in 1916 (fig. 113). The glass wall and its doorway were both described in the appraisals of 1921 and 1924 as being a "12 Lineal feet curved p.g. [plate glass] sash enclosure with stationary sash" and "1 2 Lt. p.g. s/s [single swing] sash door." The 1931 appraisal listed the door separately as "1 Door, 2'8" x 7'6" x 1-3/8", 2 lights."

There is some question as to the age of the existing glazed door. NPS Architect Bevin described a plain wood door here in his historic structure report dated 1964. Bevin noted that this was not the original door and advised replacing it with one of a more appropriate design. He also suggested that the original door might be found in storage. It is not known if the original door was found and replaced, or if a reproduction door was made and installed. Whichever the case, the door that is in place today seems to be an appropriate design based on the known historic documentation.

The doorway is reached from the exterior side by climbing a brick and stone stairway built in 1909-10. This stairway is directly opposite from, and a mirror image of, the Den stairway that was also built in 1909-10.

[26] For more information on the construction date of the Den, see the chapter on Room 114.

[27] For more information on the brick and stone stairs, see the section entitled "Porches and Verandahs."

Doorways D-109 and D-110: Conservatory Doorways and Stairway

The large Conservatory (Room 101) on the south side of the house has two exterior doorways: D-109 on the west side and D-110 on the east side. The west doorway is accessed by a short flight of exterior wood steps, and the east doorway enters the Conservatory from the east verandah.

The Conservatory had no exterior doorways when it was first built circa 1882 as an open porch. The doorways appear to have been added later by the Edison family, at the same time as the large window sashes that were used during the winter months. The earliest documentary evidence for the doorways consists of an early exterior photograph taken by W.K.L. Dickson sometime between May and August 1890 (fig. 8). This shows the frame of the east doorway as existing, but no door or storm windows in place—most likely because it was summer. The first view that shows a door in the east doorway is an early undated exterior photograph looking towards the northwest. The door itself is glazed with 12 panes of glass, and the transom above with three panes.

The west exterior doorway is clearly documented by another exterior photograph by Dickson dated circa 1892, which shows the west door to have 12 panes of glass and the transom above to have four panes. The photograph also shows the stairway at the west doorway as having five steps, a balustrade on the right (south) side with a lower newel post, and what appears to be a stone slab at ground level.

As stated previously, the Conservatory's exterior storm doors and window sashes appear to have been removed seasonally. Screen doors and windows were being used in the same locations during the warmer months by 1903, according to the photographic documentation. The east screen door was a four-panel design, judging by photographs taken in 1903. The west screen door was presumably similar. The cold-weather storm doors were described in the residence appraisals of 1921 and 1924 as being "2 twelve light panel s/s [single swing] pine doors, 4 [sic] Lt. transom heads." They were referred to as "storm doors" in a 1943 Edison Industries work order (O.P.O. No. 37700), which included the notation to "weatherstrip bottom." C. Thore Hallstrom, who began work at the Edison estate as a gardener in April 1934, recalled that the glazed doors remained in place throughout the year beginning in 1950.

The condition of the glazed storm doors was examined closely in the 1960's by employees of the National Park Service. These were presumably the original doors that had been installed when the doorways were constructed. Architect Newton Bevin opined in his historic structure report of February 1964 that "the design is very poor, structurally and aesthetically," and that the "present joinery looks too weakened to count on." He advised replacing the doors with ones of a similar design, but with "slightly wider stiles for strength and waterproof glue...for all joinery."

Gordie Whittington concurred that the storm doors were "in very poor condition" in his report dated July 1964. He recommended sending both "out to a mill and have them copied, and installed with new hardware." The doors were reproduced in ponderosa pine the following year by John Deliduka, Inc., under NPS contract 14-10-0529-2068. It is unlikely that Deliduka widened the stiles, since the contract specified to "exactly match the original," of which a sample was to be

supplied. The reproduced doors, extant today, each have 12 lights above wood panels. The east door has six wood panels, while the wider west door has eight panels.

Doorways D-201 and D-202: West Room Doorways

Two doorways, D-201 and D-202, are in the west exterior wall of the West Room (Room 213). These provide access to the roof of the one-story Den (Room 114). Both doorways were converted from original (circa-1884) windows in 1909-10, when the room was extensively remodeled. The work was done by Proctor & Company, who referred to the enlarged openings as "French windows."[28]

All components of the two doorways are believed to date to 1909-10. Each opening has a pair of wood French doors on the interior side, a pair of wood screen doors on the exterior side, and a transom window. Each French door leaf opens inward and is glazed with three panes of clear glass. Each screen door leaf opens outward and has two screen panels. The transom windows are glazed with multiple panes of plain glass held in place with lead cames. The transom glass was supplied by the Newark firm of Sharpe Bros., whose invoice dated October 29, 1909, described the glass as "art leaded glass."

The doorways are listed in the appraisals of 1921, 1924, and 1931. The 1921 and 1924 appraisals both recorded "2 6 Light casement sash, D/S [double strength] glass, frame, trim and hardware." The 1931 appraisal is more detailed, listing "2 Pair of French doors, 3'0" x 6'3" x 1-3/4", 6 lights, full brass bolt, 1'3" transom, 1 light."

Doorway D-203: South Room Doorway

Doorway D-203 leads from the South Room (Room 200) to the portion of the second-story south roof deck above the Drawing Room.

The earliest exterior photographs of the house show a window here. Later photographs show that the window remained in place even after the Drawing Room portion of the roof deck was built outside it in 1883-84. However, at some point the window was replaced with a doorway, in order to make the south roof deck accessible from the South Room (Room 200). No documentation has been found that explicitly mentions the installation of the doorway, although it probably occurred when other renovations were made to the South Room in 1905.[29] Exterior photographs taken of the house prior to the work in 1905 show the window still in place, while architectural drawings of

[28] Proctor & Company may have used the term "windows" because the openings were not intended to function as doorways. The Den roof is ill-suited to use as a porch; it does not have, nor has it ever had, porch railings. Furthermore, the projection in the roof for the Den's coved ceiling makes the roof virtually unusable as a porch.

[29] These renovations included the installation of the large leaded-glass window next to the doorway. For more information, see the section on Room 200.

second story dated October 29, 1907, show the doorway as existing.[30] The Drawing Room portion of the roof deck, and part of the Conservatory's roof deck, were enclosed with screening in the spring of 1907.[31] The screening was replaced with windows in 1935 to form a sun porch (Room 202). This porch was removed in 1965.

The door itself appears to be contemporary with the doorway opening and has been dated to circa 1905. It is made of wood and is glazed with two large panels of glass. The bottom panel is one large pane of plate glass that is beveled at the perimeter, while the top panel is composed of multiple panes of clear glass held in place by lead cames.

The door is described in the appraisals of 1921, 1924, and 1931. The 1921 and 1924 appraisals listed "1 2 light plate glass and leaded glass s/s [single swing] sash door, frame, trim and hardware," and the 1931 appraisal noted "1 Door, 2'8" x 8'0" x 2", 1 light and leaded glass light."

Doorway D-204: Owner's Room Doorway

The second-story south roof deck can be reached through another doorway, D-204, in the south wall of the Owner's Room (Room 203).[32] The age of this doorway is unclear. It is located in a bay window that appears to be an original feature moved to its present location in 1905, when Room 203 was extended southward. The original bay window contained a similar doorway, described as a "French window" in 1894.[33] The doorway probably existed by 1890, since it was the only way of reaching the roof deck over the Conservatory, which was used as an awning-shaded porch for most of the 1890's. An architectural drawing dated October 29, 1907, suggests that the doorway may not have been recreated after the bay window was moved in 1905: it shows a window in this location. However, given the fact that the doorway closely resembled the windows in the bay, it is possible that the 1907 drawing erred, and that a doorway was in fact here. Such a doorway existed by 1921, according to the residence appraisal for that year that listed "1 1 light panel S/S plate glass sash door, frame, trim and hardware." Similar descriptions are given in the appraisals of 1924 and 1931, with the 1931 appraisal listing "1 French door, 2'6" x 8'6" x 1 3/4", 1 panel, 1 light."

[30] "Alterations of House at Orange N.J. for Mrs. Thomas Edison, Revised [First and] Second Floor Plan[s], Allen & Collens, Architects," Oct. 29, 1907. NPS catalog #116,351 and 116,352, respectively; Cab 6-DR 4. Edison NHS Archives. These architectural drawings show proposed alterations to the house; the doorway, however, is drawn as an existing feature.

[31] See the section on Room 202 for more information on the screened porch.

[32] This is the name of Room 203 in the 1931 appraisal.

[33] "Superb Country Homes: Views of the Interior of Mr. & Mrs. Edison's House," *New York Recorder*, Aug. 19, 1894. This article includes the following: "From the windows in Mrs. Edison's boudoir there is a spacious view of the Orange Valley, and from a French window one can step to the upper balcony, where an awning is stretched in summer...."

The door today is a single wood door glazed with two panes of glass; it closely resembles the double-hung sashes in the adjacent east windows. This door may postdate 1931, based on the residence appraisals of 1921, 1924, and 1931, which recorded only one glass panel (i.e., "1 light").

A transom glazed with clear glass and lead cames is over the door. This transom resembles the transoms above the other windows in the room and is assumed to be contemporary with them. The original stained-glass transom sashes were replaced with the existing clear-glass sashes in 1905.

Doorway D-401: Attic Hatch

Doorway D-401 is a hatch in the roof of the attic that opens onto the main roof deck. This deck, and presumably its hatch, are original features of the house as it was built in 1880-81. The hatch is documented by the appraisal of 1931 that lists the "Hinged hatch door, 3'0" x 8'0"."

The hatch that exists at the door opening today is hinged to open on its west side. Its exterior side is weatherproofed by a covering of sheet metal—the same material that covers the roof deck. It is not known if this is the original hatch (1880-81) or a later replacement.

A set of three screens is installed at the hatch opening so that the attic can be ventilated in the summer. Two of the screens are set on parallel tracks to slide across the opening when the hatch is in the open position. The age of the screens is not known.

Screen and Storm Doors

Screen and storm doors both were used on the house at Glenmont by the Edison family, according to the historical documentation. Today, wood screen doors are in place at the following doorways: the Kitchen Entrance (D-104), the Den (D-107), the second-story West Room (D-201 and D-202), the South Room (D-203), and the attic hatch (D-401). All of these screen doors are left in place year-round, except for the door at the Kitchen Entrance, which is replaced by a wood storm door during the cold-weather months. Wood storm doors are also left in place year-round today at the Laboratory Entrance (D-106) and in the two Conservatory doorways (D-109 and D-110).[34] The age of the existing screen and storm doors is not known, except for the two Conservatory storm doors, which were reconstructed in 1965.

The earliest documented reference to screen doors is an invoice from Williams & Woodruff, Carpenters & Builders, dated July 1891 for making "3 screen door frames." Mr. Edison was pleased with his screens made by E.T. Burrowes and Co. of Portland, Maine, according to his testimonial in their catalog of 1892; the catalog does not specify if the screens at Edison's home were for doors or windows.[35] Williams & Woodruff charged for one "screen door catch" in May 1893, along with other screening supplies, perhaps meaning that they had made another screen door. Screen doors and windows to enclose the Conservatory were installed sometime between circa 1890

[34] Information provided by Leah Burt to Barbara Yocum, Aug. 8, 1991.

[35] The company custom-fit and manufactured both door and window screens.

and 1903, based on the photographic documentation. Several years later, in July 1905, The Roebuck Weather Strip & Wire Screen Co. charged the Edisons for two door and eight window screens.

By 1931, the house was equipped with "124 Pine frame copper screens, for doors and windows," according to the residence appraisal for that year.

Storm doors and windows were installed at the Conservatory in the cold months as early as 1890, based on the photographic documentation. These were removed every year during the warm months. Beginning about 1950, the two doors and windows were left in place all year, according to former Glenmont gardener C. Thore Hallstrom. The Conservatory's storm doors were completely reconstructed by the National Park Service in 1965.

Two other storm doors were installed on the north side of the house in 1922, when the two porches at the Kitchen and Laboratory Entrances were enclosed with glass. No mention of the storm doors, however, was made in the residence appraisal of 1931.

Windows

General Information

There are 91 exterior windows in the house at Glenmont. These are in the walls of the cellar through the attic stories and in the roofs. Windows were installed and altered during several periods in the construction history of the house, including 1880-81, circa 1883-84, circa 1884, 1890, 1905, 1909-10, circa 1914-17, circa 1922, 1935, and 1940. Windows survive in the house today from each of these periods except 1935. They are documented by exterior and interior photographs; by the residence appraisals of 1921, 1924, and 1931; and by contractors' estimates and invoices.

The existing windows are an assemblage of many different types and styles. Eighty-seven of the window openings are in the walls and four are skylights in the roofs. The windows in the stone foundation and the first-story brick walls have bluestone sills, while the windows in the wood-framed walls have wood sills. Most of the window sashes are wood, but the roof skylights have metal frames. All of the cellar windows are the casement type and most have decorative metal grilles on their exterior sides. Some of the windows in the stories above the foundation are fitted with one pair of window sashes, while others are groupings of many sashes that include transoms.

Most of the windows in the house can be opened, but some are stationary. The shapes of the windows vary, with some being flat and others being curved. Window glass types include plain clear glass, clear leaded glass, textured glass, and stained glass.

Descriptions of each individual window opening may be found in Appendix B.

Description and History

Windows

The large variety of window types may be attributed in part to the many additions and alterations that have been made to the house over the years. It is also true, however, that many different styles of windows were installed in the house when it was first constructed in 1880-81. These early windows are documented by the early sketches of the house dated 1880 and 1881 (figs. 1-2), the earliest-known exterior photograph taken sometime before February 1884 (fig. 4), and the old windows that survive today.

The placement of the windows was significant in 1880-81, with the windows of lesser quality being in the service areas and the windows of better quality being in the rooms used by the family. The cellar windows were small and hinged in the casement style; decorative metal grilles on the exterior side were probably installed in 1880-81. The windows in the service areas of the first and second stories, the third story, and the attic were mostly double-hung sashes with multiple panes of clear plate glass. The formal rooms in the first story and the family bedrooms in the second story had one-over-one, double-hung windows with stained-glass transoms. A large stained-glass window was also installed in the Main Stairway, and a small stained-glass window was in the Library alcove.[36]

The same types of windows that had been used in the original construction were installed circa 1883-84 and circa 1884, when additions were built on the south, west, and north sides of the house. One-over-one sashes with a stained-glass transom were installed in the new south window of the Dining Room extension. Plain one-over-one sashes were used in the west addition that later became known as the Den (Room 114). Also introduced at this time were roof windows, or skylights, that were installed in two areas of the new west wing.

The Edisons had stained-glass panels placed in the coved skylight in the Den when that room was finally completed in 1890.

It became a seasonal practice, beginning sometime before August 1890, to enclose the Conservatory (Room 101) during the cold months with large storm sashes and storm doors (the transom sashes were left in place year-round). Window screens replaced the storm sashes during the warm months by 1903. These storm and screen windows were both curved and flat to fit the shape of the Conservatory.

Covers were made for the skylight windows in the Den (Room 114) in June 1891 by carpenters Williams & Woodruff. Materials itemized in their bill dated July 31, 1891, included 58 feet of "pine," 152 feet of "narrow ceiling" [boards], and "10 pair strap hinges." Exterior photographs taken after 1891 show the covers as being top-hinged so they could be either propped open or closed flush with the coved roof.

[36] George Payne of East Orange, an "Art Glass Stainer," is said to have "executed all the Art Glass in the residence of Mr. T.A. Edison." [Ref., *The Oranges and Their Leading Business Men*, 1890, p. 88.]

The stained-glass transoms in the Dining Room windows were replaced in 1902 by large upper sashes glazed with clear plate glass. The South Room (Room 200) was also modernized in 1902: the original multipane sashes in the south wall were replaced with one-over-one, double-hung sashes. A new window opening in the west wall of this bedroom is also believed to have been installed at this time, and fitted with one-over-one sashes.

Several changes were made to the windows by the Edisons in 1905. The second-story Living Room (Room 205) was enlarged and remodeled at this time, and all new windows were installed in the room. The new windows included a large picture window facing east, casement windows, and transoms. The windows were glazed with plate glass and clear leaded glass.

Clear leaded glass was also used in 1905 in other second-story rooms. One of the new windows replaced an original window in the south wall of the South Room (Room 200); a second replaced an upper sash in the west wall of the same room; and a third was installed in new South Bathroom (Room 201).[37] Clear leaded glass replaced the original stained glass in the transom windows of the South Room (Room 200), the Owner's Room (Room 203), and the Owner's Bath (Room 204). Opaque leaded glass replaced the one-over-one plate glass sashes in Room 204.[38]

Alterations were also made to the windows in the third story in 1905. The Sun Room (Room 302) on the east side of the house was permanently enclosed with two pairs of new casement sashes. The Sewing Room (Room 305) was enlarged with a new east-facing dormer, which had a pair of 16-over-1, double-hung sashes to match the original window sashes in the north wall. Finally, a pair of casement sashes similar in design to those in Room 302 replaced a smaller pair of double-hung sashes in one of the servant's bedrooms (Room 310).

More changes were made to the windows in the first and second stories during renovations to the house in 1909-10. A new picture window with a stained-glass transom replaced the existing (circa 1883-84) windows in the south wall of the Drawing Room (Room 100). Two original 1880-81 windows—one in the Drawing Room, the other in the Dining Room (Room 115)—were converted to interior doorways when the Fern Room (Room 116) was built between the two rooms. The Fern Room itself was fitted with seven stationary glass windows in its curved wall. The Fern Room also had a copper-framed skylight installed in its roof to illuminate an interior glass ceiling panel.[39]

Upstairs in 1909-10, a new window opening was cut into the east wall of the new wash room (Room 209) off the North Room. This opening was fitted with a casement sash glazed with a

[37] The window in the South Room (Room 200) is documented by carpenter Adolph Vogel's bill for Oct. 12, 1905, that noted "hanging large LL [leaded light] window" under the heading "Extra Work for South Bed Rooms."

[38] The bill from carpenter Adolph Vogel dated Oct. 12, 1905, noted for August 22, "Strow's [or Strom's] Bill for Lead Lights placed in transoms of old windows, $27.50." Although it is not specified which transoms were reglazed, this may be determined by the leaded transoms that exist today in Rooms 200, 203, and 204.

[39] The skylight was furnished and erected by the George Hayes Co. of New York City. The bill, dated Dec. 27, 1909, described "Furnishing & erecting copper skylight on residence, $40.00. Furnishing galvanized skylight guard, $15.00." Edison NHS Archives.

textured leaded glass. This same glass was also used in the new windows in the west wall of the new West Bathroom (Room 212). A new skylight on the roof of the new West Bathroom provided illumination to a new "light well" between the new bathroom and the old Hall Bathroom (Room 211).

In the adjacent West Room (Room 213), all of the existing windows were remodeled in 1909-10. The two west windows were replaced by French doorways with transoms, the two south windows were replaced by a large window with double-hung sashes and a transom, and two new window openings with casement sashes were added on either side of the fireplace. Clear leaded glass was installed in all three transom windows.[40]

Only one change appears to have been made to the third-story windows in 1909-10. One of the existing dormers (in Room 307) was enlarged at this time, which resulted in the relocation of the dormer window. The original 12-over-12 window sashes may have been reused in the new window opening.

A few changes are known to have been made to the windows after the major alterations of 1909-10. Sometime after 1914 and before 1917, the two stained-glass transoms in the east window of the old Billiard Room (Room 304) were replaced by two single-pane window sashes.[41] Large panels composed of multiple panes of glass enclosed the back Kitchen Entrance and the vestibule of the Laboratory Entrance sometime after September 19, 1922, when "Smith of Struck Co." was asked to submit an estimate for the work.[42] Glass windows and a roof also were installed in 1935 to enclose the south screened porch (Room 202) that dated to 1907. Two new casement windows were installed in 1940 as part of the new bathroom addition (Room 207) on the north side of the house.

The seasonal removal of the Conservatory's curved storm sashes was discontinued by about 1941-42, when the sashes began to be left in place year-round; the Conservatory's flat storm sashes were given similar treatment by 1950. Finally, in 1965, the glass-enclosed sun porch (Room 202) was completely removed by the National Park Service to facilitate repairs to the Conservatory roof. Extensive repairs were also made at this time to the Conservatory and its window sashes.

Window Screens

There is ample evidence that the house was outfitted with window screens when the Edison family was in residence. The screens were seasonal, being installed in the spring and removed in the fall. Because their frames were made of wood, the screens required periodic painting and other repairs. The window screens are documented primarily by the contractors' invoices, by the exterior

[40] The new clear and textured leaded glass was installed by the Sharpe Bros. of Newark, who described the glass as "Art Leaded Glass" in their bill of Oct. 29, 1909. Edison NHS Archives.

[41] This alteration is based on the documentation provided by the exterior photographs.

[42] John V. Miller, "Miscellaneous Note Book No. 3 (22-05-23)." Edison NHS Archives. No written estimate or any other record of the work has been found. The only evidence that the work was actually done are the glass enclosures that exist today.

photographs, and by the residence appraisal of 1931. The photographs indicate that most of the double-hung windows had half screens, while the casement windows had full-size screens.

Only a few historic window screens for the house survive today.[43] All of the old screens have painted wood frames and copper wire netting. The screens are now left in the windows year-round, although the existence of numbers on the exterior-mounted screens suggests that they were installed and removed seasonally. Some of the old screens are permanently installed on the interior sides of two casement windows that date to 1909-10: W-210 in Room 209 and W-214 in Room 212. These screens cover the entire window opening and are side-hinged to open inward. Screens for the double-hung windows are mounted on the exterior side of the house. Those screens that are in the Laboratory windows (Room 110) on the north side of the house cover the entire window opening. Elsewhere in the house, the screens for the double-hung windows cover only the bottom portion of the window opening. The screen hardware includes two hinges on one side of the window opening and an eye-and-hook closure on the other side. Such an arrangement allows the screens to be opened outward so that the exterior window awnings can be adjusted.

The earliest documented reference to window screens is a bill dated June 12, 1888, from painter Gustav Ahrendt to Thomas Edison for "[painting] window screens, $15.00." Window screens are seen for the first time in an exterior photograph taken sometime between May and August 1890, in which they are shown in the south-elevation windows of the first, third, and attic stories (fig. 8).[44] These screens covered only the lower half of the window openings and appear to have been installed on the exterior side. They may have been the same screens that were made that spring and billed on September 2, 1890, by carpenters Williams & Woodruff. Their itemized materials included one walnut screen frame, 55 feet of wire netting, and 54 feet of pine. The effectiveness of the screens is questionable, however, given the fact that the Herts Brothers billed the Edisons for "11 sets mosquito net draperies for bedrooms" on December 31, 1890.

E.T. Burrowes & Co. of Portland, Maine, appears to have supplied the Edison home with screen windows and/or doors, according to its catalog of 1892. Page 25 of the catalog features a photograph of the "Residence of Thomas A. Edison" and a testimonial by Mr. Edison himself, who is said to have written, "The screens in my house supplied by your firm are entirely satisfactory." Directly below Mr. Edison's testimonial is another by architect Henry Hudson Holly, who is quoted as having written, "I have used your screens, and have always found them very satisfactory." E.T. Burrowes and Company was in the business of custom-making window and door screens; they did not keep ready-made screens in stock. Their frames were made of "any kind of wood desired," and their netting was a "fine wire netting" painted black. Unfortunately, no invoice from this company has been found to prove that their screens were in fact installed in the Edison home.

Carpenters Williams & Woodruff submitted another bill dated October 28, 1892, for work that used substantial amounts of pine and wire netting, and a number of screen lifts. It is possible

[43] Some of the old screens, such as the large screened panels for the Conservatory, are believed to have been burned "in a bonfire" sometime in the 1970's. Edison NHS Curator Leah Burt to Barbara Yocum, Aug. 1991.

[44] Screens may also have been in the second-story windows, but they are concealed by window awnings.

that some of this work included making screens for the Conservatory, but this is not clearly stated. That the Conservatory may have been outfitted with screens about this time is suggested by an early photograph of the house taken sometime before 1903 that shows the screens in place (fig. 14). The Conservatory screens were divided into panels, with the large curved screens having six panels each, and the smaller flat screens having four panels each. These screens were removed during the cold months, when storm sashes were installed.

Carpenter Adolph Vogel submitted his bill on November 1, 1901, for "100 pr [pairs] screen numbers, $3.00." This suggests that many of the windows in the house had window screens by this time. "Screen numbers" are small metal tacks with numbers on the heads, which are affixed to the screen and the exterior side of the window opening—usually the sill. Screen number one, for example, can then be easily matched and installed in window number one every year. This saved the time that would otherwise be spent trying to match the screens with their correct window openings.

Adolph Vogel continued to work on the Edisons' screens for the next 10 years. He painted the screens in the spring of 1902, according to his bill dated May 28. He installed "roof screens" in the spring of 1907, most likely referring to the new screened porch (Room 202) above the Conservatory. Work in 1909, 1910, and 1913 included miscellaneous repairs and possibly some rebuilding using "63 sq. ft. 1 1/8 Pine for screens."[45]

An estimate dated July 10, 1905, was also submitted by The Roebuck Weather Strip & Wire Screen Co. for several new window and door screens. Their estimate was for providing and installing screens for eight double-hung windows (full-size), three single casements, eight hinged transoms, and two doors. While the word "order" is written at the bottom of the estimate, no other evidence has been found that the screens were actually installed. Alternatively, the screens may have been billed to the general contractor who was supervising work in the house at the time, and whose name also appears on the estimate. This was Hoggson Brothers of New York City.

The cellar windows were covered in 1914 with "1/2 inch wire netting" to deter rats from entering the house. The netting was supplied and installed by The "Sure Expeller" Vermin Destroying Co. of New York City, according to their bill of December 15, 1914.

The Herter Looms billed the Edisons on April 1, 1915, for supplying and shipping "18 screens." No other details are provided.

The wire netting on the cellar windows may have been in need of replacing by 1922, when the Edisons were billed for "screen[ing] all basement openings." The materials and labor for this work were supplied by Thomas A. Edison, Inc., and billed to Edison's personal account.[46]

[45] Invoices from Adolph Vogel dated July 9, 1907; July 1, 1909; Apr. 30, 1910; and Nov. 29, 1913. Edison NHS Archives.

[46] Thomas A. Edison, Private Bill Book for Jan. through Aug. 1922, entries no. 54 and 55 for Feb. 28, 1922. Edison NHS Archives.

The screens were itemized for the first time in the residence appraisal of 1931. They were then described as "124 Pine frame copper screens, for doors and windows."

Screens continued to be installed on the windows through at least 1947. They are shown as being in place in the many of the windows, including the lower windows of Room 114, in a series of exterior photographs dated August 28, 1947.

Storm Windows

Storm windows are not as numerous as the window screens. Today, storm windows exist for three rooms only: the Conservatory (Room 101), the Service Dining Room (Room 105) and the Laundry (Room 106).

Some effort was made by the Edisons to make the windows more weathertight by having weather stripping installed. Fourteen windows were equipped in 1904 with "Chamberlain metal weather strip"; more "weather strip" was installed in 1918.[47] Some remnants of these weatherproofing materials were found at the windows during restoration work in 1985.

The earliest storm windows enclosed the third-story porch (Room 302), based on an exterior photograph taken sometime before February 1884. This shows the two east bays of the porch fitted with two large panels of glass. Each panel was glazed with multiple panes of clear glass; one upper pane in each panel was hinged to open outward. The glass storm panels were removed during the warm months of the year, based on later photographs that show the porch open to the weather. The porch was finally enclosed with glass permanently in 1905 when two pairs of casement sashes were installed here. The storm panels are believed to have been discarded at this time.

Storm windows were made for the Conservatory (Room 101) sometime before May 1890, based on an exterior photograph that shows the windows in place. It is not known for certain if the storm windows had been made for the original owner of the house or if they were commissioned later by the Edison family. The storm windows were removed each spring and rehung in the fall. Screens replaced the storm windows during the warm months beginning sometime after August 1890 and before 1903. This seasonal ritual continued until around 1941 or 1942, when the curved storm sashes were permanently puttied into their frames. Problems with settling and twisting of the sills and frames had made it increasingly difficult to refit the sashes each year. All of the storm sashes, including the flat sashes, were left in place year-round by 1950.[48] They have remained permanently installed since that time. The four curved sashes were determined to be in poor condition and were therefore replaced with reproductions made of ponderosa pine in 1965.

[47] Invoice from T.C. Rice-Wray Co., Nov. 28, 1904, and bill no. 219 from Thomas A. Edison, Inc., Jan. 31, 1918. Edison NHS Archives.

[48] Based on the remembrances of former Glenmont gardener C. Thore Hallstrom.

Protective exterior windows were made for the old double-hung windows in three service rooms in 1943, at the request of Mrs. Edison. These are documented by a work order dated October 4, 1943, that states:

> Furnish and install storm sash on all windows in maids' dining room [Room 105] and laundry [Room 106]. Also one on window in pantry off kitchen [Room 107a?]. Windows in maids' dining room will have to be made in two pieces, making a total of 13 storm sash.[49]

Of these storm sashes, only those for Rooms 105 and 106 exist today.

Window Awnings

Window awnings shaded the windows of the Edison home during the years that the Edisons occupied the house. Exactly when the awnings were first installed is not known. The earliest photograph with a definite date that shows the awnings was taken sometime between May and August 1890. Like the window screens, the window awnings were seasonal items that were put up in the spring and removed in the fall. They were on the windows at the first, second, and third stories of the house on the east and south elevations; some, but not as many, were on the west-elevation windows. No awnings are known to have been at the north-elevation windows. The awnings were made of a canvas material and were supported by a metal frame. They could be folded up against the house or lowered into their open position from inside by pulling on a cord. The end of the cord was secured to the window frame by wrapping it around a cleat.

There have been five different styles of awnings on the house over the years. They are documented primarily by the exterior photographs of the house, contractors' invoices and estimates, and miscellaneous correspondence. From circa 1890 to 1934, the awning material was striped, the sides were covered, and the front and side edges were finished with a "curtain" cut in a scalloped design. The material was changed in 1935 to a plain dark green color, with edges of a shaller scalloped design.

It is this later-style (1935) awning that survives today; the metal awning supports, however, may be as old as circa 1890. The canvas awnings today are hung, renewed, and maintained by an awning company under contract with the National Park Service. They have been most recently renewed with a dark-green material sometime between 1985 and 1990. The total number of awnings is 51.

The following is a detailed history of the awnings.

Circa 1890 to 1904. Exterior photographs of the house for this period show the awnings as striped. These black-and-white views suggest that there were four different colors in the awning design, with the principal motif being two wide bands: one a dark color, the other a light color. The

[49] I.P.O. No. 37700, "The Ed Orbann File." Included in the appendix of Gordie Whittington's Architectural Data Section in "Historic Structures Report - Part II (Portion), The Conservatory, Edison Home, Building No. 10" (NPS: Edison NHS, July 1964).

edges of the awnings were contoured in a scalloped design, with the dark stripe having a convex end and the light stripe having a concave end. No samples of the awning material are known to survive.

The earliest documented reference to the awnings is a bill dated May 14, 1890, from Albert Smith, Iron Railing Manufacturer, for "work on awning at house." The awning used "25 lbs new iron" and took "2 men 1 day putting up." The charge was $33.80. Although it is not stated explicitly, it is likely that Smith's bill was for installing the large awning that covered the entire roof deck of the Conservatory. This awning and its iron framework are documented by early photographs taken by W.K.L. Dickson (figs. 8-9). It was replaced by conventional window awnings by 1897, based on a photograph of that date (fig. 13).

Even though the awnings were removed every fall, the canvas fabric still became worn and faded and needed to be replaced every several years. The East Orange Awning Co. was contracted in the fall of 1893 to "recover" the awnings. Their bill, dated September 6, 1893, was for $169.00. The Newark Awning Co. "recovered" 29 of the awnings in 1899, at what appears to have been a lesser cost than was charged in 1893. Their bills, dated July 1 and 18, 1899, charged $2.50 per window.

The awning material in 1893 was the same design as circa 1890, based on the exterior photographs. Less is known about the fabric used in 1899, lacking any photographic documentation. We can only assume that the same style of fabric was used, since it appears that not all of the awnings were replaced in 1899.

There were 40 awnings for the house by 1900, based on a bill dated September 1, 1900, from the Newark Awning Co. for "putting up 40 window awnings" that spring.

Circa 1905 to 1910. Photographs of the house's exterior in 1907 show the awnings to be a different striped design than existed in the 1890's. While there is no written evidence for this change, it is possible that the awnings were renewed at the same time that other major alterations were being made to the house in 1905. Little documentation exists for this work, because it was carried out under the supervision of an architect and a general contractor.

The new awning design was similar to the earlier design in that it was striped in alternating bands of dark and light colors. It differed by having a scalloped edge formed by rounding the ends of both the dark- and the light-color bands. In addition, the white band had three dark-color narrow stripes down the center. The total number of colors was probably three: one for the light band, one for the dark band, and one for the narrow stripes. No samples of this material are known to survive.

A new "large roller awning" was installed in 1908 to serve as the roof for a new screened porch (Room 202) that had been built on the south side of the house in 1907. It was supplied and installed by the East Orange Awning Co., who charged $24.00 for it in their bill of October 20, 1908. The awning roof is visible in several post-1908 photographs.

Circa 1910 to 1917. Considerable work was done to repair and replace the awnings in 1910-13. Carpenter Adolph Vogel recorded that he had "recovered" 11 window awnings and one roller awning for $63.00 in the spring of 1910; "recovered," repaired, and made new awnings for $55.00

that fall; repaired an unspecified number of awnings for $16.00 in 1911; and repaired and "recovered" another unspecified number of awnings using 58 1/2 yards of canvas in 1913.[50] Exterior photographs dated 1914 and 1917 show the awning design to have been slightly different from that shown in the photographs of 1907, suggesting that the change may have been made by Vogel in 1910-13.

In addition to repairing and "recovering" the awnings, Adolph Vogel made the job of installing the awnings easier by obtaining "4 doz. tags for marking awnings" in 1914.[51]

The design of the awning fabric during this period appears to have been identical to that used circa 1905. The only difference is the way in which the scalloped edges are finished, with the dark bands having convex ends and the white bands having concave ends. This treatment is similar to that used for the earlier awnings that had been on the house from circa 1890 to circa 1904. No samples of this later awning fabric are known to survive.

Circa 1918 to 1934. The Edisons were considering a new fabric design for the awnings in 1917, according to correspondence that year between architect Wilbur Knowles and Mrs. Edison. Knowles wrote on March 11, 1917, that he was working on securing more awning samples, and assured her that

> It is not improbable [that] a suggestion of yours may yet be incorporated in the awning material (the bronze green effect) in the stripe.

In his next letter, dated April 25, 1917, Knowles enclosed a "bunch" of awning samples, including a blue one, along with two sketches of suggested designs: one with a border stripe, the other either plain or striped. He also had this to say about the color and design:

> No. 1 sample, a rich terra cotta, shaded to suit the house, (if this sample does not match) might be carried out successfully as a solid color, without any design or stripe whatever, or with border or stripe, if preferred. I think the solid color would give repose and great dignity. The same color with natural canvas stripes would enliven the result, according to the prominence or the lack of it in the use of the natural canvas stripe. The underside to be green in either case, and if striped or bordered, any design of striping or bordering to suit your taste could be adopted, in case stripes or borderings are decided upon.

Mrs. Edison had not yet responded by May of that year, according to another letter dated May 16, 1917, from Knowles. He wrote, "We are anxious to receive the awning samples which you have decided upon to carry out our instructions to the estimators." The work was apparently not done by that spring, however, because a photograph copyrighted June 30, 1917, shows the old awnings on the house.

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[50] The bills from Adolph Vogel are dated April 30, 1910; Sept. 30, 1910; Nov. 1911; and July 31, 1913. Edison NHS Archives.

[51] Bill from Adolph Vogel dated Oct. 31, 1914. Edison NHS Archives.

No written or photographic documentation for the awnings has been found for the years 1918 through 1928. Therefore, it is not known if Mrs. Edison responded to Knowles and had the new awnings made up as planned, or postponed the work until another time. The first evidence that the awnings had been recovered in a new fabric is a photograph dated 1929 of the front side of the house (fig. 23). This shows the awning fabric to be striped in alternating bands of dark and light colors. The edges are deeply scalloped, with both the dark bands and the light bands finished in convex ends. Similar to the earlier awnings, the fabric draped the sides in long curtains. The material is assumed to have been canvas, but no information has been found on the colors. No samples of this awning fabric are known to survive. It is believed that these awnings were used through 1934.

1935 to Present. Mrs. Edison contracted with Kelly's Orange Awning Company of Orange, New Jersey, to "recover" and install 17 window awnings in 1935: six in the first story and 11 in the second story. Kelly's estimate for the work, dated June 17, 1935, was for $235.00. The awning material and design was described in their estimate as follows:

> We will make and install these awnings using John Boyles Materials (Dark Green Outside, and Khaki on the inside) Scallop to be same as on large awning, Braid to be light Tan.... Awnings when finished will have a 10" curtain down each side and across the front.

The job was apparently completed as proposed, because payment for the full amount was made on July 3, 1935. Three more awnings in unspecified locations were replaced the following month by Kelly's for $38.50. Another estimate was also submitted by Kelly's on May 8, 1936, for shortening 19 of the awnings 18 inches. This may have referred to either shortening the fabric or shortening the supports. Whichever the case, there is no documentation to indicate that the work was ever done.

The earliest photographs showing dark monochromatic awnings on the house were taken on August 28, 1947. It is unlikely, however, that these are the same awnings that had been made in 1935.[52] The awnings are visible in the photograph of the windows of the first, second, and third stories of the east, south, and west elevations. They are a dark—presumably green—color. The sides are not covered except for a short "curtain" that is carried onto the front of the awning. The curtain edge is cut in a shallow scalloped design.

Much work on the awnings was contracted by the National Park Service in the 1960's and the 1970's. The Kelly-Orange Awning Company made repairs in 1960 and 1961. New awnings were made for the "Billiard Room" (Room 304) in 1964 by the Maplewood Awning Company. This same company also replaced awnings in 1965, fabricated and "recovered" awnings in 1967 and 1968, "recovered" 16 awnings and made nine awnings in 1975, and repaired the awnings again in 1976.[53]

[52] The Edisons historically had the awnings recovered more frequently than once every 10 years. The awning design, however, may have remained unchanged from 1935.

[53] NPS records, expenditures for Building 10, Main House, 1959-76.

In conclusion, the fabric of all of the awnings has been significantly reworked since 1947. No fabric survives that is known to predate 1960. The metal framing, on the other hand, may be considerably older.

Roof

General Information

The roof at Glenmont is a complex assemblage of surfaces and materials. Its components date from several periods of construction, including 1880-81, circa 1882, circa 1883-84, circa 1884, 1905, 1909-10, and 1940. The sloped portions of the roof are covered with slate shingles and the flat portions are covered with sheets of painted metal. Beneath these materials is a wood board underlayment, described in the 1931 appraisal as "16000 Sq. ft. 7/8" x 6" and 8" tongue and grooved North Carolina pine roof sheathing."

The slate and sheet metal materials used on the original roof in 1880-81 were both recommended by architect Henry Hudson Holly in his book *Modern Dwellings*. Holly believed that the roofing material should be dictated by the roof's angle of inclination. He said that the most desirable roofing material for an inclined roof was slate quarried in Pennsylvania, Vermont, or Virginia. About these slates, he wrote:

> Their grain is so close and even, that they may be made thinner, and consequently lighter. At the same time they present a smooth surface; and their color, which is excellent, is less likely to fade.[54]

Under the slate he recommended using a thick felt underlayment.

Flat roofs were best covered with metal, according to Holly. He believed that copper was the best material, but acknowledged that it was little used because of its expense. As an alternative, he suggested that tin was an "excellent substitute."[55]

Little documentation survives for the original roof on the house at Glenmont. We know only that the "Roof cost originally $2,000."[56]

The roof as it existed during the Edisons' ownership is well documented by contractors' bills, correspondence, and exterior photographs. The roof as it exists today is little changed from its historic appearance, despite extensive replacement work in the 1960's.

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[54] Holly, *Modern Dwellings*, p. 61.

[55] Holly, *Modern Dwellings*. The "tin" was in fact sheets of tin-plated iron, commonly known as tin.

[56] Letter from Henry Hudson Holly to J. Asch, June 12, 1885. Edison NHS Archives. This price may have also included the cost of framing the roof.

Description

The most prominent feature of the roof is its many gables. The ends of the main roof form major gables on the south and north elevations, at the fourth-story level. Projecting from the main gable roof are secondary gables that are parallel to it, cross gables on the east and west elevations, and shed- and gable-roofed dormers. These secondary gables and dormers are at the third- and fourth-story levels. All of these components were built in 1880-81, except for one dormer built in 1905 and a second dormer enlarged in 1909-10. Most are covered with slate shingles and decorative metal ridge caps.

Also covered with slate shingles are the one-story service wing and the one-story shed roof on the north side of the house. The service wing has plain metal ridge caps. Most of this roof was built in 1880-81, except for the north end of the service wing, which was built circa 1883-84.

The main roof has two flat decks and one shed dormer that are clad with sheets of metal. The largest deck straddles the ridge of the main roof and is original to the house. It is surrounded by a wood balustrade and is accessed through the attic. The smaller deck is situated on the west side of the main roof, between the secondary north gable and the primary west gable. A metal roof ventilator is located here, as are four vent pipes.[57] It is not known if this small deck is an original feature of the roof, or if it was added at a later date. The shed dormer is on the west side of the house. It is the roof for the west-wall window of Room 310, and appears to be an original feature.

The remaining roofs project from the main body of the house at the first and second stories. All of these roofs are flat or slightly inclined and are covered with sheets of metal. Of these, only two small areas date to 1880-81. One is the roof deck at northeast corner of the house, above the Library alcove and the Service Dining Room. The second is a portion of the roof for the Drawing Room's mirror alcove.[58] The other metal roofs and their additions were installed at later dates. These include the Conservatory (circa 1882), the Drawing Room extension (circa 1883-84), the first and second stories of the west wing (circa 1884), the Living Room extension (1905), the Owner's Room bay window (1905), the Fern Room (1909-10), and the northeast bathroom addition (1940).

The Slate Roofs

Holly followed his own advice by using slate on the sloped areas of the roof in 1880-81. Little is known about this original slate, or the later slate that was used on the additions to the house circa 1883-84 and in 1905. We can only assume that Holly would have chosen a slate from one of his favorite quarries in Pennsylvania, Vermont, or Virginia.[59]

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[57] For more information on the ventilator, see the section entitled "Rooftop Ventilator." The vent pipes provide ventilation for the plumbing in the bathrooms. Bathrooms were installed in the house in 1880-81, 1899-1900, 1905, 1909, and 1940.

[58] The center part of the mirror alcove's roof is slate; the two sides of the roof are metal.

[59] Holly was involved with both the original construction of the house in 1880-81 and its early additions circa 1882, circa 1883, and circa 1884. Of these additions, only the one built circa 1883 had a slate roof.

The historic roof included other materials in addition to slate shingles. Ornamental metal ridge caps of rolled design covered the ridges of the roof, as seen in the earliest photograph of the house taken sometime before February 1884 (fig. 4). Sheet metal would have been used as a flashing material at the edge of the roof, at the chimneys, and in the valleys. The above-mentioned photograph shows that the roof was laid in an open-valley design so that the valley flashing was exposed. The type of metal used for the original rolled ridge caps and the roof flashing is not known. Also unknown is whether or not Holly had a felt underlayment installed under the slate shingles, as he advised in his book *Modern Dwellings*.

Several repairs were made to the slate roof during the early Edison years. Invoices from roofing contractors indicate that slate shingles measuring 9 inches by 18 inches were used in 1897, while larger shingles measuring 10 inches by 20 inches were used in 1911. The most extensive repairs appear to have been made in 1906, when the list of materials included 645 slates of unspecified size, 10 pounds of zinc, roof cement, and 14 pounds of nails. The metal rolled ridge caps were repaired in 1894, 1903, and 1911, utilizing "74 lb. of Galv. [galvanized] Iron" in 1903.[60] Scant documentation exists for the years after 1919, when Edison company employees began to be employed at the house instead of contractors.

Descriptions of the slate roof were included in the residence appraisals of 1921, 1924, and 1931. Both of the appraisals done in the 1920's cited "4805 Sq. Ft. Vermont blue slate roofing, with ornamental ridge roll, copper nailed." More descriptive was the appraisal of 1931 that listed the following slate roof features:

6800 Sq. ft. Vermont blue slate roofing[61]

100 Sq. ft. slate shingles at kitchen entrance

160 Lineal ft. ornamental ridge roll

1600 Sq. ft. metal flashing

Several assessments of the slate roof were made by the National Park Service in the 1960's. One report dated 1962 observed:

> The existing slates...have deteriorated to such a degree that their continued effectiveness and watertightness is questionable. The sheet metal valleys... have corroded to such an extent that it is doubtful that good metal could be found to which patches could be soldered.... The sheet metal ornamental rolled ridge caps on the sloping roof have been severely damaged when

[60] Agreement written by James F. Murphy to repair the roof dated Nov. 14, 1894, paid April 9, 1895; bill from Thomas A. Chalmers dated June 1897; bill from Chalmers Bros. dated Nov. 2, 1903; bill from William Meyers dated June 1906; and bill from Charles F. McGuire dated May 2, 1911. Edison NHS Archives.

[61] The discrepancy in square footage between the appraisals of the 1920's and the appraisal of 1931 is most likely an error, since there is no indication that slate roofs were added after 1924.

> workmen in the past have hung ladders from them to make roof repairs, subsequent corrosion has added to the damage and openings exist over most of their lengths.[62]

Another report written the following year noted that the slate roof, rolled ridge caps, and valleys "have about had their life, possibly with not more than a year or two still to go before giving very serious trouble."[63] Some repairs appear to have been made after this, because the next report written in 1964 noted that the slate roof had been patched, although individual slates were still in need of replacement. It was recommended that an experienced roofer be consulted about the need for future work.[64]

Professional opinion must have been to install a new slate roof, because the old roof was completely replaced in 1965. In preparation for the work, a brief historic structure report was prepared that concluded the following about the existing roof:

> As far as can be ascertained at this time, the existing slate roofing, ridge rolls, valleys, etc., of the main roof are of original 1880 construction, except only for comparatively minor repairs and replacements made in the many years since then up to the present.[65]

The work was carried out by the Schtiller and Plevy Roofing Company under NPS contract CX 14-10-0529-2072, "Rehabilitation of Main House Roof," dated September 1965. The working drawings for the contract indicate that the scope of the work was for all the slate roofing on the house, including the service wing. All of the old slate and metal was removed and discarded by the contractor; none is known to have been saved. New materials included slate shingles, the ornamental metal rolled ridge caps, the plain metal ridge caps, and the flashing. The precise type of slate used is not known.[66] Three samples of slate were submitted for approval from the North Bangor Slate Company, North Bangor, Pennsylvania. One sample was approved and returned to the contractor. The subcontractor for the slating work was Frederick Susen Roofers, Inc., 42 Alexander Street, Newark, New Jersey. There may also be photographic evidence of the original roof: according to

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[62] James Crawford, "Historic Structure Report - Part I, 'Glenmont' Architectural Data" (NPS: Feb. 15, 1962), p. 9.

[63] Melvin J. Weig, "Historic Structures Report - Part I, 'Glenmont,' Home of Thomas Alva Edison, Administrative Data (NPS: Edison NHS, Nov. 26, 1963), p. 7.

[64] Bevin, "Historic Structures Report - Part I, Architectural Data Section on Rehabilitation of Glenmont," p. 9.

[65] Weig, "Historic Structures Report - Part II, Rehabilitation of Main Roof, Historical Data" (NPS: June 17, 1965), p. 1. [Note: the report consists of only one paragraph.]

[66] The Schtiller and Plevy Roofing Company is still in business today in Newark, NJ [telephone: (201) 242-4600]. Unfortunately, the company did not retain records of the type of slate that was used for this contract (telephone conversation with Larry Plevy, Sept. 12, 1891).

the restoration crew's logs, photographs were taken of the work in progress. The new metal ridge caps were specified to be formed of 20-ounce tempered copper and coated with lead.

The new slate roof required repairs in about 10 locations in 1977. These repairs were carried out under NPS contract CX 1600-7-0052, "Glenmont Roofing and Miscellaneous Repairs."

Since 1977, repairs to the slate roof have been done by NPS personnel. The slate shingles used for repairs today are new shingles that were left over from the reroofing of the original barn at Glenmont in 1982. These slates had been obtained by the National Park Service from Anthony Dally and Sons in Pen-Argyl, Pennsylvania. The slates are a gray-black color measuring 9 inches wide by 18 inches long. The shingles were chosen because they closely matched the existing shingles on the barn. They are also a close match to the shingles installed on the house in 1965.[67]

The Metal Roofs

The flat roofs of the house are covered with sheets of metal. The seams between the sheets are joined together with solder to make a watertight seal.[68] Both the metal sheets and their seams are painted red to inhibit corrosion. The flat metal roofs date from several periods of construction as follows:

1880-81	Main roof deck; Roof over Library alcove (Room 104) and Service Dining Room bay window (Room 105)
Ca. 1882	Conservatory roof (Room 101)
Ca. 1883-84	Drawing Room addition (Room 100)
Ca. 1884	West wing, first and second stories
1905	Living Room addition (Room 205); Owner's Room bay window (Room 203)
1909-10	Fern Room (Room 116)
1940	Bathroom addition (Room 207)
Unknown	Ventilator platform, main roof

[67] The barn was built at the same time as the house, in 1880-81, as a cow shed with a chicken yard. It is not the large barn that was also part of the original Pedder property. Only the west slope of the barn's roof was reshingled in 1982; the east slope was repaired using the old shingles that had been removed from the west side. Information provided by Edison NHS Chief of Maintenance Bob Zimmerman to Barbara Yocum, Sept. 4, 1991.

[68] This is known as a "flat seam" roof, as opposed to a "standing seam" roof, in which the seams are raised.

Little is known about the metal sheets that were used on the roofs in the 1880's. It is likely that either copper or a less-expensive tin-plated iron was used, since architect Holly was an advocate of both. Standard sizes of "tinplate" available by 1880 measured 14 inches by 20 inches and 20 inches by 28 inches.[69]

Numerous repairs were made to the metal roofs during the early Edison years. Most of the repairs used sheets of tin (i.e., tinplate), according to the contractors' invoices for the years 1896 through 1913. Specific types of tin noted in the invoices were "Taylor Tin" in 1901 and 1903, and "O.S. Tin" in 1909 and 1910. Two standard sizes of tin were installed in unspecified locations during the years 1901 through 1910: 14 inches by 20 inches and 20 inches by 28 inches. An extensive repair appears to have been undertaken in 1903, when 206 sheets of tin measuring 14 by 20 inches were used to repair the roof on the north side of the house. Tin may have been used in 1905 on the new flat-roof additions to the Owner's Room (Room 203) and the Living Room (Room 205), although no documentation exists for this work.

Painting of the tin roofs was a common practice, based on contractors' invoices dated 1891, 1896, 1899, 1911, and 1913.[70] Scant documentation exists on the roofs after 1919, when Edison company employees began to be employed at the house.

Materials other than tinplate were also used occasionally on the flat roofs. A contractor's invoice dated 1893 notes that repairs used 17 sheets of "tinned copper" and 11 sheets of "terne plate."[71] In addition, the new roof of the Fern Room (Room 116) was sheathed in 1909 with "126 square feet of 16/03 copper roof," according to a bill dated January 1, 1910, from Bauer Bros., Plumbing, Steam and Hot Water Heating, Tinning, and Sheet Metal Workers.

The metal roof was described in the residence appraisals of 1921, 1924, and 1931. Both of the appraisals done in the 1920's listed "1063 sq. ft. flat seam tin decking at all extension flat decks." The 1931 appraisal listed "3,380 Sq. ft. flat seam tin roofing, painted." The discrepancy in square footage appears to have been an error, because no new metal roofs are known to have been installed between 1924 and 1931.

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[69] John G. Waite, *Metals in America's Historic Buildings* (U.S. Dept. of the Interior, 1980), p. 12.

[70] It is interesting to note that many of the contractors who worked on the metal roofs also did plumbing, gas fitting, and stove and/or furnace work, according to their invoice letterhead. The painting of the roofs was usually done by painting contractors. The invoices from both the roofing and the painting contractors are as follows: R.F. Birdsall, Nov. 2, 1891; Thos. A. Chalmers, Nov. 1895; R.F. Birdsall, Sept. 17, 1896; F.W. Miller, Nov. 1896; Thomas A. Chalmers, June 1897, May 1898, and Feb. 1899; R.F. Birdsall, May 2, 1899; Adolph Vogel, Mar. 24, 1900; Bauer Bros., Oct. 1, 1901; Chalmers Bros., Nov. 1, 1902, Apr. 1, 1903, and Nov. 2, 1903; Wm. Meyers, June 1906; C. Garrabrant & Son, Aug. 2, 1909, and Apr. 1, 1910; Smith & Blatherwick, May 31, 1911; Chas. F. McGuire, Sept. 30, 1911, and Mar. 1912; and John Smith, July 23, 1913.

[71] Invoice from Hindle & Williams, 1893. Edison NHS Archives. "Tinned copper" was most likely a copper sheet plated with tin. "Terne plate" is sheet iron or steel coated with an alloy of about four parts lead to one part tin.

The large metal roof above the Den (Room 114) was replaced in 1956 by Thomas A. Edison, Inc., who then owned the house. No documentation has been found on the materials used to do this work.[72]

The flat-seam metal floor of the main roof deck above the attic was replaced by the National Park Service in 1961. The work was done under purchase order EDLA 29-148 at a cost of $1,280.[73]

The condition of the metal roof was assessed by the National Park Service in 1962. The roof was then described as follows:

> The existing flat seam sheet metal roofing over the den and over the kitchen wing is in good condition. The flat seam metal roofing on the platform surmounting the sloping roof was replaced in 1961. The existing flat seam metal roofing over the conservatories, second floor living room, roof of west bedroom forming third floor platform, are in poor condition.[74]

Extensive replacement of the metal roofs was undertaken in 1963 by the Avon Sheet Metal Company, under NPS contract CX 14-10-0529-2064. All deteriorated sheet metal roofing was removed, discarded, and replaced with new sheet metal. The contract documents specified the following new roofing materials:

Paper Underlayment

- 6 lb. rosin-sized paper

Metal Sheets

- Size: 14 inches by 20 inches
- Type: No. 28 gauge copper
- Coated with 40 lbs. of tin and lead
- Each sheet attached with 5 cleats
- Flat seam soldered
- Paint with Rust-Oleum, front and back

Additional repairs were made in 1965-66, when the Conservatory roof was replaced with new sheets of lead-coated copper. The work was done by the Hemminger Company under NPS contract CX 14-10-0529-2069, "Roofing and Sheet Metal Work, Conservatory," at a cost of $4,000. Also

[72] The voucher for this work described replacing the tin roof on the "Main first floor roof with dome on top, 3000 sq. ft." [Ref., John P. Shaw, "Progress Data and Research Notes, Architectural Study of Glenmont, Home of Thomas Alva Edison" (NPS: Edison NHS, Summer 1962), p. 48.]

[73] Weig, "Historic Structures Report - Part I, 'Glenmont,' Home of Thomas Alva Edison, Historical Data" (NPS: Edison NHS, Dec. 22, 1961), p. 6.

[74] Crawford, "Historic Structures Report - Part I, 'Glenmont' Architectural Data," p. 9.

reroofed as part of this contract was the roof deck adjacent to the Conservatory (Room 101) and above the Drawing Room (Room 100).[75]

Since 1966, work on the metal roof has included miscellaneous repairs and periodic painting. For example, repairs were made in 1967 by the Atlas Roofing Company, and the roofs were painted that same year by Chiovarou and Son. A leak in the Conservatory roof was fixed in 1977 by Rockwell Newman under NPS contract CX 1600-7-0052, "Glenmont Roofing and Miscellaneous Repairs."

Asphalt-Shingle Roof

Only one small part of the roof is covered with asphalt shingles. This is the projecting roof at the Laboratory Entrance (Room 109). The roof was described in the residence appraisal of 1931 as being "25 Sq. ft. asphalt shingle roof on beaded pine ceiling." No documentation has been found that positively identifies when the shingles were first installed.

Rooftop Ventilator

Description

A large metal ventilator is mounted to a flat-seam metal deck situated on the northwest side of the main slate roof. The function of the ventilator is to provide ventilation to the enclosed space between the roof and the ceilings of Rooms 306, 307, and 311.[76]

Early History

Very little is known about the history of the ventilator. No information has been found that documents its installation. We know only that it existed by August 28, 1947, based on an exterior photograph of that date that shows it on the roof. Similar rooftop equipment was available in Boston, Massachusetts, as early as the 1840's, and in Seneca Falls, New York, as late as 1917.[77] The Edison ventilator may therefore have been original equipment installed in 1880-81, or later equipment installed by the Edisons sometime between 1886 and 1947.

[75] These roof repairs necessitated the removal of the glassed-in sun porch (Room 202), which was not reinstalled.

[76] This space is not part of the attic.

[77] A ventilator was installed on the roof of the Smith School House in Boston in 1847, and on the roof of the former Wesleyan Chapel (then the Regent Theater) in Seneca Falls in 1917. [Ref., historic structure reports by B. Yocum.]

National Park Service Work

The ventilator on the house today is a reproduction made in 1963 by the Avon Sheet Metal Company as part of NPS contract CX 14-10-0529-2064, "Roofing, Sheet Metal and Painting." The contract documents specified the following for the new ventilator:

> Remove existing metal ventilator. Fabricate and install new ventilator of the same size, design, and metal-gauge thickness as the existing one. Weight of tin coating shall be 40 lbs. and as specified under "materials." Base of ventilator shall be flashed with a flanged collar extending up at least 4", and soldered to flat-seam roof and base of ventilator. Painting shall be same [with Rust-Oleum] as specified under painting of "flat-seam roofing."[78]

A photograph dated October 15, 1963 shows the new ventilator posed on the ground next to the old ventilator. The caption for the photograph notes that the new ventilator was made of "lead-coated copper." The new ventilator is, by all appearances, an exact replica of the old one.[79]

Gutter System

Description

Operation

The present gutter system no longer operates as an integral part of the plumbing system for the house, as it did from its construction in 1880-81 until 1950. During that period, rainwater that fell on the roof was channeled from the gutters, through the leaders (or downspouts), and into one of three cisterns on the property.[80] The water was then pumped from the cisterns up into a storage tank in the attic. This tank supplied the water to all the plumbing fixtures in the house.[81]

Accidental overfilling of the storage tank was prevented by an overflow drain that directed the excess water back into the gutter system. Likewise, excess water in the cisterns was channeled into overflow pipes. The overflow from the two west cisterns carried the water in a westerly

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[78] Pages 1-6 of the contract specifications.

[79] Photograph No. 0-1385 is included in the handwritten "Narrative [Completion] Report" for the contract. Maintenance Office files, Edison NHS.

[80] The three cisterns are illustrated on an 1882 plan, "Residence and Grounds Belonging to Henry C. Pedder Esq., Llewellyn Park, Orange N.J., Mead & Taylor, Engineers." Edison NHS Archives. Two are shown on the west side of the house and one on the south side of the house. The exterior curved wall of one of the west cisterns may be seen today in cellar room B17. It was incorporated into the cellar wall when the house was enlarged to the west circa 1884.

[81] For more details, see the section entitled "Plumbing System."

direction to a culvert on Park Way. The overflow from the south cistern carried the water in an easterly direction to a main drain pipe.[82]

Rainwater continues to collect in the cisterns today. However, this water is no longer pumped into the house. Public water was being used to supplement the cistern water by 1939.[83] The use of cistern water is believed to have been discontinued entirely in 1950, when the electrical service was switched from direct current to alternating current (thereby making the "DC" cistern pump inoperative). Thereafter, the attic tank was filled exclusively with water from the West Orange public water supply. The attic storage tank was finally drained and disconnected in 1963.

Equipment

Various pieces of equipment comprise the present gutter system. These include built-in gutters, leader tubes, leader heads, leaders, leader elbows, and leader guards.

The built-in gutters are metal-lined troughs in the wood cornice. The leader tubes, which are attached at the bottom of the gutter outlet hole, direct the water into the leader heads. The leader heads are sheet-metal boxes molded into decorative shapes. They are mounted only a short distance below the gutters where they catch and channel the water into the leaders. The leaders are round pipes that convey the water from the leader heads to the cisterns. They are made of sheet metal and are attached to the house with metal straps known as leader guards. Some of the leaders are bent in configurations called "elbows."

Early History

The architect of the original house, Henry Hudson Holly, believed that the gutter equipment should be clearly visible rather than disguised, because "whatever is necessary in the construction of a building should be accepted in the decoration." He therefore advised painting the leader tubes in imitation of galvanized iron and making the leader heads both decorative and prominent.[84]

This he did for Henry C. Pedder's house in Llewellyn Park, according to an early photograph of the house taken sometime before February 1884 (fig. 4). The gutter equipment is a distinct feature in this view because the leader heads and leaders are a light color, while the siding is a dark

[82] "Residence and Grounds Belonging to Henry C. Pedder Esq., Llewellyn Park, Orange N.J., Mead & Taylor, Engineers," 1882. The culvert on Park Way most likely channeled the water to the ravine on the opposite side of the road. The main drainpipe also collected water from the circular drives on the property. Both of these features exist today.

[83] A memorandum from James Laing to Mrs. Edison Hughes dated Sept. 13, 1939, indicates that the storage tank was supplied primarily by the cisterns at that time, but was supplemented by water from the Commonwealth Water Company.

[84] Holly, *Modern Dwellings*, p. 28.

color.[85] Three sizes of decoratively molded leader heads are visible, with the largest in the third story and the smaller two between the first and second stories.

Contractors' invoices document the replacement gutter equipment installed for the Edisons between 1891 and 1915. The repair bills for the years of 1891 through 1915 indicate that replacement gutter equipment was made mostly of galvanized iron. Copper gutters and leaders are itemized in two bills only, dated 1903 and 1909. Three diameters of leaders, leader elbows, and leader guards are listed in the bills: 2 inches, 3 inches, and 4 inches. Those that were installed in the greatest quantities were 3 inches and 4 inches in diameter. In most cases, the locations of the repairs were not noted.[86]

Less information on the gutter repairs is available for the years after 1919, when Edison company employees began to make repairs to the house.

Changes were also made to the configuration of the gutter system during the Edison years. These are not documented by the contractors' invoices, but are evident in the exterior photographs of the house. Most of the changes were made necessary by alterations to the house, such as the rebuilding of the porte cochere and the enlargement of the Living Room (Room 205) in 1905. A separate hanging gutter was eventually installed on the screened porch (Room 202) that the Edisons had built on the south side of the house in 1907.[87]

A considerable amount of repair work appears to have been undertaken in 1926, under the direction of architect Wilbur Knowles. The progress of the work was described to Mrs. Edison by her brother John Miller in a memorandum dated March 24, 1926:

> You may be quite surprised at the amount of work that is being done under the direction of Mr. Knowles. The repairs of leaders, gutters, walls, etc., seem to be quite extensive, and Mr. Knowles is spending considerable time on the job. However, he seems to be doing very thorough work, and what

[85] Later exterior photographs of the house indicate that the leader heads and leaders began to be painted a dark color sometime before 1890. This was changed by 1905 when the leader heads and leaders are shown in photographs as being a light color once again. Both the house and the gutters are believed to have been painted red by 1917.

[86] The contractors who worked on the gutter system were usually the same contractors who worked on the metal roof. The invoices for the gutter system work include the following: M. & T. Chalmers, Dec. 1891; Hindle & Williams, June 1893; Thos. A. Chalmers, Nov. 1895 and Dec. 1895; F.W. Miller, Nov. 1896; Thomas A. Chalmers, June 1897 and May 1898; Werner & Cogan, Oct. 9, 1900; Bauer Bros., Oct. 1, 1901; Chalmers Bros., Nov. 2, 1903; C. Garrabrant & Son, Mar. 1, 1909; Bauer Bros., Oct. 1, 1909; Chas. F. McGuire, Sept. 1, 1910, Mar. 31 and May 2, 1911, and Mar. 3, 1912; and Bauer Bros., May 1, 1913 and July 31, 1915. The gutter equipment was also painted, usually at the same time as the metal roofs, according to the invoices from painting contractors: R.F. Birdsall, May 2, 1899; Smith & Blatherwick, May 1 and Aug. 2, 1909; and John Smith, July 23, 1913. Edison NHS Archives.

[87] The porch was removed by the National Park Service in 1965.

> should have been done some time ago would have saved so much work now.[88]

No other information has been found about the repairs that were made to the gutter system at this time.

Descriptions of the gutter system were made in the three residence appraisals of 1921, 1924, and 1931. The 1921 and 1924 appraisals listed the value of "All flashings, gutters, and leaders, with hooks, straps, hangers, etc., complete." More comprehensive was the 1931 appraisal, which recorded the following gutter-system components:

> 1600 Sq. ft. metal flashing and gutter lining
>
> 185 Lineal ft. 6" galvanized iron leader[89]
>
> 210 Lineal ft. 3" galvanized iron leader
>
> 5 metal leader heads, 12" x 24"
>
> 4 metal leader heads, 9" x 18"

National Park Service Work

The National Park Service examined the condition of the house, including the gutter system, in 1962. It reported that the water storage tank in the attic was still in use, although it was then supplied exclusively by a connection from the West Orange public water system, rather than with water from the cisterns. Despite this, no action had been taken to stop the gutter system from diverting rainwater to the cisterns. The exterior equipment of the gutter system was described as follows:

> The existing sheet metal hanging gutters, downspouts and leader heads vary in condition from good to very poor.... [Recommendations:] Remove existing metal gutters and downspouts. Install lead covered cold rolled copper where...gutters and downspouts were removed.

[88] Edison NHS Archives.

[89] It is interesting to note that no 4-inch or 2-inch leaders are listed. This may have been an error or the result of the gutter system repairs that were made in 1926.

The deteriorated components of the gutter system were replaced the following year, in 1963, under NPS contract CX 14-10-0529-2064, "Roofing, Sheet Metal and Painting: Glenmont." The work was done by the Avon Sheet and Metal Company. The contract documents for the job specify the following for the work on the gutter system:

> Built-in Gutters. Replace the deteriorated metal lining of the built-in gutters with No. 28 Gauge copper sheets coated with a mixture of tin and lead. Duplicate the existing gutters in both size and shape.
>
> Leader Heads. Remove and inspect all leader heads. Reinstall those that are determined to be in good condition. Fabricate and install new leader heads to replace deteriorated fabric. New units are to match the old units in all details. Material not specified.
>
> Leaders. Replace deteriorated leaders and fasteners with new plain round leaders in 10 foot lengths where possible. Material not specified.

The completion report for the job indicates that all new gutter equipment was made using "lead coated copper 16 oz. coated with 25 to 30 pounds of lead per 100 square feet."[90] At least one new leader head was made, according to photograph number 0-1390 in the report, which showed a side-by-side view of an old leader head and a new leader head. No information is provided concerning the number of leader heads that were replaced with reproductions; nor is it recorded which historic leader heads, if any, were reinstalled on the house.

The attic storage tank was disconnected in 1963 under NPS purchase order EDIS 29-105. However, the gutter system continued to divert rainwater to the cisterns. An NPS report written in 1964 noted the following about the disposition of the rainwater:

> Mr. Weig said there were several [cisterns] which collect rain water drainage. No one knows where the water goes. While there seems to be no evidence of overflow water entering the cellar, we think that if the leader drains are connected to the cisterns, they should be checked for leaks and... some investigation should be made about the disposition of the cistern water for record and for maintenance.... When reasonably dry we recommend that these [cistern] walls be thoroughly brushed, coated with Plaster-weld and given a 3/4" thick coat of cement, trowelled smooth.[91]

There is no record to indicate that the recommended cistern work was ever done. Rainwater still drains into the cisterns today, according to the Chief of Maintenance at Edison NHS.[92] The cisterns are not cleaned or maintained on a regular basis as they were during the Edison years. We

[90] Narrative Report, NPS contract 14-10-0529-2064, p. 3. Maintenance Office files, Edison NHS.

[91] Bevin, "Historic Structures Report - Part I, Architectural Data Section on Rehabilitation of Glenmont," pp. 6-7.

[92] Bob Zimmerman to Barbara Yocum, Sept. 10, 1991.

can only assume that the water collects in the cisterns and overflows through the pipes shown on the plan of the grounds dated 1882.

Lightning-Protection System

Description

The house is outfitted today with a lightning-protection system installed in 1965. The lightning-protection equipment includes rods (or points) attached to the chimneys and roof gables, wires connecting the rods with one another, and wires connecting the rods with metal groundings in the ground. All of these components are exposed on the exterior side of the house, except for the metal groundings, which are buried in the ground.

Early History

A lightning-protection system was first installed on the house sometime before February 1884, based on the earliest-known exterior photograph of the house (fig. 4).[93] This photograph shows what appears to be a grounding wire running down the south slope of the slate roof. The lightning rods to which the grounding wire would have been attached are not visible, although this may be due to their small size and/or the light exposure of the photograph. The likely locations for the lightning rods would have been the highest points of the house—either the chimneys or the ridge of the slate roof.

The first written reference to an exterior lightning-protection system is a bill dated June 1897 from Thomas A. Chalmers, Plumber, Tin Roofer, Stove and Furnace Dealer, for "repairing lightning rod." The same work was also noted in a later list of sundry expenditures dated May 1, 1899. More than one lightning rod was on the house by October 1, 1901, when Bauer Bros. billed the Edisons for repairing the "lightning rods."[94]

The lightning-protection system was still in place in 1931, based on the residence appraisal of that year that listed "9 Lightning rods, complete with points and grounds."

National Park Service Work

The first close-up views of the lightning rods are photographs taken of the roof from the main roof deck on October 21, 1960.[95] These photographs show the lightning rods as being plain, thin spikes of metal. The rods are attached to the metal rolled ridge caps of the slate roof and to the tops

[93] Architect Henry Hudson Holly may have specified the installation, despite his professed distrust of the typical "lightning-rod man." [Ref., Holly, *Modern Dwellings*, pp. 90-92.]

[94] Edison NHS Archives.

[95] Edison NHS Archives.

of the chimneys. Connecting wires are visible along the rolled ridge caps, on the slate roof shingles, and on the exterior sides of the chimneys. The exact number of lightning rods is impossible to ascertain, because the entire roof is not visible in the photographs. The basic layout, however, may be seen to include two lightning rods per chimney and one lightning rod at most of the gable ends. The age of this particular lightning-protection system is not known, since no documentation on it has been found for the years 1932 to 1960.

The National Park Service maintained the lightning-protection equipment until as late as 1962. A contract to repair the chimneys that year specified retaining the existing system and securing all loose fastenings and connections.[96]

A complete new lightning-protection system was installed on the house in 1965. This was executed as Change Order No. 1 of NPS contract 14-10-0529-2072, "Rehabilitation of Main House Roof." The job was done under the direction of the slate roofing contractor—Schtiller and Plevy—at a total cost of $2,187. The specifications for the work noted that the layout of the existing system should be used as a guide only in the design of the new system.[97] The specifications also noted the following requirements:

> Points will be 3/8" x 15" high solid copper air receivers installed in necessary and appropriate locations and spaced at not over 20'-0" o.c. [on center] in any case.
>
> Connectors: Along ridges run 36-strand, 17-gauge copper cable connected to the points to form entire circuit.
>
> Groundings will be 10'-0" copper weld steel ground bars at least 1'-0" below grade line. There shall be a minimum of five (5) groundings connected to the system.
>
> Bonding: All stacks, flues, etc. projecting above the roof shall be bonded to the lightning system.

No record has been found of the new system as it was installed in 1965. It is assumed that the contractor abided by the specifications as stated above.

No major changes are known to have been made to the lightning-protection system in the years since 1965.

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[96] NPS contract CX 14-10-0529-2058, "Repairs to Chimneys."

[97] The layout of the existing lightning-protection system was illustrated in annotated Drawing NHS-EDI-3030, which was attached to the specifications. The drawing could not be located for this report.

Chimneys

Description

The house has eight chimneys. All of the chimneys are constructed of red brick in the Queen Anne style. The flues are lined with clay tiles and capped with terra-cotta chimney pots. The existing chimneys date from three periods of construction. Six are original to the building of the house in 1880-81; the chimney at the far west end of the house was built circa 1884 and was completely rebuilt circa 1920; and the chimney at the southwest corner of the house was built in 1920. The chimneys were most recently repaired in 1977.

Early History

It is assumed that the original chimneys were designed by the architect of the house, Henry Hudson Holly. Holly wrote the following about chimney design in his book *Modern Dwellings*:

> We would advise...building a chimney...like the Gothic column, broken up into different members or shafts; in fact, each flue should be treated separately, if possible.[98]

Despite this recommendation, Holly illustrated the chimneys in an early sketch of the house as being fairly plain in design (fig. 1).[99] The chimneys as actually constructed, however, were more in keeping with the style espoused in *Modern Dwellings*. The house was built with six chimneys of similar design. The tops of the chimneys were corbeled outward, and the two long sides of each stack were embellished with raised brickwork to look like pilasters. Each stack was capped with bluestone, and the top of every flue was fitted with a terra cotta pot.

Only one chimney, on the southwest side of the house, was an exterior chimney that reached to the ground. This stack was given a special decorative treatment at the second-story level that was executed in brick and terra cotta. The design featured a floral motif in a rectangular frame capped by a pediment.[100]

The six original chimneys had a total of 23 flues, with each individual chimney having either three, four, or five flues. The flues were conduits for smoke and fumes from the furnace, the kitchen stove, the laundry stove, the open fireplaces, and the plumbing fixtures in the two original bathrooms and one original toilet room.

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[98] Holly, *Modern Dwellings*, p. 71.

[99] Sketch by Henry Hudson Holly dated Jan. 30, 1880. Edison NHS Archives.

[100] All of the original chimneys remain today, and are further documented by the early exterior photographs of the house.

A seventh chimney was built circa 1884 as part of the new west addition to the house. This chimney was similar in design to the earlier chimneys and may also have been designed by Holly. The chimney was built with three flues to vent two fireplaces and one wash room.

Early repairs to the chimneys used portland-cement mortar and coloring, according to two contractors' bills dated 1893 and 1898.[101] Galvanized "chimney tops" were installed in unspecified locations in 1891 and 1900.[102]

One long metal flue extension was installed on the circa-1884 west chimney sometime after 1905 and before 1920. No written record of this extension or the reason for its installation has been found. It is documented only by the exterior photographs of the house.

A completely new exterior chimney was constructed in 1920 on the southwest corner of the house. It was built for the exclusive use of the two new coal-burning boilers for the heating system. The need for this chimney and its cost were summarized in a letter to Thomas Edison dated February 22, 1921:

> New chimney outside of house on account of insufficient capacity of old flues and their not being provided with the usual fire clay lining tubes (these old flues would have been dangerous for use with furnaces of this size). (Work done by N.H. Thatcher and Co. on contract, they being the lowest of three bidders.), 1,630.00.
>
> Flashing chimney, replacing slate and painting, 210.75
>
> Architect's fee for locating new chimney, making specifications therefore, getting bids and supervising contractor, including also checking up the size of furnaces..., 186.57.[103]

The design of the new chimney was similar, but not identical to, the existing chimneys. Like the earlier chimneys, the new chimney was constructed of red brick. The bricks were laid in a raised pilaster design and were corbeled outward at the top. Unlike the earlier chimneys, the brickwork pilasters were executed on all four sides, instead of two only sides, of the stack. Also dissimilar is the fact that the chimney had only one, as opposed to multiple, flues. An unusually

[101] Bills from Charles E. Dodd, Mason, Jan. 2, 1893, and June 1, 1898. Edison NHS Archives.

[102] Bill from Herts Brothers, June 21, 1891, and bill from Bauer Bros., Mar. 1, 1900. Edison NHS Archives.

[103] Letter to Thomas Edison from his secretary R.W. Kellow, Feb. 22, 1921. The architect for the job was W. Frank Bower of East Orange, NJ, according to voucher no. 7 of Thomas Edison's Private Account Book dated Dec. 1920, and a letter from Bower to Kellow dated Dec. 6, 1920. Bower also prepared a drawing of the new chimney in both plan and elevation, which was entitled "Chimney on House of Thos. A. Edison, Llewellyn Park — W. Orange N.J." (no date). Edison NHS Archives.

hard mortar was used to lay the brickwork, according to documentation on later repairs made in 1962.[104]

Other work that was probably also done about 1920 was the rebuilding of the circa-1884 chimney on the west side of the house. Although no written documentation has been found for this work, the change to the chimney is clearly visible in the exterior photographs taken of the house after 1920. The old chimney appears to have been completely removed and a new chimney built in its place. The new chimney differed from the old chimney by being higher, of another design, and fitted with two instead of three flues. A date of circa 1920 has been assigned to this chimney based on its design, which is almost identical to that of the new chimney built that year for the heating system. In addition, the same exceptionally hard mortar was used to lay the brickwork in this chimney.[105]

The residence appraisals of 1921, 1924, and 1931 included descriptions of the chimneys, or portions thereof. Of these, the most complete accounting is provided by the 1931 appraisal, which listed the following chimney features:

> 7 Bluestone chimney caps, 36" x 60" x 4"[106]
> 14 Terra cotta chimney pots
> 35900 Red pressed bricks, facing for walls and chimneys [and c.]
> 121400 Common bricks in Basement partitions, chimneys and wall backing
> 740 Lineal ft. terra cotta flue lining

Very little information has been found on the chimneys for the years after 1931 and before acquisition of the house by the National Park Service in 1959. The only reference is a purchase requisition dated October 3, 1951, by Thomas A. Edison, Inc., for "repairs to and necessary repointing of chimneys at Glenmont."[107]

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[104] Change order no. 2, NPS contract 14-10-0529-2058, "Repairs to Chimneys."

[105] See footnote 104.

[106] Only five bluestone chimney caps were listed in 1921 and 1924. No documentation has been found concerning the installation of two additional chimney caps between 1924 and 1931.

[107] Thomas A. Edison, Inc., purchase requisition no. 356101. Edison NHS Archives.

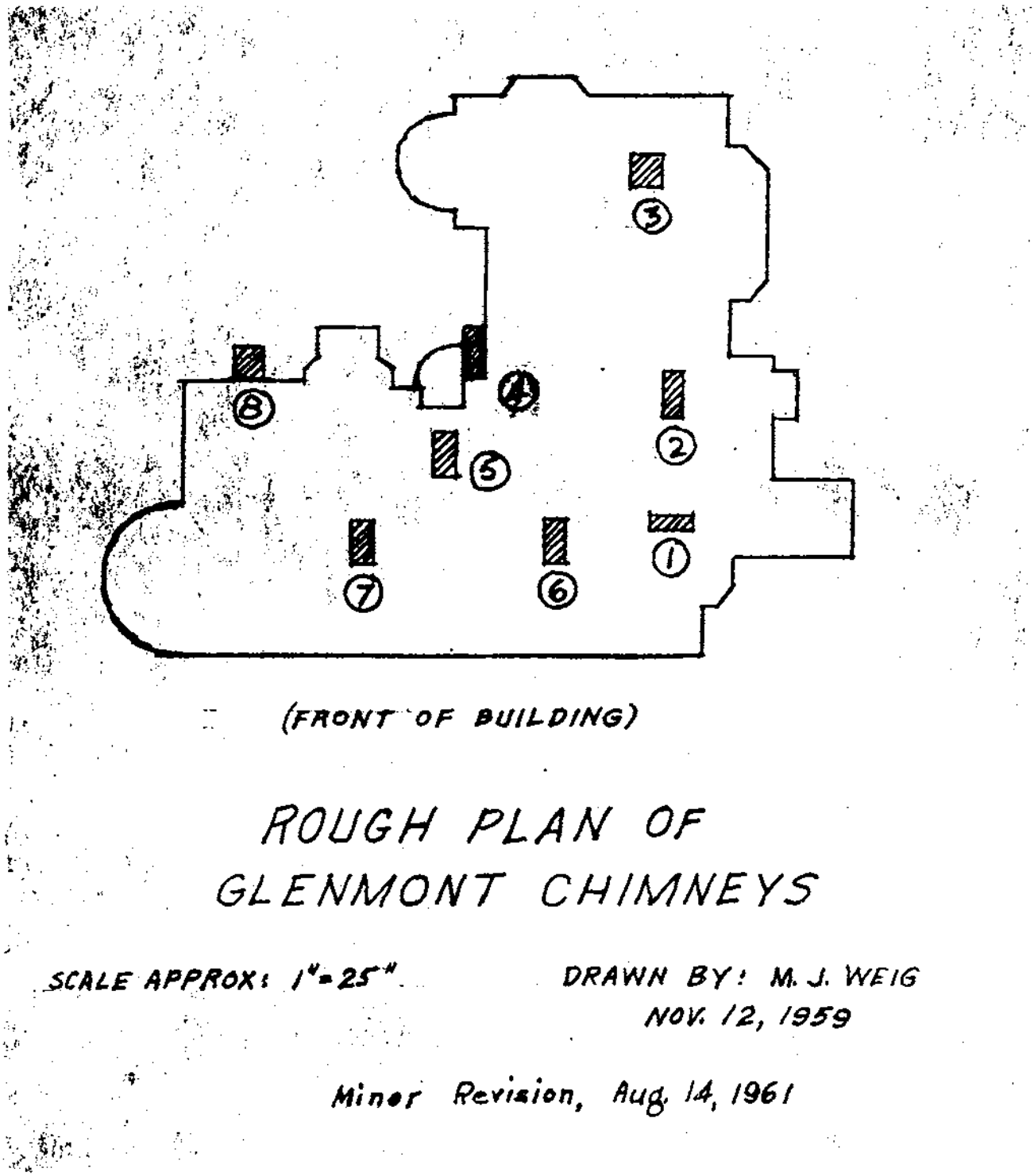


Figure 35. Chimney plan.

