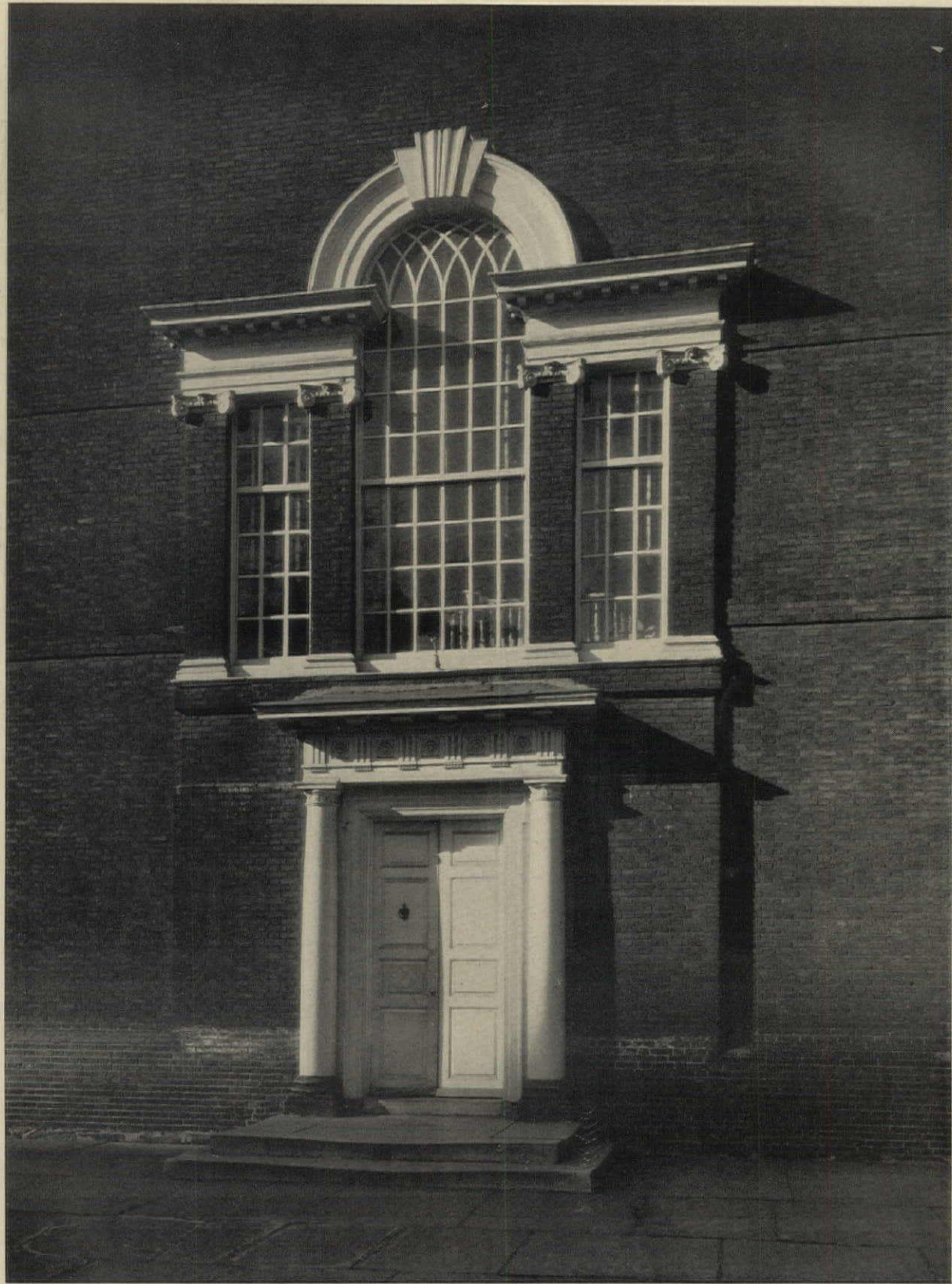


# THE FEDERAL ARCHITECT



PHILADELPHIA NUMBER

*Published for the Association  
of Federal Architects*

*January 1938  
Vol. 8, No. 3*

RECEIVED *2-11-38*  
APPROVED.....  
JOHN J. McMAHON, ARCHITECT.  
By *J. McMahon*

# FORMICA TOPS *in the*

## TORONTO STOCK EXCHANGE



WHEN Canada's leading architects planned the Toronto Stock Exchange Building, they not only used Formica for trim on the main trading floor, but they used it also for the counter and table tops in the lunch room and for the wainscoting and table tops in the members' dining room. The leading public eating rooms in restaurants, hotels, ships and trains are now very largely equipped with Formica and in selecting it George & Moorehouse FF. R.I.B.A. and S. H. Maw A.R.L.B.A. followed a trend that is being followed right now by leading architects and designers everywhere.

When you have restaurant equipment to buy be sure that you get all the facts about Formica. It is a very handsome and durable modern material and one that makes completely individual effects, repeated nowhere else, possible for every job.



