

HISTORIC STRUCTURES REPORT
PART II, PORTION, RAINWATER CONDUCTORS
INDEPENDENCE HALL

*

*

*

Pearl Millman

Independence National Historical Park
Philadelphia, Pennsylvania

*

*

*

July 1964

AUG 5 1964

H30-NIA

Infantry
8/4
Posted
Guy
Nally
8/4

Memorandum

To: Chief, EODC

From: Regional Director, Northeast Region

**Subject: Historic Structures Report, Part II (Portion),
Historical Data Section, Rainwater Conductors,
Independence Hall**

Enclosed is a copy of the Historical Data Section of the subject report for your use in preparing the Architectural Data Section as requested by Chief Architect Smith's memorandum of February 13, 1964.

(Sgd.) Ronald F. Lee

Enclosure

cc:
Superintendent, Independence
Mr. Whitcraft

GMFfraney
General ✓
Daily
Area



UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

Independence National Historical Park
420 Chestnut Street
Philadelphia, Pa. 19106

July 17, 1964

IN REPLY REFER TO:

H-30-RHA

Memorandum

To: Regional Director, Northeast Region

From: Acting Superintendent, Independence

Subject: Historic Structures Report, Part II, Portion,
Rainwater Conductors, Independence Hall

Enclosed for your review are three copies of the Historic Structures Report, Part II, Portion, Rainwater Conductors, Independence Hall.

Dennis C. Kurjack

Northeast Region		Initial and Date
JUL 20 1964		
Reg. Director		
Asst. to Dir. (PA)		
Asst. to Dir. (Inv. L)		
Regional Sales Adv.		
Asst. Dir. (Inv. Adm.)		
Asst. Dir. (Prop.)		
Permitting		
Programs		
Asst. Dir. (Tech. Serv.)		
Int. Affairs		
Legal		
Maintenance		
Miscellaneous		
Records		
Asst. Dir. (Tech. Serv.)		
Fed. Aid		
NPS Studies		
State Assistance		



IN REPLY REFER TO:

H30-RHA

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

Independence National Historical Park
420 Chestnut Street
Philadelphia, Pa. 19106

May 8, 1964

Memorandum

To: Resource Studies Adviser, Northeast Region

From: Superintendent, Independence

Subject: Historic Structures Report, Part II, Portion,
Rainwater Conductors, Independence Hall

In reply to your memoranda of February 27 and May 7, we expect to
have this report ready for your consideration by June 1st.

M. O. Anderson
M. O. Anderson

Northeast Region		Initial and Date
MAY 12 1964		
Reg. Director		
Asst. to RD (PA)		
Asst. to RD (Dev. L)		
Resource Studies Adv.		MYH/5/12
Asst. Dir. Fin. Adm.		
Finance & Prop.		
Personnel		
Programs		
Asst. Dir. Fin. Oper.		
Interp. & VS		
Land & Water		
Maintenance		
Master Plan Coord.		
Res. Manage. & VP		
Asst. Dir. Ext. Affs.		
Fed'l Agency Assis.		
NPS Studies		
State Assistance		

*Posted
Inf*

GMFraneys 5/6

H30-RBA

MAY 7 1964

Nelligan
5/6
Posted
Inf

Memorandum

To: Superintendent, Independence

From: Resource Studies Adviser

**Subject: Historic Structures Report, Part II, Portion,
Rainwater Conductors, Independence Hall**

A reply to our memorandum of February 27, 1964, above subject,
will be appreciated.

Murray H. Nelligan

Murray H. Nelligan

cc:
Mr. Whitcraft

GMFraneys
General
Daily
Area

Northeast Region
143 South Third Street
Philadelphia, Pa. - 19106

H30-CHA

FEB 27 1964

Nelligan
2/26

Posted
gmf
2/26

Memorandum

To: Superintendent, Independence

From: ^{Assistant} Regional Director

Subject: Preparation of Historic Structures Report, Part II,
Portion - Rainwater Conductors, Independence Hall

We note the exchange of correspondence between your office and the EODC, on the above subject, and are agreeable to a separate Historic Structures Report on this feature of the Hall.

To facilitate consideration of this report, please use the title as given in the subject heading above and advise as to when the report may be expected.

J. Carlisle Crouch

cc:
Chief, EODC

MHNelligan/gmf
General
Daily
Area

Eastern Office, Design and Construction
Philadelphia, Pa. - 19106

H30-H

February 13, 1964

NORTHEAST REGION		Initial and Date
FEB 14 1964		
Reg. Director		
Asst. to RD(PA)		
Program Coord.		
Asst. Reg. Dir-Adm		
Finance & Prop.		
Personnel		
Safety		
Asst. Reg. Dir-CH		
History & Arch.		
Natural History		
Oper. & Maint.		
Ranger Services		
Asst. Reg. Dir-Rd		
N. P. & Rec. Area Pl.		
Plan. Serv.		
Lands & Water		

Memorandum

To: Superintendent, Independence

From: Chief Architect, EODC

Subject: Rainwater Conductors and Leader Boxes on Buildings in
Independence Square

We are aware of condition of rainwater conductors and leader boxes on buildings in Independence Square and we have made provision for this on Independence Hall, and have planned for it on the other buildings.