National Park Service Work

A historic structure report was prepared on the chimneys by the National Park Service in 1961. The chimneys were numbered from one to eight at this time (fig. 35). It was noted that flues in four of the chimneys—nos. 1, 2, 7, and 8—were in active use, and that no fires had been made recently in the fireplaces. The condition of the chimneys was observed to be generally poor. A considerable amount of brick mortar was missing, some cracks had formed, and some of the capstones had slipped. It was recommended that repairs be made and that all unused flues be covered.[108]

Repairs were made the following year, in 1962, under NPS contract CX 14-10-0529-2058, "Repairs to Chimneys." Work was carried out on the upper portions of all the chimneys above the level of the roof, according to the contract documents. Damaged brickwork was replaced with new brickwork. The old mortar was cut out of the brick joints and repointed with a recommended mixture of one part portland cement, two parts lime, and seven parts sand.[109] The chimney capstones were removed and reset using new metal ties and a latex-modified portland-cement mortar. The old cap flashings were replaced with new flashings made of lead-coated copper. Cement mortar on the horizontal surfaces of the chimneys was removed and replaced with new mortar. Finally, a silicone-based water-repellent coating was applied to the exterior surfaces of the chimneys. The total cost for the job, including the installation of a new lightning-protection system, was $12,888.78. The contractor was the Rockwell Newman Company.

Not repaired in 1962 were the exterior brickwork surfaces of three of the chimneys (nos. 1, 4, and 8) below the level of the roof.[110] This was addressed in 1973 as part of NPS contract CX-4670-3-0001, "Masonry Rehabilitation." Rockwell Newman, the same contractor who had worked on the chimneys in 1962, was employed to do the job. The chimney work involved cutting out the old mortar from the brickwork joints, repointing the joints, repairing and resetting damaged brickwork, cleaning the brickwork, and applying a water-repellent coating. The mortar mix recommended for the repointing was the same mix specified in 1962.

The most recent work on the chimneys was carried out in 1977 as part of NPS contract CX 1600-7-0052, "Glenmont Roofing and Miscellaneous Repairs." Rockwell Newman was once again the contractor hired to do the job. The chimney work involved repairing the flashing on seven chimneys, capping selected chimney flues, and repainting horizontal bands on five chimneys. For more information on the chimneys' painted bands, see the following section, "Painted Finishes."

[108] Weig and Henry A. Judd, "Historic Structures Report - Part I, 'Glenmont' Chimneys" (NPS: Edison NHS, Aug. 14, 1961).

[109] The contract documents note that the existing mortar was particularly hard in chimneys 3 and 8.

[110] Chimney 1 is an interior chimney at first-story level, but has an exterior surface exposed at second-story level; chimneys 4 and 8 are exterior chimneys that extend to the ground.

Chimneys: Summary of Descriptive Information

Chimney Number	Date	Flues
1	1880-81	1. Room 105 fireplace 2. Room 106 stove 3. Room 208 plumbing vent
2	1880-81	1. Hot water heater (cellar) 2. Room 107 range 3. Room 210 fireplace 4. Room 211 plumbing vent
3	circa 1884; rebuilt circa 1920	1. Room 110 fireplace 2. Room 113 plumbing vent (not reinstalled circa 1920) 3. Room 114 fireplace
4	1880-81	1. Room 115 fireplace 2. Room 213 fireplace 3. Room 309 fireplace
5	1880-81	1. Room 100 fireplace 2. Room 120 plumbing vent 3. Room 200 fireplace 4. Room 300 fireplace
6	1880-81	1. Room 104 fireplace 2. Room 205 fireplace 3. Room 206 fireplace 4. Room 304 fireplace
7	1880-81	1. Original boiler 2. Room 102 fireplace 3. Room 103 fireplace 4. Room 203 fireplace 5. Room 301 fireplace
8	1920	1. Later furnace

Painted Finishes

Description

The exterior of the house at Glenmont is presently painted three colors: red, gray, and buff. Features of the house painted red include the wood siding, the brickwork inside the porte cochere, the trim around the doorways and windows, the window sashes, the metal roofs, the roof flashing, and the metal gutter liners and leaders. Gray paint is on the porch decks in the first story and the exterior wood stairways. Buff-color paint embellishes six of the eight chimneys in the form of horizontal bands. The chimneys that are so decorated are nos. 1, 2, 4, 5, 6, and 7.

The exterior paint colors of the house have changed over the years. Various color schemes were used prior to circa 1915, at which time the house was painted red. This scheme has been used ever since, except that different shades of red have been used at different times. The present shade is a close match to the red paint that was on the house in 1930. The buff-color chimney bands match an early paint that was used on the interior of the porte cochere. No research has been done on the gray paint. The chimney bands were last painted in 1977, and the rest of the house was last painted in 1985.[111]

Early History

The evolution of the exterior painted finishes is based on several sources. These include the published writings of architect Henry Hudson Holly, the exterior photographs of the house, the estimates and bills from painting contractors, and microscopic study of the paint itself. Taken all together, they tell the following paint history.

Henry Hudson Holly, architect of the original house, believed that the exterior colors of country houses should harmonize with nature. He wrote the following about exterior painting in his 1878 book *Modern Dwellings in Town and Country:*

> Choose, then, any of the hundred soft, neutral tints which may afford to your house the cheerfulness or dignity it may require. These are to be determined chiefly by its location and size.... Having selected the general tint, the trimmings should be of a darker shade of the same, or a deeper color, to give them prominence and assist in bringing out the design, though they should be rather in harmony than in violent contrast.
>
> Painting chimneys, and brick-work generally, should be avoided.... Lateral bands are usually objectionable in the treatment of chimneys; their lines should, as far as possible, be vertical.... Plain chimneys, however, may

[111] The red and buff paint colors are close matches to the following Munsell Color System notations: red, Munsell 10R 4/6; buff, Munsell 10YR 7/4. For an explanation of how these colors were chosen, see the subsection entitled "National Park Service Work."

> appear well by the simple introduction of buff or black bands.... Sometimes buff bands, if edged with black, may be used to advantage.[112]

Holly's country house for Henry C. Pedder was completed in 1881. Little is known about how exterior of the house was originally painted. We can speculate that Holly was involved with the selection of the paint colors, although no conclusive evidence of this exists. The earliest photograph of the house, taken sometime before February 1884 (fig. 4), shows little contrast between the body of the house and the trimwork, and horizontal dark-color bands on the brick chimneys. The paint analysis suggests that house may have been painted brown at this time. The next color scheme was identified by the paint analysis to be an olive-green with black trimwork. This is the first paint on the circa-1884 west addition, which may indicate that the paint was applied sometime in that year.

The earliest documented reference to the exterior painting of the house is from 1888, two years after Thomas Edison purchased the house in 1886. This is a bill from painter Gustav Ahrendt of Newark, New Jersey, dated June 12, 1888. Ahrendt charged the Edisons for painting several buildings at Glenmont, including the "House at Lewellyn Park outside, Main house." The cost of painting the house was $450.00, which comprised more than half of the total bill. No details on the painting, such as the paint colors, are provided in the bill. The paint analysis, however, indicates that the probable paint scheme was a replication of the existing olive-green and black colors. That the trimwork was picked out in a dark color at this time is confirmed by exterior photographs of the house taken two years later, circa 1890, by W.K.L. Dickson (figs. 8-9).

The next painting of the house is believed to have occurred sometime in the mid-1890's. No written documentation of this painting has been found, although physical evidence of it was identified by the paint analysis. The paint analysis described the paint as an olive-green color on the exterior woodwork of the house, including the trim. Exterior photographs taken about this time do in fact show the trim as being the same shade as the wood siding. The photographs also show the dark bands on the chimneys as being less prominent than in earlier views, suggesting that they had not been renewed.

The house was next repainted in 1904, according to an estimate and bill from John Voss, Painter & Decorator. Voss' estimate, dated September 7, 1903, was for painting the outside of the house along with various outbuildings. The proposed work for the house was as follows:

> I hereby agree to furnish all Labor and Materials, for painting the outside of your House [and c.] as following. House...outside screens[,] Slats on Tin roof[,] also Tin roof[,] scraped and burn of [sic] all loose and blistering paint, and paint the same two (2) where necessary three (3) coat, and two (2) coat Brick red on all Brickwork, and the same striped with white or black for the sum of Nine Hundred and Eighty five Doll. $985.00.... If there is only Color use [sic] and no trimming for House, outhouses and close yard, nine Hundred and Forty five Doll. $945.00.

[112] Holly, *Modern Dwellings*, pp. 26 and 71.

The description of painting and striping the "brickwork" presumably referred to the chimneys. Voss was hired to do the work the following spring, for which he billed the Edisons on May 1, 1904. He appears not to have striped the chimneys, based on his final total price. The paint color that Voss used on the house is not recorded. The paint analysis, however, identified the likely paint color as a gray, used on both the wood siding and the trim. A gray-color paint is also the first paint that was used on the Living Room addition built in 1905. Exterior black-and-white photographs taken of the house after 1904 show the wood siding as a light color, which is in marked contrast to the dark brickwork in the first story. The photographs indicate that the house remained this light color until as late as 1914.[113]

The house was first painted its characteristic red color sometime after 1914 and before 1917, based on the photographic documentation. In addition, a letter from architect William Knowles to Mrs. Edison dated April 25, 1917, strongly suggests that the house was red by that time. In the letter Knowles had enclosed several awning samples with the letter, including one that was "a rich terra cotta" color. Knowles noted that if the color was not a good match, the awning material could be "shaded to suit the house."

Two of the Edison children were asked in 1961 when the house was first painted red. Their memories were vague and not necessarily accurate. Madeleine recalled that the color had been changed from gray to red when she was about 17 or 18 years old—in other words, around 1905 or 1906.[114] Theodore remembered that the house had been gray when he was a boy, but that "red was used for many years before his father's death."[115]

No documentation has been found for this historic painting, such as the painting contractor's estimate and/or bill, nor is it known why the color red was chosen by the Edisons. The exterior photographs of the house and the paint analysis indicate that the red paint was used on both the wood siding and the trim. The photographs also show the chimneys once again decorated with horizontal bands, but this time in a light color.

It is likely that the red paint scheme had not been overpainted in 1921 or 1924 when the exterior paint was described in residence appraisals for those years as follows:

> All exterior painting three coats of lead and oil, 2 colors, stain, varnish, etc. Complete (1921 replacement value, $1000; depreciated value $600. 1924 replacement value, $1200; no depreciated value given.)

[113] A piece of gray-painted wood having an olive-green base coat was found in a file cabinet in the third story of Glenmont in 1984. The wood was in a folder labeled "Original House Color Wood Sample." No other information, such as the date the sample was taken, was recorded. It is possible that this sample was removed from the house sometime before the house was painted red.

[114] Madeleine Edison was born on May 31, 1888.

[115] Weig, "Historic Structures Report - Part I, 'Glenmont,' Home of Thomas Alva Edison, Historical Data," p. 9 (note 14).

The house appears to have been painted red two more times during Edison family ownership, based on a contractor's invoice dated 1936 and the paint analysis. Assuming that the house was painted approximately every 10 years, the other painting is likely to have occurred circa 1926. The construction appraisal for 1931 described the exterior paint as "1500 Sq. yds. 3 coat lead and oil paint." The replacement value was then $1200 and the depreciated value was $960. The house was repainted in the spring of 1936 by William Nimmo, Painter and Decorator. His bill, dated May 1, 1936, charged $1,400 "for work done on exterior of House."

In addition to the major exterior repaintings of the house, the metal roofs and gutter system components were also painted on a regular basis during Edison's day. This work was often contracted separately from the painting of the siding, and sometimes included miscellaneous painting of the porch decks and balustrades. The exterior metal roofs and gutters were painted more frequently than the walls of the house, with an average span between paintings of three to five years. The reason for painting the metal was to inhibit corrosion and thereby increase longevity. Although no record has survived of the type of metal paint that was used through 1946, it was most likely a red iron-oxide type.[116]

All known references to painting the exterior metalwork are summarized below:[117]

Nov. 2, 1891	Invoice from R.F. Birdsall for "Painting 4954 feet Tin Roof."
Sept. 17, 1896	Invoice from R.F. Birdsall for "Painting 4469 ft. Tin Roof."
May 2, 1899	Invoice from R.F. Birdsall for "Painting Leaders and Tin Roofs on House."
Oct. 1, 1900	Invoice from Henry G. Miller, Fresco Painter and Decorator, for "Painting tin on Mansion," including "38 lbs. metallic paint for tin."
May 1, 1909	Invoice from Smith & Blatherwick (formerly Smith & Co.), Painters, Paperhangers and Decorators, for "Painting Tin leaders," and "25 lbs. mixed paint."
Aug. 2, 1909	Invoice from Smith & Blatherwick for "Painting roofs, valleys, gutters [and other roof deck features]."
May 2, 1910	Invoice from Smith & Blatherwick for "Painting large Roof over Music Room."
July 23, 1913	Invoice from John Smith for painting "all Tin Roofs, Gutters Valleys, Slat Floors on Roofs one coat."

[116] Iron-oxide paint is a corrosion inhibitor. It is a red or a red-orange color. Such a paint would have been available during Edison's day.

[117] The invoices are in the Edison NHS Archives.

Apr. 10, 1934 — Telegram from John Miller to Mrs. Edison concerning painting "all tin roofs and gutters on house." Mrs. Edison approved of having the work done.

Thomas A. Edison, Inc., purchased the house from Mrs. Edison in June 1946. It is likely that the exterior siding of the house was repainted about this time, although no records of the work have been found.[118] Two more paintings occurred in 1951 and 1956.

Carl G. Gustafson was hired in the spring of 1951 to do the following work:

> [Paint] all exterior woodwork, railings, windows, doors, screens, storm windows, storm enclosure and sidewalls, all to be scraped and sanded well, then given two coats of exterior paint from any Good Manufacture like DeVoes or DuPont Co. or Dutch Boy. Porch floors to be scraped well and given two coats of deck paint. Flooring on the roof two coats. Metal work one coat of metallic paint. Front doors to be cleaned and varnished. All loose putty scraped out and sash reputtied where needed.[119]

Gustafson was to "see J. Laing as to color." No record of the color that Mr. Laing recommended has survived. The paint analysis, however, indicates that a red color was used on the siding and trim. Mr. Gustafson was paid $3,387.00 for the job.[120]

The house was repainted only five years later, in 1956. A budget request was submitted for that year that included painting the outside of the house for $2,930 and/or painting the porches, railings, and steps in the first story for $230. The extent of the work that was actually done is not known, although a voucher dated June 1956 suggests that at least some repainting work was done.[121]

National Park Service Work

The exterior of the house was a red color when the National Park Service acquired Glenmont in 1959. A preliminary report written on the history of the house in 1961 surmised incorrectly that

[118] The last major painting of the house had occurred in 1936.

[119] Estimate from Carl G. Gustafson, Mar. 27, 1951. A typewritten note at the bottom of the estimate says, "Metal Work covers all metal roofs, gutters, flashings, ridge caps, etc. per Mr. Gustafson. J. Laing." Edison NHS Archives.

[120] Thomas A. Edison, Inc., purchase requisition no. 355401. Edison NHS Archives.

[121] John P. Shaw made note of a voucher dated June 1956 to "Repaint Exterior of Glenmont," but no dollar amount is given. The voucher could not be found in the Edison NHS Archives in 1984. [Ref., Shaw, "Progress Data," p. 48.]

the exterior color had been changed from gray to red sometime between 1905 and 1910.[122] The exterior paint was assessed in 1962 to be in poor condition on the porches and conservatories. It was recommended that all existing paint be removed from the house and that three new coats of paint be applied.[123]

The first microscopic study of the building's exterior paint was conducted in the summer of 1962 by architectural student E. Blaine Cliver.[124] Mr. Cliver was a member of the Historic American Buildings Survey (HABS) team that made measured drawings of the house that summer. The results of the paint analysis were included in a handwritten report by supervisory architect John Shaw entitled, "Progress Data and Research Notes, Architectural Study of Glenmont, Home of Thomas Alva Edison."[125] A summary of the analysis, presented as a "Paint Color Sequence," was also included on the exterior elevation drawings of the house by HABS.

The house exterior was repainted in 1963 under NPS contract CX 14-10-0529-2064, "Roofing, Sheet Metal and Painting." The contract documents specified using "Pratt and Lambert House Paint," but this was later changed to "Cabot's Haddam Barn Red No. 1085 (Collopakes Color)" for the finish coat. This red-color paint was a close match to the earliest red paints used on the house during Thomas Edison's lifetime. The color was determined by examining one sample of the exterior painted wood under a microscope, and by matching "the early layers of red" to a standard color (Munsell Color System notation 10R 4/6).[126] This color was in turn matched to the commercial paint color.[127]

The house was repainted 10 years later, in 1973, under NPS contract CX 4670-3-0002, "Painting, Glazing, and Caulking Glenmont." The contractor was Terrace Contracting Company,

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[122] Weig, "Historic Structures Report - Part I, 'Glenmont,' Home of Thomas Alva Edison, Historical Data," pp. 6, 9 (note 14). Mr. Weig's statement was based on an interview with two of the Edison children (see footnote 114).

[123] Crawford, "Historic Structure Report - Part I, 'Glenmont' Architectural Data," pp. 8, 14.

[124] Telephone conversation with Blaine Cliver, Oct. 7, 1991. Mr. Cliver is now the Chief of the Technical Preservation Services, National Park Service, Washington, D.C. All of the paint samples that he extracted for study under the microscope were taken from exterior wood features of the house such as siding and window trim.

[125] The top coat of red was described on p. 57 of the report as "ugly-red."

[126] Memorandum from Henry A. Judd, Chief Architect, EODC, to Superintendent, Edison NHS, July 12, 1963. Color swatches of both the Munsell color and the Cabot's color are with the contract documents in the Maintenance Office files at Edison NHS. The Cabot's color was approved for use on the house on Sept. 13, 1963.

[127] The contract work is documented by a handwritten "Narrative Report" on file with the contract documents at Edison NHS. This report notes that the painting subcontractor was P.C. Staedler. It also notes that three coats of paint were applied, the first being "DuPont 39 Wood Primer," the second being a mixture of four gallons of "Cabot's Haddam Barn Red (No. 1085)" to one gallon of "Cabot's Gloss White (No. 8341)," and the third being "Cabot's Haddam Barn Red."

and the cost was $8,640. The specifications for the contract directed the contractor to apply one or two finish coats of paint.[128] The paint type was specified to be a high-grade oil-based roofer's red paint on the tin roofs, and a linseed oil-based paint on the rest of the house. The paint colors were specified to match the existing finish colors on the house. What paint was actually used on the job is not recorded.

Another microscopic analysis of the exterior paint was undertaken in 1977 by Architectural Conservator Carole Perrault of the North Atlantic Historic Preservation Center (now the Building Conservation Branch, Cultural Resources Center).[129] Ms. Perrault also examined the history of the chimneys' painted bands at this time.[130] The purpose of the study was to reevaluate the accuracy of the red paint color and to find an appropriate paint color for the chimneys' bands. The restoration date for the exterior paint colors was 1931—the year of Thomas Edison's death. She determined that the appropriate paint color for the exterior woodwork was a brick red that fell somewhere between two Munsell colors: 10R 3/6 and 10R 4/6. The color was also a close match to a commercial paint color: Benjamin Moore no. 18-79.[131]

Determining the appropriate 1930 paint color for the chimneys was more difficult because so little paint survived. It was clear from the historic photographs that the chimneys had been painted with light-color bands between 1914 and 1917, and that these bands were still visible on the chimneys in 1930. She therefore chose a buff-color paint that had been used on the brickwork at the front entrance of the house, beneath the porte cochere. This buff color was matched to Benjamin Moore no. 2-69.

The chimney bands were repainted on five of the eight chimneys in 1977 under NPS contract CX 1600-7-0052, "Glenmont Roofing and Miscellaneous Repairs." The bands were painted under the direction of Ms. Perrault, who provided the contractor with a guide to the placement and width of the bands. Two coats of Benjamin Moore latex paint were applied.[132]

The rest of the house was repainted in 1979 under NPS contract CX 1840-9-0002, "Exterior Painting, Glenmont Mansion." The contract documents specified one finish coat of paint for all previously painted exterior surfaces. These included the wood siding, trim, siding shingles, metal

[128] The specifications state, "Apply second coat only where first coat appears thin or does not 'cover' or where specifically called for such as on canvas deck."

[129] A handwritten draft of Ms. Perrault's paint analysis report is on file at the Building Conservation Branch; the report was never written in final form or typed.

[130] See footnote 129.

[131] Memorandum from C. Perrault to Lynn Wightman, Unit Manager, Edison NHS, June 15, 1978.

[132] One point of confusion about this contract is which five of the eight chimneys were painted. No completion report for the contract exists. Ms. Perrault had recommended painting stripes on six of the chimneys: nos. 1, 2, 4, 5, 6, and 7. Today (in 1991), all six of these chimneys have stripes. Those on chimney no. 6 appear to be in better condition than those on the other chimneys, however, and may have been applied at a later date.

roofs, leaders and gutters, painted hardware, and exposed porch surfaces. Unfortunately, the Benjamin Moore Company had completely revised its paint formulas by this time, and the red paint color specified by Ms. Perrault in 1977 was no longer available. A custom-mixed color using Benjamin Moore alkyd-based paints was therefore provided to the contractor by Gene Goldsmith, NAHPC Exhibit Specialist.[133] The paint used for the porch floors in the first story and the wood steps was a gray porch and floor enamel, also made by Benjamin Moore.

The most recent painting of the house was done in 1985 under the direction of John Darcy, another NAHPC Exhibit Specialist. Unlike the previous paintings of the house by the National Park Service, this work employed a day-labor crew rather than a contractor. This painting replicated as closely as possible the paint colors that had been used in 1979. Two color swatches were provided to Darcy: Munsell 10R 4/6, and a sample card of the 1979 custom-mixed paint. Using these, a custom-color formula was obtained from paint supplier Rossi & Company, Inc. of Orange, New Jersey. Rozzi generated the formula by taking readings of the color swatches using a spectrophotometer. A computer attachment automatically provided a formula to reproduce the color, using a Benjamin Moore base and pigments, in an alkyd-based house paint. The house was then repainted with this paint. The paint formula is on file with Rossi & Company.

[133] Color swatches of this custom-mixed color are in the files of the Building Conservation Branch.

INTERIOR ROOMS

CELLAR

General Description

Plan

The cellar is a large assemblage of 16 rooms and nine unexcavated areas.[1] The cellar rooms may be reached from the outside through a bulkhead-covered entrance on the north side of house, or from inside down an interior stairway. The unexcavated areas are mostly accessible through former window openings inside the cellar, or through existing window openings in the exterior walls.

The words "cellar" and "basement" were both used during the Edison period. The residence appraisals of 1921 and 1924 label this area the "cellar," while the residence appraisal of 1931 calls it the "basement." Contractors' invoices for the years 1889 through about 1920 use the word "cellar" more frequently than "basement." Which word was preferred by the Edison family members is not known. The word "cellar" will be used in this report.

The cellar rooms have historically housed the utility systems for the house and have also functioned as storage space. Contractors' bills also refer to a "water closet" that existed in the cellar in 1900.[2] The 1921 and 1924 residence appraisals listed the following rooms in the cellar: Storage, Boiler Room, Tank and Pump Room, Preserve Rooms, and Fuel Room. Even more detailed is the description provided in the appraisal of 1931:

> The Basement contains one Hall, three Store Rooms, two Coal Rooms, Boiler Room, Pump Room, Wood Room, Ash Room and one Closet. [The itemized listing of the rooms also includes another "Closet" and a "Heater Room."]

The unexcavated areas of the cellar functioned as utility and ventilation space for the rooms above. It was here that the pipes and ductwork for the heating system were run, in addition to gas pipes for lighting and later electrical wiring.

The cellar is larger today than it was when the house was first built for Henry C. Pedder in 1880-81. The south end was enlarged circa 1882 when the Conservatory (Room 101) was built, and circa 1883-84 when the Drawing Room (Room 100) was extended. The west end was enlarged circa 1883-84 when the service area was expanded, and again circa 1884 when the west wing was built. The north end was also enlarged circa 1883-84 when the Laundry Room (Room 106) was extended. The cellar had therefore reached its present size by 1886, when Thomas Edison purchased the property.

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[1] These unexcavated areas are crawl spaces beneath various rooms in the first story.

[2] The "water closet" (or toilet room) appears to have been removed sometime before 1921.

The cellar continues to function today much as it did when the Edison family lived in the house. The major difference is that coal is no longer used for the heating system.[3]

The section that follows is a general description of the cellar features. Each individual cellar room and unexcavated area is referred to by a number from B1 to B23. These numbers were assigned by the Historic American Buildings Survey (HABS) in the summer of 1962. The numbers are keyed to the floor plan of the cellar in figure 36. The numbers for both the cellar rooms and the unexcavated areas are listed below. The names for the cellar room are taken from the residence appraisal of January 1931:

Cellar Rooms	Unexcavated Areas
B1 (Boiler Room)	B2
B4 (Coal Room #2)	B3
B5 (Coal Room #2 and Heater Room)	B7
B5a (Unnamed)	B12
B6 (Coal Room #1)	B19
B8 (Hall)	B20
B8a (Closet)	B21
B9 (Store Room #2)	B22
B10 (Hall)	B23
B11 (Store Room #1)	
B13 (No name)	
B14 (Pump Room)	
B15 (Wood Room)	
B16 (Closet)	
B17 (Store Room #3)	
B18 (Ash Room)	

[3] Natural gas replaced coal as the heating fuel in 1967. [Ref., NPS contract CX 14-10-981-39.]

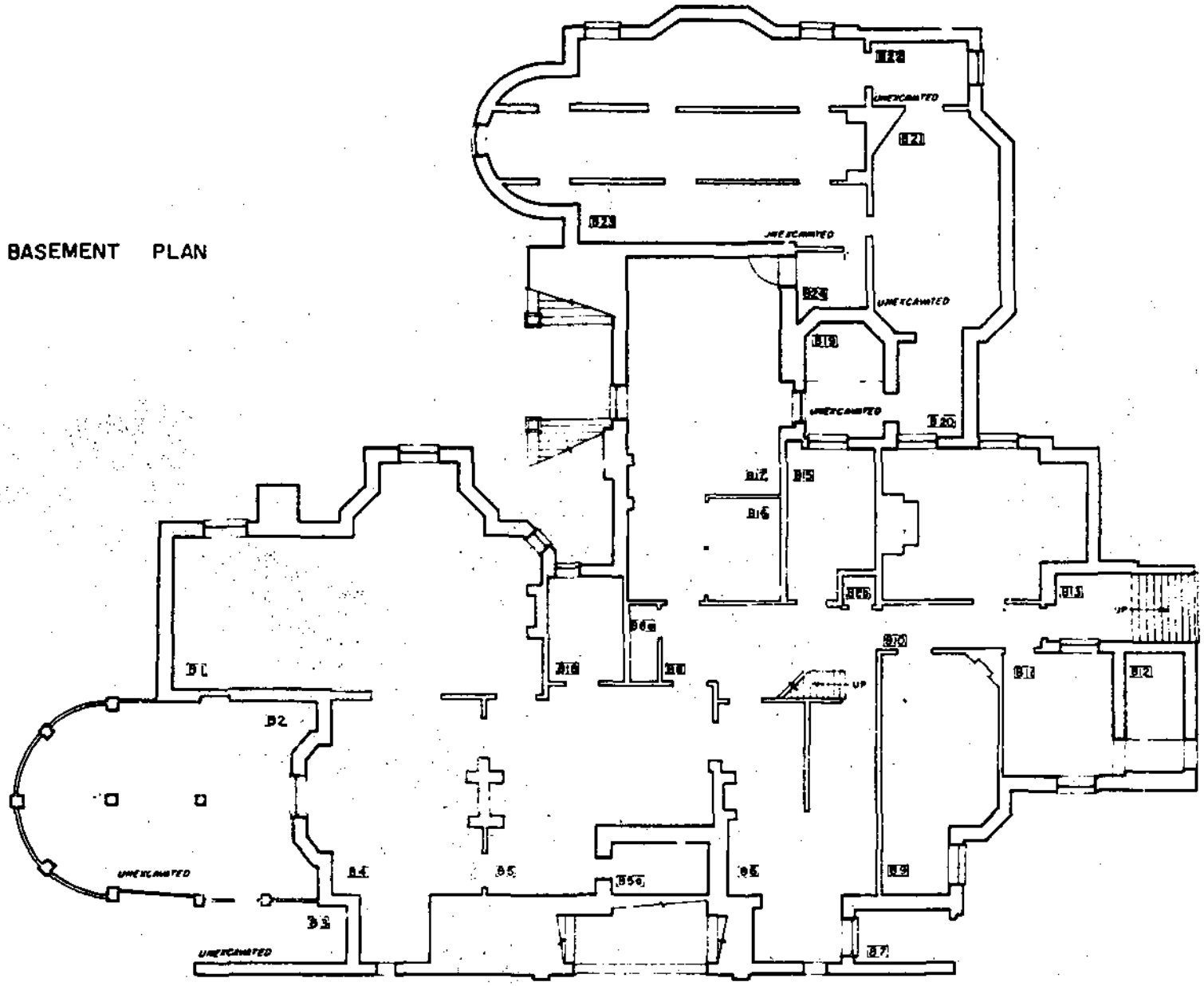


Figure 36. Cellar floor plan, 1963.

Components

Floors

There are two types of flooring materials in the cellar: dirt and concrete. All of the unexcavated areas and one cellar room (Room B5a) have dirt floors. All of the remaining cellar rooms are floored with concrete of unknown date.

The concrete may have been laid when the house was built and enlarged during the years 1880-81 to 1884. We know from his writings that architect Henry Hudson Holly was an advocate of "cementing" the floors and walls of the cellar in those cases where water infiltration was a problem.[4] In addition, the concrete floors incorporated fresh-air conduits for the early heating system, as well as equipment for the gas lighting system that was used until about 1912.

No contractors' bills are known to exist to indicate that the concrete floors were installed while the Edisons were in residence. It is known for certain that the floors existed by February 1921, based on the residence appraisal of that date that listed "3844 sq. ft. concrete cellar flooring." The "sound value" for the flooring was $672.70, while the "rep.[lacement] value" was $1,345.40, suggesting that the flooring was not new in 1921.

Some special features of the concrete floors include open channels, slate-covered channels, and a brick-lined cavity. The open channels presumably functioned to collect water that entered the cellar. They are located at the perimeters of two rooms: B1 and B17. This suggests that water infiltration into the cellar was a problem at the southwest corner of the house. The slate-covered channels functioned as the fresh-air supply for the original heating system; they are located in Rooms B1, B4, B5, B6, B8, B9, and B15. The brick-lined cavity in Room B9 is a component of the early gas lighting system.

Walls

The cellar walls are made of two materials: stone and brick. Stone comprises the exterior walls, while brick is employed for the interior walls and the chimney foundations.[5] These materials were used in both the original construction of 1880-81 and in the subsequent additions built between circa 1882 and 1884. Most of the stone is rubble except for the exterior walls of B13, which are dressed stone.

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[4] Henry Hudson Holly, *Modern Dwellings in Town and Country* (New York: Harper and Bros., 1878), p. 37; reprinted in *Holly's Country Seats and Modern Dwellings* (Watkins Glen, NY: American Life Foundation, 1980).

[5] Architect Henry Hudson Holly advised making cellar partition walls out of stone or brick instead of wood, because these materials would better withstand damp conditions. [Ref., Holly, *Modern Dwellings*, pp. 57-58].

Ceiling

The ceiling was recorded by the residence appraisal of January 1931 as being 8 feet tall. The cellar rooms retain this height today.

There are four types of ceilings in the cellar. First, the ceilings in the unexcavated crawl spaces of the cellar are the exposed framing of the first floor. Second, most of the cellar rooms have plaster ceilings, including Rooms B1, B4, B5, B6, B8, B8a, B9, B10, B11, B14, B15, B16, B17, and B18. Third, the ceiling in Room B5a is arched brickwork that supports the ceramic-tile floor in the front entrance (Room 103a). Finally, the ceiling in Room B13 is comprised of wood boards. All of the ceiling materials are believed to date to 1880-84, except for the present plaster ceilings, which were renewed in the 1960's.

It is not known exactly when the ceilings in the cellar rooms were finished with lath and plaster. They may have been plastered early as circa 1880-84 or sometime thereafter. The earliest documented reference to the ceilings is the residence appraisal for January 1931, which described the basement as having "560 Sq. yds. plaster ceiling on wood lath." All of the ceilings today have a modern-looking textured plaster that was most likely applied sometime after 1931. Some ceiling repairs were made in 1967, but the majority of the new plaster was probably applied in 1968 when the heating and electrical systems for the house were completely remodeled.[6]

Doorways

The cellar has one exterior doorway, in Room B13, and a number of interior doorways. The exterior doorway is the bulkhead entrance on the north side of the house, which is described as an exterior element (Doorway D-102).

Nine doorways, enframed with plain-board architraves, open off the cellar hallway (Rooms B8 and B10). Of these, eight have wood doors that are thought to be original.[7] Seven of the doors have four panels. These are on the east, south, and west sides of the hallway, and they open into Rooms B5, B6, B8a, B9, B11, B14, and B17.

The eighth door differs in style by having 30 panes of glass above two wood panels. A transom window with 18 panes of glass is above the door. Nevertheless, the door and its transom

[6] NPS Architect Newton Bevin recommended in 1964 completely removing the existing ceilings throughout the cellar and replacing them with new metal lath and plaster. [Ref., Bevin, "Historic Structures Report - Part I, Architectural Data Section on Rehabilitation of Glenmont, Home of Thomas A. Edison" (NPS: Eastern Office of Design and Construction, Feb. 1964), p. 14]. Gordie Whittington noted that some of the ceilings were repaired and replastered when the new boiler was installed in Room B1 in 1967. [Ref., Whittington log book, "Glenmont Boiler Replacement, 1967," NPS contract CX 14-10-981-39]. The new electrical and heating systems were installed in 1968 as part of NPS contract CX 14-10-7-981-93. While no records exist for replastering the cellar ceiling at this time, it is likely that Bevin's recommendations of 1964 were followed.

[7] The doorway to Room B15 is missing its door. That a door was located here at one time is certain based on mortises in the doorway casing for two door hinges.

are thought to be original. Its design is probably due to its location: at the north end of the hallway, opening into Room B13—the bulkhead entrance.

The residence appraisal of January 1931 listed the eight doors described above, along with "5[inch] Plain pine trim, painted."

In addition to the doorways mentioned above, two pairs of closet doors are in the northeast corner of Room B17.[8] Each of the doors has five vertically aligned panels. The top and bottom panels in each door have been removed and replaced by a heavy metal screening on the closet side of the door. The closet and its doors may have been installed in 1907 when carpenter Adolph Vogel billed the Edisons for work that included making "cellar drawers and shelving."[9] The closet was extant by January 1931, when the residence appraisal described it as a "Pine closet...with 2 pair of doors."

The doorway between Rooms B1 and B5 has a metal fire-rated door and casing. This door is believed to have been installed in 1978 at the same time as the Pyrotronics fire-detection equipment.

Windows

Most of the cellar rooms, and some of the cellar's unexcavated crawl spaces, have window openings. All of the windows are in the stone foundation walls. The shape and size of the windows vary, with some being long and narrow and others being almost square. Some of the windows are obsolete because they were covered by additions built circa 1882, circa 1883-84, circa 1884, and in 1909. In most cases, these obsolete openings now serve as access to the cellar's unexcavated crawl spaces. Some are now closed with boards or brickwork. Most of the windows are contemporary with their stone foundation walls. Only four, in rooms B22 and B23, were added at a later date (1904).

All of the cellar window sashes are the wood casement type. Most are top-hinged to open inward and are glazed with two panes of glass. Only one window is side-hinged and glazed with eight panes of glass. This window, in the west wall of Room B11, is the largest window in the cellar. All of the extant window sashes are believed to be original to their window openings. The window openings and their existing sashes therefore date to 1880-81, circa 1883-84, and 1904.

The cellar windows were described by the residence appraisals of 1921 and 1924 as "12 D/S [double strength] glass S/S [single swing] cellar sash, with frames and hardware." The 1931 residence appraisal listed the windows individually for each room. These descriptions are included in the discussion of individual cellar rooms that follows.

[8] The closet itself was labeled as Room B16 by HABS.

[9] Bill from Adolph Vogel, July 9, 1907. Edison NHS Archives.

Stairways

The cellar has two stairways, one in Room B8 and one in Room B13. Both are believed to date to the original construction of the house in 1880-81. The stairway in Room B8 connects the cellar with the first story. The stairway appears to be unchanged from its appearance in January 1931, based on its description in the residence appraisal for that year. The stairway in Room B13 provides access from the cellar to the outside. This stairway was also listed in the 1931 residence appraisal. It was extensively repaired by the National Park Service in 1977.

Dumbwaiter Shaft

The lower shaft for the original dumbwaiter is on the west side of the cellar hall. The shaft area was labeled as Room "B8b" by HABS. The shaft has had three uses over the years: to house a dumbwaiter (1880-81 to circa 1943-44), to contain a passenger elevator (circa 1943-44 to 1968), and to serve as a return air conduit for the new heating system and chase for electrical wiring (1968 to present).

The dumbwaiter is shown on the earliest floor plan of the house, published in *American Architect and Building News* in August 1881.[10] It was also listed by the residence appraisals of 1921, 1924, and 1931. The most complete description of the dumbwaiter was provided by the appraisal of 1931 as follows:

> 1 Dumb-waiter, pine car, 2'0" x 2'6", 4 story lift, complete with car, guide, rope, mechanism and speaking tube, installed complete.

The function of the dumbwaiter was to transport objects between the four stories of the house. Wood and coal stored in the cellar may have been hauled up in the dumbwaiter for use in the fireplaces and stoves upstairs.

The dumbwaiter was later replaced by a passenger elevator for the first and second stories. Nancy Miller Arnn, Mrs. Edison's niece, recalled that the elevator was installed for Mrs. Edison, who had suffered a heart attack after being stung by a bee at Chautauqua in 1943-44.[11] The Edison children also recalled in 1961 that the elevator had been put in for the convenience of their mother in her later years.[12] The equipment was installed by the Watson Elevator Company, Inc.[13] The

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[10] The dumbwaiter was labeled "D.W." on the first-floor plan.

[11] Telephone conversation with Glenmont Curator Leah Burt, Sept. 3, 1992. Supporting evidence is provided by a typewritten list of electrical fuses dated 1939 that has "ELEV" penciled in, which indicates that the elevator was installed sometime after the list was typed. The list is located inside the door of the obsolete fuse box in Room B14.

[12] Melvin Weig, "Historic Structures Report - Part I, 'Glenmont,' Home of Thomas Alva Edison, Historical Data" (NPS: Edison NHS, Dec. 22, 1961), p. 8.

[13] Weig, "Historic Structures Report - Part I, 'Glenmont,' Home of Thomas Alva Edison, Historical Data," p. 8.

elevator was still in use in 1965, when it was certified as having a carrying capacity of 3 persons weighing not more than a total of 450 pounds.[14]

The elevator cab was removed in 1968 as part of NPS contract CX 14-10-7-981-93, "Electrical and Heating Systems: Glenmont."[15] In its place, a fireproof sheet-metal lining was installed so that the shaft could function as a return-air conduit for the new heating system. The shaft was also used as a chase for the new electrical wiring. The elevator doorways were closed with panel boards made by NPS staff.[16]

No major changes have been made to the former dumbwaiter shaft since 1968.

Finishes

The walls and ceilings in the cellar rooms were painted during the Edison period with whitewash and kalsomine. The earliest-known bill for "whitewashing, painting cellar" is dated October 9, 1889.[17] The most detailed accounting is an estimate for work dated April 15, 1897:

> To Mr. Edison. My estimate for painting, kalsomining and whitewashing your cellar one coat of paint on all wood work and pipes that have been painted before one coat [and] one coat of kalsomine on all ceilings and side walls that have been kalsomined and one coat of whitewash on the side walls all outside of the coal bin. $58.[18]

The cellar was "whitewashed" again in 1910, 1920, and 1929.[19]

The cellar finishes were described in the residence appraisal of January 1931 as being "860 Sq. yds. cold water paint [and] 110 Sq. yds. 2 coat lead and oil paint." Although not expressly stated, it is likely that the "cold water paint" was the whitewash on the masonry walls, while the "lead and oil paint" was on the woodwork.

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[14] The information is contained in a framed certificate issued by the General Services Administration. It is mounted to the west wall of the cellar hall (Room B8).

[15] The elevator motor and controls, however, were to be disconnected and left in place in Room B15, according to the drawings for the contract. [Ref., Note 1 on sheet E1 of 4, Drawing No. 403/94,000.] Both the elevator cab and motor are missing today.

[16] The details of the work that was actually done were recorded by Gordie Whittington in his log books, "Building No. 10: Mar. 7, 1966 - Dec. 30, 1968" and "Electrical and Heating Systems, Glenmont, 1968."

[17] Bill from R.F. Birdsall for work done on Oct. 9, 1889. Edison NHS Archives.

[18] Estimate from Thomas Fahy, Apr. 15, 1897; the work was done and Mr. Fahy was "paid," based on a handwritten note on the estimate. Edison NHS Archives.

[19] Invoice from an unidentified contractor, July 29, 1910; letter to Thomas Edison from his secretary R.W. Kellow, Feb. 22, 1921 (also requisition no. 2036 from Thomas A. Edison Industries, Dec. 31, 1920); and invoice from Mead Johnson, dated Mar. 21, 1929. Edison NHS Archives.

Today, the masonry walls are painted white. Most of the cellar woodwork is painted gray. This includes the wood stairway, the doorway architraves, the doors, and the window sashes. One exception is the large wooden closet (Room B16), which is painted a cream color.

Lighting System

Remnants survive in the cellar of the original gas light fixtures only. All of the Edison-period electric light fixtures were removed in 1968 when the existing modern ceiling lights were installed.

The cellar rooms were originally lighted with an unknown number of gas fixtures.[20] Five of these fixtures, described as "gas brackets," were in the cellar in January 1931, according to the residence appraisal made in that year. The appraisal listed one gas bracket in the Pump Room (B14), two in Store Rooms #1 and #2 (B11 and B9), one in Store Room #3 (B17) and one in Coal Rooms #1 and #2 (B6 and B4-B5).[21] Today, five capped gas cocks survive in the walls of five of the cellar rooms: B6, B9, B10, B14, and B17.[22]

Electric lights were installed in the cellar at an unknown date. This may have been as early as 1887 when the house was first electrified, or sometime later when the electric lighting system was upgraded. A work order for 1920 notes that light switches were to be installed for the cellar lights, the existing lights were to be "raised higher," and "wire guards supplied...so that they [the light bulbs?] cannot easily be removed."[23]

By 1921, the cellar was described in the residence appraisal as having the following electric light fixtures: "12 1 light cord drops" and "4 1 light socket lights." The same description was also given in the residence appraisal of 1924. However, a few changes appear to have been made by January 1931, when the residence appraisal listed 15 cord drops and five light switches.

"Cord drop" electric light fixtures are shown in Rooms B11 and B14 in two photographs dated October 21, 1960.[24]

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[20] Architect Henry Hudson Holly noted in 1885 that the original cost for the "gas. fixtures" in the house was $3,000. [Ref., letter from Holly to J. Asch, June 12, 1885. Edison NHS Archives].

[21] The gas lights appear to have been operational because they were not noted as being "obsolete."

[22] Note that there is a discrepancy between the locations of the gas brackets listed in 1931 and the locations of the gas cocks today. Specifically, a gas cock exists today in the hall (B10) where none was listed in 1931, while there is no gas cock in Store Room #1 (B11), where one was listed in 1931.

[23] Thomas A. Edison Industries, work order no. 1468 dated Sept. 10, 1920, for work provided by the Construction and Maintenance Service Division; billed to Thomas Edison's private account. Edison NHS Archives.

[24] NPS photograph numbers 6813 and 6815. Edison NHS Archives.

The old light fixtures in the cellar were removed and replaced in 1968 with new ceiling light fixtures and switches under NPS contract CX 14-10-7-981-93, "Electrical and Heating Systems: Glenmont." All of the old light fixtures appear to have been discarded at this time. No major changes are known to have been made to the cellar lighting system since 1968.

For more information on the lighting system, see the sections "Utilities: Gas System" and "Utilities: Electrical System."

Electrical Outlets

Electrical outlets were not a feature in most of the cellar rooms during the Edison period. The residence appraisal that was made in January 1931 listed only one "power outlet" in the Pump Room (Room B14). Not until 1968 were electrical outlets installed in all of the cellar rooms as part of NPS contract CX 14-10-7-981-93, "Electrical and Heating Systems: Glenmont."

Electrical Panels

There are several panels for the electrical system in the cellar. Those dating to the Edison period were disconnected and left in place in 1968 when new electrical panels were installed. For more information on the electrical system, see the section entitled "Utilities: Electrical System."

Plumbing Systems

The domestic water supply has always entered the house through the Pump Room (Room B14). Therefore, a number of plumbing fixtures have historically been in the cellar. Over the years, these have included a pump, shut-off valves, domestic hot-water heaters, a water closet, and a sink.

A schematic drawing of the cellar dated March 22, 1920, documents the existing condition of the plumbing at that time. The drawing was prepared by the Laboratory Construction and Engineering Department, and was conveyed to the Construction and Maintenance Division in a memorandum dated March 30, 1920. The drawing is entitled "Basement: West Orange, N.J., Hot and Cold Water System, Residence of Mr. T.A. Edison" and is in the Edison NHS Archives.

Most of the plumbing fixtures that were in the cellar during the Edison period have been removed and discarded over the years. The plumbing system was completely updated by the National Park Service in 1963.

For more information on the plumbing, see the discussions of Rooms B5 and B14, and the section entitled "Utilities: Plumbing System."

Heating System

The cellar has always housed the various boilers for the central-heating systems, as well as many of the components of those systems. The original (1880-81) system was a gravity air system. Steam produced by a coal-fired boiler in Room B5 was used not only in radiators, but also to warm

fresh air that was brought in through a network of slate-covered channels in the cellar floor. The channels conveyed fresh air to riser ducts that led to heat-transfer boxes located near the cellar ceilings. Steam coils within the boxes warmed the air, which then flowed into major rooms through floor registers and ducts.

This system continued to be used for many years, with a few changes. The Edisons replaced the boiler in Room B5 with two new steam boilers in Room B1 in 1920. These boilers were removed by Thomas A. Edison, Inc., in 1950, when a single coal-fired steam boiler was installed. The latter in turn was replaced by the National Park Service in 1967 with the present gas-fueled boiler. At that time, the new boiler was a steam type, and the system continued to be a gravity air system. The next year, the boiler was converted to a hot-water type, and the system was changed to a forced air system.

The Conservatory appears to have initially housed a separate coal-fired steam boiler for its heating, based on contractors' bills submitted in 1892 and 1905. By the time the 1920 schematic drawing of the cellar was made, the Conservatory had a hot-water heating system. A note on the drawing states that "This heating system is independent of rest of house." However, the drawing indicates that the "Conservatory Heater" obtained its hot water from a pipe that passed through the same steam "Furnace" that heated the rest of the house. The note probably was intended to emphasize that the Conservatory had a hot-water system that was not part of the house's steam system.

For more information on the house's heating systems, see the "Heating System" discussions for individual rooms, and the section entitled "Utilities: Heating System."

Cooling System

Two "Frigidaire" compressor motors are in cellar Room B6.[25] These were most likely installed in August 1931, based on a purchase order of that date for "L & M [labor and materials] to cover electrical work necessary in connection with electrical installation of Frigidaire Room Coolers at 'Glenmont.'" The room coolers may have been in the second-story Living Room (Room 205), based on a telegram from Mrs. Edison dated 1934 directing that the two "air conditioning machines" not be removed from that room.[26]

Fire-Protection Systems

The earliest documented reference to fire-protection equipment in the cellar is the 1921 appraisal of furniture and fixtures that lists "1 Accurate copper fire extinguisher." This same fire extinguisher is also listed in two subsequent furnishings appraisals dated 1924 and 1930. Whether or not the extinguisher was functional, or obsolete and in storage, is not known. Fire extinguishers

[25] A paper label inside the circuit-breaker boxes indicates that one was tested on July 28, 1927, and the other on July 29, 1927.

[26] Thomas A. Edison, Inc., purchase order dated Aug. 31, 1931; the telegram is dated Mar. 31, 1934. Both are in the Edison NHS Archives.

were first obtained for the house in January 1915—one month after the destructive fire at the Edison laboratory. Five more were installed in 1920 in unspecified locations.[27]

The cellar was first outfitted with fire-detection equipment in 1968. This work was done as part of NPS contract CX 14-10-7-981-93, "Electrical and Heating Systems: Glenmont." While the original specifications were for fire detection and alarm equipment to be installed on all floors of the house, funding restrictions limited the actual work to the cellar and attic stories only. In the cellar, "Protectowire" was installed in the upper walls and/or ceilings of all the cellar rooms. Protectowire is a heat-sensitive cable manufactured by the Fire Detection and Alarm Corporation of Greenwich, Connecticut. A fire-alarm control panel was on the south wall of cellar Room B15. Equipment that automatically notifies the West Orange Fire Department of a fire alarm was installed seven years later, in 1975.

The "Protectowire" was removed from the cellar in 1978 because of concerns about its reaction time and dependability. In its place were installed ionization smoke detectors made by Pyrotronics. This work was done under NPS contract CX 1600-8-9002, "Fire Protection, Intrusion and Electrical." Detector units were installed in the ceilings of nine cellar rooms: Rooms B1, B4, B5, B8, B9, B11, B14, B16, and B17. A new Pyrotronics fire-alarm control panel replaced the existing panel at the south wall of Room B15. This panel ties in with other ionization smoke detectors on the first, second, third, and attic stories.

In addition to the ionization smoke detectors, the cellar was also equipped with a Halon fire-suppression tank in the boiler room (Room B1).

Security System

The earliest-known burglar alarm system for the house was installed in 1889 (see "Utilities: Security Systems"). However, none of the cellar's doorway or window openings were wired at that time.[28] Intrusion protection at the cellar level was limited to a lock on the outside door and metal grilles on the exteriors of the windows. Such was the case until 1985, when a comprehensive security system was installed by the National Park Service.

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The sections that follow provide a brief description of each of the individual cellar rooms and the unexcavated crawl areas. More information on the evolution of particular features, or citations for dates, may be found in the preceding section.

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[27] Bill from the Edison Chemical Works for one dozen Pyrene fire extinguishers #9819, and one dozen brackets for same, Jan. 4, 1915; and memorandum from Manager of the Insurance Service Department to R.W. Kellow, Mar. 30, 1920. Edison NHS Archives.

[28] Letter from Edwards & Co. to Charles Batchelor, vice president of the Edison Wiring Company, Sept. 14, 1889. Edison NHS Archives.

Boiler Room (Room B1)

General Information

The Boiler Room (Room B1) is in the southwest corner of the cellar, and is beneath the first-story Drawing Room (Room 100). Most of the room dates to the original construction of the house in 1880-81, including the bay in the west wall. The room was enlarged southward by about a third circa 1883-84, as a consequence of a large addition being built on the south side of the Drawing Room. At that time, the original south wall of B1 was removed and new foundation walls were built. The final dimensions of the room were recorded by the residence appraisal of January 1931 as being 36 feet long by 16 feet wide.

Two new steam boilers for the heating system were installed here in 1920, when the original boiler was removed from Room B5. The room was called the "Boiler Room" in the residence appraisals of 1921, 1924, and 1931. It retains this use today.

Floor

The floor comprising the north two-thirds of the room is original, dating to 1880-81. The remaining floor on the south side of the room is later, dating to the addition of circa 1883-84. No demarcation is evident between the older and newer floors.

The entire floor is finished with concrete. Concrete floors existed in the cellar in 1921, and perhaps as early as 1880-81 in the original, north portion of the room.

The concrete platform beneath the existing boiler for the heating system was installed in 1967. A trench at the perimeter of the room at the east, west, and south walls may have been for water drainage.

Walls

The exterior walls of the room are stone. These are the diagonal northwest wall, the west wall with its large bay, the south wall, and the south part of the east wall. Those comprising the north two-thirds of the room are original, dating to 1880-81; the remaining stone walls on the south third of the room are later, dating to the addition of circa 1883-84. No demarcation is evident between the older and newer stone walls.

The interior walls of the room are of brick. These are the north part of the east wall, and the north wall. The brickwork foundation for one of the original chimneys (#5) is incorporated into the north wall. All of the brick walls are original features dating to 1880-81.

Ceiling

Like the floor and the walls, the ceiling dates to two periods of construction. The north portion is original, dating to 1880-81, while the south portion is later, dating to circa 1883-84.

The present textured ceiling plaster was installed in 1968. It replaced an existing plaster ceiling that was extant in January 1931.

Doorways

The room has one doorway on the north side of the original east wall (1880-81). It has a metal fire-rated door and casing that were probably installed in 1978.

A second wide opening in the east wall at one time connected Rooms B1 and B4, according to the HABS plans of 1963. This opening is now covered with a plasterboard material that may also have been installed in 1978.

There is physical evidence of a third opening in the east wall, at the south (circa 1883-84) end of the wall. This evidence includes an arched brick lintel, a wood header, and a stonework patch. An opening in this location would have provided access to the space beneath the Conservatory (Area B2). The opening appears to have been closed by 1963, based on the HABS drawings.

Windows

The room has two window openings dating to 1880-81 and one from circa 1883-84. One of the original openings is in the diagonal northwest wall of the room. The exterior side of the window was covered over in 1909-10 when Room 116 was constructed. The opening was filled in with brickwork in 1968 when the new ductwork for the heating system was installed.

The other original window (W-012) is in the middle of the west-wall bay. It retains what appears to be an original wood casement sash that is glazed with two panes of glass.

The third window (W-013) is in the south end of the west wall. It is contemporary with the south addition of circa 1883-84. The sash is a wood casement type glazed with two panes of glass.

The latter two windows were recorded by the residence appraisal of January 1931 as "2 Hinged sash, 3'8" x 1'3", 2 lights and ornamental iron guards."

Finishes

The stone and brick walls are painted white.

Lighting System

Two electric light fixtures are on the ceiling. They are activated by a switch on the east wall next to the doorway. Both the lights and the switch were installed in 1968. These fixtures may have replaced the "2 cord drops" recorded for electric lights in the room in 1931. No remnants of gas light fixtures survive.

Electrical Outlets

Three duplex outlets were installed in the room in 1968 at the same time as the lights. Two are on the east wall and one is on the west wall.

Electrical Panels

An old disconnected electrical fuse box is mounted to the north wall. It was relocated here from the east wall in 1984-85 when it was displaced by a structural steel column. The box is wood, painted black, and measures 3 feet high by 2 feet wide. It contains 39 fuses.

Heating System

The equipment for the present gas-fueled hot-water heating system was installed in the room in 1967-68. This includes a Weil-McLain water boiler, a Weil-McLain steam humidifier, a Bell and Gossett Air Control tank, and a Powers Control air compressor.

All that remains of the historic steam-heating system in this room is a slate-covered air channel in the floor. The two steam boilers installed here in 1920 have been removed.

Fire-Protection System

One Pyrotronics ionization smoke detector on the ceiling was installed in 1978. A large Halon-gas tank at the east wall was also installed at this time.

Unexcavated Area B2

General Information

The unexcavated crawl space beneath the Conservatory (Room 101) has been designated Area B2. It can be reached today by climbing through a former window opening in the south wall of Room B4. The Conservatory was enlarged circa 1882 from an original, smaller verandah built in 1880-81. The north third of present-day Area B2 was underneath the original verandah. Three of the foundation piers (two on the east side and one in the middle) probably date from this early period. The remaining two-thirds of Area B2 date to circa 1882, when the Conservatory addition was constructed.

The primary function of this area is to house the below-floor heating pipes for the Conservatory. Two sets of pipes exist here today. The earliest are large-diameter pipes that were installed by the time of the first residence appraisal of 1921. These pipes were disconnected and left in place in 1968 when a new heating system was installed. This new system employs fin-tube baseboard hot-water radiators to heat the Conservatory. The hot water is supplied by the boiler in Room B1.

Unexcavated Area B3

General Information

The unexcavated space beneath the southern front porch (Area B3) was built in 1880-81. It is accessed by removing the panel of wood lattice in the south end of the porch's foundation. This space enables air to circulate, thereby retarding decay of the porch's wood framing and floorboards.

Coal Room #2 (Room B4)

General Information

Coal Room #2 (Room B4) is an original cellar room. It is at the northeast corner of the house and beneath the first-story Reception Room (Room 102). This room was used to store coal for the steam boilers from 1880-81 until 1968, when the heating system was converted to gas-fueled hot water.

The room was referenced in the residence appraisals of 1921 and 1924 as the "Fuel Room." The 1931 appraisal, on the other hand, labeled the room as "Coal Room #2." It also cited the dimensions of the room as being 18 feet wide by 42 feet long, suggesting that adjacent Room B5 was then considered to be part of the coal room.

The coal was delivered to the room through a coal chute in the upper east wall. Today, the room is used as a general storage area and maintenance shop.

Floor

The floor is finished with concrete. Concrete floors existed in the cellar in 1921, and this one may be as early as 1880-81.

Walls

The exterior stone and interior brick walls are original, as is the brick foundation for chimney #7. The stone walls are on the east and south sides of the room, and the brick walls are on the north and west sides. The chimney foundation is incorporated into the north brick interior wall.

Ceiling

The present textured ceiling plaster was installed in 1968. It replaced an earlier plastered ceiling that existed in January 1931.

Doorways

One doorway, on the east side of the north interior wall, connects Room B4 with Room B5. The doorway has no door, nor is there any physical evidence of a former door.

Two other doorway openings are closed with modern plasterboard. Both openings existed in 1963, according to the HABS drawings. One was at the west end of the north wall; the other—a wide opening—was in the middle of the west wall. Both were closed sometime after 1963, perhaps when fire-safety modifications were made in 1978.

Windows

There is one original window opening in the middle of the south wall. The opening itself survives, although the window sash is missing. The sash appears to have existed in January 1931,

based on the residence appraisal of that date, which recorded Coal Room #2 as having "1 Hinged sash, 3'2" x 1'3", 2 lights."

It is likely that only limited light reached this window when it was first constructed in 1880-81, because it was covered by the verandah on the south side of the house. Even more light was blocked circa 1882, when the larger Conservatory (Room 101) replaced the verandah. Today, the window opening functions as the primary access to Area B2 under the Conservatory.

Finishes

The stone and brick walls are painted white, and the doorway woodwork is painted gray.

Lighting System

The room has two electric ceiling light fixtures. The lights are operated by a switch at the east end of the north wall. Both the lights and the switch were installed in 1968. These fixtures may have replaced the "cord drops" listed in the residence appraisal of January 1931. There are no remnants of gas light fixtures.

Electrical Outlets

There are two duplex outlets in the room. One is at the east wall, the other is on the west wall. Both were installed in 1968.

Heating System

This room served as a coal storage area for the steam-heating system that existed from 1880-81 until 1968. Physical remnants of this storage function include the coal-chute opening at the east wall, and the wood slats of the coal bin in the southwest and the northwest corners. The residence appraisal of January 1931 recorded the then-existing coal-bin partition in Coal Room #2 as being "170 Sq. ft. 7/8" x 8" coal bin partition."

A fresh-air conduit for the original heating system is in the floor. This is a slate-covered channel that crosses the floor diagonally.

Metal heat ducts for the present heating system exist along the ceiling. These were installed in 1968.

Fire-Protection System

A Pyrotronics ionization smoke detector is mounted to the ceiling. It was installed in 1978.

Coal Room #2/Heater Room (Room B5) and Room B5a

General Information

Coal Room #2/Heater Room (Room B5) is an original cellar room built in 1880-81. It is in the front part of the cellar, beneath the first-story Hall (Room 103). The room is roughly rectangular in shape, except that the northeast corner is occupied by Room B5a.

This room was the location of the steam boiler for the heating system from 1880-81 until 1920. The boiler was removed in 1920 when two new steam boilers were installed in the adjacent room (Room B1). A sink and a source of domestic hot water were also in this room by 1920, and remained until sometime after January 1931.

Both rooms B4 and B5 were listed as "Coal Room #2" in the residence appraisal of January 1931; it is unlikely, however, that coal was ever stored here. The room was also referred to as the "Heater Room" in this same appraisal, most likely because of the presence of the hot-water tank.

Floor

The floor is finished with concrete. Concrete floors existed in the cellar in 1921, and this one may be as early as 1880-81.

Walls and Ceiling

The east exterior wall is of stone. The other three walls are interior partitions of brick. The north and south brick walls incorporate the brick foundations for chimney numbers 6 and 7, respectively. All of the walls, including the chimney foundations, date to 1880-81.

The present textured ceiling plaster was installed in 1968. It replaced an earlier plaster ceiling that existed in 1931.

Doorways and Windows

Room B5 has six doorways. All six doorways are believed to be original openings (1880-81).

The first doorway, in the north wall, is a wide opening that provides access to Room B6. It has no door and no physical evidence of a former door.

The second doorway, in the interior wall between Rooms B5 and Room B5a, is the only entrance into Room B5a. It is a small opening that measures only 3 1/2 feet tall by 2 feet wide.

The third doorway, on the east side of the south wall, leads to Room B4. The doorway has no door and no physical evidence of a former door. Another doorway to Room B4, on the west side of the south wall, is missing today. It was closed with plasterboard sometime after 1963, based on the HABS drawings.

The other three doorways are in the west wall. One, at the south end of the wall, connects with Room B1. This doorway has a metal fire-rated door and casing probably installed in 1978. The second, in the middle of the wall, leads to Room B18. It has no door and no physical evidence of a former door. The third, at the north end of the wall, connects with the cellar hall (Room B8). This doorway has a four-panel wood door that existed in 1931 and may be as early as 1880-81. The residence appraisal of January 1931 recorded the door as "1 Door, 3'2" x 6'6" x 1-3/8", 4 panels."

Finishes

The stone and brick walls are painted white, and the doorway woodwork is painted gray.

Lighting System and Electrical Outlets

The room has two incandescent ceiling light fixtures and one ceiling-suspended fluorescent light fixture. The incandescent lights were installed in 1968, and the fluorescent light sometime thereafter. The light switch is on the west wall next to the hall doorway. The incandescent ceiling lights may have replaced electric "cord drops" that existed in the room in January 1931. No remnants survive of earlier gas light fixtures.

One duplex electrical outlet is on the west wall next to the ceiling light switch. It was installed in 1968.

Plumbing System

There is no plumbing equipment in the room today. However, the schematic drawing of the cellar dated March 22, 1920, shows a "boiler" here, north of the central heating system's "furnace," and a sink at the west wall.[29] In this case, the "boiler" seems to have been simply a storage tank for water that was heated by the adjacent "furnace." (See the section "Utilities: Plumbing System" for more information.)

The removal of the heating system's boiler from this room in 1920 would have made the storage tank obsolete. However, the 1931 residence appraisal calls this room the "Heater Room," and states that it contained "1 Pittsburg automatic storage system, size 66, #280484." Presumably this unit was capable of both heating and storing hot water.

A "sink" was also recorded in the "Heater Room" in the 1931 residence appraisal as follows:

1 Cast iron drip sink, 21" x 14", 2 faucets.

[29] The drawing is entitled, "Basement: West Orange, N.J., Hot and Cold Water System, Residence of Mr. T.A. Edison." It was prepared by the Laboratory Construction and Engineering Department, according to a transmittal memorandum dated Mar. 30, 1920. Edison NHS Archives. The boiler of the steam central heating system may have been labeled "furnace" so as to distinguish it from the adjacent domestic hot-water "boiler."

Heating System

Room B5 served as the boiler room from 1880-81 until 1920. As stated previously, a schematic drawing of the cellar dated March 22, 1920,[30] shows the original steam boiler for the central heating system (labeled the "furnace") here, just south of a hot-water storage tank (labeled the "boiler"). Little physical evidence survives of the boiler today, except for a brickwork patch in the south wall at the former flue opening. Slate-covered floor channels that provided fresh air for the original heating system cross the room on the west side.

Metal heating ducts for the present heating system exist at the ceiling. These were installed in 1968.

Fire-Protection System

There is one Pyrotronic ionization smoke detector mounted to the ceiling. It was installed in 1978.

Room B5a

The small enclosed space that was designated Room B5a was built in 1880-81. It is in the northwest corner of Room B5, beneath the first-story Entrance (Room 103a). This area has no discernable function except to provide support to the tile floor in the room above. This support is in the form of a masonry arch, composed of the east and west stone side walls and the brick-arched ceiling. The floor is dirt.

Access into B5a is through a small doorway in the south wall that connects with Room B5. There is no provision for lighting this space, either by natural or artificial means. A soil pipe of unknown date exists at the east wall. A metal heating duct installed in 1968 is at ceiling height.

[30] "Basement: West Orange, N.J., Hot and Cold Water System, Residence of Mr. T.A. Edison."

Coal Room #1 (Room B6) and Unexcavated Area B7

General Information

Coal Room #1 (Room B6) was built in the front part of the cellar in 1880-81. It is beneath the first-story Library (Room 104). This room was used to store coal from 1880-81 until sometime after 1931.

The room was listed in the residence appraisal of January 1931 as "Coal Room #1," measuring 12 feet 0 inches wide by 26 feet 0 inches long. Its easy accessibility from the cellar hall suggests that the coal stored here may have been used to fuel the coal-burning stoves in the kitchen and laundry. Coal was no longer stored in the room by 1968. Today, the room is used as a storage area by the National Park Service.

Floor

The floor is finished with concrete. Concrete floors existed in the cellar in 1921, and this one may be as early as 1880-81.

Walls

The east, exterior wall is stone, while the north, west, and south interior walls are of brick. A portion of the south brick wall also functions as the foundation for original chimney #6. All of the walls are original, dating to 1880-81.

A low wood partition divides the west side of the room in half. It runs east-west, and is probably part of the original coal bin. For a more complete description of the coal bin, see the subsequent discussion of the heating system.

Ceiling

The present textured ceiling plaster was installed in 1968. It replaced an earlier plaster ceiling that existed in January 1931.

Doorways

There are three doorways in the room: two in the west wall and one in the south wall. All three doorways are believed to be original (1880-81).

One doorway is at the north end of the west wall. No door hangs in this doorway, nor is there any physical evidence of a former door. This doorway is the primary entrance from the first story, being located near the foot of the stairway from that level. There is a landing at the foot of the stair that is one step higher than the cellar floor. From Room B6, one can step up onto the landing, and either turn left to ascend the stairway, or cross over the landing to enter the cellar hall (Room B8).

The doorway at the south end of the west wall connects directly with the cellar hall (Room B8). The doorway has a four-panel wood door that was listed in the 1931 appraisal, and may be as early as 1880-81. The appraisal described the door as "1 Door, 3'2" x 6'6" x 1-3/8", 4 panels."

The third doorway, at the west end of the south wall, connects with Room B6. It is a wide doorway that also appears to have never had a door.

Windows

There is one large window in the room, at the east end of the north wall. The window sash is the casement type. It is top-hinged, made of wood, and glazed with two panes of glass. Both the window opening and its sash likely date to 1880-81. The sash was recorded by the residence appraisal of January 1931 as "1 Hinged sash, 3'9" x 2'3" x 1-3/8", 2 lights."

Finishes

The walls are painted white, and the doorway woodwork is painted gray.

Lighting System

The room is has two electric ceiling light fixtures. The lights are operated by a switch on the south wall next to the doorway. Both the lights and the switch were installed in 1968. These fixtures may have replaced a "cord drop" electric light that was listed in the residence appraisal of January 1931.

One original gas light fixture—a capped gas cock—survives at the north wall, next to the west-wall doorway.

Electrical Outlets

One duplex outlet is at the south wall, next to the light switch. It was installed in 1968.

Heating System

Room B6 functioned as a coal-storage room from 1881 until sometime after 1931. As stated previously, this coal was probably used to fuel the stoves in the Kitchen and the Laundry, rather than the boiler for the heating system.

Several physical remnants of this coal-storage function survive in the room today. The coal-chute opening is in the east exterior wall. The coal-bin wall itself is missing, but a north-south trench in the concrete floor defines its original location in about the middle of the room. Still standing today is a wood partition on the west side of the room that runs east-west, or perpendicular to the former coal-bin wall. The function of this wall may have been to brace the coal bin wall when it was filled with coal. The wall is composed of horizontal wood slats painted white. It was described by the residence appraisal of January 1931 as being "48 Sq. ft. 7/8" x 8" coal bin partition."

Another feature that remains from the historic steam-heating system is one of the slate-covered channels in the floor that conveyed fresh air to the riser ducts that led to the heat-transfer boxes at ceiling level. The channel runs from north to south along the west side of the room. Modern heating ducts at the ceiling were installed in 1968.

Cooling System

Two disconnected "Frigidaire" compressor motors are at the east end of the south wall. The electrical equipment that operated the compressors is mounted to the low wood partition, at the east end of the south side. This equipment consists of two circuit-breaker boxes, above which are two lever-arm switches.

Fire-Protection System

A Pyrotronics ionization smoke detector is mounted to the ceiling. It was installed in 1978.

Unexcavated Area B7

The unexcavated space beneath the northern front porch (Area B7) was built in 1880-81. It is accessed by removing the panel of wood lattice in the north end of the porch's foundation. This space enables air to circulate, thereby retarding decay of the porch's wood framing and floorboards.

Hall (Room B8)

General Information

Room B8 is the main part of the original cellar hall or corridor; it dates to 1880-81. (The other part is a narrower corridor to the north, Room B10). Room B8 is in the center of the cellar, beneath the first-story Service Hall (Room 117). The primary features of this room are the interior stairway to the first story, which ascends the east wall, and numerous doorways. The 1931 residence appraisal stated that this part of the "Hall" measured 14 feet 0 inches wide by 22 feet long.

Floor

The floor is finished with concrete. Concrete floors existed in the cellar in 1921, and this one may be as early as 1880-81.

Walls

The walls are all interior walls made of brick. They were built in 1880-81.

Ceiling

The present textured ceiling plaster was installed in 1968. It replaced an earlier plaster ceiling that existed in January 1931.

Doorways

Seven of the eight original doorways survive in Room B8. Of these, four have paneled doors that may date to 1880-81.

The first doorway leads from the landing at the foot of the stairway to Room B6. It is at the north end of the east wall. The doorway has no door, nor any physical evidence of a former door.

A second doorway also provides access to Room B6. This doorway is in the middle of the east wall. It has a four-panel wood door that existed in January 1931 and may be as early as 1880-81.

The third doorway, at the south end of the east wall, connects with Room B5. The doorway has an old-looking four-panel door that may have been moved here from Room B15. No door was here in 1931, according to the residence appraisal that was done in January of that year. The door is missing its doorknob.

The fourth doorway, at the west end of the north wall, opens onto Room B8a. The doorway has a four-panel door that was listed in 1931 and may be as early as 1880-81.

The fifth doorway, at the south end of the west wall, leads to Room B16. The doorway has a four-panel door that was listed in 1931 and may be as early as 1880-81.

The sixth doorway, near the north end of the west wall, enters Room B15. There is no door, but cutouts for hinges indicate that a door hung here at one time. A "4 panel door" was extant in 1931, according to the residence appraisal that was done in January of that year. When the door was removed is not known. It may have been moved to the Room-B5 doorway, where a four-panel door exists today.

The seventh doorway, at the north end of the hall, leads to the north part of the cellar hall (Room B10). It is a wide opening with no door and no physical evidence of a former door.

One original (1880-81) doorway is missing from the west wall of B8—that leading to Room B8b, the shaft built for the original dumbwaiter. No physical or documentary evidence survives for this dumbwaiter. However, its doorway was enlarged in 1943-44, when a passenger elevator was installed in the shaft. The door in the doorway was removed in 1968, when the shaft was remodeled to serve as an air return for the new heating system. The doorway opening is now closed with matched-board paneling.

Windows

There are no windows, nor have there ever been any windows, in Room B8.

Stairway

The interior stairway to the first story abuts the east wall. The stairway ascends from north to south, beginning at the landing in the northeast corner of B8, and terminating with winders leading to the doorway to the Telephone Room (Room 119). Both the landing and the steps are made of wood. The stairway most likely dates to the original construction of the house in 1880-81. It was described by the residence appraisal of January 1931 as follows:

> 1 Flight of pine stairs, 3'0" wide, 14 treads and winders, 7" risers, 2" x 4" rail,
> 1 landing from Basement to First Floor.

The stairway appears to be unchanged today from its appearance in 1931.

Finishes

The brick walls are painted white and the woodwork is painted gray. "Woodwork" includes the doorway elements, the stairway, and the electrical panel boxes.

Lighting System

The stairway and the main part of the cellar hall are lit by two electric ceiling light fixtures installed in 1968. One light is on the first-story ceiling of the stairway, and the second light is on the cellar hall ceiling. The existing ceiling lights may have replaced electric "cord drop" fixtures that were in the cellar in January 1931.

The light switch is the push-button type, located at the head of the stairway in the first-story Service Hall. The date of this switch is unknown.

Electrical Outlets

There are no electrical outlets in Room B8.

Electrical Panels

Two wood boxes that house electrical panels are mounted to the west wall, between the doorways to Rooms B15 and B17. The box on the left (south) side is a lighting panel that holds fuses. Some of the circuits are identified on a paper label affixed to the interior side of the door. The paper label is headed with "Glenmont-electric fuses-1939," and lists the lighting fixtures in several of the cellar and first-story rooms.

The second box is similar in appearance to the previously described wood box. It is on the right (north) side of the first box. This box houses an electrical distribution panel with no fuses. There is no paper label inside the door.

Both electrical panel boxes were in use until 1968, when the electrical system was modernized by the National Park Service. They were disconnected, but left in place, at that time.

Heating System

A slate-covered channel that supplied fresh air to the original heating system is in the floor of B8. It crosses the floor diagonally at the northwest corner of the room.

Metal heating ducts at the ceiling were installed in 1968.

Fire-Protection System

One Pyrotronics ionization smoke detector is mounted to the ceiling of B8. It was installed in 1978.

Closet (Room B8a) and Dumbwaiter Shaft (Room B8b)

General Information

The Closet (Room B8a) is a small room built in 1880-81. It is at the south end of the main part of the cellar hall (Room B8). The room may have been used at one time as a "water closet" (toilet room), based on plumbers' repair bills dated February and May 1900.

The room was described by the January 1931 residence appraisal as a "closet" measuring 3 feet 0 inches wide by 12 feet 0 inches long. The room is used today as a storage area.

Floor

The floor is finished with concrete. Concrete floors existed in the cellar in 1921, and this one may be as early as 1880-81.

Walls

All four walls are interior brick walls built in 1880-81.

Ceiling

The present textured ceiling plaster was applied in 1968. It replaced an earlier plaster ceiling that existed in January 1931.

Doorways

One doorway is at the west end of the north wall. This doorway has a four-panel door that existed in January 1931 and may be as early as 1880-81.

Windows

There are no windows, nor have there ever been any windows, in Room B8a.

Wood Cabinet and Shelves

Storage space is provided in the room by one built-in cabinet and four open shelves. The cabinet occupies the east end of the room, and the shelves take up the entire south wall. It is not known exactly when the cabinet and the shelves were installed. However, they appear to have existed by January 1931, when they were described by the residence appraisal as "40 Sq. ft. pine shelving."

Finishes

The brick walls, cabinet, and shelves are painted white. The door is painted gray.

Lighting System

The room has one electric ceiling light fixture. The light is operated by a switch at the north wall next to the doorway. Both the light and the switch were installed in 1968. The light may have replaced the electric "cord drop" that was in the room in January 1931. There are no remnants of gas light fixtures.

Plumbing System

As stated previously, Room B8a may have been a "water closet" in 1900, and possibly as early as 1880-81. If this were in fact the case, little physical evidence of it survives. All that remains is a capped pipe at the lower west wall, which may have been the former drainpipe.

Heating System

There are no features that relate to the heating system in Room B8a.

Fire-Protection System

One Pyrotronics ionization smoke detector is mounted to the ceiling. It was installed in 1978.

Dumbwaiter Shaft (Room B8b)

The shaft for the original 1880-81 dumbwaiter, and the elevator that replaced the dumbwaiter in 1943-44, has been designated Room 8b. The shaft occupies the northeast corner of Room B15. It originally opened onto the cellar hall (Room B8).

The elevator was removed in 1968 when the shaft was converted to serve as an air return for the new heating system. The shaft was also used at this time as a chase for new electrical wiring.

The shaft opening is covered over today with matched boarding installed in 1968. Mounted to the boarding is a framed certificate that may have been removed from the former elevator cab. The certificate is dated March 27, 1965, and describes the elevator as being a "passenger" type with a carrying capacity of 3 people, or 450 pounds.

Store Room #2 (Room B9)

General Information

Store Room #2 (Room B9) is an original cellar room. It is in the northeast corner of the cellar, beneath the first-story Library (Room 104) and Service Dining Room (Room 105). The 1931 appraisal labeled this room "Store Room #2," and gave its dimensions as being 12 feet 0 inches wide by 26 feet long.

Room B9 also retains equipment from an original gas-generating plant, which manufactured gas for the house's gas light fixtures until sometime before 1921. See the subsequent section "Springfield Gas Machine."

Floor

The floor is finished with concrete. Concrete floors existed in the cellar in 1921, and this one may be as early as 1880-81.

Walls

Stone comprises the exterior foundation walls, including the entire east wall and the east end of the north wall. The north, west, and south interior walls are brick. The northwest corner of the room incorporates the brick foundation for chimney #1. All of the walls, including the chimney foundation, date to 1880-81.

Ceiling

The ceiling is finished with textured plaster applied in 1968. It replaced an earlier plaster ceiling that existed in January 1931.

Doorways

One doorway, in the south side of the west wall, connects with the north part of the cellar hall (Room B10). The doorway has a four-panel wood door that existed in January 1931 and may be as early as 1880-81. The appraisal recorded the door as "1 Door, 3′2″ x 6′6″ x 1-3/8″, 4 panels."

Windows

The room has one original window (W-001) at the east end of the north wall. The window opening is large and fitted with a casement sash. The sash is top-hinged to open inward and glazed with two panes of glass. It was described by the residence appraisal of January 1931 as "1 Hinged sash, 3′8″ x 1′3″, 2 lights."

Finishes

The walls are painted white and the doorway woodwork is painted gray.

Lighting System

The room is has one ceiling light fixture. It is operated by a switch at the west wall next to the doorway. Both the light and the switch were installed in 1968. The light may have replaced an electric "cord drop" fixture that existed in the room in 1931.

The remnant of one original gas light fixture on the west wall, to the north side of the doorway. This is a gas cock that was described in the residence appraisal of January 1931 as a "gas bracket."

Springfield Gas Machine

Illuminating gas for the house was originally manufactured by equipment on the premises. One component of this system—the pump mechanism—was in Room B9. This pump drove air into a generator located in a vault outside the house. The generator carburetor in turn produced illuminating gas that was piped back into the house.

The equipment that survives in Room B9 is the air pump and the weight that drove the pump. The pump itself is a compact machine located at the north wall. It has the following information imprinted on it:

> Springfield Gas Machine—Gilbert and Barker MF'G Co.—Manufacturers and Proprietors—Springfield Mass—Patented Aug. 3rd 1869 and Aug. 17th 1869.

The weight that drove the pump is in the far northeast corner of the room. This is a large stone disk seated in a brick-lined cavity in the floor. It had been suspended by a pulley system, remnants of which survive at intervals in the room.

The Edison family used the gas-making equipment, including the "gas machine," until sometime before 1921. It was noted as being "obsolete" by the time of the residence appraisals of 1921, 1924, and 1931. The 1931 appraisal described the equipment in the cellar as follows:

> 1 Springfield gas machine, #1822, receiver 32" x 32" diameter, Gilbert and Barker Mfg. Co. (obsolete).



Figure 37. Room B9, northeast corner, showing the obsolete Springfield Gas Machine, 1960.

Electrical Outlets

One duplex outlet is on the west wall, next to the light switch. It was installed in 1968.

Heating System

Three original slate-covered channels are in the floor of Room B9. Formerly they conveyed fresh air for the original heating system from the slate-covered channel in adjacent Room B11 to other channels in the cellar. Thus, all three channels begin at the middle of the north wall, where the Room B11 channel ended. One channel crosses the center of the room in a north-south direction. The second channel crosses the room diagonally, angling towards the west. The third channel also crosses the room diagonally, angling towards the east. The channels are no longer in use today.

Metal ducts for the present heating system are at the ceiling. They were installed in 1968.