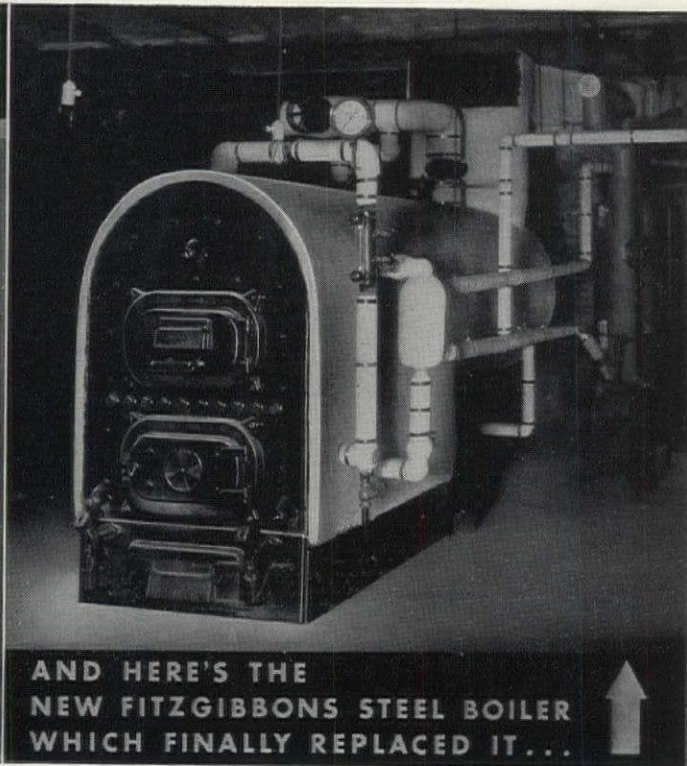
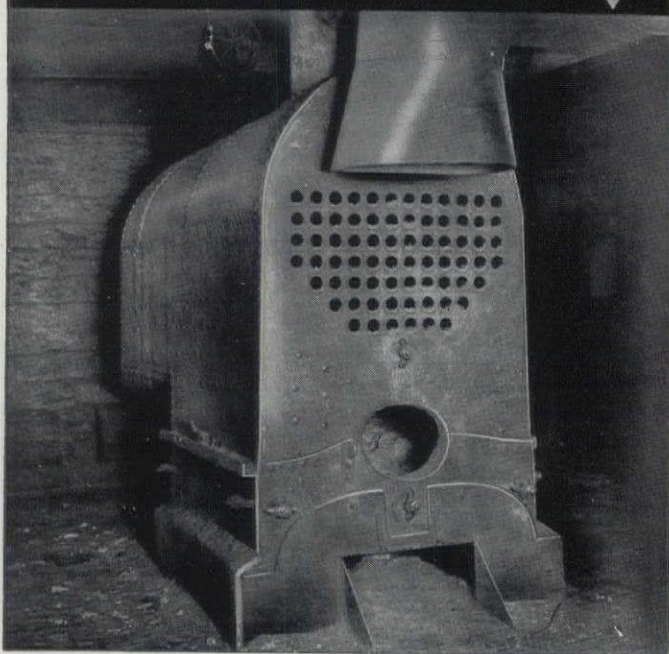
● **FORMICA**

**THE FORMICA INSULATION CO.**  
4660 Spring Grove Avenue, Cincinnati, Ohio

**FOR FURNITURE AND FIXTURES**

Ever Hear of **A HEATING BOILER** which  
**STOOD THE GAFF**  
 for **46 YEARS ?**

HERE IT IS . . .  
 A FITZGIBBONS! ↓



AND HERE'S THE  
 NEW FITZGIBBONS STEEL BOILER  
 WHICH FINALLY REPLACED IT... ↑

*This FITZGIBBONS STEEL BOILER was installed at the Post Office in Oswego, N. Y., when Grover Cleveland started his first term as President. For 46 years it provided outstanding heating service . . . finally was replaced by the modern FITZGIBBONS STEEL BOILER shown on the right— one of the "FS" series.*

*Specify* **DURABLE, FUEL-SAVING**

**FITZGIBBONS** STEEL BOILERS FOR YOUR BUILDINGS—*Large or Small*

FITZGIBBONS STEEL BOILERS not only *endure* but provide important economies in fuel and in maintenance. That's why FITZGIBBONS big boilers have been specified for large buildings for more than half a century.

Today they give outstanding service in post offices, schools, armories, office buildings, hospitals and other large buildings requiring all the way up to 36,000 sq. ft. steam radiation.

FITZGIBBONS small steel boilers for residential heating get the benefit of the same sound engineering design, the same rugged construction, as the big boilers. No wonder they're the leaders in residential steel boiler sales!

FITZGIBBONS STEEL BOILERS will meet any heating problem, for any fuel or firing method. There's a FITZGIBBONS heating engineer near you to help select the correct boiler.

Get full details about FITZGIBBONS STEEL BOILERS. Write for catalogs—now.



**Fitzgibbons Boiler Company, Inc.**

General Offices:

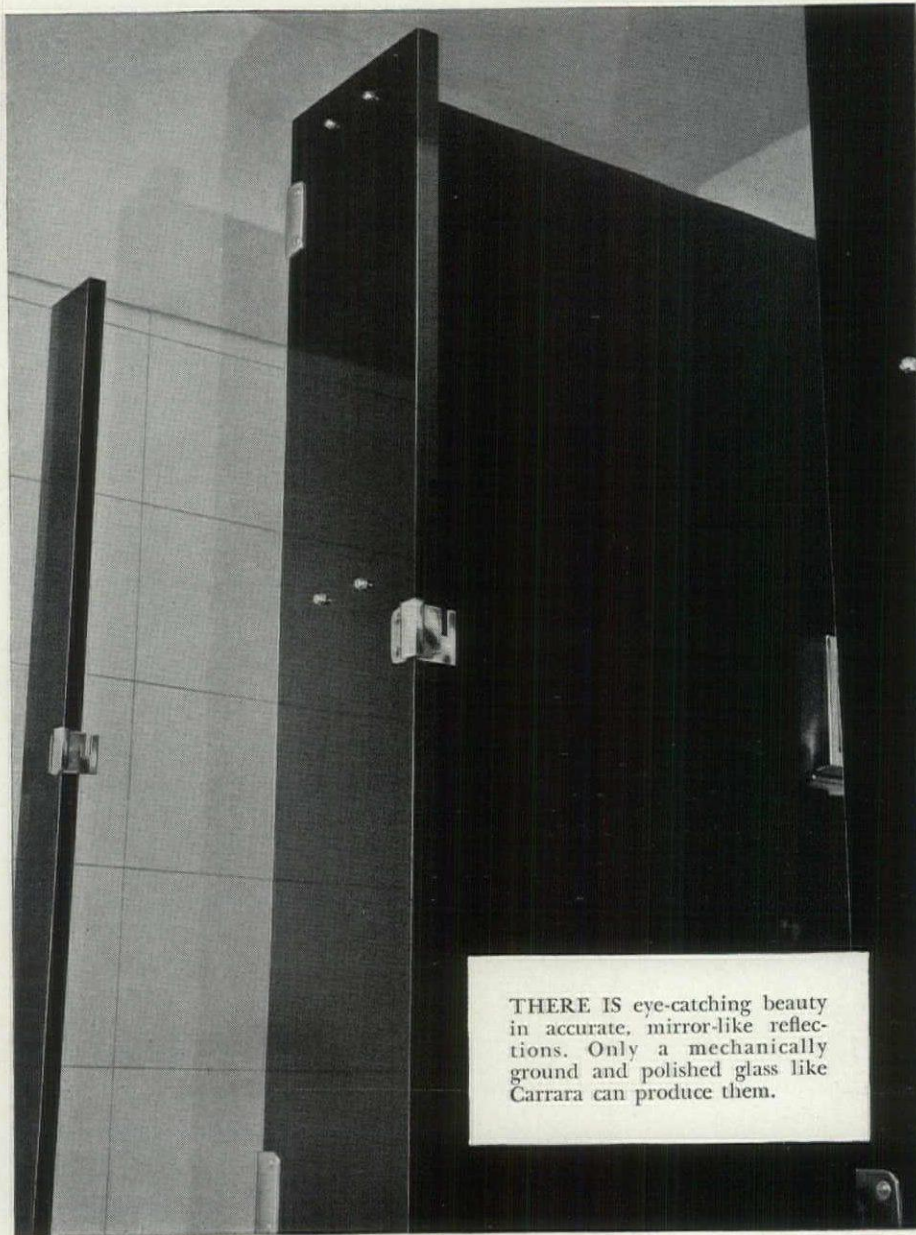
ARCHITECTS BLDG., 101 PARK AVE., NEW YORK, N. Y.