Except for the most pressing exterior obligations (new roofs) we feel it would be better (because of design staff time limitations) to defer certain aspects of the exterior until the interior restoration problems have been solved.

We would appreciate having the Park's Interpretive Division prepare a Historic Data Section of the Historic Structures Report for this phase of the work, so as to have the benefit of the available documentary information on each building involved. We will prepare the appropriate Architectural Data Section and the necessary drawings.

Robert E. Smith

By: Signed
Lawrence B. Coryell, Acting

cc:
Regional Director, Northeast Region



IN REPLY REFER TO:

H30

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
Independence National Historical Park
420 Chestnut Street
Philadelphia, Pa. 19106

February 7, 1964

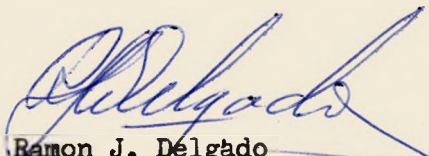
Memorandum

To: Regional Director, Northeast Region
From: Acting Superintendent, Independence
Subject: Rainwater Conductors and Leader Boxes on Buildings
in Independence Square

Inspection of the existing copper rainwater conductors and leader boxes on the subject buildings reveals that the sheet copper has corroded to such an extent that the metal can be easily punctured and torn by hand. The corrosion probably was caused by chemicals in the atmosphere and those chemicals leaching from wood shingles on the roofs.

We recommend that the rainwater conductors and leader boxes be replaced under the present restoration program with new conductors and leader boxes that would restore the historic design.

The Park's Interpretation Division has data available on the historic appearance and design of the conductors and leader boxes, and could prepare a Historic Structures Report for this phase of the restoration.


Ramon J. Delgado
Acting Superintendent

Copy to: Chief, EODC

NORTHEAST REGION FEB 10 1964		Initial and Date
Reg. Director		
Asst. to RD(PA)		
Asst. Reg. Dir-Adm.		
Finance & Prop.		
Per. Off.		
Safety		
History & Arch.		
Natural History		
Oper. & Maint.		
Ranger Services		
Asst. Reg. Dir-Rp		
N. P. & Rec. Area Pl.		
Plan. Serv.		
Lands & Water		

*Posted
Def*

Independence National Historical Park
420 Chestnut Street
Philadelphia, Pa. 19106

H30

February 7, 1964

Memorandum

To: Regional Director, Northeast Region
From: Acting Superintendent, Independence
Subject: Rainwater Conductors and Leader Boxes on Buildings
in Independence Square

Inspection of the existing copper rainwater conductors and leader boxes on the subject buildings reveals that the sheet copper has corroded to such an extent that the metal can be easily punctured and torn by hand. The corrosion probably was caused by chemicals in the atmosphere and those chemicals leaching from wood shingles on the roofs.

We recommend that the rainwater conductors and leader boxes be replaced under the present restoration program with new conductors and leader boxes that would restore the historic design.

The Park's Interpretation Division has data available on the historic appearance and design of the conductors and leader boxes, and could prepare a Historic Structures Report for this phase of the restoration.

Ramon J. Delgado
Acting Superintendent

Copy to: Chief, EODC

SIGNATURE SHEET

RECOMMENDED

Wm. E. Hargis
Atty Superintendent

Date 7/17/64

Regional Director

Date _____

Chief, Eastern Office, Division of Design & Construction

Date _____

APPROVED

Director

Date _____

CHAPTER II

HISTORICAL DATA

Prepared by Historian Pearl Millman

Documentary evidence about the rainwater conductors of Independence Hall establishes that the original downspouts and conductor heads were of lead composition. The earliest description of these structural features is some twenty-five years following the construction of the building. On August 26, 1777, by order of the Pennsylvania Supreme Executive Council all leaden spouts in the city were to be removed.¹ As a result, the downspouts and conductor heads were removed from the old State House. In the account of leaden spouts taken from the citizens of Philadelphia, the entry referring to the State House establishes that lead downspouts with lead rectangular heads were an original feature of the building. This entry notes that the material removed from the State House included "29^{to} Copper 1636. [pounds of lead] 4 Square d^o [heads]."²

In 1784 an extensive program of repairs and alterations was to be undertaken in the State House. At this time a committee was appointed by the Pennsylvania General Assembly to examine the condition of this public building. The committee's report of September 22, 1784 included the recommendation to install copper spouts.³ The work progressed rapidly for by December 20 the "copper trunks to convey the water from the roof" were in place.⁴ The use of lead as part of the drainage system was probably continued for in September 1785 Robert Haydock (who in 1793 fabricated the Congress Hall spouts and spout heads) provided 141½ pounds of sheet lead.⁵ At the same time "...free Stone for under Spouts at State house..." was supplied by John Sidleman.⁶