Fire-Protection System

One Pyrotronics ionization smoke detector is mounted to the ceiling. It was installed in 1978.

Hall (Room B10)

General Information

Room B10 is an original hallway that extends northward from Room B8, the wider main part of the cellar hall. Room B10 has historically served as the entrance into the cellar from the exterior bulkhead (Room B13), and as the access to Rooms B9, B11, and B14. It is believed to be little changed from its original appearance in 1880-81.

Floor

The floor is finished with concrete. Concrete floors existed in the cellar in 1921, and this one may be as early as 1880-81.

Walls

All of the walls are interior brick walls that date to the construction of the house in 1880-81.

Ceiling

The present textured ceiling plaster was installed in 1968. It replaced an earlier plaster ceiling that existed in January 1931.

Doorways

Five doorways open off B10. All are believed to be original features dating to 1880-81.

The first doorway, at the north end of the hall, connects with the bulkhead entrance (Room B13). It is believed to retain all of its original 1880-81 features, including a glazed wood door and a transom. The doorway is unchanged from its appearance in January 1931, when it was described by the residence appraisal as follows:

> 1 Entrance door, 3'4" x 6'8" x 1-3/4", 2 panels, 30 lights with 20" transom, 18 lights.

The second doorway, at the north end of the east wall, enters Room B11. The doorway has a four-panel wood door that existed in January 1931 and may be as early as 1880-81.

The third doorway, at the south end of east wall, opens onto Room B9. The doorway also has a four-panel wood door that existed in January 1931 and may be as early as 1880-81.

The fourth doorway, at the south end of the hall, connects with the main part of the cellar hall (Room B8). This is a wide opening with no door and no physical evidence of a previous door.

The fifth doorway, at the north end of the west wall, leads to Room B14. The doorway has a four-panel wood door that existed in January 1931 and may be as early as 1880-81.

Windows

The only windows in the north part of the cellar hall are associated with the north doorway. These include a glazed panel within the door itself and a transom window above the door. Both are described in more detail in the previous section on doorways.

Finishes

The walls are painted white, and the doorway woodwork is painted gray.

Lighting System

There are no electric light fixtures in Room B10. A remnant of the original gas lighting—a capped gas cock—survives at the south end of the west wall.

Fire-Protection System

There is no fire-protection equipment in this room.

Store Room #1 (Room B11) and Unexcavated Area B12

General Information

Store Room #1 (Room B11) is an original cellar room. It is at the northeast corner of the cellar, beneath the first-story Laundry (Room 106). This room is the same size as the Laundry was when it was built in 1880-81 (i.e., before the Laundry was enlarged circa 1883-84).

The room was called "Store Room #1" in the residence appraisal of January 1931. Its dimensions were then recorded as being 12 feet 0 inches wide by 18 inches long. The primary function of the room today is to house the electrical distribution panels.

Floor

The floor is finished with concrete that appears to have been applied sometime after 1880-81 and before October 1960. This concrete is not the original finish, because it obscures the original slate-covered floor channel on the east side of the room. This occurred sometime before October 1960, based on a photograph of the room that shows the floor as it is today. The existing concrete may be a skim coat applied over an earlier concrete floor. Concrete floors existed in the cellar in 1921, and this one may be as early as 1880-81.

Walls and Ceiling

The exterior north and east walls are stone, and the interior south and west walls are brick. All of the walls are original (dating to 1880-81). They are covered with a plaster finish of unknown date.

The ceiling is finished with textured plaster applied in 1968. It replaced an earlier plastered ceiling that was extant in January 1931.

Doorways

One doorway, at the south end of the west wall, leads to the north part of the cellar hall (Room B10). The doorway has one four-panel wood door that existed in January 1931 and may be as early as 1880-81. It was described by the appraisal as "1 Door, 2'8" x 6'6" x 1-3/8", 4 panels."

Windows

There are two windows in the room—one in the east wall and one in the west wall. Both windows existed in January 1931, according to the residence appraisal for that year.

The east window (W-002) is a large exterior opening. It has a casement-style wood sash that is top-hinged to open inward and glazed with two panes of glass. Both the window opening and its sash are believed to date to 1880-81. The sash was recorded by the 1931 appraisal as "1 Hinged sash, 3'0" x 3'0" x 1-3/8", 2 lights with ornamental iron guard."

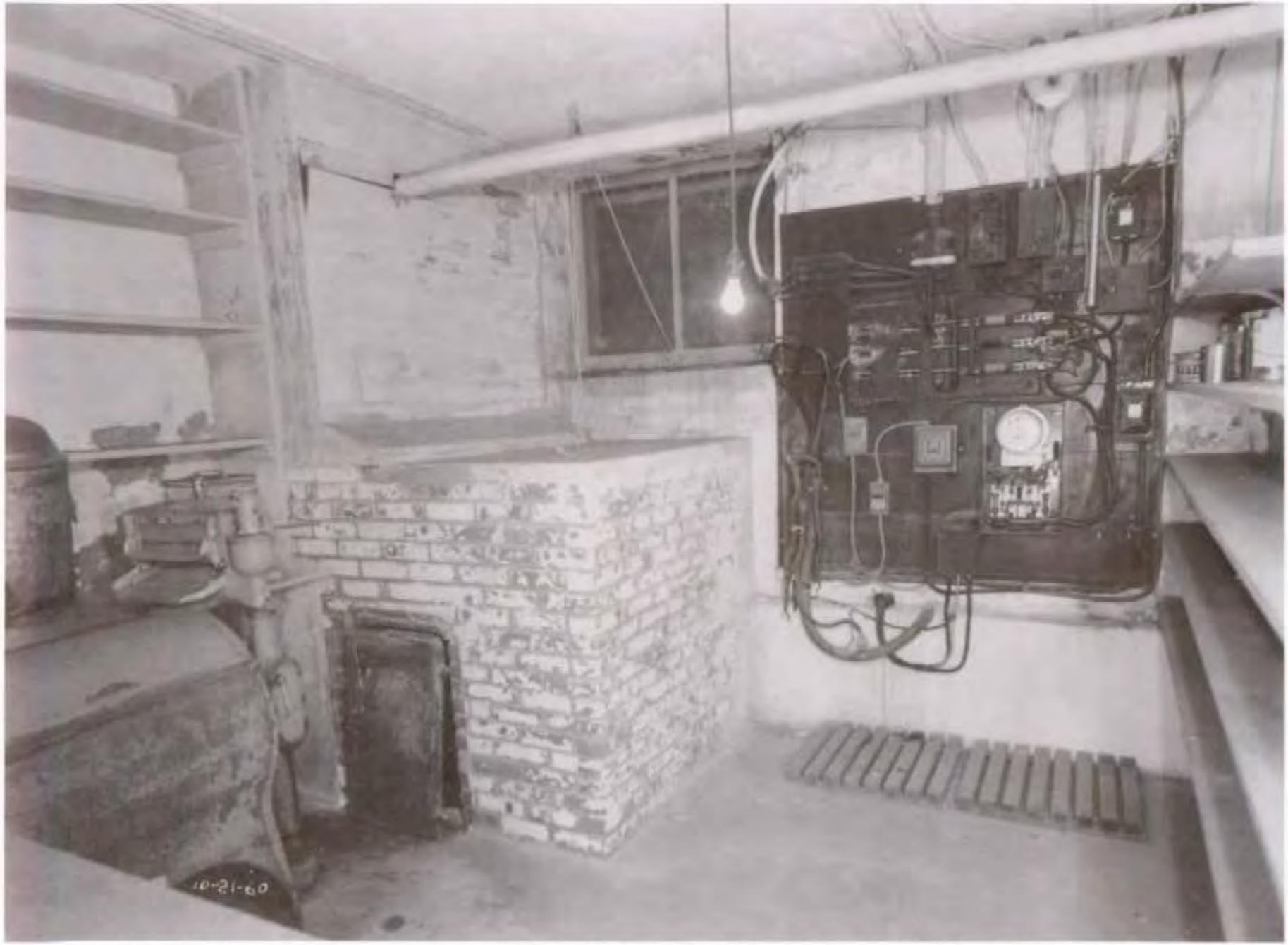


Figure 38. Store Room #2 (Room B11), northeast corner, showing the fresh-air plenum for the original heating system (left), and the electrical panel for incoming service (right), 1960.

The west window (no window number) is the largest window opening in the cellar. It is an interior window that overlooks the adjacent bulkhead entrance (Room B13). The opening has a casement-style wood sash that is side-hinged to open inward and glazed with eight panes of glass. It was described by the 1931 appraisal as "1 Fixed [sic] sash, 3/8" x 4'8" x 1-3/8", 8 lights with ornamental iron guard."

Storage Shelves

There are built-in open shelves at the north wall, and a chest of drawers at the west wall. Additional open shelving that had existed at the south wall in 1960 (based on a photograph of the room) is missing today. It was probably removed to make room for the modern electrical panels installed at the south wall in 1968.

Shelves existed in the room in January 1931, according to the residence appraisal that described "210 Sq. Ft. pine shelf." Both the shelves and the drawers may have been installed in May 1907, when carpenter Adolph Vogel billed the Edisons for "cellar drawers and shelving."[31]

Finishes

The plaster walls are painted white, and the doorway woodwork is painted gray.

Lighting System

The room has one electric ceiling light fixture. It is operated by a switch on the west wall next to the doorway. Both the light and the switch were installed in 1968. The light may have replaced an electric "cord drop" that existed in the room in January 1931. Such a fixture is illustrated in a photograph of the room taken on October 21, 1960 (NPS photograph no. 6813).

Electrical Outlets and Panel Boards

One duplex outlet is next to the light switch at the west wall. It was installed in 1968.

Electrical service enters the house today through the east wall of Room B11. This was also true during the Edison period, as indicated by an old electrical entrance panel at the east wall. This panel was in use until 1968, when new electrical service was installed by the National Park Service. The panel is a large wood board with various electrical components mounted to it. Of these, one is labeled and dated as follows: "NOARK—Cat. No. 3831, Pat. Oct. 27, 03, Apr. 20, 09, others pending."

Two new electrical distribution panels replaced the old entrance panel in 1968. The two new panels are mounted to the south wall. Both are housed in metal boxes. One of the boxes is labeled "Panelboard A." Circuit breakers within the box are identified as being for the lights, receptacles, and other electrical fixtures that are outside, in the cellar, and in the first story. The second electrical panel box is unlabeled.

[31] Bill dated July 9, 1907. Edison NHS Archives.

Heating System

The fresh-air plenum for the original heating system is in the northeast corner of the room. The plenum is composed of a brick enclosure about 4 feet high and a wood shaft above the brick. Fresh air entered the wood shaft through an opening in the upper north wall. From here, it dropped to the bottom of the brick plenum. The air was then drawn through a slate-covered channel in the floor that led to other channels in the floors of several of the cellar rooms. As stated previously, the channels delivered the air to riser ducts that in turn led to heat-transfer boxes at ceiling level.

The floor channel is missing today from Room B11, having been filled in and covered with concrete at an unknown date. This had occurred by October 1960, based on a photograph of the room that shows the floor as it appears today. The floor channel appears to have run in a north-south direction, from the brick plenum to the south interior wall. The place where the channel intersected the south wall can be determined from the locations of the surviving floor channels in adjacent Room B9, with which it connected.

Fire-Protection System

One Pyrotronics ionization smoke detector is mounted to the ceiling. It was installed in 1978.

Unexcavated Area B12

The unexcavated crawl space at the northeast corner of the cellar has been designated Area 12. It is the foundation for the north addition (circa 1883-84) to the Laundry (Room 106).

All four walls are stone. The south wall was built in 1880-81 as the original north foundation wall of the house. The east, north, and west walls were added circa 1883-84 as the foundation walls for the north Laundry addition.

Two openings, opposite one another in the north and south walls, once conveyed fresh air to the original heating system. Air was drawn through the exterior opening in the north wall (W-003); it was conducted via a conduit across Area B12 to the opening in the south wall, where it entered the wood and brick plenum in Room B11. The conduit in Area B12 was not examined for this report, so no details are known about its construction. Its use had been discontinued by October 1960, based on an interior photograph of Room B11 that shows the concrete flooring where the fresh-air floor channel should be.

Bulkhead Entrance (Room B13)

General Information

The Bulkhead Entrance (Room B13), on the north side of the house, is the exterior entrance/exit for the cellar. It is an original feature dating to 1880-81.

Floor

The floor is concrete. Concrete floors were in the cellar in 1921, and this one may be as early as 1880-81.

A stone-covered square drain is centered in the floor. Its function was to collect rainwater that filtered through the bulkhead doors. The water presumably drains to one of the rainwater cisterns.

Walls

The walls are composed of dressed brownstone.

The east and west side walls of the stairwell, along with the steps themselves, were completely restored in 1977 under NPS contract CX 1600-7-0052, "Glenmont Roofing and Miscellaneous Repairs." The work done at that time included disassembling the walls, numbering the stones, and rebuilding the walls using an appropriate mortar mix. The historic mortar was described as being medium-soft in hardness and red-tan in color, with inclusions of white lime and a red-painted finish. The mortar mix for repointing was specified to be: two parts portland cement, five parts hydrated lime, two parts fine washed sand, and pigment added as required to match the original red-brown color. The restored mortar joints were tooled and painted red to match the original treatment. Those areas of the walls that were not rebuilt had their mortar joints raked out and repointed. It therefore appears that no original mortar joints survive today.

Ceiling

The portion of the ceiling of Room B13 not taken up by the bulkhead doors is composed of matched boarding. These ceiling boards may date to the original construction of the bulkhead entrance in 1880-81.

Doorways

There are two doorways in Room B13: the exterior bulkhead doorway and the interior doorway to Room B10. The exterior bulkhead doorway is in the ceiling on the north side of the room. It is discussed in detail in the section on exterior doorways (see D-102).

The interior doorway is in the south wall. The features of this doorway include a glazed wood door and a transom window. This doorway appears to be little changed from its appearance in January 1931 when it was described in the residence appraisal (see "Room B10, Doorways"). The glazed door and transom may be as early as 1880-81.

Windows

There is one window in Room B13, at the south end of the east wall. This window provides light to Room B11 only when the bulkhead doors are open. This window is significant for being the largest window opening in the cellar. It is the only cellar window with a side-hinged wood casement sash. The sash is glazed with eight panes of glass, as was described in the residence appraisal of January 1931.

Stairway

A wide stairway takes up the entire north half of Room B13. This stairway ascends from the cellar story up to the exterior ground level. It is little changed from its appearance in January 1931, when it was described by the residence appraisal as follows:

> 1 Set of Cellar steps, 6'0" Wide, 9 bluestone treads, 4" x 10", brick risers and hinged pine cover.

The stairway was completely restored in 1977 under NPS contract CX 1600-7-0052, "Glenmont Roofing and Miscellaneous Repairs." This work involved disassembling the steps, numbering the parts, and reconstructing the steps using the original materials. The masonry side walls were also restored at this time, as described in the section "Walls."

Finishes

The masonry walls and steps are unpainted except for the mortar joints of the walls, which are "penciled" with red-color paint. The existing red paint was applied in 1977 to replicate the existing finish.

All of the woodwork in Room B13 is painted gray. This includes the matched boarding on the ceiling, and the surrounds and doors of the north and south doorways.

Lighting System

There are no electric light fixtures in Room B13 today, nor is there any evidence that this room has ever had gas or electric lights.

Fire-Protection System

There is no smoke detector in Room B13.

Pump Room (Room B14)

General Information

The Pump Room (Room B14) is an original cellar room built in 1880-81. It is on the north side of the cellar, beneath the first-story Kitchen (Room 107) and the Refrigerator Room (Room 107a). This room has historically served an important function in the plumbing system of the house. It was here that water entered the house for distribution to the attic storage tank, and where some water was heated.

The room was labeled by the residence appraisals of 1921 and 1924 as the "Tank and Pump Room," and by the residence appraisal of January 1931 as the "Pump Room." Its 1931 dimensions were described as being 10 feet 0 inches wide by 18 feet 0 inches long.

Floor

The floor is finished with concrete. Concrete floors were in the cellar in 1921, and this one may be as early as 1880-81.

Walls

The north and west walls are made of stone, and the south and east walls are made of brick. Both the stone and brick walls are original, dating to 1880-81. The brick foundation for chimney #2 projects into the room at the center of the south wall.

Ceiling

The ceiling is finished with textured plaster installed in 1968. It replaced an earlier plaster ceiling that existed in January 1931.

Doorways

One doorway, on the north side of the east wall, connects with the north part of the cellar hall (Room B10). It has a four-panel wood door that existed in 1931 and may be as early as 1880-81. The door was described by the residence appraisal of January 1931 as "1 Door, 3'2" x 6'5" x 1-3/8", 4 panels."

Windows

There are two obsolete windows openings in the south wall of Room B14. Natural light to these windows was blocked circa 1884, when a large addition was built onto the west side of the house. The sashes, however, existed as late as January 1931, according to the residence appraisal that listed "2 Hinged sash, 3'9" x 1'3", 2 lights." The window sashes are missing today from both windows, but only the north-side window (W-004) is covered with a board.



Figure 39. Pump Room (Room B14), northwest corner, showing the cistern valves and water pumps, 1960.

Finishes

The masonry walls are painted white, and the doorway woodwork is painted gray.

Lighting System

The room has one electric ceiling light fixture. It is operated by a switch at the east wall, north of the doorway. Both the light and the switch were installed in 1968. The light may have replaced the two electric "cord drops" listed in the residence appraisal of January 1931. One cord-suspended fixture is illustrated in a photograph of the room taken on October 21, 1960 (NPS photograph no. 6815).

A remnant of the original gas lighting—a capped gas cock—is in the east wall, south of the doorway. It was listed in the 1931 appraisal as "1 Gas bracket."

Electrical Outlets

There are two receptacle outlets in Room B14. Both were installed in 1968 and are at the east wall near the light switch. One is a duplex receptacle; the other is a single receptacle with 220-volt service.

Electrical Panels

One obsolete electrical panel is mounted to the south side of the east wall. This panel is housed within a wood box painted black. Two paper labels are affixed to the interior side of the box's door. Each label is typewritten with the heading: "Glenmont—electric fuses—1939." The fuses itemized therein are for electrical fixtures in the cellar pump room and in several first-story rooms.

Plumbing System

Plumbing fixtures include the entrance pipes from the rainwater cisterns, a pump, and various shut-off valves. Two hot-water heaters formerly in the room—one present in 1921, the other there in 1931—are missing today.

Three pipes enter Room B14 through the west wall. Each pipe is connected to one of three rainwater cisterns on the property. Each pipe is also fitted with its own shut-off valve. The cisterns were the only source of water for the house from 1880-81 until 1894, when a supplemental source of water was obtained by a connection with the West Orange public water supply. This source also entered the house via Room B14.

Water was moved from the cisterns and into a storage tank in the attic by means of a pump. The pump was at the west wall of Room B14 where the cistern pipes entered the cellar. It is known from the historical documentation that the pump was powered by a gasoline engine in 1888, by a one-horsepower electric motor in 1910, and by a two-horsepower electric motor in 1921, 1924, and 1931.

The residence appraisals of 1921 and 1924 described two pumps in the cellar as follows:

> 1 "Rumsey" Seneca Falls 12" stroke Crocker-Wheeler cistern pump operated by 1 belt driven 2 h.p. motor.
>
> 1 "Gould" hand deep well pump [sic].

The 1931 residence appraisal was even more detailed, recording the pump as:

> 1 Seneca Falls plunger pump, pulley 27 x 6", with c/s and Crocker Wheeler motor, 2 H.P. size 7, 1550 R.P.M. and lever priming pump, complete with piping.

The pump in the room today has written on it "Seneca Falls, N.Y. 35-B-1." It is not known for certain if this is the same pump that was in the room during Thomas Edison's lifetime, or if it was installed at a later date. The motor that powered the pump is missing. It most likely became obsolete in 1950, when the electrical service in the house was changed from direct current to alternating current. Public water was probably used exclusively after 1950.

Valves to shut off the hot and cold water to various parts of the house are in Room B14. A list that numbers and identifies these valves is framed and mounted to the east wall, north of the doorway. The list is typewritten and entitled, "HOT & COLD SHUT OFF VALVES." Although undated, it is certain that the list was prepared sometime after Mrs. Edison's marriage to Mr. Hughes in 1935, based on one entry for "Mrs. Hughe's [sic] Bath."

There is no hot-water heating apparatus in Room B14 today. However, documentary and physical evidence suggests that a water heater was here as early as 1905. It is known that such a heater existed somewhere in the cellar at that time, based on a bill from plumbers Milne & Platt dated December 1, 1905, that includes "6 hrs. connecting hot water in cellar to new system." Room B14 is a likely location, because the chimney base at its south wall has a flue opening for venting such a heater. The nature of the "new system" is not known, but it is worth noting that two new bathrooms (Rooms 201 and 303) were created in 1905, and one existing bathroom (Room 208) was remodeled.

Water-heating equipment was definitely here by 1920, according to a schematic drawing of the cellar dated March 22, 1920.[32] This shows the room equipped with a "Gas Heater" and an adjacent "Boiler" at the south wall. In this case, the term "boiler" clearly means a storage tank. The residence appraisal of 1921 labels the room as the "Pump and Tank Room." In this case, the word "tank" probably refers to both the water heater and storage tank as a single unit.

[32] "Basement: West Orange, N.J., Hot and Cold Water System, Residence of Mr. T.A. Edison." The drawing was made by the Laboratory Construction and Engineering Department, according to a transmittal memorandum dated Mar. 30, 1930. Edison NHS Archives.

By 1931, the "heater" and "boiler" had been replaced by an oil-fired unit. The 1931 residence appraisal did not acknowledge any hot-water equipment in its name for the room, but did record that the "Pump Room" had the following water-heating equipment:

> 1 Pittsburg Automatic storage system, Style 300, #33721, with asbestos covered tank and Moment valve, size T-#924.

Two water heaters existed in the room in the 1960's, according to NPS documents. Both were removed in 1968 under NPS contract CX 14-10-7-981-93, "Electrical and Heating Systems: Glenmont." Annotated floor plans that accompanied the contract indicate that the "water heaters" were located in the southwest corner of the room.

Heating System

Modern heating ducts, installed in 1968, are at the ceiling.

Fire-Protection System

One Pyrotronics ionization smoke detector is mounted to the ceiling. It was installed in 1978.

Wood Room (Room B15)

General Information

The Wood Room (Room B15) is an original cellar room. It is on the west side of the main cellar hall, beneath the first-story Pantry (Room 108). The northeast corner of B15 is built out to accommodate the original dumbwaiter shaft.

The room was labeled by the residence appraisal of January 1931 as the "Wood Room," with dimensions of 11 feet by 12 feet. The wood stored here was most likely hauled up in the adjacent dumbwaiter for use in the fireplaces upstairs.

A motor to power a passenger elevator was installed in this room in 1943-44, when the original dumbwaiter was replaced by the elevator. The elevator was removed in 1968, and its motor sometime thereafter.

Today, the room functions primarily as the control room for the Pyrotronics fire-detection system that was installed in 1978.

Floor

The floor is finished with concrete. Concrete floors were in the cellar in 1921, and this one may be as early as 1880-81.

Walls and Ceiling

The west wall is made of stone, and the north, south, and east interior walls are made of brick. Stone was used for the west wall because it was an exterior foundation wall when the house was built in 1880-81. The exterior side of this wall was covered shortly thereafter (circa 1883-84) by a one-story addition that enlarged the Pantry.

The ceiling is finished with textured plaster installed in 1968. It replaced an earlier plastered ceiling that existed in January 1931.

Doorways and Windows

One doorway in the east wall leads to the main cellar hall (Room B8). The door is missing today; all that remains are the empty mortises for the door hinges. The door appears to have been missing by January 1931, based on the residence appraisal that simply listed "1 Cased opening, 3′2″ x 6′8″. It is not known exactly when the door was removed.

One window opening exists in the room at the upper west wall. This is an original opening that was built in 1880-81. The sash is missing, having been removed sometime after January 1931. The residence appraisal of that date recorded the sash as being "1 Hinged sash, 3′2″ x 1′3″, 2 lights."

The window became obsolete at an early date, when an addition was built over it on the exterior west side of the house circa 1883-84. Today the opening functions as the access to the unexcavated crawl space beneath the addition (Area B19).

Finishes

The walls are painted white, and the doorway woodwork is painted gray.

Lighting System

Two electric light fixtures are in the room. One is a ceiling light installed in 1968; the other is a wall fixture on the south wall. The wall light appears to have been installed sometime after 1968, because it is not shown on contract drawings of that date for new electrical work. Both lights are controlled by a switch next to the doorway at the east wall.

The existing light fixtures may have replaced the "1 Cord drop" and "1 Switch" recorded in the Wood Room by the residence appraisal of January 1931.

Electrical Outlets

There are three receptacle outlets in the room. One each is at the east, north, and south walls. The east and north outlets are duplex receptacles, and the south outlet is a double duplex receptacle. Contract drawings indicate that the east outlet was installed in 1968. The north and south outlets are not shown on the drawings and therefore appear to have been installed sometime after 1968.

Telephone Equipment

A large metal box bearing the words "Western Electric" is mounted to the east end of the north wall. This is a telephone junction box, which is connected with both old and new-looking wires. Telephones were first installed in the house in 1887 by the New York and New Jersey Telephone Company. The date of the "Western Electric" box, however, is not known.[33]

Heating System

Modern heating ducts, installed in 1968, are at the ceiling.

Fire-Protection System

The fire-protection equipment in the room includes one Pyrotronics ionization smoke detector in the ceiling and a Pyrotronics control panel box at the south wall. Also at the south wall is a "PYR-A-LARM" bell and a red pull-box. All of this equipment was installed in 1978.

[33] Further research on this particular piece of equipment may provide an approximate date of installation. The Western Electric Company of Illinois existed as early as 1881.

Closet (Room B16)

General Information

A walk-in closet (Room B16) is in the northeast corner of Room B17. It is not known exactly when this closet was built. It may have been as late as 1910, when carpenter Adolph Vogel charged the Edisons for a considerable amount of "cellar work" that used lumber measuring 5/4 by 10 inches, 2 by 6 inches, 2 by 9 inches, and 2 by 10 inches. The closet today is little changed from its appearance in January 1931, when it was described by the residence appraisal as follows:

> 1 Pine closet, 11'6" x 8'0" x 8'0" with 2 pair of doors, 5'0" x 7'0' and 400 sq. ft. pine shelf.

Floor

The floor is finished with concrete. Concrete floors were in the cellar in 1921, and this one may be as early as 1880-81.

Walls

The north and east walls are made of brick, and the west and south walls are wood. The brick walls were built in 1880-81; the wood walls date to the construction of the closet, sometime after 1880-81.

Ceiling

The ceiling is finished with modern textured plaster installed in 1968. It replaced an earlier plaster ceiling that existed in 1931.

Doorways

Two doorways are side-by-side in the closet's wood south wall. Each doorway has a pair of wood doors with five vertically aligned panels. The top and bottom panels in all four doors have been removed and replaced by heavy-gauge wire on the interior (closet) side. The reason for the wire may have been for ventilation. It is not known if the wire was an original treatment or if it was added at a later date.

The doors were described by the residence appraisal of January 1931. See the previous "General Information" section.

Windows

There are no window openings in the closet.

Shelves

Four rows of wood shelves provide storage space on the north, east, and west sides of the closet.

Finishes

The closet's interior north, east, and west walls are painted white. The south wall, the doors, and the storage shelves are painted a cream color.

Lighting System

The closet has one electric ceiling light fixture. The light is operated by a switch on the south wall between the two doorways. The light and its switch were both installed in 1968. The light may have replaced an electric "cord drop" fixture that existed in January 1931.

The remnant of an original gas light fixture survives at the east wall of the closet. This is a capped gas cock, described in the 1931 residence appraisal as "1 Gas bracket."

Electrical Outlets

There are no electrical outlets in the closet.

Heating System

Modern heating conduits pass through the closet at the ceiling level. These were installed in 1968.

Fire-Protection System

One Pyrotronics ionization smoke detector is mounted to the ceiling. It was installed in 1978.

Store Room #3 (Room B17)

General Information

Store Room #3 (Room B17) is a large room on the west side of the cellar, beneath the first-story Dining Room (Room 115). It was constructed in 1880-81 and enlarged circa 1884. The extension of the room circa 1884 exposed the curved exterior wall of a cistern—one of three that supplied the house with water. This curved wall may be seen today in the northwest corner of the room.

The room was described by the residence appraisal of January 1931 as "Store Room #3," with dimensions of 15 feet wide by 27 feet long. Also described in 1931 was a large pine closet that exists today in the northeast corner. The closet is labeled and described separately as Room B16.

Floor

The floor dates from two periods of construction: 1880-81 and circa 1884. The earliest portion of the floor comprises the east two-thirds of the room, and the later portion the west third. No clear demarcation is visible in the floor between the two sections.

The entire floor is finished with concrete. Concrete floors were in the cellar in 1921; the portion in the original part of the room may be as early as 1880-81. A trench at the south and west walls may have carried away groundwater that entered the room.

Walls

The walls, excluding the wood closet, are of stone and brick. Stone comprises the south wall, the west wall, and the west half of the north wall. One section of the south wall also functions as the foundation for chimney #4. The east wall and the east half of the north wall are of brick. The curved cistern wall in the northwest corner is brick pargeted with mortar.

The walls date from two, and possibly three, periods of construction: 1880-81, circa 1883-84, and circa 1884. The earliest walls are those of the east two-thirds of the room, including the window openings in the north and south walls. Also original to 1880-81 is the curved cistern wall in the northwest corner of the room.

A small section of the upper north wall may remain from the Pantry addition of circa 1883-84. This area, which is west of the window opening, measures about 5 feet wide. It is also possible, however, that this portion of the wall was removed and rebuilt circa 1884, when Room B17 was extended to the west.

The walls built circa 1884 comprise approximately the west third of the room. There are no visible breaks in the walls to indicate where one period of construction ends and another begins.

Ceiling

The ceiling dates from two periods of construction: 1880-81 and circa 1884. The ceiling in the east two-thirds of the room was built in 1880-81, while the west third was added circa 1884. No line of demarcation is visible between the original and later ceiling.

The ceiling is finished with modern textured plaster installed in 1968. It replaced an earlier plaster ceiling that existed in 1931.

Doorways

One doorway in the east wall of the room connects with the main cellar hall (Room B8). This doorway has one four-panel wood door that existed in 1931 and may be as early as 1880-81.

Two doorways enter the closet in the northeast corner of the room. Both the closet and its doorways existed in January 1931. They are described in detail in the section on Room B16.

Windows

There are two windows in the room: one in the north wall, the other in the south wall. Both are original window openings dating to 1880-81 that were recorded by the residence appraisal of January 1931.

The south window (W-009) is a large opening that provides the only source of natural light to the room today. It has a two-pane wood sash that is top-hinged to open inward. The sash was recorded by the 1931 appraisal as "1 Hinged sash, 3'0" x 3'0", 2 lights and ornamental iron grille."

The north window (no window number) is smaller than the south window. The light to this window became diminished circa 1883-84, when a small addition was built on the north side of the house. The light was finally blocked completely circa 1884, when a larger addition subsumed the earlier addition. Even though the window is obsolete today, it retains its original wood sash. The sash is glazed with two panes of glass and is top-hinged to open inward. It was described by the 1931 appraisal as "1 Hinged sash, 3'8" x 1'3", 2 lights." The window opening now serves as the access to unexcavated Area B19, beneath the addition of circa 1883-84.

Pine Closet

For detailed information on the large pine closet in the northeast corner of Room B17, see the section on Room B16.

Finishes

The masonry walls and the wood closet are painted white. The doorway woodwork at the east wall is painted gray.

Lighting System

Two electric light fixtures are mounted to the ceiling. Both are activated by a switch mounted to the doorway architrave at the east wall. The lights and the switch were both installed in 1968. They may have replaced two electric "cord drops" that were in the room in January 1931, according to the residence appraisal for that year.

The remnant of one original gas light fixture survives at the east wall, north of the doorway. This is a capped gas cock that was described by the 1931 residence appraisal as "1 Gas bracket."

Electrical Outlets

Two duplex receptacle outlets installed in 1968 are in the room today. One is on the east wall, the other on the north wall.

Plumbing System

A remnant of the original plumbing system is visible in the northwest corner of the room. This is the curved outer wall of one of three rainwater cisterns for the house. The cisterns were the primary source of water for the plumbing system from 1880-81 until 1894, when a supplemental line was installed.

A modern sump pump that removes groundwater from the cellar is also in Room B17. This pump is at the north wall, in the corner adjacent to the closet (B16). It may have been installed in 1967 as part of NPS contract CX 14-10-981-39, "Glenmont Boiler Replacement." The drawings for the contract locate the new sump pump in Room B1; however, there is no pump in that room, nor is there any evidence that one was ever installed. It therefore appears that the location may have been changed during the course of the contract from Room B1 to Room B17. The sump pump is operational today.

Heating System

A large amount of space in Room B17 is taken up by a fan unit and ductwork for the heating system.[34] Both were installed in 1968 as part of the new forced hot-air heating system. The fan was manufactured by "The Trane Company." An electrical circuit breaker for the fan is mounted to the exterior west wall of the pine closet (Room B16).

Fire-Protection System

One Pyrotronics ionization smoke detector is mounted to the ceiling. It was installed in 1978.

[34] A second fan unit is located in the attic.

Ash Room (Room B18) and Unexcavated Area B19

General Information

The Ash Room (Room B18) is a small, original (1880-81) room off Room B5. The room was most likely the "Ash Room" referred to in the residence appraisal of January 1931. The "ash" was probably coal ash removed from the heating system's boilers, which was stored here temporarily and eventually carted away.

The room is most noteworthy for its low ceiling, which is the result of being located beneath Rooms 119 and 120.[35] The room is used by the National Park Service today as a general storage area.

Floor

The floor is finished with concrete. Concrete floors were in the cellar in 1921, and this one may be as early as 1880-81.

Walls

The exterior west wall is stone, and the interior north, south, and east walls are brick. The west end of the interior south wall also functions as the foundation for chimney #5. All of the walls were built in 1880-81.

Ceiling

The ceiling is finished with a textured plaster applied in 1968. It replaced an earlier plaster ceiling that existed in January 1931. As noted earlier, the height of the ceiling is low, due to its location beneath Rooms 119 and 120.

Doorways

One doorway in the east wall connects with Room B5—the original boiler room. This doorway has no door and no physical evidence of a former door, nor is a door mentioned in the residence appraisal of January 1931.

Windows

There is one window opening in the south side of the west wall. It was built in 1880-81 as an exterior window that allowed natural light into the room. A change occurred in 1909-10, when an addition (Room 116) was built onto the west side of the house, covering over the window. The window essentially became obsolete at this time. No window sash was mentioned in the 1931 residence appraisal.

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[35] These two rooms are situated in an interim story between the cellar and first stories.

Today, the window opening is covered with boards on the room side. It is not known if the sash survives beneath the boards.

Finishes

The walls are painted white, and the doorway woodwork is painted gray.

Lighting System

One electric light fixture is mounted to the ceiling. It is operated by a switch at the east wall, south of the doorway. The light and the switch were both were installed in 1968.

No electric light fixtures were recorded in this room by the residence appraisal of January 1931.

Heating System

Metal heating ducts installed in 1968 pass through the room at the ceiling level.

Fire-Protection System

One Pyrotronics ionization smoke detector is on the ceiling. It was installed in 1978.

Unexcavated Area B19

The unexcavated crawl space beneath the Pantry addition of circa 1883-84 has been designated Area B19. It is accessible through two original window openings in the cellar: one in the west wall of Room B15, the other in the north wall of Room B17.

When built originally circa 1883-84, this addition was on the exterior west side of the house. A window opening in the new north foundation wall provided light to the two original cellar windows that the addition had covered.

Only a short time later (circa 1884), all three windows were made obsolete by an even larger addition that completely engulfed the Pantry addition of circa 1883-84. The foundation walls of the Pantry addition were left in place at that time, as were the window openings in those walls. The three windows survive today as relics of the earlier foundations.

Unexcavated Areas B20 - B24

General Information

Areas B20, B21, B22, B23, and B24 are unexcavated crawl spaces beneath the large circa-1884 addition on the west side of the house.

This addition appears to have covered over several early (1880-81) landscape features illustrated on the "Map of Residence and Grounds" prepared for Henry C. Pedder in 1882. These include a curvilinear path that wrapped around the back side of the house, and two subterranean rainwater cisterns. How much disruption occurred to the path when the addition was built is not known. Some portions may have been preserved intact in Areas B21 and B23. The two cisterns continued to supply the house with water after the addition was built. One cistern is in Area B20; the second overlaps Areas B23, B24, and Room B17.[36]

Areas B20 through B24 all have exterior stone walls and interior brick walls. Each area is situated beneath one room in the first story as follows:

Area B20: Laboratory Entrance (Room 109)
Area B21: Laboratory (Room 110)
Area B22: Butler's Room (Room 113)
Area B23: Den (Room 114)
Area B24: Flower Room (Room 112)

Entry into Areas B20 through B24 is possible in one of three ways. One method of entry is through the window opening in the west wall of Room B14, which enters Area B20. A second entry is through the window opening in the north wall of Area B19, which itself is accessed through window openings in either Rooms B15 or B17. A third entry is through one of four exterior window openings created in the stone foundation walls of B22 and B23 in 1904. Of these four openings, one (W-005) is in the north wall of Area B22, and three (W-006, W-007, and W-008) are in the west and south walls of Area B23. Once a person is inside any of the crawl spaces, movement is possible between the areas through openings the brick walls.

[36] A portion of the cistern's exterior curved wall is visible today in the northwest corner of Room B17.

FIRST STORY

General Description

The first story contains a main hall, rooms for formal entertaining, rooms for informal family pursuits, and a dining room. It also contains various service rooms, including a kitchen, a pantry, and a laundry. Generally speaking, the formal rooms occupy the east and south sides of the house, the family rooms are on the west side, and the service rooms are on the north side. The hall has an original toilet room located off it, beneath the main staircase.

The general layout of the first story is little changed from its appearance in 1886 when the house was purchased by Thomas Edison. Two of the front rooms, the Hall (Room 103) and the Library (Room 104), retain their original appearance as constructed in 1880-81. Most of the other rooms were modernized and redecorated over the years by the Edison family. The interior of the large west room (Room 114) was finally completed as a lounging room (or Den) for the family in 1890. Another large room at the northwest corner of the house (Room 110) was used as a gymnasium in 1899, and converted to a laboratory sometime before 1903. The Fern Room (Room 116) was built at the southwest corner of the house in 1909-10, at the same time the Reception Room (Room 102) and the Drawing Room (Room 100) were remodeled. Finally, several other rooms—the Conservatory (Room 101), the Dining Room (Room 115), and the Den—were redecorated for Mrs. Edison following Thomas Edison's death in 1931.

Most of the rooms in the first story are open to visitors today. Those that are not shown are the service areas and the Laboratory (Room 110).

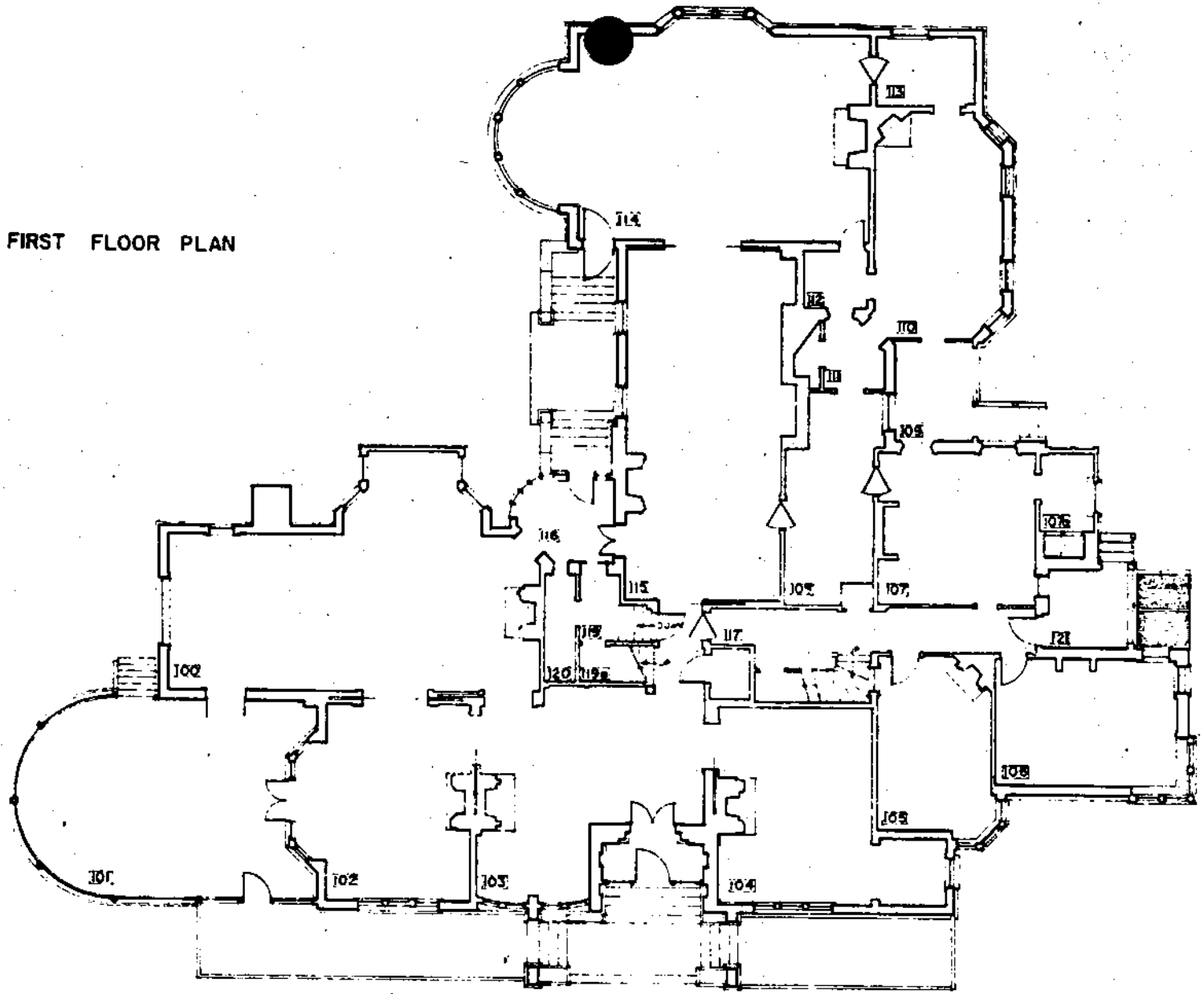


Figure 40. First-floor plan, 1963.

Drawing Room (Room 100)

General Information

The Drawing Room is a large formal room located in the first story, at the southwest corner of the house. Its dimensions were recorded by the residence appraisal of 1931 as being 16 feet by 39 feet. There is a large alcove at the north side of the west wall.

This room has been called by several names over the years, including the Parlor, the Drawing Room, and the Music Room. "Parlor" and "Drawing Room" were both used before Edison's ownership. Architect Holly labeled this the "Parlor" in the first-floor plan published by *American Architect and Building News* in 1881. Similarly, the inventory taker in 1886 listed this room as the "Parlor." Decorators Pottier & Stymus preferred "Drawing Room," however, and used this in their bill dated May 7, 1882. During the years of Edison family occupancy, the room was most commonly known as the "Drawing Room." There is evidence in the form of an 1890 bill and estimate from Herts Brothers that "Parlor" may have been used in the early years, but numerous other references shortly thereafter to the "Drawing Room" firmly establish this as the favored Edison appellation. Only for a short period of time, from 1907 through 1910 when alterations were contemplated and carried out, was the room referred to by architects and contractors as the "Music Room."

Daughter Madeleine Sloane recalled in a tour of the house recorded in 1973 that this room was the frequent setting for music recitals. It was also here "in that recessed area with the large mirror" that she was married to John Sloane on June 18, 1914. A former Edison company employee briefly described its use "for formal entertaining and large gatherings."[36]

The Drawing Room as it exists today is essentially unchanged, with the exception of wear, from its appearance in 1910. This differs considerably from the room designed and later enlarged by Holly in the 1880's. The floor plan published in *American Architect and Building News* in 1881 delineates a smaller room measuring only 26 feet long—two-thirds of the length of the present space. Pottier & Stymus of New York City papered the walls and decorated the ceiling, as indicated in their bill of May 7, 1882. Then, sometime before Henry C. Pedder conveyed title of his property to "Constable et al." in July 1884, the "Parlor [was] enlarged." Such was the description of one of the "additions" to the original house by Holly himself in a letter to Mr. J. Asch dated June 12, 1885.

Exactly what this entailed is shown on an undated first-floor plan for "H.C. Pedder Esq.," in which the room was drawn as having the same dimensions as it does today. This plan is thought to be a proposed design, rather than an "as built" drawing, because it shows the new east wall as having three windows where a pair of French doors was actually installed. The extension probably occurred in late 1883 or early 1884, since a bill from Pottier & Stymus dated February 8, 1884, listed "1 stained glass panel" along with "1 Rosewood and Marble [sic?] screen with Gilt Brass Work." The panel might possibly have been the middle window in the new south wall, and the screen the feature later described in 1891 by *The Decorator and Furnisher* as a "flat arch...supported by pillars of Mexican onyx."

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[36] "Glenmont": transcript of taped tour by Mrs. Thelma A. Coakley, a former Edison Company employee, 1969.

The southward extension of the Drawing Room circa 1883-84 caused the removal of the west half of the original south verandah. This is discussed in more detail in connection with the Conservatory (Room 101).

With the exception of electric lighting fixtures added by Edison, few changes had been made to the Drawing Room by the early 1890's, as reported by Hester Poole in an article from *The Decorator and Furnisher* dated 1891:

> In some parts of the house first built, notably in the drawing room, is a certain hackneyed conventionalism which is not found in furnishings and decoration done under the immediate eye of Mrs. Edison.

W.K.L. and Antonia Dickson had a different view of the room, and described it in 1892 as a "guise of fanciful grace...in open rebellion to the imposition of stiff, archaic rules."[37] Yet another observer in 1894 saw the space as a pair of drawing rooms, "2 in number, with onyx pillars between."[38]

Not until 1907 were formal proposals submitted for redecorating the Drawing Room by Boston architects Allen & Collens and Tiffany Studios.[39] Actual work, however, was delayed until 1909-10 and done under the direction of Proctor & Company. Changes made at that time, which are discussed in more detail in subsequent sections, included: removing the wallpaper and installing a wall fabric; removing the onyx columns and ceiling arch and installing a new plaster ceiling, ivory in color; installing a picture window in the south wall; replacing the group of three windows; replacing the northwest corner window with French doors leading to the new Fern Room; changing the French doors to the Conservatory and adding a tambour cover; and replacing the earlier electric "sidelights" (wall sconces) and electroliers (ceiling fixtures) with eight new wall sconces. All of these features remain in the room today, with the exception of the "ivory" finish on the ceiling, which was painted over twice in the 1950's.

The Drawing Room is open and interpreted to visitors today.

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[37] W.K.L. and Antonia Dickson, *The Life and Inventions of Thomas A. Edison* (New York: Thomas Y. Crowell and Co., 1892; reprinted 1893, 1894), p. 355.

[38] "Superb Country Homes: Views of the Interior of Mr. and Mrs. Edison's House," *New York Recorder*, Aug. 19, 1894.

[39] "Alterations of House at Orange N.J. for Mrs. Thomas Edison, Revised [First and] Second Floor Plan[s], Allen & Collens, Architects," Oct. 29, 1907. NPS catalog #116,351 and 116,352, respectively; Cab 6-DR 4. Also perspective drawing, Allen & Collens, "Music Room for Mrs. Thomas A. Edison," 1907, NPS catalog #116,347; Tiffany Studios estimate to Thomas A. Edison, Aug. 2, 1907. Edison NHS Archives.

Floor

American Architect and Building News in 1881 described the floors of first-story rooms in the Pedder house as being "of inlaid woods, with wide marquetry borders." The Drawing Room was no exception. Its original floor survives, constituting the floor in the north portion of the room; the predominant pattern is an open basket-weave. The south end of the room, which was added circa 1883-84, has an inlaid floor with an overall pattern of hexagonal shapes. The entire floor was described in the 1921 and 1924 residence appraisals as "724 sq. ft. oak parquetry flooring."

Proctor & Company cleaned and refinished the floor in 1910, according to their bill dated July 1, 1910. Only two years later, it was again refurbished by A.H. Davenport Co. Their bill of April 20, 1912, described the floor as having been "repaired, pieced out, slivered, scraped, and refinished."

In February 1964, NPS Architect Newton Bevin recorded the condition of the floor in a historic structure report. He noted that it had sagged at the east wall on either side of the doorway to the Reception Room (Room 102) and in the west alcove. Some pieces of the parquetry also required reattaching.

Walls

The walls of the house—including the Drawing Room—are composed of plaster on wood lath, according to the 1924 and 1931 residence appraisals. More specific is the 1931 appraisal, which described the first-story walls as consisting of "3 coat hard finish plaster on wood lath." This presumably included both the original north end of the room and the south extension.

Early photographs of the room taken circa 1892 by W.K.L. Dickson show a baseboard and an ornate cornice that was an integral part of the ceiling design. The 1931 residence appraisal described the baseboard as "82 lineal ft. 11" base board." Between the baseboard and cornice, the walls were hung with wallpaper including a wide frieze. Separating the frieze from the body of the wall was a picture molding.

Although alterations were contemplated as early as 1907, the walls appear to have remained unchanged until 1909-10. At that time, Proctor & Company removed the old wallpaper and picture molding, nailed wood lath strips to the walls, and hung a wall fabric, according to their bill of July 1, 1910. Carpenter Adolph Vogel billed for "22 ft. WW [some type of wood] Picture Mould" on January 27, 1910. Early photographs taken after the remodeling show the picture molding located immediately below the cornice. The cornice itself was also newly cast in plaster at this time. A more complete description of the cornice is provided in the following section on the ceiling.

No major changes have been made to the walls since 1910.

Ceiling

As with the walls, the ceiling is composed of plaster on wood lath. The 1931 residence appraisal described this as being of "3 coat hard finish plaster on wood lath and furring." This presumably included both the original north end of the room and the south extension.

The ceiling was described by *The Decorator and Furnisher* in 1891 as being "divided into large sections by beams faced with mahogany," and divided at the location of the original south wall by "a flat arch of carved mahogany supported by pillars of Mexican onyx."[40] Three "carved and gilt ornaments, jewelled," had been supplied for the ceiling by Pottier & Stymus, according to their bill dated 1882. The earliest known views of the ceiling are two photographs by W.K.L. Dickson published in 1892. These show an ornate cornice encircling a coffered ceiling that appears to have been decoratively painted. The beams forming the coffers included one running east-west at the midpoint of the original room. Where the other beams intersected this east-west beam, the photographs show three diamond-shaped decorations that appear to be the three "carved and gilt ornaments." A large electrolier hung from the center diamond.

In August 1907, Tiffany Studios submitted an estimate to "remove metal ornaments from ceiling beams...remove onyx columns and all metal work around same." No work was done at this time, however.

Proctor & Company submitted a similar proposal in August 1909 that was accepted. The *New Jersey Chronicle* reported that "the ceiling in the salon is having a new coat of plaster and will be re-decorated in beautiful tints." This is corroborated by a bill submitted in November 1909 by Jacobson and Company, "Architectural Sculptors and Workers in Plaster," to "run cornice and beams and applying [sic] ornaments." A later bill from Proctor & Company, dated July 1, 1910, stated that the "ceilings [had been] prepared, new canvas furnished..." and painted an ivory color. Early photographs of the room indicate the old cornice and beams had been removed and new ones installed. All of the new beams ran parallel in an east-west direction. Cornice and beams were ornate in design, incorporating classical motifs such as triglyphs and egg-and-dart, bead-and-reel, and anthemion moldings. The paint scheme was monochromatic.

The ceiling has received minimal attention since 1910. The canvas was repaired and the paint was touched up in 1952. The ceiling paint was also retouched in 1956.

Woodwork

While some confusion has previously existed about the type of woodwork in this room, it is now generally acknowledged to be rosewood. *American Architect and Building News* in 1881 stated "the parlor is of rosewood." The 1886 inventory included, in addition to rosewood furniture, "1 carved R.W. mantel." General references to rosewood are also found in a news article dated 1894, a work estimate dated 1907, and a bill for work dated 1910. Probable erroneous references have

[40] This feature may have been the "Rosewood and Marble Screen with Gilt Brass Work" itemized for $850 in the Feb. 8, 1884, bill from Pottier & Stymus. Edison NHS Archives.

included the 1891 *Decorator and Furnisher* article, in which all woodwork was described as "mahogany"; the 1921 and 1924 residence appraisals, listing both the large mirror and mantel as "mahogany"; and the 1931 residence appraisal, listing the large mirror as "fluted walnut" and the mantel as "mahogany."

Alterations to the woodwork were made both by Pedder and Edison. As early as May 1882, Pottier & Stymus billed for "making alterations to woodwork wainscoting and c." In 1884 they charged for "changing mirror in recess, altering window seat parlor, and altering mantel etagere." Pedder's south addition of circa 1883-84 would have included additional baseboard and trim for three windows in the new south wall, a doorway in the east-wall extension, and a window in the west-wall extension. In 1909-10, Edison's alteration of several windows caused their architraves to change. The northwest window was converted to a doorway, and its architrave was modified accordingly. Also, the three windows in the south wall and their architraves were replaced by one large picture window.

The woodwork was originally unpainted and remains so today.

Doorways

The Drawing Room has four doorways. Of these, two are original to 1880-81, one was added when the room was enlarged circa 1883-84, and one was converted from a window in 1909-10.

The two original doorways are in the north half of the east wall. The northerly doorway gives access to the Hall (Room 103) and is fitted with one paneled, sliding pocket door. The other doorway is wider; it opens into the Reception Room (Room 102), and is fitted with two paneled, sliding pocket doors. These doors were described in the 1931 residence appraisal as "1 pair rolling doors, 7'0" x 8'10" x 2-1/4."

Also located in the east wall—at the south end—is a pair of French doors added when the east wall was extended circa 1883-84. These doors lead to the Conservatory (Room 101). As built, this doorway featured a stained-glass transom above a pair of doors with multiple panes, as seen in Dickson's photograph published in 1892. Several changes most likely occurred during the renovation of the room in 1909-10. The transom was covered over on the Drawing Room side; a tambour cover that pulled down was installed at the top of the doorway; and single-pane glass doors were installed. The 1931 residence appraisal described the doors as "1 pair French doors, 4'2" x 7'10" x 2", 2 lights with rolling wood shutters."

In the northeast corner of the room is another pair of single-pane French doors. These were installed in an original window opening when the Fern Room (Room 116) was constructed in 1909-10. The doors were described in the residence appraisals of 1921, 1924, and 1931. The most detailed is the latter appraisal, which listed "1 pair French doors, 3'2" x 7'2" x 1-3/4", with 2'4" circle head transom, full brass bolt."

Windows

The Drawing Room has six windows in the south and west walls. All have stained-glass transoms above the window openings and wood panels below. The windows date from three periods of construction: 1880-81, circa 1883-84, and 1909-10.

The room as originally built was smaller and had seven windows, as indicated by the first-floor plan published by *American Architect and Building News* in 1881. Four were in the west alcove, one was in the south wall, and one each was in the southwest and northwest corners. The earliest exterior photograph of the house, taken sometime before the parlor was enlarged (fig. 4), shows the south window as a full-length French window. It most likely functioned as a doorway that opened onto the south verandah.

Of the seven original windows, only four remain today—all in the west alcove (W-123). These contain one-over-one, double-hung sashes, with stained-glass transoms above and paneled window seats below. All four have tambour covers that lift up from the sill level. The sashes were described by the residence appraisals of 1921 and 1924 as being "chain hung," and by the residence appraisal of 1931 as follows: "Double hung windows, 2'3" [2 windows] and 2'6" [2 windows] x 6'0" x 1-3/4", 2 lights and 2'0" stained and leaded glass transoms, paneled bases."

When the room was extended southward circa 1883-84, both the original south and southwest windows were removed. The new wall areas contained four windows: three in the south wall, and one in the west wall.

Of these, only the west window (W-124) remains today. The window resembles the original windows in the west alcove; it has one-over-one, double-hung sashes, a stained-glass transom, a wood panel below, and a tambour cover. The sashes were described by the 1921 and 1924 residence appraisals as being "chain hung," and by the 1931 residence appraisal as follows: "1 Double hung window, 2'8" x 6'0" x 1-3/4", 2 lights with 2'0" stained and leaded glass transom, paneled base."

The three windows in the south wall have been removed, but are clearly documented in early photographs such as Dickson's exterior south view published in 1892. This shows a small center stained-glass window flanked on either side by a window with one-over-one, double-hung sashes and topped by a stained-glass transom. Possibly the center window was the "1 stained glass panel" billed by Pottier & Stymus for the Drawing Room in February 1884. In December 1890, an exterior "sash and glass" was provided for this window by Herts Brothers, because it was "nearly broken from wind pressure."

Tiffany Studios submitted an estimate in August 1907 to cut out the "wall space between two large windows at south end of room...to be appropriated to one large window same height and length as windows on each side." This work, however, was not done until two years later, as indicated in a *New Jersey Chronicle* article dated 1909:

> The large mullioned window on the first floor, which has southern exposure, will be replaced with one of plate glass, giving a fine view of the grounds and adjacent land.

The south window's sash was described by the residence appraisals of 1921 and 1924 as being a "plate glass stationary sash." The later residence appraisal of 1931 was more detailed, listing "1 Fixed sash, 6'10" x 6'0" x 1-3/4", 1 light, 2'0" stained and leaded glass transom, paneled base." This window exists in the room today (W-125).

Fireplace

The fireplace at the north end of the room is an original feature. It appears to have remained essentially unchanged, except for an early action, "altering mantel etagere," which was referenced in a bill from Pottier & Stymus dated February 8, 1884. In 1886, the inventory of the room described "1 carved R.W. [rosewood] mantel with plate glass mirror" along with "1 polished steel and brass grate and fender, gas logs." It was also listed by the residence appraisals of 1921, 1924, and 1931. The 1931 appraisal provided the following description:

> 1 Mantel, 6'0" wide, mahogany [sic] trim, with shelf, frieze and pilasters, 3'0" x 3'0" mirror panel, in 5'0" high carved top panel, metal fireplace, tile hearth, (Exceptional Piece).

West Alcove

A focal point of the Drawing Room is the mirrored bay or alcove on the north side of the west wall. It is an original feature that underwent some changes before Edison acquired the house. These included "changing mirror in recess" and "altering window seat," as described in the bill from Pottier & Stymus dated February 8, 1884. The alcove also contains four windows, two on either side of the mirror. A *New York Recorder* article in 1894 reported the "deep recess" as "partly window and partly mirror." It was here, with the mirror covered over, that Madeleine Edison married John Sloane on June 18, 1914.

The residence appraisals for 1921, 1924, and 1931 all describe the mirror as being beveled plate glass with a circular top, held in a carved and fluted wood frame. The type of wood, however, was a point of confusion, being called "mahogany" in 1921 and 1924, and "walnut" in 1931. More likely the wood is rosewood, similar to the rest of the woodwork in the room.

Finishes

The documentation indicates that the Drawing Room was originally finished by the firm of Pottier & Stymus in 1882. According to their bill dated May 7, 1882, the walls were papered and the ceiling decorated. Also billed were "3 carved and gilt ornaments for ceiling, jewelled." The same wallpaper may have been used when the room was enlarged southward circa 1883-84. Not only was the same firm of Pottier & Stymus involved with this extension, but also no general redecorating is recorded to have been done at this time. (The involvement of Pottier & Stymus is known by an addendum dated February 8, 1884, to their earlier 1882 bill.) No descriptions or views from the 1880's have been found. Previous studies have assumed that the finishes seen and described in the 1890's were the original ones. No documentation exists to refute this.

The walls in 1891 were described in *The Decorator and Furnisher* as being "hung with embossed paper, showing figures of shaded pale gray-green on a dull, gold-lined background. The

frieze, eighteen inches wide, consists of a scrollwork of burnished gold on a ground-work of dull gold...." This wallpaper may be seen in three photographs taken by W.K.L. Dickson and published in the book, *The Life and Inventions of Thomas A. Edison*, in 1892. The body of the paper extended from the baseboard to the picture molding. The design was a foliate pattern composed of light-colored flowers and leaves on a dark-colored background. Above the picture molding was a wide paper frieze. Two fragments of the frieze were found in 1980 by Camille Agricola—one behind the mantel on the north wall, the other to the left of the large mirror in the west alcove. She described these fragments in her report as being an embossed wallpaper having a dull, dark-blue background, horizontal stripes of gold, and a light-blue (not "burnished gold") acanthus-leaf design. The frieze fragments were edged at the top and bottom by a dotted gold border identified as "anaglypta"—a composite of pulp and solidified linseed oil. The Dickson photographs further show the picture molding separating the body paper from the frieze as being a dark color.

The ceiling in 1891 was described by *The Decorator and Furnisher* as "...repeat[ing] in decorations of lighter, softer tints, the delicate warm coloring of the carpet...soft hued roses...pinkish gray, turquoise [and] winy crimson." Photographs by Dickson in the 1890's show the ceiling panels bordered with a dark band and a bold floral design, and the cornice finished in alternating colors of light and dark shades.

The early finish on the woodwork, including the floors, appears to have been a varnish. This is based on the Proctor & Company bill dated July 1, 1910, which noted "varnish [was] removed" prior to refinishing.

The Drawing Room was redecorated for the Edisons in 1910 by Proctor & Company. The old wallpaper was removed and a wall fabric was hung. The Proctor & Company bill of July 1, 1910, itemized 67 yards of lining, 72 yards of cluny brocade (changed from the original estimate for "silk finish moire"), and 166 yards of special gimp border. The residence appraisals of 1921, 1924, and 1931 all describe the wall hangings as "silk damask." Extant today, this is a gold-color material with foliate design repeating every 29 1/4 inches. It is identical to the wall fabric hung in the adjacent Reception Room (Room 102) in 1910.

The remodeled ceiling in 1910 was "painted four coats, finished in old ivory, rubbed off complete," according to Proctor & Company's bill. This finish was identified in 1980 by Camille Agricola as a zinc paint applied to a yellowish size. The "ivory" color was color-matched to the Benjamin Moore paint CB-18.

The woodwork in 1910 was stripped of its old varnish, as previously described. The 1910 bill noted that "new wood [was] stained," and that old and new wood was "shellacked and rubbed down to a soft finish." The floor received a similar treatment, but was also waxed. Laboratory investigation in 1980 by Agricola confirmed that the rosewood mantel, mirror, and doorway and window trim had a thick layer of shellac presumably dating to 1910. Shellac and wax were also identified on the floor.

Except for maintenance upkeep, the room has remained unchanged since 1910. In 1912, the floor was repaired and refinished by A.H. Davenport Co., according to their bill of May 20, 1912. The ceiling canvas was repaired and the paint touched up in 1952; the paint was touched up again

in 1956.[41] Agricola's paint analysis confirms that by 1980, two layers of cream-colored paint had been applied over the 1910 ivory finish. Beginning in the late 1960's and continuing through the early 1970's, annual maintenance included polishing all woodwork with lemon oil, and polishing all floors with nonskid wax.

Electrical work in 1968 necessitated selective removal of the wall fabric. National Park Service employee Gordie Whittington recorded "removing [the fabric] by softening the glue with wallpaper remover and pulling tacks," and later "retacking damask in Drawing Room."[42] This treatment no doubt contributed to the advanced state of deterioration of the wall fabric observed today. Yet another factor is the inherent high acidity (pH 3.5) of the fabric, as identified by Edison NHS curator Leah Burt. Plans are currently underway for replacement of the wall fabric with a historically accurate reproduction.

Lighting System

The Drawing Room has had both gas and electric light fixtures. The electric fixtures in the room today were installed in 1910. They were rewired by the National Park Service in 1968.

Lighting during the Pedders' occupancy was by means of a gas chandelier. The only known description of this fixture is found in the 1886 inventory, which cites "1 brass or gilt chandelier, 12 jets."

Edison electrified the house in 1887, and by the time of the 1891 inventory, the light fixtures included "2 Electroliers, 6 Side Electroliers." These are further documented in a *Decorator and Furnisher* article dated 1891, and by Dickson's photographs published in 1892. The article described one of the two ceiling electroliers as:

> A magical central chandelier.... It blossoms into bulbs of the finest cut glass, thirty in number, I believe. To the frames are attached innumerable balls of crystal, the whole framing the center of brilliant illumination.

Judging by Dickson's photograph, the "thirty bulbs" was an exaggeration; the number in fact was closer to 12. Perhaps this chandelier, located in the north end of the room, was the old 12-jet gas fixture converted to electricity. No views or descriptions have been found of the second electrolier, although it is assumed to have been on the south side of the room. The "side electroliers," on the other hand, are clearly seen in Dickson's photographs published in *The Life and Times of Thomas A. Edison*. Each of these wall fixtures had three unshaded lights—the center light pointing up, and the outer two lights pointing down at an angle. These photographs and an illustration from the *New York Recorder* article of 1894 show the locations of five of the six fixtures:

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[41] Bill from Carl G. Gustafson to Edison Home, Feb. 20, 1952; voucher dated May 17, 1956, as noted in John P. Shaw's "Progress Data and Research Notes, Architectural Study of Glenmont, Home of Thomas Alva Edison" (NPS: Edison NHS, summer 1962), p. 48.

[42] Gordie Whittington, log book entitled "Building No. 10: March 7, 1966 - December 30, 1968," entries for Sept. 21 and 30 and Oct. 10, 1968.

two in the west alcove, on either side of the large mirror; two at the east wall, on either side of the doorway to the Reception Room; and one at the south wall, between the center window and the east window.

In 1909-10, the chandeliers and wall-mounted lights were removed and new light fixtures were installed. These were supplied by Proctor & Company, whose bill dated July 1, 1910, described them as "8 special carved wood Italian side lights mounted for electricity." These fixtures, extant today, were listed in the 1921 and 1924 residence appraisals as "8 3 light polychrome brackets," and in the 1931 residence appraisal as "8 Polychrome sconces, 3 candle lights." Four of the wall lights were located in the same place as the earlier fixtures they replaced: one on either side of the mirror in the west alcove, and one on either side of the east doorway to the Reception Room. In addition, two lights were located on the south wall, on either side of the new picture window; another was installed to the left of the east doorway to the Conservatory; and one was located to the right of the new window in the south end of the west wall.

The light bulbs used in 1910 were also supplied by Proctor & Company, being described in the bill as "frosted electric bulbs." Light shades were recommended by The Herter Looms in a letter dated July 18, 1913, which suggested "small individual screens with the mille fleur designs." A photograph taken in 1916, however, showed no shades but rather exposed bulbs round in shape. In a letter dated February 14, 1927, bulbs recommended by the Edison Lamp Works were "25 watt A-19 Inside Frost MAZDA Lamps." Sometime after 1916 and before the 1931 residence appraisal, shades were installed on the individual bulbs. These were listed in 1931 as "8 'Triple' silk bulb shades." Fabric shades may also be seen in the photographs taken in August 1947.

One push-button switch of unknown date now activates all the lights. This is located in the Hall (Room 103), adjacent to the doorway to the Drawing Room. It was rewired in 1968.

Electrical Outlets

There are six duplex receptacle outlets in the baseboard today. The only documentation for these outlets is the 1931 residence appraisal, which counted "5 Base receptacles." These no doubt correspond to the five outlets now labeled "DC" [direct current] at the south, east, and west walls.

The one unlabeled outlet, at the west wall north of the alcove, was probably installed sometime after 1931. It existed by 1968, however, based on an electrical plan of that date. All of the electrical outlets were rewired in 1968.

Heating System

The Drawing Room was heated historically with hot air produced by the house's original steam-heating system. The hot air was obtained by using steam radiators—located in heat-transfer boxes in the cellar—to heat fresh air. The hot air then entered the room through two floor registers. These were located along the west wall, one on either side of the alcove. The cost of "2 registers" was included in the Pottier & Stymus bill dated May 7, 1882. (See the subsequent section "Utilities: Heating System" for more information.) No provision for additional heat was made when the

Drawing Room was enlarged circa 1883-84. The 1886 inventory listed "gas logs" in the fireplace, although these most likely gave off only a minimal amount of heat.

Following the installation of a new furnace in 1920, the American Radiator Company calculated the system to be supplying 270 thermal units to the "music room"—10 units short of the 280 units theoretically required for a space of this size.[43] No supplemental heat was installed, however, since the 1931 residence appraisal still recorded "2 Floor registers."

Not until 1968 was a major alteration made in the room's heating, when the National Park Service installed a new central forced hot-air system in the house. Two modern floor registers were installed along the south and west walls beneath the windows. (The old registers were retained but not reused.) Also part of the new system was a thermostat mounted to the north wall of the chimney breast.

Fire-Protection System

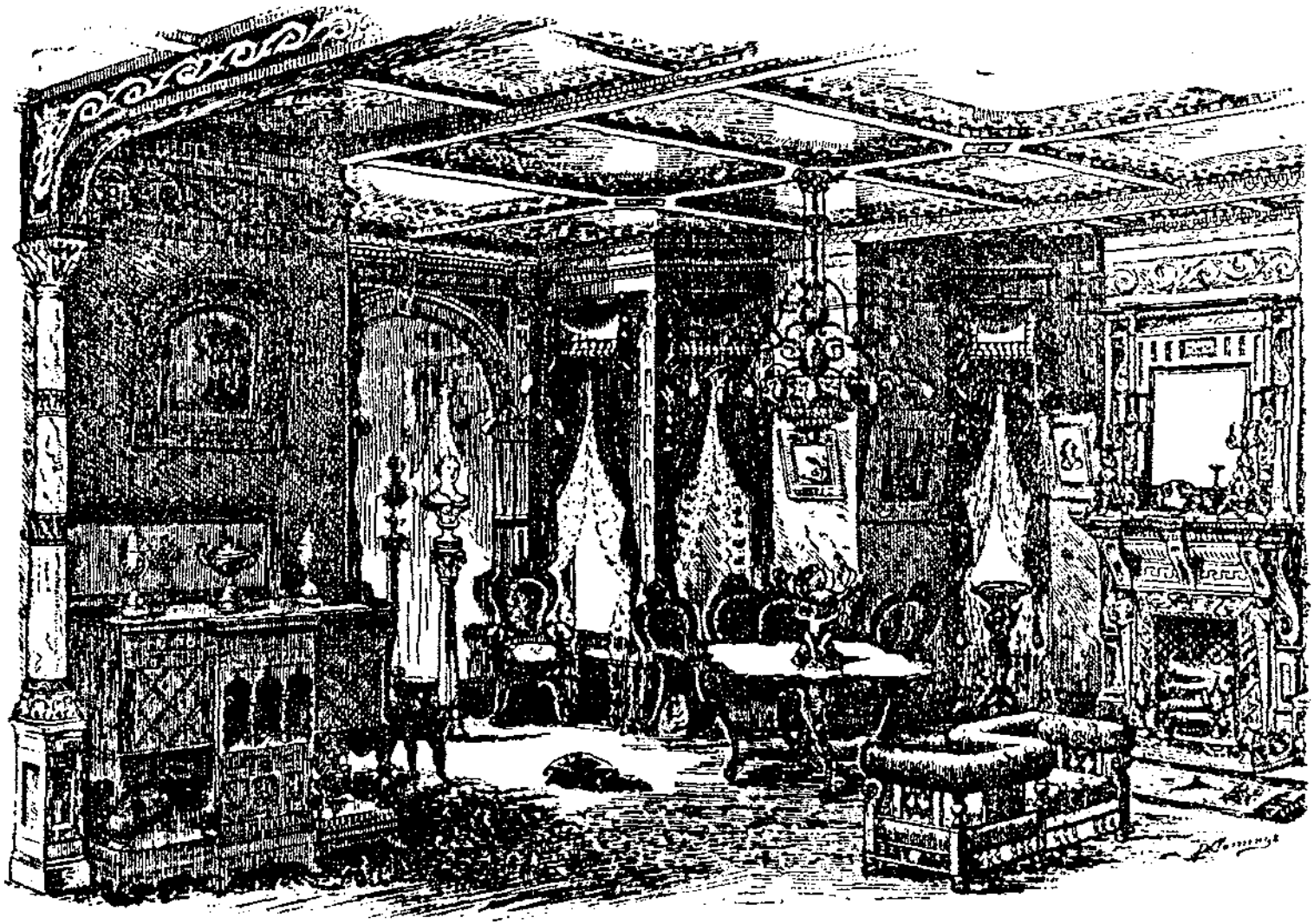
No fire extinguishers or fire pails are known to have been in this room during the Edisons' ownership. The closest fire-fighting equipment would have been in the Second Floor Hall (Room 214), where "2 Pyrene brass fire extinguishers" and "1 Accurate fire extinguisher" were recorded in the furnishings appraisals of 1921, 1924, and 1930.

The room is protected today by a Pyrotronics smoke detector mounted to the ceiling of the west alcove. This is part of a complete system installed in the house in 1978.

Security System

The earliest-known burglar-alarm system at Glenmont was installed in 1889 (see "Utilities: Security Systems"). Connections in the Drawing Room (then referred to as the "Parlor") were in "all [of the] windows," according to a letter from installers Edwards & Co. to Charles Batchelor dated September 14, 1889. It is not known how long this system was in use.

[43] Letter from R.W. Kellow to Mrs. Edison, Jan. 25, 1921. Edison NHS Archives.



MR. EDISON'S DRAWING-ROOM.

Figure 41. Sketch of the Drawing Room (Room 100), looking northwest, 1891.



THE DRAWING ROOM.



A CORNER IN THE DRAWING ROOM.



DRAWING.

Figure 42. Three views of the Drawing Room (Room 100), circa 1890.



Figure 43. West alcove of Drawing Room (Room 100), 1914.



Figure 44. Drawing Roo[illegible]oom 100), looking west, 1914.



Figure 45. Drawing Room (Room 100), northwest corner, 1916.



Figure 46. Drawing Room (Room 100), looking south, 1947.



Figure 47. Drawing Room (Room 100), looking southwest, 1960.



Figure 48. Drawing Roo[illegible]oom 100), looking north, 1960.



Figure 49. Drawing Room (Room 100), looking southeast, 1960.



Figure 50. Drawing Room (Room 100), looking northwest, 1960.

Conservatory (Room 101)

General Information

The Conservatory is a large enclosed porch at the southeast corner of the house. The residence appraisal dated January 1931 recorded its dimensions as being 20 feet by 35 feet.

Beginning as early as the Pedders' occupancy and continuing throughout the Edison years, this room was called the "Conservatory." Only in one bill dated 1913 from Proctor & Company was it referred to as the "Palm Room." The earlier open porch that the Conservatory replaced in the 1880's was labeled the "Verandah."

The Conservatory was described in 1891 by *The Decorator and Furnisher* as being "filled with a great variety of palms." *Superb Country Homes* in 1894 also remarked on the "great many handsome palms and ferns." In 1918, the Conservatory was furnished with a billiard table, as evidenced by a photograph taken in that year. Plants, however, still predominated. Daughter Madeleine Sloane recalled in a tour of the house recorded in 1973 that "we had a greenhouse with two or three people working there so keeping [the Conservatory] filled wasn't much of a problem."

The Conservatory was not original to the house as designed by Holly and built in 1880-81. It is not depicted in the sketch and plan published in *American Architect and Building News* in August 1881, which shows instead an open verandah along the entire south side of the house. This verandah was rectangular in shape, shallow in depth, and covered by a flat roof supported by seven decorative posts. Exterior access to the south verandah was either by means of a flight of steps at its west end, leading up from the lawn, or from a connecting verandah on the east side of the house. The south verandah could also be reached from inside through a doorway in the south wall of the Drawing Room, according to the earliest-known exterior photograph of the house (fig. 4).

The east half of the verandah was incorporated into the larger Conservatory sometime before a map was prepared of the residence and grounds for Mr. Pedder in 1882. This map shows the now-familiar semicircular projection of the Conservatory. The Conservatory is also shown in the previously mentioned exterior photograph of the house taken sometime before February 1884 (fig. 4). This photograph makes it clear that the Conservatory had been built before the Drawing Room was enlarged circa 1883-84.[44]

The photographic documentation further suggests that the Conservatory was used year-round beginning at an early date. In the colder months, multi-light window sashes were installed, and in warmer months they were removed. Not until sometime between circa 1890 and 1903 were insect screens fitted in the doorway and window openings during warm weather.

The Conservatory was extensively restored by the National Park Service in the 1960's. While much woodwork was replaced, the room today is similar in appearance to that known by the Edisons.

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[44] Unlike some other Glenmont alterations, the Conservatory addition was not mentioned in the letter from Henry Hudson Holly to J. Asch, June 12, 1885. Edison NHS Archives.

The Conservatory is open and interpreted to visitors today.

Floor

The floor is composed of painted floorboards oriented in a north-south direction. Cast-iron floor grates beneath the windows conceal heating pipes that run below the floor; these will be discussed in the section on heating. Although extensively repaired in the 1940's and 1950's, the floor's appearance today is similar to that during the Edisons' occupancy.

As stated earlier in this section, the east half of the original verandah on the south side of the house was incorporated into the Conservatory circa 1882. The verandah floor in this area could have been retained and reused as the north end of the Conservatory floor. (New flooring would have been needed for the south end of the Conservatory.) None of the early floorboards remain today, although the floor framing of the north end may date to the verandah.

Early 20th-century descriptions of the floor are provided by the residence appraisals dated 1921, 1924, and 1931. Both the 1921 and 1924 appraisals listed "620 Sq. Ft. North Carolina pine T. & G. [tongue and groove] flooring, laid in white lead." Dimensions of the floorboards are found in the 1931 appraisal that further specified "7/8" x 2" pine floor in Conservatory."

Considerable work appears to have been done on the floor in the 1940's. An "interfunctional purchase order" (I.P.O.) of Thomas A. Edison Industries dated October 4, 1943, specified jacking up one end of the Conservatory and "repair[ing] rotted sill and floor" (I.P.O. no. 37700). Former Glenmont gardener C. Thore Hallstrom also recalled in 1964 that a new floor was installed in 1943. Six years later, I.P.O. no. 39261 (dated September 7, 1949) again itemized "repair[ing] and paint[ing] floor of conservatory at Glenmont."[45] Perhaps it was the 1940's replacement floor that Gordie Whittington described in a historic structure report dated July 1964 as being constructed of "1 1/4" x 1 7/8" square-edge pine of poor quality."

Restoration of the floor was undertaken by the National Park Service in the 1960's. Its condition was described as "rotted" in a historic structure report by James Crawford dated February 15, 1962. Architect Newton Bevin suggested a reason for this rotting in a historic structure report dated February 1964: the ends of the floorboards extended outside the walls of the Conservatory, and were protected from the elements only by their paint. Gordie Whittington in a report dated July 1964 confirmed that there was "some evidence of decay" and recommended replacing the floor with "5/4" x 3" boards dressed on four sides." Lumber for the job was provided by John Deliduka, Inc., under NPS contract CX 14-10-0529-2068 dated May 1965. This was specified as "tongue and

[45] See the Appendix of Gordie Wittington's Architectural Data Section in "Historic Structures Report - Part II (Portion), The Conservatory, Edison Home, Building No. 10" (NPS: Edison NHS, July 1964-Jan. 1965).

groove fir flooring." Whittington's daily log book indicates that the floor was rebuilt in July and August 1965. It is not clear whether or not all of the floorboards were replaced at this time.[46]

Walls

The interior walls of the Conservatory are composed of two materials: brick and wood. Painted brick comprises the north wall and the north half of the west wall. The rest of the walls consist of woodwork framing the windows and doorways of the west, south, and east walls. Some wall areas date to 1880-81 when the house was originally built; other areas date to circa 1882 when the Conservatory was constructed; and still other areas date to circa 1883-84 when the adjacent Drawing Room was enlarged.

The north brick wall dates to 1880-81. This was the original exterior south wall of the Reception Room (Room 102), which contained a large bay with windows. This bay still exists, protruding into the Conservatory, but its windows have been altered. The extreme north end of the Conservatory's west brick wall also dates to 1880-81; this was the exterior southeast corner of the original Drawing Room. Both walls were within the south verandah, based on a perspective drawing and plan published in *American Architect and Building News* in 1881. Constructed circa 1882 was the semicircular south addition that included square wood posts, a balustrade, and an open stickwork frieze. The posts—banded with incised lines—were similar in design to the original verandah posts, and may have been reused. Only one part of the Conservatory was built circa 1883-84: the middle portion of the west brick wall, which is part of the Drawing Room extension.

Photographic evidence indicates that sometime before August 1890 the Conservatory was modified in a manner that would allow it to be enclosed during the cold winter months. Window sashes with transom sashes above were fitted between the posts, extending from the handrail of the balustrade to the roof. Two doorways were installed in the east and west walls, and an interior matched-board wainscot was fitted between the balustrade handrail and the floor. The 1931 residence appraisal described the wainscot as being "3'0" high beaded pine base, double faced." Gordie Whittington in his historic structure report dated July 1964 further described the wainscot as

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[46] Several reports prepared by the National Park Service have been written about or refer to the Conservatory. These include the report noted above and the following:

"Historic Structures Report - Part I, 'Glenmont' Architectural Data," by James Crawford (NPS: Feb. 15, 1962).