Works: OSWEGO, N. Y.

Branches and Representatives in Principal Cities



CARRARA means "Top Quality"  
 in Structural Glass



THERE IS eye-catching beauty in accurate, mirror-like reflections. Only a mechanically ground and polished glass like Carrara can produce them.

EVERY piece of Carrara Structural Glass produced . . . of whatever thickness or color . . . has a mechanically ground and polished finish. Grinding and polishing is essential to produce a top quality structural glass. And Carrara offers no "second best" quality.

Thus, when you specify Carrara Glass for toilet room walls and partitions, or for decorative use in the home or the public building, you always achieve the advantages which only a mechanically ground and polished structural glass can provide. Accurate, mirror-like reflections. Gleaming, flawless surfaces. Absolute trueness and freedom from lippage at joints. And the permanence, sanitation and easy cleaning for which Carrara is famous.

Write us . . . today . . . for our free book entitled "Carrara Modern Structural Glass." It contains complete information about this striking medium which contributes so much to architectural beauty. Address Pittsburgh Corning Corporation, 2137A Grant Bldg., Pittsburgh, Pa.

Distributed by  
**PITTSBURGH PLATE GLASS COMPANY**

and by *W. P. Fuller & Co. on the Pacific Coast*

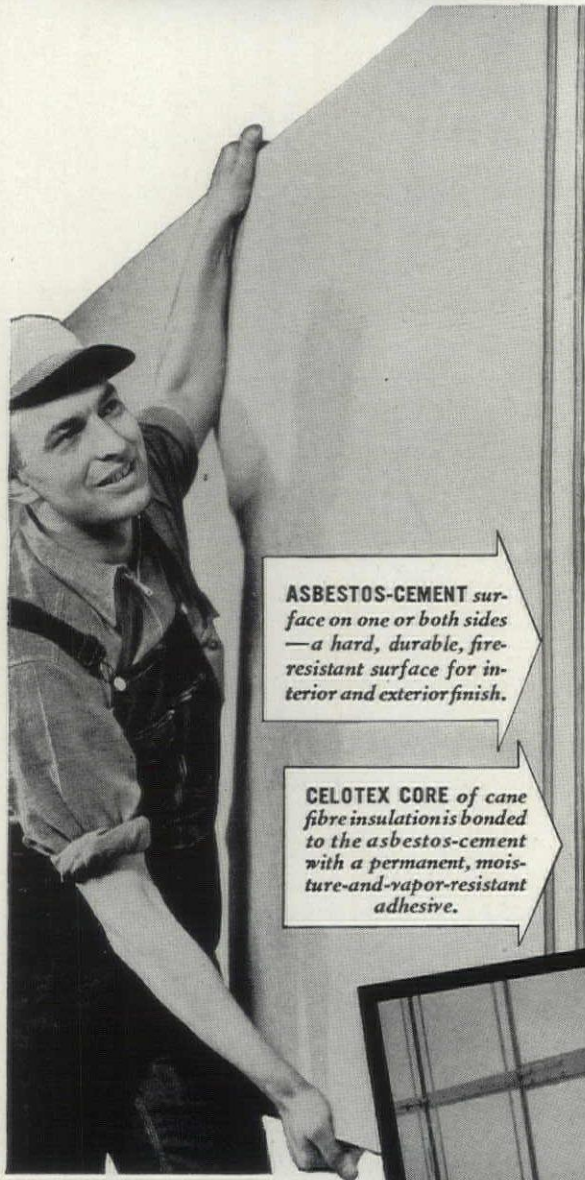
Manufactured by  
**PITTSBURGH CORNING CORPORATION**

*Also Makers of PC Glass Blocks*



*Carrara*  
 THE MODERN STRUCTURAL  
 GLASS

# CEMESTO..CELOTEX INSULATION BOARD "ARMORED" WITH ASBESTOS-CEMENT



ASBESTOS-CEMENT surface on one or both sides—a hard, durable, fire-resistant surface for interior and exterior finish.

CELOTEX CORE of cane fibre insulation is bonded to the asbestos-cement with a permanent, moisture-and-vapor-resistant adhesive.

## *Builds Complete Fire-and-Moisture-Resistant Walls—in One Operation*

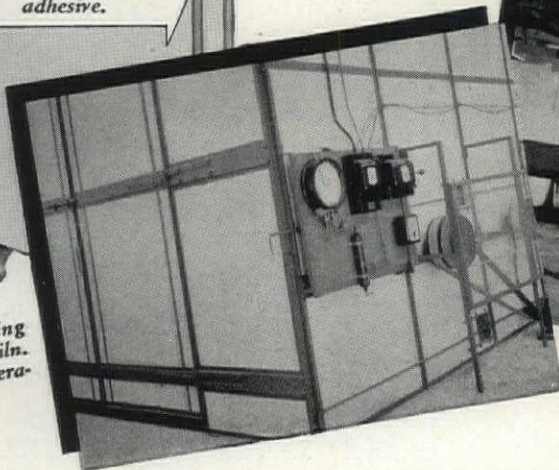
THIS recent development—Cesto—is standard Celotex Insulating Board pre-finished on one or both sides with asbestos-cement. It builds and insulates finished walls, partitions, ceilings—in one operation at one low cost.

Its hard, durable "armor" of asbestos-cement is fire-resistant, moisture-resistant and non-deteriorating—has the appearance of light gray stone. And its sturdy Celotex core provides both structural strength and permanent insulation—protected against termites and dry rot by the exclusive, patented Ferox Process.