Although no specific reference is made in the vouchers to the fabrication of spout heads, they undoubtedly were also of copper composition. Charles Gow who supplied copper for the installation of the rainwater conductors received payments of £71.6.0⁷ and £62.0.0.⁸ The total amount exceeded the cost of the downspouts. The voucher for "20^{1b} Sheet Copper...£2..0..0" included in the first payment is probably the cost of the spout heads. From 1785 until 1795 no repairs were made to the State House rainwater conductors. In the latter year Joseph Skerrett was paid "£0:11:3"...to mending one of Concuotors [sic] 4 new hooks & fixing up Another of the Conductors to the state house..."⁹

Written records do not reveal whether the eighteenth century conductors on Independence Hall were circular or rectangular. For such information we must rely on contemporary prints and available data on rainwater conductors for this period. The earliest view of the State House prepared by Scull and Heap (1750-1752) shows circular downspouts. (See Illustration No. 1.) They are also to be noted in the 1769 Bennett engraving of the Scull and Heap map and the John Reed view of the State House in 1774. (See Illustration Nos. 2 and 3.) Although in these early views the square heads are not clearly defined or detailed, the circular pipes with regularly spaced collars and open ends appear consistently.

Except for the 1804 William Birch view of the State House (see Illustration No. 4) no pictorial representations of this structure depicting the new 1785 rainwater conductors appear until 1815. The

John Lewis Krimmel print, "Election Day, 1815 [at Independence Hall]," (see Illustration No. 5) is the most detailed and accurate view of the building before the development of photography. A notable feature is the absence of collars on the circular downspouts. The Birch print also omits the collars. It is thought that in 1785 they were not replaced during the installation of the copper spouts. In addition, available information on rainwater conductors indicates that in the late eighteenth and in the early nineteenth centuries collars for the spouts were not a common feature.

The conductor heads of the downspouts are detailed for the first time in an enlargement of the cornice-roof section of Independence Hall as shown in the Krimmel print. (See Illustration No. 6.) These are the copper ones which replaced the original square leaden heads in 1785.

For the next forty-five years, a number of alterations were made to the rainwater conductors of Independence Hall. Written evidence does not reveal when such work was carried out. An 1861 photograph of the building (see Illustration No. 7) provides the graphic documentation of these changes. The downspouts are shown in this photograph with regularly spaced collars. They are further ornamented by the first appearance of wooden boots or casings fitted to the once open end spouts. The conductor heads were also altered during the first half of the nineteenth century. Leaden flanges with the date "1733" were added to the heads at this time.

Until the restoration work on Independence Hall for the Centennial celebration in 1876 no further alterations were made to the rainwater conductors. (See Illustration No. 8.) Under the supervision of Colonel Frank M. Etting and his Committee on the Restoration of Independence Hall many alterations and repairs were instituted. Among these was the installation of tin rainwater conductors and spout heads.¹⁰ An 1878 photograph of the building shows this work completed except for the missing collars on the east and west end pipes. (See Illustration No. 9.) An 1890 view of Independence Hall (see Illustration No. 10) shows the collars in place.

During the 1897-1898 restoration of Independence Hall directed by T. Mellon Rogers to restore the building to its appearance in 1776 work was done on the rainwater conductors.¹¹ They were repaired or replaced as their condition warranted.¹² Again in 1917, monies were provided by the City Council of Philadelphia for new metal spouting.¹³ The copper rectangular conductors as we see them today are an innovation of this period. (See Illustration No. 11.) Little is known of alterations to the conductors for the years following 1917 other than routine maintenance.

The rainwater conductors found today on Independence Hall are substantially those of the early twentieth century.¹⁴ It is evident from the available information that there are no remains of the original conductors and conductor heads. The early lead downspouts as shown in contemporary prints were rounded with collars and open ends.

Historical documentation establishes that eighteenth century spouting was almost exclusively circular and it remained the most common type in Philadelphia well into the nineteenth century.¹⁵ There is limited information on the original conductor heads other than their being square and leaden. The flanges of the conductor heads dated "1733" can not be authenticated. There is no available written evidence regarding the installation of the flanges in the eighteenth century. Not until 1861 do graphic materials indicate this. In addition, the date itself is in question in relation to building construction and spout installation.¹⁶

It is necessary to raise another point in the treatment of rainwater conductors of Independence Hall. Eighteenth century architectural tradition raised the possibility that the downspouts on the south wall of the building differed from the conductors on the north facade. Historical investigation has revealed that both form and composition of eighteenth century downspouts sometimes differed from the architecturally important facade to the sides and back of structures. This was especially true of public buildings.