"Historic Structures Report - Part I, Architectural Data Section on Rehabilitation of Glenmont, Home of Thomas A. Edison," by Newton Bevin (NPS: Eastern Office of Design and Construction, Feb. 1964).

"Historic Structures Report - Part II (Portion), The Conservatory, Edison Home, Building No. 10," by Melvin Weig and Gordie Whittington (NPS: Edison NHS, July 1964-Jan. 1965.

Also an invaluable source of information on work actually done in the Conservatory in the 1960's are Gordie Whittington's daily notes. These are included in several volumes labeled "Glenmont" and dated July 1963-July 1965; July 1965-Mar. 1966; and Mar. 1966-Dec. 1968. Maintenance Office files, Edison NHS.

"two thicknesses of 13/16" x 5 1/4" center-and-edge beaded pine." A narrow band of the same material was also installed above the window sashes, below the transom windows.

The condition of the Conservatory, including the walls, was carefully assessed by the National Park Service in the 1960's. Gordie Whittington observed in his July 1964 report that most of the posts had been

> spliced between the top rail of the balustrade and floor. These splicers are long tapered ones, allowing the weight to be carried only by the nails used in splicing.... Their overall condition is poor.

The general condition of the balustrade's top rail was judged to be "extremely poor." A high percentage of the wainscot, on the other hand, was thought to be "very good as it appears on the surface."

It was recommended in the same report that the posts and balustrade be replaced with reproductions, and that the wainscot be restored. Replacement of the balustrade would involve the complete dismantling of the wainscot. (Architect Newton Bevin had addressed this issue in his historic structure report of February 1964, in which he advised that the elements of the wainscot be numbered for reinstallation.) Defective pieces of the wainscot were to be replaced, and the lower ends of the old wainscot boards treated with hot linseed oil.

Millwork for the restoration was provided by John Deliduka, Inc., under NPS contract CX 14-10-0529-2068 dated May 1965. This included six laminated posts, four curved top and bottom rails, and one level top and bottom rail, all of redwood; also ordered were two wainscot panels of ponderosa pine. All millwork was specified in the contract "to exactly match the original."

Ceiling

The ceiling is composed of painted wood boards arranged in a stickwork design. A denticulate cornice encircles the perimeter of the room. A large east-west beam bisects the ceiling. The ceiling is further divided decoratively by many smaller wood molding strips. Some of these conceal the electrical wiring for the lights around the perimeter of the room, which were installed in 1910.

As with the floor, the ceiling of the Conservatory incorporated the ceiling of the east half of the original south verandah. The location of the outer edge of the earlier ceiling is still discernible in the present ceiling, in the form of a large east-west beam bearing original paint. The original ceiling itself was most likely remodeled when the Conservatory was built circa 1882. The decorative stickwork and denticulate cornice of the present ceiling appear to date to this time. The 1921 and 1924 residence appraisals described this ceiling as "620 sq. ft. Georgia Pine wainscot ceiling with moulded panel strips." The 1931 residence appraisal was more detailed, noting "620 sq. ft. beaded pine ceiling, with 1" x 4" panel moulding," and "132 lineal ft. 4" x 6" pine dentil cornice."

By 1964, sags at the northwest corner of the Conservatory roof were causing problems for the ceiling below. Gordie Whittington noted in his historic structure report of July 1964 that

> paint has peeled [from the ceiling] because of water getting in through a leaking roof. Approximately 15% has been subject to water damage.

Whittington recommended repairing the roof and replacing "all bad ceiling boards...to form the same pattern as now exists." Also at about this time, ceiling boards were removed to inspect and replace the old 1910 electrical wiring. Exactly how much of the ceiling was removed at this time is not known. However, in December 1965 Whittington entered in his daily log book that "carpenters are replacing the original ceiling boards to the Conservatory ceiling."

Doorways

The Conservatory has four doorways. Of these, two are interior and two are exterior. One interior doorway dates to the circa 1883-84 extension of the Drawing Room (Room 100); the two exterior doorways were constructed sometime after circa 1882 and were definitely in place by August 1890; and the other interior doorway was added in 1909.

The earliest doorway is in the west brick wall (circa 1883-84) of the Drawing Room extension. This doorway features single-pane French doors and a stained-glass transom. The stained-glass transom probably dates to the construction of the doorway, but the French doors do not. W.K.L. Dickson's circa-1892 photograph of the Drawing Room indicates that the doorway initially had French doors glazed with multiple panes of glass.[47] At some time, probably during the remodeling of the Drawing Room in 1909-10, the multi-light doors were replaced with ones having single panes. The 1931 residence appraisal described the doors as "1 Pair French doors, 4'2" x 7'10" x 2", 2 lights." These doors exist today.

The two exterior doorways, one on the east side and one on the west side, were probably installed at the same time as the large window sashes of the Conservatory. The first known documentary evidence for the doorways and the windows consists of exterior photographs from the 1890's. The east exterior doorway is first seen in an early undated exterior photograph looking towards the northwest. Only the upper portion of the doorway is visible. The door itself is glazed with 12 panes of glass, and the transom above with three. The west exterior doorway is clearly documented by a W.K.L. Dickson exterior photograph dated circa 1892, which shows the door to have 12 panes of glass and the transom above with four panes. Neither photograph shows the lower portions of the doorways.

The east and west doors were most likely removed in the warmer months, along with the window sashes. By 1903, both the doorways and the windows were fitted with screens. The east screen door was a four-panel design, judging by photographs taken in 1903. The west screen door was presumably similar. In 1921, both cold-weather doors were described by the residence appraisal as being "2 twelve light 8 panel S/S [single swing] pine doors, 4 [sic] light transom heads." They

[47] These may have been the original doors from the south wall of the Drawing Room that were reused when the room was enlarged in circa 1883-84.

were referred to as "storm doors" in a 1943 Edison Industries work order (I.P.O. no. 37700), which included the notation to "weatherstrip bottom." A former Edison employee recalled that beginning in 1950, the glazed doors remained in place throughout the year.

The exterior glazed storm doors were determined to be in poor condition in 1964, and were replaced with reproduction doors in 1965. Details of this work are included in the section on the exterior doorways.

The interior doorway in the north wall has two French doors and leads to the Reception Room (Room 102). The doorway was created in 1909 by converting the center window of the original (1880-81) bay in this wall. (See the following section for more information on the original windows in the bay.) The *New Jersey Chronicle* reported in 1909 that "connecting doors are being placed in the Music Room [sic] so that entrance to the Conservatory can be had from there." The step on the Conservatory side of the doorway, leading up to the higher floor level of the Reception Room, was probably also installed at this time.

The doors in this doorway were described in the 1921 and 1924 residence appraisals as "1 Pr. French casement...single swing P.G. [plate glass] doors"; in the 1931 appraisal they were noted as being "1 Pair doors, 4'2" x 7'10" x 2'0" [sic: 2"], 2 lights full brass bolt." The two transom windows above the doorway were described in the 1921 and 1924 appraisals as "P.G. [plate glass] transom heads." No changes appear to have been made to this doorway since 1909.

Windows

Windows in the Conservatory include the transoms above the doorways, which were discussed in the preceding section; the windows in the north-wall bay; and the fixed storm sashes and transom sashes in the exterior walls. The bay is an original (1880-81) feature that was altered in 1909. The storm and transom sashes are later additions, installed sometime after circa 1882 and before circa 1892.

The bay in the north wall was originally designed by Henry Hudson Holly to provide a view from the Reception Room overlooking the south verandah. This is indicated by a first-floor plan published in 1881 in the *American Architect and Building News*. The plan shows this bay with five window openings: three facing south, flanked by two side windows. The accompanying perspective drawing depicts these openings as containing one-over-one sashes topped by transom lights, possibly of stained glass. That the bay was actually built as designed is confirmed by the earliest exterior photograph of the house taken sometime before February 1884 (fig. 4).

Considerable change to the bay's windows occurred in 1909-10. A pair of French doors was installed in the middle of the south side; it appears that the doors replaced the sashes of the original center window. The remaining four original windows (one on either side of the doorway and one in each of the angled side walls) were also altered at this time. The window sashes and the wood panels below them were replaced by fixed single-pane plate-glass sashes and plain plate-glass transoms. Carpenter Adolph Vogel noted in his bill of January 27, 1910, that "glass for transom in bay were cut from old plate glass."

The appearance of the windows was documented by the residence appraisals of 1921 and 1924 as follows. Flanking the French doors in the south wall were "2 P.G. [plate glass] stationary side lights"; at the corners of the bay were "2 P.G. stationary window lights." The transom windows above were also described as being of "plate glass." No further changes appear to have been made to these windows. Thus, their present appearance dates to 1909.

The large window sashes of the Conservatory's east, south, and west walls (considered as one window, W-126) are first seen in an undated exterior photograph taken sometime before May 1890 (fig. 5). Other photographs taken over the years indicate that the use of these windows was seasonal, being installed during the cold months of the year and removed during the warm months. The October 1892 bill from carpenters Williams & Woodruff for "2 days work - Conservatory sashes" in September may well have referred to installing the windows for the winter.

The photographic evidence indicates that the design for these windows has remained unchanged since their original installation. They included four curved sashes for the semicircular south wall, each with 48 lights; one straight sash with 48 lights; and two straight sashes with 24 lights each.

Located above the large, removable sashes were 20 fixed transom windows that stayed in place year-round. All had three lights each. Of the 20, five were designed to swing open into the room—most likely for ventilation during the winter months. The windows were described in the residence appraisals of 1921 and 1924 as a "54 Lineal feet glass enclosure," and in the 1931 residence appraisal as a "pine and glass circular enclosure."

Extensive repair work to the "Conservatory Sash" was billed by carpenter Adolph Vogel in March 1900. Itemized materials included "12 lbs paint, glass, putty [and] 128 ft. pine and cypress."

Beginning sometime between circa 1890 and 1903 (based on the photographic documentation), the storm windows were replaced by screens during the warm months. The curved sashes were fitted with six-panel screens, and the straight sashes with four-panel screens.

The yearly ritual of removing and reinstalling the storm windows and screens continued through at least 1943. A work order dated October 4, 1943 (I.P.O. no. 37700) noted that Mrs. Edison had ordered "putting up storm sash and doors on conservatory." Former Glenmont gardener C. Thore Hallstrom recalled, however, that by this time only the straight sashes and doors were being replaced. Problems of settling and twisting of the sills and framing had made it increasingly difficult to refit the curved sashes; these were finally puttied into the frames around 1941 or 1942. By 1950, even the straight sashes and doors were left in place year-round.

The condition of the Conservatory, including the window sashes, was recorded by the National Park Service in the 1960's. Gordie Whittington noted in his historic structure report dated July 1964 that the condition of the large sashes could not be ascertained until they were removed. He also observed that the transom sashes appeared to be in excellent condition, and that the exterior stickwork was in good condition, except for a few missing pieces. Upon their removal, most of the curved sashes and the framework supporting them were judged to be in poor condition. (See the previous section "Walls" for a discussion of the window frames). All four curved sashes were

subsequently replaced with reproductions in ponderosa pine. These were provided by John Deliduka, Inc., under NPS contract CX 14-10-0529-2068 dated May 1965. This contract specified that the reproduction millwork was to "exactly match the original." Whittington recorded in his daily log book in November 1965 that the "carpenter...permanently fastened the curved sash." Minimal work has been done to the windows since that time.

Finishes

The painted finishes on the floor, walls, and ceiling of the Conservatory today were chosen to approximate the appearance of the room circa 1909-36. The room was most recently repainted in 1987.

A total of 19 paint samples were extracted from various features in 1978 and 1985 for microscopic examination at the NPS's North Atlantic Historic Preservation Center (NAHPC). Paint layers were recorded and color matches made to the Munsell color notation system. This information was used to supplement the scanty historical record.

Very little is known about the finishes of the original (1880-81) verandah. Paint analysis indicates that the adjacent red-brick wall of the house was most likely unpainted. The beam along the south edge of the ceiling was first painted a dark green color, and later a mustard-yellow color, both paints being lead-based. The ceiling of the verandah may have been treated similarly.

The Conservatory when first built circa 1882 was an open porch finished in a simple color scheme. Paint analysis indicates that the floorboards were painted gray; the red-brick walls were unpainted; and the wood walls and ceiling were varnished. By 1909, the wood walls had been painted twice: first green (Munsell 10Y 4/2), and later white. The brick walls remained unpainted, and the ceiling was still varnished.

Extensive painting of the interior first occurred in 1909. This was determined by comparing a paint sample from the north French doors installed in 1909 with paint samples removed from other locations. All elements except the floor were primed with white lead paint and then painted green. This included the brick and wood walls, the ceiling, the doors, and the windows. The predominant finish color was a medium green (Munsell 10GY 6/2); the ceiling was painted light green (Munsell 10GY 8/2). Less certain is the floor finish, which may have been a dark brown paint (Munsell 10YR 3/2) covered with a dark glaze.

Four years later, Proctor & Company submitted a bill dated May 31, 1913, for painting the willow furniture in the "Palm Room" a "soft grey" and staining other selected pieces "soft brown." There is no indication, however, that the room itself was painted at this time.

After 1909 and before 1937, the color of the floor was changed to gray, and the ceiling was painted the same shade of green as the walls. During this time period the floor and walls were painted approximately four times (or about every seven years), and the ceiling was painted once. The last painting of the walls prior to 1937 used a darker, moss-colored green (Munsell 10Y 6/2).

The first known documented references to painting the interior of the Conservatory are dated 1937. At that time, Mina Edison Hughes employed the services of New York City interior decorator Mrs. Renner to supervise the repainting. On March 4, 1937, Mrs. Renner wrote to Mrs. Hughes who was in Fort Myers, Florida, "I think you are wise to decide on having the Conservatory floor brown so I will consult with Mr. Miller and have the color mixed accordingly." Mrs. Hughes replied, "Please do nothing about the floors now will write later." Mrs. Renner again wrote to Florida on April 6, 1937, "I...saw the painters who were working in the Conservatory and checked up on the color there." Unfortunately, no clue is given as to what this "color" was.

Paint analysis indicates that Mrs. Renner painted the floor, walls, and ceiling a warm gray (10R 7/1), and that the floor was also varnished. While this may seem a dreary treatment, color accents were undoubtedly provided by the abundant plants and the cushioned furniture.[48] This gray paint scheme appears to have been retained on the walls and ceiling, without overpainting, for almost 30 years. One reason for its longevity may have been the additional protection provided to the interior when most of the windows were puttied in place in 1941-42.

The next documented painting occurred when the National Park Service restored the room in the 1960's. NPS records indicate that the Conservatory was painted under contract by Chiovarou and Son. National Park Service employee Gordie Whittington recorded in his daily log book in October 1966 that the contractor was applying a prime coat and two additional coats in an "approved color." That color was neither described nor recorded. However, paint analysis of new woodwork installed during the restoration indicates that the prime coats were a gray color, and that the finish coats were a green color similar to that used on the walls from 1909 to 1936. The floor was painted gray.

The last painting of the room, in 1987, used oil-based paints matched to the existing 1960's colors. The floor was given a two-coat finish of Benjamin Moore's "Platinum Gray" deck paint. A special Benjamin Moore color mix was made for the walls and ceiling, which was matched to the color on a ceiling board temporarily removed for that purpose.

Lighting System

The Conservatory has numerous electric ceiling lights that were first installed in 1910. As indicated in the section "Ceiling," the wiring serving these lights is concealed by the wood molding strips decorating the ceiling.

The earliest known record of light fixtures for the Conservatory is an inventory of furnishings taken in 1886 when Edison purchased the house. Listed at that time were "3 ornamental Chinese hanging lamps." Whether these were gas fixtures or oil lamps is not indicated; no sketches or photographs of these lamps are known. Edison may have replaced the lamps with other fixtures after he acquired the house, although there is no record of this.

[48] A "plain green material" for the room is cited in a letter from Mrs. Renner dated Apr. 11, 1940. [Ref., Leah B. Burt and Kristin Herron, "Historic Furnishings Report: The House at Glenmont" (Edison NHS: 1994).]

The installation of the existing 48 lights around the perimeter of the ceiling is documented by electrician George Boyce's bill as having occurred sometime before January 24, 1910. This bill itemized "50 [sic] receptacles for Conservatory." Perhaps the next entry on the bill, "60-16 candlepower Lamps," was also intended for the Conservatory.

The earliest view of the new electric lights is a 1916 photograph of the south end of the room that shows bare light bulbs equally spaced around the perimeter of the room. The 1921 and 1924 residence appraisals described the fixtures as "48 socket lights"; the 1931 residence appraisal listed "48 ceiling outlets in wood mould." Light bulbs for the 48 ceiling sockets were recommended in a letter from the Edison Lamp Works dated February 14, 1927, to be "15 watt A-17 Ivory MAZDA Lamps."

The electrical wiring for the lights was apparently modernized in the mid-1960's by the National Park Service. Architect Newton Bevin in his historic structure report of February 1964 advised using "special care" when removing the protective wood ceiling moldings. Almost two years later, on December 23, 1965, NPS employee Gordie Whittington recorded in his log book that he had "worked out a way to replace the wiring to the lights...." No details were given, however.

The light switches that activate the lights are in a wood box built into the west wall between the two doorways. While this box appears to be old and is probably contemporary with the installation of the electric wiring in 1910, the metal box and circuit breakers contained therein are modern. These were installed in 1968 as part of NPS contract CX 14-10-7-981-93 for new electrical and heating systems at Glenmont.

Electrical Outlets

The Conservatory has one duplex receptacle outlet, in the west wall electrical box. The electrical box and its outlet appear to be modern, and were most likely installed in the 1960's. No historical documentation has been found concerning electrical outlets in this room.

Annunciator System

The Edisons had an annunciator system at Glenmont, whereby call buttons in various rooms could be pushed to summon the service staff. The buttons activated indicators on annunciator boards located in several service areas; the main one was in the Kitchen. The system is inactive today, but some of its equipment remains, particularly the annunciator boards. Thus, it is known that the Conservatory had a call button, even though it is missing today, because there is a station marked "Conservatory" on the Kitchen's annunciator board. See the subsequent section entitled "Kitchen (Room 107)" for more information on the annunciator system.

Plumbing System

One water spigot is located beneath the floor; it is accessed by opening one of the cast-iron floor grates for the heating system. The spigot was no doubt used for watering the plants. Its date of installation is not known, since no references were found in the documentation.

Boxed pipes for the South Bathroom (Room 201) in the second story are at the north end of the west wall of the Conservatory. The wood boxing was constructed in September 1905 by carpenter Adolph Vogel, according to his bill dated October 12, 1905. The pipes themselves also date to 1905 when the South Bathroom was installed.

Heating System

The Conservatory has had a different heating system from the rest of the house for most, if not all, of its existence. It is assumed that the first system here was installed when storm doors and windows began to be used to enclose the room during the colder months. As stated previously, this had taken place by August 1890.

The first heating system in the Conservatory appears to have had a coal-fired steam boiler separate from that of the main heating system. This is based on documentation relating to its repairs. The first known documented reference is a bill dated December 1892 from M. & T. Chalmers, Plumbers, Stove Dealers and Coppersmiths, for work done in September that included the installation of a "Smoke Pipe For Conservatory" and "repair[ing] furnace in Conservatory." Thirteen years later, in December 1905, heating and ventilating contractor John Reid billed for "Repairs for Conservatory Heater." Itemized entries included "1 #B 15 Smoke Box; 1 #B 15 Grates, 1/2 gal Black Asphaltum; [and] Steam-fitter and Helper, 14 hrs." The method whereby the steam heated the Conservatory is not known. It is possible that steam pipes were run in channels in the floor that were covered with cast-iron grates. (Such grates are visible in an interior photograph taken of the Conservatory in 1916.)

The Conservatory continued to have a separate system after 1907, when the Edisons made major improvements to the main house's steam-heating system. However, the Conservatory's steam boiler and pipes were replaced at some point with a hot-water heater and pipes. This could have occurred either in 1907 or 1920, when more work was done on the main heating system. It definitely had taken place by 1921, based on the residence appraisal of that year. The appraisals of 1921 and 1924 describe the heating system as "1-#15-5 hot water heating plant with piping and connections necessary to heat conservatory." The 1931 residence appraisal stated that the heating plant was in the cellar, and described it as "1 Ideal water heater #W 155, with asbestos covering and piping to Conservatory." The piping beneath the floor was further noted to be "168 Ft 3" pipe in coils."

Work was undertaken on the heating system by the National Park Service in the 1960's. NPS employee Gordie Whittington entered in his daily log book in November 1966 that he was "working on another means of supporting or assisting in lifting the cast iron grating in the Conservatory by counter-balancing." This appears to have been accomplished, because the grates open easily today. Modern hot-water pipes were run alongside the old ones beneath the grates, and a new thermostat

was installed. Both of these actions probably occurred in 1968 as part of NPS contract CX 14-10-7-981-93. The old hot-water pipes were not reused, but were left in place.

An exposed pipe at the north end of the west wall is the supply for the radiator in the second-story South Bathroom (Room 201). It was installed in 1905.

See the subsequent section "Utilities: Heating System" for more information.

Fire-Protection System

No fire extinguishers or fire pails are known to have been in this room during the Edisons' ownership. The closest fire-fighting equipment was in the Second Floor Hall, according to the furnishings appraisals of 1921, 1924, and 1931.

The room is protected today by a Pyrotronics smoke detector mounted to the ceiling. This is part of a complete system installed in the house in 1978.

Security System

The Conservatory was not among the rooms included in the burglar-alarm system installed at Glenmont in 1889. This is based on a description of the system provided by installers Edwards & Co. dated September 14, 1889.



Figure 51. Conservatory (Room 101), looking south, 1916.



Figure 52. Conservatory (Room 101), looking south, 1947.



Figure 53. Conservatory (Room 101), looking northwest, 1947.



Figure 54. Conservatory (Room 101), looking south, 1960.



Figure 55. Conservatory (Room 101), looking northwest, 1960.

Reception Room (Room 102)

General Information

The Reception Room is the smallest of the formal first-story rooms. It is on the east side of the house, between the Hall (Room 103) and the Conservatory (Room 101). Its dimensions were recorded by the residence appraisal of 1931 as being 15 feet by 20 feet.

This room was originally labeled the "Reception Room" in the early 1880's, most likely by architect Henry Hudson Holly. It continued to be known by this name by both the Pedder and Edison families.[49]

All three Edison children (Madeleine, Charles, and Theodore) were christened here, as stated by daughter Madeleine Sloane in a tour of the house in 1973. Madeleine also recalled that "Mother was very popular and used to serve tea in this room to her many callers."

The room is essentially unchanged today from its appearance in 1910, when it was remodeled by Proctor & Company. At that time, the original ornate interior designed in 1882 by Pottier & Stymus for Henry C. Pedder was modernized in a style similar to that of the adjacent Drawing Room (Room 100). The old wallpaper was replaced with fabric, the ceiling was refinished, the overmantel was altered, a new doorway to the Conservatory (Room 101) was added, and new electric light fixtures were installed. Details concerning both this work and the original room are described in the following sections.

The Reception Room is open and interpreted to visitors today.

Floor

The floors in the first-story rooms of the Pedder house were described by *American Architect and Building News* in 1881 as consisting of "inlaid woods, with wide marquetry borders." The Reception Room was no exception, and its original floor survives today. The wide border, visible in W.K.L. Dickson's circa-1892 photograph of the room, is a Greek fretwork design. The body of the floor is composed of an overall pattern of hexagonal shapes.

Repairs were apparently made to the floor in 1909-10. In his bill dated January 27, 1910, carpenter Adolph Vogel itemized "laying parquet flooring in Rep Room" for $55.00. Proctor & Company described the floor as having been "repaired, scraped, stained and waxed" in their bill dated July 1, 1910.

The floor was recorded by the residence appraisals of 1921 and 1924 as being "310 Sq. ft. oak parquetry flooring." The 1931 residence appraisal listed the first-story floors as being of "oak parquet...with mahogany and walnut borders."

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[49] Although the original architectural drawings for the house have never been found, the first-floor plan of the house published in *American Architect and Building News* in 1881 labeled the room the "Reception Room." This name was used throughout the years in inventories, appraisals, news articles, and workers' bills.

The condition of the floor was examined in the 1960's by the National Park Service. Architect Newton Bevin noted in his historic structure report dated February 1964 that the parquet floor was dry, and that some pieces needed refastening. Recommended action was to consult a flooring expert about the best type of oil or wax treatment "to feed the wood and prevent further drying out."

Walls

The walls of the house, including those in the Reception Room, are composed of plaster on wood lath, according to the 1924 and 1931 residence appraisals. The 1931 appraisal is the more specific of the two, describing the first-story walls as being of "3 coat hard finish plaster on wood lath."

Early photographs of the room taken in the 1890's by W.K.L. Dickson show the walls divided horizontally by a baseboard, a chair rail, a picture molding near the ceiling, and a cornice at the ceiling. Of these original features, only the baseboard was described in the 1931 residence appraisal, as an "11" [high], 2 member base board." Ghost marks of the missing chair rail, found in 1980 by Camille Agricola at the fireplace mantel, identify it as having been 4 1/2 inches wide. The chair rail was described in 1891 by *The Decorator and Furnisher* as consisting of "satinwood," although it was more likely made of birch. The picture molding, finished in a manner similar to the chair rail, was most likely made of the same wood. The plaster cornice will be discussed in more detail in the following section on the ceiling. Decorative finishes applied to the walls by Pottier & Stymus in 1882 completed the ornate scheme.

Extensive work was done on the walls in 1909-10 as part of the overall renovation of the rooms. Proctor & Company's estimate dated August 5, 1909, and their bill dated July 1, 1910, together give a complete picture of what was accomplished. Removed from the walls were the "old paper," the "wood [chair] rail," and the picture molding. The walls were then repaired, new "picture moulding furnished and put in place," and wood lath installed for attachment of the new "cluny brocade" wall fabric. Doodles in pencil on the bare plaster walls, observed in 1985 at a place where the fabric was loose, may have been made by the fabric installers.

The 1910 fabric wallcovering was replaced with the present reproduction fabric wallcovering in 1986, via NPS contract CX 1600-6-0040.

Ceiling

The ceiling, like the walls, is composed of plaster on wood lath. The ornate cornice, the molding on the ceiling that runs parallel to the cornice, and the round medallion in the center of the ceiling all appear to be original to 1880-81. The 1931 residence appraisal described the ceilings in the first story as consisting of "3 coat hard finish plaster on wood lath and furring," some with "plaster cornice average 20" girt" and "3" x 4" plaster ceiling moulding[s]."

The earliest views of the Reception Room ceiling are two photographs taken in the 1890's by W.K.L. Dickson. Visible are the cornice, the ceiling molding, and the elaborate 1882 decorative scheme by Pottier & Stymus. Remnants of brightly colored paint found on the plaster cornice by

Camille Agricola in 1980 most likely date to this scheme, and provide evidence that the cornice is in fact original. Although the ceiling medallion cannot be seen in these photographs, it is likely that the large electrolier present at that time was hung from its center.

As part of the remodeling of the room in 1909-10, the ceiling was repaired and refinished by Proctor & Company. Their estimate dated August 5, 1909, and final bill dated July 1, 1910, document the work done at that time. The ceiling was washed, cracks in the center and corners were cut out and replastered, and the flat area was covered with canvas.

No major changes have been made to the ceiling since 1910.

Woodwork

The most accurate accounts of the Reception Room identify its woodwork as being birch and maple. The wood has also been called satinwood, oak, and mahogany.

American Architect and Building News in 1881 noted that the room was "finished in birch." The inventory taken in 1886 included not only the "Birch & B.E. [bird's-eye] Maple" mantel, but also many pieces of furniture in the same wood. Less accurate observations were made in later years. *The Decorator and Furnisher* in 1891 described the room finished with "bird's-eye maple and satinwood." The sliding doors were listed in the 1921 and 1924 residence appraisals as being "oak and mahogany veneer." All the room trim, including the mantel, was described simply as "maple" in the 1931 residence appraisal.

Some old woodwork was removed and new woodwork installed during the renovation of 1909-10. Carpenter Adolph Vogel included in his itemized bill dated January 27, 1910, the notation "working curly birch and work for bay." Proctor & Company did not mention wood types in their final bill dated July 1, 1910, but did note that "new wood [was] stained to match old."

Doorways

The Reception Room has three doorways. The two doorways in the north and west walls are original to the 1880-81 house, while the south doorway was added in 1909.

The original doorway at the west end of the north wall leads to the Hall (Room 103). Its wood architrave has jambs designed to resemble single pilasters, a flat lintel with a frieze decorated with rosettes and triglyph designs, and a denticulate cornice. The opening has a single pocket door that slides into the east jamb. The 1931 residence appraisal described the architraves as being "carved cabinet heads" and the door as a "maple rolling door, 5'0" x 6'10" x 2-1/4."

Also original is the doorway at the west wall, which connects with the Drawing Room (Room 100). It is similar to the north doorway, but the opening is wider and taller, and the architrave's jamb design includes paired pilasters. This opening has two sliding pocket doors. These doors were described in the residence appraisals of 1921 and 1924 as "1 Pair oak and mahogany veneer sliding doors, with carved panels, floor track, cabinet heads complete." Dimensions were also included in the 1931 residence appraisal as follows: "1 pair of rolling doors, 7'0" x 8'10" x 2-1/4."

The south doorway is in the original south-wall bay. It contains a pair of French doors installed in 1909. The installation of these doors is documented by a news clipping from the *New Jersey Chronicle* that reported, "connecting doors are being placed in the Music Room [sic], so that entrance to the Conservatory can be had from there." Carpenter Adolph Vogel's bill dated January 27, 1910, included "working curly birch...for bay," which may have referred to the installation of the new doorway.

The new south doorway is first seen in a photograph of the room dated 1918 (fig. 57). Its doors appear to be the same as those that exist today. The doorway was also described in the residence appraisals of 1921, 1924, and 1931. Of these, the most detailed is the 1931 appraisal that listed "1 Pair doors, 4'2" x 7'10" x 2'0", 2 lights, full brass bolt and 4 side lights, 2'0" x 7'10", 1 light and 22" transom."

Windows

Two groups of windows are in the Reception Room: one group in the east wall, and one in the south-wall bay. Both date to 1880-81, although those in the bay were altered considerably in 1909.

As originally constructed, both sets of windows had architraves that closely resembled those of the doorways in the room, and wood panels on the wall areas beneath the windows. The large window in the east wall (W-127) is unchanged from its original appearance, based on a plan and exterior elevation drawing published by *American Architect and Building News* in 1881. Its architrave is rectangular, but the actual window opening is segmentally arched and subdivided into three parts by two vertical mullions. Each of the three subdivisions has one-over-one sashes and a stained-glass transom. The tops of the transoms are curved to accommodate the arch of the window opening.

W.K.L. and Antonia Dickson commented on these transom windows in 1892 as follows: "In this room, as in the entire house, stained glass is used, and exquisite are the effects produced by these molten gems." The 1921 and 1924 residence appraisals described the sashes as being "3 27" x 72" 2 light plate glass double chain hung sash, with leaded glass transom heads, including frames, trim and hardware, paneled bases." The 1931 residence appraisal listed the window as "1 Double mullion window, 3 double hung sash...." No doubt also original are the three tambour covers that lift up from the sill level, and the beaded wood trim on either side of the transom windows.

The south wall contains the windowed bay originally designed to overlook the south verandah. *American Architect and Building News* in 1881 illustrated this bay with five one-over-one window sashes topped by transom windows (most likely containing stained glass). In 1891, after the replacement of the verandah with the Conservatory, *The Decorator and Furnisher* described the bay as a "long shallow bay overlooking a large conservatory." Wood panels are evident beneath the windows in W.K.L. Dickson's photograph of the room published in 1892.

The south bay was altered in 1909, when a pair of French doors was installed in the middle. It appears that the doors replaced the original center window sashes. The remaining four original windows (one on either side of the doorway and one in each of the angled side walls) were also

altered at this time. The window sashes and wood panels were removed and replaced by fixed single-pane plate-glass sashes and plain plate-glass transoms. Carpenter Adolph Vogel noted in his bill of January 27, 1910, that "glass for transom in bay were cut from old plate glass."

A photograph of the south bay taken in 1918 shows it to be unchanged from its appearance today. By the time of the 1921, 1924, and 1931 residence appraisals, the two windows on either side of the French doors were described as "side lights" for the doors.

Window shades were installed as part of the 1910 remodeling, judging by a bill from Proctor & Company dated July 1, 1910. The bill specified "5 new shades and rollers." The furnishings appraisals of 1921, 1924, and 1930 also recorded the room as having "9 Holland window shades."

No major changes have been made to the windows since 1910.

Fireplace

The fireplace at the north wall is an original feature that was altered in 1909-10.

The original appearance of the fireplace is documented by the inventory of January 1886, which described an "open fireplace, polished steel and brass, tiled floor, mantel with shelves, mirror & c. Birch & B.E. [bird's-eye] Maple." Of these features, the metalwork, the tiled hearth, and the mantel remain in the room today. Framing the firebox opening is the steel and brass surround. It is embossed with several designs, including a fasces motif along the outer edge, cattails on the jambs, and lily pads on the lintel. The hearth tiles feature a stylized floral design in colors of green, blue, yellow, and white. The mantel is paneled and has paired pilasters and brackets that support a shelf.

The original overmantel, with its shelves and mirror, was removed in 1909-10. It was replaced with another mirror as part of the overall remodeling of the room. No detailed descriptions or photographs of the early overmantel are known, although it may have been similar to the extant original overmantel in the Library (Room 104). Tiffany and Company proposed as early as August 1907 "remov[ing] overmantel above shelf." Two years later, in August 1909, Proctor & Company made a similar proposal and submitted an estimate for "1 special Italian gold mirror for back of mantel." One proposed design for this mirror—submitted as a pencil sketch by A.H. Davenport Co.—showed an elaborate frame with columns, swags, and winged creatures.[50] The mirror that was finally chosen and installed was described in Proctor & Company's bill of July 1, 1910, as "1 Antique Baroque carved wood mirror."

One other change made to the mantel in 1909-10 involved the addition of electrical wiring for two shelf fixtures. This is discussed in more detail in the section "Lighting System."

[50] "Gold Mirror in Reception Room for Mrs. Thos. Edison," drawing by A.H. Davenport Co. of New York City, no date. Catalog number 116,300, Glenmont drawing collection.

The furnishings appraisals of 1921, 1924, and 1930 described the mirror over the mantel as follows: "1 Florentine carved and gilt wood framed mantel mirror, 67" x 30 1/2", deep shell and scroll design, with foliated acanthus leaf corners." The mirror is still in place today above the mantel.

The fireplace mantel was also described in the residence appraisal of 1931; it seems to have been overlooked in the earlier residence appraisals of 1921 and 1924. The 1931 appraisal listed "1 Mantel, 6'0" wide, maple shelf, frieze and facing, metal fireplace, tile hearth, brass facing."

Finishes

The original 1882 decorative finishes of the Reception Room were changed only once, in 1910. It is this scheme that remains in place today.

The room was originally finished for Henry C. Pedder by the firm of Pottier & Stymus. Their bill, dated May 7, 1882, describes the walls as being papered and the ceiling as being decorated. While no details of this work were given, the original appearance of the room may be pieced together based on descriptions and photographs from the 1890's, and clues found in the room itself in 1980.

The walls were not only wallpapered originally, but were also partially hung with a fabric and stenciled. *The Decorator and Furnisher* described the fabric in 1891 as "a dado of purplish crimson silk twill, a kind of deep raspberry color, contrasting strongly with the woodwork." W.K.L. Dickson's photograph of the room published in 1892 shows the fabric as being between the baseboard and chair rail and gathered in about 2-inch vertical pleats. No remnants of this fabric have been found.

Wallpaper, seen in the photograph as a light-colored pattern on a darker background, was hung between the chair rail and the picture molding. This was described in 1891, as "a thick material, on the dull gold background of which are raised lines in diaper pattern." A fragment of this paper, found in 1980 by Camille Agricola behind the architrave of the north doorway, was identified as an embossed paper with a cream-colored design on a dull olive-green (not "gold") background.

Bordering the room between the picture molding and the cornice was a stenciled frieze. While not included in the 1891 description, it is both documented by Dickson's photograph and preserved in situ behind the later wall fabric and picture molding installed in 1910. Agricola in 1980 described the frieze design as having a "dark green background...highlighted by pink, yellow and green poppies."[51]

The ceiling was also ornately decorated by Pottier & Stymus. *The Decorator and Furnisher* in 1891 described a "buff ceiling bordered with conventionalized roses on a trellis of golden brown."

[51] Camille Agricola, "An Analysis of the First Floor Decorative Finishes at Glenmont, Llewellyn Park, West Orange, New Jersey" (Master's Thesis, Columbia University, 1980), p. 65.

Dickson's photograph shows only a small portion of this ceiling border, at the south bay. Unfortunately, the decorative finishes on the flat areas of the ceiling were most likely destroyed when the ceiling was "washed off" in 1910. It presumably had been stenciled in a manner similar to the frieze.

The 1892 Dickson photograph depicts the cornice as being finished in alternating bands of light and dark colors. Agricola's paint analysis indicates that it was painted and stenciled in bright distemper colors, similar to the original cornice in the Library (Room 104), which has never been overpainted. The paint analysis indicates that the cyma recta molding, for example, was stenciled using a light tan color over a dark tan background.

The Edisons contemplated redecorating the room as early as 1907. Tiffany Studios submitted an estimate for work dated August 2, 1907. Duryea and Potter illustrated their proposed "special design" with four color-washed elevation drawings of the room.[52] Finally chosen for the job, however, was Proctor & Company.

The changes wrought by Proctor & Company are well documented, both by their estimate dated August 5, 1909, and their final bill dated July 1, 1910. The way in which the walls would be finished was apparently a late decision. Proctor & Company stated in their estimate of 1909 that it had been "difficult to figure on the Reception Room as there has been so much uncertainty as to what will be used on the walls." Their estimate of using brocatelle at $8.50 a yard was later changed to a less expensive cluny brocade at $3.25 a yard. This was the same fabric used in the adjacent Drawing Room (Room 100) in 1910. Before the fabric was installed, the old wallpaper was removed, the walls were repaired, and lath strips were nailed in place. Total materials installed were 40 yards of lining, 42 yards of brocade, and 90 yards of special gimp.

The ceiling, according to Proctor & Company's final bill, was "washed off, prepared, covered with canvas, lined off with gold lines and tinted egg and dart with gold." Although not mentioned in the bill, the earlier estimate also noted that the canvas would first be "painted three coats of the best white zinc, final color deep old ivory." Agricola observed that this was the same color that was used in the Drawing Room (Room 100), which she color-matched to the commercial paint color Benjamin Moore CB-18.

Other work specified by the 1910 bill indicates that the "woodwork [was] cleaned off, new wood stained to match old, shellacked and rubbed down." The floor was "repaired, scraped, stained and waxed, complete." Microscopic analysis of a floor sample by Agricola indicates that the floor was both shellacked and waxed at this time.

Little had changed in the room by 1921, when the residence appraisal for that year described the room's finishes as being "Oil, paint and damask wall hanging." A similar description was recorded by the 1924 residence appraisal.

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[52] "Reception Room Thomas A. Edison Orange N.J.," drawing by Duryea and Potter Special Designs No. 5920, 5921, 5922 and 5923, no date. Catalog numbers 116,296, 116,297, 116,298, and 115,299, Glenmont drawing collection.

No changes were made to the Reception Room finishes for many years following 1910. In September 1968, "two sections of damask in Reception Room" were removed by the National Park Service—no doubt in connection with electrical work being done at that time.[53] The fabric was later reattached, although no record of this was found. By the mid-1980's, the fabric wall hangings had a worn appearance, similar to that of the hangings in the Drawing Room. They were replaced in 1986 with the present reproduction fabric wallcovering, via NPS contract CX 1600-6-0040.

The cornice may have been given one coat of cream-colored paint in the 1950's, based on paint analysis by Agricola. (No documentary evidence exists for this.) Beginning in the late 1960's and continuing through the early 1970's, annual maintenance included polishing all woodwork with lemon oil, and polishing the floors with nonskid wax.

Lighting System

The electric wall, ceiling, and mantelshelf light fixtures in the room today were installed in 1909-10, during the last remodeling of the room. All of the electric fixtures were rewired by the National Park Service in 1968.

The first light fixture in the Reception Room was a gas chandelier. It was described in the January 1886 inventory as "1 chandelier, gilt, 6 jets and drop centre lamp, globes & c., all good." No drawings or photographs of this fixture are known.

Edison electrified the house in 1887. Sometime after that and before the new inventory was taken in 1891, the old gas chandelier was replaced by "1 electrolier." Only one photograph of this electrolier is known, taken by W.K.L. Dickson in the 1890's. Here it is seen as a large fixture with two tiers of light bulbs numbering more than 12. It is believed that this was a new fixture, rather than the old one converted to electricity, based on the large number of lights.

In 1909-10, the electrolier was removed and all new electric light fixtures were installed as part of the overall remodeling of the room. Edw. F. Caldwell & Co. of New York City submitted a bill dated December 8, 1909, for "one A 13263 6 light electric Alabaster Ceiling Fixture, gold." Proctor & Company later billed on July 1, 1910, for "4 carved wood electric light side brackets mounted for 3 light electric," and "1 pr. special carved wood electric light standards for mantel shelf." The bill was slightly in error, however, because the "side lights," or wall fixtures, in fact held only two bulbs each.

The light fixtures are further documented by the residence and furnishings appraisals of 1921, 1924, 1930, and 1931. The ceiling fixture was described by the residence appraisals of 1921 and 1924 as "1 3 light chain hung inverted drop with 20" Alabastine bowl," while the 1931 residence appraisal noted "1 chain hung alabaster bowl, carved and pierced rim." The wall fixtures were first listed in the residence appraisal of 1924 as "4 2 Lt. polychrome wood brackets," and later in the 1931 residence appraisal as "4 Polychrome composition sconces, 2 candle lights." The mantel-shelf fixtures were included in the furnishings appraisals of 1921, 1924, and 1930. The 1921 appraisal

[53] Gordie Whittington, log book entitled "Building No. 10: March 7, 1966 - December 30, 1968." Maintenance Office files, Edison NHS.

described them as "1 Pair Italian Renaissance design carved and gilt and polychrome wood electric candlesticks, 15" high." Similar notations exist for both 1924 and 1930.

Shades for the exposed lights were recommended by The Herter Looms in a letter to Mrs. Edison dated July 18, 1913. Their advice does not appear to have been taken, however, based on photographs of the room taken in 1918 and 1947 that show the light bulbs in the wall and mantel fixtures as being bare. Both the wall and the mantel fixtures are seen in the 1918 photograph as having round light bulbs. In a letter dated February 14, 1927, bulbs recommended by the Edison Lamp Works were "4-25 watt A-19 Inside Frost MAZDA Lamps" for the ceiling fixture, "8-25 watt A-19 Ivory MAZDA Lamps" for the wall fixtures, and "2-25 watt F-15 Ivory MAZDA Lamps" for the mantel fixtures. Reference to "candle lights" at the wall fixtures in the 1931 residence appraisal may indicate that flame-shaped light bulbs were in use at this time. Flame-shaped bulbs are in fact seen in the mantel fixtures in the 1947 photographs, but round bulbs—similar to those in the 1918 photograph—were present in the wall fixtures. This same arrangement is documented by the later photographs taken in 1960.

Two pairs of push-button switches activate the lights. These are in the adjacent Hall (Room 103), to the west of the Reception Room doorway. Each pair of switches has one back plate. Their date is not known.

Electrical Outlets

One duplex receptacle outlet is in the west baseboard, south of the doorway. A former outlet also appears to have been in the east baseboard, north of the window, where a metal plate exists today. Two outlets are documented by the 1931 residence appraisal, which listed "2 Base receptacles." The west outlet is also documented in a photograph dated 1947.

The electrical outlets were rewired by the National Park Service in 1968.

Annunciator System

The Reception Room was served by the Edisons' annunciator system. The annunciator board in the Kitchen includes a station for the "Reception Room." Also, the room retains its call button, located on the north wall next to the doorway. The button is covered with a material resembling mother-of-pearl; it is mounted in a triangular metal back plate having a green patina.

The earliest mention of a button in the Reception Room that "rang to Annunciator in Kitchen" is in a letter dated September 14, 1889, from Edwards & Co. to Charles Batchelor. See the subsequent section entitled "Kitchen (Room 107)" for more information on the history of the annunciator system.

Heating System

The Reception Room was heated historically with hot air produced by the house's original steam-heating system. The hot air was obtained by using steam radiators—located in heat-transfer boxes in the cellar—to heat fresh air. The hot air then entered the room through one floor register. This system presumably used the extant cast-iron floor register located in front of the south bay. (See the subsequent section "Utilities: Heating System" for more information.)

Following the installation of a new furnace in 1920, the American Radiator Company calculated the system to be supplying 70 thermal units to the Reception Room—25 units short of the 95 units theoretically required for a space of this size.[54] No supplemental heat appears to have been installed, however, since "1 Floor register" was still listed in the 1931 residence appraisal.

In 1968, a new forced hot-air heating system replaced the gravity air system, which was connected to the existing floor register. The only visible sign of the new system is a thermostat attached to the east side of the chimney breast.

Fire-Protection System

No fire extinguishers or fire pails are known to have been in this room during the Edisons' ownership. The nearest fire-fighting equipment in the 1920's and 1930's was in the Second Floor Hall (Room 214), according to the furnishings appraisals of 1921, 1924, and 1930.

The room is protected today by a Pyrotronics smoke detector mounted in the ceiling above the north doorway. This is part of a complete system installed in the house in 1978.

Security System

The burglar-alarm system installed at Glenmont in 1889 included connections at "all [the] windows" of the Reception Room, according to a letter dated September 14, 1889, from installers Edwards & Co. to Charles Batchelor.

[54] Letter from R.W. Kellow to Mrs. Edison, Jan. 25, 1921. Edison NHS Archives.



RECEPTION ROOM VIEWS.

Figure 56. Two views of the Reception Room (Room 102), circa 1890.



Figure 57. Reception Room (Room 102), looking southwest, 1918.



Figure 58. Reception Room (Room 102), looking south, 1947.



Figure 59. Reception Room (Room 102), looking northwest, 1947.



Figure 60. Reception Room (Room 102), looking east, 1947.



Figure 61. Reception Room (Room 102), looking southeast, 1960.



Figure 62. Reception Roo[illegible]oom 102), looking north, 1960.



Figure 63. Reception Room (Room 102), looking east, 1960.

Hall (Room 103)

General Information

The Hall is the first room encountered when one enters the house through the front vestibule called the Entrance (Room 103a). It was described by the residence appraisal of 1931 as being "irregular" in shape, measuring 12 feet by 24 feet. This does not include the alcove at the south end of the east wall, nor the raised area at the northwest corner of the room. This raised area includes two different spaces: an open landing at the foot of the Main Stairway, and a very deep, arched doorway just west of the landing.

The Main Stairway itself, which ascends the west wall of the Hall, is discussed in a separate section. This is because the stair tended to be finished differently than the rest of the Hall.

Room 103 was known as the "Hall" by both the Pedder and Edison families. During the Pedder years, it was so labeled on a floor plan published by *American Architect and Building News* in 1881. Decorators Pottier & Stymus referred to the room as the "Main Hall" in their bill dated May 2, 1882. The inventory of 1886 labeled the room the "Lower Hall." Documentation dating to the Edison years used "Hall" in 1891 and 1931; "Entrance Hall" in 1892, 1894, 1921, and 1924; "Main Hall" in 1910; and "Reception Hall" in 1921, 1924, and 1930.[55]

The Dicksons wrote in 1892 that the Hall was "luxuriously furnished...after the fashion of English manors...and serves as a general lounging place, rather than as a mere passage for ingress and egress."[56] Certainly the latter was also an important function, since this room—with eight doorways—is a major thoroughfare within the house.

The Hall is one of only two rooms in the house that remains essentially unchanged from its original appearance in 1880-81. It is open and interpreted to visitors today.

Floor

The hall floor exists on two levels. The floor of the main portion of the room—including the southeast alcove—is at the same level as the entrance vestibule. The floor in the northwest corner of the room is two steps higher.

Both levels of the Hall have original parquet flooring. The design is a simple one composed of squares of wood laid in alternating directions, with a border of straight bands in alternating colors of light and dark. *American Architect and Building News* in 1881 described all of the first-story rooms as having floors "of inlaid woods, with wide marquetry borders." Ten years later, in 1891,

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[55] The term "Hall" is used in the 1891 inventory and the 1931 residence appraisal; "Entrance Hall" appears in the Dicksons' 1892 *The Life and Inventions*, the 1894 *New York Recorder* article "Superb Country Homes," and the 1921 and 1924 residence appraisals; the reference "Main Hall" is used in a painter's bill dated May 2, 1910; and the title "Reception Hall" appears in the furnishings appraisals of 1921, 1924, and 1930.

[56] Dickson and Dickson, *The Life and Inventions,* p. 339.

The Decorator and Furnisher observed that the floor was "of inlaid parquetry." The 1921 and 1924 residence appraisals described the floor as being "461 Sq. Ft. oak parquetry flooring." The 1931 residence appraisal listed the floors in the first-story floors as being of "oak parquet...with mahogany and walnut borders."

Restoration of the floor was undertaken in 1912 by the A.H. Davenport Co. Its bill of April 20, 1912, described the floor as having been "repaired, pieced, slivered, scraped and refinished."

The Herter Looms submitted an estimate dated February 21, 1924, to "take up present border and fill in with two rows of squares to match center, and form new strip border," and to refinish the entire floor. Whether or not this was actually done is not known, since no bill from The Herter Looms or other record of the work has been found.

Walls

The walls are composed of two materials: oak paneling and plaster (see the subsequent section "Woodwork"). The oak panels form a high wainscot, above which are the plaster walls.

The *Decorator and Furnisher* described the wainscot in 1891 as being "breast high...antique oak...[with] beveled panels." The 1921 and 1924 residence appraisals recorded "21 lineal feet 5'6" oak paneled wainscoting." Slightly different measurements were taken for the 1931 residence appraisal, namely "24 Lineal feet 5'0" high, oak wainscoting, in 9" x 9" panels." The 1931 appraisal also described the first-story plaster walls as being "3 coat hard finish plaster on wood lath."

Ceiling

The entire ceiling is composed of intersecting wood beams that form coffers containing matched-board panels. In the main part of the room, the coffers are large and the matched boarding is oriented in a north-south direction. In the southeast alcove, the coffers are smaller and the matched boarding is oriented in different directions, including diagonally.

The ceiling was described in the 1921 and 1924 residence appraisals as a "461 Sq. Ft. oak paneled ceiling set in 7 member beamed ceiling, with 7 member wall member to match." A slightly different description is found in the 1931 residence appraisal: "372 sq. ft. beaded oak ceiling with 88 Lineal ft. 6" x 10" oak wall member [cornice], 96 Lineal ft. 6" x 6" x 6" oak ceiling beam with dentil course, [and] 180 Lineal ft. 5" x 4" x 5" ceiling beam." See the subsequent section "Woodwork" for more information.

Structural problems involving the ceiling are documented as having occurred as early as 1922. Although the Hall ceiling was not mentioned, six people evaluated a deflection in the floor of the room above, according to a letter from John Miller to Mrs. Edison dated March 24, 1922. The condition was judged to be stable, so no structural work was done at that time.

In 1964, NPS architect Newton Bevin observed "the deflection of a ceiling beam extending from the left side of the mantel breast to the opposite wall of the alcove."[57] As in 1922, monitoring—rather than corrective action—was recommended. A structural report by Keast & Hood Co. in 1975 noted that "The second floor construction over the entrance lobby is heavily deflected."[58] However, it was not until the mid-1980's that a portion of the Hall ceiling was opened and structural repairs were made under NPS contract CX 1600-4-0055.

Woodwork

The woodwork is an important component of this room, since large areas of the walls and all of the ceiling are paneled. This paneling is oak. *American Architect and Building News* in 1881 reported that the Hall was finished in "dark oak." In 1891, *The Decorator and Furnisher* observed that the walls were paneled "with antique oak" and the ceiling with "oak." Oak is also listed in the residence appraisals for 1921, 1924, and 1931. For some reason, the Dicksons referred to the room as consisting of "red mahogany." This may be attributable to the fact that some of the room's elements are mahogany: the fireplace mantel, the built-in settee at the bottom of the Main Stairway, and the heat-register cover designed to function as a plant stand.

Doorways

The Hall has eight doorways. All are original, being shown in the first-floor plan published in *American Architect and Building News* in 1881. The jambs of their wood architraves are designed to resemble fluted pilasters; their lintels are decorated with bands of alternating rosettes and triglyph forms. Four of the doorways' architraves have flat lintels with denticulate cornices. Three have arched lintels, with a keystone and egg-and-dart molding in the cornice. Two types of doors are used in these doorways: sliding pocket doors and hinged doors.

The doorway in the middle of the north wall leads to the Library (Room 104). It has a flat lintel and a sliding door that fits in a pocket in the east jamb. The doorway was described in the 1921 and 1924 residence appraisals as having a "5' x 7'6" ten panel oak and birch veneer sliding door, floor track, with carved standing and head trim."

The doorway at the north end of the east wall leads to the Entrance vestibule (Room 103a). It has an arched lintel, a stained-glass transom window, and two hinged nine-panel doors. Each door has a mortise lock, a doorknob, and two hinges—all presumably original. A chain guard dates to sometime before 1947, based on a photograph taken in that year. The 1931 residence appraisal described this doorway as having "1 Pair of oak entrance doors, 4'8" x 8'0" x 2-3/4", with 1'6" circle top, stained and leaded glass transom." The design of the transom window was more completely described in the earlier 1921 and 1924 residence appraisals as being a "floral design, with ribbon festoon ends."

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[57] Bevin, "Historic Structures Report - Part I, Architectural Data Section on Rehabilitation of Glenmont," p. 15.

[58] Structural report on Glenmont by Keast & Hood Co., Structural Engineers, Feb. 7, 1975, p. 2.

The doorway at the west end of the south wall leads to the Reception Room (Room 102). It closely resembles the north doorway to the Library, with a flat lintel and a sliding door that fits in a pocket in the east jamb. The description of this doorway in the 1921 and 1924 residence appraisals is identical to the south doorway previously mentioned.

The doorway at the south end of the west wall leads to the Drawing Room (Room 100). It is similar in appearance to the adjacent south doorway, with a flat lintel and a sliding door that fits in a pocket in the south jamb. The description of the door in the 1921 and 1924 residence appraisals is the same as that for the south doorway.

The raised area at the northwest corner of the Hall has a total of four doorways. One of these is in the north wall, directly opposite the Main Stairway. It leads to the Coat Closet (Room 118). It has a flat lintel and a hinged six-panel door. The door was described in the 1921 and 1924 residence appraisals as "1 3′ x 7′ six panel swing oak and birch veneer door."

In the west wall of the raised area is the very deep arched doorway to the Dining Room (Room 115). It has an arched lintel, a paneled intrados, and one pocket door on its west (Dining Room) side that slides into the north jamb. This doorway is so deep that its north and south reveals are wide enough to contain doorways themselves. The doorway in the north reveal leads to the Service Hall (Room 117); the one in the south wall leads to the Telephone Room (Room 119). Each of these two doorways contains one hinged, 12-panel door. The 1921 and 1924 residence appraisals described the deep doorway and its side doors as "1 Arched and trimmed door opening with paneled circular head and 2 twelve panel single swing doors, frames, trim and hardware."

Windows

The Hall has two pairs of windows (considered together as W-128), in the east wall of the southeast alcove. These windows are set at slight angles to form a shallow bow in the east wall of the southeast alcove. Each window contains one-over-one, double-hung sashes topped by a stained-glass transom. Their wood architraves are fluted and adorned by bull's-eye corner blocks. Four tambour covers lift up from the sill to cover the window sashes. A built-in window seat is beneath the windows. All of these elements appear to be unchanged from their original construction in 1880-81.

In 1891, *The Decorator and Furnisher* observed that "the large alcove, filled by triple windows, is fitted with low seats, which serve as stands for large decorative vases." The term "triple" does not mean that there were three windows here, but rather than each window consisted of three parts—the two double-hung sashes and the transom above them. The 1921 and 1924 residence appraisals described the window sashes as "4 21″ x 72″ 2 light plate glass double chain hung sash, with leaded glass transom heads, including frames, trim and hardware." The same windows were described in a slightly different way by the 1931 residence appraisal as follows: "2 Single mullion windows, 2 double hung sash, 1′8″ x 6′0″, 2 lights and 1′6″ stained and leaded glass transom."

Fireplace

The fireplace at the south wall is original and unaltered. The hearth tiles, however, were replaced sometime before 1908 and again in 1972. The mantel and overmantel are ornately carved and paneled. The overmantel, which reaches to the ceiling, features a suit of armor in bas-relief. Framing the fireplace opening is a silver-color border in a basket-weave design, possibly symbolic of chain mail. The firebox itself has a cast-iron liner, decorated with raised-relief urns on the side jambs and a battle scene on the back side. The hearth is paved with green ceramic tiles with a white design resembling a spider web.

The earliest known reference to the fireplace is a bill from Pottier & Stymus dated May 7, 1882, that included "1 Panel for mantel." This may well have referred to the carved wood suit of armor. Almost 10 years later, in 1891, *The Decorator and Furnisher* observed, "on the middle of the left wall rises to the ceiling a handsomely carved oak fireplace, mantel and over cabinet, fitted with a beveled mirror and large Chinese vases. The grate hearth and accessories are of dull iron with figures in relief." The terms "over cabinet" and "beveled mirror" appear to have been errors, however, based on an accompanying drawing that showed the fireplace mantel as it exists today. The Dicksons more accurately wrote in 1892, "...an old-time fireplace has its appropriate burden of logs and massive andirons, and is surmounted by a suit of knightly armor."[59]

Evidence that the original hearth tiles had been replaced sometime before 1908 was discovered during restoration work in the 1960's. Records from 1969 indicate that: (a) the existing hearth tiles were being removed; and (b) the imprint of still-earlier tiles was discovered about three-quarters of an inch below the existing surface. Preserved in the bedding mortar was the layout of the original tiles and the lettering from their undersides, which read "MINTON & CO - PATENT - STOKER [&] TRENT." The existing tiles were imprinted with words, "The J & SG LOW COMPANY." Research found that this company had gone out of business in 1908, thus suggesting that the tiles had been installed before that date. They had been made by "Robertson Manufacturers" of Morristown Pennsylvania.[60]

Detailed descriptions of the fireplace were made for the residence appraisals of 1921, 1924, and 1931. In 1921 and 1924 it was listed as "1 6' Mahogany mantel with carved mantel shelf, facia and pilasters, wrought iron frame and lining, tile hearth and hand carved head paneling (armor dress) 26" x 35" set in paneled wall frame." The description in 1931 differed slightly, itemizing "1 Mantel, 6'0" wide, mahogany shelf, pilasters and top panel, with carved oak inset, 2'0" x 3'0" metal fireplace with brass facing and 44 sq. ft. oak side panels, tile hearth."

As previously mentioned, the hearth tiles were removed in 1969 by a NPS day-labor crew. While no reason for this was given, it is assumed that the hearth required repairs due to settling. The mortar holding the tiles was noted to be "extremely hard," and some of the tiles were

[59] Dickson and Dickson, *The Life and Inventions*, p. 339.

[60] Work on the fireplace hearth is documented by entries in Gordie Whittington's log book entitled "Building No. 10: Starting Jan. 1, 1969," and a folder in the Edison NHS contracting files entitled "Glenmont Heating." Maintenance Office files, Edison NHS.

inadvertently broken during removal. A new concrete base was laid in 1969. It is not recorded, however, whether or not any of the old tiles were reinstalled. The NPS files indicate that Perlman Pottery was paid $243.75 in 1972 to "reproduce hearth tiles in Foyer," suggesting that the existing tiles may all be reproductions.[61]

Built-In Furniture

Several pieces of original built-in furniture are in the Hall. These include a hat rack, a settee, a heat-register cover designed to function as a plant stand, and the previously mentioned window seat. Like the other woodwork in the room, these are made of either oak or mahogany.

The hat rack is at the north wall immediately adjacent to the east entrance doorway. It has a marble-topped shelf (or table) with two front legs, a large beveled mirror framed with paneled woodwork, four hat pegs on either side of the mirror, and a moose head above the mirror. The earliest mention of this hat rack is the bill from Pottier & Stymus dated May 7, 1882, that listed "1 Oak panel for moose head." The inventory of household furnishings taken in January 1886 listed "1 Moose head and antlers over hat rack." More detailed are the residence appraisals of 1921, 1924, and 1931. Described in 1931 was "1 Oak hat rack, 6'0" x 8'0" with 2'6" x 4'6" bevel glass mirror and marble shelf [called "Tennessee marble" in 1921 and 1924], 1'8" x 4'8" x 1-3/4" with carved oak base."

Both the settee and plant stand are at the base of the Main Stairway. They are made of mahogany, to match the stairway. The settee base is adorned with raised panels, as is the adjacent plant stand to its south. The stand is actually an enclosure for the radiator in this room, so it also has a decorative metal grate. *The Decorator and Furnisher* observed in 1891 that "in front [of the stair] is a settee and ornamental covered heater forming a plant stand." Listed as part of the Main Stairway in the 1931 residence appraisal were the "metal lined radiator enclosure and mahogany recess seat." The stuffed cushion for the seat was listed separately with the furnishings in 1930, and was described as measuring 18 by 81 inches.

The window seat is in the southeast alcove, beneath the east windows. Unlike the settee, the seat's base is plain and the seat is not covered by a cushion. According to *The Decorator and Furnisher* in 1891, the low seat was not used for sitting but rather as a stand "for large decorative vases." Nevertheless, the 1931 residence appraisal still listed it as "1 Oak window seat, 11'0" x 1'6" x 1'4"."

Finishes

All of the woodwork in the Hall, including the high oak wainscot, has a clear resinous finish. The wall areas above the wainscot are covered with an embossed material known as Lincrusta Walton. These finishes are original to the room and have never been altered.

The clear finish on the woodwork appears to be the original "shellac varnish." It was identified as such by Camille Agricola in 1980 on the basis of microscopic examination and chemical

[61] See footnote 60.

testing of samples from the floor, mantel, and wainscot. A layer of wax over the shellac was found on the floor only.[62]

Limited documentation is available on the woodwork finishes. The earliest bills of Pottier & Stymus dated 1882 and 1887 refer in general to time spent at the house by "varnishers." More specific is the bill from Smith & Blatherwick, Painters, Paperhangers and Decorators, dated May 2, 1910, for "varnishing panel in Main Hall." (Earlier, this firm was known as Smith & Co.) Starting in the late 1960's and continuing through the early 1970's, annual maintenance included cleaning and polishing the floors with nonskid wax, and cleaning and polishing the woodwork with lemon oil.

Lincrusta Walton, which is on the walls above the oak wainscot, is a material that was developed in 1877 to imitate more expensive materials such as carved wood or pressed leather. Its use at Glenmont certainly deceived *The Decorator and Furnisher* author, who in 1891 described the walls as being covered with "wood carved in a raised diaper pattern." Lincrusta is a composite of oxidized linseed oil and a celluloid material such as ground cork. This composite is compressed into decorative patterns and bonded to a heavy canvas base.[63]

The Lincrusta in the Hall was finished with a metallic bronzing powder. Camille Agricola identified the metal particles in 1980 as aluminum applied to a glue size and protected with a layer of varnish to achieve a dull gold finish. It may have been this treatment, or the actual installation of the Lincrusta, which Pottier & Stymus described in their bill of May 5, 1882, as "decorating the walls of Main Hall in Bronze." The walls were described in 1891 as being "covered with a metallic paint...in darkly shaded hues...too subdued to give a glaring effect." The residence appraisals of 1921, 1924, and 1931 described the Lincrusta as simply an "embossed paper."

Lighting System

Two ceiling fixtures illuminate the Hall. Both were installed by Edison, one before 1891, the other in 1905. There is no record of the original light fixtures used by the Pedders. The source of information for early light fixtures in other rooms—the 1886 inventory—has no light fixture listed for the Hall. Possibly original was an alcove fixture described in 1891 by *The Decorator and Furnisher*. This was "a [hanging] large conical lantern of Moorish work made of concentric figures, incised and covered with Arabic lettering." This fixture is missing today.

Edison electrified the house in 1887. By the time of the 1891 inventory, "1 Electrolier" was listed for the Hall. This no doubt was the fixture described in that same year by *The Decorator and Furnisher* as "a wonderful electric chandelier in glass and silver gilt, which depends from the mid-ceiling directly over a large table of carved antique oak." An illustration that accompanied the article shows this chandelier suspended on a long chain. It closely resembles the spherical fixture in the southeast alcove today. The electrolier may have replaced the alcove's Moorish lantern in 1905, when a new ceiling fixture was purchased for the Hall. The 1924 residence appraisal listed the

[62] Agricola, "An Analysis," pp. 125-47.

[63] Agricola, "An Analysis," pp. 125-47, and the 1901 edition of *The Encyclopedia Britannica*.

electrolier as "1 4 Lt. Damaskas [sic] bronze hung fixture," while the 1931 residence appraisal called it "1 Damascus bronze ceiling fixture." The first known photograph in which it appears is dated 1947.

The purchase of a new light fixture for the Hall is documented by a bill dated December 22, 1905, from The Mitchell Vance Company for "1 12-Lt. Elect. Ceiling light, $200.00." This was probably the light that displaced the earlier electrolier in the center of the room. The 1921 and 1924 residence appraisals described the fixture as "1 7 light leaded glass chain hung electrolier." The 1931 residence appraisal more specifically noted "1 Brass chain hung fixture with plate bowl and six pendant lights." While the appraisal descriptions seem to refer to a fixture other than the one purchased in 1905, it should be noted that only the visible, exterior bulbs appear to have been counted. This light still hangs in the room today.

Light bulbs installed in the two ceiling fixtures are documented in a letter from the Edison Lamp Works dated February 14, 1927. Used in the "Pendent Fixture" were "1-25 watt A-19 Ivory MAZDA Lamp" and "3-15 watt A-17 Ivory MAZDA Lamps." The "Ceiling Fixture" was installed with "6-25 watt A-19 Ivory MAZDA Lamps" and "5-25 watt A-19 Inside Frost MAZDA Lamps." The "Pendent Fixture" was most likely the one hanging today in the alcove, and the "Ceiling Fixture" the one in the center of the room.

The two light fixtures are operated by a pair of push-button switches located in the Coat Closet (Room 118). The date of these switches is not known, nor are they mentioned in the 1931 residence appraisal.

Although they do not operate the lights in the Hall, three pairs of push-button switches are also located in this room. They are mounted to the east-wall wainscot, south of the doorway to the Entrance vestibule. The switches operate the lights in the Entrance vestibule and on the exterior. They are documented by the 1931 residence appraisal as "1 switch, 3 gang." The existing metal back plate of the switches replaced a larger back plate at some time, judging by a discolored area left by the earlier plate. The replacement occurred sometime before 1947, since photographs taken in that year show the same shadow.

All of the lights in the house were once operated by one switch in the Hall, according to an article about the Edisons' house in the *New York Recorder* dated August 19, 1894. They observed, "one slight pressure upon a little button in the hall turns on every electric light in the house, from basement to turret."

Electrical Outlets

Three duplex receptacle outlets are in the Hall. Two are in the upper north and south walls of the southeast alcove, and one is in the north baseboard beneath the hat rack. The date of these outlets is not known, lacking any documentary information about their installation. They are not listed in the 1931 residence appraisal, which documents the "base receptacles" in other rooms of the house. The presence of the south outlet only is suggested by a 1947 photograph, which shows a small electrical light above a framed painting of Thomas Edison.

Annunciator System

The Hall was served by the Edisons' annunciator system. It has three call buttons, located in a group on the wainscot north of the vestibule doorway. Two are housed in decorative wood bases.

The earliest known documentation of the buttons is a letter dated September 14, 1889, from Edwards & Co. to Charles Batchelor that described the "bells," including the "1st Hall button [that] rings in 3rd floor front room." The buttons also apparently rang in the Kitchen (Room 107) and the Third-Floor Hall (Room 311), judging by stations marked "Hall" on the annunciator boards that remain in those locations. See the subsequent section entitled "Kitchen (Room 107)" for more information on the history of the annunciator system.

Heating System

The Hall was heated historically with hot air produced by the house's original steam-heating system. The hot air was obtained by using steam radiators—located in heat-transfer boxes in the cellar—to heat fresh air. (See the subsequent section "Utilities: Heating System" for more information.) The hot air entered the room through the large register at the base of the Main Stairway. As previously stated in the section on "Built-in Furniture," this register was concealed by a cover designed to resemble a plant stand. It was described by *The Decorator and Furnisher* in 1891 as an "ornamental covered heater," and in the 1931 residence appraisal as both a "mahogany, metal lined radiator enclosure" and a "wall register." Following the installation of a new furnace in 1920, the American Radiator Company calculated the heating system to be supplying 150 thermal units to the Hall—125 units short of the 275 units theoretically required for a space of this size.[64]

A new forced hot-air heating system replaced the gravity air system in 1968. The system was installed under contract with the National Park Service. While new registers were installed in the floors of many rooms, the new system in the Hall utilized the existing original register. Thus, the only visible sign of this new system is a modern thermostat mounted inconspicuously on the east wall of the chimney breast.

Fire-Protection System

The room is protected today by a Pyrotronics smoke detector mounted to the ceiling of the southeast alcove. The detector is part of a complete system installed in the house in 1978.

No fire extinguisher or fire pails appear to have been in this room during the Edisons' ownership. Equipment was on hand nearby, however, in the Second Floor Hall and in the Kitchen. This is recorded by the furnishings appraisals of 1921, 1924, and 1930.

[64] Letter from R.W. Kellow to Mrs. Edison, Jan. 25, 1921. Edison NHS Archives.

Security System

The burglar-alarm system installed at Glenmont in 1889 included the "1st Hall"; connections were made in "all [of the] windows" and "all doors leading from Main Hall."

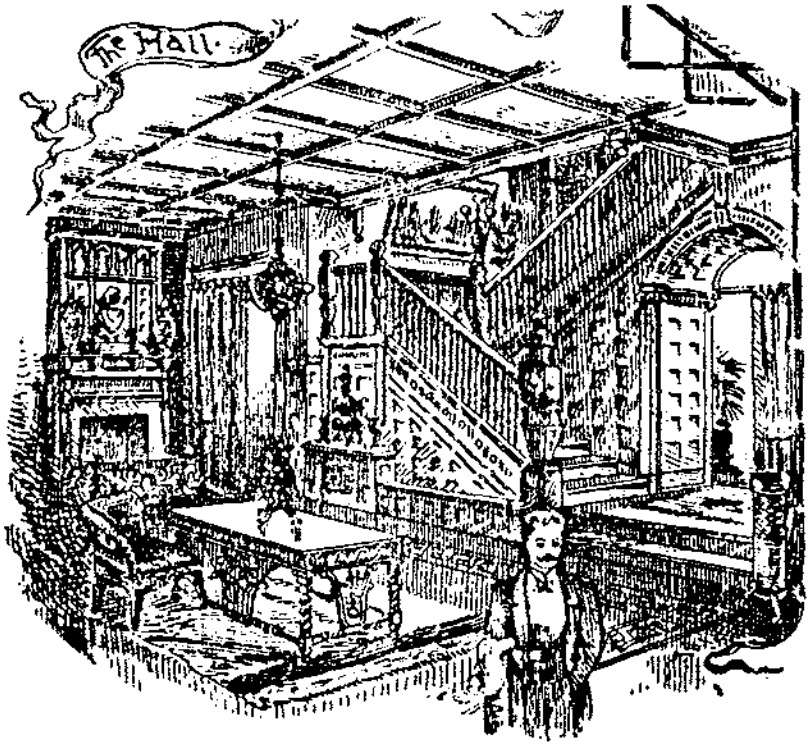


Figure 64. Sketch of Hall (Room 103), looking southwest, 1891.



Figure 65. Hall (Room 103), looking west, 1947.



Figure 66. Hall (Roo[illegible]03), looking north, 1947.



Figure 67. Hall (Room 103), looking south, 1947.



Figure 68. Hall (Roo[illegible]3), southeast corner, 1947.



Figure 69. Hall (Room 103), looking west, 1960.



Figure 70. Hall (Room 103), looking northwest, 1960.



Figure 71. Hall (Room 103), looking northeast, 1960.



Figure 72. Hall (Room 103), looking southeast, 1960.

Main Stairway

General Information

The primary stair to the second story is on the west side of the Hall (Room 103). It is wide and spacious, with two straight runs of steps separated by a large landing.

The Decorator and Furnisher observed in 1891 that "the salient feature of the hall, the grand staircase, fills the long side opposite the entrance." The Dicksons described the stair in 1892 as "a lordly staircase of polished mahogany [that] faces the front entrance."[65] This stair held fond memories for Madeleine Edison Sloane, who in 1973 recalled marching down them with her father on her wedding day, June 18, 1914.[66]

The residence appraisals of 1921 and 1924 recorded the following about the stair:

> 1 Flight of main stairs from first floor entrance hall to second floor stair hall, 4'6" wide with 20 treads, 1 platform, hand rail, starting angle and ending newels with hand rail and baluster, housed stringers, etc., complete.

The 1931 appraisal cited:

> 1 Flight of main stairs, 4'6" wide, 20 treads, 2" turned mahogany balusters with insets, moulded and carved mahogany newels, carved and dentil stringer and well facing, 1 landing with mahogany paneled wainscoting.

Few changes have occurred to the Main Stairway since its original construction in 1880-81. The only noticeable differences are the wall finish and the newel-mounted light fixture.

The Main Stairway is used by and interpreted to visitors today.

Floor

The "floor" of the stair is composed of 20 treads, 4 feet 6 inches wide, and the large landing. The steps and landing were most likely always covered by a carpet runner that was tacked and/or glued to the floor. This carpet was described in the furnishings appraisals of 1921, 1924, and 1930 as "10 yds. Rosslyn high pile Chenille stair carpet, 42" wide, wool back." The same type of carpet was noted as being present on the landing.

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[65] Dickson and Dickson, *The Life and Inventions*, p. 341.

[66] Madeleine Edison Sloane, "'Glenmont': Transcript of Taped Tour of Edison Home." NPS: Edison NHS, 1973. (Typewritten).

The carpet was removed in 1960 by the National Park Service and replaced by a reproduction carpet. The reproduction carpet was also removed in 1985, having become very worn. Remnants of the earlier carpet described in the appraisals are in the Glenmont collection.[67]

Walls

The south and west walls of the Main Stairway are plastered and partially covered by a wood wainscot. An ornate plaster cornice and picture molding (probably wood) top the walls at the level of the second-story ceiling. The 1931 residence appraisal described the wainscot as "mahogany paneled wainscoting," the plaster walls as "3 coat hard finish plaster on wood lath," and the cornice as a "plaster cornice average 18" girt." See the subsequent section "Woodwork" for more information.

By 1962, the plaster walls were in need of "patching and painting," as recommended in a report by NPS Architect James Crawford. Repairs were evidently not made, because two years later another report noted "cracked plaster on the landing at the corner of Room #214-A." This was thought to be "evidence of settlement." Repairs were apparently made sometime thereafter, judging by patching visible today at the northwest corner of the landing.

Ceiling

The ceiling of the Main Stairway is continuous with that of the Second Floor Hall (Room 214). It is a flat plaster ceiling on wood lath.

Woodwork

The woodwork of the Main Stairway is mahogany. This was reported by *American Architect and Building News* in 1881, which noted that all of the first- and second-story rooms were "finished in hard wood...the Main stairs of mahogany." The 1931 residence appraisal also described "mahogany balusters...mahogany newels, [and]...mahogany paneled wainscoting."

The condition of the woodwork was assessed by the National Park Service in 1964. Architect Newton Bevin observed the following about the Main Stairway:

> When we first visited the house the heat had been on and the woodwork was very dry. Some of the railing members and particularly parts of the newel posts were loose. These should be reglued or otherwise fastened and made firm as the public uses this stair.[68]

[67] Edison NHS Curator Leah Burt to Barbara Yocum, Sept. 23, 1987.

[68] Bevin, "Historic Structures Report - Part I, Architectural Data Section on Rehabilitation of Glenmont," p. 15.

Windows

A large stained-glass window (W-221) in the west wall above the landing is a focal point of the Main Stairway. The window is composed of three parts: a large stationary center panel with pictorial design, and two smaller panels with floral designs above and below the center panel. The lower panel is hinged at the top to open outward.

Several names have been given over the years to the figure in the center panel, including "Rebecca at the Well," "Woman at Fountain," and "Penelope and her web."

The Decorator and Furnisher in 1891 described "a richly stained glass window, bearing a picture of Rebecca at the Well." The Dicksons were most impressed with the window, and wrote about it at length in 1892:

> On the first landing...is an immense casement of stained glass, the rainbow hues of which float down to us in a species of glorified mist.... Reentering the hall, we cast our eyes on the massive staircase...and are aware of a most lovely vision, none other than the chatelaine of these fair domains. The jeweled tints from the great cathedral window fall on her queenly head, crowned with its aureole of nut-brown hair; draperies of pearl and silver cling softly to her lissome shape, at her feet lie the royal webs from Indian and Persian looms, and about her cluster the masses of radiant bloom.[69]

Also informative but less effusive are the residence appraisals of 1921, 1924, and 1931. The 1921 and 1924 appraisals recorded:

> 1 4 x 6'6" stained and leaded glass stair hall sash with 2 leaded glass panels, located at landing of main stairs, depicting "Woman at Fountain" (classic) set in stationary frame and trim, complete.

Even less verbose is the 1931 appraisal, which noted:

> 1 Stained and leaded glass window, 4'6" x 12'0", Woman at Fountain.

Madeleine Edison Sloane mentioned the window in a recorded tour of the house in 1973. She said, "I was always fond of the stained-glass window, which shows Penelope and her web."

This window had probably been restored by 1973. Nine years earlier, the National Park Service had noticed that the glass of the large center panel was bulging and in need of repair. Recommended at that time was a protective glass sash on the exterior side. Most likely it was this window that was cleaned, recemented, and reset for $955 by Jersey Art Stained Glass in 1966. A protective storm window was not installed.

[69] Dickson and Dickson, *The Life and Inventions*, p. 342.

Finishes

The woodwork of the Main Stairway, including the wainscot, has a clear, resinous finish resembling a varnish. The plaster walls and cornice above the wainscot are decoratively painted a brown color in a technique known as stippling. The clear woodwork finish is original; the stippling on the walls dates to 1940, when a circa-1924 stippling finish was redone.

The finishes of the Main Stairway appear to have historically been the same as those used in the Second Floor Hall, based on paint analysis. The walls of the "Main Hall and Side Hall" were originally painted, according to the bill from Pottier & Stymus dated May 7, 1882. Paint analysis indicates the plaster walls were first primed with a cream-colored paint and then finished in green (Munsell 10Y 7/2). Evidence of a red paint above the green is most likely indicative of a decorative treatment such as a horizontal border above the wainscot. At some unknown date the walls were repainted a lighter green color (matched by Agricola in 1980 to Benjamin Moore GR-54).[70]

The walls are said to have been covered at one time with a "Victorian-type" wallpaper, based on a photograph dated 1916. Unfortunately, this photograph has not been found, and no physical evidence of wallpaper remains.[71]

It is not known when the walls were first painted in the decorative technique known as stippling. The walls in the third-story hall were "painted one coat and stippled" in 1905, according to an estimate and bill from painters Smith & Co. dated 1905.[72] A similar treatment was proposed for the south bedroom (Room 200) in 1905 by E.W. Peckham, and is believed to have been executed at that time.[73] No such documentation exists, however, for the Main Stairway or the Second Floor Hall. More confusing than helpful are the residence appraisals of 1921 and 1924 that recorded the "second floor stair hall" as being finished with both "paint and paper."

The first documented reference to a stippled wall finish is an estimate from The Herter Looms dated February 21, 1924. At that time, The Herter Looms proposed that the "side walls [be] scrumbled with bronze" in the second- and third-story halls, and presumably also in the stair hall. Interior decorator Charles A.W. Rinschede also submitted an estimate dated February 26, 1924, for the second and main halls:

> Ceilings to be washed, all cracks to be cut out and replastered, prepared and tinted. Side walls to be washed, plaster cracks to be cut out and replastered, painted four coats and glazed, dull stipple finish, parchment color or leather effect. All woodwork to be washed, cleaned and rubbed with pumice-stone and oil and polished.

[70] Agricola, "An Analysis," pp. 129 and 146-47.

[71] Agricola, "An Analysis," p. 130.

[72] Smith & Co. estimate dated Aug. 11, 1905, and bill dated Nov. 1, 1905. Edison NHS Archives.

[73] E.W. Peckham estimate dated Aug. 14, 1905. Edison NHS Archives.