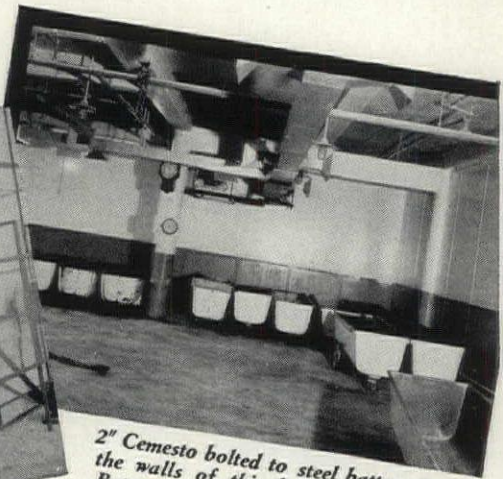
### *Ideal for Conditioning Rooms*

Offering effective resistance to heat and humidity, Cesto builds economical and efficient conditioning, drying and processing rooms. It withstands weather, and provides either or both exterior and interior finish.

Cesto comes in big boards 4' wide up to 12' long with Celotex cores from 1/2" to 2" thick—surfaced one or both sides with 1/8" asbestos-cement. Construction is quick and easy, as it can be worked with carpenter's tools. Send the coupon today for further information, without obligation.



Cesto bolted to steel framing builds and insulates this dry kiln. Permits accurate control of temperature and humidity.



2" Cesto bolted to steel battens forms the walls of this bakery dough-room. Batten strips are bolted to metal angles at top and bottom.

# CEMESTO

REG. U. S. PAT. OFF.

## ASBESTOS-CEMENT CLAD INSULATION BOARD

### A CELOTEX PRODUCT

Reg. U. S. Pat. Off.

*Sales Distributors Throughout the World*

THE CELOTEX CORPORATION  
919 N. Michigan Ave., Chicago, Illinois

FA-1-38

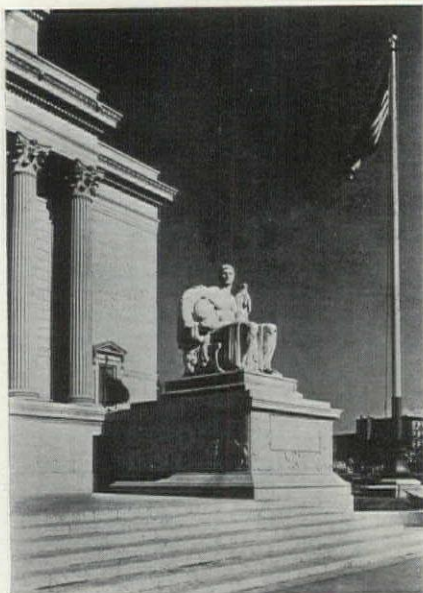
Please send me a sample of Cesto and further information about it.

Name .....

Address .....

City .....

County ..... State .....



# THE FEDERAL ARCHITECT

*Published by the Association of Federal Architects, 1700 Eye St., Washington, D. C.*

Address all communications  
to and make checks in favor  
of The FEDERAL ARCHITECT

Vol. 8  
No. 3

JANUARY, 1938

EDWIN B. MORRIS, *Editor*



OFFICERS OF THE  
ASSOCIATION OF  
FEDERAL ARCHITECTS

*President*  
A. L. Blakeslee  
*Vice President*  
W. R. Talbott  
*Secretary*  
A. Waranoff  
*Treasurer*  
K. W. Hartig  
*Directors*  
F. J. Ritter  
F. W. Southworth  
A. G. Bear  
J. E. Miller  
E. S. Stanton

*Advisors on Publications*  
L. M. Leisenring  
F. W. Southworth  
James E. Miller  
C. H. Strattan  
William Partridge  
George A. Daidy  
J. I. Morganstein



## Table of Contents

Cover: Rear entrance Independence Hall

Letters .....	8
Old Bank of United States .....	10
Editorials .....	11
Independence Hall .....	14
Maps and Air-Views Philadelphia .....	16
Delaware River Bridge .....	22
General Views Philadelphia .....	24
Structural Steel and Its Fireproofing .....	52
Contracts .....	66
Certificate, District Engineer, H. G. Richey .....	68

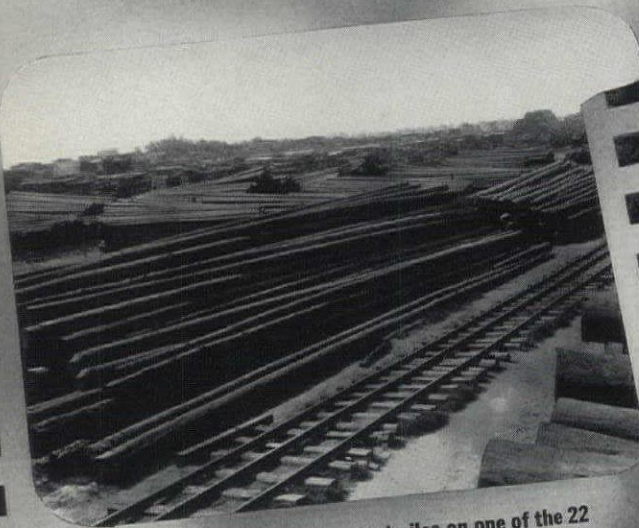
Entered as second class matter at the postoffice in Washington, D. C., July 1936; additional entry Baltimore, Md., under act of March 3, 1879. Published quarterly by the Association of Federal Architects, 1700 Eye Street, N. W., Washington, D. C. Subscription price \$1.00 per year.

# KOPPERS

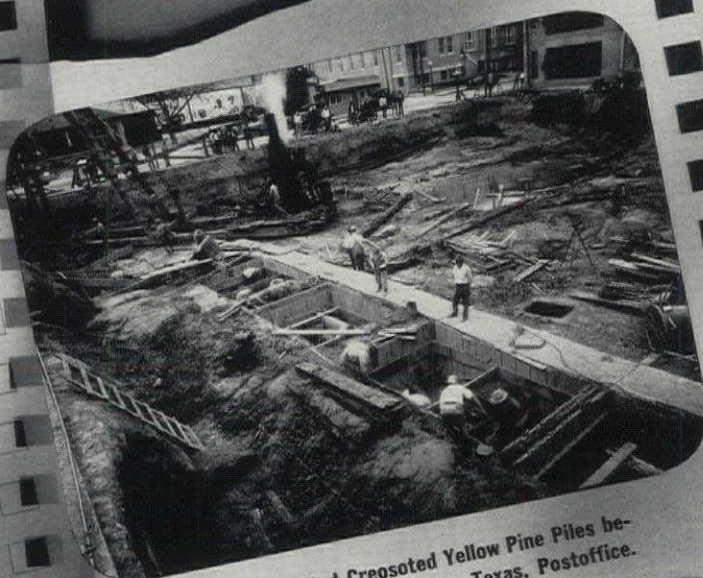
## WOOD PILES

Pressure-treated with Creosote

Prove Most Economical for Building Foundations



Pressure-treated creosoted piles on one of the 22 plant yards of The Wood Preserving Corporation.