Before a final decision is made on the restoration of the rainwater conductors of Independence Hall, an architectural investigation of all the wall surfaces, cornices and other structural features against which the downspouts rested or pierced should be undertaken. The results of this study coupled with available documentary evidence should provide an accurate restoration of the original rainwater conductors.

NOTES

1. "An Account of Leaden Spouts taken down in Philadelphia in 1777," Records of Supreme Executive Council, Box 1777; Public Records Office, Harrisburg, Pa.
2. "An Acco^t of Spouts (leaden) taken from the Citizens of Philad^a for Publick Use," Post-Revolutionary Papers, October 1790; Public Records Office, Harrisburg, Pa.
3. Pennsylvania Archives, First Series, X, 335-36.
4. G-Independence Square, State House, Maintenance Vouchers and List, 1784, October 10-December 21, Nos. 1-25; Public Records Office, Harrisburg, Pa.
5. H-Independence Square, State House, Maintenance Vouchers, 1785 January-December, Nos. 26-75; Public Records Office, Harrisburg, Pa.
6. Ibid.
7. Ibid.
8. Ibid.
9. Skerrett's Voucher [June 18, 1795], Folder "S," State House Papers; Public Records Office, Harrisburg, Pa.
10. Matthew Hall's Bill [February 6, 10, and 13, 1875], Etting Papers; Historical Society of Pennsylvania, Philadelphia, Pa.
11. Statement of Expenses, Restoration of Independence Hall, November 10, 1897; Curator's Records, Independence National Historical Park files.
12. Harper's Weekly, July 24, 1897, Vol. XLI, No. 2118.
13. Annual Report, Bureau of City Property, City of Philadelphia, 1917, 11-12.
14. The wood conductor heads now in place on the building can not be documented from available information.

15. See Dobson's Encyclopedia, (Philadelphia, 1798), Vol. 15, 78-79, "Plumbery," for a description of the method of casting round downspouts from metal in the eighteenth century, and also Hartshorne, Penelope and Nelson, Lee, H., "A Preliminary Report on Eighteenth Century Philadelphia Rain Conductor 'Heads' and 'Pipes'," MS, 1960; Eastern Office of Design and Construction, Philadelphia, Pa.
16. Construction of Independence Hall was begun in 1732; such refinements as downspouts and heads were not installed until several years following this date.

ILLUSTRATIONS

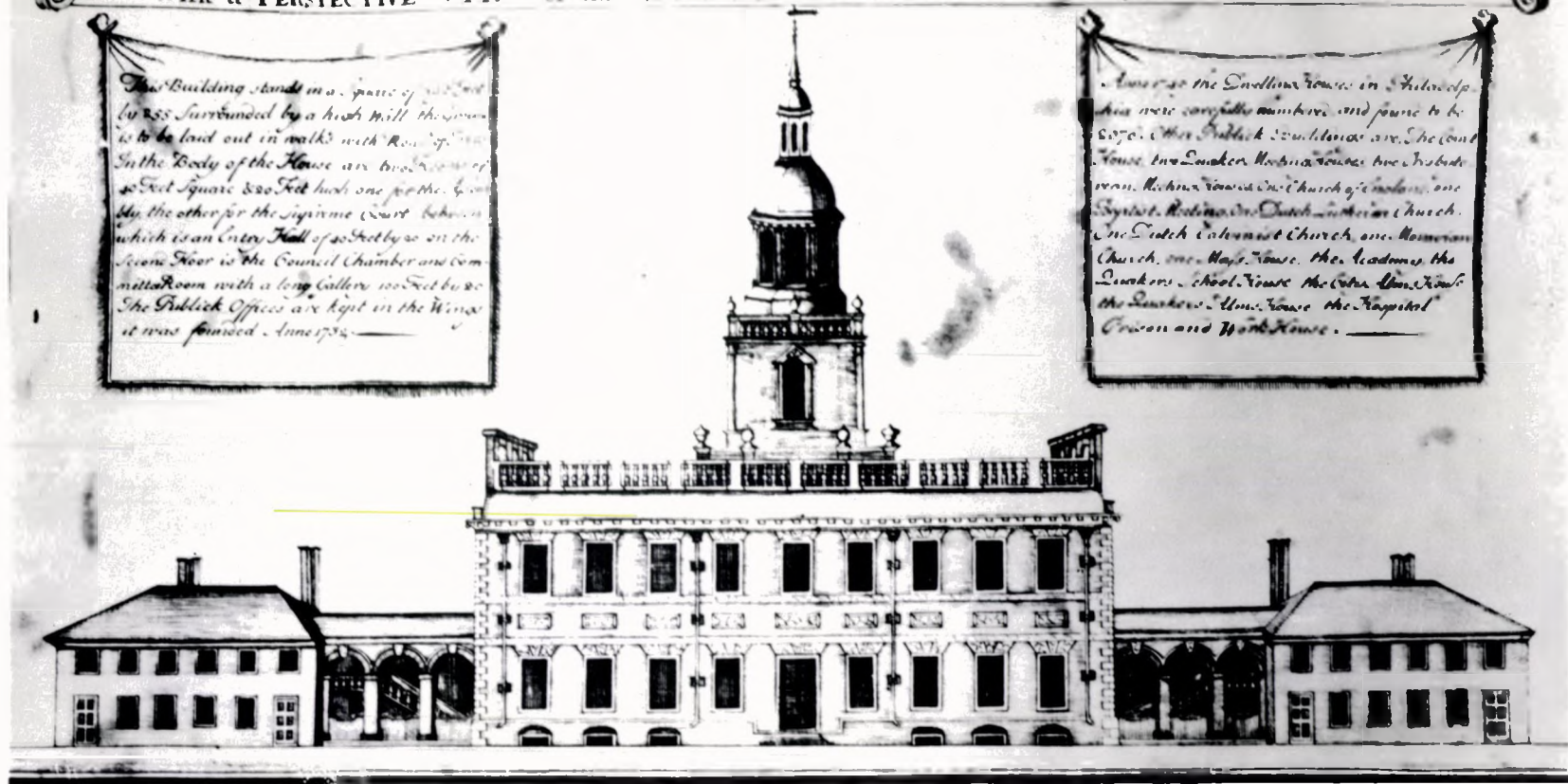
A MAP OF PHILADELPHIA, AND PARTS ADJACENT