The rear halls were also to be repaired, painted with two coats and stippled, according to the estimate. Rinschede appears to have been hired for the job, based on an estimate dated April 4, 1924, for the following work: "SECOND AND THIRD FLOOR HALLS:- To stipple walls with powdered gold bronze as per sample, for the sum of $75.-" A handwritten note next to this entry says "accepted."[74]

A more complete description of a "stippled" finish as proposed and executed by Rinschede is found in a painter's book dated 1908:

> In painting the term "stippling" means to produce an effect by a succession of small dots, rather than by lines drawn out...as is the case in the ordinary application of paint, where brush marks are always more or less visible. For stippling, the paint...must be held stout and is first applied in the regular way, as in ordinary painting, then a stippling brush, a round, full, bristle brush, similar to a duster, evenly trimmed, is used in a pounding fashion, the same as a pouncing bag upon a pounce in marking a design. This must be done before the paint has had an opportunity to set to any extent, and the movement must be quick, in order to obtain uniform results.[75]

Another stippling technique is described in a later painter's book dated 1941. This suggested first painting a ground coat and allowing it to dry. The stipple coat could then be applied with a sponge, brush, a wad of cheesecloth, crepe paper, muslin, or burlap. Unlike the previously described technique, the final coat was to be applied by painting a flat surface, pressing the sponge (or other material) against it, and then pressing the sponge to the wall.[76] This appears to have been the technique used at Glenmont.

Microscopic analysis of a paint sample identified the earliest stair-hall stippling as having a cream-color ground coat (Munsell 2.5Y 8/2) covered by a thin brown resinous layer. This resinous or stippling coat was further observed to contain metal particles—most likely a bronzing powder. This bronzing is similar to the "gold bronze" finish described in Rinschede's proposal in 1924.

In 1940, the walls were completely repainted and apparently restippled under the supervision of Mrs. Renner. In a letter to Mina Edison Hughes dated April 11, 1940, she reported:

> I went to the house yesterday to supervise the colors, including the work in the stair hall, which is being done by the painter selected by Mr. Laing.

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[74] The work by Rinchede appears to have been done under the direction of architect Wilbur S. Knowles of New York City, because both proposals were submitted to Mr. Knowles. Edison NHS Archives.

[75] The Painters Magazine, *One Thousand More Paint Questions Answered* (New York: The Painters Magazine, 1908), pp. 125-26.

[76] F.N. Vanderwalker, *Interior Wall Decoration* (Chicago: Frederick J. Drake and Co., 1941). pp. 212-18.

The paint analysis confirms that this work was in fact a reproduction of the earlier stippling. It, too, employed a cream-colored ground coat followed by a brown resinous stippling layer. Missing from the stippling layer, however, were the metallic bronzing particles. This was the last major repainting of the main stair hall.

Since 1940, selective repairs have been made to the walls, and infill painting has been done as necessary. The paint sample from the landing indicates that two stipple layers have been applied over the 1940 finish: one probably applied in 1952 when the hall walls were repaired, the other in 1968 during repair work by the National Park Service.[77] Additional infill painting was completed by the National Park Service in the late 1980's. However, other cracks and plaster damage will require repair and more infill in the future.

Lighting System

The stair is illuminated today by a light fixture mounted on the landing newel post. It was rewired by the National Park Service in 1968.

While a fixture has been in this location since at least 1891, the present fixture was installed by the Edisons in 1905. It is documented by a bill from The Mitchell Vance Company dated December 22, 1905, that itemized "1 1 Lt. Elect. Standard, [$] 92.50; Putting up, [$] 9.25." The existing light has a fluted metal base resembling a column and a beaded glass shade. It is activated by a switch at the base of the fixture. A second switch may previously existed in the second-story hall; wiring of indeterminate purpose was discovered in one of the hall's second-story newel posts.

The light standard appears to have been incorrectly recorded by the residence appraisals of both 1921 and 1924 as being "1 4 Lt. newel light standard." This error may be attributed to the fact that the glass globe obscured the exact number of light bulbs. That the standard was in fact a one-light fixture is verified by a 1927 "Lighting Recommendations" report that advised using "1-60 watt A-21 Inside Frost MAZDA Lamp" in the "Newel Post Fixture."[78] The number of light bulbs was not mentioned by the 1931 residence appraisal, which recorded "1 Newel fixture, 3'0" high, brass standard, beaded glass globe."

A different-style standard stood on the stair newel in 1891, according to a sketch that appeared that year in *The Decorator and Furnisher*. This sketch, which appears to be accurate in other details, shows the newel light fixture as having an urn-shaped base, one center light, and two

[77] In an estimate dated February 20, 1952, and subsequently billed in March, painter Carl Gustafson described repairing a crack in the Second Floor Hall, in addition to other work. Patching and infill painting were undertaken by the NPS in 1968, according to correspondence in the "Glenmont Heating" folder, which is kept in the Maintenance Office files at Edison NHS. One memorandum from P.H. Batchelor to N. Souder and G. Whittington, dated December 5, 1968, describes the analysis of a plaster and paint sample from the main stair hall. A subsequent undated transmittal note to "Gordie" from "Norman" says "...you or Bobby will have to match [in] the patching to the best of your collective abilities."

[78] The "Lighting Recommendations" report to Mrs. Edison from the Lighting Practice Section of the Edison Lamp Works is dated Feb. 14, 1927. Edison NHS Archives.

branching lights. No other information is available, such as when the fixture was installed, or if it was a gas or an electric light.

Electrical Outlets

The Main Stairway has only one outlet. It is in the upper part of the west wall of the Second Floor Hall (Room 214), and will be discussed as part of that room.

Fire-Protection System

In the event of a fire, "2 Pyrene brass fire extinguishers" and "1 Accurate fire extinguisher" were located nearby in the Second Floor Hall during the Edison period. This equipment was described in the furnishings appraisals of 1921, 1924, and 1930.

Today, the stair is protected by Pyrotronics smoke detectors in the adjacent Hall and Second Floor Hall (Rooms 103 and 214). These are part of a complete system installed in 1978.

Security System

The burglar-alarm system installed at Glenmont in 1889 included connections at the Main Stairway. These were located "3 steps on lower and 3 steps on upper flight," according to installer Edwards & Co. in a letter to Charles Batchelor dated September 14, 1889. All of the work was completed at that time, "with the exception of putting the floor matting down," which was scheduled for September 18.

Entrance (Room 103a)

General Information

The Entrance is an enclosed vestibule on the front (east) side of the house. Its dimensions were recorded by the residence appraisal of 1931 as being 6 feet by 11 feet.

The Entrance is an original feature of the house dating to 1880-81. It is the formal entry into the house that was used by the original owners, by the Edison family, and by visitors. This "entrance vestibule" was described in 1881 by *American Architect and Building News* as being built "of buff brick with terra cotta frieze." Ten years later, an article published in *The Decorator and Furnisher* noted that "large double doors lighted with beveled glass, give upon a tile-floored brick vestibule and through massive doors of mahogany on an oblong hall...."

The Entrance is essentially unchanged today from its original appearance, except for a few details. The existing glazed doors replaced the original doors sometime after 1891 and before 1921; the walls were painted red at an unknown date; and a heat duct was installed at the south wall in 1968.

The Entrance is used by visitors to the house today. Staff members use the Kitchen Entrance (Room 121) on the north side of the house.

Floor

The main floor is paved with 19th-century encaustic tiles in various colors. The tile floor was presumably installed in 1880-81. It was definitely in place by 1891, when an article of that date described the Entrance as "a tile-floored brick vestibule." The residence appraisals of 1921, 1924, and 1931 recorded the floor as having "40 Sq. Ft. colored ceramic floor tiling." A small area of tiles was removed from the southeast corner in 1968, to make room for a modern heat duct at the south wall. This condition exists today.

A thick slab of bluestone makes up the west doorway threshold, which is one step higher than the level of the main floor. This may be the same "Wyoming bluestone" that was used for the front entrance steps in 1880-81.[79]

Walls

The Entrance is enclosed on the north, west, and south sides by brick walls, and on the east side by a wood and glass doorway. The brick walls date to 1880-81. The date of the east doorway is less certain, although it was most certainly in place by 1891, based on its mention in an article of that date.

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[79] "House for Mr. Henry C. Pedder, Llewellyn Park, Orange N.J.," *American Architect and Building News*, Aug. 17, 1881, p. 98.

American Architect and Building News described the Entrance vestibule as being made of "buff brick with terra-cotta frieze." Such is the case today, except that the buff bricks have been painted red. The lower brick walls are laid in a running bond, and the upper walls are laid in a basket-weave pattern. Separating the two is a frieze that features decorative terra-cotta blocks. Long and narrow niches are centered in the lower north and south side walls. These two niches may have held sculptures at one time, but they are empty today. Bluestone baseboards trim the lower brick walls.

The east doorway enclosure is discussed in the subsequent section entitled "Doorways."

Ceiling

The ceiling is composed of matched wood boards, similar to the ceiling in the Hall (Room 103). This boarding is thought to be an original feature dating to 1880-81.

Doorways and Windows

The entrance has two doorways: an exterior one in the east wall, and an interior one in the west wall. The east doorway (D-101) opens to the porte cochere. It is a wood-and-glass assemblage that takes up the entire east wall. Features of the doorway include a center glazed door, sidelights, and a large arched transom in three parts. This doorway may be an original feature dating to 1880-81; the door replaced an earlier pair of doors sometime after 1891 and before 1921. For a more detailed description, see the section entitled "Exterior Elements, Doorways and Entrance Steps, Doorway D-101."

The west doorway leads to the Hall (Room 103). It is a grand portal that features a pair of carved doors, an arched stained-glass transom, and a carved fruit-and-flower garland above the transom. An article published in 1891 described the doors as "massive doors of mahogany." The residence appraisals of 1921 and 1924 recorded the doorway as follows:

> 1 Pair 56" x 90" 5 panel oak and birch entrance doors, with hand carved center panels (floral design) with carved rising sun heads, and leaded glass circular transom head, all complete
>
> 1 Hand carved ceiling head stretcher over entrance doors (fruits and flowers) with ribbon festoon ends

The 1931 residence appraisal described the doorway as part of the Hall (Room 103); more information about the doorway appears in the description of that room. No significant changes appear to have been made to this doorway since its original construction in 1880-81.

The only windows in the Entrance are the sidelights and transoms associated with the two doorways.

Finishes

The Entrance is finished with paint and varnish. A red-color paint is applied to the buff brick walls on the north, west, and south sides of the room. It is not known when the walls were first painted. Research on the exterior painted history of the house suggests that the house was first painted red circa 1915. The Entrance walls may also have been painted red at that time.

Varnish finishes all the wood elements in the Entrance. These include the doors, the sidelights, the transoms, the fruit-and-flower garland over the west doorway, and the ceiling boards. This was presumably the original woodwork finish of 1880-81. While the woodwork has undoubtedly been revarnished since that time, no documentation has been found for this work. The residence appraisals of both 1921 and 1924 recorded the room's finish as being "paint, stain and varnish."

Lighting System

Two light fixtures are mounted to the side walls of the Entrance; one is on the north wall, the other is on the south wall. Each fixture has one light and a glass shade with scalloped edge. The lights are operated by a switch in the adjacent Hall (Room 103). The lights and the switch were both rewired in 1968.

The two existing light fixtures appear to have been installed sometime between 1921 and 1924, based on the residence appraisals for those years. The 1921 appraisal recorded "1 1 light ceiling light" in the "First Floor Vestibule." No other documentation or physical evidence has been found for this early light. The ceiling light appears to have been removed by 1924, when the residence appraisal listed "2 single light wall brackets." The 1931 residence appraisal also described "2 Brass wall brackets, 1 light."

Heating System

The only heating equipment in the Entrance is an exposed sheet-metal heating duct at the south wall. This duct was installed when the heating system was modernized in 1968. The duct conducts warm air from the cellar to the Living Room (Room 205) in the second story.

No documentary or physical evidence has been found to indicate that the Entrance was ever heated historically.

Fire-Protection Systems

The Entrance has no fire-protection equipment.

Security System

During the Edison period, the "Main Entrance door" was connected to the burglar-alarm system installed in 1889. This is known from a letter dated September 14, 1889, from Edwards & Co. to Charles Batchelor. No physical remnants of this early wiring survive at the doorway.



Figure 73. Entrance doorway, 1960.

Library (Room 104)

General Information

The Library is on the east side of the house, off the Hall (Room 103). Its dimensions were given in the residence appraisal of 1931 as measuring 19 feet by 16 feet, with a small alcove at the northeast corner measuring 10 feet by 7 feet.

This room has always been furnished and known as the "Library." It appears to have been little used by the Edisons, who preferred the less-formal Living Room (Room 205) for reading. Daughter Madeleine Sloane recalled in a tour of the house recorded in 1973 that "none of the family used this room too often but I used to curl up once in a while on that sofa...reading." She also said that the guest book was kept here—on "the table in the center of the room."

The Library is one of only two rooms in the house that has survived mostly unchanged from its original appearance in 1880-81. However, alterations were considered by the Edisons in 1907, judging by drawings submitted by architects Allen & Collens in October of that year.[80] One of the proposed changes was to enlarge the Library by moving the north wall northward and eliminating the adjacent Service Dining Room (Room 105). These plans were obviously never carried out.

The Library is open and interpreted to the public today.

Floor

The Library floor is a parquet type, similar to the other formal rooms in the first story. The pattern is an open basket-weave design, also found in the original north end of the Drawing Room (Room 100). A border incorporating geometric and floral designs is at the east wall and between the main room and the northeast alcove.

The 1921 and 1924 residence appraisals described the Library floor as "270 Sq. Ft. oak parquetry flooring." The 1931 residence appraisal more specifically described the floors in the first story as being "oak parquet...with mahogany and walnut borders."

Walls

The Library walls are composed of two materials: mahogany wainscot on the lower east and south walls, and plaster everywhere else. The wainscot was described in 1891 by *The Decorator and Furnisher* as "a low wainscoting of mahogany paneling." More detailed was the 1931 residence appraisal, which listed "21 Lineal ft. 2′6″ high mahogany paneled wainscoting." This appraisal also described the first-story plaster walls as being "3 coat hard finish plaster on wood lath."

[80] "Alterations of House, Allen & Collens," Oct. 29, 1907.

A picture molding is attached to the plaster walls, somewhat below the ceiling. It was listed in the 1931 residence appraisal as "90 Lineal ft. 3" mahogany picture moulding." The picture molding is original, and was supplied by the firm Pottier & Stymus, according to their bill dated May 7, 1882.

Ceiling

The ceiling is of plaster, similar to the upper walls. Special features include an ornate cornice, a molding on the ceiling that runs parallel to the cornice, and a round medallion in the center of the ceiling. The 1931 residence appraisal described the first-story ceilings as "3 coat hard finish plaster on wood lath and furring," some with "plaster cornice average 20" girt" and "3" x 4" plaster ceiling moulding[s]."

The one ceiling element that may not be original to the room is the center medallion. This was most likely added in 1887, when Edison installed an electrolier and Pottier & Stymus billed for "redecorating panel of Library ceiling."[81] The electrolier is discussed in more detail in the section on lighting.

Settlement over the years and recent structural repairs have caused some damage to the ceiling. In 1964, the National Park Service recorded "a crack, near the entrance door, starting at the corner of the chimney breast."[82] This crack was attributed to an old settlement. Most recently, in 1987, damage occurred to the ceiling near the west wall. Cracks, a portion of missing ceiling molding, and a noticeable bulge are all thought to have been inadvertently caused by the placement of a new structural post in the wall.[83]

Woodwork

The woodwork in the Library is generally acknowledged to be mahogany, although some references to birch are also found.

In 1881, *American Architect and Building News* described the rooms on the first and second stories as being finished with hard wood, with the "library of mahogany." *The Decorator and Furnisher* in 1891 noted the bookcases were "mahogany" and the mantel was "dark mahogany." The residence appraisals of 1921, 1924, and 1931 concurred, except that the wainscot was listed as "birch" in 1924, as was the doorway trim in 1931. More likely, the wainscot and trim are also mahogany.

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[81] Pottier & Stymus bill dated July 5, 1887. Edison NHS Archives.

[82] Bevin, "Historic Structure Report - Part I, Architectural Data Section on Rehabilitation of Glenmont," p. 16.

[83] This damage was first noticed by Edison NHS Curator Leah Burt in Jan. 1987.

Doorways

Two doorways are in the Library: one leading to the Hall (Room 103), and one at the entrance to the northeast alcove. Both are original and unaltered. The jambs of their wood architraves are designed to resemble fluted pilasters; their lintels are decorated with bands of alternating rosettes and triglyph forms.

The doorway to the Hall (Room 103) is at the west end of the south wall. It is the only means of egress or ingress. The opening is rectangular in shape, and the architrave lintel is flat. A sliding door fits in a pocket in the east jamb. The doorway was listed by the residence appraisals of 1921, 1924, and 1931. The most detailed is the 1931 appraisal, which described the doorway as having "1 Pair of rolling doors [sic: 1 door], 4'9" x 8'0" x 2-1/4", 14 panels."

The doorway to the alcove is at the east end of the north wall of the main room. It is an arched opening, with a correspondingly arched architrave lintel but no doors. The 1931 residence appraisal described this doorway as "1 mahogany cased opening, 5'6" x 10'0" with 12" paneled jambs."

Windows

The Library has two windows: a large one in the east wall (W-101), and a smaller one in the alcove's north wall (W-102). Their architraves resemble those of the doorways. Both windows retain their original appearance.

The transom of the east window, and the entire north window, consist of stained glass. About this colored glass the Dicksons wrote in 1892, "stained glass is...used, ...with considerable effect, sufficient light being admitted for purposes of study, without necessitating the garish glare attendant on the untempered daylight."[84]

The large window in the east wall (W-101) resembles the corresponding window in the east wall of the Reception Room (Room 102). Its architrave is rectangular, but the actual window opening is segmentally arched and subdivided into three parts by two vertical mullions. Each of the three subdivisions is fitted with one-over-one sashes and a stained-glass transom window. The tops of the transoms are curved to accommodate the arch of the window opening. The two end transoms feature a floral pattern, while the middle transom depicts a Roman lamp on a book. The bottom sashes can be shuttered with tambour covers that lift up from the sill. The 1921 and 1924 residence appraisals described this window as having "3 21" x 72" 2 light plate glass double chain hung sash, with leaded glass transom heads, including frames, trim and hardware." A similar description is also listed in the 1931 residence appraisal.

The window in the north wall of the alcove (W-102) is a small, segmentally arched opening containing a single fixed sash with arched top. As stated previously, it consists entirely of stained glass. It was described by *The Decorator and Furnisher* in 1891 as "a mellow tinted window,

[84] Dickson and Dickson, *The Life and Inventions*, p. 341.

within...which is seen a fine head of Dante." More specific was the 1921 residence appraisal, which listed "1 24" x 32" leaded glass stationary wall sash, frame, trim and hardware." The 1924 residence appraisal further noted that the window was "leaded stained glass." Slightly different dimensions were provided by the 1931 appraisal, which recorded the sash as measuring "2'8" x 4'0"." This window was noted in a NPS report dated 1964 to be "bulged out." Not until 1966, however, was it removed and repaired by a contractor.[85]

Fireplace

The fireplace, in the middle of the south wall, has retained its original configuration. The earliest known documentation is the 1886 inventory that listed for the Library "1 carved mahog. mantel piece, shelves and mirror."

The wood mantel is elaborately carved, with a stylized pilaster on either side of the firebox and a bracketed overhanging shelf. Above the mantelshelf is an ornate overmantel etagere consisting of two tiers of shelves and a center mirror. The fireplace opening is framed by a metal surround with splayed jambs. The jambs are decorated in bas-relief. The left jamb shows a Grecian maiden holding a book; below her are symbols of drawing and writing. The right jamb shows a maiden holding a lute; below her are different types of musical instruments. The firebox itself has a cast-iron liner decorated with neoclassical urn motifs. The hearth is paved with ceramic tiles that have a geometric design. The tile colors are blue, white, black, and yellow.

The fireplace was described in detail by *The Decorator and Furnisher* in 1891:

> The mantle, in dark mahogany, with its cabinet above, bears vases in rich pottery and French figurines in bisque; and the fire-place fittings in steel and bronze contain remarkable statuettes of these materials raised in high relief from the surface of jambs and fender.

Detailed descriptions were also provided by the residence appraisals dated 1921, 1924, and 1931. The 1921 and 1924 appraisals listed:

> 1 6' mahogany mantel cabinet top with carved facias and pilasters, cast bronze lining and facing (2 female figures) mosaic tile hearth, complete.

[85] NPS employee Gordie Whittington's log book covering the years Mar. 1966 - Dec. 1968; entry for Feb. 16, 1966, notes "stained glass windows removed for repair by contractor."

Slightly different was the description in the 1931 appraisal, namely:

> 1 Mahogany Mantel, 6'0" wide, 1 mahogany shelf, carved frieze and pilasters, carved back panel, shelves and grille, metal fireplace, tile hearth, brass facing with bas relief figures.

Bookcases

Built-in bookcases line the walls of the Library's main room and northeast alcove. In the main room they are located at the west and north walls, and in the alcove at all three walls (west, north, and east). These bookcases are original to the room and remain in unaltered condition.

The earliest known documentation for the bookcases is the bill from Pottier & Stymus dated May 7, 1882, for "Lining Bookcase Doors With Silk." This apparently referred to lining the lower doors, because such a fabric is in this location today. *The Decorator and Furnisher* described the cases in 1891 as "High mahogany book-cases with glass doors."

More specific were the residence appraisals of 1921, 1924, and 1931. The 1921 and 1924 appraisals described:

> 37 Lineal feet mahogany built-in bookcases with plate glass swinging doors, cupboard and drawer base, shelves etc. Complete.

Slightly different dimensions were recorded in the 1931 appraisal:

> 42 Lineal ft. mahogany bookcase, 6'6" high, glass door, cabinet base, glass upper section with 3 shelves.

Finishes

The finishes in the Library consist of decorative stenciling on the plaster walls and ceiling, and unpainted woodwork with a resinous finish. It is generally assumed that the decorative painting is original and unaltered, although some touching up was done in 1952.

The original finishing of the house, including the Library, was done by the New York firm of Pottier & Stymus. Their bill dated May 7, 1882, included the notations to "paper walls" and "decorate ceilings" in the Library. The reference to papering the walls may have been a mistake: no other documentation was found to substantiate the use of wallpaper on the walls, nor has any physical evidence of wallpaper been found in the room. The existing stenciling on the walls and ceiling, on the other hand, appears to be original. The decorative painting was identified by Camille Agricola in 1980 to have been executed in calcimine paint. She also determined that the plaster substrate was first sized with a yellow glue.[86]

[86] Agricola, "An Analysis," pp. 114-24.

The decorative stenciling includes stylized floral designs in colors of dull greens, blues, yellows, and Venetian reds. Flat overall patterns cover both the body of the walls and the center portion of the ceiling. Wide decorative borders are above the dado on the east and south walls, between the picture molding and the cornice, and on the ceiling at its perimeter. The cornice itself is painted with alternating bands of color and some stenciling.

Additional work was apparently done on the ceiling in 1887, according to another bill from Pottier & Stymus dated July 5, 1887, that itemized "redecorating panel of Library ceiling." Exactly what this entailed is not known. Possibly the "redecorating" proceeded the installation of the existing electrolier and the ceiling medallion. This is discussed in more detail in the section on lighting.

The Decorator and Furnisher described the Library, including its decorative paint scheme, in 1891 as follows:

> On the wall ground [of] grayish green are stencilled geometrical figures in copper bronze over a low wainscoting...with eighteen inch border between. The ceiling is frescoed in corresponding tints.

Less detailed descriptions were also recorded in the residence appraisals of 1921, 1924, and 1931. In 1921 and 1924, the finish was classified as "stencil work on ornamental plaster," and in 1931 as "23 sq. yds. stencilled decoration on plaster."

The unpainted woodwork and floor were observed by Agricola in 1980 to "retain the shellac that was applied in 1882."[87] Unfortunately, no specific documentation of this finish has been found. General references to "varnishers" working at the house are in the bills from Pottier & Stymus dated 1882 and 1887. Later appraisals also identified the Library finish as a "stain and varnish."

While the finishes have survived in the Library in relatively unaltered condition, some maintenance repair work has been required over the years. In his bill dated March 25, 1952, painter Carl G. Gustafson requested payment for painting done at Glenmont, including "library ceiling and walls...touched up" as per his estimate of February 20, 1952. The exact extent of the "touching up" has not been assessed.

Starting in the late 1960's and continuing through the early 1970's, annual maintenance at Glenmont included cleaning and polishing the woodwork with lemon oil, and cleaning and polishing the floors with nonskid wax.

The stenciled walls and ceiling are much darker today than they were originally. The draft historic furnishings report for Glenmont has attributed the muting of the original colors to "the

[87] Agricola, "An Analysis," p. 116.

passage of time and the adherence of foreign matter."[88] Cracks and chips caused by settlement and structural work also contribute to the worn look of the room.

Lighting System

The Library has three electric light fixtures, including one large ceiling chandelier and two wall fixtures. All three are believed to have been installed by the Edisons when the house was electrified in 1887. The lights and their switches were rewired by the National Park Service in 1968.

The original light fixture in the Library is documented by the inventory of January 1886 as being "1 Reading lamp, red shade." It was probably fueled by either oil or kerosene.

Not until the inventory of 1891 were three electric light fixtures listed for the room, including "1 Electrolier" and "2 Side Electroliers." Although no detailed descriptions of these lights are known, a photograph by W.K.L. Dickson published in 1892 shows what was most likely the "1 Electrolier"—the chandelier that hangs in the room today. According to Madeleine Edison Sloane in 1973, this chandelier "was originally a gas fixture." The 1886 inventory, however, indicates that there was no gas chandelier in the Library at that time. It is more likely that this is one of the original electroliers installed by the Edisons when the house was first electrified in 1887. This is further supported by the 1891 inventory, which listed only those items added by the Edisons since their acquisition of the house in 1886; it included the "Electrolier" in the Library.[89] A bill from Pottier & Stymus dated July 5, 1887, for "redecorating panel of Library ceiling" may have referred to the installation of the ceiling medallion from which the chandelier hangs.

The chandelier is a large, elaborate fixture fitted with 12 etched-glass shades. (The 13th bulb is in the center of the fixture, and has no shade.) Attached below is a sculptural pierced metal container that may at one time have been a reservoir for oil or kerosene. Dickson's circa-1892 photograph of the room shows this part of the chandelier suspended even lower and topped by a glass lamp shade. It was raised to its present position sometime before circa 1918.[90]

Detailed descriptions of the chandelier are found in the residence appraisals of 1921, 1924, and 1931. It was listed in 1921 and 1924 as "1 15 [sic] light cast and pierced brass chandelier," and in 1931 as "1 Brass ceiling fixture, 3′0″ diameter, 6′0″ drop, 2 bands, 12 [sic] lights, brass figure ornaments, counter-balanced center drop."

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[88] Burt and Herron, "Historic Furnishings Report" [draft], p. 37.

[89] It was previously thought that this may have been an original gas chandelier that was moved to the Library from the Dining Room, and converted by the Edisons to electricity. It is unlikely, however, that this chandelier was ever outfitted for gas, as suggested by the preceding discussion. Furthermore, it is lacking features that would be found in a gas light fixture, such as cocks to control the flow of the gas.

[90] This date is based on a photograph of the room taken circa 1918 that shows the chandelier in its existing condition.

The two "side electroliers" are on either side of the window in the east wall. Each is a single-light gooseneck fixture with glass shade and a back plate consisting of a small framed mirror. While the draft historic furnishings report suggests that these were original fixtures that were later electrified, this appears not to have been the case. No "mirrored sconces" are listed in the January 1886 inventory for the Library or any other room. They were most likely installed by Edison in 1887, at the same time as the chandelier.

As previously mentioned, the wall fixtures were first listed in the inventory of 1891. They were described by the residence appraisals of 1921 and 1924 as "2 1 light gooseneck brackets on wall mirror panels." More detail was provided by the 1931 residence appraisal, which listed "2 Sconces, 12″ x 20″, brass on plush back, mirror panel, 1 candle light."

Light bulbs installed in both the chandelier and wall sconces were itemized in a letter to Mrs. Edison from the Edison Lamp Works dated February 14, 1927. Used in the chandelier were "13-15 watt A-19 Inside Frost MAZDA Lamps," and in the wall fixtures were "2-25 watt A-19 Inside Frost MAZDA Lamps."

The chandelier and wall fixtures are each activated today by separate push-button switches. Both switches are on the south wall, to the left of the doorway. The date of these switches is not known.

Electrical Outlets

Two single receptacle outlets are in the Library. These are in the upper part of the east wall, on either side of the window, and are used by the wall sconces. The outlets may be contemporary with the wall fixtures, which are thought to date to 1887. No specific documentation for the outlets themselves has been found. They are not mentioned in the 1931 residence appraisal, which lists the electrical outlets in the other rooms of the house.

Annunciator System

The Library was served by the Glenmont annunciator system. The Kitchen annunciator board has a station labeled "LIBRARY." Also, the button remains, on the south wall next to the doorway. It is housed in a decorative wood base.

The button is first documented in a letter dated September 14, 1889, from Edwards & Co. to Charles Batchelor. In describing the bells at the house, Edwards & Co. mentioned the "button in...Library...[that] rings to Annunciator in Kitchen." See the subsequent section entitled "Kitchen (Room 107)" for more information on the history of the annunciator system.

Heating System

The Library was heated historically with hot air produced by the house's original steam-heating system. The hot air was obtained by using steam radiators—located in heat-transfer boxes in the cellar—to heat fresh air. The hot air then entered the room through one floor register. (See the subsequent section "Utilities: Heating System" for more information.) When a new central

heating system was installed in 1968, the old register was disconnected and a new register was installed.

The old floor register is in the northeast corner, at the entrance to the alcove. It is similar in size and design to the register in the Reception Room (Room 102), and is presumed to be original. During the Pedder and Edison years, the register was part of a gravity hot-air system. A new furnace was installed in 1920; at this time, the thermal units supplied to the room were calculated to be 70, which was 70 units short of the 140 units theoretically needed for a space of this size.[91] The 1931 residence appraisal recorded "1 Floor register."

A new forced hot-air heating system was installed by the National Park Service in 1968. The old register was not utilized; it was disconnected, and a new register was installed in the floor beneath the east window. Also installed at this time was a modern thermostat, mounted to the east side of the chimney breast.

Fire-Protection System

No fire-fighting equipment appears to have been in this room during the Edisons' occupancy, based on the furnishings appraisals of 1921, 1924, and 1930. The closest fire extinguishers were in the Kitchen (Room 107) and in the Second Floor Hall (Room 214).

The room is protected today by a Pyrotronics smoke detector. This small unit is well concealed on top of the fireplace's overmantel etagere. It was installed in 1978 as part of an interconnected fire-protection system for the house.

Security System

The burglar-alarm system installed at Glenmont in 1889 included connections at "all [of the] windows" of the Library, according to a letter from installer Edwards & Co. to Charles Batchelor dated September 14, 1889.

[91] Letter from R.W. Kellow to Mrs. Edison, Jan. 24, 1921. Edison NHS Archives.



THE LIBRARY.

Figure 74. Library (Room 104), looking southwest, circa 1890.



Figure 75. Library (Room [illegible]), looking northwest, circa 1918.



Figure 76. Library (Room 104), looking south, 1947.



Figure 77. Library (R[illegible] 104), looking north, 1947.



Figure 78. Library (Room 104), looking southwest, 1960.



Figure 79. Library (Roo[illegible]04), looking northeast, 1960.



Figure 80. Library (Room 104), northeast alcove, 1960.



Figure 81. Library (Ro[illegible]104), looking southeast, 1960.

Service Dining Room (Room 105)

General Information

The Service Dining Room is located off the Service Hall, on the east side of the house. Its dimensions were recorded by the 1931 residence appraisal as measuring 13 feet by 19 feet.

This room has had many names over the years. It has historically been referred to as the Servants' Hall, the Servants' Dining Room, the Maids' Dining Room, the Help's Dining Room, and the Service Dining Room. "Servants' Hall" was used in a first-floor plan published in *American Architect and Building News* in 1881. The inventory taken in January 1886 listed the room as the "Servants' Dining Room." This same appellation was also in later years, such as in estimates for painting dated 1905-07, a bill for flooring dated 1916, and a lighting report dated 1927. Reference to the "Maid's Room" was found in a letter from R.W. Kellow, Mr. Edison's secretary, regarding the heating at Glenmont. The appraisal companies preferred "Help's [also spelled Helps'] Dining Room," and used this in their appraisals of the residence and furnishings dated 1921, 1924, and 1930. The 1931 residence appraisal, however, used "Service Dining Room."

The basic configuration of the room has remained unchanged from its appearance as originally constructed. This is based on a comparison of the existing conditions with the 1881 first-floor plan. Major alterations—obviously never carried out—were proposed in 1907 by architects Allen & Collens. Their first-floor plan shows the north and south walls removed, and the space of the former room used to enlarge both the Library (south of the Service Dining Room) and the Laundry (north of the room). A new "Servants Hall" was to have been created where the Kitchen is today.[92]

This room served as a sitting room, in addition to its obvious use as a dining room, for the household help. This is indicated by the furnishings appraisals dated 1921, 1924, and 1930, which listed—in addition to a table and chairs—two rocking chairs, one Edison old-style phonograph and records, and a small bookcase. One "Llewellyn upright piano" is itemized for the first time in the 1930 furnishings appraisal.

The Service Dining Room is today partially furnished to circa 1920, and is occasionally interpreted to visitors during special "behind-the-scenes" tours.

Floor

The wood floor is covered today with linoleum installed in 1916. Carpeting covered the floor in earlier years. The wood floor beneath the linoleum was described in the 1921 and 1924 residence appraisals as "234 Sq. Ft. North Carolina pine T. & G. [tongue-and-groove] flooring."

The existing linoleum was installed by the Dreadnought Flooring Company, manufacturers of "interlocked sectional flooring," according to their bill of January 26, 1916. This floor is composed of individual geometric-shaped pieces that fit together like a jigsaw puzzle. Each piece

[92] "Alterations of House, Allen & Collens," Oct. 29, 1907.

is colored either mustard yellow or dark green. The furnishings appraisals of 1921, 1924, and 1930 listed the flooring as "20 Sq. yds. interlocking tiled linoleum." The residence appraisal of 1931 itemized "465 Sq. ft. interlocking rubber floor tile." This material is in worn condition today, with some tiles dented and others missing.

Walls

The walls are of plaster trimmed with a wood baseboard, chair rail, and picture molding. The first-story walls were described in the 1931 residence appraisal as "3 coat hard finish plaster on wood lath." This same appraisal also listed "68 Lineal ft. base board; 56 Lineal ft. 6" chair rail; [and] 72 Lineal ft. picture moulding" in the Service Dining Room.

The walls appear to be unchanged from their original configuration, with the exception of a floor-to-ceiling protrusion at the east wall. This feature is most likely a chase for plumbing pipes leading to the second-story bathroom (Room 207), installed in 1940.

Ceiling

The ceiling is of plaster, similar to the walls. A plaster cornice is at ceiling level. The 1931 residence appraisal described all of the first-story ceilings as being of "3 coat hard finish plaster on wood lath and furring."

The ceiling as it exists today appears to have been restored sometime after 1960. A photograph of the room taken at that time shows the ceiling covered with square tiles resembling acoustical ceiling tiles. No record was found of when these tiles were installed or removed.

Woodwork

No specific descriptions are known to exist of the original woodwork in the Service Dining Room. Most likely the woodwork was pine with a varnish finish. This is based on the description of the house in *American Architect and Building News* in 1881, which referred to the attic and Kitchen as being "finished in natural pine."

Doorways

The room's sole doorway, at the south end of the west wall, leads to the Service Hall (Room 117). Its architrave is molded, with butted joints and no corner blocks. The door has five panels, three hinges, and a metal doorknob with mortise lock.

The doorway is documented by the residence appraisals of 1921, 1924, and 1931. It was described in 1921 and 1924 as having "1 5 panel s/s [single swing] door, frame, trim and hardware." The 1931 appraisal listed "1 Door, 3'0" x 7'6" x 2", 5 panels." The doorway appears to be unchanged from its original construction, except for its painted finish.

Windows

The Service Dining Room has two windows. One is a projecting bay window in the northeast corner of the room (W-103); the other is a small interior window at the west end of the south wall (no number). Both are original, based on the first-floor plan published in *American Architect and Building News* in 1881.

The bay window (W-103) has a molded architrave with bull's-eye corner blocks. The sill is deep and functions as a low shelf or a shallow window seat. Two vertical, molded mullions divide the window into three openings. Each of the openings contains a pair of double-hung sashes topped by a stationary transom window. Sashes and transoms feature multiple panes of clear glass. The center opening is the widest of the three. Its double-hung sashes are 12-over-24, and the transom sash has eight lights. The two flanking openings are of equal size. Their double-hung sashes are 9-over-18, and their transom sashes have six lights.

The bay window was itemized in the residence appraisals of 1921, 1924, and 1931. It was described in 1921 and 1924 as follows:

> 3 56 Lt. [sic] double hung sash d/s [double strength] glass, frames, trim and hardware.

The 1931 appraisal was more detailed, listing:

> 1 Double mullion window, 1 double hung sash, 2'6" x 6'6" x 1-5/8", 48 [sic] lights, 2 double hung sash, 2'0" x 6'6" x 1-5/8", 36 [sic] lights.

The small window at the west end of the south wall is an interior stationary window. It probably functioned as a source of indirect natural light for the back stair, which it overlooks. The architrave is molded, with no corner blocks. The single sash contains a center pane of clear glass bordered by smaller panes of stained glass. This window was described in the 1921 and 1924 residence appraisals as:

> 1 1 light stationary wall sash with colored glass edge, inserts, frames, trim and hardware.

Fireplace

The fireplace is in the northwest corner of the room. It is an original feature, according to the first-floor plan published in 1881.

The wood mantel is of simple design, with a top shelf supported by two brackets. Framing the opening is a black cast-metal border decorated in bas-relief with designs of leaves, flying insects, and other abstract shapes. The firebox is lined with a gray material that appears to be soapstone. Paving the hearth are ceramic tiles with geometric designs in colors of orange and black.

The fireplace is documented by the residence appraisals of 1921, 1924, and 1931. It was described in 1921 and 1924 as follows:

> 1 4' mantle [sic], wrought iron facing and border, tile hearth.

The 1931 appraisal listed:

> 1 Fireplace, 3'6" x 3'6", metal fireplace and facing, tile hearth, pine shelf, frieze and trim.

Finishes

The entire room is painted a cream-beige color today. This includes the walls, ceiling, woodwork, and fireplace mantel. While the painted finish on the walls and ceiling is most likely an original treatment, the woodwork appears to have been varnished until at least 1907. The last painting of the room was in 1956.

The earliest documentation of finishes is an estimate submitted to Mrs. Edison by E.W. Peckham on May 1, 1905. This called for "paint[ing] ceiling and side walls one coat of oil paint, clean[ing] the wood-work, no varnish taken off one coat of varnish applied." No bill was found to verify if this work was actually done. Painters Smith & Co. later submitted an estimate dated February 2, 1907, to paint and varnish the room. The estimate reads "Servants Dining Room to Be Painted. Wood work to be varnished." Again, there is no indication that the work was carried out. Nevertheless, the two estimates do serve to document the existing varnish finish on the woodwork and the probable painted finish on the walls and ceiling.

The date when the varnished woodwork was painted over is not known. This may have occurred sometime before 1921, based on the residence appraisal done in that year that listed only "paint" and no varnish in the "Help's Dining Room."

The room was painted twice in the 1950's by Carl Gustafson. In June 1951, Gustafson proposed painting the walls with two coats of semigloss enamel and the woodwork with two coats of enamel. Purchase requisition number 355901 by Thomas A. Edison, Inc., dated August 17, 1951, confirms that the work was done. Five years later, Gustafson proposed the following in an estimate dated January 15, 1955:

> Servants dining room. Ceiling to be touched up. Walls to be scraped well, plastered where needed, new plaster given one coat of primer, then walls given two coats. Woodwork two coats.

A voucher dated May 17, 1956, documents the execution of this work.[93]

[93] Shaw, "Progress Data," p. 48.

The earliest known photograph of the room is dated 1960. This black-and-white view shows both the walls and the woodwork painted the same light color. As previously mentioned, the ceiling was covered by this time with what appear to be acoustical tiles.

By 1962, the National Park Service noted that patching and painting of the walls and ceiling were required in the rooms of the first-story service wing, which probably included the Service Dining Room.[94] No records of any actual work, however, have been found.

Lighting System

The room has one electric ceiling light fixture that was installed sometime between 1924 and 1927. This fixture has a metal shade of neoclassical design and is operated by pulling a string. It was rewired by the National Park Service in 1968.

The early electric light fixtures in the room are documented by the residence appraisals of 1921 and 1924. The 1921 appraisal listed "1 1 light gooseneck brackets" and "1 2 light stiff pendant." A second "1 Lt. gooseneck bracket" had been installed by the time of the 1924 residence appraisal. A "gooseneck bracket" is a type of wall-mounted fixture. The "stiff pendant" was probably a ceiling-hung fixture.

A new ceiling light had replaced the existing wall and ceiling lights sometime before February 14, 1927, according to a "Lighting Recommendations" report of that date. This report referred to only one single-light "ceiling fixture" in the "Servants Dining Room." This was most likely the same light fixture that is in the room today. The light bulb recommended for the ceiling light was a "300 watt PS-35 Clear MAZDA Lamp." The fixture itself was described by the 1931 residence appraisal as "1 Brass Duplexalite ceiling fixture."

Electrical Outlets

One duplex receptacle outlet is in the east wall. Its date of installation is not known. The outlet was not included in the residence appraisal of 1931, which listed the outlets in the other rooms of the house. Whether or not this was an accurate assessment is not known. The outlet existed by 1960, however, based on a photograph of that date showing a television at the east wall of the room.

Plumbing System

There are no plumbing fixtures in the Service Dining Room. However, pipes supplying a second-story bathroom above this room (Room 207) are located at the east and south walls. These pipes run from the floor to the ceiling. Those on the east wall are boxed in, while those on the south wall are exposed. The pipes date from the construction of the bathroom in 1940.

[94] James Crawford, "Historic Structures Report - Part I, 'Glenmont' Architectural Data" (NPS: Feb. 15, 1962), p. 11.

Heating System

The Service Dining Room was heated historically by one steam radiator that was part of the house's original steam-heating system. In 1968, the radiator was disconnected and three new floor registers were installed beneath the northeast bay window.

The radiator, extant on the north wall, was manufactured by the "U.S.A. Radiator Co., Dunkirk N.Y."[95] The original radiators in the house were made by Gold's Heater Manufacturing Company, indicating that this radiator is a later replacement. It is not known when the radiator was installed, although it appears to have been sometime before January 1931. This is based on the residence appraisal for that year that recorded "1 Radiator, 2 columns, 38", 10 sections...," which describes the existing radiator.

It is not known which radiator was in the room in 1921, when the American Radiator Company calculated its heat efficiency. The radiator was determined at that time to be supplying 40 thermal units of heat to the room—only 5 units short of the 45 units theoretically needed for a room of this size.

In 1968, the National Park Service replaced the old steam-heating system with a forced hot-air heating system. The old radiator was disconnected but kept in place, and three new floor registers were installed. A thermostat was also installed at this time on the east wall.

Fire-Protection System

During the Edisons' ownership, no fire-extinguishing equipment appears to have been in this room. However, three fire pails and one Pyrene fire extinguisher were across the hall in the Kitchen, according to the furnishings appraisals of 1921, 1924, and 1930.

The room is protected today by a Pyrotronics smoke detector mounted to the ceiling. The detector is connected to a complete system installed in the house in 1978.

Security System

The burglar-alarm system installed at Glenmont in 1889 included connections at "all [of the] windows" of the Service Dining Room. This is known from a letter from installer Edwards & Co. to Charles Batchelor dated September 14, 1889.

[95] The manufacturer's name is imprinted on the radiator.



Figure 82. Service Dining Room (Room 105), looking east, 1960.

Laundry (Room 106)

General Information

The Laundry is located in the service area, at the northeast corner of the house. Its dimensions were recorded by the residence appraisal of 1931 as measuring 13 feet 6 inches by 19 feet.

This room has always been known as the "Laundry." It was referred to as such during both the Pedders' and the Edisons' ownership of the house.

While the room was originally designed for and has always been used as a laundry, it is nevertheless altered from its original (1880-81) configuration. The first-floor plan of the house published in *American Architect and Building News* in 1881 shows a smaller room measuring only 13 feet by 12 feet. It was enlarged to its present size sometime before July 1884, when Henry C. Pedder conveyed title of his property to "Constable et al." This is documented both by a floor plan and by a letter. The undated floor plan is entitled "Plan of First Story - H.C. Pedder Esq - Orange N.J." It shows the enlarged "Laundry" measuring "19'4" x 15'4 1/2"." That the enlargement actually occurred is confirmed by a letter dated July 12, 1885, from architect Holly to J. Asch, itemizing the original cost of construction including the "Enlarged Laundry." This involved extending the north wall approximately 7 feet and adding two more windows. Therefore, not only was more space created, but provision was also made for additional natural light and ventilation.

Another change to the Laundry was contemplated by the Edisons in 1907, according to a floor plan by architects Allen & Collens. Their plan proposed enlarging the room southward to make room for a "clothes dryer" and a "closet."[96] Drying of the clean clothes had historically been done outside in the "laundry yard," to the north side of the house. The yard is first documented by a bill from H.M. Matthews dated May 2, 1896, for "repair[ing] drying yard lattice fence...." The new inside dryer was never installed, however, and fresh-air drying continued to be the standard laundry practice during the Edisons' occupancy. Hooks remaining in the Laundry walls also indicate that lines were strung inside to dry clothes in inclement weather.

The last major alteration to the room occurred in 1916. At that time, new laundry tubs and flooring were installed, and the laundry stove was moved.

The room is only slightly altered today from its 1916 appearance. The washing machine was removed in 1994. A modern electric freestanding refrigerator formerly in the Refrigerator Room (Room 107a) was recently moved here and is used by NPS staff for storing lunch items. The room is now used as an office by the park's interpretive staff.

[96] "Alterations of House, Allen & Collens," Oct. 29, 1907.

Floor

The floor is covered today with three materials: slate, ceramic tile, and sheet linoleum. The slate and ceramic tile were installed in 1916, and the linoleum was installed in 1958. Beneath these materials is a wood floor, described in the 1921 and 1924 residence appraisals as "250 Sq. ft. North Carolina pine T. & G. [tongue-and-groove] floor." Pine was no doubt used for both the original floor and the north extension in the 1880's.

Linoleum was laid on the laundry floor as early as 1899, according to a bill from W. & J. Sloane, Carpets & Upholstery, dated December 29, 1899. A different material was probably used beneath the laundry stove to protect the wood floor from excessive heat and the potential threat of fire. Zinc appears to have been installed in 1907, based on a February 1 bill from George H. Werner, Plumbing, Tinning and Steam Heating, that itemized "Putting Zinc at Laundry Stove, 1-sheet 4 x 9 ft. 39 lbs." This may have been replaced three years later by C. Garrabrant & Son, Plumbers, Tinners, Steam, Hot Water and Gas Fitters, who billed on April 1, 1910, for "sheet iron for Laundry Floor."

In 1916, the stove was moved from the south wall to its present location at the west wall, and new flooring was installed in the entire room. The Dreadnought Flooring Company advised Mrs. Edison of the following in a letter dated January 4, 1916:

> We suggest that you furnish a cement, tile or slate hearth under the Laundry stove. The tiling which you anticipate installing under the washing machine or tubs should be exactly 1/4" above the rest of the floor in order that "Dreadnought" material when laid will be exactly even with the tile.

Mrs. Edison took Dreadnought's advice, and had the slate installed and the ceramic tile slightly raised. Both materials are in the room today.

The slate is at the west wall, beneath the laundry stove. No documentation for it is known, except for the previously described letter from the Dreadnought Company.

The section of ceramic tilework is at the south end of the east wall, beneath the laundry tubs. The tiles are small white hexagons; the section is bordered along its exterior side by a wide strip of wood. The floor was described in the 1921 and 1924 residence appraisals as being "60 Sq. ft. white ceramic floor tiling." The 1931 residence appraisal noted "60 Sq. ft. 1" hexagon floor tile."

Also installed in the rest of the room in 1916 was "Dreadnought" flooring, billed by the company on January 26 of that year. This was described in the furnishings appraisals of 1921, 1924, and 1930 as "30 Sq. yds. interlocking tiled linoleum." It was probably similar to the Dreadnought floor installed in 1916 in the Service Dining Room, which survives today. The interlocking floor of the Laundry, however, was replaced by the existing green linoleum in 1958.[97]

[97] Shaw, "Progress Data," p. 48. Reference is to "vouchers."

Walls

The Laundry walls are composed of three materials: plaster, brick, and ceramic tiles. The plaster walls on the south side of the room are assumed to be original (1880-81), while the plaster walls on the north side of the room (beginning at the east and west windows) were added sometime before July 1884. The ceramic tiles and brick are the most recent materials, having most likely been installed in 1916.

The first-story plaster walls of the house were described in the 1931 residence appraisal as "3 coat hard finish plaster on wood lath." This same appraisal also listed "60 Lineal ft. baseboard" in the Laundry. This baseboard is found on all of the walls, except behind the laundry tubs and stove. The odd enclosure along the west wall above the doorway conceals the smoke pipe for the laundry stove.

Exposed bricks cover the lower wall behind the laundry stove. Since the stove is thought to have been moved to this location in 1916, the bricks would also date to this time (see the subsequent section "Laundry Stove").

White rectangular ceramic tiles cover the lower parts of the walls in the southeast corner, behind the laundry tubs. The tiles are assumed to have been installed at the same time as the laundry tubs, in 1916. They definitely existed by 1921, when the 1921 residence appraisal for that year recorded "100 Sq. ft. glazed wall tiling." The 1931 residence appraisal similarly listed "105 sq. ft. 4″ x 6″ tile wainscoting."

Ceiling

The ceiling is flat plaster with no cornice or other ornamentation. The portion to the south of the windows dates to 1880-81; the portion beginning at the windows and extending northward dates to sometime after 1880-81 and before July 1884. No dividing line is visible. The 1931 residence appraisal described the first-story ceilings of the house as "3 coat hard finish plaster on wood lath and furring." This no doubt included the Laundry.

Woodwork

American Architect and Building News in 1881 described the woodwork in the Pedders' new house as being various types of "hard wood[s]" in the formal rooms and "natural pine" in lesser rooms such as the attic and kitchen. While not specifically mentioned, the woodwork in the Laundry was probably also pine. The raised-panel cupboards on the south and west walls are considered to be furnishings, and so are not discussed in this report.

Doorways

There is one doorway in the room, at the south end of the west wall. It connects the Laundry with the Service Hall (Room 117). The doorway architrave is molded, with butted joints and no corner blocks. Its door has five panels, two hinges, and a metal doorknob with mortise lock. The

doorway is in its original location, based on the first-floor plan published in *American Architect and Building News* in 1881.

The door was described in the 1921 and 1924 residence appraisals as "1 5 panel s/s [single swing] door, frame, trim and hardware." The 1931 residence appraisal listed "1 Door, 2'6" x 7'6" x 2", 5 panels."

It is interesting to note that while clothes washed in the Laundry were usually dried outside in the drying yard, no exterior doorway existed to provide direct access to the yard.

Windows

Three windows are at the north end of the room. All three were installed when the Laundry addition was built sometime after 1880-81 and before July 1884. The room originally had only two north windows, based on a first-floor plan published in *American Architect and Building News* in 1881. Two windows of similar size were installed in the northwest corner when the original north wall was removed and the room extended. It is possible that the two original windows were reused for these new windows. The bay window at the northeast corner of the room, on the other hand, is probably contemporary with the expansion of the room.

The two windows at the northwest corner (W-105 and W-106) have segmentally arched openings. Each opening is surrounded by an architrave with a flat lintel and bull's-eye corner blocks. Each window's double-hung sashes feature nine-over-nine lights; the top sash is arched, and the window glass is clear. The 1921 and 1924 residence appraisals listed these windows as "2 18 light double hung sash, D/S [double strength] glass, frames, trim and hardware." The 1931 residence appraisal described "2 Double hung windows, 2'10" x 6'6" x 1-5/8", 18 lights."

The bay window in the northeast corner (W-104) is trimmed by an architrave with no corner blocks. A deep window seat is at the same height as the sill. The window is divided into four openings, two in the north wall and two in the east wall. Each opening has 12-over-28, double-hung sashes and a stationary transom window with 12 lights. All window glass is clear. The 1921 and 1924 residence appraisals listed these windows as "4 56 light [sic, should be 52] double hung sashes, D/S [double strength] glass, frames, trim and hardware." The 1931 residence appraisal described "4 Double hung windows, 2'6" x 6'6" x 1-5/8", 56 [sic] lights."

Laundry Stove

A laundry stove was an indispensable piece of equipment in the Laundry in the early days. It was used to heat both the water for washing and the irons for pressing. A laundry stove remains in the room today. It is at the west wall, in front of a projection that resembles a chimney breast. The projection contains a segmentally arched niche that resembles a firebox, into which the stove's smoke pipe runs.

Documentary and physical evidence indicates that the original location of the laundry stove was elsewhere, however. The first-floor plan published in 1881 does not show a chimney here, nor is the existing projection a chimney that was built later. Inside the projection, the stove's smoke pipe

turns, exits the projection, and runs horizontally along the top of the west wall to connect with the chimney in the south wall. There is also no hearth; slate is used under the stove, instead.

Where then was the original location of the laundry stove? The most logical place would have been at the west end of the south wall, next to the original laundry tubs. This would have provided a more direct route for the stovepipe to the chimney in this wall. In addition, it would have placed the source of hot water next to the washing tubs. The earliest documented reference to the "Laundry flue" is a bill for cleaning dated November 1895.[98] Investigation of the floor beneath the present linoleum may reveal evidence of the original stove hearth.

The change in location appears to have occurred in 1916. In a bill dated February 1, 1916, C. Garrabrant & Son recorded "taking down boiler and Laundry stove" and "putting back boiler and Laundry stove." This move was part of a general modernization of the Laundry, which included improvements that made it less critical for the laundry tubs to be located close to the source of hot water. These improvements included the installation of an electric washing machine and better plumbing.

The stove in the room today was here in 1931, according to the residence appraisal of that year. This appraisal listed the stove as being "1 Janes & Kirtland #200 cast iron laundry stove." This same stove was recorded by the 1921 and 1924 residence appraisals as "1 Janes & Kirtland #200 Laundry Stove with H.W. [hot water] coil" that was fueled with coal. However, these two appraisals state that the stove was in the "cellar." This difference can be explained by a work order dated May 13, 1919. It states, "Send men to house to move coal range in laundry and connect up gas range in its place." Similar work descriptions exist for the years 1923 and 1924. This suggests that the Edisons had two laundry stoves by 1919. One was a coal-fired stove; the other was fueled with gas. The coal-fueled stove appears to have been moved up from the cellar and into the Laundry for use during the cold months, while the gas-fueled stove was moved in and used during the warm months.

It is not known when the Janes and Kirtland stove was first installed in the Laundry, nor are any detailed descriptions available of the gas-fueled stove. Presumably the latter also had hot water-generating capabilities.

Finishes

The ceiling, walls, and woodwork are painted a cream-yellow color. Microscopic analysis in 1986 of one paint sample from the plaster wall identified approximately eight layers of paint, all the same cream color. The woodwork appears to have been originally varnished and first painted circa 1907, based on the documentation. The room was most recently painted by the National Park Service in 1987.

[98] Bill from "Thomas A. Chalmers - Plumber, Tin Roofer, Stove and Furnace Dealer," dated Nov. 1895.

Documentation for the Laundry finishes is plentiful. The record includes painters' bills, estimates, and one appraisal. These are summarized below:

Oct. 9, 1889	Bill, R.F. Birdsall - Practical Painter. "Varnishing wood work and closet in Laundry."
May 24, 1897	Bill, A. Bode & Sons - Fresco Painters and Decorators. "Painting walls and refinishing woodwork in...Laundry [&c.]."
May 2, 1899	Bill, R.F. Birdsall. "Painting walls & varnishing wood work in...Laundry [&c.]."
May 1, 1905	Estimate, E.W. Peckham. "Laundry: Ceiling and side walls touched up, two coats of oil paint, wood-work cleaned, no varnish taken off, one coat of varnish applied."
Feb. 2, 1907	Estimate, Smith & Co. - Painters, Paperhangers, and Decorators. "Laundry Ceiling and Walls and wood work to be Painted one Coat."
Apr. 1, 1912	Bill, Smith & Blatherwick - Painters, Paperhangers and Decorators. "Paint...Laundry [&c.]." Bill includes 250 lbs. white lead and 25 lbs. French Ochre in Oil.
1924	The residence appraisal notes the Laundry as having "paint" but no varnish.
June 9, 1951	Estimate (subsequently billed), Carl G. Gustafson. "Kitchen quarters [includes Laundry]—Ceilings and walls to have all cracks cut out and replastered, all loose paint scraped off well, cracks and new plaster given one coat of undercoated [sic] and one coat of semi gloss enamel. Painted woodwork to be washed off, touched up, given one enamel under-coater and one coat of enamel."
June 13, 1968	National Park Service Records, Chiovarou and Son. "Paint - Laundry [&c.]."

Lighting System

The room has two wall-mounted electric wall fixtures with glass shades. Each light is activated individually by a switch at the fixture. One of these fixtures existed by 1921, when it was described by the residence appraisal as "1 1 light gooseneck bracket." A second "gooseneck bracket" had been added to the room by the time of the 1924 residence appraisal; both were listed by the 1931 residence appraisal as "2 Brass wall brackets, 1 light." The light bulbs recommended for use in these two fixtures in 1927 were "2-40 watt A-21 Inside Frost MAZDA Lamps."[99] The electric lights were rewired by the National Park Service in 1968.

The Laundry originally had gas lights, remnants of which may still be seen in the room. An obsolete gas wall bracket is in the south wall, above the 1916 ceramic-tile wainscot. This bracket is a plain single-branch type that swivels at the base. It was described in the 1931 residence

[99] "Lighting Recommendations" report submitted to Mrs. Edison by the Edison Lamp Works, Feb. 14, 1927.

appraisal as "1 Gas wall bracket."[100] A plain gas fixture may also have hung from the ceiling; all that remains here today is a cap.

Electrical Outlets

There are three groups of electrical outlets in the Laundry today. One duplex outlet is in the upper east wall; one double-duplex receptacle is at the west end of the north wall; and three duplex outlets are mounted on a board in the middle of the north wall. The first two outlets appear to be modern; they were rewired by the National Park Service in 1968. The last group—in the middle of the north wall—is older. It was described in the 1931 residence appraisal as "1 Triple wall receptacle." These outlets were probably activated by the two switches next to them that are now inoperative.

Two laundry appliances that would have used the early outlets were the washing machine and the iron. These were described in the 1930 furnishings appraisal as "1 Thor electric washing machine, Hotel size, copper body, swing wringer" and "1 Thor electric ironer, 44″." The irons had their own separate fuse in 1939, the label for which still exists on the old fuse box in cellar room B14. Both the washer and the iron are in the collection of Edison NHS.

Window Fan

A large fan is permanently mounted at the top of the window opening in the west wall. Electric controls for the fan are mounted on a board on the north wall. The fan may have been installed in 1905, based on a voucher from the Edison Company for "Sundries in connection with Putting in Exhaust Fan at House, during June 1905." The fan was described by the residence appraisal of 1931 as "1 Electric exhaust fan, 12″ diameter window type."[101] Writing cast into the metal fan support identify it as a "Blackman Exhaust Fan—Western Electric Co.—Variety Manufacturing Co.—Chicago." A notation on the fan's motor identifies it as a "Type G [numbers unclear], Volts 110, H.P. 112, No. H75, AMP 75, Rev 1150."

Plumbing System

Plumbing was historically used in the Laundry to supply water to a set of laundry tubs, and later to an electric washing machine. It also supplied water to the stoves and other heaters that produced hot water for laundry use. In the room today are three laundry tubs dating to 1916, and one coal-fired laundry stove (described previously in the section "Laundry Stove"). The washing machine is in storage elsewhere.

The original tubs were in the middle of the south wall. This information was included on the first-floor plan published in *American Architect and Building News* in 1881. These most likely

[100] The gas light is believed to have been operational in 1931, because it was not noted as being "obsolete" in the residence appraisal.

[101] No mention of the fan is found in the residence appraisals of 1921 and 1924, perhaps due to an oversight.

numbered three, based on the early 20th-century plumbers' bills that refer to "3 wash trap." Hot water for washing was obtained from a coal-fired laundry stove, which is believed to have been located on the south wall just west of the tubs. See the section "Utilities: Plumbing System" for more information.

This system was improved in 1905, when Milne & Platt, Practical Plumbers, installed a hot-water heater in the Laundry, probably near the stove. This was described in their bill of July 11, 1905, as:

> ...one Hot Water Heater, one 60 gallon copper boiler, put in a water pressure regulator, and do the necessary timing.

Two years later, according to his bill of March 30, 1907, plumber Chas. F. McGuire billed for "putting up new laundry heater and changing supply to laundry tank." No actual changes in water supply occurred at this time, so the phrase "changing supply to laundry tank" probably meant simply connecting up the new heater.

Extensive improvements were made to the laundry plumbing in 1916. The old tubs were removed from the south wall and three new tubs were installed at the south end of the east wall. These changes are documented by a bill dated February 1, 1916, from "C. Garrabrant and Son - Plumbing and Heating Contractors." Their bill describes "setting up wash trays in Laundry" including "3 No. AW Tray Tubs & Plug" and "6 Quick Opening Comp. cocks" at a cost of $192.00. The electric washing machine was also installed at this time.

The "boiler and Laundry stove" were taken down and reassembled at the west wall in 1916. Presumably the "boiler" was the 1907 hot-water heater. The water supply for the heater, which had most likely been from the tub spigots, was changed to tap directly into the water storage tank in the attic. This involved using "72 ft. 1/2" Galv. pipe," along with assorted tees, elbows, and hangers. The heater supplied hot water to the tubs, so a pipe connecting the two must have been installed. This may have been the function of the exposed pipe—by then obsolete—seen on the south wall in a photograph of the room taken in 1960.

The laundry tubs were described in the residence appraisals of 1921, 1924, and 1931. The tubs were listed in 1921 as "3 Porcelain wash trays," in 1924 as "3 Porcelain laundry tubs," and in 1931 as "3 Porcelain laundry tubs, porcelain pedestal and backs, 2 faucets."

As explained previously in the section "Laundry Stove," the documentation indicates that two laundry stoves were alternated seasonally in 1919, 1923, and 1924. A coal-fired stove appears to have been used during the cold months; it was moved to the cellar and a gas-fired stove was moved in for use during the warm months. The present coal-fired laundry stove was part of this process by 1921.

No mention was made in the 1921, 1924, or 1931 residence appraisals of a hot-water heater being in the Laundry. It is possible that the laundry stoves were the only source of hot water during this period. More likely, the Laundry Room received additional hot water from a heater located elsewhere—perhaps the one in cellar room B14.

Sometime after 1939 and before 1962, the laundry water supply was disconnected from the attic storage tank and connected directly to the West Orange public water supply. One reason for this may have been the large amount of water withdrawn from the tank, "especially when washing is being done."[102] The National Park Service noted in 1962 that hot water was being supplied to the Laundry, Mr. Theodore's bathroom, and the Pantry sink by a gas-fired domestic hot-water heater in the cellar. In 1963, new copper piping was installed to serve the Laundry.[103]

Heating System

The Laundry was heated historically by the coal-burning laundry stove, and by one steam radiator that was part of the house's original steam-heating system. Today, heat is provided by the central forced hot-air system through three floor grates installed in 1968.

The radiator, extant beneath the west window, was manufactured by the "American Radiator Co." The date of its installation is not known, although it was in the room by January 1931, based on the residence appraisal of that date that described "1 Radiator, 3 columns, 26", 12 sections, Laundry." The heat supplied to the room by the radiator was calculated in 1921 to be 45 thermal units—30 units short of the 75 units theoretically required for a space of this size. Obviously not taken into account in these calculations was the additional heat given off by the laundry stove.

In 1968, the old steam-heating system was replaced by a new forced hot-air system. The Laundry radiator was disconnected at this time, and three hot-air grates floor were installed beneath the northeast bay window. Also part of the new system was a thermostat installed on the west wall north of the doorway.[104]

Fire-Protection System

It is interesting to note that while the Kitchen was listed in the furnishings appraisals of 1921, 1924, and 1930 as having one fire extinguisher and three fire pails, the Laundry with its laundry stove had no such equipment. Possibly the Kitchen's extinguisher and pails were intended to suffice for both rooms.

Today, the room abounds with modern fire-detection equipment. A smoke detector is mounted to the ceiling; a fire-alarm control panel for the entire house and an alarm pull box are mounted to the west wall. This equipment was manufactured by Pyrotronics and installed in 1978.

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[102] Letter from James Laing to Mrs. [Mina Edison] Hughes "Re: Water at Glenmont," Sept. 13, 1939. Edison NHS Archives.

[103] Crawford, "Historic Structures Report - Part I, Glenmont Architectural Data," p. 6. The work in 1963 was accomplished under NPS purchase order EDIS 29-105.

[104] Letter from James Laing to Mrs. [Mina Edison] Hughes "Re: Water at Glenmont, Sept. 1939." Edison NHS Archives.

Security System

The burglar-alarm system installed at Glenmont in 1889 included connections at "all [of the] windows" of the Laundry, according to a letter from installers Edwards & Co. to Charles Batchelor dated September 14, 1889.



Figure 83. Laundry (Room 106), looking east, 1960.

Kitchen (Room 107)

General Information

The Kitchen is located in the service area, on the north side of the house. Its dimensions were recorded by the residence appraisal of 1931 as being 16 feet 6 inches by 17 feet.

This room has always been used and referred to as the "Kitchen." It is little changed from its original configuration, based on a comparison of the 1881 first-floor plan with existing conditions today. Unchanged from their original locations are the range, the large east-wall cabinet, and the sink. All of the doorways and windows are original except for the west doorway, converted at an early date from a window.

Alterations to the house, including the Kitchen, were considered by the Edisons in 1907. A plan by architects Allen & Collens show the Kitchen relocated to the Laboratory (Room 110), and the old Kitchen area enlarged and relabeled the "Servants' Hall." This enlargement was to be accomplished by removing most of the original north wall.[105] These changes, however, were never carried out.

The Kitchen receives limited use today by NPS staff. It is occasionally interpreted to visitors during special "behind-the-scenes" tours.

Floor

Floor coverings today include three materials: a black stone (resembling slate) beneath the kitchen range, ceramic tiles beneath the sink, and a gold-color sheet linoleum in the rest of the room. Of these, the stone is most likely original. The ceramic tile was installed in 1900 and the linoleum in 1949. Beneath the tile and linoleum are wood floorboards, described in the 1921 and 1924 residence appraisals as "264 Sq. ft. North Carolina pine T & G [tongue-and-groove] flooring."

The kitchen floor was covered with linoleum as early as 1889, according to a bill from W. & J. Sloane, Carpets, Rugs & Floor Cloths. Itemized for the Kitchen in their bill of July 18 were "45 5/9 yd. Linoleum" at $1.00 a yard and "7 6/9 yd. 6" Linoleum Border" at 25¢ a yard. W. & J. Sloane returned 10 years later to install new linoleum in the Kitchen, according to a bill of December 29, 1899. No remnants of either the 1889 or the 1899 linoleum survive today.

E.H. Harrison & Bro. submitted a bill dated August 7, 1900, for "tiling floor under sink...." This white-and-gray ceramic floor tile is still in the room, beneath the sink. It was listed in the 1931 residence appraisal as "24 sq. ft. 4" x 4" floor tile."

The 1889 linoleum flooring appears to have been replaced sometime before 1921. In the 1921 and 1924 furnishings appraisals, the Kitchen floor was described as having "45 sq. yds. interlocking linoleum." This is identical to the floors described in the Service Dining Room (Room 105) and the Laundry (Room 106), which are documented as having been installed by the Dreadnought

[105] "Alterations of House, Allen & Collens," Oct. 29, 1907.

Flooring Company in 1916. This flooring remained in the Kitchen through at least 1930, based on the furnishings appraisal of that date, which again listed "45 yards interlocking tiled linoleum." No other descriptions or photographic views of it are known.

In 1949, following the deaths of both Mr. and Mrs. Edison, the Kitchen flooring was replaced by Thomas A. Edison, Inc. According to purchase requisition no. 945601 dated February 10, 1949, the wood floor was sanded and sealed, felt was installed, and linoleum one-eighth of an inch thick was cemented to the felt. This same flooring is in the room today.

Walls

The Kitchen walls consist mostly of plaster. The south-wall chimney breast is brick, while a small section of the south wall east of the range is covered with vertical matched boards. All three materials are assumed to be original. The first-story plaster walls at Glenmont were generally described in the 1931 residence appraisal as being "3 coat hard finish plaster on wood lath."

Trimming the plaster walls are a baseboard, a wide chair rail, and a ceramic-tile wainscot at the north wall only. Both the baseboard and the chair rail are presumed to be original, and both are listed in the 1921 and 1924 residence appraisals. The tile wainscot was added in 1900, based on a bill from E.H. Harrison & Bro. for "tiling floor...and wainscoting around sink in kitchen."[106] This white ceramic tile was described in the 1921 and 1924 residence appraisals as "40 sq. ft. glazed wall tiling," and in the 1931 residence appraisal as "40 sq. ft. 4" x 6" tile wainscoting."

Ceiling

The ceiling in the Kitchen is assumed to be original to 1880-81, based on lack of evidence to the contrary. All of the first-story ceilings at Glenmont, including the Kitchen, were described in the 1931 residence appraisal as consisting of "3 coat hard finish plaster on wood lath and furring." The Kitchen's plaster ceiling is flat and unadorned.

Woodwork

American Architect and Building News in 1881 described the woodwork in Mr. Pedder's Kitchen as "finished in natural pine."

Doorways

The Kitchen has four doorways, one in each of the four walls. Of these, three are original and one was converted from a window.

The original doorways are those in the east, south, and north walls. All have molded architraves with butted joints and no corner blocks. The east doorway leads to the Service Hall (Room 117). It has a five-panel door hung with three decorative hinges. The door was described in the 1921 and 1924 residence appraisals as "1 5 panel s/s [single swing] doors [sic] frame, trim

[106] Bill from E.H. Harrison & Bro., Aug. 7, 1900. Edison NHS Archives.

and hardware," and in the 1931 residence appraisal as "1 Door, 3'0" x 7'6" x 2", 5 panels." Other door hardware includes a metal doorknob and a mortise lock.

The south doorway provides access to the Pantry (Room 108). Its door is glazed with a large panel of clear glass above two wood panels. The 1924 residence appraisal described the door as "1 1 Lt. 2 panel d/s [double swing] door, frame, trim and hardware." The 1931 residence appraisal listed "1 Door, 3'0' x 7'6" x 2", 2 panels, 1 light, double acting hinges." These "double acting hinges," which enable the door to swing in both directions, are first documented in 1890. Herts Brothers in a bill dated December 31, 1890, charged for "1 Pr. Double action spring hinge for door Butler's Pantry to Kitchen." The door is also equipped with a metal push plate.

The north doorway leads to the Refrigerator Room (Room 107a). Its glazed door resembles that of the south doorway. It was listed in the 1931 residence appraisal as "1 Door, 2'6" x 7'6" x 2", 2 panels, 1 light." The door hangs on three hinges cast with a decorative design. The doorknob is metal.

The west doorway was originally a window, according to the first-floor plan published in 1881. Physical evidence confirms this: the doorway's architrave has bull's-eye corner blocks similar the architraves of the two remaining original windows in the room. The window was most likely converted to a doorway at the same time the large west addition was built, which is believed to have occurred circa 1884. The door itself resembles the south and north doors, having a large pane of clear glass above two wood panels. The 1921 and 1924 residence appraisals described the door as a "1 Lt. 2 panel s/s [single swing] door...," and the 1931 residence appraisal listed "1 Door, 3'0" x 7'10" x 2", 2 panels, 1 light." Unlike the original hinges in the room, the two hinges on this later door are plain. The knob is metal with a mortise-type lock.

Windows

As stated in the preceding section, two of the Kitchen's three original windows survive today. Both have molded architraves with bull's-eye corner blocks and double-hung sashes.

The larger of the two windows (W-110) is at the north end of the west wall. Its sashes are double-hung, with 12 panes of glass each. The sashes appear to have existed in 1921, 1924, and 1931, when they were described by the residence appraisals as being "double hung with D/S (double strength) glass, 24 lights total." The 1931 residence appraisal also noted the dimensions of the window as measuring "3'10" x 6'6" x 1-5/8."

The smaller window (W-107) is on the east side of the north wall. The sashes are double-hung, with nine panes of glass each. These sashes probably existed in 1921, 1924, and 1931, when they were described by the residence appraisals as being "double hung with D/S (double strength) glass, 18 lights total." The dimensions were recorded by the 1931 residence appraisal as being "2'4" x 6'6" x 1-5/8"."

Kitchen Range

The Kitchen has one gas range today. This is a large one at the south wall, in front of the brick chimney breast—the historical location of the kitchen range. The range is a cast-iron "Vulcan" model that was installed in 1931.[107] A smaller, more modern gas range was removed from the west wall in 1993. It had a white-enameled finish and was made by the "Roberts and Mander Stove Company" of Hatboro, Pennsylvania. It was installed sometime between 1931 and 1960.[108]

The "Vulcan" range is the latest in a number of ranges located at the Kitchen's south wall. The earliest-documented range was a "#5 Grand Central Range," which was mentioned in maintenance-related bills submitted by stove dealers M. & T. Chalmers from 1891 through 1895.[109] Possibly the "Grand Central" was replaced by another model, based on a bill from Thomas A. Chalmers dated October 19, 1899, that listed "137 lbs castings #8 Magee range." Only five years later (November 1904), Chalmers Bros., Plumbers, Tin Roofers, Stove and Furnace Dealers, billed for a "#12 Perfect range and fitting, as per estimate $80."

All of these ranges were coal-fired, and appear to have been able to heat water by means of an internal "water back and boiler."[110] This system of heating water may have changed in 1917, when the first gas range was installed.[111] R.W. Kellow reported to Mrs. Edison in a letter dated November 14, 1917, that "the coal range removed from your residence at Llewellyn Park...has been disposed of." The new range was listed in the 1921 and 1924 residence appraisals as "1 'Reliable' cabinet gas range and smoke hood." Even more detailed was the residence appraisal of 1931 that described "1 Reliable gas range, grille top, 5 burners, 2 ovens, broiler, plate warmer and black iron hood, 3'0" x 8'0"."

While the "black iron hood" exists today, the 1917 range itself was replaced in May 1931 with the existing cast-iron "Vulcan" range, which was manufactured by the "Standard Gas

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[107] The "Vulcan" range is documented by a bill from Birkenmeier and Kuhn Company of Newark, NJ, dated May 2, 1931. Edison NHS Archives.

[108] The small range is not listed in the residence appraisal of Jan. 1931, but it is seen in a photograph of the room taken in Oct. 1960. Writing on the stove itself identifies it as a "Gas Range," model number "L-2," "Serial Number 52468." An attempt was made to date the stove more exactly by contacting the "Roberts and Mander Stove Company" in 1991, but no listing was found by telephone directory assistance in the Hatboro, PA, area. It is assumed that the company no longer exists under that name.

[109] The bills from M. & T. Chalmers are dated Dec. 1891, June 1892, June 1893, Jan. 1894, and Nov. 1895. Edison NHS Archives.

[110] Such equipment is referenced in plumbers' repair bills as late as 1914. Bills in the Edison NHS Archives dated June 1892, Nov. 1908, and May 1914 were for cleaning out the equipment, while bills dated Feb. 1903, Feb. and July 1907, and Jan. 1909 were for repairing leaks associated with the equipment. For more information, see the section on Kitchen plumbing.

[111] There are no references in the plumbers' bills to cleaning and repairing the kitchen range water back and boiler after May 1914. Edison NHS Archives.

Equipment Corp. New York, Chicago, Baltimore." Unlike the "Reliable" range, the present Vulcan range has four (versus six) burners. Patent dates cast in the metal include "May 3, 1917" and "May 29, 1917" on the oven doors, and "May 29, 1923" on the oven body.

Storage Cabinet

A large built-in storage cabinet sits against the east wall, south of the doorway to the Pantry. This appears to be an original feature, based on the first-floor plan published in 1881, which called it a "dresser." The lower part of the cabinet is composed of a set of drawers flanked by two sets of shelves, each set being covered by a pair of wood doors. The upper part of the cabinet features three sets of shelves covered by three pairs of glazed doors. The 1921 and 1924 residence appraisals listed the cabinet as a "wall buffet," and it was described by the 1931 residence appraisal as a "9 Lineal ft. pine dresser, 7'6" high."

Repairs to the cabinet were undertaken in April 1969, as recorded by NPS employee Bobby Flickinger:

> Kitchen cabinets are going very slowly - some doors need repair very badly - most of these are being done but not all. Work being done is only that which shows enough to impair repainting. One hinge had been replaced a few years back with a well undersized steel hinge. After finding this and noting the small size I tried to find another replacement of brass to match the originals, to no avail, so I made the replacement needed....

Shelves

Three small wood shelves resting on brackets are mounted to the west and east walls. The west wall has two of these shelves, one to the south of the doorway and one between the doorway and the window. These shelves were most likely extant by 1921, based on the residence appraisal for that year listing "2 Bracketed shelves."

The shelf at the north end of the east wall—which holds the telephone—was installed in 1949. It is documented by work order no. 39271 dated November 9, 1949, by Thomas A. Edison Industries as follows:

> Install shelf in kitchen for telephone with lip to prevent phone from sliding off. To be sufficiently large to hold instrument and pad.

Finishes

The evolution of the finishes in the Kitchen has been determined based on painters' bills in the Edison NHS Archives, and on the analysis of 23 paint samples removed in 1978 by Architectural Conservator Carole Perrault of the North Atlantic Historic Preservation Center (now the Building Conservation Branch, Cultural Resources Center). Since 1931, the room has been painted at least three times. Today, the walls, ceiling, and woodwork are all painted a light yellow color.

No documentary information is available on the original (1880-81) finishes of the Kitchen. However, later references to "refinishing woodwork" in 1897 and "varnishing woodwork" in 1899 indicate that the woodwork was originally unpainted. This is confirmed by a microscopic examination of the paint samples from the doors, windows, baseboard, chair rail, and east cabinet, which have a first brown resinous finish. The plaster walls and the matched-board paneling at the east end of the south wall, on the other hand, were originally painted with a lead-based paint. The color used was a white or light blue, based on the microscopic analysis.[112] The red-brick chimney breast was probably unpainted. Since the Kitchen walls would have become soiled quickly, it is likely that they were repainted once during the Pedders' ownership (1880-84). This second paint layer was a light yellow color and lead-based.

Thomas Edison purchased Glenmont in 1886, at which time the Kitchen may have been repainted.[113] Paint analysis indicates the color chosen for the walls was a yellow for this third painting of the room. Three years later, in his bill dated October 9, 1889, painter R.F. Birdsall charged for "Paint[ing] Kitchen," and "Paint[ing] and Lining Kitchen chimney." As before, the paint samples indicate the walls were painted yellow; the woodwork remained varnished. The chimney breast, on the other hand, may have been painted a red color, possibly to "clean up" the smoke-stained bricks. The notation of "lining" may have referred to the articulating the mortar joints with a contrasting paint color.

Three other painters' bills document work done in the Kitchen in the 19th century. In August 1896, William Canfield charged for "work[ing] around kitchen sink." A. Bode & Sons billed on May 24, 1897, for "painting walls and refinishing woodwork in kitchen." R.F. Birdsall worked in the Kitchen again in 1899, and billed on May 2 for "painting walls and varnishing woodwork." The paint analysis reveals that paint colors used on the walls about this time were shades of white and yellow. The woodwork was still varnished.

Not until 1902 was a change made in the Kitchen finishes. In April of that year, Herman L. Forster, Painter and Decorator, was paid for "painting woodwork, ceiling and walls in kitchen." Four months later, E.W. Peckham also did some painting in the Kitchen, according to his bill of August 14, 1902. The paint samples indicate the woodwork and chimney breast were painted white at this time; the walls appear to have been yellow or white, or a combination thereof. Painter John Voss was hired two years later (in May 1904) to "touch up [the] woodwork."

While the Kitchen woodwork and chimney continued to be painted white for many years, the walls were thereafter painted either yellow or occasionally white. One paint sample from the south wall also suggests that green may have been used for a short period. The painting firm first known as Smith & Co., and later as Smith & Blatherwick, is on record as having worked on the Kitchen from 1907 through 1912. In 1907, they gave the walls and ceiling two coats, and touched up and painted the woodwork. On May 1, 1909, they billed for "painting kitchen walls and ceiling, enamel woodwork." Unspecified repairs were made one year later. A general bill was submitted in April

[112] The early paint layers have blue pigment particles.

[113] No conclusive documentary evidence has been found for repainting the Kitchen in 1886.

1912 for painting the Kitchen. By 1921 and 1924, the residence appraisals listed "paint" but no varnish in the Kitchen.

Precisely when the Kitchen woodwork, walls, chimney breast, and ceiling began to be painted a monochromatic light yellow color is difficult to pinpoint. This may have commenced by 1931, although it may not have occurred until after 1931, when other rooms (such as the Dining Room) were being "unified" with one paint color. It is assumed that the repainting of the room in 1951 by Carl Gustafson reproduced the then-existing paint colors. Gustafson in his proposal of June 9, 1951, specified the following for the kitchen:

> Ceilings and walls to have all cracks cut out and replastered, all loose paint scraped off well, cracks and new plaster given one coat of plaster primer, one coat of undercoated [sic] and one coat of semi gloss enamel. Painted woodwork to be washed off, touched up, given one enamel undercoater and one coat of enamel.