Pressure-treated Creosoted Yellow Pine Piles being sunk for the Brownsville, Texas, Postoffice.

Pressure-treated creosoted Yellow Pine piles for building foundations are economical in first cost and are durable, dependable and satisfactory. Creosoted piles used in many installations over a period of 40 years have proven their permanence.

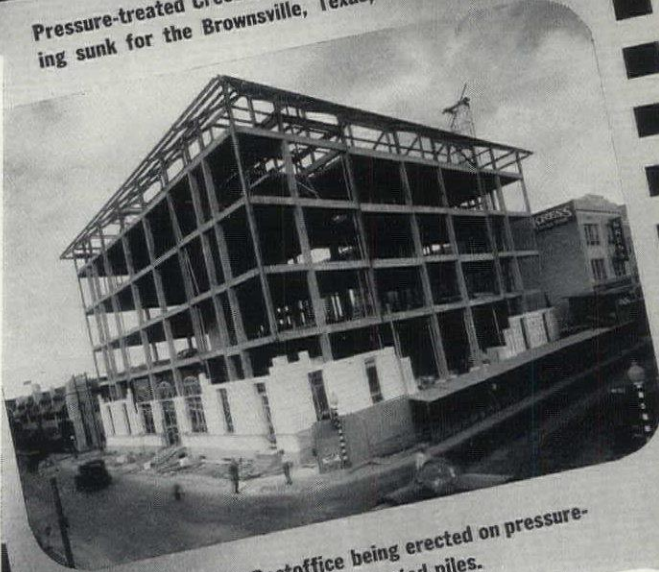
These photographs show the Postoffice at Brownsville, Texas, where 690 Yellow Pine Piles, pressure-treated with 15-lbs. of Distillate Creosote per cubic foot, were supplied by The Wood Preserving Corporation, a Koppers subsidiary.

The Wood Preserving Corporation is in a position to quote on wood piles for prompt treatment and shipment from its plants located throughout the country.

### THE WOOD PRESERVING CORPORATION A Subsidiary of KOPPERS COMPANY

#### KOPPERS DIVISIONS, SUBSIDIARIES AND AFFILIATES

American Hammered Piston Ring Division . . . Bartlett Hayward Division . . .  
Engineering and Construction Division . . . Gas and Coke Division . . . Tar and  
Chemical Division . . . Western Gas Division . . . Boston Tow Boat Company . . .  
Eastern Gas and Fuel Associates . . . The Koppers Coal Company . . . Koppers-  
Rheolaveur Company . . . The Maryland Drydock Company . . . Mystic Iron  
Works . . . Mystic Steamship Company . . . National Lumber & Creosoting Company  
. . . New England Coal & Coke Company . . . The White Tar Company of New  
Jersey, Inc. . . . The Wood Preserving Corporation



Brownsville Postoffice being erected on pressure-treated creosoted piles.

### KOPPERS COMPANY PITTSBURGH, PA.

Send me information on:

- Creosoted Foundation Piling
- Coal Tar Pitch and Felt Roofing
- Coal Tar Waterproofing and Dampproofing
- Tarmac Paving Tars
- Lumino Bituminous-base Aluminum Paint
- Don Graf Data Sheets

Name.....

Firm.....

FA-1-38



**T**HE above illustration shows a view of the Philadelphia Naval Hospital.

All floor tile in this building was furnished by the Sparta Ceramic Company in a pattern of 4x2 and 2x1 tiles. The colors vary to suit the wall tile conditions.

Sparta Tiles have proven highly satisfactory for hospital work because they have the three necessary features for this type of floor. They are non-slip, non-staining, and of sufficiently neutral colors to blend well with their surroundings.

## THE SPARTA CERAMIC COMPANY

110 EAST 42nd STREET

NEW YORK CITY



---

# EVERY ARCHITECT SHOULD KNOW

## A NUMBER OF FUNDAMENTALS CONCERNING AIR CONDITIONING AND REFRIGERANTS

**I**F the air conditioning installation is a sizable one involving a duct system, the duct system should conform to the rules published by the National Board of Fire Underwriters in NBFU Pamphlet No. 90 entitled, "Regulations of the National Board of Fire Underwriters for the Installation of Air Conditioning, Warm Air Heating, Air Cooling and Ventilating Systems" (July 15, 1937). These regulations are published by the Board at 85 John Street, New York City, or 222 West Adams Street, Chicago. See Paragraph 191 covering refrigerants and specify condensing equipment for permissible refrigerants.

If the system is a small commercial or air conditioning installation containing not over 100 pounds of refrigerant, design to conform to the "Standard For Commercial Refrigerating Systems" (Subject 207, June 17, 1935) of Underwriters' Labora-

tories, Inc., 207 East Ohio Street, Chicago. See Paragraph 37 and draw specification for air conditioning refrigerants in accordance.

Should your client desire a unit system containing not more than 20 pounds of refrigerant, Underwriters' Laboratories, Inc., have a "Standard For Unit Refrigerating Systems" (Subject 207, June 15, 1937). Secure a copy of this standard and consult Paragraph 30 for permissible refrigerants for air conditioning.

If you desire to consult Underwriters' Laboratories Report MH-2375 entitled, "The Comparative Life, Fire and Explosion Hazards of the Common Refrigerants," inquire at the reference desk of your Public Library. Or we will mail a copy, postpaid, on receipt of one dollar.

By following these rules, you avoid any possibility of penalty to your client in insurance rates for using refrigerating and air conditioning systems in non-conformance with regulations.

If you would be safe respecting refrigerants, specify the safe "Freon" refrigerants for air conditioning, which meet all the specifications of the National Board of Fire Underwriters and the Underwriters' Laboratories, Inc.

"Freon" refrigerants are non-toxic, non-flammable and non-injurious to foods, furs, books, paintings and other fragile and perishable articles.



# FREON

REG. U. S. PAT. OFF.

*safe refrigerants*

\*"Freon" is Kinetic's registered trade mark for its fluorine refrigerants.