With a PERSPECTIVE VIEW of the STATE-HOUSE.

By N. SCULL and G. HEAP.

This Building stands in a point of 222 Feet
by 155 Surrounded by a high Wall the ground
is to be laid out in walks with Rows of Trees
In the Body of the House are two Rooms of
20 Feet Square 220 Feet high one for the Court
the other for the Supreme Court between
which is an Entry Hall of 20 Feet by 20 on the
Second Floor is the Council Chamber and Com-
mittee Room with a long Gallery 100 Feet by 20
The Publick Offices are kept in the Wings
it was finished June 1752.

As to the Swallow Tower in Philadelphia
this new completely finished and found to be
200 Feet high Publick Buildings are The Court
House two Quakers Meeting Houses two Presby-
terian Meeting Houses one Church of England one
Synagogue one Dutch Reformed Church
one Dutch Colonist Church one Roman
Catholic Church one High House the Academy the
Quakers School House the City Hall the
Quakers House the Hospital
Crown and Work House.



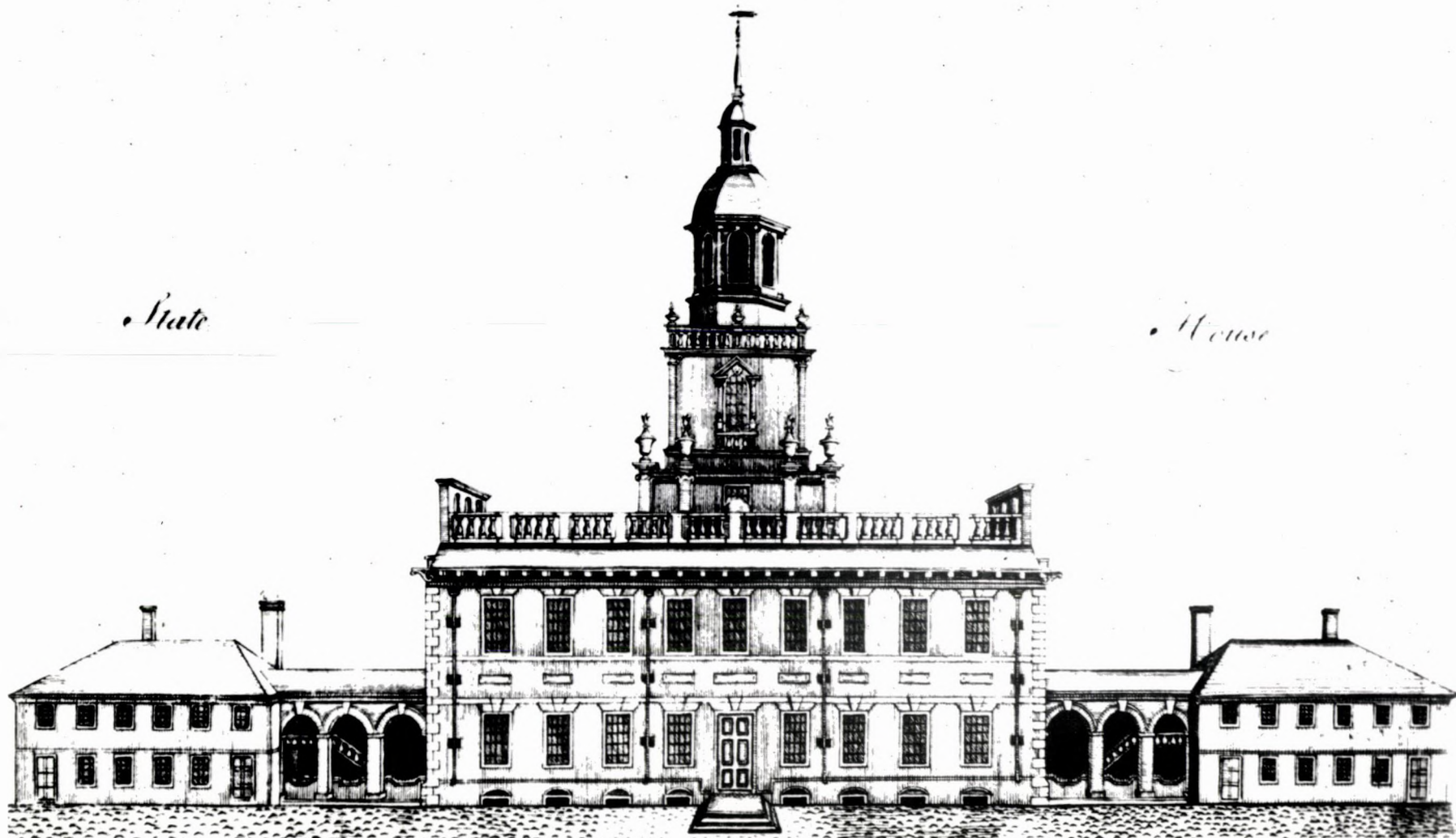
Earliest known view of State House, made before erection of steeple (1750-1752); from Scull and Heap map. Among characteristic features are circular downspouts with open ends and regularly spaced collars. Square spout heads are visible but detailing not clear. Courtesy Library of Congress.