That this work was actually done is confirmed by Thomas A. Edison, Inc., purchase requisition no. 355901 dated August 17, 1951. Paint analysis indicates the "undercoater" used was white and the final coat was light yellow. One nonhistoric detail added at this time appears to have been the red detailing on the doors of the east cabinet. The 1951 paint scheme is documented by a NPS black-and-white photograph dated October 21, 1960.

Less is known about the NPS contract to repaint the Kitchen in 1968. The contractor was Chiovarou and Son, and the contract was dated June 15, 1968. Paint analysis suggests that Chiovarou and Son simply repeated the existing Gustafson paint scheme, including the red highlights on the east cabinet.

Lighting System

There are three light fixtures in the Kitchen today. Of these, only the two ceiling fixtures existed in 1931. One is a cord-drop light at the range; the other is a glass-shaded light in the center of the room. A third modern-looking wall fixture is mounted to the north wall at the sink. All three light fixtures were rewired by the National Park Service in 1968.

No information is available on how the Kitchen was lighted originally in 1880-81. It is likely that gas fixtures were used, including a wall bracket and possibly a ceiling-hung fixture. A gas pipe is known to have been in the room at one time, based on the 1921 and 1924 residence appraisals, which listed a "combination" (gas and electric) fixture. Similarly, a "pendant" fixture described in 1927 may have been in the location of an earlier gas ceiling fixture.

Three light fixtures were described in the residence appraisals of 1921 and 1924. These included "1 1 Lt. cord drop, 1 2 Lt. combination bracket, [and] 1 2 Lt. pendant." As previously mentioned, the "combination" was a gas/electric wall fixture, and the "pendant" most likely a ceiling fixture. The "cord drop" still hangs from the ceiling today.

Locations of the light fixtures, along with their light bulbs, are documented by the "Recommendations for Lighting" report submitted to Mrs. Edison in February 1927. Both the

"stove fixture" (most likely the cord drop) and the "sink fixture" (most likely the combination bracket) had one light bulb, described as "1-40 watt A-21 Inside Frost MAZDA Lamp." The "2 Lt. pendant" had apparently been replaced by this time, since in its place was described a one-light "ceiling fixture," with "1-150 watt PS-25 clear MAZDA Lamp."

The "cord drop light" and the combination light were both still in place at the time of the 1931 residence appraisal. The combination light was then described as "1 Brass wall bracket, 1 light, 1 burner." The ceiling fixture that had replaced the pendant light before 1927 was then listed as "1 ceiling fixture and globe."

Today, both ceiling fixtures described in 1931 exist in the room. Missing is the old combination fixture at the sink, replaced by a modern two-bulb fixture sometime after January 1931.

Electrical Outlets

The room has three duplex outlets in the west wall. Of these, only one "wall receptacle" was recorded by the residence appraisal of 1931, suggesting that two of the outlets may have been installed sometime later. Kitchen appliances that would have used electrical outlets were listed in 1939 as being a "pancake griddle" and a "kitchen fan."[114]

All three receptacles existed by 1968, when they were rewired by the National Park Service.

Annunciator System

Existing Annunciator Board

An annunciator board is mounted to the west end of the north wall of the Kitchen. It is an electronic signaling device that summoned the service staff to various rooms of the house. Its components include signal buttons located throughout the house, and a bell, a signal board, and a reset button, all in the Kitchen. All parts of the Kitchen annunciator board survive, although it is not operational.

The annunciator was activated by pushing a button in one of the rooms of the house. (The buttons themselves are described for each individual room under the heading "Annunciator System.") The depressing of the signal button caused the bell in the Kitchen to ring. The bell was one of two mounted over the signal board. The board had a capacity of 25 room names (or "stations"), but only 19 were used. When the bell rang, a gold-painted arrow (or "drop") on the board would point to the appropriate room name. Once the signal had been noted by the staff, the arrow would be reset by pressing the reset button. This was mounted to the wall below the board in a decorative wood surround.

[114] The pancake griddle and the kitchen fan are both listed in the wooden fuse box dated 1939 in cellar room B-11. A fan also existed in the window as early as 1931, based on the residence appraisal for that year, which noted the Kitchen as having "1 Electric exhaust fan, 12" diameter window type." A large window fan is in the upper west window today, although it does not appear to be as old as 1931 or 1939. No other information is available on the "pancake griddle."

The annunciator's signal board is housed in a wood box, which has imprinted upon it in gold letters "Patrick, Carter, and Wilkins Co., Pat. Dec. 10 '89" and "George R. Boyce, Orange N.J."[115] The room names are arranged on the signal board as follows:

Third South Third Den Third Bath Third East Third North

Second South Mrs. Edison Sitting Room Second East Second North

Second West Second W. Bath Second Hall Reception Room Conservatory

Hall Library Dining Room Den

It is not known when this signal board was installed in the Kitchen. The patent date of December 10, 1889, indicates that it was installed sometime after that date. Furthermore, the "Third Bath" was not installed until 1905, the same year that bills began to be received from electrician George Boyce. The earliest probable date is therefore 1905. The signal board was definitely in place by 1912, according to a handwritten note in pencil on the back side of the case that reads as follows: Arthur Addison and Arthur Hashagon worked on this [illegible] Nov. 13 1912." The residence appraisals of 1921 and 1924 identified "3 Six [sic] station annunciators" as being in the house; one was most likely in the Kitchen. The 1931 residence appraisal was more specific, noting the following in the Kitchen: "1 Oak case annunciator, 20 drops, including push buttons and wiring."

As stated previously, two signal bells are mounted to the wall above the annunciator signal board. One is undoubtedly associated with the annunciator; the other may be the bell for the front or rear door. One of the bells is large, the other is small. The small bell is distinguished by the name "MARLO" on its front side.

Early Missing Annunciator

The existing Kitchen annunciator board appears to have replaced an earlier, smaller annunciator board. The latter may have been installed in 1889, judging by a letter to Charles Batchelor from Edwards & Co. dated September 14, 1889, as follows:

Bells

> Buttons in Billiard Room, Reception Room, Play Room, Sitting Room, 2d Hall, Sewing Room, Library, Main Chamber & Guest Room ring to annunciator in Kitchen.

[115] Boyce was an electrician who worked at Glenmont during the years 1905 through 1912 and 1914, according to bills in the Edison NHS Archives.

Telephone

A modern telephone sits on a shelf at the north end of the east wall. The shelf was installed for the telephone in 1949, as described in the previous section "Shelves." It is not known if the 1949 telephone was the first to be installed in the Kitchen.

A wall-mounted telephone, which had previously existed in the adjacent Service Hall (Room 117), was removed in 1919.[116]

Plumbing System

The Kitchen historically had a sink with running water. Hot water was obtained from a coal-fired range in the Kitchen at least until 1914, and perhaps until 1917. A sink exists in the room today; there are two ranges there, but neither are the early models with internal water-heating capabilities.

The sink is in the middle of the north wall, where one has been located since 1881.[117] The present sink was manufactured on June 18, 1940, by the "American Radiator and Standard Sanitary Corporation" of Louisville, Kentucky.[118] It was probably installed sometime shortly thereafter. The sink is a two-bowl model made of cast iron with a white enamel finish. The "Standard" faucet was installed by the National Park Service in 1961. The sink sits in a metal cabinet that has three doors and three drawers. The cabinet is presumably the same age as the sink. The sink's plumbing is connected directly to the West Orange public water supply and is under high pressure.[119]

As mentioned previously, the earliest documented reference to the Kitchen's sink is the first-floor plan dated 1881. A new sink appears to have been installed in 1891, based on a bill from M. & T. Chalmers, which included a charge of $22.00 for an "Earthenware Kitchen Sink." This was in turn replaced by Cahill & Mills, Practical Plumbers, Steam & Gas Fitters. Their bill, dated September 1, 1900, charged the following: "Putting in 1-Porcelain R.R. [rolled rim] Imperial Kitchen sink and moving pump and resetting same in cellar. Putting in Galv. [galvanized] vent pipe from kitchen sink to roof." Plumbers Milne & Platt connected the then-existing sink with a "new system of hot and cold water" in 1905.[120]

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[116] Thomas A. Edison, Inc., work order no. 5953, dated Oct. 28, 1919. Edison NHS Archives.

[117] A sink is shown in this location in a first-floor plan included in the 1881 article "House for Mr. Henry C. Pedder."

[118] The name of the company is cast into the bottom side of the right bowl, and the date is cast into the bottom side of the left bowl. The information on the left bowl reads as follows: "6 18 40 [and] P6585 72 x 25 Hostess."

[119] This work was done in 1963 under NPS purchase order EDIS 29-105.

[120] Milne & Platt's estimate is dated July 11, 1905, and their bill is dated Oct. 9, 1905. Edison NHS Archives.

The sink was listed by the residence appraisals of 1921 and 1924 as simply "1 Porcelain kitchen sink," while the 1931 residence appraisal described "1 Porcelain sink, 30" x 20", 2 pedestals, 2 nickel plated faucets, 2 oak side drains."

Mrs. Edison had the water source for the sink changed from the storage tank in the attic to the West Orange public water system around 1934.[121] Approximately six years later, circa 1940, the existing sink was installed in the Kitchen.

Hot water for kitchen use was obtained in the early years from a "water back and boiler" within the kitchen range. As stated previously in the section "Kitchen Range," the series of coal-fired stoves in use up to 1917 were able to generate hot water. It is not known if this hot water was used in the Kitchen exclusively, or also in other rooms of the house. The gas range installed in 1917 does not appear to have had water-heating capabilities, according to the appraisals. Hot water was probably obtained after that time from the hot-water heater located in cellar room B14.

Heating System

The Kitchen was historically heated by the coal-burning kitchen stove, and by one steam radiator that was part of the house's original steam-heating system. The Kitchen is heated today by hot air supplied through two floor registers installed in 1968.

Today there is a later steam radiator located beneath the west window. It is a 14-section model that was made by the "American Radiator and Standard Sanitary Corporation" of "Louisville, Kentucky." This radiator appears to have been installed sometime after January 1931, when the residence appraisal described the extant radiator as being "1 Radiator, 3 columns, 26", 12 sections, Kitchen." That the radiator is a later, rather than an earlier, one is also suggested by the manufacturer's name: the Standard and the American Radiator companies merged in 1928.[122]

A small amount of heat was probably also given off by an exposed radiator pipe in the northeast corner of the Kitchen. This pipe supplied heat to a second-story radiator in Room 209. The pipe most likely dates to 1909 when Room 209 was converted from a closet to a wash room.

The Kitchen radiator was disconnected and the exposed radiator pipe was made obsolete in 1968, when the new system of forced hot air was installed in the house. Two hot-air floor registers were installed at this time: one each beneath the north and west windows. A modern thermostat in the Kitchen also dates to this renovation; it is mounted to the west wall, south of the doorway.

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[121] This information was obtained in 1964 in an interview with the former gardener of the estate, C. Thore Hallstrom. [Ref., Melvin J. Weig, "Historic Structures Report - Part I, Building No. 17, Pump House, Edison NHS," Nov. 27, 1964, p. 3.]

[122] Archibald M. Maddock, II, *The Polished Earth: A History of the Pottery Plumbing Fixture Industry in the United States* (Trenton, NJ: privately printed, 1962).

Fire-Protection System

The room is protected today by one ionization smoke detector mounted to the ceiling. It was installed in 1978 as part of an integrated fire-protection system for the house.

Fire safety was also a concern during the Edison period, when the Kitchen was equipped with one Pyrene fire extinguisher and three fire pails. These were recorded by the furnishings appraisals of 1921, 1924, and 1930.

Security System

The early burglar-alarm system installed at Glenmont included connections at all of the windows in the Kitchen, according to a letter from Edwards & Co. to Charles Batchelor dated September 14, 1889. It is not known how long this system remained in effect.



Figure 84. Kitchen (Room 107), looking southeast, 1960.

Refrigerator Room (Room 107a)

General Information

The Refrigerator Room is a small room off the Kitchen, on the north side of the house. Its dimensions were recorded by the 1931 residence appraisal as being 6 feet by 10 feet.

This room was constructed as part of the original house in 1880-81. It is shown on a first-floor plan of the house published in *American Architect and Building News* in August 1881. The room was then labeled the "Pantry," and was shown as having a large built-in "Refrigerator" on its east side. One window is shown in the north wall, and one interior doorway is shown in the south wall. The room today is unchanged from this early configuration.[123]

The use of the term "refrigerator," even though the unit was cooled with ice, reflects the fact that "almost without exception, the manufacturers of the earliest ice-cooled chests and boxes referred to their products as 'refrigerators.'"[124] Thus, the name "Refrigerator Room" was used throughout the Edison years. This is documented by one estimate and one bill dated 1907, and by the three residence appraisals dated 1921, 1924, and 1931.[125] The room also appears to have been used as a storage area for unrefrigerated foods.

The room is occasionally interpreted to visitors for special "behind-the-scenes" tours.

Floor

The floor is covered with a gold-color sheet linoleum. This linoleum was installed in both the Refrigerator Room and the Kitchen by Thomas A. Edison, Inc., in 1949. Original floorboards presumably exist beneath the linoleum. The floor beneath the built-in refrigerator was repaired in October 1922, when the old refrigerator was removed and the floor was found to be "in bad shape."[126]

Little documentation exists about the floor materials prior to 1949. It is possible that the floor of the Refrigerator Room was always finished in a manner similar to the adjacent Kitchen. If this were the case, the floor was covered with linoleum as early as 1889, and with an interlocking

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[123] A proposal by Boston architects Allen & Collens in 1907, to combine the Kitchen and Refrigerator Room into one large "Servant's Hall," was never carried out. [Ref., "Alterations of House, Allen & Collens," Oct. 29, 1907.]

[124] "Mailbox," *Old-House Journal*, May/June 1995, p. 10.

[125] Estimate from Smith & Co., Painters, Mar. 2, 1907; bill from Adolph Vogel, Carpenter, July 9, 1907. The appraisals were made by The Atlantic Appraisals Company.

[126] John V. Miller, "Miscellaneous Note Book No. 4 (22-09-21)," entry for Oct. 30, 1922. Edison NHS Archives.

linoleum being used from circa 1916 to 1949.[127] For more details, see the description of the floor in the Kitchen (Room 107).

Walls

The north, south, and west walls consist of plaster that presumably dates to 1880-81; the entire east wall is taken up by the built-in refrigerator. Repairs were made to the plaster walls in 1922, when the north window was enlarged and a new built-in refrigerator was installed.[128] The first-story plaster walls at Glenmont were generally described in the 1931 residence appraisal as being "3 coat hard finish plaster on wood lath." The lower walls are trimmed with a baseboard, described in the 1931 residence appraisal as measuring "25 Lineal ft." It is similar in style to the Kitchen baseboard.

Ceiling

The ceiling is covered with acoustical ceiling tiles of unknown date. The original ceiling was presumably plaster, similar to the walls. It is not known whether or not the plaster survives beneath the later ceiling tiles.

Doorway

The room has one doorway, at the west end of the south wall. The doorway connects the Refrigerator Room with the adjacent Kitchen to the south. The opening existed in 1881, according to the first-floor plan published that year in *American Architect and Building News*. The architrave is similar in style to the original doorway architraves in the Kitchen. The door itself also presumably dates to 1881. It has three decorative cast hinges, and was described in the 1931 residence appraisal as "1 Door, 2'6" x 7'6" x 2", 2 panels, 1 light."

Window

One large window (W-109) provides natural light to the room. This window is in the north wall, opposite the doorway. The window sashes are double-hung, with 12 panes of glass each. The 1931 residence appraisal described "1 Double hung window, 3'0" x 6'0" x 2", 24 lights."

A window existed in this location as early as 1881, according to the first-floor plan published that year in *American Architect and Building News*. This window, however, was different in appearance than the window that exists today. An exterior photograph dated circa 1884-90 (figs. 6-7) shows a shorter window opening and a single sash fitted with smaller panes of glass. Furthermore, the sash appears to have been either fixed or a casement style.

[127] The bill from W. & J. Sloane dated Dec. 29, 1899, refers to installing linoleum in the "Kitchen & Closet off Kitchen." The "closet" may have been the Refrigerator Room.

[128] John V. Miller, "Miscellaneous Note Book No. 4 (22-09-21)," entry for Nov. 4, 1922. Edison NHS Archives.

The window opening was most likely enlarged to its present size in 1922, at the time a new refrigerator was installed in the room. John Miller made the following entry in his notebook for October 20, 1922:

> House-Refri. Conf. w/ Mrs. Edison, Struck & Thatcher re cutting windows etc. Will start on Monday. Make one window about 3' wide—opposite door. Trim around window same as laundry—[129]

The double-hung sashes were presumably also installed at this time.

Refrigerator

The Refrigerator Room today has one large built-in Lorrilard icebox that dates to 1922. A large built-in icebox has been at the east end of the room ever since the room was originally built in 1880-81. A "Refrigerator" is shown here in the first-floor plan published in *American Architect and Building News* in 1881. Ice was delivered to the house's Kitchen Entrance (Room 121), and was loaded through a door in the south wall of that space into the rear of the refrigerator. This ice door is clearly shown on the first-floor plan of 1881. The Edisons' household accounts for 1887 through 1901 indicate that regular deliveries of ice were made to Glenmont in those years.[130] The refrigerator continued to be supplied with ice through at least 1922, although the delivery records are less detailed for the years after 1901.

The Edisons had installed an electric refrigerator in the Pantry (Room 108) in 1907. It appears that a "refrigerator machine" was also contemplated for the Refrigerator Room (Room 107a) in 1922. This was documented in a letter to Johns-Manville, Inc., dated October 20, 1922:

> We thank you for yours of the 11th. The matter of installing a refrigerator machine was abandoned and the Lorrilard people were given an order to install an ice box, which work is under way.

The details of selecting and installing the new "ice box" are described in John Miller's notebook for 1922.[131] "Openings" had been made and the "brick wall torn out" by October 24. The old refrigerator was removed on the 30th, at which time it was found that the floor underneath was in bad shape and a family of rats had taken up residence. Repairs were summarily made, and

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[129] John V. Miller, "Miscellaneous Note Book No. 4 (22-09-21)," entry for Oct. 20, 1922. Edison NHS Archives.

[130] M. Soverel's Sons brought "Springdale Lake Ice" from 1887 through 1890; The Orange Distilled Water Ice Company delivered from 1891 through 1894; and James Maguire, "Dealer in Ice," made deliveries from 1894 through 1901.

[131] John V. Miller took copious notes on the different types of refrigerators that were available at that time, and recorded them on Aug. 28, 1922, in "Miscellaneous Note Book No. 3 (22-05-23)." Edison NHS Archives.

the new Lorrilard "ice box" was in place by November 4. It remains in place today. Other work done in the room at that time included enlarging the window, plastering, and painting.[132]

The following year, in 1923, a "platform" was built and a "Corbin trolley for ice box" was installed at the house.[133] Neither remains today, so we can only guess that the platform and trolley were used to facilitate the delivery of ice to the refrigerator.

Shelves and Barrels

Storage shelves are mounted to the west and north walls of the room, and two barrels are permanently installed at the west wall.

Little documentation exists for these features, except for the marble shelf at the west wall. This shelf is deep and wide, taking up the entire west wall. It was described in the residence appraisals of 1921, 1924, and 1931, in which it was inaccurately noted as being in the "Kitchen." The 1921 and 1924 appraisals recorded "1 Marble wall shelf, bracketed," and the 1931 appraisal listed "24 Sq. ft. 1-1/2" marble shelf." It is not known when this shelf was installed. It was probably used as a kneading board.

A wood shelf is above the marble shelf on the west wall. The shelf continues onto the north wall, west of the window. It is shallower than the marble shelf, and is supported on wood brackets. Its date of installation is also not known.

There is also physical evidence for a missing shelf beneath the marble shelf. All that remains of the shelf today is its wood bracket. Two wood barrels replaced the shelf at an unknown date. These barrels are permanently mounted to iron supports that are hinged to swing outward. This enabled access to the barrels that were otherwise blocked by the marble shelf. It is likely that the missing shelf, and later the barrels, held flour and sugar for use on the marble kneading shelf. The age of the barrels is not known.

Still another wood shelf is beneath the window at the north wall. This shelf is hinged to hang flat against the wall when not in use. It may have been installed in 1922, when the window opening was lengthened to its present size.

Finishes

The entire room is painted a cream color today. This includes the plaster walls, the tiled ceiling, the woodwork, and the built-in refrigerator. Red paint trims the edge of the upper wood shelf at the west and north walls. No microscopic paint analysis was undertaken.

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[132] John V. Miller, "Miscellaneous Note Book No. 4 (22-09-21)." The entries pertaining to the refrigerator are dated Oct. 20, 24-25, and 30, and Nov. 3-4, 1922. Edison NHS Archives.

[133] Thomas A. Edison, Private Bill Book for Jan. through July 1923, entries for Apr. 30 and May 31. Edison NHS Archives.

Very little is known about the history of the room's painted finishes. It is possible that the Refrigerator Room was painted at the same time as the Kitchen, but not itemized separately. If this were the case, the walls were probably painted and the woodwork was varnished originally; the woodwork would have been painted for the first time in 1902.

Four documents do, however, specifically mention the finishes in the Refrigerator Room. One is an estimate dated February 2, 1907, from Smith & Co. for painting the walls and ceiling with two coats of paint, and touching up the woodwork with one coat of paint. The second is a bill from Smith & Blatherwick dated May 1, 1909, for painting the Kitchen walls and ceiling and "touching up" the refrigerator. The third is a note in John Miller's notebook for 1922, saying that delivery of the new Lorrilard refrigerator was delayed because its "enamel" finish needed time to dry. The entire room was also probably painted at this time, following the enlargement of the window opening and repairs to the plaster wall. Finally, a bill from Carl Gustafson dated August 17, 1951, exists for painting several rooms including the Kitchen and Refrigerator Room. The Kitchen quarters were to have a semigloss enamel applied to the walls and ceilings, and an enamel used on the woodwork. This is the last documented painting of the room.

Lighting System

The room has one light fixture, mounted to the south wall east of the doorway. It is a combination gas/electric fixture of a simple design, fitted with a single bare light bulb. The light is activated by a swivel switch at the fixture. While it is not known when this fixture was installed, it was probably sometime after the house was electrified in 1887.

The light fixture is documented by two sources: one dated 1927, the other 1931. The Edison Lamp Works recommended using "1- 40 watt A-21 Inside Frost Mazda Lamp" in the "Kitchen Pantry Fixture" in a letter to Mrs. Edison dated February 14, 1927. The residence appraisal of 1931 described the fixture itself as "1 Brass wall bracket, 1 light 1 burner."

The existing light fixture was rewired by the National Park Service in 1968.

Electrical Outlets

One duplex receptacle outlet is in the baseboard of the south wall, east of the doorway. An outlet existed here in 1968, at which time it was rewired and replaced with a modern grounded outlet. The outlet is used today to power the modern electric refrigerator.

No documentation exists on the original date of the electrical outlet. No outlet is listed for this room in the residence appraisal of 1931, suggesting that it may have been installed sometime after that date.

Plumbing System

There are no plumbing fixtures per se in this room. The built-in refrigerator, however, was outfitted with a pipe to drain water produced by the melting ice. It is assumed that both the original refrigerator and its 1922 replacement had such a drain. The drain presumably survives today in the existing 1922 Lorrilard refrigerator. Where the water drained to is not known. It may have been channeled to the cisterns where it could be reused, or it may have been disposed of in the cesspool/sewer.

Heating System

No source of heat exists in this room. There is, however, an exposed steam pipe for the radiator in the room above—Room 210. This silver-painted pipe is at the south wall, east of the doorway. The pipe is no longer operational, having been made obsolete by the installation of a forced hot-air heating system in 1968.

Fire-Protection System

One ionization smoke detector manufactured by Pyrotronics is mounted to the ceiling. It was installed by the National Park Service in 1978.

No fire-protection equipment appears to have been in this room during the Edison years. The nearest equipment was in the Kitchen, where the furnishings appraisals of 1921, 1924, and 1930 recorded one fire extinguisher and three fire pails.

Security System

The Refrigerator Room window may have been connected to the burglar-alarm system installed at Glenmont in 1889. Installers Edwards & Co. noted in their letter to Charles Batchelor dated September 14, 1889, that "all windows in Kitchen" were connected to the system. Also connected were "all doors to box" of the "Refrigerator." This presumably referred to both the exterior ice door and the interior doors of the refrigerator. The system was probably no longer in use by 1922, when the window was enlarged and the old refrigerator was replaced by the present Lorrilard refrigerator. No part of the early burglar-alarm system survives in the room today.

Pantry (Room 108)

General Information

The Pantry is a long, narrow room between the Kitchen (Room 107) and the Dining Room (Room 115). Its dimensions were recorded by the residence appraisal of January 1931 as being 10 feet by 28 feet.

This room has been known by two names over the years: the "Butler's Pantry" and the "Pantry." Historical documents from the Pedders' occupancy of the house (1881-84) all label the room the "Butler's Pantry." Both names were used during the Edison years, with "Butler's Pantry" found most frequently in documents dating from the 19th century, and "Pantry" favored in the 20th-century documents. These documents include inventories, architectural drawings, contractors' estimates and bills, correspondence, and residence and furnishings appraisals.[134] The 1931 residence appraisal called it the "Pantry."

The Pantry was used by the household staff to serve meals to the resident family and guests. The Pantry's cabinets stored the dishes, glassware, and eating utensils that were used to set the Dining Room table. The Pantry also functioned as a passageway through which the staff had to pass when delivering the food from the Kitchen to the Dining Room. Finally, when the meal was completed, dirty dishes were removed to the Pantry, where they were washed, dried, and put away.

The Pantry is little changed today from its appearance during the Edison period. It is much changed, however, from its configuration as first built in 1880-81. The original pantry is documented by the first-floor plan of the house published in *American Architect and Building News* in August 1881. This shows a smaller room than exists today, labeled as the "Butler's Pantry." The west wall of the room was an exterior wall, on the east side of the present sink and in line with the west wall of the Kitchen. Most of the east side of the room was partitioned off and labeled as a "Store Rm," which was accessible from the Pantry. In the northeast corner of the room was a "CL," or closet, which was accessible only from the Service Hall (Room 117). The Pantry itself is shown as having two doorways in the same locations as today, and one window in what was then the west exterior wall. One "Dresser" was at the west wall and another was at the south wall, west of the Dining Room doorway. A sink is also shown at the north wall, east of the Kitchen doorway. Its counter occupied what was then the northeast corner of the room.

The room is believed to have been enlarged in late 1883 or early 1884 for original owners Henry and Louisa Pedder. An addition is shown in an undated floor plan entitled "Plan of First Story—H.C. Pedder Esq., Orange N.J."[135] The plan shows the "Butler's Pantry" as having a new bay window in the west wall. That the work was actually done is confirmed by existing conditions today, and by a bill from Pottier & Stymus dated February 8, 1884. The bill was primarily for the Parlor, but also included a "leather border and gilt nails" for the pantry shelves. Architect Henry

[134] Even though the room was called the "Butler's Pantry," it was more likely used by the waitress rather than the butler during the Edison years. A "waitress" was on the Edisons' staff from 1889 to 1931, while a "butler" is not mentioned until 1904. [Ref., Burt and Herron, "Historic Furnishings Report" [draft], p. 16.]

[135] Catalog number 114,425. Edison NHS Archives.

Hudson Holly later noted in a letter dated June 12, 1885, that the cost of several additions, including the enlargement of the "Butler's pantry," had been $20,000.[136]

No other details are available about the work that was actually done circa 1883-84. However, the following suppositions have been made based on the surviving historical features of the room. The original west exterior wall was removed, as was the original interior wall for the east-end storeroom. (Because both were structural bearing walls, beams were installed in the ceiling at these locations and finished with wood paneling.) The room was extended approximately 6 feet to the west. A new west exterior wall was constructed, consisting of a deep bay window. A new interior wall was built across the west end of the room. This formed the west wall of the pantry, with the space beyond becoming a new storeroom (now the Pantry Closet, Room 111). A new window was installed at the west end of the north wall of the pantry—part of the new addition. The old "dresser" may have been discarded and replaced by the existing storage cupboards and cabinets. Finally, the sink appears to have been moved from its original location on the east side of the room to its present location in the northwest corner.

The Edisons considered making changes to the Pantry and the adjacent Dining Room in 1929. A preliminary floor plan for these changes was transmitted to Mrs. Edison by architect Wilbur Knowles in a letter dated December 31, 1929. This plan shows the pantry altered by building a "vault" at its east end and by removing the west interior wall. The work, however, was never done.

The Pantry continues to be used today for storing Edison dishware, utensils, and other items. It is occasionally interpreted to visitors during special "behind-the-scenes" tours.

Floor

The floor is covered by a beige-colored sheet linoleum with pink and brown splotches. The same flooring also exists in the adjacent room to the west, the Pantry Closet (Room 111). This may be the "inlaid linoleum" that was installed in "two pantries," according to a voucher of Thomas A. Edison, Inc., dated April 1955.[137]

The earliest documentation of the floor is a bill from W. & J. Sloane dated July 18, 1889, for linoleum and a 6-inch border installed in the "Kitchen, Hall & two pantries." W. & J. Sloane returned 10 years later to install "100 1/9 yds Linoleum" in several rooms, including the "Butler's Pantry," according to their bill of December 29, 1899. An "interlocking linoleum" may have been installed in the room in 1916. Such a flooring was recorded by the furnishings appraisals of 1921, 1924, and 1930, which all recorded the pantry as having "30 sq. yds. interlocking linoleum." A material fitting this description survives today in the Service Dining Room (Room 105). It was installed there and in the Laundry (Room 106) in 1916, based on a bill from the Interlocked Sectional Flooring Company. Unfortunately, no similar record of installation has been found for the Pantry.

[136] Letter from Henry Hudson Holly to J. Asch, June 12, 1885. The letter recounts the total cost of the Pedder estate. Edison NHS Archives.

[137] Shaw, "Progress Data," p. 48.

The wood floorboards beneath the linoleum date from two periods of construction: 1880-81 and circa 1883-84. The original floorboards comprise the east two-thirds of the room, and the later floorboards make up the west third of the room. All the floorboards were described in the residence appraisals of 1921, 1924, and 1931 as being "308 Sq. Ft. North Carolina pine T & G [tongue-and-groove] flooring."

Walls

The walls date from two periods of construction: 1880-81 and 1883-84. The original walls include the entire south wall, the north wall east of the sink, and the north side of the east wall. Constructed circa 1883-84 were the north wall in the vicinity of the sink and the west interior wall.

The locations of two original (1880-81) walls that are missing today are preserved at the ceiling. The former west exterior wall is defined by a wide wood-paneled ceiling beam on the west side of the room. This wall was removed circa 1883-84 when the Pantry was enlarged to the west. The former interior wall for the original storeroom is defined by a narrow wood-paneled ceiling beam on the east side of the room. This wall is believed to have been removed circa 1883-84 when the pantry was enlarged.

Most of the wall surfaces in the room are covered by built-in cabinets installed circa 1883-84. Where the walls are exposed, they are finished with two materials: plaster and matched-board paneling. The plaster is assumed to have been applied at the same time that the walls were built, in 1880-81 and circa 1883-84. The 1931 residence appraisal described all of the plaster walls in the first story of the house as being "3 coat hard finish plaster on wood lath."

Matched-board paneling finishes the lower west wall next to the sink, and the north side of the east wall (the back side of the former dumbwaiter shaft). The date of this paneling is not known. The lower west wall appears to have been installed sometime after circa 1884, based on the presence of painted plaster beneath the paneling. This painted plaster is visible where a small section of the paneling is missing today. The paneling at the east wall may be as early as circa 1883-84, when the room was remodeled, or as late as 1968, when work was done in this area on the new heating system.

Wood baseboards trim the base of the plaster walls and the built-in cabinets. The baseboards were described by the 1921 and 1924 residence appraisals as being "56 Lineal feet base, moulding and floor member." A shorter amount was recorded by the 1931 residence appraisal, which listed only "43 Lineal ft. baseboard." No reason is known for the discrepancy.

Ceiling

The ceiling dates from two periods of construction: 1880-81 and circa 1883-84. The original ceiling comprises the east two-thirds of the room, while the later ceiling makes up the west third of the room. Separating the two areas is a wide wood-paneled ceiling beam in the location of the original west exterior wall that was removed circa 1883-84. A narrower wood-paneled ceiling beam on the east side of the room defines the location of an original interior wall that was also removed circa 1883-84.

One specific reference to the ceiling has been found in the historical records. This is a bill dated November 2, 1896, from Mason Charles Dodd for "Repairing ceiling of Butler's Pantry." No details of the work are known.

The ceiling is finished today with two materials: plaster and modern plasterboard. Dividing the two materials is the narrow wood-paneled ceiling beam on the east side of the room. Plaster is on the west side of the beam, while plasterboard is on the east side. It is not known if earlier plaster survives beneath the modern plasterboard.

The first-story plaster ceilings were described by the 1931 residence appraisal as being "3 coat hard finish plaster on wood lath and furring." No similar descriptions exist of the plasterboard, suggesting that it is later than 1931. Two probable dates for the plasterboard are 1968, when work was done on the modern heating system, or 1978, when the existing ceiling smoke detector was installed.

Woodwork

No documentation has been found on the type of wood that was used in the Pantry. The original wood installed in 1880-81 was likely the same "natural pine" that was used in the Kitchen. Pine was probably also the material of choice for the work that was done circa 1883-84.

Doorways

The room has three doorways: one in the north wall, one in the south wall, and one in the west wall. The north and south doorways are original to 1880-81, while the west doorway most likely dates to circa 1883-84 when the west interior wall was built. The molded architraves of all three doorways are virtually identical in design, despite their different construction dates.

The north doorway connects with the Kitchen (Room 107). It has a wood door with one large pane of glass above two wood panels, and two double-acting hinges that enable the door to swing in both directions. The earliest documentary reference to these hinges is a bill from Herts Brothers dated December 31, 1890, for "1 pr. Double action spring hinge for door Butler's Pantry to Kitchen." Carpenter Adolph Vogel later billed the Edisons on January 27, 1910, for "1 Pr. 10" #145 B. Brass Dbl Action Door Hinges (for Pantry Door)." The doorway was listed as being part of the "Kitchen" in the 1924 residence appraisal, with "1 1 Lt. 2 panel d/s [double swing] door, frame, trim and hardware." The 1931 residence appraisal listed the doorway in the "Pantry," describing "1 Door, 3'0" x 7'6" x 2", 2 panels, 1 light, double acting hinges."

The south doorway leads to the Dining Room (Room 115). It has a wood door with six panels and two double-acting hinges. Work was done in the Dining Room and on its door to the Pantry in 1902, according to a bill from A.H. Davenport Co. dated December 31, 1902. This work included "changing pantry door to swing the other way" and a "push plate for pantry door." The double-acting hinges may also have been installed at this time. Carpenter Adolph Vogel recorded "1 pr. Polished Brass Bommer Spring Dbl. Ac. hinges" on December 24, 1902, for which he billed the Edisons in June 1903. The 1921 appraisal was therefore most likely in error when it described the doorway as having "1 6-panel single swing door, frame, trim and hardware." A more accurate

appraisal was made in 1924, when the door was recorded as being "double swing." The 1931 residence appraisal did not mention the hinges, but did provide the following dimensions: "1 Door, 2'10" x 7'6" x 1 3/4", 6 panels." All three appraisals listed the doorway as being part of the "Dining Room" rather than the "Pantry."

The west doorway is the entrance to the Pantry Closet (Room 111). It features a single-pane transom. The door itself is missing, although physical evidence of it survives in the form of mortises for two hinges and a latch. The two hinge mortises are on the east side of the north jamb, indicating that the door swung inward into the Pantry. It is not known when the door was removed. It is obvious that the reason for removing the door was to make room for the present large sink of unknown date. The door appears to have been missing by January 1931, when the residence appraisal described the doorway as "1 Cased opening, 2'8" x 7'6" with 1'8" transom, 1 light." The doorway was then listed under the "Pantry Closet." No mention of the doorway is found in the earlier residence appraisals of 1921 and 1924.

Windows

One window (W-111), at the west end of the north wall, is the Pantry's only source of natural light. This is an interior window overlooking the Laboratory Entrance (Room 109). The window is situated in the portion of the north wall that was built circa 1883-84, and is believed to have been installed at that time. The window has one-over-one, double-hung sashes.

The Pantry's existing window was described by the residence appraisals of 1921, 1924, and 1931. The 1921 and 1924 appraisals both listed "1 2 light plate glass double hung sash, frame, trim and hardware." The 1931 appraisal recorded "1 Double hung window, 3'10" x 6'6" x 2", 2 lights."

Nothing remains of the room's original (1880-81) window. It had been located in the now-missing exterior west wall, according to the first-floor plan of the house published in 1881. The window and its wall were both removed circa 1883-84.

Cabinets

Five built-in wood cabinets provide storage space in the Pantry. One cabinet is at the north wall, one is at the east wall, and three are at the south wall. All of the cabinets are believed to have been built circa 1883-84 when the room was last remodeled.

Nothing is believed to remain of the room's original large "Dresser." The dresser occupied two walls: the now-missing west exterior wall, and the south wall west of the Dining Room doorway.[138] The dresser may have been removed circa 1883-84 when the west wall was demolished to make way for the Pantry's west addition.

[138] The "Dresser" is shown in a first-floor plan included in the 1881 article "House for Mr. Henry C. Pedder."

The only documentation of the existing cabinets is a bill from Pottier & Stymus dated February 8, 1884, for a "Leather border & gilt nails & putting on same for shelves in Butlers Pantry." Some physical evidence of this treatment survives on the shelves today.[139]

Descriptions of the cabinets were made for the residence appraisals of 1921, 1924, and 1931. The 1921 appraisal listed the Pantry as having "Wall buffets, cupboards, china and crystal closets, with paneled doors, sash doors, cupboard and drawer base, shelving, etc." The 1924 appraisal provided the same description, adding that the assemblage measured "33 Lin. ft. [lineal feet]."

The 1931 residence appraisal differed from the two earlier appraisals by describing each cabinet individually. Comparison of the appraisal with the existing cabinets indicates that the appraiser started at the north wall and proceeded in a clockwise direction. Knowing this, it is possible to match each description with its individual cabinet as follows:

north wall, east side "1 Special pine dresser, 9'0" x 1'6" x 8'0", 4 panel doors, 3 drawers"

east wall "1 Recess cabinet, 4'0" x 11'0" x 2'0", 3 pair of paneled doors"

south wall, east side "1 Special pine glass cupboard, 6'0" x 11'0" x 1'6", glazed and paneled doors"

south wall, middle "1 Special pine glass cupboard, 4'10" x 11'0" x 2'0", glazed and paneled doors"

south wall, west side "1 Special pine dresser, 6'0" x 11'0", cabinet base, 2 shelves, cupboard top, marble back"

The cabinets appear to be unchanged today from their 1931 descriptions.

Towel Bar and Rack

The Pantry is equipped with a wood towel bar and towel rack. The stationary towel bar is mounted to the west wall, south of the doorway. The towel rack has three hinged arms and is mounted to the west side of the architrave of the north doorway. Both are shown in a photograph of the Pantry dated October 21, 1960.

No records have been found on the installation of the towel bar and rack. It is known, however, that a similar-style towel rack was available in the Sears, Roebuck catalog of 1902, which advertised it as a "Folding Towel Rack." The same rack was also listed in the Montgomery Ward catalog for 1918.

Finishes

Few changes appear to have been made to the finishes of the Pantry since its last remodeling circa 1883-84. Today, the plaster walls and ceiling are painted a cream color, and the woodwork

[139] Burt and Herron, "Historic Furnishings Report" [draft].

has a resinous finish similar to a varnish. The last documented work in the room was in 1951, when the walls were painted and the woodwork was varnished. The condition of the painted surfaces is poor, with paint peeling from both the walls and the ceiling. No microscopic paint analysis has been done to determine previous paint colors.

Some documentation exists on painting the Pantry. Painters A. Bode & Sons billed the Edisons on May 8, 1897, for work that included "Painting walls...in But. Pantry." Five years later, on August 14, 1902, painter E.W. Peckham billed for "Painting Kitchen, Pantry, etc." Smith & Co., Painters, Paper Hangers and Decorators, submitted an estimate on February 2, 1907, that included "paint[ing] walls and ceiling in Pantry," but there is no indication that the work was actually done. The ceiling only was painted two coats in 1910, according to Smith & Blatherwick's bill dated May 2. "Paint" was noted to be one of the finishes in the Pantry in the residence appraisals dated 1921 and 1924. The pantry ceiling was painted again in 1934, according to a telegram to Mrs. Edison from John Miller dated April 10, 1934. Finally, Carl Gustafson was hired in 1951 to prepare and paint the walls and ceiling with one coat of primer and one coat of a semigloss enamel.[140] Nowhere in any of the painting records is there mention of a paint color.

The Pantry woodwork has been varnished several times, according to the documentation. Painter R.F. Birdsall's bill of October 9, 1889, included "varnishing woodwork Butlers Pantry." A. Bode & Sons charged the Edisons for "refinishing woodwork in...But. Pantry" on May 8, 1897. A.H. Davenport Co. refinished the Dining Room door when the swing of the door was reversed in 1902 (bill dated December 31, 1902). The Pantry woodwork was "cleaned with oil" by Smith & Co., who billed the Edisons on February 2, 1907. "Stain and varnish" were both noted as being a finish in the Pantry in the residence appraisals of 1921 and 1924. The last recorded work was done in 1951 by Carl Gustafson, who washed off, touched up, and applied one coat of varnish to the woodwork.

Lighting System

The Pantry has two working electric light fixtures, and physical remnants of two earlier fixtures. Of the existing lights, one is a ceiling fixture and one is a wall fixture. Both appear to have been in the room by 1927; their exact date of installation is not known.

The ceiling fixture has one light. It is operated by a push-button switch at the north wall, east of the doorway. The type of light bulb recommended for use in this fixture was a "1- 150 watt PS-25 Clear MAZDA Lamp" in a "Lighting Recommendations" report submitted to Mrs. Edison on February 14, 1927.[141] The 1931 residence appraisal described the light as "1 Ceiling fixture and globe," and its switch as "1 Switch." The fixture was rewired, and an existing switch was replaced by the present switch, in 1968.

[140] Thomas A. Edison, Inc., requisition no. 35590, dated Aug. 17, 1951, and Gustafson's proposal dated June 9, 1951. Edison NHS Archives.

[141] The report was prepared by the "Edison Lamp Works." Edison NHS Archives.

The wall fixture also has one light. It is mounted next to the sink, on the west wall in the northwest corner. It is operated by a swivel switch at the fixture. The 1927 "Lighting Recommendations" report suggested using "1-40 watt A-21 Inside Frost MAZDA Lamp." The light was described by the 1931 residence appraisal as "1 Enameled wall bracket, 1 light." New wiring was installed in 1968.

A base cap for a second ceiling light survives at the east end of the room. This fixture was probably disconnected by 1931, because only one "ceiling fixture" is listed in the residence appraisal for that year.

The base plate for an early gas light fixture is on the west wall, south of the doorway. This fixture may have been installed as early as circa 1883-84, when the west wall was built. It was described in the 1931 residence appraisal as "1 Gas wall bracket."[142]

Electrical Outlets

The Pantry has no electrical outlets, nor any physical or documentary evidence of earlier electrical outlets.

Plumbing System

The Pantry has a sink mounted to the west end of the north wall of the room. It consists of a stainless-steel type of material, with two bowls, a back splash on the back and west sides, and a large drain board on the east side. There are two faucet heads, each engraved with the words "RE-NU STANDARD." The sink is open underneath, with no cabinet or other enclosure. This is because the room's radiator is located here. The date of this sink is not known; the documentation suggests that it may have been installed sometime between 1924 and 1931. The plumbing is connected directly to the West Orange public water supply, and is under high pressure.[143]

No physical evidence remains of the Pantry's original sink. This sink had been located at the north wall, between the Kitchen doorway and the Pantry's original "Store Rm." The sink and its counter were illustrated in the first-floor plan of the house that was published in *American Architect and Building News* in 1881. The sink is believed to have been moved to its present location circa 1883-84, when the room was enlarged. A large cabinet exists today in the former location of the sink.

The documentation indicates that the relocated sink was replaced three or more times during the Edison years. Plumbers M. & T. Chalmers billed the Edisons in December 1891 for "Butler's Pantry Copper sink & fitting" ($46.00), and for "1 Pair Extra NP [nickel plated] Standards for sink" ($7.00). A price of $15.00 was charged by plumbers Cahill & Mills for "New Copper Butler's pantry sink" in their bill dated September 1, 1900. Only four years later (on December 1, 1904),

[142] The gas light may have been operational in 1931, because it was not noted as being "obsolete" in the residence appraisal.

[143] The work was done in 1963 under NPS purchase order EDIS 29-105.

Chalmers Bros. billed $22.00 for "1-2 part Copper Pantry Sink" and $38.00 for "2 days work and help putting in pantry sink." The sink was outfitted in 1913 by C. Garrabrant & Son with "1 pr. 'Colonial' Pantry sink faucets, with china indexes."

The sink was described in the residence appraisals of 1921 and 1924 as being "1 Nickel plated copper butler's sink with double drain board." Its replacement value was given as $100.00. A different description and an increased value were provided by the residence appraisal of 1931, suggesting that a new sink had been installed sometime between 1924 and 1931. The 1931 appraisal listed "1 Monel metal pantry sink, 42" x 20", 1 partition, combination goose neck faucet, 2 side drains."[144] The replacement value was then $175.00. The sink described in this appraisal may be the same sink that exists today.

Heating System

The Pantry is unheated today. There are, however, two types of heating equipment in the room. One is an obsolete steam radiator; the other is the return air shaft for the modern heating system.

There is also a rectangular wood box with a decorative metal grate on the ceiling at the north wall, east of the doorway to the Kitchen. It hides ducting for the heating system installed in 1968; the ducting inside is visible with a flashlight. The box is constructed of the same type of beaded matched-board paneling used for the dumbwaiter shaft.

The steam radiator is beneath the sink at the north wall, in the northwest corner. Raised letters on one end identify it as having been made by the "Dunkirk Radiator Co." This radiator appears to have been installed in 1907, based on an itemized bill from John L. Reid dated November 27, 1907, that lists "1 radiator, 3 column, 26" high 18 3/4 ft. [pipe?]." An evaluation of the heating system in 1921 noted that the "Butler's Pantry" was supplied with 18 3/4 units of heat, but required only 13 units, making it overheated by 5 3/4 units.[145] The radiator itself was described by the residence appraisal of 1931 as "1 Radiator, 3 columns, 26", 5 sections, Pantry." This notation seems to match the radiator that is in the room today.

The return air shaft for the modern heating system is in the northeast corner of the room. This is the original dumbwaiter shaft that was converted to accommodate a passenger elevator in 1943-44, and converted to a return air shaft in 1968. Physical evidence in the Pantry of the shaft's present use are two large metal grilles mounted to the exterior wall of the shaft. The lower grille measures 34 inches wide by 30 inches high, and the upper grille measures 24 inches wide by 30 inches high. Cold air passes through these grilles and is channeled to the hot-air furnace in the cellar.

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[144] "Monel" is a trade name for a metal alloy that consists primarily of nickel and copper. It is described as being a "bright, strong, ductile silver-white alloy." [Ref., Caleb Hornbostel, *Materials for Architecture* (New York: Reinhold Publishing Corp., 1967), p. 320.]

[145] Letter from R.W. Kellow to Mrs. Edison, Jan. 25, 1921. Edison NHS Archives.

Fire-Protection System

One ionization smoke detector manufactured by Pyrotronics is mounted to the ceiling at the east end of the room. It was installed by the National Park Service in 1978.

The Pantry was historically protected from fire by "1 Pyrene brass fire extinguisher," which was listed in the furnishings appraisal for 1930.

Security System

There are locks on the china cupboards and cabinets that may have been used during Edison's day. In addition, the north window was connected to the burglar-alarm system installed in the house in 1889. No remnants of the wiring associated with this early alarm system are visible today.



Figure 85. Pantry (F[illegible]109), looking west, 1960.

Laboratory Entrance (Room 109)

General Information

The Laboratory Entrance is a room with several functions. First, it is a passageway connecting the Kitchen (Room 107) with the Laboratory (Room 110). Second, it is a storage area outfitted with two large cabinets. Third, it is an exit to the outside, with an exterior doorway in its north wall. Last, it is a source of natural light for two adjacent rooms: the Kitchen (Room 107) and the Pantry (Room 108).

The Laboratory Entrance is believed to have been built circa 1884, at the same time as the large west addition. It may have been part of the "new addition for servants" mentioned in a letter from architect Henry Hudson Holly to J. Asch dated June 12, 1885. This "new addition" was one of a number of alterations that had been made to the house for Mr. Pedder at a total cost of $20,000.

Little is known about the early appearance of this room. It appears to have been constructed originally as part of the Laboratory (Room 110). It became a separate room in 1899, when a wood-framed partition was built by carpenter Adolph Vogel.[146] It was definitely a separate room by December 16, 1899, based on a bill from painter John Voss who referred to it as the "room between Kitchen [Room 107] and Gymnasium [Room 110]."

This room has been called by several other names over the years. The residence appraisals of both 1921 and 1924 labeled it the "Rear Pantry." The residence appraisal of 1931 used "Laboratory Entrance." Finally, John Miller referred to the room in a telegram to Mrs. Edison dated April 10, 1934, as the "vestibule between kitchen and laboratory." This report uses the 1930-31 appellation.

The Laboratory Entrance continues its historic use today as a passageway and storage area. It is not open or interpreted to visitors.

Floor

The floor is covered with a green-color sheet linoleum. This linoleum was installed in 1958, when it replaced an earlier linoleum.[147]

No information is available about the pre-1958 linoleum flooring. The wood floorboards were described by the residence appraisals of 1921 and 1924 as "91 Sq. Ft. North Carolina pine T & G [tongue and groove] flooring." It is not known if linoleum covered the floor at this time. Descriptions of linoleum flooring exist for several other rooms in the furnishings appraisals of 1921 and 1924. This room, unfortunately, is not listed separately in the furnishings appraisals of 1921, 1924, or 1930.

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[146] Bill from Adolph Vogel, Dec. 15, 1899. Edison NHS Archives.

[147] Shaw, "Progress Data," p. 48.

Walls

The Laboratory Entrance has four walls composed of two materials: brickwork and wood-framed sheathing. Each of the four walls is believed to have been built at a different time, as explained below.

The east wall is brick. It is the earliest wall in the room, having been constructed in 1880-81. This wall was the original exterior east wall of the Kitchen (Room 107). It is clearly illustrated in the first-floor plan of the house published in *American Architect and Building News* in August 1881.

The south wall is also brick. It was built circa 1883-84 as the west addition to the Pantry (Room 108). This wall served as an exterior wall until circa 1884, when Room 109 was built.

The west wall is a wood-framed partition that separates the Laboratory Entrance from the Laboratory. It was built by carpenter Adolph Vogel in 1899, as explained in detail in the chapter on the Laboratory (Room 110). The structural framing of the wall is exposed on the Laboratory Entrance side; it is sheathed on the opposite, Laboratory side with matched-board paneling. The wall was described by the 1931 residence appraisal as a "110 Sq. ft. beaded pine partition on 2" x 4" frame."

The north wall is a wood-framed exterior wall. Its date of construction is not known, although it is thought to have been built circa 1884, at the same time as the large west addition. Most of the wall is taken up by a large double-hung window and a glazed door. The wall was described by the residence appraisals of 1921 and 1924 as an "11 Lin. ft. d/s [double strength] glass sash enclosure."

Ceiling

The ceiling appears to be finished with a modern plasterboard type of material; it is smooth, flat, and white. No information is available about the earlier appearance of the ceiling. Early (circa-1884) plaster may survive beneath the plasterboard.

Doorways

The Laboratory Entrance has three doorways: one in the north wall, one in the east wall, and one in the west wall.

The north doorway connects with the Kitchen Entrance (Room 121). The doorway is believed to have been installed circa 1884, at the same time as the north frame wall. The doorway has a transom window, a two-panel wood door glazed with one large pane of glass, and an architrave with two bull's-eye corner blocks. The 1921 and 1924 appraisals listed the doorway as "1 1 light 2 panel S/S [single swing] sash door, frame, trim and hardware." The 1931 appraisal described "1 Door, 3'2" x 7'6" x 2", 2 panels, 1 light and 2'0" transom, 1 light."

The east doorway leads to the Kitchen (Room 107). It was built originally as a window, according to the first-floor plan of the house published in August 1881. The window is believed to have been enlarged to a doorway when Room 109 was constructed circa 1884. The opening in the brick wall features a brick-arched lintel and a molded brick surround. The door is identical in design to the north door, with a large pane of glass above two wood panels. It was described by the residence appraisal of 1931 (under "Kitchen") as "1 Door, 3'0" x 7'10" x 2", 2 panels, 1 light."

The west doorway connects with the Laboratory. It is in the wood-frame partition built in 1899, and presumably dates to that time. The doorway was also presumably installed in 1899. The opening is framed by plain 2 by 4 boards. The door is wood with four panels (two-over-two). The door has no doorknob, nor is there any physical evidence of a previous doorknob. The door was listed by the residence appraisals of 1921 and 1924 (under "Laboratory") as having either four or six panels. The 1931 residence appraisal was more precise, describing "1 door, 2'6" x 7'6" x 1-3/8", 4 panels."

Windows

There are two windows in the Laboratory Entrance: one in the exterior north wall (W-112) and one in the interior south wall (W-111).

The north window (W-112) is large, with 10-over-10, double-hung sashes. The architrave features bull's-eye corner blocks, the east one of which is shared with the north doorway's architrave. As with the doorway, the window is thought to have been installed circa 1884. It was listed in the residence appraisals of 1921 and 1924 as an "11 Lineal feet D/S [double strength] glass sash enclosure." The 1931 residence appraisal was more detailed, describing "1 Double hung sash, 6'0" x 6'0" x 2", 20 lights."

The south window (W-111) is the only source of natural light for the Pantry (Room 108). It is believed to have been installed as an exterior window circa 1883-84, at the same time as the west addition to that room. It became an interior window circa 1884, when the Laboratory Entrance was built. The large window opening has one-over-one, double-hung sashes. The 1921 and 1924 residence appraisals listed the window (under "Pantry") as having "1 2 light plate glass double hung sash." The 1931 residence appraisal recorded the sashes (also under "Pantry") as "1 Double hung window, 3'10" x 6'6" x 2", 2 lights."

Cabinets

The room has two wood cabinets at the north and south walls. These cabinets are not built-in, but they appear to be so because they are painted the same color as the walls. No documentation has been found on the age of these cabinets. They may date to the circa-1884 construction of the room. It is known that they were in place by 1921, based on the residence appraisal for that year.

The north cabinet is long and low. It fits against the north wall, beneath the large north window. The countertop is flat and covered with a sheet of metal that may be either zinc or lead. The lower cabinet is enclosed with two pairs of raised-panel doors. It was described by the residence appraisals of 1921 and 1924 as "1 Cupboard." No similar mention is found in either the

furnishings appraisal of 1930 or the residence appraisal of 1931, although it was most likely still in the room.

The south cabinet is on the west side of the south-wall window. It is tall and equipped with several doors and drawers. The upper portion has two raised-panel doors, and the lower portion has two drawers above two raised-panel doors. One long and narrow door is also on the far west side. The residence appraisals of 1921 and 1924 both described this cabinet as "1 Wall cupboard." No similar mention exists in the appraisals of 1930 or 1931, although it is believed to have been in the room at that time.

Sign

A small narrow sign is mounted to the east brick wall, north of the doorway. This sign is made of wood and has the following message painted on it: "DO NOT GO THROUGH THE KITCHEN." No documentary information has been found about the sign. It is therefore not known when it was installed, or to whom its message was directed.

Finishes

Most features in the Laboratory Entrance are painted a cream-yellow color. These include the wood-framed walls, the brick walls, the wood trim, and the two cabinets. The only wall area that is unpainted is the south red-brick wall behind the large cabinet. It is not known when paint was first applied. It may have been as early as circa 1884, when the Laboratory Entrance was built. The room appears to have been painted by 1921, based on the residence appraisal for that year, which recorded a "paint" finish. The ceiling, which looks to be of modern plasterboard, is white.

Only three references are found in the historical records to painting this room. First, painter John Voss submitted a bill dated December 16, 1899, which included painting the walls and varnishing the woodwork. Second, John Miller sent a telegram to Mrs. Edison on April 10, 1934, saying that the "ceilings in the pantry and vestibule between kitchen and laboratory are in bad shape. Shall I have these repainted?" Mrs. Edison's reply was "yes." Finally, Carl Gustafson was hired in 1951 to paint the walls with two coats of semi-gloss paint and the woodwork with two coats of an enamel paint. This may have been the last painting of the room.

Lighting System

The room has one electric light fixture mounted to the west wall above the doorway. This is a gooseneck-style fixture with one light. It is operated by a push-button switch on the west wall, north of the doorway. The fixture was rewired and a new switch was installed in 1968.

No records are available on the installation of this fixture. The wood-framed wall to which it is attached was built in 1899. The earliest written reference to the light is in the residence appraisal of 1921, which listed "1 1 light gooseneck bracket." The same description was given by the 1924 residence appraisal. The 1931 residence appraisal recorded "1 Brass wall fixture, 1 light."

Heating System

This room was unheated historically. It is equipped today with one hot-air floor register in front of the north cabinet. The register was installed in 1968.

Fire-Protection System

No fire-protection equipment exists in this room.

Laboratory (Room 110)

General Information

The Laboratory is a large room on the northwest corner of the house. Its dimensions were recorded by the 1931 residence appraisal as 13 feet 6 inches by 24 feet. The shape of the room is octagonal, as will be explained in the subsection entitled "Walls."

The Laboratory is an important room in the house, and yet very little is known about it. This room is not shown in the first-floor plan of the house published in 1881, or in the site plan of the estate dated 1882. It is thought to have been constructed shortly thereafter, circa 1884, as part of the large west addition to the house. The room may have been the "new addition for servants" that was built for Mr. Pedder and mentioned by architect Henry Hudson Holly in a letter to Mr. Asch dated June 12, 1885. It therefore most likely existed by the time Thomas Edison purchased the house in 1886.

The earliest reference to a laboratory at the house is in a letter dated September 14, 1889. This letter from Edwards & Co. to Charles Batchelor described the connections for the newly installed burglar-alarm system. One of the rooms protected by the new system was the "Laboratory [sic]," in which "1 door and two windows" were wired. This suggests that the Laboratory was smaller than it is today, possibly taking up only one end of Room 110. However, no physical evidence of an earlier partition is visible today.

The room appears to have been used as a "gymnasium" around the turn of the century. This is based on references to such a room in contractors' bills dated December 1899 through August 1900. The work that was done at this time included the installation of the east frame interior wall, other carpentry of an unspecified nature, painting, and repairs to the gas [lighting?] system. It is certain that this was the location of the gymnasium, based on a painter's bill dated 1899 that described working on the "Gymnasium, Pantry and room between Kitchen and Gymnasium."[148]

The common definition of a "gymnasium" is "a large room used for various indoor sports...usually equipped with gymnastic apparatus."[149] The Edisons' gymnasium fit this description, based on the physical-fitness equipment that was purchased about this time.[150] Which of the Edison family members used the gymnasium is not known. Mrs. Edison and her three young children may have spent time here. In 1900, Madeleine was about 11 1/2 years old, Charles was nine and a half, and Theodore was one and a half. It is unlikely, however, that Thomas Edison ever used this room when it was so outfitted. He had no interest in exercise, and was once quoted as saying, "I use my body just to carry my brain around."[151]

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[148] Bill from painter and decorator John Voss, Dec. 16, 1899. Edison NHS Archives.

[149] *Webster's Ninth New Collegiate Dictionary*, 1983, p. 544.

[150] Burt and Herron, "Historic Furnishings Report" [draft].

[151] Matthew Josephson, *Edison* (New York: McGraw-Hill Book Co., Inc., 1959), p. 436.

The room appears to have been refitted as a "Laboratory" by 1903. This is based on a photograph dated 1903 and labeled "In The Laboratory." It shows both Mina and Thomas Edison in the southwest corner of the room in front of the fireplace mantel. They appear to be working together at a table equipped with a scientific apparatus. A metal-clad table may be seen in the foreground, and pipes of unknown function are visible on the walls.

There is some question if this room was a traditional laboratory used by Thomas Edison, or if it was a home laboratory used by Mrs. Edison for conducting food experiments. Both Mr. and Mrs. Edison were interested in the latter, as evinced in an interview given by Mrs. Edison in later years. Furthermore, Mrs. Edison owned books that provided instructions to the "home executive" on setting up such a laboratory.[152] If, on the other hand, this had been a laboratory used by Thomas Edison, the records may have been maintained by Thomas A. Edison, Inc., as a business expense. These records may yet be found in the vault at Edison NHS.

It is not known how long the room was maintained and used as a laboratory. The name "Laboratory" continued to be used for many years. Contractors' bills dated 1910 and 1914 refer to painting the interior and repairing the exterior roof of the "Laboratory." The room was also called that by the residence appraisals of 1921, 1924, and 1931. However, the Laboratory may have fallen into disuse as early as 1907: in that year, architects Allen & Collens submitted a proposal to remodel it into a kitchen.[153] (This work was never done.) Also, the furnishings appraisals of 1921, 1924, and 1930 label the space the "Preserving Room," and list mostly household implements.

John Miller described the room in a letter dated 1929 as the "so-called Laboratory," suggesting that it was not a laboratory in the traditional sense, or that it was by then a laboratory in name only.[154] Another plan to remodel the space, this time as a "Service Room," was submitted by architect Wilbur Knowles to Mrs. Edison in December 1929. As with the first plan, the work was never executed.

The belief that this room was Thomas Edison's laboratory during his years at Glenmont was perpetuated long after his death in 1931. An excerpt of a tour of the house in 1969 states: "Mr. Edison's Laboratory, [was] completely equipped and used as such while he lived here. It was dismantled soon after Mr. Edison's passing." The accuracy of these statements is now being questioned, as explained in the preceding paragraphs.[155]

Some preservation work has been undertaken in the room by the National Park Service. The fireplace hearth was rebuilt in 1975, and a large portion of the ceiling was replastered in 1991.

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[152] *Home Made Apparatus* and *Foods and Their Adulteration* (no additional citation available).

[153] "Alterations of House, Allen & Collens," Oct. 29, 1907.

[154] Letter from John V. Miller to the Laboratory, Jan. 21, 1929. Edison NHS Archives.

[155] "Glenmont": transcript of taped tour by Mrs. Thelma A. Coakley, a former Edison Company employee, 1969.

The Laboratory is used today by the NPS maintenance staff as a workshop, storage area, and clothes-drying room. It is not open or interpreted to the public.

Floor

The floor is covered by green sheet linoleum. This linoleum was installed in 1958, when it replaced an earlier linoleum.[156]

The linoleum that was replaced in 1958 may have been the same "33 yards of inlaid linoleum" recorded in the room in the furnishings appraisals of 1921, 1924, and 1930. An example of this type of linoleum survives in the adjacent Flower Room to the south (Room 112), and may even be the same style of linoleum that previously existed in the Laboratory. It is not known exactly when linoleum was first installed in the Laboratory. It may have been as early as 1916, the date that "interlocking linoleum" was installed in the Service Dining Room.

A wood floor exists beneath the linoleum. This floor is believed to date to circa 1884, when the room was constructed. The floor was described by the residence appraisals of 1921 and 1924 as "299 Sq. Ft. North Carolina pine T & G [tongue and groove] flooring."

Walls

The Laboratory has eight wall surfaces, making the room octagonal in shape. This design appears to have been an attempt to incorporate the already existing angled wall of the Pantry's west addition (circa 1883-84); this wall is now the exterior northeast wall of the room. This wall, and the adjoining north and northwest walls, form a large bay along the north side of the circa-1884 west addition to the house.

The walls are primarily composed of two materials: plaster and matched-board paneling. Other wall features include a baseboard, chair rail, ceiling cornice, and ceramic tiles.

Seven of the eight walls are finished with plaster. These are the north, northeast, southeast, south, southwest, west, and northwest walls. All were constructed circa 1884, except for the southeast wall, which had existed previously as the exterior wall (circa 1883-84) for the Pantry addition. The plaster is believed to have been applied to all seven walls circa 1884.

The east wall only is finished with matched-board paneling. This frame wall was built in 1899 by carpenter Adolph Vogel, based on his bill of December 15, 1899; this listed a number of contracts, including "Est [estimate] for Partition — Gymnasium 20.00." It may be surmised that the work was actually done, because the entire bill is stamped as having been "paid" and charged to the "repairs acc[ount]." The wall was definitely in place by December 16, 1899, according to a painter's bill that described a room as existing "between [the] Kitchen and Gymnasium." The partition was recorded by the 1931 residence appraisal (under "Laboratory Entrance") as being "110 Sq. ft. beaded pine partition on 2" x 4" frame."

[156] Shaw, "Progress Data," p. 48. The room was then referred to as the "Freezer Room."

A wood baseboard and chair rail trim the plaster walls on the south and west sides of the room. (These elements are lacking on the southeast and southwest walls, due to the presence of a doorway and a fireplace, respectively.) Both are probably original features installed circa 1884. The 1921 and 1924 appraisals described the baseboard as "54 Lineal feet base, moulding and floor member." The chair rail was not mentioned, although it is known to have been in the room as early as 1903 based on a photograph taken at that time (fig. 86). Different descriptions were recorded by the 1931 residence appraisal, which listed "16 Lineal ft. 8" baseboard" and "16 Lineal ft. 6" chair rail." No explanation is known for the discrepancy in dimensions.

A molded ceiling cornice is at the south, southwest, and west walls. It is an unusual design that may originally have concealed electrical wiring. It may also be the same feature that was described as "72 Lineal feet picture moulding" in the 1921 residence appraisal, and "30 Lin. ft. picture moulding" in the 1924 residence appraisal. No mention of it was made in the 1931 residence appraisal.

White ceramic tiles cover the lower walls on the north and northeast sides of the room. No written documentation has been found on their installation. Similar tiles in the Laundry (Room 106) were installed circa 1916. The Laboratory tiles were definitely in place by 1921 and 1924, when the residence appraisals described them as "60 Sq. ft. glazed wall tiling." The 1931 residence appraisal recorded "60 Sq. ft. 4" x 6" tile wainscoting."

Ceiling

The ceiling is flat plaster with no ornamentation. It is believed to date to circa 1884 when the room was built. Analysis of a plaster sample from the ceiling in 1975 found the plaster to be composed of approximately two parts lime, five parts sand, and a hair binder.[157] Extensive replastering was carried out in 1991, to repair damage caused by water infiltration.

Doorways

The Laboratory has four doorways. Three appear to be original to circa 1884, and one was installed in 1899. A fifth doorway, to the northeast closet, is discussed in the section entitled "Closet."

The west doorway leads to the Butler's Room (Room 113). It has a five-panel door, whose panels are aligned one-over-two-over-two. The architrave features bull's-eye corner blocks. The 1921 and 1924 residence appraisals described the doorway as being one of three "5 panel s/s [single swing] doors, frame, trim, and hardware." A similar description is provided by the 1931 residence appraisal (under "Butler's Room"), with the additional notation that the door was "oak." This doorway is believed to date to circa 1884, because its architrave and door are in keeping with the room's circa-1884 woodwork. However, a 1903 photograph of the room shows no doorway in this

[157] The plaster was analyzed in 1975 by the North Atlantic Historic Preservation Center (now the Building Conservation Branch, Cultural Resources Center). The sample was assigned mortar sample number "M001." The information is on file at the Building Conservation Branch, Lowell, MA.

wall. A possible explanation for this discrepancy is that the photograph was printed backwards, so that what appears to be the west wall is in fact the south wall.

The south doorway is at the east end of the south wall. It is identical in both design and detail to the west doorway, and has been dated circa 1884. This doorway connects the Laboratory with the Flower Room (Room 112). The door was recorded by the residence appraisals of 1921 and 1924 as being one of three "5 panel" doors described in the previous paragraph. The 1931 residence appraisal listed the doorway (under "Flower Room") as having "1 Door, 2'6" x 7'6" x 2", 5 panels."

The southeast doorway in the southeast angled wall leads to the Pantry Closet (Room 111). It was originally built as a window in the Pantry addition (circa 1883-84), according to an undated first-floor plan of the house.[158] The window is believed to have been enlarged to a doorway circa 1884, when the Laboratory was constructed. It was then fitted with both a door and a transom window. The doorway has a five-panel door, similar to the two previously described doorways. It differs by having a transom and an architrave with no bull's-eye corner blocks. The door was recorded by the 1921 and 1924 residence appraisals as being one of three "5 panel" doors. The 1931 residence appraisal listed "1 Door, 2'8" x 7'6" x 2", 5 panels and 1'0" transom, 1 light" [should be 2 lights?].

The east doorway connects with the Laboratory Entrance (Room 109). It is in the wood-frame partition that was built by carpenter Adolph Vogel in 1899. The doorway, which is assumed to be the same age as the wall, has a four-panel door and no architrave. One four-panel door was recorded in the residence appraisals of 1921 and 1924, which may have referred to either this doorway or that of the northeast closet. The 1931 residence appraisal listed the doorway (under "Laboratory Entrance") as "1 door, 2'6" x 7'6" x 1-3/8", 4 panels."

Windows

There are four windows in the room: one in the northeast wall (W-113), two in the north wall (W-114 and W-115), and one in the northwest wall (W-116). All four windows have been dated to circa 1884.

The windows are of two different widths, with the wider windows (W-114 and W-115) being in the north wall, and the narrower windows (W-113 and W-116) being in the northeast and the northwest walls. The two north windows have 12-over-12, double-hung sashes, while the northeast and the northwest windows have nine-over-nine, double-hung sashes. This was also apparently the case in 1921 and 1924, when the residence appraisals described the windows as follows:

> 2 18 light double hung sash, D/S [double strength] glass, frame trim and hardware

[158] Both the addition and its windows are illustrated in an undated plan entitled "Plan of First Story—H.C. Pedder Esq.—Orange N.J." Catalog #114,425. Edison NHS Archives.

2 24 light double hung sash, D/S [double strength] glass, frame, trim and hardware

The 1931 residence appraisal recorded the windows as:

2 Double hung windows, 2'2" x 6'6" x 1-5/8", 18 lights

2 Double hung windows, 3'0" x 6'6" x 1-5/8", 24 lights

The architraves of the four windows have bull's-eye corner blocks, similar to the two doorways in the west and south walls. The architraves also presumably date to circa 1884.

Fireplace

There is a fireplace in the southwest corner of the room. It is believed to be an original feature built circa 1884.

The fireplace features a wood mantelshelf, a coved metal hood over the fireplace opening, and a mortar hearth. A disconnected gas-heating apparatus of unknown date sits in the firebox.

A limited amount of documentation exists on the Laboratory fireplace. A bill for "repairing gas" in this room, dated September 1, 1900 (from plumbers Cahill & Mills), may have referred to the fireplace heater. The wood shelf and its metal hood are both shown in the earliest-known photograph of the room dated 1903 and labeled "In The Laboratory" (fig. 86). The descriptions provided by the residence appraisals of 1921 and 1924 are brief, with both listing only "1 Mantel shelf." The 1931 appraisal was more detailed, recording "1 Fireplace, 2'6" x 2'6", cement hearth, pine shelf."

The fireplace hearth had collapsed by 1975, according to a letter dated February 7, 1975, from Keast & Hood Co., Structural Engineers, to the National Park Service. An attached sketch shows that the original hearth was constructed with a brick-arch support, a concrete base, and a mortar hearth. A second sketch proposes replacing the brick arch with a metal shelf and resetting the existing pieces of the mortar hearth. Mortar analysis was carried out on various components of the hearth in November 1975, in preparation for the repair work.[159] Repairs were presumably done sometime thereafter, because the hearth is in good condition today.

[159] The mortar analysis was done by the North Atlantic Historic Preservation Center (now the Building Conservation Branch, Cultural Resources Center). The analysis determined the following information. The hearth bedding material (sample M004) was made up of 1 part lime, 3 parts natural cement, and 9 parts sand; the concrete supporting the hearth (sample M002) was made up of 1 part natural cement and 2 parts sand/aggregate; and finally, the hearth itself was made up of 1 part lime, 3 parts portland cement, and 6 parts sand. It is not known if these mixes were used in the restoration work. The mortar analysis information is on file at the Cultural Resources Center, Lowell, MA.

Wall Benches

The Laboratory has one large piece of furniture at the south wall that may be classified as "built-in" due to its large size. This is a wood workbench with three upper shelves. The bench-top is equipped with gas spigots of a type that are commonly used to fuel laboratory Bunsen burners. The gas pipes that supply the counter spigots are exposed on the south wall.

It is not known when the workbench or its gas spigots were installed, although this presumably occurred when the room was outfitted as a laboratory. The workbench definitely existed in the room by 1921, based on the residence appraisal of that year, which recorded "1 Wall bench and rack." An identical description is given in the residence appraisal of 1924. No such listing is found in either the furnishings appraisal of 1930 or the residence appraisal of 1931, although it is doubtful that the workbench had been removed from the room. The 1931 appraisal does, however, describe the bench's gas equipment as follows: "60 Lineal ft. 1-1/2" galvanized iron gas pipe with 14 cocks."

A second workbench also existed in the room in 1921 and 1924, according to the residence appraisals. It was then recorded as "1 Wall bench." This bench may have been at the north wall, on the west side of the room. A long, rectangular shape resembling such a feature was illustrated in this location in a plan of the room prepared in 1929 by architect Wilbur Knowles. The bench was replaced sometime between 1929 and 1958 by a large freezer chest that exists in the room today.

Freezer Chest

A large General Electric freezer chest is at the north wall, at the west end of the room. It is not known exactly when this freezer was installed. It did not exist in December 1929, according to a plan of the room by architect Wilbur Knowles that shows what appears to be a workbench in its place. The first documentary evidence of the freezer is a voucher dated April 1, 1958, for installing new linoleum in the "Freezer Room." The existing General Electric freezer is first illustrated in a photograph of the room dated October 21, 1960. The freezer therefore appears to have been installed sometime after December 1929 and before April 1958.

Closet

One small closet is in the northeast corner of the room. It is of frame construction with a four-panel door. It was installed sometime after the original construction of the room circa 1884, because it covers over the lower portion of the east-side architrave for the northeast window. A likely date is 1899, when the east frame wall was constructed. It definitely existed by 1921, at which time it was described by the residence appraisal as "1 Closet." An identical entry exists for the residence appraisal of 1924. A more detailed account is found in the residence appraisal for 1931 that lists "1 Pine closet, 4'0" x 2'0" x 8'0", 1 door."

The adjacent room to the south, the Flower Room (Room 112), was also considered to be a closet for the Laboratory in the residence appraisals of both 1921 and 1924. By 1931, however, the room was listed separately in the residence appraisal as a "Flower Room." The room is thus discussed separately in this report.

Wall Hooks

Several metal hooks are mounted on the east frame wall and on the architrave of the opposite west doorway. The hooks are used today to string lines for hanging and drying laundry in inclement weather. It is not known when or by whom the hooks were installed.

Finishes

The walls and part of the ceiling are painted a yellow-beige color, and the woodwork is dark and varnished. The portion of the ceiling replastered in 1991 is sized, but remains unpainted.

The earliest record of finishing work is a bill dated December 16, 1899, from painter John Voss for "Painting Walls and Varnish[ing] Woodwork." Voss also billed the Edisons on January 8, 1900, for "finishing [the] floor." Painters Smith & Blatherwick later painted the walls and ceiling with three coats, washed and varnished the woodwork, and bronzed the radiators and pipes, according to their bill of May 2, 1910.

The residence appraisals of both 1921 and 1924 noted that the Laboratory had a "Paint" finish, but did not mention the varnished woodwork.

The last documented painting of the room was in the 1950's. Carl Gustafson painted the walls with one coat of primer and one coat of semigloss enamel, and gave the woodwork one coat of varnish in 1951. He returned five years later, in 1956, and painted the ceiling with two coats.[160]

Lighting System

The Laboratory has one electric ceiling light fixture of unknown date. It is operated by a switch on the east wall, south of the doorway. The existing fixture was rewired and the switch was replaced by the National Park Service in 1968.

A ceiling fixture—possibly different than the one in the room today—was described by the residence appraisals of 1921 and 1924 as "1 4 light ceiling cluster." The 1931 appraisal recorded "1 Ceiling fixture and globe" and "1 Switch."

A photograph of the room taken October 21, 1960, shows a ceiling fixture with a glass globe and a light switch at the east wall. This is the same ceiling light in the room today, and may be the same fixture that existed in 1931.

Electrical Outlets

A modern duplex electrical outlet is mounted to the floor at the north wall. The outlet replaced an existing outlet in this location in 1968.

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[160] Carl Gustafson proposal dated June 9, 1951, and bill dated Aug. 1951; estimate dated Jan. 15, 1955, and bill dated May 1956. Edison NHS Archives.

No electrical outlets were listed in the Laboratory in the residence appraisal of 1931, suggesting there were no outlets in the room until a later date. The existing outlet may have been installed sometime before April 1958 for the freezer chest.

Plumbing System

The Laboratory has two sinks at the north wall. Both are mounted to a marble slab that fills in the lower part of the easterly window opening in the north wall. It is not known exactly when the sinks were installed, although they were in place by 1921.

One sink is at the east end of the marble slab. It is a white-enameled kitchen type with a high back, rolled rim, and two faucets. The sink is supported from the back, and is lacking front legs and an under-cabinet. It was recorded by the residence appraisals of 1921 and 1924 as "1 Enameled iron sink." The 1931 residence appraisal was more detailed, describing "1 Enameled iron sink, 24" x 16", 2" rim, 12" back, 2 faucets." The two copper faucets were removed in June 1970 and replaced by the two existing modern faucets. The copper faucets are in the collection of Edison NHS, with catalog numbers 115,249 and 115,250. The catalog cards note that the old faucets are marked "Mueller."

The second sink is on the west side of the first sink. This is a deep laundry-tub style with a white-enameled finish, a wood drain board, metal legs, and two faucets. It was described by the 1921 residence appraisal as "1 Porcelain wash tray," and by the 1924 residence appraisal as "1 Porcelain Laundry tub." The 1931 residence appraisal recorded "1 Porcelain laundry tub, cast iron frame, 2 faucets." Like the previously described sink, the two faucets of this sink were replaced with modern faucets in June 1970. The old copper faucets are in the collection of Edison NHS, with catalog numbers 115,247 and 115,248. The catalog cards note that the markings on both old faucets read, "Mueller Outoway, Patented 10-5-1909." If the faucets are original, this suggests that the sink itself was installed sometime no earlier than October 1909.

Heating System

The room was heated historically by a large steam radiator and a gas heater in the fireplace. Today, four floor registers installed in 1968 distribute forced hot air.

The steam radiator is at the northwest wall, beneath the window in that wall. Its date of installation is not known, although it may have existed by 1921. An evaluation of the newly installed heating system in 1921 determined that the room was then supplied with 75 units of direct heat, but required 100 units of heat.[161] The existing radiator was definitely in the room by the time of the 1931 residence appraisal, when it was recorded as "1 Radiator, 3 columns, 36", 15 sections." The radiator is also shown in a photograph of the room dated October 21, 1960. It was disconnected but left in place when the new heating system was installed in 1968.

[161] Letter from R.W. Kellow to Mrs. Edison, Jan. 25, 1921. Edison NHS Archives.

The gas-fueled heater sits in the firebox of the fireplace. Little is known about the heater, such as when it was installed, used, and finally disconnected. It is assigned NPS catalog number 103,796.

Heat is provided today through four modern hot-air floor registers at the north wall. They are part of the new heating system for the house installed in 1968. A locked thermostat at the south wall between the doorways is also part of this system.

Fire-Protection System

The Laboratory is protected today by one Pyrotronics ionization smoke detector mounted to the ceiling. The detector is part of a fire-protection system installed in the house in 1978.

No record has been found of fire-protection equipment that may have been in the room during the years circa 1884-1948.

Security System

The burglar-alarm system installed at Glenmont in 1889 included connections at one door and two windows of the "Laboratory [sic]". There are no remains of this system today.



Figure 86. Thomas and Mina Edison in the Laboratory, 1903 *(printed backwards)*.



Figure 87. Laboratory (Room 110), looking west, 1960.



Figure 88. Laboratory (Room 110), looking east, 1960.

Pantry Closet (Room 111)

General Information

The Pantry Closet is a small interior room on the west side of the Pantry (Room 108). Its dimensions were recorded by the 1931 residence appraisal as being 7 feet by 8 feet. The shape of the room is an irregular hexagon.

The Pantry Closet was not a feature of the house as originally built in 1880-81. Rather, it was part of an extension of the Pantry constructed for Henry C. Pedder circa 1883-84. Architect Henry Hudson Holly mentioned the addition ("Butler's pantry...enlarged") in a letter to Mr. J. Asch dated June 12, 1885. The extension was also illustrated in an undated floor plan of the house entitled "Plan of First Story—H.C. Pedder Esq.—Orange N.J."[162] The plan shows the extension as having a deep bay window as its west wall. The extension appears to have been built as designed—with three windows facing the west lawn—based on existing conditions today.