## LETTER FROM JUDGE WETMORE

Coral Gables, Florida,  
December 20, 1937.

Dear Eddie:

I addressed a letter the other day to Mr. So-and-So, one of my former official associates, and got called down for mistering him. Not wishing to risk the removal of any more of my cuticle for the same cause, I have addressed you as Eddie. If you object you may consider that I have used the term as the diminutive of Eddi-tor, and we will let it go at that.

While I greatly enjoyed meeting all the good fellows—male and female—when I called at the office recently, the unwelcome and practically incessant attentions of Jupiter Pluvius made me feel glad to get back to the more hospitable climate of Southern Florida.

There are brief periods when the contrary is true, but so much has been written and so many things said by visitors and residents here concerning the curative qualities of our sunshine, the genial and tempering warmth of our breezes, and the enjoyable temperature of the surf as it rolls in from the near-by Gulf Stream that all the world has come to look upon Miami's winter climate as a synonym for comfort. Hence a friend in Washington, who does not like its winter weather, said that he recently read in the *Post* a statement that fifty horses had just been sent from Bowie for the Miami races, and that he wished he might follow in their tracks. I wonder if he meant just what he said, and I'll tell you why.

Some years ago there appeared in the same paper—if I am not mistaken—a little skit written by one

of its reporters induced by the coming of Spring after a long drawn out Winter. This reporter, after hurling anathema upon and denouncing Winter roundly for having too long lingered in the lap of Spring—or vice versa—proceeded to proclaim that Spring had arrived and then went on to enumerate certain signs to support his assertion—some reliable and some otherwise. But there was one sign that he declared infallible, i. e., the appearance upon our thoroughfares of the street piano,—legitimate successor to the hand-organ and monkey.

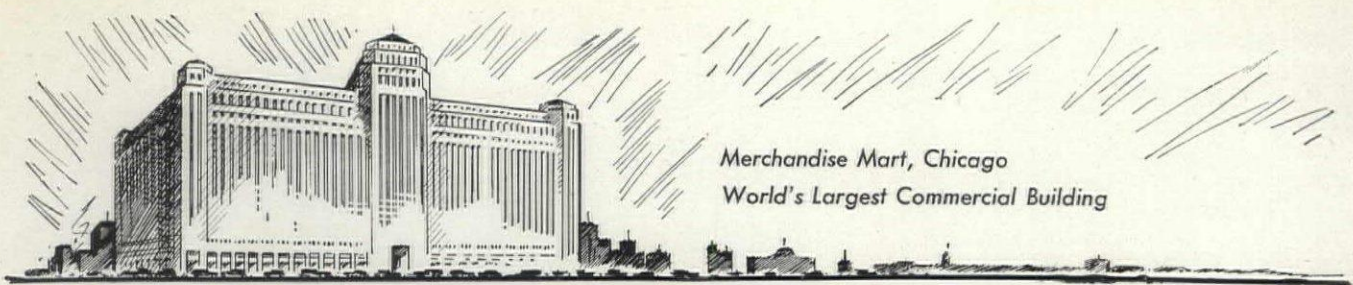
In describing the incident which he had witnessed the reporter fixed the time as 9:30 in the morning, and the scene as a spot in front of the Hooe Building on F Street. The day was balmy and the winter-bound windows had all been pried open. The Wopp with the street piano had halted and ground out an aria from *Il Trovatore* when instantly a head or two popped out of every window to welcome this harbinger of Spring. After playing a few numbers of his limited repertoire the Wopp bared his head, made a low bow to his audience and held out his cap to catch the inevitable shower of small coin which his efforts had drawn from the "weaselskins" of his listeners. Suddenly from an upper window a silver coin—mute testimonial of satisfaction—was tossed forth. It turned over and over, glistening and sparkling in the bright sunlight and landed—not in the outstretched cap of the expectant Wopp—but in what the reporter designated as a "sparrow's breakfast." The Wopp extricated it, wiped it off gingerly on his handkerchief, deposited it carefully in his pocket, bowed again and hurried off to the scene of his next triumph.

You will note that the incident described happened during what has recently been referred to as the "horse and buggy" days.

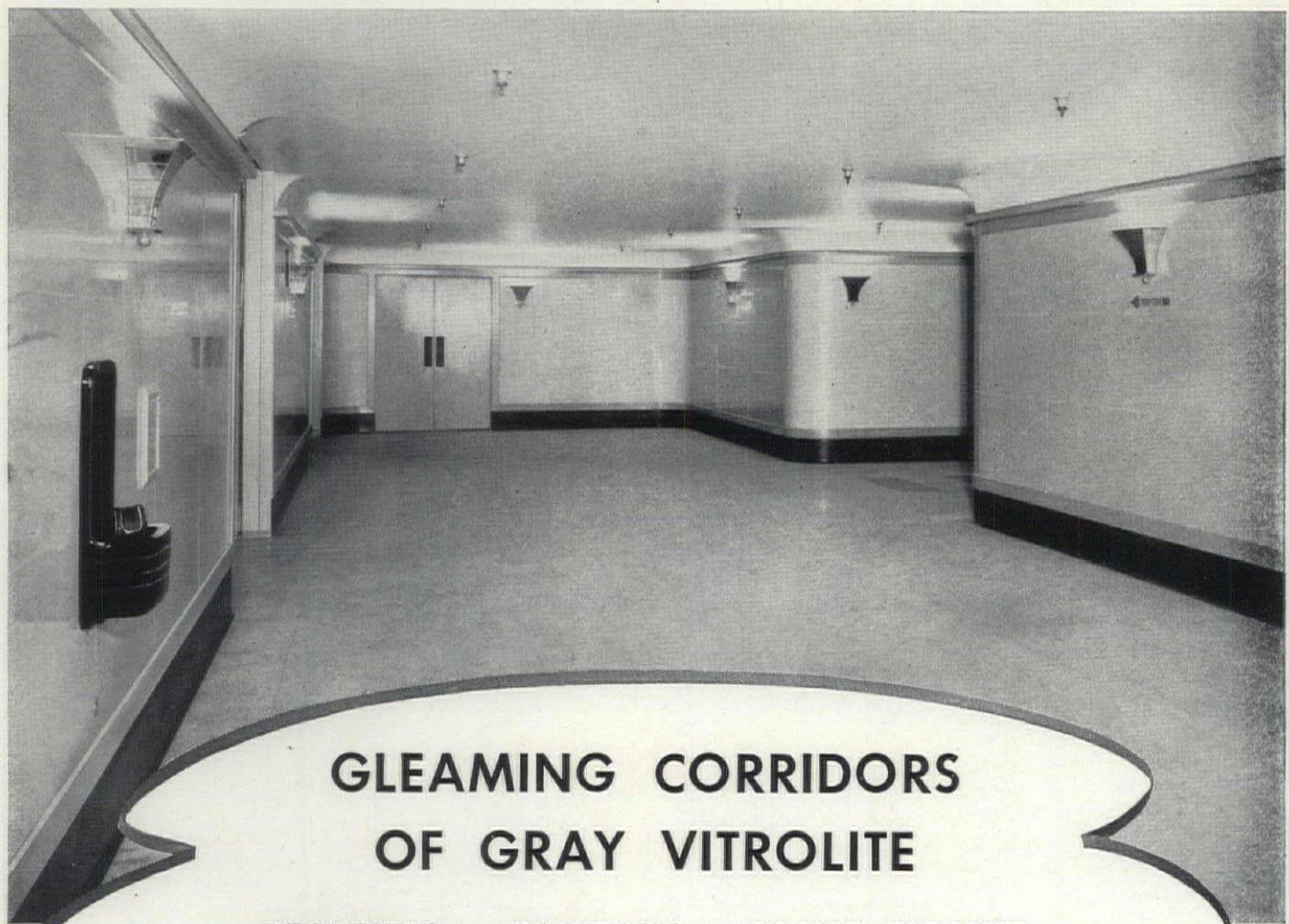
Following in the tracks of a number of horses is not "all skittles and cheese," but quite something else. I know, because I recall an occasion when the Grand Lodge of Masons back home there turned out to perform some official function. It was escorted by De Molay mounted Commandery of Knight Templars. The Grand Lodge and members of the fraternity followed on foot. The line of march was somewhat lengthy and considerable sidestepping was in order. Now Eddie, I can't understand why my friend wants to follow in the tracks of all those race horses down here. He's not a sparrow.