Adaption of Scull and Heap map dated 1769;
engraver R. Bennett. Circular pipes clearly
indicated by the spout ends.

State

House



The John Read view of the State House from 1774 map. Note details of round leaden spouts and spout heads before their removal in 1777.

Birch view of Independence Hall from the west, made in 1804. Note the one spout shown does not have collars and appears circular from open end.

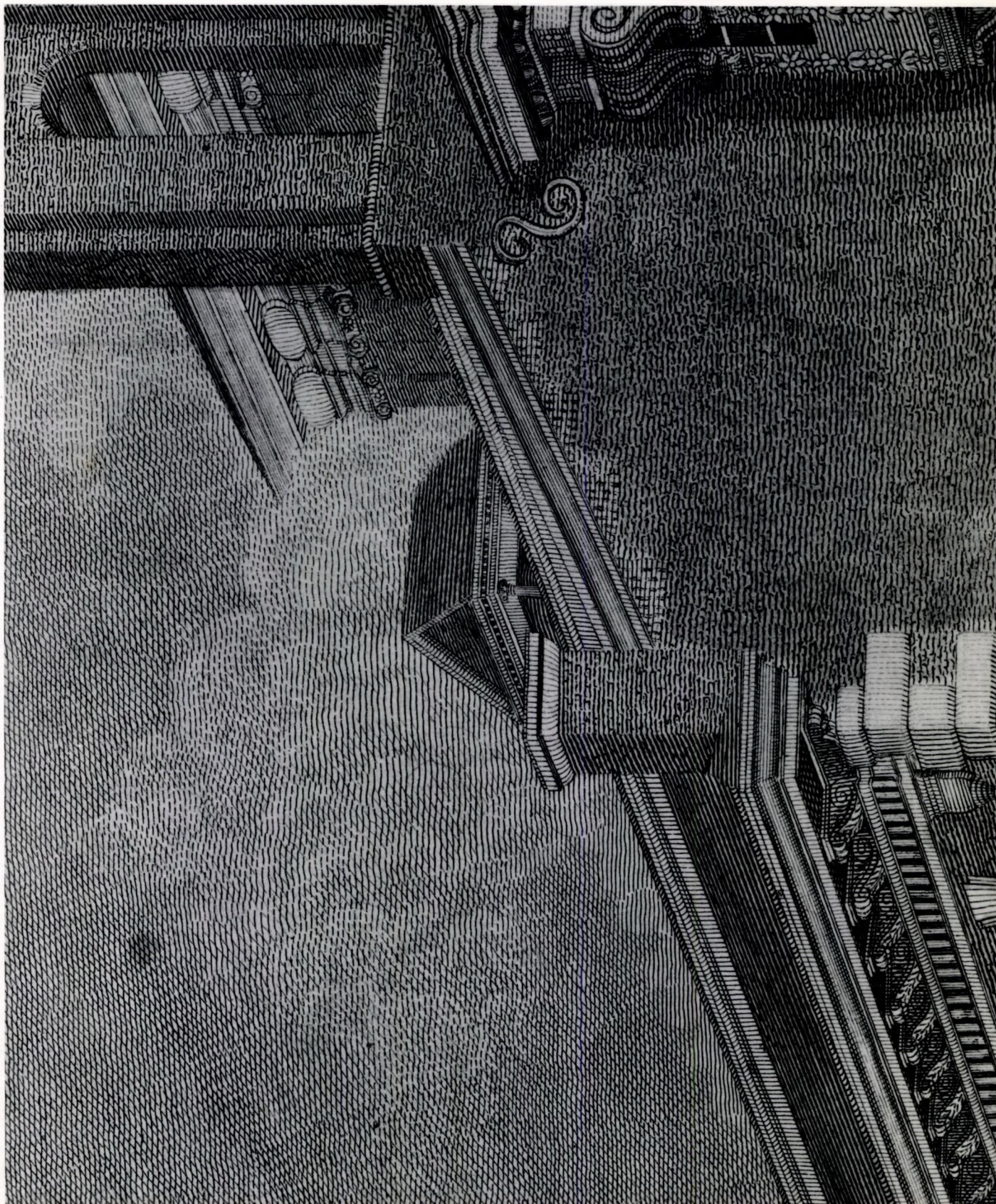


Designed & Published by W. Birch Engraver London.

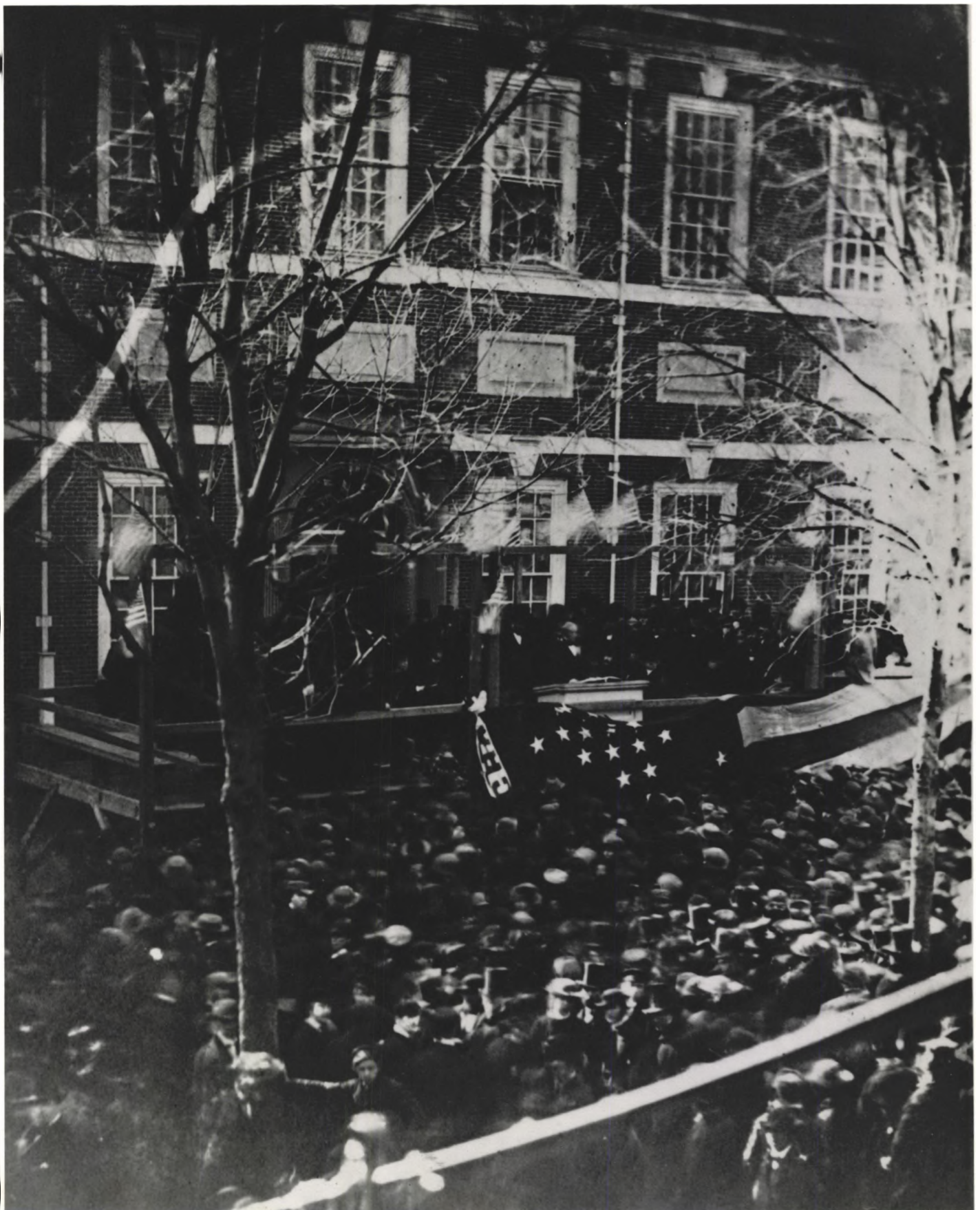
Old STATE HOUSE, CONGRESS HALL and TOWN HALL,
Chestnut Street PHILADELPHIA.