The Pantry Closet was created by partitioning off the west end of the newly enlarged Pantry. The closet was illuminated by the three windows of the west-wall bay. It did not retain its view for long, however; it was engulfed by a large addition built for Mr. Pedder on the west side of the house in 1884. This addition made the west-wall windows obsolete. The southwest window was closed, and a china closet was constructed along the south side of the room. The west and northwest windows were enlarged to become doorways into the new addition. The china closet and both doorways remain today.

A "refrigerator" appears to have been installed here for the Edisons in 1907, and it remained in the room until at least 1960.

The name "Pantry Closet" was used by the residence appraisal of 1931. Most other references considered the room to be part of the adjacent Pantry to the east (Room 108), and therefore did not call it by a different name. Such was the case with contractors' bills dated 1907, the residence and furnishings appraisals of 1921 and 1924, and the furnishings appraisal of 1930.

The Pantry Closet is used as a storage area today. It also functions as a passageway between the Pantry (Room 108) and the Laboratory (Room 110). It is not open or interpreted to visitors.

Floor

The floor is covered a beige-color sheet linoleum, patterned with pink and brown splotches. The same flooring also exists in the adjacent Pantry (Room 108). This may be the "inlaid linoleum" installed in "two pantries," according to a voucher of Thomas A. Edison, Inc., dated April 1958.

The existing linoleum may have replaced an "interlocking linoleum" recorded as being in the "Pantry" by the furnishings appraisals of 1921, 1924, and 1930. The earliest documented flooring

[162] Catalog number 114,425, Edison NHS.

was a sheet "linoleum" installed in the "Butler's Pantry & Closet off" by W. & J. Sloane, which was billed December 29, 1899.

Wood floorboards dating to circa 1883-84 most likely underlay the existing linoleum. The floorboards are exposed in two locations in the room: inside the south china closet, and inside the west cabinet.

Walls

The room is roughly hexagonal in shape, with six wall surfaces. Five of the six walls were built circa 1883-84, as exterior brick walls with an interior plaster finish. These are the north, northwest, west, southwest, and south walls of the room. The east wall is an interior wall that is also believed to have been built circa 1883-84. It separates the Pantry Closet from the Pantry (Room 108).

All of the walls are plastered and trimmed with wood baseboards. The baseboards were recorded by the 1931 residence appraisal as "12 Lineal ft. baseboard."

Ceiling

The ceiling is flat, plain, and finished with plaster. It dates to the construction of the room circa 1883-84.

Doorways

The room has two doorways: one in the east wall and one in the northwest wall. A third doorway, in the south wall, is discussed in the section entitled "China Closet."

The east doorway connects with the Pantry (Room 108). It is believed to date to circa 1883-84. This doorway has a molded architrave with no corner blocks and a one-light transom window. The door is missing, but mortises for hinges indicate that it had been hinged on the north jamb to swing into the Pantry. The door appears to have been removed sometime between 1924 and 1931, when the existing Pantry sink was installed. The door was definitely missing by 1931, based on the residence appraisal that described the doorway as "1 Cased opening, 2′8″ x 7′6″ with 1′8″ transom, 1 light."

The northwest doorway leads to the Laboratory (Room 110). The documentation suggests that it was enlarged circa 1884 from an original window opening (circa 1883-84). This doorway is similar to the east doorway, with a molded architrave and a transom window. It differs by having a two-light transom sash and a five-panel wood door. The 1931 appraisal described the doorway as "1 Door, 2′8″ x 7′6″ x 2″, 5 panels and 1′0″ transom, 1 [sic] light."

Windows

The room retains two of its three original windows (circa 1883-84). One window is in the interior southwest wall of the china closet; the other is in the west wall above the wall cabinet. Both

windows are positioned high in the wall. Each has a single wood casement sash with 20 panes of glass that is side-hinged to open inward. Both windows became obsolete as exterior openings circa 1884, when the large west addition was built. This is why the southwest window now looks onto a brick wall (the back side of the Dining Room addition), and why the west window overlooks the Flower Room (Room 112).

The earliest description of one of the casement windows is in the residence appraisal of 1921, which recorded the west window as "1 20 light stationary wall sash, frame, trim and hardware."[163] The 1931 residence appraisal listed both windows in the Pantry Closet as "2 Hinged sash, 3'0" x 3'0", 20 lights."

The missing original window, which had been in the northwest wall, was enlarged circa 1884 to make a doorway.

China Closet

A large built-in china closet takes up the entire south side of the room. This closet is believed to have been built circa 1884, at the same time the room's exterior windows were covered over by the new west addition. The partition forming the front of the china closet is plastered and features a large doorway. This doorway has a molded architrave with no corner blocks, similar to the other two doorways in the room, and a wood door with a large pane of glass above two wood panels. The door was described by the 1931 residence appraisal as "1 Door, 2'6" x 7'6" x 2", 2 panels, 1 light."

The closet interior has an exposed wood floor, an original wood casement window (circa 1883-84) in the southwest wall, and wood shelves. Seven narrow shelves are missing from a niche at the east side of the closet, where a waste pipe and a modern electric cable are now located. All that remains of these shelves are their wood supports on the south wall and painted outlines on the north wall. The shelves were most likely removed in 1909-10 when plumbing fixtures were installed in the room above (Room 212).

Cabinet

A built-in cabinet is at the west wall, beneath the west window. This cabinet features three open shelves above an enclosed unit with a six-panel door. The cabinet may be a remnant of the room's original storage cabinets (circa 1883-84), or it may have been installed circa 1884 when the room was remodeled.

Shelves

The room is replete with wood storage shelves, in addition to those inside the china closet and at the west cabinet. These are at the north wall, east of the china-closet partition, and near the ceiling on the north, west, and south sides of the room. Some of these may have been installed as

[163] The window is listed under the "Laboratory," because one of the two rooms in which the window is located—Room 112—was then considered to be a closet for the Laboratory.

late as February 1969, when Gordie Whittington of the National Park Service noted that a member of his crew was "installing shelves in pantry."[164]

Refrigerator

There is no refrigerator in this room today. However, the documentation suggests that one was in the northeast corner from 1907 until at least 1960. It is unclear why the Edisons needed a second refrigerator, because a large refrigerator has always been located in the Refrigerator Room (Room 107a).

The earliest reference to the refrigerator is a bill from plumber Chas. F. McGuire dated May 31, 1907, for "Connecting ice box in Butler's Pantry." A later bill from carpenter Adolph Vogel dated July 9, 1907, charged the Edisons $144.00 for "1 Refrigerator." A penciled note next to the entry further specified, "Pantry ice box." Both bills recorded the refrigerator work as having been done on May 23, 1907. No other details are available, such as whether the refrigerator was electrified or used blocks of ice.

A more complete description of the refrigerator is provided by the furnishings appraisals of 1921, 1924, and 1930, which recorded the "Pantry" as having "1 White enamel Frigidaire, 24" x 36" x 66" high, 3 compartments." It is not known if this was the original refrigerator installed in 1907, or a more modern replacement.

The "Frigidaire" in the "butler's pantry" was also mentioned in a letter from architect Wilbur Knowles to Mrs. Edison dated December 31, 1929. Knowles attached a plan for alterations to the first story, but noted in his letter that the position of the "Frigidaire" was unaltered. The plan outlines a rectangular shape in the northeast corner of the room that most likely denotes the refrigerator. Such a location would have enabled the refrigerator drain to tie into the nearby drain for the Pantry sink.

The first definite proof that a refrigerator stood at the north wall of this room is a photograph dated October 21, 1960. This is a view of the Laboratory (110) looking east, which provides a glimpse of the refrigerator through the open doorway. Whether or not this was the same "Frigidaire" mentioned in 1921 and 1930 is not known. The refrigerator had been removed from the room sometime after the photograph was taken and before 1984, when this writer visited the house.

Finishes

The room has both painted and varnished finishes. A cream-color paint is on the plaster walls and ceiling, the baseboards, the architrave and jambs of the northwest doorway, the window architraves and sashes, the interior of the china closet, the exterior and interior surfaces of the west wall cabinet, and the wood shelves. A gray-color paint is found only on the exposed floorboards

[164] Gordie Whittington, log book entitled "Building No. 10: Starting Jan. 1, 1969." Maintenance Office files, Edison NHS.

inside the china closet. A varnished finish is on the wood elements of the east doorway, the china-closet doorway, and the northwest door.

No painter's bills have been found that specifically refer to painting this room.

Lighting System

The room is equipped with two electric light fixtures. One is suspended from the ceiling by a long cord; the other is mounted on the east wall, north of the doorway. Each has one light and is operated by a switch at the fixture. Both fixtures were rewired in 1968.

It is not known when the two light fixtures were installed. The ceiling fixture was in the room by 1931, based on the residence appraisal that recorded it as "1 Cord drop." The wall fixture was not listed at this time, suggesting that it may have been installed sometime after January 1931.

Electrical Outlets

The room has one modern electrical outlet in the east wall, north of the doorway. This outlet was not noted on the plans for the rewiring of the house in 1968, suggesting that it may have been installed sometime after 1968.

The light fixture on the east wall is also equipped with a single-receptacle outlet adapter. Both the light fixture and its adaptor appear to be old. This outlet could have provided power for the refrigerator here if the latter had been an electric model. The outlet adaptor is imprinted with the following information: "Hubbell 660W 250V."

Plumbing System

This room has no plumbing fixtures per se, but a vertical waste pipe passes through it. This pipe is in the east niche of the south china closet. It was most likely installed in 1909-10, when the second-story room above (Room 212) was converted to a bathroom. Writing on the pipe identifies it as having been made by the "Krupp Foundry Co. LTD."

A drainpipe for the early refrigerator may also still exist beneath the floorboards at the north wall. Such a drain was most likely installed by plumber Chas. F. McGuire when he "connected the ice box" in 1907.

Heating System

The Pantry Closet is not heated today, nor does it appear to have been heated during the Edison years.

Fire-Protection System

The room has no fire-protection devices.

Security System

There is a lock on the china-closet door.

Flower Room (Room 112)

General Information

The Flower Room is a small interior room between the Laboratory (Room 110) and the Den (Room 114). Its dimensions were recorded by the 1931 residence appraisal as being 5 feet by 6 feet.

The Flower Room was not part of the house as originally constructed in 1880-81. Rather, it appears to have been part of the large west addition built circa 1884 for Henry C. Pedder.

Plans to enlarge the room by removing its east wall were submitted in 1907 by architects Allen & Collens, and again in 1929 by architect Wilbur Knowles. This work, however, was never carried out.

"Flower Room" was the name used by the residence appraisal of 1931. The earlier residence appraisals of 1921 and 1924 both listed the room as a "closet" for the Laboratory. The primary function of the room, in fact, appears to have been as a storage area. It also may have been used as a passageway between the Laboratory and the Den.

The room is used today for storing cleaning equipment and other miscellaneous items. It is not open or interpreted to visitors.

Floor

The floor is covered with a jute-backed inlaid linoleum. The design is geometric, incorporating small square, hexagonal, and octagonal shapes to form an overall octagonal pattern. The colors of the small shapes are cream, mustard yellow, and dark green-black. The exact date of this floor is not known. It is likely, however, that it existed in 1921, when the adjacent "Preserving Room" (or "Laboratory") was recorded by the furnishings appraisal as having "33 yards inlaid linoleum."

A careful examination of the floor has also uncovered an earlier floor material beneath the inlaid linoleum. This is a jute floor cloth with a painted finish. While the floor cloth is very dirty today, microscopic examination of its painted surface reveals that it was originally a cream-color background patterned with a geometric design of narrow black lines. The surface appears to have been treated with a red-pigmented varnish—whether originally or at a later date is not known. When the floor cloth was installed is not known. It was presumably an exposed floor covering at one time, rather than just a "pad" for the later linoleum.

Floorboards exist beneath the two layers of floor coverings. The floorboards have been dated to circa 1884.

Walls

The walls are plastered and trimmed with baseboards. Most of the walls date to circa 1884, when the room was constructed. Of earlier construction is the northern portion of the east wall, which was built circa 1883-84 as the exterior wall of the Pantry addition. The entire room was presumably plastered circa 1884.

The baseboards were recorded by the 1931 residence appraisal as being "20 Lineal ft. 6" baseboard."

Ceiling

Most of the ceiling surface is taken up by a large skylight, which is described under "Windows." The ceiling area around the skylight is plastered similarly to the walls.

Doorways

The Flower Room has two doorways: one in the north wall, the other in the west wall. Both doorway openings are believed to be original to circa 1884.

The north doorway connects with the Laboratory (Room 110). It has a simple architrave with no corner blocks and a five-panel door. The doorway was listed by the 1921 and 1924 residence appraisals (under "Laboratory") as a "5 panel s/s [single swing] door, frame, trim and hardware." The 1931 residence appraisal described "1 Door, 2'6" x 7'6" x 2", 5 panels."

The west doorway leads to the Den (Room 114). Its architrave is identical in design to that of the north doorway. The door, however, has eight instead of five panels and a lighter finish. These differences are believed to be due to the fact that this door was installed in 1890 when the Den was completed. The 1921 and 1924 residence appraisals recorded the doorway as having "1 8 panel S/S [single swing] door, frame, trim and hardware." The 1931 residence appraisal described "1 Maple door, 2'4" x 7'8" x 2", 8 panels, to Flower Room." All three appraisals listed the doorway under the "Den."

Windows

The room has two windows, one in the east wall and one in the ceiling.

The east window is an interior window that looks into the adjacent Pantry Closet to the east (Room 111). The window is an original feature of the exterior wall that was incorporated circa 1884 as part of Room 112. This window and its wall are both believed to have been built circa 1883-84 as part of the west addition to the Pantry. The window has a deep opening, a wood jamb, and a wood casement sash with 20 panes of glass. The sash is side-hinged to open outward into the adjacent room. The window was described by the residence appraisals of 1921 and 1924 as being

"1 20 light stationary wall sash, frame, trim and hardware." The 1931 appraisal recorded one "Hinged sash, 3'0" x 3'0", 20 lights."[165]

The ceiling window is a large skylight that takes up most of the ceiling. It is believed to be an original, circa-1884 feature of the room. The room side of the skylight is covered with a rigid sheet of clear fiberglass or plastic. The appearance and condition of the skylight glass above this covering is not known. No mention of the skylight was made in the residence appraisals of 1921, 1924, or 1931.

For information on the exterior cupola above the skylight, see Appendix B, "Second-Story Windows, W-215."

Shelves

A tier of three open shelves is mounted to the south wall. These may be the same shelves that were described in the 1931 residence appraisal as "20 Sq. ft. pine shelf."

Finishes

The finishes in the room are paint and varnish. A cream-color paint covers the walls, the ceiling, the shelves, and two exposed heating ducts at the south wall. Varnished elements include the baseboards, the two doorway architraves and doors, and the window sashes. No historical references to the painting of this room have been found.

Lighting System

The room has one electric light fixture on the west wall. This is a gooseneck-style fixture with one light, which is operated by a swivel switch at the fixture. The fixture was rewired in 1968.

The 1931 residence appraisal recorded the room as having "1 Brass wall bracket, 1 light." This is most likely the same fixture that is in the room today.

Electrical Outlets

The room has one modern electrical outlet.

Plumbing System

A boxed-in pipe of unknown date or function is in the northwest corner of the room. The pipe and its wood enclosure are approximately 8 feet tall. The exterior side of the enclosure is finished with a dark varnish.

[165] The appraisals of 1921 and 1924 listed the window under the "Laboratory" (Room 110) because the room was then considered to be a closet in the Laboratory. The 1931 appraisal listed the window under the "Pantry Closet" (Room 111).

Heating System

Two modern sheet-metal heating ducts are at the south wall. These ducts supply hot air from the cellar to Rooms 212 and 213 in the second story. They were installed in 1968 as part of the new heating system for the house. The Flower Room was unheated historically.

Fire-Protection System

The Flower Room has no fire-protection equipment.

Butler's Room (Room 113)

General Information

The Butler's Room is in the back northwest corner of the house. Its dimensions were recorded by the 1931 residence appraisal as being 7 feet by 9 feet.

This room was constructed for Henry C. Pedder as part of the large west addition to the house in 1884. It remained unfinished, however, until 1890 when the Edisons employed the Herts Brothers to complete the work. The estimate and bill from Herts Brothers suggest that the room may have been used originally as a "Toilet Room," furnished with "1 white mahogany toilet and glass."[166] No other historical references to the "toilet room" have been found.

A proposal to enlarge the room as part of the new "Butler's Pantry" was submitted to the Edisons by architects Allen & Collens in 1907. This work was to be done concurrently with the remodeling of the Laboratory (Room 110) into the "Kitchen," and the conversion of the Den (Room 114) into the "Dining Room."[167] The project, however, was never implemented.

The first indication that this room was used by a member of the household staff is the residence appraisal of 1921, which labeled the room as the "Butler's Room." The same name was also used by the two later residence appraisals of 1924 and 1931. John Miller provided further insight into the use of the room in a letter dated January 21, 1929. He wrote:

> On the first floor in the extreme northwest corner of the house and opening into the so-called Laboratory, there is a small room which has been used by the chef.[168]

Exactly how the "chef" was using the room is not known for certain. The existence of a double-swinging door in the south wall suggests that the room may have been a staging area for serving refreshments in the Den (Room 114). It is unlikely that the room was a bedroom or a lounge, because it was unheated until as late as 1929.

The physical appearance of the room today is believed to be little changed from the time of its completion in 1890. The walls are still hung with the same fabric that also originally finished the walls in the adjacent Den (Room 114).

The Butler's Room is not open or interpreted to visitors.

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[166] The estimate from Herts Brother is undated; the bill is dated Dec. 31, 1890. Edison NHS Archives.

[167] "Alterations of House, Allen & Collens," Oct. 29, 1907.

[168] This letter is quoted in the draft historic furnishings report by Burt and Herron.

Floor

The room has a parquet floor of various woods, as described in the section on "woodwork." This floor was laid in 1890, according to the bill from Herts Brothers dated December 31, 1890. It was described by the residence appraisals of 1921 and 1924 as being "63 Sq. ft. oak parquetry flooring."

Walls

The walls of the room are plastered and embellished with prima vera woodwork, including a paneled wood wainscot, a wood picture molding, and a wood cornice. The plaster is not visible because it is covered with a wall fabric (see "Finishes" for more details). All features of the walls date to 1890.

The trim elements of the walls consist of a wood called "prima vera."[169] They were described erroneously as maple by the residence appraisals of 1921, 1924, and 1931. The 1921 and 1924 appraisals recorded "24 Lineal feet 5′ paneled maple [sic] wall wainscoting." The 1931 appraisal was more complete, listing "22 Lineal ft. 5′0″ high, maple [sic] paneled wainscoting; 33 Lineal ft. 2″ maple [sic] picture moulding; [and] 33 Lineal ft. 8″ x 8″ maple [sic] cornice." No alterations appear to have been made in the wainscot between 1924 and 1931, suggesting that the 2-foot difference in the lineal measurements is an error.

One curious feature of the walls is the boxed-in northeast corner of the room at the east wall. This boxed feature appears to be made of the same prima vera wood used in the rest of the room. Exposed screws holding the trim are evidence that the trim could be easily removed so as to gain access inside the box. No attempt was made by this author to remove the screws, so it is not known what is concealed within the enclosure. Two possibilities are electrical wiring and plumbing pipes.

Ceiling

The ceiling is a flat plastered surface that most likely dates to 1890.

Woodwork

The bill from Herts Brothers dated December 31, 1890, affirms that the wood "prima vera" was used for the trim in the "Toilet Room," including the "door and window trim and wainscotting." The same bill also described an "inlaid parquet floor as per design." More detail is provided by Herts Brothers' undated estimate and specification, which described a "Hardwood 7/8 Parquet floor Oak center tile effect with a Border to match of oak, mahogany, Maple and Prima Vera."

[169] The wood "prima vera" grows along the west coast of Mexico and in Nicaragua in rich, damp soil. When first cut it is a pale yellow color, which darkens to a yellowish-rose color upon exposure to air. [Ref., *Know Your Woods*, by Albert Constantine, Jr. (New York: Charles Scribner's Sons, 1975), p. 285.]

As stated previously, later residence appraisals in 1921, 1924, and 1931 misidentified the room's woodwork as being "maple." The appraisals also described the flooring as being simply an "oak" parquetry floor.

Doorways

The room has two doorways, one in the east wall and one in the south wall. Both doorway openings and the east door are believed to have been installed circa 1884 when the west wing was built. The east door clearly stands out as being different from the other woodwork in the room because of its dark (versus golden) varnish finish. The south door and the two doorway architraves have been dated 1890.

The east doorway connects with the Laboratory (Room 110). It has a five-panel door (circa 1884) and a molded architrave with no corner blocks (1890). The five-panel door is similar in style to two other doors in the adjacent Laboratory. The doorway was described by the residence appraisals of 1921 and 1924 as "1 5 panel S/S [single swing] oak [sic] door, frame, trim and hardware." The 1931 appraisal recorded "1 Door, 2'8" x 7'8" x 2", 6 [sic] panels."

The south doorway leads to the Den (Room 114). It has an eight-panel door and a molded architrave with no corner blocks (both dating to 1890). The eight-panel door is similar in style to the other doors in the adjacent Den. It differs from those doors by having no doorknob hardware and a large pair of hinges that enable the door to swing in both directions. Similar double-acting hinges are also found on two other doors—those connecting the Pantry (Room 108) with the Kitchen (Room 107) and with the Dining Room (Room 115). The presence of these hinges in Room 113 suggests that this room also functioned as a service area. It is not known, however, if the hinges are original (1890) or were added at a later date. They were definitely in place by 1921 and 1924, when the residence appraisals described the Den's door as having "1 8 panel D/S [double swing] door, frame trim and hardware." The 1931 residence appraisal recorded "1 Maple [sic] door, 2'8" x 7'8" x 2", 8 panels, double acting hinges."

Windows

The room has one window (W-117) in the west wall. The window opening is large and has double-hung sashes, each glazed with 12 panes of glass. Both the window opening and its sashes were probably installed in 1884 when the room was constructed. The window architrave, on the other hand, most likely dates to 1890 when the room was finished. The architrave is similar in style to that of the east and south doorways.

The window was described by the residence appraisals of 1921 and 1924 as "1 24 light double hung sash, D/S [double strength] glass[,] frame, trim and hardware." The 1931 residence appraisal recorded "1 Double hung window, 4-0" x 6'2" x 2", 24 lights, paneled base."

Finishes

The room's finishes are believed to be unchanged from their appearance in 1890. The woodwork is varnished, the walls are hung with a fabric between the wainscot and the picture molding/cornice, and the ceiling is painted white.

The wall fabric only is documented by the bill from Herts Brothers dated December 31, 1890, which described "Hanging walls with corded tapestry with pulvinated border, brass nails, and picture molding." This fabric has an overall foliate design, which is executed in a gray-green color on a background of gold. It is the same fabric that was hung in the adjacent Den (Room 114) in 1890. The Den's wall fabric was described by *The Decorator and Furnisher* in 1891 as being a "silk tapestry" with "apple green figures upon a background of deep buff or dull yellow, [and] tiny threads of bullion, enough to reflect the light—yet not sufficient to produce gaudiness." These original colors may be preserved in protected areas, such as where the fabric overlaps itself.

The finishes were described by the residence appraisals of 1921 and 1924 as being "Paint stain and varnish and tapestry wall hangings."

If any refinishing work has been done in this room since 1890, no record of it has been found. The wall fabric has been cleaned recently by the National Park Service using a vacuum cleaner and a protective screen.[170]

Lighting System

The room has one light fixture mounted to the east wall, south of the doorway. The light is a gooseneck style with holds one light bulb, which is operated by a swivel switch at the fixture. It was rewired in 1968.

The date of the light fixture is not known. It existed in the room by the 1920's, based on the residence appraisals of 1921 and 1924 that recorded "1 1 light gooseneck bracket." The 1931 residence appraisal described "1 Brass wall fixture, 1 light."

Electrical Outlets

The room has no electrical outlets.

[170] Glenmont Curator Leah Burt to Barbara Yocum, Feb. 1992.

Heating System

The Butler's Room is unheated today. This appears also to have been the case during the years 1890 through 1928, according to a letter from John Miller dated January 21, 1929, which states:

> In this room there is no radiator and, therefore, it is, of course, quite cold on occasions. Mrs. Edison would like to have a radiator installed in this room. The writer would like to go over this matter...with your man on Wednesday.

A radiator was probably installed shortly thereafter. It existed in the room by January 1931, when it was recorded by the residence appraisal as "1 Radiator, 2 columns, 36", 5 sections, Butler's Room."

An obsolete "Richmond" steam radiator fitting this description is in the room today at the west wall, north of the window. It was disconnected in 1968, when a new hot-air heating system was installed in the house by the National Park Service. However, no new heating equipment was installed in this room.

Fire-Protection System

The room is equipped with a ceiling-mounted Pyrotronics smoke detector. It was installed by the National Park Service in 1978.

Den (Room 114)

General Information

The Den is a large room at the west end of the house. Its dimensions were recorded by the 1931 residence appraisal as being 24 feet by 38 feet. The room is little changed today from its remodeling in 1935. The ceiling, however, was partially restored in 1966-67 to its earlier, 1890 appearance. This included a center clerestory dome that gave the ceiling a coved appearance.

Construction of the room began in 1884 as an addition to the house for Mr. Henry C. Pedder. Physical evidence that the work had been done for Mr. Pedder was uncovered in 1966, during restoration of the room's ceiling. Several of the structural steel ceiling beams were found to have the name "Mr. Pedder" painted on them. Furthermore, a penciled note was discovered on a piece of the ceiling framing that said, "This addition was built July 1884."[171] Additional corroboration of this date was later found in an article in *The New York Times* dated July 19, 1884, which noted: "The latest addition [to the house] was a billiard room, only partially completed when the owner returned from Europe." The article also stated that Mr. Pedder had returned "last Monday," and had turned the property over to his creditors the following day.

No work appears to have been done to complete the room during the ownership of Arnold Constable & Company, in the latter half of 1884 and 1885. It was therefore still unfinished in January 1886 when Thomas Edison purchased the house.

The room was equipped with electrical wiring in 1888, at which time it was still referred to as the "unfinished room back of Dining Room."[172] Even as late as September 1889, the adjacent Dining Room (Room 115) to the east was described as having "folding doors leading to unfinished room."[173] Daughter Madeleine Sloane recalled in later years that the Den was incomplete when her father bought the house in 1886, and that her parents later finished it to their own taste.[174]

Estimates to finish the room were obtained by the Edisons beginning in 1889. Herter Brothers of New York City submitted a bid on March 14, 1889, for finishing the so-called "Sitting Room" in "Antique oak." Their estimate of $5,100 included oak parquet flooring, doors, wainscoting, a carved stone mantel, decoration for the existing cove ceiling, and tapestry wall covering. It did not include the furnishings, carpets, or window draperies, which were an extra expense. Herter Brothers was not chosen for the job.

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[171] Melvin J. Weig, Historical Data section, "Historic Structures Report - Part II (Portion), The Den Ceiling, Edison Home, Building No. 10: Administrative Data and Historical Data" (NPS: Edison NHS, Mar. 16, 1966), pp. 3-4.

[172] Letter from the Laboratory of Thomas A. Edison to A.O. Tate, Apr. 14, 1888. Edison NHS Archives.

[173] Letter from Edwards & Co. to Charles Batchelor, describing the newly installed annunciator bells and burglar-alarm connections, Sept. 14, 1889. Edison NHS Archives.

[174] Weig, Historical Data section of "Historic Structures Report - Part II (Portion), The Den Ceiling," p. 4.

A second estimate was submitted by Herts Brothers, also of New York City, for finishing the "Lounging Room and Toilet Room." The "Lounging Room" was presumably the Den (Room 114), and the "Toilet Room" the small room to the north (Room 113). Their bid of $6,500, which included furnishings, was accepted by the Edisons. Work appears to have been completed by December 31, 1890—the date of the final bill from Herts Brothers. The total bill was $9,404.75.[175]

The work carried out by Herts Brothers is documented in their undated "Estimate and Specification," and in their final bill of December 31, 1890. The wood "prima vera" was used for the woodwork. A parquet floor was laid using woods of various types. The coved ceiling was decorated with stained-glass panels, hand-painted panels, and a large allegorical painting at the center. Finally, the walls were hung with a corded tapestry fabric and a decorative border.

A detailed description of the completed room was published the following year in *The Decorator and Furnisher*. The 1891 article, entitled "The Residence of Thomas A. Edison," called this "the most unique and delightful of rooms." It went on to say,

> This is the den of Mr. Edison, projected and built by himself, and suggesting, in size and finish, something of the breadth of the inventor's nature.... The culmination of this beautiful room, beautiful in its spaciousness, in the harmony of its proportions, undisturbed by the variety of its parts, and in its grateful and restful coloring—is found in the ceiling.[176]

A sketch of the room, which is the earliest-known view of the interior, accompanied the article. It shows the semicircular bay with large windows in the south wall, the south end of the west wall, and a portion of the coved ceiling.

W.K.L and Antonia Dickson called the room "Mr. Edison's 'den'" in their book dated 1892. They also observed, however, that the room was not used exclusively by Mr. Edison:

> It seems rather a general lounging place for the family whose occupations are indicated in a variety of ways. Here is a Weber piano, full-toned and sweet; there is an organette or mechanical organ, a magic lantern with arrangements for exhibiting a superb collection of colored and uncolored views; a phonograph and several revolving bookcases, well filled with scientific books of reference.[177]

[175] The bill also included miscellaneous work and furnishings for other rooms in the house.

[176] Other excerpts from this lengthy article by Hester M. Poole are transcribed in the subsections of this section (e.g., see "Ceiling").

[177] Dickson and Dickson, *The Life and Inventions*, pp. 342 and 345.

Two photographs by W.K.L. Dickson illustrate the narrative on the Den. One is a view looking toward the north end of the room; the other shows Thomas Edison seated near the bay window in the west wall.

A brief description of the room also appeared in an article dated August 19, 1894. This article noted:

> Opening from the dining room at the back is the billiard room, billiards being a game which both Mr. and Mrs. Edison like very much and play very well.[178]

This is the first and only reference to the Den being used as the "billiard room." The Dicksons had previously noted in 1892 that the billiard room was in the third story. The billiard table may have been removed from the Den in 1900, based on a bill from Braun and Chamberlin dated October 25, 1900, for "2 Days labor taking billiard table apart & putting up." A later photograph dated 1918 shows the billiard table as then being in the Conservatory (Room 101).

Daughter Madeleine Edison Sloane later reminisced about other activities that took place in the Den:

> The room beyond the dining room at the back of the house was always called, for some unknown reason, the Den.... We had dancing classes here with a teacher coming in to instruct us Edison children and those of the neighbors. We had amateur theatricals, too, using the den as a stage and seating our audience in the dining room.[179]

Plans to remodel the Den as a dining room were considered in 1907 and again in 1929. Architects Allen & Collens proposed moving the Dining Room here and converting the existing Dining Room (Room 115) to a "Gallery." Architect Wilbur Knowles made a similar proposal in 1929. Neither scheme, however, was executed.[180]

The architectural features of the room were documented in detail in the residence appraisals of 1921, 1924, and 1931. The furnishings appraisals of those dates provide similar information on the objects that filled the room. All of these appraisals labeled the room as the "Den."

A complete remodeling of the Den—then known as the "Souvenir Room"—was done in 1935 under the direction of Mrs. Renner. The room was called the Souvenir Room by 1929 because it

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[185] "Prof. Tojetti" was described in the *Art Journal* of 1875 as then being "of San Francisco." He was apparently known for his allegorical paintings, similar to the one in the Edisons' Den. Few details are known about this painting, such as how it was executed. While it is possible that Tojetti painted his subject in place on the ceiling, it was more likely painted in a studio and installed in the room at a later date.

[186] Poole, "The Residence," pp. 93-96.

was here that Mrs. Edison displayed memorabilia of Thomas Edison's famous career.[181] Work carried out in 1935 was extensive. The original wall fabric was removed and replaced with a blue-green painted wall finish. The coved portion of the ceiling was insulated against drafts and covered over with a flat ceiling treatment. The decorative wood grille framing the south-wall bay was removed. The fireplace mantel was altered by removing its upper arch and reducing the height of its two Ionic columns. Finally, one of the five original ceiling light fixtures was removed and put into storage. Mrs. Renner was pleased with the results, commenting in August 1935: "I have never seen a room more improved architecturally than the Souvenir Room."[182]

Extensive repairs were undertaken in the room by the National Park Service in 1966-67. Structural problems necessitated the complete removal and replacement of the lath and plaster ceiling. The center domed portion of the ceiling was also uncovered at this time, and it was restored to its pre-1935 appearance. No other restoration work was carried out below the level of the ceiling. The walls, in fact, were refinished with the same blue-green paint that had been applied in 1935. The resulting appearance of the room was therefore one that never existed historically. It retains this configuration today.

The Den is open and interpreted to visitors.

Floor

The floor retains its original parquetry that was installed by Herts Brothers in 1890. The pattern is one of wood squares in alternating colors of light and dark, with a simple striped border.

Herts Brothers specified the floor to be "Hardwood 7/8 Parquet floor Oak center tile effect with a Border to match of oak, mahogany, Maple and Prima Vera." Such a floor was installed in the room, based on their final bill dated December 31, 1890, which included an "Inlaid Parquet floor as per design." The floor was described by the residence appraisals of 1921 and 1924 as being "874 Sq. ft. oak parquetry flooring."

Structural reinforcement of the Den's floor was undertaken by the National Park Service in 1969. This work was done concurrently with the installation of the new heating-system equipment in 1968-69. New footings were poured to shore up the ends of selected floor joists, using a 2-inch pipe filled with concrete and a half-inch base and cap.[183] The footings are in the crawl space beneath the Den (cellar area B23).

[181] Mrs. Renner referred to the "Souvenir Room" in two letters to Mrs. Edison—one dated Mar. 21, 1929, the other dated Aug. 7, 1935. Edison NHS Archives.

[182] Letter from Mrs. Renner to Mrs. Edison, Aug. 31, 1935. Edison NHS Archives.

[183] Gordie Whittington, log book "Building No. 10: Starting Jan. 1, 1969," entries for Mar. 24 and Apr. 2, 1969. Maintenance Office files, Edison NHS.

Walls

The walls are plaster trimmed with prima vera woodwork. This woodwork includes paneled wainscot, a picture molding, and a wide cornice. The plaster and the woodwork are both believed to date to the finishing of the room in 1890.

The wainscot covers the lower walls of the entire room. It was described by the residence appraisals of 1921 and 1924 as being "61 Lineal feet 5′ paneled birch and maple [sic] wainscoting." The 1931 residence appraisal recorded "47 Lineal ft. 5′0″ high maple [sic] paneled wainscoting, including...2 Corner cabinets, 3′0″ wide...[and] 1 Maple record rack, 10′0″ long...." The corner cabinets exist in the room today, and are described in detail in the section entitled "Cabinets."

The wood picture molding and the ceiling cornice also encircle the entire room. They were listed by the 1921 and 1924 residence appraisals as "123 Lineal ft. pictures [sic] moulding" and "123 Lineal ft. 7 member cornice." Slightly different dimensions were recorded by the 1931 residence appraisal, which described "120 Lineal ft. 3″ maple [sic] picture moulding" and "120 Lineal ft. 6″ x 8″ maple cornice."

Ceiling

The main focus of the Den ceiling is its center clerestory dome that measures 12 feet 10 inches wide by 18 feet 10 inches long by 4 feet high above the adjacent ceiling line. The dome features a large allegorical painting on canvas, 10 smaller canvas panels painted with arabesque designs, and 10 stained-glass windows.[184] Eight original ventilation grates are in the wood trim that frames the large painting. Twenty-four vertical panels at the lower perimeter of the dome are painted white. The flat ceiling surrounding the dome is canvas-covered plaster, which is articulated by wood trim into rectangular panels of various sizes.

The ceiling elsewhere in the room is flat canvas-covered plaster. The entire ceiling, including the dome, was partially restored in 1966-67 to its 1890 appearance. Extensive work was done at that time, which is described later in this section.

The existing configuration of the ceiling with its center domed area was most likely part of the original construction of the room in 1884. This is based on an early exterior photograph of the house that shows the distinctive shape of the roof dome. In addition, it was discovered in 1966 that several of the structural steel ceiling beams had the name "Mr. Pedder" painted on them, and that a wood ceiling joist was penciled with the words, "This addition was built July 1884."

The ceiling was completed in 1890 by Herts Brothers. Their work is documented by an undated "Estimate and Specification" and a final bill dated December 31, 1890. The bill notes that "prima vera" trim was applied to the ceiling. Considerable work was done on the center dome, which included painting the side panels "with fresco decoration, stucco effect," installing a "large painted canvas panel in center," and installing "stained glass for all dome lights." The subject of

[184] The large painting by Tojetti measures approximately 8 feet wide by 14 feet long; it is assigned NPS catalog #113,001. The smaller painted panels and the stained-glass windows are not cataloged.

the center canvas panel was originally to be "Mercury with Electric light," according to the Estimate and Specification. The subject of the panel as completed, however, was "Music and Science." No documentation has been found to explain the change. One possibility is that Thomas Edison himself ordered it because of his disappointment with the electric lighting business. The painting was signed in the lower right-hand corner by the artist, "V. Tojetti 90."[185]

Shortly after its completion, the room was described by Hester Poole in 1891. She wrote the following about the ceiling:

> The culmination of this beautiful room...is found in the ceiling. Some four feet from the side walls the arched ceiling rises in a skylight about four feet in height, allowing side lights alternating with decorative panels, on each of the four sides. The sashes are lighted by dull glass set in small curved leads, the glass clouded and striated in soft creamy green as quiet and reposeful as a cool sunset sky. The intervening panels set in mouldings of light mahogany [sic], are painted in dull shades of apple green and warm buff in the graceful scroll work of the renaissance. The ceiling center, one large canvas, some 12 x 16 feet, depicts a light and charming composition. Music and Sciences, under the guise of lovely female figures, with their respective symbols, sport with cherubs against a background in perfect harmony with the coloring elsewhere seen. The painting is by Tojetti.[186]

A sketch of the room accompanied the article, and is the earliest-known view of the ceiling.

W.K.L. and Antonia Dickson were less effusive about the ceiling, which they described upon their exit from the room in 1892:

> We therefore emerge somewhat reluctantly from our downy nest...after a lingering glance at the den ceiling, which is painted by Tojetti, and set about with curious devices of glass, somewhat resembling the shining scales of the tarpon.[187]

The ceiling was also illustrated in a W.K.L. Dickson photograph of the room that accompanied the text.

The residence appraisals of 1921 and 1924 did not specifically mention the ceiling, but may have considered it to be part of the room's "Paint, stain and varnish and tapestry wall hangings." The 1931 residence appraisal, on the other hand, recorded "490 lineal ft. 2" X 4" moulded maple

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[185] "Prof. Tojetti" was described in the *Art Journal* of 1875 as then being "of San Francisco." He was apparently known for his allegorical paintings, similar to the one in the Edisons' Den. Few details are known about this painting, such as how it was executed. While it is possible that Tojetti painted his subject in place on the ceiling, it was more likely painted in a studio and installed in the room at a later date.

[186] Poole, "The Residence," pp. 93-96.

[187] Dickson and Dickson, *The Life and Inventions*, p. 354.

[sic] panel moulding...1 Ceiling panel, 8'0" x 14'0" hand painted," and "10 Stained and leaded glass ceiling lights, 2'10" x 3'0"." The molding was appraised at $171.50, the ceiling panel at $350.00, and the stained-glass panels at $750.00.

The ceiling appears to have remained unchanged from its original 1890 appearance until 1935, when the domed section was enclosed with a false ceiling under the direction of Mrs. Renner. The framing details for this work were submitted by architects William E. Frenaye, Jr., and James R. Thomson.[188] Mrs. Renner's estimate was dated July 1, 1935, and specified the following ceiling work: "installing studs [sic: joists] in recess present ceiling; furnishing and installing composition board ceiling; repairing walls and ceiling; canvassing new ceiling; insulating roof...against heat and cold." Confirmation that the work was actually done in 1935 was found in 1966 in the form of a newspaper fragment dated August 14, 1935, that was stuffed into a ceiling void.[189] The Edison children later recalled that the ceiling had been closed by their mother because the room was drafty.[190] The appearance of the ceiling after the remodeling work is documented by photographs of the room dated 1947 and 1960 (figs. 93-100). The ceiling remained in this condition, with the domed clerestory concealed from view, for more than 30 years.

A physical examination of the ceiling was undertaken by the National Park Service in 1966 to determine the cause of visible downward displacement in the northeast corner of the room. The investigation found that water infiltration had caused partial rotting of the ceiling's wood framing members in the area bordering the domed clerestory. The clerestory itself was observed to have been closed with three-eights-inch plywood on modern 2 by 4 joists. Plywood had also replaced the plaster at the east wall in front of the wide doorway. The entire flat ceiling area was covered with canvas.

Most of the features of the domed clerestory were found to be preserved intact above the plywood. The Tojetti painting on canvas was extant, as were the 10 painted canvas panels in the coved area immediately below the large painting. All were in need of cleaning and restoration. The 10 stained-glass windows also survived in the coved area. These, however, were in danger of collapse because their lead cames had bowed. The most damage had occurred at the lower perimeter of the dome, where all 24 of the original painted canvas panels and their vertical wood trim were missing. Many of the wood trim pieces were subsequently found stored in a space above the ceiling. The canvas panels themselves, however, were never located.[191]

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[188] First-floor plan dated June 15, 1935, entitled "Alteration to Residence for Mrs. Thomas Edison," catalog #114,436. Edison NHS Archives.

[189] Weig, Historical Data section of "Historic Structures Report - Part II (Portion), The Den Ceiling," p. 4. The newspaper was found in the south bay window, where one of the original ceiling lights had been removed in 1935.

[190] Weig, Historical Data section of "Historic Structures Report - Part II (Portion), The Den Ceiling," p. 2.

[191] The investigation and evaluation of the Den ceiling is documented by two NPS reports: Norman M. Souder, "Historic Structures Report - Part II, Architectural Data Section on Den Ceiling, Glenmont Mansion" (NPS: Eastern Office of Design and Construction, Jan. 1966); and Weig, "Historic Structures Report - Part

The final decision on the condition of the flat ceiling was that it was "so far deteriorated and structurally unsafe as to require its complete replacement." It was also decided to restore the domed section at this time, because of its "particularly interesting architectural and decorative character."[192]

Replacement and restoration work on the ceiling took place in 1966 and 1967.[193] All of the plaster was removed from the flat part of the ceiling, including the south-wall bay. Damaged wood furring strips were replaced with new furring, and new wire lath was installed. Joseph Steiniger was contracted for $750.00 to apply two plaster coats: a brown scratch coat and a white final coat. Canvas was applied, and the ceiling was painted white by Chiovarou and Son for $614.00.

In the dome, the large canvas painting and the stained-glass windows were carefully removed. The painting was sent to Washington, D.C., where it was cleaned and treated by Mr. Walter Nitkiewicz.[194] It was returned and reinstalled in March 1967. Mr. Nitkiewicz had also been recommended to work on the 10 smaller canvas paintings in the dome, but no record of their treatment has been found.[195]

The stained-glass windows were repaired under contract by "Jersey Art Stained Glass" at a cost of $850.00. Batt insulation was installed in the clerestory voids. Plain "Marinite" panels were installed in place of the missing painted canvas panels, and the wood trim was reinstalled.[196] Chiovarou and Son were contracted for $200.00 to "varnish panels in clerestory," although it is unclear which panels these were.

II (Portion), The Den Ceiling, Edison Home, Building No. 10, Administrative Data and Historical Data."

[192] Weig, Historical Data section of "Historic Structures Report - Part II (Portion), The Den Ceiling," p. 2.

[193] The work that was actually done on the Den ceiling is documented by several sources. Melvin Weig described some of the work that had already been accomplished in his Administrative Data section of "Historic Structures Report - Part II (Portion), the Den Ceiling"; Gordie Whittington briefly noted the progress of the work in his log book entitled "Building No. 10: March 7, 1966 - Dec. 30, 1968"; and finally, a list of contracts for that period is maintained in the Park files. No completion report exists.

[194] Mr. Nitkiewicz worked for the National Park Service in Washington, D.C., for the Division of Interpretation and Visitor Services. His work is documented by a conditions assessment and treatment report, and by black-and-white photographs. The report is on file at Glenmont, Edison NHS (under catalog #113,001), and at the Paintings Conservation Office at Harpers Ferry Center, NPS, WV. The report indicates that the painting was cleaned, areas of loss were inpainted, the back side was treated with a fungicide, the canvas was mounted to a rigid support, and the painting surface was finished with PVA (polyvinyl acetate).

[195] It is evident that some work was done on these paintings, based on their condition today.

[196] This author is not familiar with "Marinite"—it may be the product name for an "insulation panel," which was recommended by Melvin Weig in his report.

Work that had been recommended but was not done included the installation of spot-lighting for the Tojetti painting, and back-lighting for the stained-glass panels. The lighting was needed because the dome's exterior windows had been covered with metal roofing sometime between 1947 and 1960, and remained covered in 1967.

The ceiling is little changed today from its condition following the work in 1966-67. The vertical panels in the clerestory dome are still blank, requiring restoration paintings for their completion. The exterior dome is still sheathed with metal roofing, leaving the stained-glass panels in darkness. The 1890 appearance of the ceiling remains at odds with the rest of the room, which retains its 1935 appearance. Finally, some deterioration of the Tojetti painting's finish requires the professional assessment of a paintings conservator.

Woodwork

There has been much confusion over the years about what type of wood is in the Den. All of the woodwork dates to 1890, when the room was finished for the Edisons by Herts Brothers. Their specifications and later bill dated December 31, 1890, indicate that the doors, the doorway and window architraves, the wainscot, the mantel, the circular window seat, the ceiling trim, and the decorative screen in front of the south-wall bay were all of the same "prima vera" wood used at the same time in the adjacent Butler's Room (Room 113). These same documents describe the wood parquet floor as being made of oak, with a border of oak, mahogany, maple, and prima vera.

The woodwork has been misidentified by several different sources over the years. An article in *The Decorator and Furnisher* in 1891 said that the woodwork was a "light mahogany," with "prima vera" used in the border of the flooring only. W.K.L. and Antonia Dickson called the wood "white mahogany" in their book published in 1892. "Birch and maple" woodwork and an "oak" parquet floor were described by the residence appraisals of both 1921 and 1924. The 1931 residence appraisal, on the other hand, simply classified the woodwork as "maple."

Alterations were made to the woodwork when the room was remodeled in 1935. The most significant change was the removal of the original wood screen from the south-wall bay. The estimate for the work by Mrs. Renner dated July 1, 1935, described "removing existing grill partition and patching." The appearance of this screen is well-documented by several early views of the room (figs. 89 and 91-92).

Also altered in 1935 was the wood fireplace mantel at the north end of the room. The original appearance of the mantel is seen in a photograph published in 1892 (fig. 90). The estimate of July 1, 1935, described "removing present over-mantel and pilasters [sic: columns], re-setting pilasters [sic] under present mantel shelf."

Mrs. Renner's 1935 estimate also mentioned "removing and re-setting picture moulding, back member of wainscote [sic] crown moulding and back band of door and window trim." The reason for this may have been to facilitate the removal of the wall fabric.

The appearance of the woodwork today dates to the remodeling of 1935. Fragments of the missing wood screen are in storage in the attic.[197] No remnants are known to survive of the fireplace's arched overmantel.

Doorways

The room has four doorways: three in the east wall, and one in the north wall. All four doorway openings are believed to have been built in 1884; the woodwork was installed in 1890. The wood trim and doors are "prima vera," according to the bill from Herts Brothers dated December 31, 1890. All of the doors are paneled, and the architraves are molded with no corner blocks.

The room's formal entrance is in the middle of the east wall, where a wide doorway opens into the Dining Room (Room 115). This doorway was described in 1889—the year before the room was completed—as having "folding doors leading to unfinished room."[198] The folding doors were replaced in 1890 by the existing pair of wood sliding doors, each with 15 panels, that fit into pockets in the doorway jambs. The doorway was described as part of the adjacent Dining Room (Room 115) in the residence appraisals of 1921 and 1924. The 1931 residence appraisal recorded the "Den" doorway as having "1 Pair rolling doors, 8'0" x 8'6" x 2", 20 [sic: 30] panels, mahogany veneer one side, maple [sic] veneer one side." Alterations were made in 1935, when the track in the floor was lowered and larger rollers were installed on the doors.[199]

The wide doorway is flanked on either side by two smaller doorways in the east wall. Each has an eight-panel door with two hinges. The doorway at the south end of the east wall (D-107) leads to the exterior. It was described by the residence appraisals of 1921 and 1924 as having "1 8 panel S/S [single swing] door, frame, trim and hardware." The 1931 residence appraisal recorded it as "1 Maple [sic] entrance door, 3'4" x 7'0" x 2", 8 panels."

The doorway at the north end of the east wall gives access to the small Flower Room (Room 112). It was described by the residence appraisals of 1921 and 1924 as "1 8 panel S/S [single swing] door, frame, trim and hardware." The 1931 residence appraisal listed it as "1 Maple [sic] door, 2'4" x 7'8" x 2", 8 panels, to Flower Room."

The fourth doorway is in the north wall, west of the fireplace. It connects with the Butler's Room (Room 113), which may have been the "Toilet Room" in 1890. The doorway has an eight-panel door and two large hinges that enable the door to swing in both directions. Both features were

[197] Research by the National Park Service determined that the wood screen had not been thrown out in 1935, but had been given to a friend of Mrs. Edison—Mr. Clark Harris, Sr. Inquiries in 1986 located the screen fragments in the possession of Mr. Harris' son, Clark Harris, Jr., of San Mateo, California. Mr. Harris generously agreed to donate the screen pieces to the National Park Service, and they were shipped to New Jersey in December 1990. The assemblage appears to include representative pieces of each screen element (e.g., balusters, columns, etc.).

[198] Letter from Edwards & Co. to Charles Batchelor, Sept. 14, 1889. Edison NHS Archives.

[199] Letter from John Miller to Mrs. Edison, July 31, 1935. Edison NHS Archives.

recorded by the residence appraisals of 1921 and 1924 as "1 8 panel D/S [double swing] door, frame, trim and hardware." The 1931 listed the doorway as part of the "Butler's Room," describing "1 Maple [sic] door, 2'8" x 7'8" x 2", 8 panels, double acting hinges."

Windows

The Den has two large bays with windows: one centered on the west wall (W-118), the other occupying most of the south wall (W-119). The bays and their windows, including frames and sashes, are all believed to date to the original construction of the room in 1884. The "prima vera" window trim was installed as part of the completion of the room in 1890, according to the Herts Brothers bill dated December 31, 1890. Also installed in 1890 were the room's 10 stained-glass windows in the clerestory dome; they are discussed in the section "Ceiling."

The west-wall bay window (W-118) is directly opposite the wide doorway to the Dining Room (Room 115). It has four window openings separated by three window mullions. The two end windows project slightly outward at an angle, and the two center windows are parallel with the room's west wall. Each of the four window openings has one-over-one sashes glazed with clear plate glass. The area below the windows is paneled. This bay window is thought to be basically unchanged from its appearance in 1890. One description of the bay window published in 1891 is believed to be erroneous in several details:

> Opposite the dining-room door is...[a] bay, shallow and three-windowed [sic], filled by glass, stained with the predominating soft coloring of the room [sic].[200]

The four windows in the west bay were described in the residence appraisals of 1921, 1924, and 1931. The 1921 and 1924 appraisals recorded:

> 2 30" x 66" 2 light plate glass double chain hung sash, paneled base, frames, trim and hardware.
>
> 2 16" x 66" 2 light plate glass double chain hung sash, paneled base, frames, trim and hardware.

The 1931 appraisal listed:

> 1 Three mullion window, paneled base, 2 double hung sash, 3'0" x 6'2" x 1-5/8", 2 lights, 2 double hung sash, 2'0" x 6'2" x 1-5/8".

The south bay (W-119) projects outward in a semicircle design. It has five windows separated by four mullions. Each window opening has curved one-over-one, double-hung sashes glazed with clear plate glass. Below the windows is a built-in window seat. This seat was

[200] Poole, "The Residence." The stained-glass windows are also mentioned as being in the "transoms of the bay windows." The photographic evidence indicates, however, that the window openings never had transoms.

constructed in 1890 of "prima vera" wood, according to the Herts Brothers bill dated December 31, 1890.

The south bay was mentioned in a description of the room in 1891 that noted, "It terminates at the southern extremity in a five-windowed bay, nearly the width of the room."[201] The sashes were recorded by the 1921 and 1924 residence appraisals as:

> 5 30" x 66" 2 light bent glass double chain hung sash, paneled base, frames, trim and hardware.

The 1931 residence appraisal was more detailed, listing both the sashes and the window seat as follows:

> 1 Four mullion window, 5 double hung sash, 3'6" x 6'2" x 1-5/8", 2 bent lights, paneled base
>
> 1 Circular maple [sic] window seat, 2'0" wide, turned leg supports.

Plans to alter the west bay window were submitted in 1935 by architects William E. Frenaye, Jr., and James R. Thomson. They proposed replacing the two center windows with two doors to give access to a new west terrace. Mrs. Renner estimated that the alteration to the bay, exclusive of the new terrace, would cost $1,020.60. The work, however, was never done.[202]

Fireplace

A fireplace is in the middle of the north wall. It was built originally in 1884, and the finishing materials were installed in 1890. The bill from Herts Brothers dated December 31, 1890, notes that the fireplace was outfitted at that time with a brass frame, fender, and andirons; green serpentine or "Alps" marble facings and hearth; and a "Prima Vera" mantel with beveled mirror. Alterations were made to the wood mantel in 1935, which appearance it maintains today.

The early appearance of the fireplace was described in an article published in *The Decorator and Furnisher* in 1891:

> [The room is terminated]...at the northern [end] by a massive yet simple chimney-piece reaching from floor to ceiling....
>
> Opposite the south oval-bay stands the fire-place and its adjuncts, all of which are strong and simple in treatment. On either side a plain round column supports an arch and central shield rising from the over-mantel cabinet to the ceiling. The broad mantel, supported by many brackets, is surmounted by a long beveled mirror in which is duplicated the exquisite

[201] Poole, "The Residence."

[202] Frenaye and Thomson, "Alteration to Residence for Mrs. Thomas Edison," June 15, 1935; and estimate from Mrs. Renner to Mrs. Edison, July 1, 1935. Edison NHS Archives.

> proportions and finish of the bay at the other extremity of the room, and the wealth of beauty blossoming upon the lawn beyond.... The fire-place is set with dull green marble and the fire-dogs and fittings are of iron.

The earliest-known photograph of the fireplace was taken by W.K.L. Dickson and published in 1892.[203] It validates the earlier written description, showing the fireplace centered at the north end of the room. Distinctive features include a shelf supported by four brackets, a large center mirror, and an arched overmantel framing a carved wood panel and supported by two Ionic columns.

No changes appear to have been made to the fireplace by the 1920's, based on descriptions contained in the residence appraisals of 1921 and 1924. These recorded the fireplace as having a "1 6'6" maple [sic] mantel, mirror top, turned columns, cabinet head, bracketed shelf, marble facing and hearth $2,500.00."

The same is true of the 1931 residence appraisal, which listed:

> 1 Mantel, 7'0" wide, metal fireplace, marble facing and hearth, maple [sic] shelf and brackets, 12" frieze, 3'0" x 6'0" bevel mirror panel, with 2'0" carved top panel, 2 turned and fluted columns, 4" diameter x 8'0" with carved maple [sic] arch top panel, 2'0" wide, paneled returns $1,800.00

Alterations were made to the fireplace mantel in 1935 under the direction of Mrs. Renner. Her estimate, dated July 21, 1935, described the following work: "Removing present over-mantel and pilasters [sic: columns], re-setting pilasters [sic] under present mantel shelf." The work was carried out as proposed. The changes are documented by photographs of the room taken in 1947 and 1960, and by existing conditions today. No record has been found as to the disposition of the mantel fragments.

Built-in Cabinets

The room has two built-in corner cabinets. One is in the southwest corner of the room; the other is at the north wall, east of the fireplace. Both appear to have been built in 1890, based on the bill from Herts Brothers dated December 31, 1890, which included "Cabinet trimwork in Prima Vera, including...book cabinets." Each cabinet is fitted with a pair of side-hinged glass doors. Both cabinets were described by the 1931 residence appraisal as "2 Corner cabinets, 3'0" wide, 1 pair doors, 2 beveled mirror [sic] lights."

An unusual feature of the southwest cabinet is a built-in document file on top of the cabinet. This file consists of five wood-framed glass panels that are back-hinged to open like a book. The panels are oriented vertically, and today hold paper memorabilia (such as letters) of importance to Thomas Edison. The file may be an original 1890 feature, based on early undated photographs that shows it in the room.

[203] Dickson and Dickson, *The Life and Inventions*, p. 342.

A third built-in cabinet is missing from the room today. It was described by the residence appraisal of 1931 as "1 Maple record rack, 10'0" long, 2'8" high, center shelf, 10 slotted partitions, 420 sliding shelves." This rack was most likely attached to the wall because it was listed—along with the two corner cabinets—as being part of the wainscot. Its location, based on its large size, was either at the west wall north of the bay window, or at the east wall north of the wide doorway. It was not an original 1890 feature of the room; the Herts Brothers bill of December 31, 1890, does not mention it, and early photographs of the room do not show it. The rack appears to have been installed sometime after 1924, based on its absence from the residence and furnishing appraisals for that year. It was in the room by the time of the 1931 residence appraisal; no other documentary sources are known.

The record rack may have been removed when the room was remodeled in 1935, and it was definitely gone by 1947 when the room was photographed. Glenmont curator Leah Burt remembers that the record rack was in the attic, nailed to a beam and filled with records, in the 1980's. It was later moved to the Main Laboratory, where it is in storage today.

Finishes

The room's finishes include varnished woodwork, painted walls and ceiling, and a decoratively painted ceiling dome. The appearance of the walls dates to 1935 when the room was remodeled; the walls were most recently repainted in 1967. The ceiling was partially restored to its earlier 1890 appearance in 1966-67; its restoration is discussed in detail in the section entitled "Ceiling."

The room as finished in 1890 included varnished woodwork, wall fabric, and a decoratively painted ceiling dome. The bill from Herts Brothers dated December 31, 1890, described the following:

> Hanging walls with corded Tapestry with pulvinated border, brass nail and picture molding. Decorating panels of ceiling with fresco decoration, stucco effect, and large painted canvas panel in center.

The Den's finishes were described in great detail in an article published by *The Decorator and Furnisher* in 1891:

> The intervening panels [of the ceiling] set in mouldings of light mahogany [sic: prima vera], are painted in dull shades of apple green and warm buff in the graceful scroll work of the renaissance. The ceiling center, one large canvas...depicts...Music and Science.... The painting is by Tojetti.
>
> The woodwork of the room is that light mahogany [sic] which, unstained and highly polished, grows richer and mellower year by year.... The color of the mahogany [sic] is repeated in the deeper, stronger tints of the warm buff, which, with apple green, are the only two found within the den.
>
> In the silk tapestry covering the walls from wainscot to frieze in which apple green figures upon a background of deep buff or dull yellow, sparkle tiny threads of bullion, enough to reflect the light—yet not sufficient to produce

> gaudiness. Between the cove of mahogany and the moulding extends a curious frieze. It is dull, deep green plush, slightly convex, some six inches deep, on which every three or four inches, appear bosses of dull steely green metal.

The early finishes of the room are further documented by black-and-white photographs dated circa 1892 through 1907 (figs. 90-92). These show the pattern of the wall fabric, the "curious frieze," and the decorative paintings in the ceiling dome. In addition, a decorative border is visible on the ceiling of the semicircular south bay. This border, which was most likely painted, is a trailing foliate design.

The original 1890 finishes still existed when appraisals were made of the residence in 1921, 1924, and 1931. The 1921 and 1924 appraisals both described the room as having "Paint stain and varnish and tapestry wall hangings." The 1931 appraisal listed only "1 Ceiling panel, 8'0" x 14'0" hand painted," and "120 Lineal ft. 3" plush covered band with 1" diameter brass tacks, 3" centers."

Drastic changes were made to the room's finishes in 1935 under the direction of Mrs. Renner. Her estimate dated July 1, 1935, noted the following:

> Removing material from walls, repairing walls and ceiling, canvassing new ceiling, painting, glazing and varnishing, going over and restoring and partially refinishing woodwork; floor to be scraped and refinished.... Installing studs in recess present ceiling; furnishing and installing composition board ceiling....

Most of the work seems to have been completed by the following month, based on a letter from Mrs. Renner to Mrs. Edison dated August 7, 1935, which states:

> We had [sic: have] entirely completed...the removal of the wall covering and getting the ground coats of paint on walls and ceiling. The [ceiling] insulation has also been finished so that the room now seems exactly like the Dining Room so far as the temperature is concerned.

The completed appearance of the room is documented in photographs taken in 1947 (figs. 93-96).

Repairs were undertaken in the Den in 1952. Painter Carl Gustafson was hired to repair and paint the walls, and repair and touch up the "canvas"—perhaps on the ceiling.[204] No other details are known, such as the colors and types of paint that were used. It is assumed that the work replicated the existing 1935 finishes.

Extensive work on the room's finishes was carried out by the National Park Service in 1966-67. The plaster walls were spackled, spot-primed, and painted. The color of the wall paint replicated the existing color, which had been applied in 1952. The flat portion of the ceiling was replastered, recanvased, and painted white. Not reproduced at this time was the original decorative

[204] Bills from Carl Gustafson, Feb. 14 and Mar. 25, 1952. Edison NHS Archives.

ceiling border at the south bay. The domed portion of the ceiling was reopened and repaired, and the surviving painted canvas panels were restored.[205]

When the work was completed in 1967, the room looked as it never had historically. The walls and woodwork were unchanged from their 1935 appearance, while the ceiling had been partially restored to its original 1890 appearance. The room retains this configuration today.

Lighting System

The room has five original ceiling fixtures that date to 1890. Four of the fixtures are suspended from the four exterior corners of the ceiling dome, and the fifth is in the south bay. All five fixtures are of identical design and have eight lights each. Each fixture is operated individually by a push-button switch. The five switches are grouped together at the north jamb of the wide east doorway, where they are aligned vertically and share a common switch plate.[206] All five light fixtures—including the south one, which had been removed in 1935—were rewired and rehung in 1967. The switches at the east wall were replaced in 1968.

The ceiling light fixtures are documented by several sources. The earliest is the bill from Herts Brothers dated December 31, 1890, which listed "5 Prima Vera and Metal Electroliers, special design [$] 580." An inventory taken of the room the following year, in 1891, also listed the lights as "5 Electroliers."[207] Hester Poole's article published in 1891 was even more detailed, describing the Den's lights as follows:

> At the four corners of the skylight hang as many electrical contrivances designed especially for the den. Wheel-shaped at the bottom, made out of polished light mahogany [sic: prima vera], they are set with metallic bosses similar to those of the frieze with pendant iron chains, each fitted with bulbs for electric lighting.[208]

The earliest visual documentation of the light fixtures is a sketch of the Den that accompanied the 1891 article (fig. 89). The earliest photograph, published in 1892, shows the two light fixtures at the north end of the room (fig. 90).[209]

More descriptions of the light fixtures are provided by the residence appraisals of 1921, 1924, and 1931. The 1921 and 1924 appraisals both recorded "Turned maple [sic: prima vera] 8

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[205] For more details on the restoration of the Den ceiling, see the section entitled "Ceiling."

[206] The switches are on the Dining-Room (Room-115) side of the doorway jamb.

[207] Book D of Miscellaneous, 1891, pp. 403-405, Essex County Registry of Deeds, NJ. Copy on file at Edison NHS.

[208] Poole, "The Residence."

[209] The photograph is by W.K.L. Dickson, and was published in the book *The Life and Inventions of Thomas A. Edison*, p. 342.

light stiff drop pendants, with wrought iron ball and chain decorations." The 1921 appraisal incorrectly counted four light fixtures, while the 1924 fixture correctly listed five. The 1931 appraisal described "5 Maple [sic: prima vera] fixtures, 5" diameter, x 40", turned and carved shaft, 24" diameter bowl, wrought iron ornamentation, 8 lights."

The light bulbs recommended for use in these fixtures in 1927 were "40- 25 watt A-21 Flame Tint MAZDA Lamps." Such was the assessment of the Edison Lamp Works in a "Lighting Recommendations" report submitted to Mrs. Edison on February 14, 1927.

Some consideration was given to replacing the old light fixtures when the room was remodeled, according to a letter dated August 8, 1935:

> I am sending today prints of various types of chandeliers, any one of which is suitable and attractive for the Souvenir Room [i.e., Den]. Since we are taking out the one in the bay window opposite the fireplace, there will be four of these in the room. We have lowered the four present chandeliers enough so that the man can refinish the wood underneath the plate that fits against the ceiling....[210]

Photographs of the room dated 1947 indicate that the fixture was in fact removed from the south-wall bay as mentioned in the letter. The four other fixtures, on the other hand, were left in place.

Restoration work was carried out by the National Park Service on the Den ceiling and on the ceiling light fixtures in 1966-67. The four existing light fixtures were removed, rewired, and rehung in their original locations. The light fixture missing from the south bay was found stored at Edison NHS in Laboratory Building No. 5. It, too, was rewired and rehung in its original location. The light switches at the east wall were replaced the following year, in 1968.

Electrical Outlets

The room has four duplex electrical outlets. All four outlets are in the baseboard. One is in the east wall, north of the wide doorway; the second is in the east wall of the south bay; the third is in the west bay, beneath the north window; and the fourth is in the north wall between the fireplace and the doorway to the Butler's Room (Room 113). The outlets were rewired and outfitted with grounded receptacles in 1968.

Documentation on the Den's electrical outlets is scarce. Some outlets may have been installed in the room as early as 1888 when the room was first wired for electricity.[211] The residence appraisal of 1931 recorded only "2 Base receptacles." This suggests that two of the existing four outlets were installed sometime after 1931. No determination has been made as to which two outlets existed in 1931, and which two were installed after 1931.

[210] Letter from Mrs. Renner to Mrs. Edison, Aug. 9, 1935. Edison NHS Archives.

[211] Letter from the Laboratory of Thomas A. Edison to A.O. Tate, Apr. 14, 1888. Edison NHS Archives.

Annunciator System

The Den was served by the Edisons' annunciator system. The annunciator board in the Kitchen includes a station for the "Den." Also, its call button still exists, mounted to the north door jamb of the wide east doorway. This button is situated on the Dining Room side of the jamb, beneath the push-button switches for the Den's ceiling lights. It is similar in style to the button in the Reception Room (Room 102). The button itself is covered with a material resembling mother-of pearl, and the back plate is a triangular shape and made of metal.

No documentation has been found on the original installation of this button. Its appearance suggests that it was installed at the same time as the Reception Room button.[212] As stated in the discussion of the Kitchen (Room 107), the annunciator board was installed sometime after December 1889 and before November 1912.

Heating System

The room has heating equipment that dates to circa 1884, 1907, and 1968. This includes a floor register (circa 1884), a curved steam pipe (1907), a steam radiator (1907), and two thermostats (circa 1907 and 1968). Each is described in detail below.

The floor register is at the east wall, between the wide middle doorway and the exterior doorway to its south. This is a large register with a decorative cast-iron grille. It is believed to date to the construction of the room in 1884, when it was tied into the house's original steam-heating system. The floor register admitted hot air that was produced by passing fresh air over steam radiators located in heat-transfer boxes in the cellar. (See the subsequent section "Utilities: Heating System" for more information.) An assessment of the heating system in 1921 determined that the Den was supplied with 150 units of "indirect" heat (i.e., from the register).[213] The 1931 residence appraisal listed the register as "1 Floor register, Den." The interior workings of the register were retrofitted by the National Park Service in 1968, to make it compatible with the new forced hot-air system. The register is the only source of heat in the room today.

The curved steam pipe is in the south bay beneath the built-in window seat. It was installed in 1907 by John L. Reid, Heating and Ventilating Contractor. This is based on a letter from Reid to Mrs. Edison dated November 1, 1907, that described the work as follows:

> We are arranging to have a curved coil of 2" pipe constructed for the den at your residence and to made to conform to the circular bay window seat, and will hung [sic: hang] under the seat.

[212] The Reception Room button existed in 1889, according to a letter from Edwards & Co. to Charles Batchelor dated Sept. 14, 1889. No similar mention is made in this letter to a button in the "unfinished room," the "Lounging Room," or the "Den."

[213] Letter from R.W. Kellow to Mrs. Edison, Jan. 25, 1921. Edison NHS Archives.

While no final bill has been found for the steam pipe, it is assumed to have been installed shortly thereafter. It definitely existed by 1931, based on the residence appraisal that recorded it as "40 Ft. 2" pipe in coil, Den." It was disconnected but left in place in 1968 when the new heating system was installed.

The steam radiator is at the west wall, beneath the two middle windows of the west-wall bay. It also was installed in 1907 by John L. Reid. Reid's bill, dated November 27, 1907, included "1 27 sec. 18" Utility O.P. Steam radiator." A penciled note next to this entry identifies the radiator as being for the "Den." There is no indication that this new radiator replaced an earlier, existing radiator. The 1907 radiator was still in place in 1931, at which time it was described by the residence appraisal as "1 Radiator, 6 columns, 18", 27 sections, Den." Like the curved steam pipe, the radiator was disconnected but left in place in 1968.

One of the room's two thermostats is on east wall, south of the wide doorway. Words on the thermostat itself identifies it as having been made by the "Marvel American Thermostat Company, Newark, N.J." It is not an original feature of the room, based on its absence in an early undated photograph taken sometime after 1890. A likely date of installation is 1907, when the steam coil and steam radiator both were installed. It was probably disconnected in 1968 at the same time as the steam equipment.

The second thermostat is on the east wall, north of the wide doorway. This is a "Honeywell" thermostat that was installed in 1968. It is in use today.

Fire-Protection System

One ionization smoke detector manufactured by Pyrotronics is mounted to the ceiling of the south bay. It was installed in 1978.

There is no mention in the historical records of fire-protection equipment being in this room during the Edison years. The closest fire extinguishers and fire pails were in the Kitchen and Pantry, according to the furnishings appraisals of 1921, 1924, and 1930.



Figure 89. Sketch of the Den (Room 114), looking southwest, 1891.



EDISON'S DEN.

Figure 90. Den (Room 114), looking north, circa 1890.



Figure 91. Den (Room 114), south bay window, 1907.



Figure 92. Den (Room), southwest corner, 1907.



Figure 93. Den (Room 114), looking north, 1947.



Figure 94. Den (Room 114), looking southeast, 1947.



Figure 95. Den (Room 114), looking south, 1947.



Figure 96. Den (Room 114), looking west, 1947.



Figure 97. Den (Room 114), looking northeast, 1960.



Figure 98. Den (Room 114), looking southeast, 1960.



Figure 99. Den (Room 114), looking southwest, 1960.



Figure 100. Den (Room [illegible]), looking northwest, 1960.



Figure 101. Den (Room 114), looking northwest, 1967.

Dining Room (Room 115)

General Information

The Dining Room is next to the Den (Room 114) on the west side of the house. Its dimensions were recorded by the 1931 residence appraisal as being 16 feet by 37 feet.

Madeleine Edison Sloane later recalled that this had been the family dining room, where the family gathered for their everyday meals, in addition to special Thanksgiving and Christmas dinners. The Edison children used the Dining Room as a seating area for their audience when they staged amateur theatrical productions in the adjacent Den.[214]

The Dining Room as it exists today is larger than it was when the house was built in 1880-81. The room's original configuration is shown on the first-floor plan of the house published August 27, 1881, in *American Architect and Building News*. This shows the "Dining Room" as being shorter than the present room, measuring only 23 feet long. The west wall was then located 14 feet farther to the east and it had a bay with five windows. Other features on the plan are a fireplace at the south wall, two windows flanking the fireplace, and a "Dresser" alcove at the west end of the north wall. A doorway in the east wall gave access to the front "Hall," and a second doorway in the north wall connected with the "Butler's Pantry." The New York firm Pottier & Stymus had finished the room with wallpaper and a decorated ceiling, according to their bill dated May 7, 1882.

No documentation exists on the enlargement of the Dining Room to its present size. This work was presumably done in 1884 as part of the large west addition built for the original owner, Mr. Pedder.[215] It is possible, however, that the Dining Room addition was still incomplete in 1886—as was the adjacent Den to the west—when Thomas Edison purchased the house. That this was the case is suggested by an inventory of the interior furnishings made in 1886, which described the room as having only two windows and one doorway.[216]

Thomas and Mina Edison may have completed the Dining Room sometime after 1886, although no documentation has been found for this work. It had certainly been done by December 31, 1890, when Herts Brothers submitted their final bill for the completion of the adjacent "Lounging Room" to the west (Room 114), which included a wide doorway connecting with the Dining Room.

A description of both the Dining Room and the Den is found in an article published in *The Decorator and Furnisher* in 1891:

> Let us now return to the main entrance and look at the long architectural vista at the rear of the hall at the foot of the main stairway. Here, through a recessed, arched and paneled doorway the vista extends down the long dining-

[214] "'Glenmont': Transcript of Taped Tour of Edison Home," by Madeleine Edison Sloane, 1973.

[215] See the section on the Den (Room 114) for a justification of this date.

[216] The inventory also listed furnishings, including "1 Brass chandelier (13 jets)." Essex County Registry of Deeds, Book D of Miscellaneous, Jan. 20, 1886. Copy on file at Edison NHS.

> room into and through the width of the "den"...a distance of nearly, if not quite, seventy feet. The ample space contained within these two rooms may be inferred from the fact that at a reception lately held in the mansion, Mrs. Edison was able with ease to seat two hundred guests at luncheon.
>
> The dining-room, measuring 32 feet by 22 [sic], is finished with antique oak in parquetry, paneled wainscoting, ceiling beams, mouldings, buffet built into an arched recess, divans, chairs, tables and pedestals for vases. The only exception is the mantel and cabinets, reaching to the ceiling, opposite the buffet. These are mahogany. The walls are hung with heavily embossed paper on a ground of dull yellow with deep blue as the predominant tint in its Persian figuring. The same deep dull blue appears in the large central rug and in the plush portieres and window hangings....

The article was accompanied by the earliest-known view of the room—a sketch showing the southeast corner (fig. 102).

Antonia and W.K.L. Dickson made the following observations about the Dining Room in their book published in 1892:

> We mount a short flight of steps, facing the entrance, and pass into the dining room, rich with carvings of oak and mahogany, hunting and pastoral scenes, and heavy with the breath of flowers.[217]

Yet another visitor viewed the Dining Room in 1894 and made the following comments:

> The dining room is stately and somber, as the fin de siecle dining room should be. There are some beautiful pieces of silver on the sideboard, which stands in a niche built expressly for it.... There are two superb chandeliers, fitted like the others through the house with electricity, and a huge Eastern rug as soft as velvet covering the centre [sic] of the floor.[218]

This article was illustrated with a sketch, which was a view looking toward the west (fig. 102).

The Dining Room was completely redecorated in 1902 under the direction of A.H. Davenport Co. The floor was scraped and refinished, the woodwork was painted for the first time, a green-stripe material was hung on the walls, canvas was hung on the ceiling, the upper sashes in the three windows were altered, a new fireplace mantel and china cabinet were installed, and alterations were made to the light fixtures. The room's new appearance is documented in several photographs taken sometime after 1902 (figs. 103-05).[219]

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[217] Dickson and Dickson, *The Life and Inventions*, p. 342.

[218] "Superb Country Homes."

[219] Bill from A.H. Davenport Co. to Thomas A. Edison, Dec. 31, 1902. A.H. Davenport Co. returned in 1912 to replace the fireplace's Sienna marble facing and hearth with new marble. Edison NHS Archives.

Plans were submitted in 1907 by architects Allen & Collens to convert the Dining Room to a picture "Gallery."[220] The work, however, was never performed.

The next alteration was made in 1909-10, when the east window in the south wall was converted to a doorway. This doorway connected the Dining Room with the Fern Room (Room 116), which was newly constructed at this time. The doorway was fitted with a pair of French doors.

A proposal to remodel the room as a "Lounge" and move the Dining Room to the Den was made by architect Wilbur S. Knowles in 1929. As with the plans of 1907, the Dining Room remained unaltered.

The last redecoration of the room took place in 1935, under the direction of Mrs. Renner. Mrs. Renner attempted to improve the "proportions" of the room by painting the walls, the woodwork, and the built-in cabinets with a unifying green and gold paint scheme. The results of her work are documented by photographs of the room dated 1947 and 1960.

The room today is little changed today from its appearance in 1935. It is open and interpreted to visitors.

Floor

The floor was built in two stages: 1880-81 and circa 1884. The eastern two-thirds of the floor are original, dating to 1880-81; the western third was built circa 1884 as part of the later addition to the room. The division between the old and new floors is defined by the location of the large ceiling beam.

The entire floor is finished with parquetry. It is composed of dark- and light-color woods that are arranged in patterns to form a tile center and a wide decorative border. The pattern of the entire room is uniform, with no discernable break where the later west extension to the room begins. This suggests that either great care was taken to match the original floor when the west addition was built circa 1884, or that the entire parquet floor was installed circa 1884 or sometime thereafter. Information supporting the former argument is a description of the house in 1881, which says the floors in the first-story rooms were "of inlaid woods, with wide marquetry borders."[221] No documentation has been found on the building or finishing the floor of the Dining Room's west addition.

[220] "Alterations of House, Allen & Collens," Oct. 29, 1907.

[221] "House For Mr. Henry C. Pedder."

The existing floor appears to have been in place by 1891, at which time it was described as being "antique oak in parquetry."[222] Work was done in 1902, when A.H. Davenport Co. billed for "filling holes in floor where bells were."[223] The floor was later recorded by the residence appraisals of both 1921 and 1924 as being "600 Sq. ft. oak parquetry flooring." An original heat register is in the southeast corner of the floor, and a later register is in the southwest corner. Both were used during the Edisons' occupancy of the house.

Except for wear, the floor appears to be little changed today from its appearance during the Edison years.

Walls

The Dining Room walls date from two periods of construction: 1880-81 and circa 1884. The earlier walls make up the eastern two-thirds of the room, and the later walls make up the western third of the room. The room's original west wall is missing today, having been completely removed when the room was enlarged circa 1884. A large load-bearing beam was installed in its place, which survives at the ceiling today.

All four walls are finished in a similar manner, with no discernable difference between the original walls and the later walls. The lower walls have paneled wainscot and the upper walls are plastered. Two other features of the upper walls are a picture molding and a ceiling cornice.

The earliest documented reference to the wainscot is an article dated 1890 that mentions the "conventional oak [sic] wainscoting."[224] Another article written in 1891 described the room as having "paneled wainscoting." Even more detailed were the residence appraisals of 1921, 1924, and 1931. The 1921 and 1924 appraisals both recorded "53 Lineal feet pine [sic] paneled wall wainscoting [and,] 106 Lineal feet picture moulding." The 1931 appraisal listed "53 Lineal ft. 4′0″ high pine paneled wainscoting [and] 106 Lineal ft. picture moulding."

A unique feature of the north wall are two niches: one for a built-in sideboard, the other for a china cabinet. The sideboard niche, which is centered in the north wall, is an original feature of the room. It is illustrated on the first-floor plan of the house published in *American Architect and Building News* in 1881. The second niche, at the west end of the wall, was added in 1902 for the new china cabinet. The niche did not exist in 1894, based on a sketch that shows a flat wall in this location.[225]

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[222] Poole, "The Residence."

[223] Bill dated Dec. 31, 1902. See the section on the "Annunciator Button" for more discussion on the bells.

[224] Newspaper clipping, the *Record* (Boston, MA), June 31, 1890. Edison NHS files.

[225] The sketch was published in the *New York Recorder* to illustrate the article entitled "Superb Country Homes."

Ceiling

The ceiling was installed in two phases: 1880-81 and circa 1884. The earlier portion comprises the eastern two-thirds of the room, while the later portion comprises the western third. The two sections are divided by a large ceiling beam that was itself installed circa 1884. The ceiling was remodeled in 1902 and refinished in 1935. It retains its 1935 appearance today.

Little is known about the original 1880-81 ceiling. The earliest description is an article dated 1891 that described the room as having "antique oak...ceiling beams."[226] The beams are illustrated in a later sketch dated 1894 that shows the ceiling divided into segments by several north-south beams.

Work was done on the ceiling in 1902 by A.H. Davenport Co. Their bill, dated December 31, 1902, described making "alterations to plaster ceiling, hanging canvas on same, [and] tinting ceiling and cornice." The "alterations" involved removing all but one of the ceiling beams and installing a narrow raised border, based on a photograph of the room taken in 1916. The one ceiling beam that was retained was the large structural beam that had been installed circa 1884 to carry the load of the original west wall.

The ceiling was washed, repaired, and painted under the direction of Mrs. Renner in 1935.[227] See the "Finishes" section for a more detailed description of this work.

Woodwork

While there has been some confusion about the woodwork in the Dining Room, the original woodwork is generally acknowledged to be ash and mahogany. Less is known about the wood used for the later alterations.