I thought to avoid certain disagreeable features during my absence in Washington, by taking advantage of the occasion to have the exterior of my house painted. Now, a profound student of the scriptures as you probably are, will recall the change which Moses wrought in the marking of the offspring of the cattle of Jethro, his father-in-law, by setting up before the cows that were with calf a series of reeds from which the bark had been stripped in a curious fashion, with the result that when the young were born they were "ringstreaked, speckled and spotted." I don't know how the painter I employed did it, but he got the same effect on my windowpanes, awnings and woodwork. I have been engaged, ever since my

(Continued on page 63)



Merchandise Mart, Chicago  
World's Largest Commercial Building



## GLEAMING CORRIDORS OF GRAY VITROLITE

BEAUTIFUL • • SANITARY • • EASILY CLEANED

**T**HE increasing amount of Vitrolite that is being used in modern construction is convincing proof of its unusual advantages.

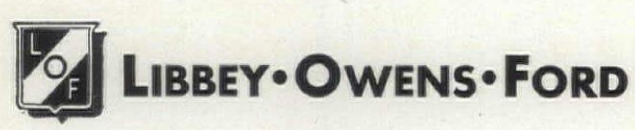
The illustration above shows a distinctive corridor in Chicago's famous Merchandise Mart. Gray Vitrolite was chosen for this job because of its beautiful soft effect and because it is impervious to dirt and grime. Where Vitrolite is used

maintenance cost is extremely low. An occasional wiping with a damp cloth will keep it looking bright and new for years.

Our Architectural Service Division will be glad to cooperate with you in solving any unusual problems incident to new construction or remodeling.

Address Libbey-Owens-Ford Glass Company, 1319 Nicholas Building, Toledo, Ohio. (Member of Producer's Council.)

*Make certain your Vitrolite installation is made by an authorized LOF dealer.*



# Vitrolite

COLORFUL STRUCTURAL GLASS

*For mirrors, LOF Polished Plate, clear or in colors. For display windows, LOF Quality Plate Glass. For lighting, the new color-fused, tempered Vitrolux*



*Photograph by Philip Wallace*

### *THE OLD CUSTOM HOUSE*

**F**ORMERLY the Bank of the United States until that institution was abolished by Andrew Jackson. The building was designed by Latrobe and upon his death construction was carried on by his pupil William Strickland. The instructions to the architects submitting sketches in competition were that the building was to be in the classic tradition. It was adjudged therefore that the Latrobe Parthenon-inspired design was best.



# THE FEDERAL ARCHITECT

Published by the Association of Federal Architects  
1700 Eye St., Washington, D. C.

■ THERE is an individuality about Philadelphia.

We often meet in the course of our sheltered life, persons whose voices and intonation have an intangible familiarity—the so-called Main-line twang that brands the person as Philadelphia born.

It is hard to imitate—that soothing circumflex at the end of sentences, the two-syllable vowels—but it is unmistakable.

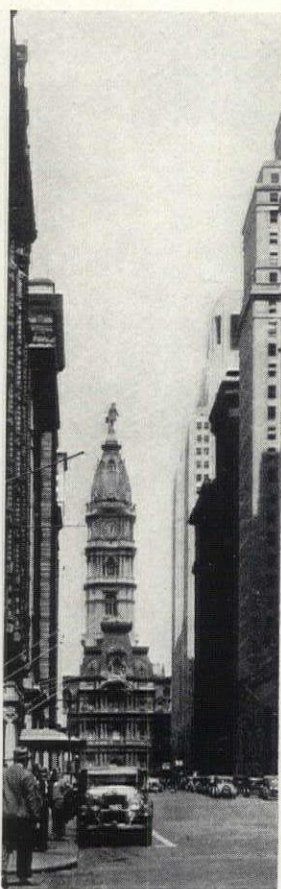
We like also to go back to the town, and walk on Chestnut Street. Our pulses react when now and again we see faces—especially the young and feminine—which are unmistakably Philadelphia.

We have been laughed to scorn for saying there is a Philadelphia type of face but it is true, that thin facial design, running to the long straight nose and the high cheekbones.

It is unfortunate that they began selling Philadelphians automobiles and railroad tickets (except the suburban). By proper segregation the type could have been further Burbanked and developed; so that a person seeing one of them accidentally displaced, as in Dubuque or Tulsa, would say at once, "Oh, a Philadelphian."

The type is undoubtedly passing. Due to carelessness or lack of interest or an unsentimental disregard for the value of such an ethnological type, natives of the town have been permitted to migrate, to inter-marry with non-Philadelphia examples, to assimilate into their dialect the words and tones and phrases of Boston, of Virginia, of Ohio, of Chicago, of Texas.