"Election Day, 1815" by John Lewis Krimmel, a detailed and accurate view of Independence Hall. The circular spouts and spout heads shown here are those which replaced the originals in 1785.



Detail from Krimmel's "Election Day--1815."
Note the details of the spout head.



First photograph of Independence Hall following alterations to rainwater conductors. Note round downspouts with collars, the wooden boot, and flanges on the conductor head dated "1733."

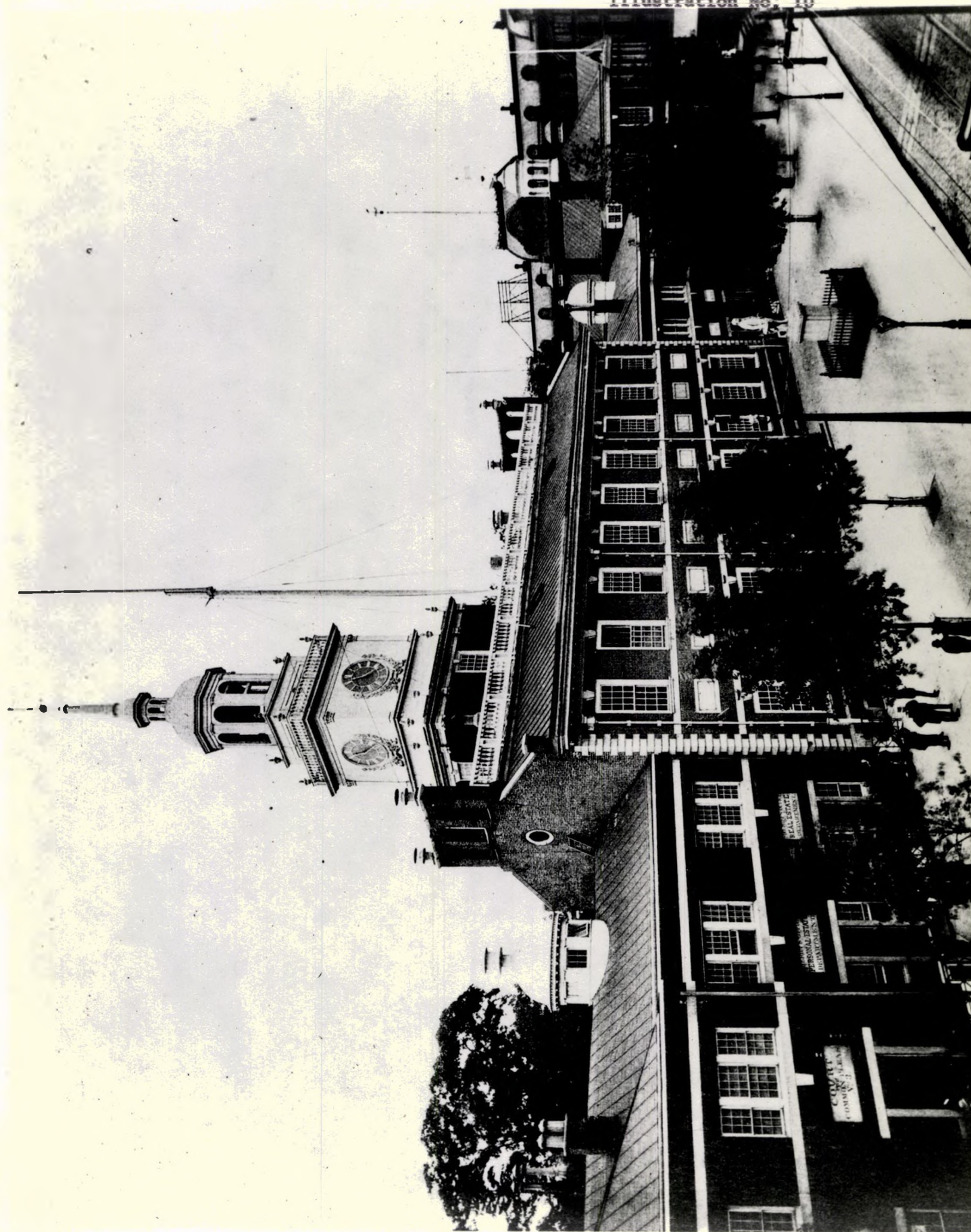


Independence Hall in 1873. Photograph taken prior to the Etting restoration provides detailed view of earlier alterations.
Courtesy of Historical Society of Pennsylvania.



Chapter II
Illustration No. 9

View of Independence Hall after the Etting restoration (about 1878).
Note absence of collars from east and west end downspouts.



Independence Hall in 1890. Note replacement of collars on east and west end downspouts.



Independence Hall, 1925. The rectangular copper downspouts as they appear today. Courtesy of City of Philadelphia.