American Architect and Building News wrote in 1881 that all the rooms in the first and second stories were finished in hard woods, with ash being used in the Dining Room. An inventory of the house taken in 1886 listed most of the furniture in the Dining Room, including the fireplace mantel and two sideboards, as being made of "mahogany." The ash woodwork was mistakenly identified as being "oak" in an article published in 1891, and in a book on Edison published by the Dicksons in 1892. The later residence appraisals of 1921, 1924, and 1931, all mistook the then-painted wainscot as being "pine."

~~Several changes have been made to the Dining Room woodwork over the years. The~~ woodwork in the west third of the room is later, having been installed circa 1884 as part of the room's extension. The sliding doors at the wide west doorway date to 1890, when the Den (Room 114) was completed. Alterations carried out in 1902 included removing the arched trim of the original built-in sideboard, replacing the original fireplace mantel with a new mantel, and installing a new built-in china cabinet. Most of the woodwork was painted for the first time in 1902. Finally,

[226] Poole, "The Residence."

[227] Estimate from Mrs. Renner, July 1, 1935. Edison NHS Archives.

in 1916, an original wood panel was removed from beneath the southeast window to make a doorway opening.

Doorways

The Dining Room has four doorways: one in each of the four walls. Two doorways date to 1880-81, the third was installed circa 1884 (but not finished until 1890), and the fourth was enlarged from an original window in 1909-10.

The architraves of all four doorways feature pilaster-like side members with recessed interior panels. The architrave lintels are flat with a decorative band of alternating rosettes and triglyph forms, above which is a denticulate cornice. The east doorway differs slightly by having an arched head.

East Doorway. The room's formal entrance is the wide doorway in the east wall. This is an original (1880-81) doorway, based on the 1881 floor plan. It features a wide arched opening and a single paneled door that slides into a pocket in the north jamb. The top of the doorway's arch is open today, although in 1916 it was filled in with a wood panel (fig. 104). The hall side of this doorway was described by the residence appraisals of 1921 and 1924. No similar descriptions exist for the Dining Room side of the doorway in any of the residence appraisals.

North Doorway. The service doorway is in the north wall. It also dates to 1880-81, based on the floor plan of 1881. The doorway connects with the Pantry (Room 108), and was used principally by the service staff. Work was done on the door in 1902, which included "changing pantry door to swing the other way," installing a "push plate for pantry door," and "refinishing pantry side of door mahogany color."[228] The existing double-acting hinges also appear to have been installed at this time, based on a bill from carpenter Adolph Vogel for "1 pr. Polished Brass Bommer Spring Dbl. Ac. hinges."[229]

The north doorway was described by the residence appraisal of 1921 as "1 6-panel single swing [sic] door frame trim and hardware." A similar description was given in 1924, except that the door was then correctly noted to be "double swing." The 1931 residence appraisal recorded "1 Door, 2'10" x 7'6" x 1-3/4", 6 panels."

West Doorway. The wide doorway in the west wall connects with the Den (Room 114). The doorway opening was most likely constructed in 1884 as part of the large west addition. It had a pair of "folding doors" in 1889, while the Den was still unfinished, according to a letter from Edwards & Co. dated September 14, 1889. When the Den was finally completed in 1890, the doorway was fitted with the existing pair of paneled wood doors. These doors slide on a track, and each fits into a pocket—one in the north jamb, the other in the south jamb.

[228] Bill from A.H. Davenport Co., Dec. 31, 1902. Edison NHS Archives.

[229] Vogel worked in December 1902 on "changing door," and charged for the double-acting hinges—all in an unspecified location. His bill is dated June 1, 1903. Edison NHS Archives.

The west doorway was described by the residence appraisals of 1921 and 1924 as having "1 Pair 15 panel mahogany and oak [sic: prima vera] veneer sliding doors, floor track, frame trim and hardware." The 1931 residence appraisal recorded the doorway with "1 Pair rolling doors, 8'0" x 8'6" x 2", 20 [sic: 30] panels, mahogany veneer one side, maple [sic: prima vera] veneer one side." The doorway was then listed under the "Den." Alterations were made in 1935, which included lowering the track in the floor and installing larger rollers on the doors.[230]

South Doorway. The doorway at the east end of the south wall leads to the Fern Room (Room 116). It is not an original doorway, but was converted from an original (1880-81) window in 1909-10 when the Fern Room was built. This work involved removing the window sashes and lower wood panel, and installing a pair of French doors. The width of the opening was not altered.

The south doorway was described by the residence appraisals of 1921 and 1924 (under "Fern Room") as one "Pair 48" x 84" plate glass French casement doors, with frames, trim and hardware." The residence appraisal of 1931 was more detailed, listing "1 Pair French doors, 3'4" x 6'6" x 2", 2 lights, full brass bolt, 1'0" transom, stained and leaded glass." The reference to the "transom," however, appears to have been an error.

Windows

The room has two segmentally arched window openings (W-120 and W-121), both located in the south wall. The eastern window dates to 1880-81; the western window was installed circa 1884 as part of the new west addition.

Several changes have been made to the Dining Room windows over the years. The original (1880-81) bay window in the west wall was removed circa 1884, when the room was enlarged to the west. The three south-wall windows were altered in 1902, by removing their stained-glass transoms and upper sashes, and by installing larger clear-glass window sashes in their place. Finally, in 1909-10, the original 1880-81 window at the east end of the south wall was converted to a doorway. The windows retain their 1909-10 appearance today.

Both windows in the south wall have one-over-one clear glass window sashes; the top of the upper sashes is curved to match the segmental arch of the opening. As explained above, the lower sashes date from 1880-81 and circa 1884, and the upper sashes are 1902. The woodwork trim of both windows is identical, even though the windows were installed at different times. The architraves are similar in style to those of the doorways. Each window has a wood panel below the window opening. However, only the original, eastern window has a tambour cover that lifts from the sill.

The two windows were recorded by the residence appraisals of 1921, 1924, and 1931. The 1921 and 1924 appraisals listed "2 30" x 72" plate glass double chain hung sash, paneled bases, frames, trim and hardware." The 1931 appraisal listed "2 Double hung windows, 3'2" x 7'2" x 1-5/8", 2 lights."

[230] Letter from John Miller to Mrs. Edison, July 31, 1935. Edison NHS Archives.

Fireplace

A fireplace is at the south wall, between the exterior doorway with French doors and the original window. It is an original 1880-81 feature of the room that was altered in 1902 and refinished in 1935. It retains its 1935 appearance today.

Some documentation exists on the original appearance of the fireplace as it was built in 1880-81. An inventory taken of the house in 1886 listed the Dining Room as having a "Brass and polished steel grate and fender [and] Mahogany mantel piece, with shelves and mirror." The mantel was also described in an article dated 1891 as being of "mahogany" and "reaching to the ceiling." The only known illustration of this mantel is in a sketch of the room published in 1894 (fig. 102). This shows an elaborate overmantel, with an arch on the front and open grilles on the sides.

Alterations were made to the fireplace in 1902 by A.H. Davenport Co. The bill, dated December 31, 1902, notes that the "old mantel, facing and hearth" were removed. Installed in their place were "one mantelpiece with mirror" and "Sienna marble facing and hearth, [and] iron lining." The new mantel was of neoclassical design with a center mirror, fluted Ionic pilasters, and egg-and-dart moldings.

The new marble is reported to have cracked sometime after 1902. It is for this reason that Davenport returned in 1912 to install a new sienna marble facing and hearth. The replacement marble was a gray-black color with distinctive white lines.[231]

Descriptions of the Dining Room fireplace were written for the residence appraisals of 1921, 1924, and 1931. The 1921 and 1924 appraisals both listed "1 7′ wood mantel, with 36″ x 36″ bevel plate glass mirror, Onyx [sic] hearth and facings, carved panels at facia and pilasters, complete." The 1931 appraisal recorded "1 Mantel, 6′0″ wide, pine shelf, ornamental frieze and pilaster, metal fireplace with marble facing and hearth, 6′0″ high pine paneled upper panel with 3′0″ x 3′0″ mirror inset."

The last alteration to the mantel occurred in 1935, when it was repainted under the direction of Mrs. Renner. For more details, see the section entitled "Finishes."

Sideboard

The Dining Room has a built-in sideboard at the north wall. The sideboard appears to be an original feature of the room that was altered in 1902 and refinished in 1935.

The sideboard sits in a niche in the middle of the north wall. It consists of two parts: a lower cabinet and an upper cabinet. The lower cabinet contains three drawers above four side-hinged doors. It is topped by a slab of pink marble. The upper cabinet features a beveled mirror topped by a broken pediment and flanked on either side by six carved wood panels. Each panel depicts a

[231] Bill from A.H. Davenport Co., Apr. 20, 1912. The new marble apparently also cracked shortly after its installation in 1912, based on correspondence dated May 31, June 27, July 23, and Aug. 8, 1912. Another new marble was therefore installed at no cost to the Edisons.

different botanical subject such as berries, corn, a maple tree, an oak tree, and wheat. The exterior wall of the niche is trimmed on either side by pilasters; the upper portion of the niche is plain, with no trim.

The sideboard is well documented. Both the niche and the sideboard appear to be original features dating to 1880-81. The floor plan of 1881 shows a niche in this location with a piece of furniture labeled "Dresser." The inventory of 1886 also described the room as having "1 Mahog[any] side board, marble top with shelf and mirror." Hester Poole noted an "antique oak...buffet built into an arched recess" in her article dated 1891. Poole erred in assuming the niche was arched; the trim enframing the top of the niche was arched, but not the niche itself. A sketch showing the "buffet" was published two years later in an article dated 1894.[232] This shows the arched trim, which appears to have been similar in style to the existing architrave of the east doorway.

Judging by these early descriptions and views, the niche and sideboard remain intact today, with one exception. The arched trim enframing the top of the niche was removed during alterations and repairs to the sideboard in 1902. A bill from A.H. Davenport Co. dated December 31, 1902, recorded the following work: "removing trim over sideboard; removing, resilvering and replacing mirror in sideboard; [and] refinishing old sideboard and changing hardware on same." A photograph dated 1916 shows that the trim had indeed been removed.

The sideboard was recorded by the residence appraisals of 1921, 1924, and 1931. The 1921 and 1924 appraisals both described the following:

> 1 6′ x 6′6″ x 21″ built in mahogany buffet with upper side and corner shelving, cupboard and drawer base drawers, beveled plate glass mirror top, with moulded edge Tennessee marble sewing shelf, complete

The 1931 appraisal contains the following listing:

> 1 Mahogany recess sideboard, 5′6″ x 2′0″ x 8′0″, cabinet base with 4 carved doors, marble shelf, carved and paneled upper section with beveled mirror panel, 2′3″ x 3′2″

The sideboard was painted for the first time in 1935, under the direction of Mrs. Renner. This is discussed in detail in the section on "Finishes."

China Cabinet

The china cabinet is a later feature of the room. It was installed in 1902 and refinished in 1935.

The china cabinet is in a wall niche at the west end of the north wall. It is a large cabinet that fills the entire niche. Its styling is neoclassical, featuring paired pilasters, a scalloped cornice,

[232] "Superb Country Homes."

and applied ornamentation. The cabinet is divided into a lower part and an upper part. The lower part comprises one-third the total height of the cabinet, and has one interior wood shelf. The upper part constitutes the remaining two-thirds of the cabinet, with five wood shelves. Each part is enclosed by a pair of side-hinged doors. These doors are glazed with plain glass for clear viewing of the cabinet's contents. Their muntins are curved and angular, forming an overall "Gothic" pattern.

The installation is documented by the bill from A.H. Davenport Co. dated December 31, 1902, that lists "One mahogany china cabinet, $435.00." A wall niche must have been created for this cabinet, which may explain another entry on the bill for "repairing plaster wall in niche back of cabinet."

Descriptions of the cabinet are provided by the residence appraisals of 1921, 1924, and 1931. The 1921 and 1924 appraisals both recorded:

> 1 6' x 7' x 21" built in mahogany china and crystal closet, cabinet head designed glass doors, cupboard and drawer base, drawers [sic], shelves, etc.

The 1931 appraisal listed the following:

> 1 Mahogany recess china closet, 6'0" x 2'0" x 9'0", 2 pair glazed and lattice doors, lower portion with mahogany panels for back and sides, upper portion 5 shelves.

The china cabinet, like the sideboard, was painted for the first time in 1935. See the "Finishes" section for more details.

Finishes

The Dining Room finishes have been changed several times since the room was originally finished in 1880-81. These changes occurred circa 1884, when the room was enlarged; 1902, when the room was remodeled by A.H. Davenport Co.; and 1935, when the room was redecorated by Mrs. Renner. The room's existing green and gold finishes date to the 1935 renovation. The walls, woodwork, fireplace mantel, and built-in furniture are painted green and trimmed with gold; the ceiling is painted yellow. Only the floor and the doors retain a varnished finish.

The original finishes of the Dining Room were very different than those that exist today. These are documented by the bill from Pottier & Stymus dated May 7, 1882, that noted "paper[ing] walls" and "decorat[ing] ceiling."

It is not known if the room's original finishes were retained when the room was enlarged westward circa 1884. The documentation suggests that wallpaper continued to be used on the walls. A description of the room's remodeled appearance in 1891 noted, "the walls are hung with heavily embossed paper on a ground of dull yellow with deep blue as the predominant tint in its Persian

figuring."[233] An accompanying sketch shows the walls as having a curvilinear design, with a wide patterned border near the ceiling. The ceiling itself also appears to have had a decorative treatment (fig. 102). No samples of the wallpaper are known to survive. Remnants of the ceiling decoration, on the other hand, may exist behind the later canvas finish.

The room, including its finishes, was completely remodeled in 1902. The bill from A.H. Davenport Co. dated December 31, 1902, noted the following work:

> Alterations to plaster ceiling, hanging canvas on same, tinting ceiling and cornice; hanging walls in green stripe material; painting woodwork of room, excepting doors of sideboard, ivory white; repairing, scraping, and refinishing floor; scraping and refinishing room sides of doors, mahogany color; [and] refinishing old sideboard.

The appearance of the room following the 1902 remodeling is documented by several black-and-white photographs. These include two that are undated, one dated 1916, and another dated 1932. The following features are shown as being a light color and presumably painted: the wainscot, the doorway and window architraves, the fireplace mantel, the upper wall above the picture molding, the ceiling cornice, and the ceiling.[234] Unpainted wood features that were presumably varnished include the parquet floor, the doors, the sideboard, and the china cabinet. The walls between the wainscot and the picture molding are decorated with a vertically striped pattern, which was probably the "green stripe material."

Some additional work appears to have been done on the wall fabric only two years later, according to a bill from the New York City firm of McGibbon & Company, Linen and Upholstery House, dated August 1, 1904. This notes "slip covering Dining Room walls with Taffeta" at a total cost of $98.50. It is not known if this was only a temporary covering that was installed over the "green stripe material," or if it replaced the earlier material and was itself striped. The reference to "slip covering" suggests the former treatment. Unfortunately, no photographs or other descriptions of this material are known.

A.H. Davenport Co. returned to the house in 1912 to make repairs that included work in the Dining Room. The bill, dated April 20, 1912, described "piecing out, slivering, scraping and refinishing the floor."

The cornice was repainted in 1924, according to an estimate from Charles Rinschede to architect Wilbur Knowles dated March 14, 1924. Rinschede's estimate notes, "Cornice to be washed, prepared and tinted in water color, same color as at present. $50.—" The work was presumably done, based on a hand-written note next to the entry that reads "accepted."

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[233] Poole, "The Residence."

[234] A paint analysis of the room in 1980 identified the paint color as "cream." [Ref., Agricola, "An Analysis," p. 99.]

The fabric was still on the walls in 1924, according to the residence appraisal dated May 24, 1924, which describes the Dining Room finishes as being "Paint stain varnish and tapestry wall hangings."

A complete renovation of the room was carried out in 1935 under the direction of Mrs. Renner. The work as proposed was outlined in an estimate to Mrs. Edison dated July 1, 1935:

> Ceiling washed, repaired, touched up, painted two coats of gold color, one coat of glaze and flat varnish. Sidewalls to have fabric removed, plaster repaired and painted three coats with one coat of glaze and flat varnish. Hardwood doors and sash of windows cleaned and bleached where necessary, touched up and varnished. All other woodwork including dado, door and window trim, mantel, painted two coats, glazed, striped with gold and varnished. Floor to be scraped, refinished with two coats and shellacked and waxed. All of the above to be done for the sum of $575.00.

Work was well underway by August 7, 1935, when Mrs. Renner reported to Mrs. Edison on the progress of the job:

> I was at the house on Monday to see a finished sample for the color and guilding [sic] in the Dining Room.... The color is beautiful and I am sure you are going to be pleased with it. Having the woodwork and built in pieces of furniture the same color as the walls is the greatest possible improvement as it makes the room seem so much better proportionately.

The transformation of the room is documented in black-and-white photographs dated 1947. These show a monochromatic treatment for the woodwork and the walls, except for the floor and the doors, which remained unpainted. Certain details of the woodwork, such as the rosettes and moldings, are highlighted in a darker color. The ceiling appears to have a plain monochrome finish.

The paint colors actually used in 1935 are documented by a paint analysis of the room in 1980. It was discovered that the 1935 finishes remained intact, never having been painted over. Both the walls and woodwork were described as a light blue-green color with a thin layer of varnish. The "gold" details were identified as a silver-metallic bronzing powder on a red or green size with a varnish finish to give a "gold" appearance. The ceiling paint was described as a yellow-cream color.[235] These same finishes survive in the room today.

Lighting System

The room has three light fixtures, including one ceiling fixture and two wall fixtures. The ceiling light is believed to be an original, circa-1887 chandelier that was altered in 1902 and again sometime between 1915-16 and 1921. It is operated by a push-button switch on the north jamb of the east doorway. The wall fixtures were installed in 1902. Each has three lights that are operated individually by three separate switches at the fixture itself. All of the Dining Room light fixtures and their switches were rewired in 1968.

[235] Agricola, "An Analysis," p. 99.

The original light fixture in the Dining Room was a gas chandelier, described as "1 Brass chandelier (13 jets)" in the inventory of 1886.

The original chandelier is believed to have been replaced by two new chandeliers when the house was electrified in 1887. These were described by the inventory of 1891 as "2 electroliers." More detailed was an article published in 1894 that said, "There are two superb chandeliers, fitted like the others through the house with electricity." A sketch illustrating the article shows one of the two fixtures as being large and elaborate, featuring a wide spray of arms (fig. 102). No photographs of the electroliers are known.

Alterations were made to the two electroliers as part of the room's remodeling in 1902. The bill from A.H. Davenport Co. dated December 31, 1902, documents the following work:

> 1 Electric drop light over table, $85.00
> Three 3-light electric brackets, $78.00
> Altering chandelier into 8 light electric, including mans [sic] time.

Later photographs of the room provide more details of the 1902 alterations. The electrolier on the west side of the room appears to have been completely removed from the room at this time. The electrolier on the east side of the room was modified by removing the upper and lower portions, retaining the eight-arm spray of lights, and mounting the fixture closer to the ceiling. A "drop light" was suspended from its center to illuminate the dining table below. This light is shown in a photograph as having a large shade with long fringe. The removal of the west electrolier made a new light source necessary at this end of the room. Two three-light wall brackets were therefore installed, one each on either side of the wide doorway to the Den. A third bracket of identical design was also installed, on the opposite east wall north of the doorway in that wall.

The wall bracket at the south end of the west wall was removed around 1915-16. This was done to make room for the "Antique Dutch hall clock" that had been inherited by Mrs. Edison from her mother's estate in Akron, Ohio.[236] The earliest documentation of the missing fixture is the residence appraisal of 1921 that recorded only two (instead of three) "3 light cast bronze wall brackets." A photograph of the room taken in 1932 shows that only the fixture's back plate had been retained on the wall.

The drop light was removed from the ceiling electrolier sometime before the residence appraisal of 1921. This date is based on the appraisal's description of the electrolier as "1 8 light crystal ceiling spray," with no mention of the drop light.

A "Lighting Recommendations" report submitted on February 14, 1927, advised Mrs. Edison on the types of light bulbs to use in the light fixtures. Suggested for the "ceiling fixture" were "9- [sic: 8-] 40 watt A-19 Inside Frost MAZDA Lamps." The "wall brackets" were listed with "6- 25 watt A-19 Inside Frost MAZDA Lamps."

[236] Mrs. Miller died in 1912, but her estate was not settled until circa 1915-16. Glenmont Curator Leah Burt to Barbara Yocum, Mar. 3, 1992.

No additional changes appear to have been made to the light fixtures by 1931, based on the residence appraisal for that year. The ceiling fixture was then recorded as "1 Brass ceiling fixture, 24" diameter, 8 bracket lights." The wall fixtures were listed as "2 Brass wall brackets, 3 lights." The appraisal also recorded "1 Switch" in the Dining Room.

The last alteration to the light fixtures involved the removal of the 1902 back plate from the south end of the west wall. This was probably done in 1935, when the wall fabric was removed from the walls and the latter were painted for the first time. The back plate is missing today.

Electrical Outlets

The Dining Room has four duplex outlets. Three of these are in the baseboard of the north wall, and one is in the floor at the south wall. All four outlets were rewired in 1968.

Two of the north outlets are on the east side of the doorway to the Pantry. These are activated by individual push-button switches that are mounted to the upper wainscot immediately above the outlets.

The north-wall outlet west of the Pantry doorway is labeled "DC" on its back plate. It is not operated by a switch.

The residence appraisal of 1931 recorded the Dining Room as having only "3 Base receptacles." It is not known which three of the four existing outlets were counted in 1931.

Annunciator System

The Dining Room was served by the Edisons' annunciator system. The annunciator board in the Kitchen (circa 1890-1912) has a station marked "Dining Room." Also, its button still exists, mounted to the east wall, south of the doorway to the hall. It is similar in style to other buttons in the house, with a mother-of-pearl button and a triangular metal housing.

The Dining Room may have also have had a floor-mounted button beneath the table for summoning the waitress. Such a device was mentioned in A.H. Davenport Co.'s bill of December 31, 1902, which included "filling holes in floor where bells were." No documentation exists for such a feature after 1902, nor was a floor-mounted button found during the architectural investigation.

Telephone

The Dining Room has no telephone today. The Edisons, however, had a telephone in this room by 1929, according to the historical documentation.

Telephone instruments were leased by Thomas Edison beginning in 1886; one of these may have been in the Dining Room. The earliest documented reference to a telephone in the Dining Room is a letter dated January 21, 1929, from John Miller to New Jersey Bell Telephone. The letter refers to a telephone "set placed in the dining room" the previous year, and requests a longer cord.

The earliest photograph to show the telephone is dated 1947 (fig. 107). The telephone is at the north wall, stored on a small corner shelf on the left (west) side of the built-in sideboard. The telephone cord appears to have been installed in the floor. Telephone instruments were not recorded by the residence or furnishings appraisals, most likely because they were not owned by the Edisons.

Heating System

The heating equipment in the Dining Room dates to three periods: 1880-81, circa 1884, and 1968.

The room as first constructed in 1880-81, and as later enlarged circa 1884, was heated with hot air produced by the house's original steam-heating system. The hot air was obtained by using steam radiators—located in heat-transfer boxes in the cellar—to heat fresh air. The hot air then entered the room through two floor registers. (See the subsequent section "Utilities: Heating System " for more information.) The registers are of different dates. The original floor register is in the southeast corner of the room, and the later register is in the southwest corner. Both were used during the Edisons' occupancy of the house.

One of the below-floor radiators that heated air for the Dining Room was replaced in 1907 by heating contractor John L. Reid. His bill, dated November 27, 1907, itemized "1 radiator 10 loop, 28" high Triton, 2 column, steam, 40 ft"; a handwritten note identified the radiator as being for the "Dining Room."

The Dining Room was one of the few rooms in the house that was overheated. In a letter to Mrs. Edison dated 1921, it was calculated that the room was supplied with 240 units of heat, which was 120 units over the amount needed. The room's heating equipment was later described by the residence appraisal of 1931 as being "2 Floor registers, Dining Room."

The two old floor registers were made obsolete in 1968 when the National Park Service installed a new forced hot-air heating system in the house. New heating equipment installed in the Dining Room included three narrow floor registers at the south wall and a thermostat at the north wall. This equipment is in use today.

Fire-Protection System

The room is protected from fire by a portable smoke detector mounted on a tripod. It is stored away while the house is occupied, and brought out when the house is empty.

Two ceiling-mounted smoke detectors made by Pyrotronics were installed in 1978 as part of an integrated fire-detection system for the house, but these have since been removed.

Security System

The burglar-alarm system installed at Glenmont in 1889 included connections at "all windows in Dining Room, doors & drawers of sideboard & folding doors leading to unfinished room." No remnants of this early system are visible today.

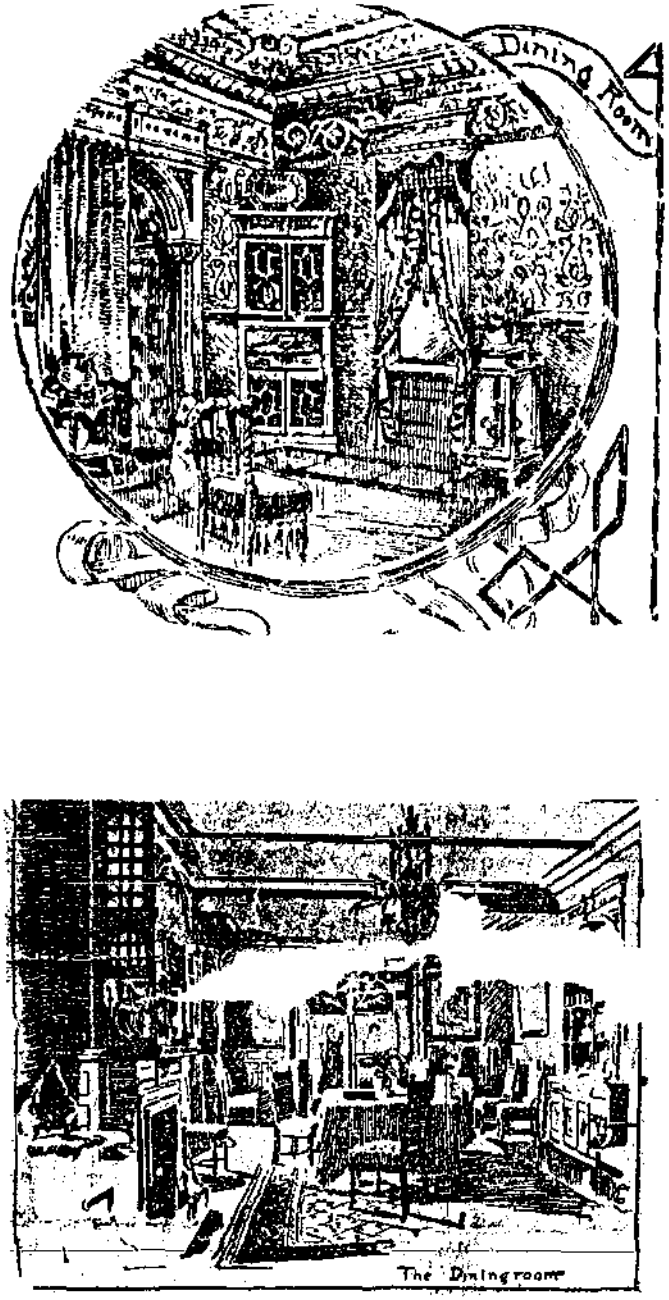


Figure 102. Two early sketches of the Dining Room: one showing the southeast corner (top, 1891); the other being a view looking west (bottom, 1894).



Figure 103. Thomas Edison seated in the Dining Room (view looking southwest), circa 1902-16.



Figure 104. Dining Room (Room 115), looking northeast, 1916.

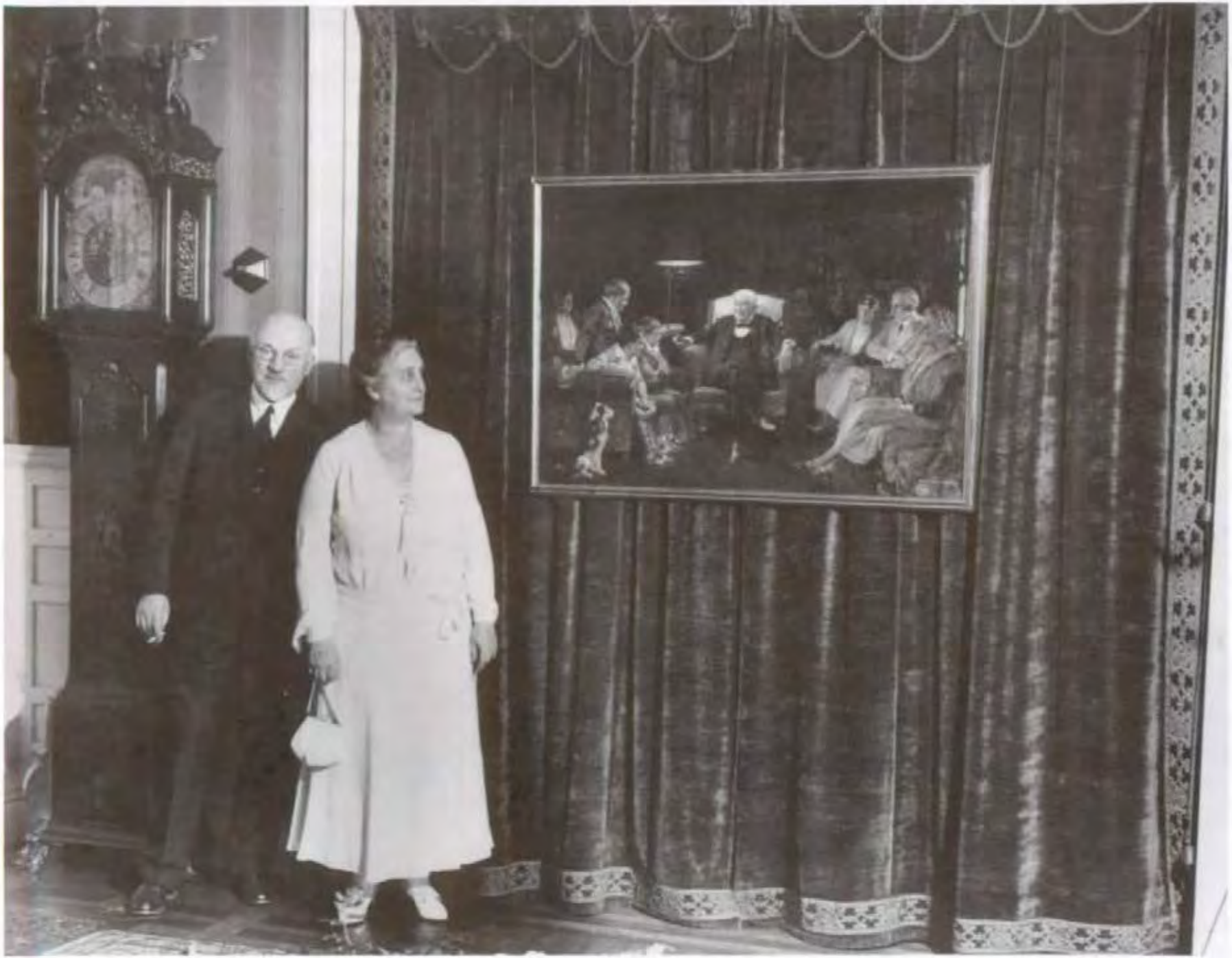


Figure 105. Dining Room (Room 115), Mrs. Edison and Mr. Hitchcock at the west-doorway portiere, 1932.



Figure 106. Dining Room (Room 115), looking west, 1947.



Figure 107. Dining Room (Room 115), looking east, 1947.



Figure 108. Dining Room (Room 115), looking southwest, 1960.



Figure 109. Dining Room (R[illegible] 115), looking northwest, 1960.



Figure 110. Dining Room (Room 115), looking northeast, 1960.



Figure 111. Dining Room (Room 115), looking east, 1960.



Figure 112. Dining Room (Room 115), looking southeast, 1960.

Fern Room (Room 116)

General Information

The Fern Room is a small room in the southwest corner of the house. Its dimensions were recorded by the residence appraisal of 1931 as 9 by 12 feet.

Plans to build a "passageway" between the Drawing Room (Room 100) and the Dining Room (Room 115) were proposed as early as 1907 by architects Allen & Collens.[237] The work, which would have created a straight-walled passageway, was not carried out at this time. The room finally built for the Edisons in 1909-10 was a completely different design than the one proposed in 1907. The architect for the project was Wilbur Knowles of New York City. His final bill, dated January 31, 1910, notes that the work commenced in August 1909 and was completed by February 1, 1910. The bill lists the various contractors for the job and the work that they accomplished, including: "mason work, carpenter work, heating ante-room, copper roofing, electrical work, mosaic work, sky-light work, painting work, [and] leaded glass." The total cost, including the architect's fee, was $6,048.09.

Wilbur Knowles's architectural drawings for the addition have never been found, although such were undoubtedly prepared. The only contemporary sketches in the collection of Edison NHS were prepared in October 1909 by Boston landscape gardener Ernest W. Bowditch. These show the exterior of the addition (labeled the "Exedra"[238]), and the new exterior steps and platform to the west.[239] The drawings are an accurate depiction of the new architectural features as they were actually constructed.

The new room was built in the protected southwest corner of the house. It was pentagonal in shape, with straight east, north, and west walls, a curved southwest wall, and a diagonal southeast wall. While small, it was light and airy: all of the southwest wall and much of the ceiling was glazed. Marble tiles on the floor provided a practical surface for plants. Two new doorways, enlarged from original window openings, connected with the adjacent rooms—the Drawing Room (Room 100) and the Dining Room (Room 115). A glazed doorway in the west wall also provided access to and from the exterior.

Only two historical photographs are known to exist of the Fern Room. The draft historic furnishings report includes an uncataloged 1914 photograph from album #13, Edison NHS Archives,

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[237] "Alterations of House, Allen & Collens," Oct. 29, 1907.

[238] The dictionary definition of "exedra" is as follows: "In ancient Greece and Rome: a room for conversation formed by an open or columned recess often semicircular in shape and furnished with seats" (*Webster's Ninth New Collegiate Dictionary*).

[239] "Garden for Mrs. Thomas A. Edison," Oct. 29, 1909 (catalog #114,485, blueprint plan); and "Garden Design for Mrs. Thomas A. Edison," Oct. 1909 (catalog #114,487, plans and elevations, colored and mounted on cardboard). Bowditch also prepared a later plan dated Jan. 28, 1910, and entitled "Sketch for Garden" that does not show the new room (catalog number 114,481, colored sketch on tracing paper). Edison NHS Archives.

looking southwest; it shows potted plants on the shelf, hanging plants, and palms. The other photograph is dated 1916 (fig. 113); it is a view looking towards the northwest, through the Drawing Room doorway. The room today is unchanged from its appearance in 1916.

The room has been known by several names over the years. Architect Wilbur Knowles and his contractors referred to the addition as the "Ante Room" in 1909-10. The name "Exedra" was used by landscape gardener Bowditch in 1909; it was also mentioned in Thomas Edison's private bill book in an entry dated October 31, 1923. "Fern Room" was used by the residence and furnishings appraisals of 1921, 1924, 1930, 1937, and 1947. This name is suggestive of the types of plants that may have been kept there by the Edisons. Only the 1931 residence appraisal called the room the "Rear Entrance." This report employs the name "Fern Room" because it was used frequently during the Edison years.

The Fern Room is not open or interpreted to visitors. It may, however, be viewed by visitors standing in either the adjacent Drawing or Dining Rooms.

Floor

The floor was constructed in 1909. It is finished with small green marble tiles laid in a mosaic pattern. Each tile is square, measuring approximately three-quarters of an inch on one side. The tiles were laid in 1909 by Traitel Brothers and Company. Their bill dated December 17, 1909, describes "furnishing and setting at residence of T.A. Edison, 3/4" Irish green marble mosaic floor in anteroom, and one marble saddle, $171.60."

The 1916 photograph of the room (fig. 113) is the only historical view of the floor. The floor was described by the residence appraisals of 1921, 1924, and 1931 as being "77 Sq. ft. colored ceramic [sic] floor tiling."

Walls

The walls of the Fern Room date from two periods of construction: 1880-81 and 1909-10.

The north, east, and southeast walls were built originally in 1880-81 as exterior brick walls. They became interior walls in 1909 when the Fern Room was constructed. The walls were finished in 1909 with wood paneling, vertical battens, a high baseboard, and a ceiling cornice. All of these features exist in the room today.

The west and southwest walls were built in 1909. They are composed primarily of a glazed exterior door and long narrow windows. (See "Doorways" and "Windows" for more complete descriptions of these features.) The walls are also finished with the same wide baseboard and ceiling cornice as are found on the north, east, and southeast walls.

A photograph of the room dated 1916 shows the northwest corner of the room, including the board-and-batten north wall and the glazed west wall (fig. 113). The residence appraisal of 1931 recorded the room's wall features as including "90 Sq. ft. pine wall paneling" and "47 Lineal ft. 6" x 6" pine cornice."

Ceiling

The ceiling dates to the 1909-10 construction of the room. Most of the ceiling is composed of a large stained- and leaded-glass panel; the south end of the ceiling is paneled with wood. The glass panel displays an abstract curvilinear floral design. It is supported on the room side by four metal bars aligned in a grid. Backlighting is provided during the day by a skylight cupola in the roof, and at night by electric lights.

The glass ceiling panel is documented by the bill from architect Knowles dated January 31, 1910, which included the following entry: "Heinigke & Bowen—Leaded glass $276." Also included in the bill was a listing for the "Geo. Hayes Co.,—Sky-light [sic] work $55." The 1916 photograph of the room (fig. 113) shows the ceiling as it appears today.

Descriptions of the glass ceiling panel are found in the residence appraisals of 1921, 1924, and 1931. The 1921 and 1924 appraisals both recorded "1 4′ x 6′ leaded glass dome light in wrought iron frame." The 1931 appraisal listed "140 Sq. ft. pine ceiling paneling, including stained and leaded glass light, 4′0″ x 6′0″ in iron frame."

Several metal hooks are in the wood portion of the ceiling. These were undoubtedly used to hang plants, as seen in the 1916 photograph of the room.

Doorways

The room has three doorways, all of which date to 1909-10. Two are interior doorways and one is an exterior doorway.

Exterior Doorway

The exterior doorway (D-108) is in the 1909-10 west wall. The doorway has a single door glazed with two long panes of glass, which is in keeping with the design of the adjacent windows. A partial view of the north doorway is shown by the 1916 interior photograph (fig. 113).

The door itself was described as being a component of the west wall by the residence appraisals of 1921 and 1924, with "one 12 [sic: 2] light plate glass S/S [single swing] sash door." The 1931 residence appraisal listed the door separately as "1 Door, 2′8″ x 7′6″, x 3/8″, 2 lights." A NPS report dated 1964 described the door as missing.[240] It is not known if the existing door is the old door that was later found in storage and reinstalled, or if it is a new door that was made sometime after 1964.

Interior Doorways

Of the two interior doorways, one is in the north wall and one is in the southeast wall. The north doorway connects with the Dining Room (Room 115), and the southeast doorway leads to the

[240] Bevin, "Historic Structures Report - Part I, Architectural Data Section on Rehabilitation of Glenmont," p. 11.

Drawing Room (Room 100). Both were enlarged from original 1880-81 window openings in 1909-10. Each doorway has a pair of French doors that most likely date to 1909-10. Each individual door is glazed with a single pane of glass.

The doors were recorded by the residence appraisals of 1921 and 1924 as "2 Pair 48" x 84" plate glass French casement doors, with frames, trim and hardware." Similar descriptions exist for the 1931 residence appraisal, which listed the doorways as part of the adjacent Dining and Drawing Rooms.

Windows

The Fern Room has several windows—some exterior, some interior. All of the windows date to the 1909-10 construction of the room.

Exterior Window

The exterior window (W-122) consists of seven long and narrow window sashes made of wood. Two of these sashes flank the exterior doorway in the west wall. These sashes are flat and stationary, and each is glazed with a single pane of clear glass. The other five sashes are in the curved southwest wall. They have curved sashes that are side-hinged to open outward, and each is glazed with a single pane of curved clear glass.

Inaccurate descriptions of the exterior window and its sashes were made by the residence appraisals of 1921, 1924, and 1931. The 1921 and 1924 appraisals recorded a "bent plate glass sash enclosure, with stationary [sic] sash." The 1931 appraisal listed "7 Casement windows, 1'4" x 6'6" x 1-3/8", 1 [sic] curved light."

Interior Windows

Two interior windows are in the east wall. These windows provide light and ventilation to two interior rooms: the Telephone Room (Room 119) and the Lavatory (Room 120). The northerly window was converted from an original 1880-81 exterior doorway in 1909-10. The southerly window is an original 1880-81 window that was retained when the Fern Room was built in 1909-10.[241]

Both windows are placed low in the wall, just above the baseboard. This is because both the Telephone Room and the Lavatory are at a lower level than the rest of the first story. Each has a single metal casement sash dating to 1909-10. The sashes are metal, side-hinged to open inward, and glazed with nine panes of clear textured glass. The muntins are lead.

The interior windows were recorded by the residence appraisals of 1921 and 1924; no mention was made in the 1931 residence appraisal. The 1921 appraisal incorrectly recorded only "1 [sic] 9 light leaded glass stationary [sic] wall sash, frame trim and hardware." The 1924

[241] This window retains its original double-hung sashes on the opposite (Room-120) side of the window opening.

appraisal was more accurate, listing "2 9 Lt. leaded glass hinged wall sash frame trim and hardware."

Window Seat

A shallow built-in window seat is at the west wall, beneath the curved window sashes. It may have functioned as a plant stand. The seat may date to 1909-10, although no documentation on it has been found.[242]

Finishes

All wood features in the Fern Room except the exterior door are painted a light brown-beige color.[243] Also painted this color are the metal window sashes at the east wall. No documentation has been found on the paint finishes for this room. It is therefore not known when the existing paint finish was applied.

Lighting System

The electric lighting for the Fern Room is concealed above the stained-glass panel in the ceiling. Here, light bulbs of an unknown number border the panel. The lights are operated by two switches at the north wall, west of the doorway. Both the light fixtures and the switches were rewired in 1968.

All that is known about the original (1909-10) lighting is that it was installed by electrician George R. Boyce for $250.00. No descriptions of the room's light fixtures appear in the residence appraisals for 1921, 1924, or 1931, suggesting that they were concealed at that time. The 1931 residence appraisal recorded "1 Switch, 3 gang," which may mean that one of the light switches is missing today.

Heating System

After its construction in 1909-10, the Fern Room was included in the house's original steam-heating system. Hot air produced by a concealed steam radiator was admitted to the room through a register in the lower east wall. This register, along with its decorative metal grate, survives in the room today. It became obsolete in 1968, when a new forced hot-air heating system was installed in the house. Two new heat registers were installed in the room at that time, in the floor at the west wall. These are operational today.

Fire-Protection Systems

No fire-protection systems exist in the Fern Room.

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[242] The window seat is out of range in the earliest photograph of the room, dated 1916.

[243] The room side of the exterior door may be unpainted because it has been repaired, or because it is a later reproduction.



Figure 113. Fern Room (Room 116), looking northwest through the Drawing Room doorway, 1916.

The floor in the Service Hall was described by the residence appraisals of 1921 and 1924 as being "90 Sq. ft. North Carolina pine T & G [tongue and groove] flooring." No floor coverings are mentioned in the residence appraisals, and the furnishings appraisals for those years did not include the Service Hall.

Walls

Most of the wall surfaces are finished with plaster that dates to 1880-81. As stated above, the west wall of the south part of the hall has been impacted by changes to doorways in that wall. An area of plaster from 1883-84 in the middle of the wall marks where an original closet doorway was closed. A section of floor-to-ceiling matched-board paneling at the north end of the wall defines where an original doorway accessed the early dumbwaiter shaft. See the section "Doorways" for more information.

The walls are trimmed by a wood baseboard at the floor, and by a plaster cornice at the ceiling. Decorative corner boards also protect the two projecting plaster corners at the east wall near the back stair.

The wall trim was documented by the residence appraisals of 1921, 1924, and 1931. The 1921 and 1924 appraisals listed "36 Lineal feet base, moulding and floor member" and "46 Lineal feet picture [sic] moulding."[246] The 1931 appraisal recorded "76 Lineal ft. 8" baseboard."

Ceiling

Like the walls, the ceiling in both parts of the hall are believed to be unchanged from their 1880-81 configuration. They consist of flat plaster, except in the south hall at the east wall. Here, the ceiling curves to follow the rise of the stairway to the second story.

Doorways

The Service Hall has seven doorways, all dating to 1880-81. Of these, one is an exterior doorway and six are interior doorways. The architraves of all seven doorways are molded with no corner blocks. Two original doorways are missing from the south part of the hall: a closet doorway and the original dumbwaiter doorway. The closet doorway is discussed here; the dumbwaiter doorway is discussed in the subsection entitled "Dumbwaiter."

The exterior doorway (D-103) is at the north end of the north part of the hall. It has a two-panel wood door glazed with 35 panes of stained glass, with a stained-glass transom above. It is described in detail in the section "Exterior Elements, Doorways and Entrance Steps, Doorway D-103."

The doorway in the hall's partition is almost identical in design to the exterior doorway. It has a two-panel door glazed with 45 panes of stained glass, with a 24-pane stained-glass transom

[246] The Service Hall has no picture molding; the appraisals were most likely describing the plaster ceiling molding.

above, and a nine-pane stained-glass sidelight on the east side.[247] The door is equipped two spring-loaded hinges, in addition to a spring-loaded lever arm made by "Yale." The doorway was recorded by the residence appraisals of 1921, 1924, and 1931. Of these, the most accurate was the 1931 appraisal, which described "1 Door, 3'0" x 7'4" x 2", 1'8" transom and 1'0" side light, all stained and leaded glass lights and door check."

The doorway at the south end of the hall has a 12-panel door and a pair of double-acting hinges. The doorway was described by the residence appraisals of 1921 and 1924 as having a "twelve panel single swing door." It is therefore possible that the double-acting hinges were installed sometime after 1924. However, it is also possible that the appraisal was in error. No other documentation on the double-acting hinges for the hall door has been found.

Three interior doorways in the north part of the hall open onto rooms used by the household staff. Two are in the east wall, and connect with the Service Dining Room (Room 105) and the Laundry (Room 106). The third doorway is in the west wall, and leads to the Kitchen (Room 107). Each of the three openings has a five-panel door. The doorways and their doors were recorded by the residence appraisals of 1921, 1924, and 1931, under the individual rooms cited above.

One doorway in the south part of the hall leads to the cellar stairway. It is in the east wall, beneath the back stairway to the second story. The door has a four-panel door and a pair of spring-loaded hinges. It was described by the residence appraisal of 1931 as "1 Door, 2'6" x 6'6" x 2-5/8", 4 panels to Cellar."

The missing closet doorway is shown in the first-floor plan of 1881, located south of the dumbwaiter doorway. This doorway opened to a closet formed by partitioning off a corner of the adjacent Pantry (Room 108). The doorway was removed and its opening was plastered over in 1883-84 when the closet was removed. Nothing remains of this doorway today.

Windows

There is one window in the south part of the hall, at the foot of the stairway. It is in the north wall of the alcove for the back stairway. This is an interior window that overlooks the Service Dining Room (Room 105). The window is an original feature that is shown on the floor plan of 1881.

The window opening is rectangular and trimmed by a molded architrave with bull's-eye corner blocks. The window sash is stationary and unusual in design, incorporating a clear-glass panel bordered by an arch of stained- and leaded-glass. The stained glass is similar in both design and color to the stained glass in two of the hall's original doorways.

The window was described by the residence appraisals of 1921 and 1924 as being part of the "Help's Dining Room" (Room 105). It was listed in the hall in the 1931 appraisal as "1 Fixed sash, 2'6" x 3'3", stained and leaded glass lights."

[247] This door was inadvertently omitted from the HABS plan of the first story.

Back Stairway

The alcove that contains the back stairway to the second story extends along most of the east side of the south part of the hall. It is an original feature that is shown on the first-floor plan of 1881.

The stairway has a turned newel post, turned balusters, and a curved handrail. The steps are covered with linoleum having a brown wood-grain design and dating to 1929. Carpet, which is missing today, covered the steps through at least 1912.[248] The interior walls and ceiling of the stair are plastered, similar to those of the first-story hall. A baseboard trims the lower wall along the stairway. All of the woodwork is varnished.

The 1931 residence appraisal described the stairway as follows:

> 1 Flight of pine service stairs, 3'6" wide, 18 treads and winders, linoleum covered, aluminum nosing, 1-1/2" turned balusters, 6" newels, oak rail, from First to Second Floors

Except for the linoleum on the steps and the later painted finishes on the walls and ceiling, the stair is little changed today from its original appearance in 1880-81.

Dumbwaiter

The south part of the Service Hall originally had a small doorway, at the north end of the west wall, that accessed the early dumbwaiter shaft. This area has been altered repeatedly since 1880-81, due to changes in the way the dumbwaiter shaft has been used. First, the doorway was greatly enlarged when the shaft was converted to accommodate a passenger elevator in 1943-44.[249] Later the doorway was closed with floor-to-ceiling matched-board paneling when the shaft became an air return for the new heating system in 1968.

Set into this paneling is a pair of one-panel doors that appear to be old. Both doors are screwed shut. Only the right-side door retains a pair of hinges. Missing features of the doors include the hinges for the left door, both doorknobs, and the hardware (escutcheon) at the keyhole. It is possible that these are the original dumbwaiter doors that had been removed circa 1940 and were replaced in 1968. They match the description of the original dumbwaiter doors contained in the residence appraisal of 1931, which recorded "1 Pair doors, 2'4" x 4'6" x 1-5/8", 2 panels, to Dumbwaiter."

The dumbwaiter doorway was replaced in 1943-44 by a large doorway to access the new passenger elevator installed in the dumbwaiter shaft. This doorway is documented by a photograph

[248] See the previous section entitled "Flooring" for documentary references.

[249] Mrs. Edison's niece, Nancy Miller Arnn, recalls that the elevator was installed for Mrs. Edison, who had suffered a heart attack after being stung by a bee at Chautauqua in 1943-44. The information was relayed by Mrs. Arnn to Glenmont Curator Leah Burt in a telephone conversation on Sept. 3, 1992.

of the hall dated October 21, 1960 (fig. 114). It shows a six-panel door hinged on its north side to swing outward. This door was removed, and the doorway was closed and covered with matched boarding, by the National Park Service in 1968.

Finishes

Two materials finish the hall: paint and varnish. A cream-yellow colored paint covers the plaster walls, the ceiling cornice, and the ceiling. Varnish is on the wood baseboard, the doorway and window architraves, the doors, and the later (1968) matched-board paneling. The varnish in the north part of the hall is a dark color, while the varnish in the south part is a lighter, more golden color.

Painters' estimates and bills for work in the hall exist in the Edison NHS Archives. E.W. Peckham submitted an estimate on May 1, 1905, for painting the side walls and ceiling with one coat of oil paint, and cleaning and applying a new coat of varnish to the woodwork. A subsequent undated invoice indicates that the work was actually done.

Painters Smith & Blatherwick billed the Edisons on May 1, 1909, for "painting piece of wall in rear hall 3 coats and striping same." Another bill from Smith & Blatherwick dated May 2, 1910, was for "repairing back hall and kitchen." They returned two years later, in 1912, to paint the first-story servants' quarters, including the "hall." The materials listed on their bill dated April 1, 1912, included white lead, oil, spar varnish, shellac, "French ockre [sic]," mixing colors, and Indian Red.

Painting undoubtedly continued in the years after 1912, but no record of it survives. The last documented painting of the hall prior to NPS ownership was in 1951 when Carl Gustafson painted the walls with a semigloss enamel and the woodwork with one coat of varnish.

The hall was last painted by the National Park Service in 1987. A color match was made at that time to the existing paint, which is believed to have been applied in the 1960's.

A more complete understanding of the hall's painted finishes was learned by microscopically studying a paint sample removed from the wall.[250] This examination revealed that the walls had been painted approximately 14 times between the years 1880-81 and the 1960's. The original finish is a lead-based paint of a light blue-white color, with distinctive blue pigment particles. This is followed by a green paint. A red horizontal stripe was applied on top of the green at mid-height, which was most likely contemporary with the green body color. This stripe appears to have been retained as late as 1909, when Smith & Blatherwick mentioned painting and "striping" the walls. All subsequent paint layers after the green and red are shades of yellow and cream. Darker mustard-yellow colors were used first, and lighter cream-yellow colors in later years. It is not known exactly when the first yellow paint was applied.

[250] Paint sample EDIS 10 P025 had been removed from the "Kitchen Hallway" in 1978 by NPS employee Carole Perrault. Its specific location was not noted; however, a mid-wall stripe has been observed on the walls where the paint is chipping, and the paint sample contains the stripe color. Therefore, the sample was most likely removed from mid-wall height.

Lighting System

The hall has two wall-mounted electric light fixtures. One is on the east wall of the north part of the hall, south of the doorway to the Service Dining Room (Room 105). The second is on the west wall of the south part of the hall, south of the former dumbwaiter doorway. Both are one-light gooseneck-style fixtures. They are operated by switches at the fixtures. Both fixtures were rewired in 1968.

No documentation has been found on the original installation of the existing light fixtures. Electrician George R. Boyce repaired the "lights" in the "1st"-story rear hall in October 1905, and billed for his services on January 20, 1906. However, Mr. Boyce was qualified to work on both electric and gas lighting, according to his bill head, and it is unclear from the invoice which type was then in the hall.

The earliest reference to electric light fixtures is a "Lighting Recommendations" report dated February 14, 1927, which advised using "2 25 watt A-19 Inside Frost MAZDA Lamps" in the "Back Hall...Wall Brackets." A later description is provided by the residence appraisal of 1931, which recorded "2 Brass wall fixtures, 1 light." Based on this information, it seems likely that the two light fixtures in the hall today were there by 1927.

A separate light switch is on the east wall of the south part of the hall. This is a push-button switch that controls the cellar lights in the nearby cellar stairway. It existed in the hall by 1931, based on the residence appraisal for that year that recorded "1 Switch." It was rewired in 1968.

Door Bell

An old-looking metal housing for the back doorway's bell is in the north part of the hall, mounted to the west wall above the Kitchen doorway. Cast into the metal housing is "MARLO PR," which may be the model or the manufacturer. No documentation has been found on the installation date.

Telephones

Two wall-mounted telephones, missing today, were formerly in the hall. These were most likely near the staff rooms in the north part of the hall. The telephones are documented by a work order from Thomas A. Edison, Inc., dated October 28, 1919:

> Bring to Lab from Mrs. Edison's house, old wall telephone instruments which have been superseded by interconnecting telephone system. One of these instruments is located on wall of back hall of 1st floor. There is also an extra instrument which has been removed from the wall and there are two other instruments one in green house and one in garage, making four in all. Fill holes in wall in back hall where instruments have been removed and restore wall to color of bal[ance].

One of the two old hall telephones may have been connected with the garage, the other with the greenhouse. No more information is available about the new "interconnecting telephone system" installed in 1919, such as where in the house the new telephone was located.

A telephone may have been in the hall as early as 1882, based on a site plan of that date that shows a "bell wire" running between the house and the barn. Nothing is known about this system.

Plumbing System

There are no visible plumbing fixtures in the hall. However, there is physical evidence of concealed pipes in the southwest corner of the north part of the hall. Here, the wall is built out and contoured to accommodate the plumbing for the second-story Service Bathroom (Room 208). This wall projection is shown on the floor plan of 1881, which indicates that both the plumbing and the wall treatment are original features.

Heating System

The hall is unheated today, as it has been since 1968 when the new heating system was installed in the house. Prior to 1968, heat was supplied to the south part of the hall only, by a steam radiator that was part of the house's original steam-heating system. This radiator survives today at the west wall, south of the former dumbwaiter. Raised writing on the radiator reads as follows:

Gold's Heater Mf'g Co. New York
H.B. Smith & Co. Westfield Mass.
J.R. Reed's Patent April 9 1878

The patent date of 1878 suggests that the radiator is an original feature of the hall, dating to 1880-81.

An evaluation of the heating system in 1921 indicates the "rear hall" was severely underheated. It required 48 units of heat, but was receiving only 24 units.[251] Despite this, no steps appear to have been taken to upgrade the heating of the hall.

The hall radiator was described 10 years later, in the residence appraisal of 1931, as "1 Radiator, 1 column, 32", 8 sections, Hall." This fits the description of the radiator in the hall today.

Fire-Protection System

There is no fire-protection equipment in the north part of the hall. The south part of the hall has modern Pyrotronics fire-protection equipment installed in 1978. An ionization smoke detector is mounted to the ceiling at the foot of the back stairway to the second story. Nearby, at the west wall, is the alarm gong for the fire-detection system. The gong is mounted to the matched-board paneling installed in 1968. A second large gong, also in this location, is inoperative today. It was installed in 1968 as part of an earlier fire-protection system that was disconnected in 1978.

[251] Letter from R.W. Kellow to Mrs. Edison, Jan. 25, 1921. Edison NHS Archives.



Figure 114. South part of Service Hall (Room 117), looking north, 1960.



Figure 115. South part of Service Hall (Room 117), looking south, 1960.



Figure 116. South part of Service Hall (Room 117), looking up at the Service Stairway, 1960.

Coat Closet (Room 118)

General Information

The Coat Closet is in the northwest corner of the Hall (Room 103). Its dimensions were recorded by the residence appraisal of 1931 as being 4 feet by 6 feet.

The closet is an original (1880-81) feature of the house. It is labeled as a "Hat Cl" on the first-floor plan published in 1881. The later residence appraisals of 1921 and 1924 both called the closet a "Safe Closet." It was so named because it housed a safe, which survives in the closet today. The 1931 residence appraisal disregarded the safe and recorded the room as a "Coat Closet."

The closet is used today by the National Park Service as a storage area for pamphlets and portable fire-detection equipment. For some reason, its room number does not appear on the HABS first-floor plan.

Floor

The floor consists of wood floorboards covered by two layers of wall-to-wall carpet. The top layer of carpeting is an orange-color industrial-grade carpet that was probably installed by the National Park Service. Below this is a patterned carpet in colors of beige, orange, yellow, and rust.[252] The floorboards are presumably original, dating to 1880-81.

Walls

The walls are flat, finished with smooth plaster, and trimmed at the floor by a wood baseboard. The walls and baseboard are both original features dating to 1880-81.

The baseboard only was recorded by the 1931 residence appraisal as "18 Lineal ft. 10" oak baseboard."

Ceiling

Like the walls, the ceiling is flat and plastered. It is presumably original, dating to 1880-81.

Doorways

The closet has one doorway in its south wall. The doorway has a six-panel door, a doorknob, and two hinges. It is trimmed on the closet side by a molded architrave with two bull's-eye corner blocks. All elements of the doorway are believed to date to 1880-81.

The doorway was recorded by the 1931 residence appraisal as having "1 Oak door, 3'0" x 7'0" x 1-3/4", 6 panels."

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[252] Glenmont Curator Leah Burt believes that this carpet may be a remnant of the large carpet installed in the Den by the Edisons in 1890. It was described by Hester Poole in an article dated 1890 as being "rich, dull tones of green and gold."

Windows

The closet is an interior room with no window openings.

Hooks and Shelves

Clothing hooks made of brass or bronze are on all four walls of the closet. These are mounted to wood boards that are in turn attached to the plaster walls. There are 24 hooks total, with four at the west wall, seven at the north wall, one at the south wall, and 12 (in two rows of six each) at the east wall. One hook is missing from the west wall, based on extant screw holes. An open shelf is at the north and east walls only, above the coat hooks.

It is not known for certain when the hooks and the shelf were installed in the closet. Both existed by the time of the 1931 residence appraisal, when they were recorded as "Hooks and shelves."

Safe

A large marble-topped safe sits on the floor in the northwest corner of the closet. Access to the interior of the safe is through a doorway in the front (south) side. The door has a metal dial, on which is engraved the following: "MARVIN SAFE CO. PAT'd July 25, 1871...[through]...July 18, 1882 New York NY."

A bill dated June 6, 1891, documents the safe as having been purchased by the Edisons from the Marvin Safe Company of New York City for $137.50. It is generally believed that the safe has always been in the closet, but no documentation has been found to substantiate this.

The earliest reference to the safe in the closet is the residence appraisal of 1921, which recorded the Vestibule and Entrance Hall as having "1 Safe closet -complete." The furnishings appraisal for that same year described the safe as "1 Old style metal house safe, with marble top, 27″ x 35″ x 42″. Identical descriptions were also given by the residence and furnishings appraisals of 1924, and by the furnishings appraisal of 1930. No mention is made of the safe in the residence appraisal of 1931.

Finishes

The closet has paint and varnish finishes. The plaster walls are decoratively painted a brown color in a technique known as stippling. A similar technique was used on the walls of the Main Stairway and in the second- and third-story halls. The closet ceiling is painted a cream-white color. Varnish finishes the wood baseboard, the door, and the doorway architrave. The wood backing for the wall hooks and the shelf are unfinished.

Lighting System

A single-light electric fixture is attached to the top member of the doorway architrave. The light is operated automatically when the door is opened or closed, by a switch in the east door jamb. It is not known when either the light fixture or the automatic switch was installed. They are first mentioned in the residence appraisal of 1931, which recorded "1 Brass wall fixture, door operated." Both the light fixture and the door switch were rewired by the National Park Service in 1968.

Push-button light switches at the east wall control the lights in the adjacent Hall (Room 103). The switches were rewired in 1968.

Electrical Outlets

A duplex receptacle outlet is on the south wall, mounted low on the west side of the doorway architrave. This is a modern outlet installed by the National Park Service sometime after 1968.

Plumbing and Heating Systems

The closet has no plumbing or heating fixtures.

Fire-Protection System

The closet is equipped with a jack for a portable smoke detector, which is set up in the adjacent Hall (Room 103) after visiting hours. The jack is mounted to the south-wall baseboard, east of the doorway. It was installed by the National Park Service in 1978.

Telephone Room (Room 119)

General Information

The Telephone Room is tucked beneath the Main Stairway to the second story. It occupies an interim story between the first and cellar stories, and is reached from the first story by descending a flight of five steps. The dimensions of the "'Phone Room" were recorded by the residence appraisal of 1931 as being roughly 7 feet square. This does not seem to take into account an ell off the southwest corner of the room (see figure 40).

The Telephone Room was constructed originally in 1880-81, as an anteroom to the adjacent Lavatory to the south (Room 120). It is not delineated on the first-floor plan of 1881, but an arrow with the notation "To Lavatory" points under the stairway. The Lavatory anteroom could be reached both from the inside, as it is today, and from the outside through an exterior doorway in the west wall. A photograph showing this exterior doorway was taken sometime between 1907 and 1910 (figs. 19 and 20). No interior views of the early room are known. A significant feature is a large closet on the east side (Room 119a), which is believed to be an unaltered original feature.

Changes were made to the room in 1909-10, when the Fern Room (Room 116) was built on the west side of the house, covering over the exterior doorway. The doorway was then removed; the upper part of its opening was converted to a window, while matched-board paneling filled in the lower part of the opening.

It is not known exactly when a telephone was first installed in the Telephone Room. A telephone system for communicating with the barn existed as early as 1882, based on a site plan of that date that shows an underground "bell wire." Telephones for local calls were installed in the house in 1886 by the New York and New Jersey Telephone Company. The house was equipped in 1899 with two telephones for long-distance calling. It is unlikely, however, that any of these telephones were in Room 119 when the exterior west doorway was still in place. A telephone may have been introduced when the exterior doorway was converted to a window in 1909-10. One was definitely in place by 1921, when the residence appraisal for that year recorded the room as both a "Telephone room" and a "Telephone closet." The same names appear in the 1924 residence appraisal. The 1931 appraisal, however, used "'Phone Room."

The rooms beneath the Main Stairway, including the Telephone Room, are not included in general tours of the house. The closet is used by the National Park Service to store folding chairs.

Floor

The floor of the Telephone Room is composed of five steps on the north side, and a level area on the south side and in the east closet. Other steps were most likely removed from the west wall in 1909-10 when the exterior doorway was converted to a window.

The existing north steps and the floor of the room are both covered with a green diamond-patterned wall-to-wall carpet.[253] Beneath the carpet, and exposed in the closet, are wood floorboards dating to 1880-81.

The steps were recorded by the residence appraisal of 1931 as being "1 Set of 5 treads and risers. 4'0" wide to 'Phone Room."

Walls

The walls of the room and the closet are original (1880-81). The only exception is the area beneath the west window, which dates to the closure of the original doorway here in 1909-10.

Plaster finishes the upper walls of the room and the walls of the closet. The plaster was most likely applied in 1880-81. Wood wainscot covers the lower walls of the room. The wainscot may be an original feature installed in 1880-81. It was definitely in place by 1931, when the residence appraisal for that year described it as "18 Lineal ft. 3'0" high beaded wainscotting."

A wood baseboard with a single bead detail trims the lower walls in the closet only. It, too, has been dated 1880-81.

Ceiling

The ceiling in most of the room and the closet is sloped, reflecting the rise of the Main Stairway to the second story. The only flat area of ceiling is in the southwest ell. This sloped-and-flat ceiling configuration is an original (1880-81) feature of the room. Also believed to be original is the plain plaster that finishes all areas of the ceiling.

Doorways

The Telephone Room has three doorways: one in the north wall, one in the south wall, and one in the east wall. All three doorways are thought to be original features dating to 1880-81. All have molded architraves with bull's-eye corner blocks, and paneled wood doors with doorknobs and two hinges each. One original doorway is missing from the west wall; it was converted to a window in 1909-10.

The north doorway is at the first-story level, at the top of the steps. It is the only exit from the room today. The door has 12 panels. It was described by the 1931 residence appraisal as "1 Mahogany door, 2'10" x 6'8" x 1-3/4", 12 panels."

The south doorway enters the original Lavatory (Room 120). It has a five-panel door. The residence appraisal of 1931 appears to have been in error when it recorded the Lavatory door as "1 Mahogany door, 2'6" x 6'8" x 1-3/4", 4 [sic] panels."

[253] Glenmont Curator Leah Burt thinks that this may be a very early Brussels carpet. It has not been determined if the carpet is in its original location, or if it was remade at a later date to fit this area.

The east doorway leads to the large closet. It is identical in appearance to the south doorway, and was also incorrectly described by the 1931 residence appraisal as having "1 Mahogany door, 2'6" x 6'8" x 1-3/4", 4 panels to closet."

The southwest ell originally had an exterior doorway in its west wall. Its appearance is documented by an exterior photograph of the house taken sometime after 1905 and before 1910, which shows the doorway fitted with a glazed door. The door was removed and the upper part of its opening was converted to a window in 1909-10, when the Fern Room (Room 116) was built. The interior doorway architrave, however, was retained and survives in the room today.

Window

The Telephone Room has one window in the upper west wall, which is the only source of natural light in the room. As explained in the previous section, this window was converted from an original exterior doorway in 1909-10. At that time, the opening was made narrower by the addition of a wood panel on either side of the opening. The reason for this was to make the window opening the same size as the window in the adjacent Lavatory (Room 120), thus achieving a symmetrical appearance in the new Fern Room (Room 116). The window sash is metal and glazed with nine panes of glass; it is hinged on its south edge to open outward, into the Fern Room.

The residence appraisal of 1931 described the sash as "1 Steel casement window, 1'0" x 3'0"." The window sill and jambs are both deep, reflecting the thickness of the original brick wall and the later frame wall on the west side.

Closet

A significant feature of the room is the closet that extends along the entire east wall. It appears to be original, dating to 1880-81. The floor is exposed floorboards, and the walls and ceiling are plastered. Space within the closet is restricted, due to its low and sloping ceiling, which corresponds to the lower run of the Main Stairway.

Ten brass or bronze clothing hooks are mounted to boards that are in turn attached to the east and south plaster walls. Five hooks are on the south wall, and five are on the east wall. No documentation has been found regarding the age of these hooks.

Telephone

Telephone equipment is mounted to the west wall, north of the window. This includes a bell and two boxes of unknown function. There is no telephone in the room today.

A telephone is believed to have been first installed in this room sometime after the exterior doorway was closed in 1909-10. One was most certainly here during the years 1921, 1924, and 1931 when the residence appraisals labeled the room the "Telephone Room," the "Telephone Closet," and the "'Phone Room," respectively. The furniture associated with the telephone was recorded by the residence appraisals of 1921, 1924, and 1930 as being "1 Mahogany telephone stand and chair (In Lavatory)."

Finishes

The walls and ceiling in both the Telephone Room and its closet are painted a cream-yellow color; the woodwork is varnished. No documentation is available on the paint history of the room, except for the residence appraisals of 1921 and 1924, which recorded a "paint" finish.

Lighting System

There are two single-light electric fixtures in the Telephone Room. One is at the head of the steps; the other is in the closet. Both were rewired in 1968.

The fixture at the steps is mounted above the north doorway. It is operated automatically when the door is opened or closed by a switch in the west door jamb. The light fixture was described by the residence appraisals of 1921 and 1924 as "1 1 light gooseneck bracket"; the 1931 appraisal listed "1 Brass wall fixture, 1 light." No documentation has been found on the installation date of the light or its switch.

The fixture inside the closet is mounted to the south member of the interior doorway architrave. It is operated by a pull-chain at the fixture. This light fixture was not mentioned in the residence appraisals of 1921, 1924, and 1931, nor is there other documentation on its original installation.

Electrical Outlet

One duplex electrical outlet is low on the south wall, west of the Lavatory doorway. Its installation date is not known. The outlet was rewired in 1968.

Heating System

There is no physical evidence to indicate that this room was heated when it served as an exterior entrance during the years 1881-1909. The first heating equipment appears to have been introduced in 1909-10, when the exterior doorway was converted to a window. A metal register was installed in the lower portion of the former doorway opening at the west wall. It was supplied by a duct that brought hot air from a concealed heat-transfer box, which was part of the house's original steam-heating system. This equipment heated the room until 1968; it survives in the room today.

A modern heat register was installed in the floor at the west wall in 1968, as part of a new forced hot-air system. This equipment is in operation today.

Fire-Protection System

A Pyrotronics ionization smoke detector is mounted high on the north wall at the top of the steps. It was installed by the National Park Service in 1978.

Lavatory (Room 120)

General Description

The Lavatory is a long, narrow room south of the Telephone Room (Room 119), beneath the Main Stairway. Its dimensions were recorded by the residence appraisal of 1931 as being 4 feet by 8 feet. Along with the adjacent Telephone Room, the Lavatory occupies an interim story of the house, between the cellar and first stories. It is equipped with an early marble lavatory (hand sink) and a toilet of unknown date.

The Lavatory is an original feature of the house as constructed in 1880-81. This is based on the 1881 first-floor plan of the house that has the notation "To Lavatory" with an arrow pointing to an area beneath the Main Stairway. The existing mirror and towel rack appear to have been supplied in 1882 by Pottier & Stymus of New York City, according to their bill dated May 7, 1882.

Ceramic floor and wall tiles are believed to have been installed in the room by the Edisons sometime in the early 20th century. While no records exist for this work, the tiles are similar in appearance to other tile work that was done in the house in two upstairs bathrooms, Rooms 204 and 211, in 1899-1900.

The room continued to be referred to as the "Lavatory" in the residence appraisals of 1921, 1924, and 1931. These appraisals also provide detailed descriptions of the room's features.

The room was used in 1964 as a "public use comfort station," according to a NPS report of that date. Today, the Lavatory is not used by visitors or staff, nor is it included in a general tour of the house.

Floor

The floor of the Lavatory is on two levels. The floor of the west two-thirds of the room is at the same level as the floor in the adjacent Telephone Room (Room 119). The east one-third is elevated three steps. The toilet is located here, suggesting that the elevated floor may be associated with the plumbing waste pipe. It is assumed that this two-level configuration dates to the original construction of the floor in 1880-81.

The floor is finished with two materials: ceramic tiles and marble. Ceramic tiles cover most of the floor surface. They are white and hexagonal. A gray-white marble finishes the treads and risers of the steps. As stated previously, the ceramic tiles are believed to have been installed in 1899-1900; the marble is thought to date to that time, as well.

The floor materials were recorded by the residence appraisals of 1921, 1924, and 1931. The 1921 and 1924 appraisals listed "24 Sq. ft. white ceramic floor tiling" and "3 Marble treads." The 1931 appraisal was more detailed, describing "32 Sq. ft. 2" hexagon floor tile" and "1 Set of 3 marble steps, 3'0" wide, treads and risers."

Walls

All four walls of the Lavatory are of original construction, dating to 1880-81. The narrow west end wall was built originally as an exterior wall; it became an interior wall in 1909-10 when the Fern Room (Room 116) was built to the west of the Lavatory.

A wainscot of white ceramic tiles covers the lower walls. The body of the wainscot is composed of rectangular tiles; the bottom is trimmed by baseboard-style tiles; and the top is bordered by narrow half-round tiles. These ceramic tiles are similar to other tiles installed in the second-story bathrooms (Room 204 and Room 211) in 1899-1900, and have therefore been similarly dated.

Documentation of the tile wainscot is provided by the residence appraisals of 1921, 1924, and 1931. The 1921 and 1924 appraisals listed "64 Sq. ft. glazed wall tiling, with base and cap," and the 1931 appraisal recorded "64 Sq. ft. 4" x 6" tile wainscoting with cap and base."

Plaster finishes the upper walls above the ceramic-tile wainscot; it presumably also exists behind the wainscot. Plaster was most likely the original finish of the room, and has been dated 1880-81. A textured paper or canvas is applied to the plaster walls, which is described in the section on "Finishes."

Ceiling

The entire ceiling is flat and finished with plaster. It is believed to date to the original construction of the room in 1880-81. A textured paper or canvas is applied to the ceiling, similar to the walls, which is described in the section on "Finishes."

Doorway

The Lavatory has one doorway, which is centered in the north wall. It connects with the adjacent Telephone Room (Room 119). The doorway has a wood architrave with bull's-eye corner blocks, a white marble threshold, and a five-panel wood door. Door hardware includes two hinges, a doorknob, and a dead bolt with a round knob. All doorway elements appear to be original (1880-81).

The Lavatory door was recorded by the 1931 residence appraisal as "1 Mahogany door, 2'6" x 6'8" x 1-3/4", 4 panels." The description is essentially correct, except for the reference to "4 panels." This appears to have been an error, however, because there is no physical evidence of another door in this doorway.

Window

The Lavatory has one window in the west wall. The window was built originally (1880-81) as an exterior window; it became an interior window when the Fern Room (Room 116) was built in 1909-10. Original features of the window include a wood architrave with bull's-eye corner blocks, and one-over-one, double-hung wood sashes. A single metal casement sash on the opposite (Room 116) side of the opening was installed in 1909-10.

The west window was recorded by the residence appraisal of 1931 as "1 Double hung window, 1'0" x 3'0", 2 lights" and "1 Steel casement window, 1'0" x 3'0"."

Mirror and Towel Rack

A significant feature of the room is a large mirror mounted to the south wall opposite the doorway.[254] The mirror has a wood frame with bull's-eye corner blocks, similar to the doorway and window architraves. The lower frame of the mirror includes a narrow shelf, below which is a built-in towel rack. The mirror is documented by a bill from Pottier & Stymus of New York City dated May 7, 1882, that included "1 Wash Basin Mirror and Towel Rack" for the room "under Stairs."

Finishes

There are several finishes in the Lavatory, including a textured wallpaper or canvas, paint, and varnish.

A wallpaper or canvas material covers the upper walls (above the ceramic-tile wainscot) and the ceiling. This material is textured with an overall pattern that resembles a basket-weave design. Its date of installation is not known.

A cream-beige colored paint finishes the doorway and window architraves, the window sashes, and the wood elements of the mirror. A painted finish also existed in 1921 and 1924, according to the residence appraisals for those years that listed "paint" in the Lavatory. No other documentation has been found on the painted finishes for this room.

A varnish-like finish exists on the door only. All other woodwork in the room is painted, as described in the previous paragraph.

Lighting System

The Lavatory has one electric light fixture mounted to the south wall, east of the mirror. This fixture is a gooseneck style with one light and an etched-glass shade. It is operated by a swivel switch at the fixture. The fixture was rewired in 1968.

The only documentation for this light fixture is found in the residence appraisals of 1921, 1924, and 1931. The 1921 and 1924 appraisals recorded "1 1 light gooseneck bracket," while the 1931 appraisal listed "1 Brass wall bracket, 1 light."

Plumbing System

The Lavatory is equipped with a lavatory (hand sink) and a toilet. The sink may be original; the age of the toilet is unknown.

[254] The mirror has been assigned Edison NHS catalog number 103,130.

Hand Sink. The sink takes up the entire west end of the room. It has a gray-white marble counter that appears to have been custom fit to this location. Other marble elements include a front apron and splash guards at the back and two sides. The counter is completely supported by the walls. It is open underneath, with no front legs or cabinet enclosure. A white porcelain bowl flanked by two brass faucets is centered in the counter.

No documentation exists on the installation or the appearance of the room's original hand sink. It is thought, however, that the existing sink may be the original one, based on its style and marble construction, which are typical of the 1880's period.

The residence appraisal of 1921 was likely in error when it recorded this room as having "1 Porcelain pedestal lavatory." The earliest description of the marble sink is found in the 1924 residence appraisal, which listed "1 Marble lavatory." The 1931 residence appraisal was more detailed, describing "1 Marble lavatory, 36" x 23", 4" apron, 8" back, 2 brass faucets, plug waste." The water supply to the sink is disconnected today.

Toilet. The toilet—called the "water closet" during the Edison years —sits like a throne at the elevated east end of the room. It is made of white porcelain and has a low back tank. The interior of the bowl is imprinted with the words "F.N. Dubois" and "Amityville." The tank behind the bowl appears to have been made by another manufacturer, based on writing inside that identifies it as "Trademark Registered—Keystone Pattern—Vitreous China—Trenton N.J." It is unclear if the bowl and the tank were designed to be used together, or if one or the other is a later replacement. No physical evidence exists at the east wall or ceiling of an earlier elevated tank.

The exact date of the existing toilet is not known. The earliest reference to a toilet in this room is a bill dated May 1, 1908, from plumbers C. Garrabrant & Son, who charged Mrs. Edison for "Repairing W.C. [water closet] Tank, 1st Floor."

The only descriptions of the toilet are found in the residence appraisals of 1921, 1924, and 1931. The 1921 and 1924 appraisals both recorded "1 Porcelain water closet hopper, low tank." The 1931 appraisal listed "1 Vitreous china water closet, low china tank, celluloid seat and cover."

The toilet is not operational today, due to a leak.

Heating System

The Lavatory has an obsolete steam radiator, a wall register that may have served a heating function, and a modern floor register and thermostat. The floor register and thermostat are both in use today.

The steam radiator is at the south wall, beneath the mirror. It is identical in style to the steam radiator in the Service Hall (Room 117), and also has imprinted upon it:

Gold's Heater Mf'g Co. New York
H.B. Smith & Co. Westfield Mass.
J.R. Reed's Patent April 9 1878

The patent date suggests that this radiator was the original heat source for the room in 1880-81, part of the house's original steam-heating system. The radiator appears to have been in use in 1921, when it was calculated that the room was supplied with 18 units of direct heat, but required 36 units.[255] The radiator was recorded by the residence appraisal of 1931 as "1 Radiator, 1 column 36", 6 sections, Lavatory." It was disconnected in 1968, when a new heating system was installed in the house.

A wall register is high on the west end of the south wall. It has a decorative metal grille similar to the original heat registers in the house. It is unclear, however, if this register was ever a heat supply. Other possible functions include a cold-air return or a ventilator.

The room is heated today by the modern floor register in front of the hand sink at the west wall. The thermostat is mounted to the north wall, west of the doorway. It controls the heat in the Lavatory and in the adjacent Telephone Room (Room 119). Both the register and the thermostat were installed by the National Park Service in 1968.

Fire-Protection System

The Lavatory has no fire-protection equipment.

[255] Letter from R.W. Kellow to Mrs. Edison, Jan. 25, 1921. Edison NHS Archives.

Kitchen Entrance (Room 121)

General Information

The Kitchen Entrance is an enclosed porch on the north side of the house. Its dimensions were recorded by the 1931 residence appraisal as measuring 10 feet by 10 feet.

The Kitchen Entrance is an original feature of the house. This is based on the first-floor plan of 1881, which shows it as an open "Verandah" with steps on the west side. The verandah served as a covered entrance used primarily by the household staff and delivery people. One type of delivery was ice, which was loaded into the ice box through a small doorway in the verandah's west wall. A doorway in the south wall (D-103) entered the Service Hall (Room 117), which in turn provided access to various service rooms, including the Kitchen.

The verandah was enclosed with glass panels (W-108 and D-103) in 1922. This is documented by an entry in John Miller's notebook for September 19, 1922, that notes "Asked Smith of Struck Co. to make estimates for closing in with glass the porch off kitchen...." This work was actually carried out, based on existing conditions today and the residence appraisal of 1931, which recorded the "Kitchen Entrance" as having "140 Sq. ft. pine and glass enclosure with 1 door to match and 10 lineal ft. pine railing." The appraisal also described the floor as being "100 Sq. ft. 1-1/8" x 3" pine floor on 2" x 6" joists.

The Kitchen Entrance is essentially unchanged today from its appearance in 1922. It is used by both NPS staff and by visitors to the house.