In generations to come one, mayhap, may listen in vain for the subtle Philadiallect, may



look in vain even in the places where Philadelphians thickly foregather, for the Philadelphia face.

What difference, you will say? In America we have lots of faces and lots of dialects. Why be concerned about any particular and especial one?

That's very true. We have plenty. But this one is of historic importance. Perhaps they will do something about it in Philadelphia. The City Council is always passing ordinances. Perhaps they will pass one requiring one child in every one hundred to be Philadelphia in appearance.

It might be hard to enforce—but then look at some of our legislation.

■ WE wonder what all of us youngsters—a decade ago—several decades ago—would have said if any of our honored professors had told us the stockmarket and architecture were correlated things.

It would have bewildered us then thinking, as we were apt, in terms of art and inspiration and all that. It bewilders us, now, but we know it is true.

In the recent recession, persons who were ready to build, abandoned their intention. Others who had started to build, stopped operations. Building and intent toward building, faded out. Architecture went dim, architects, dimmer.

Oh, for the days when the rich men are very rich. Architecture, like most of the professions, is at its best when there is a free-spending top.

■ **T**HE text-make-up of architectural magazines in these days is considerably colored by the advertising content. This is, in a certain manner of speaking, and if it proves efficacious, a logical and sensible arrangement.

But there is considerable doubt as to whether it is efficacious.

The architect takes his magazine for relaxation along the lines of his chosen profession. The psychology of advertisement is to bring up the message when the audience is thus relaxed and his mind is open and receptive, as in radio programs or fiction magazines.

It is our contention that the greater the reader-interest in the text of the magazine, the more effective is the advertising in connection therewith.

It is a paradox but it is none the less true that the less reference in the body of the magazine to the products advertised, the more efficacious the advertising, on the same basis that you can sell more goods in a house-to-house campaign if you don't put your foot in the door.

It is not that an architect minds being told about bricks and paint and steel sash. They are the tools of his profession and the elements with which he works. But they represent responsibility and the struggle and burden of the day.

He is looking for something gentler. He is looking for the record of architectural accomplishment and the prospect of things yet to be accomplished. The inspirations of other architects are uplift to him and later become part of his own inspiration.

If he finds such matters of interest, he picks up the magazine again and again and all things mentioned therein, advertising and non-advertising, impinge upon his consciousness.

Whereas if he finds no such interest and the text and pictures drag him back rather to the hard responsibilities of the day, he is apt to put the magazine down and not again pick it up.

■ **M**AX DUNNING of the Procurement Division, a person of kindly and generous instincts, appeared at his office the day before Christmas with a beautiful

if somewhat knobby and plastic package intended as a gift to one of his colleagues. "Why is it," he asked, "that no matter what object I have to wrap up, when the thing is wrapped it always looks like a duck?"

■ **I**NFORMATION has reached us that a real compliment to architecture has been offered in Cincinnati, Ohio. A new, multiple-story Federal building having been designed for Cincinnati and now being in the course of construction, the Christmas holiday spirit prompted the chef of the Gibson Hotel, to make at small scale a replica of the building in cake and frosting.

A fine civic-spirited action, full of a praiseworthy interest in architecture and a proper pride in the artistic side of baking.

As a side-light upon the question, why should that not be a solution of the building model question? Make a cake-and-icing model, and when it has served its purpose instead of putting it away to gather dust, let the office force eat it up.

■ **A**N interesting event occurred on the evening of January 6th when some thirty members of the Public Buildings side of the Procurement Division gathered for a hastily-arranged but memorable dinner in honor of Albert Richey, versatile and experienced District Engineer, who retires from active duty in February.

Wise in the properties, characteristics and limitations of materials, fortified with a rich knowledge of construction pitfalls and problems, crafty and resourceful in their solution, smilingly firm, attacking his difficulties with a courageous foresight, he is the ideal construction man, than whom there are few superiors.

Mr. Reynolds, head of the Public Works Branch, presided with a pleasant informality. In his well-pitched voice, he blended nicely-phrased seriousness with an inimitable boyish kidding. Max Dunning had a cold, which led him into a flood of mellifluous and pleasantly poetic oratory in the best Dunning manner.

Richey's acknowledgment was graceful and full of that light-heartedness with its serious undercurrent, which is so typical of him. He skipped from reminiscence to pre-

cept, to frivolity to touches of seriousness—a sort of design for living quickly sketched.

It was an occasion to have attended. It was youthful in its tenor—as is Richey himself. It might be a precept to all of us to progress with long strides mentally and in experience, but to remain forever a boy in spirit.

■ **P**OETIC justice is one of the things which does not always work out. I refer particularly to the virtue-hath-its-own-reward subdivision of the Poetic Justice fundamental idea.

A certain architectural firm, which due to the delicate nature of the subject of P. J. will have to be nameless, was summoned to appear before a building committee charged with the responsibility of erecting a certain civic building.

One of the members of the firm appeared and stated his experience and qualifications. "Very good," decided the committee, "you are entitled to submit sketches for our consideration." "Upon what basis?" queried the member of the firm. "Oh, for consideration in competition with such sketches as other architects choose to submit." "But that," objected the member, "is not a competition. There isn't a proper and acceptable

basis set-up for competition. We withdraw"—bowing himself out.

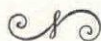
This was considered as a discouraging and disheartening triumph for Ethics, involving as such triumphs usually do, an uplifting of the soul but no financial betterment. It was therefore written down as a Thing Which Might Have Been.

But only for a short time. Some months later when the subject insofar as the architectural firm was concerned, had practically passed into ancient history, the firm received a summons from the building committee for the civic project to come at once and sign a contract as architects for the project.

Dazed and groggy, the architects in a fog of amazement rushed to the scene of action and affixed their signatures on appropriate dotted lines.

When restoratives had been applied and they began to return to normal, they begged feebly for an explanation and were told that the sketches submitted by the various competing architects on various bases and assumptions, upon varying cubes and space requirements, resulted in such confusion that no decision was possible.

In their difficulty the committee at length remembered the architectural firm which had  
(Continued on page 72)



## Statement

**W**E have had an inquiry which requests information as to the purpose of the FEDERAL ARCHITECT. The intent of the FEDERAL ARCHITECT is to discuss the essentials of architecture and the aims of architects, for the purpose of interesting and stimulating Federal architects, which means if our work is done properly that it should interest and stimulate all architects.

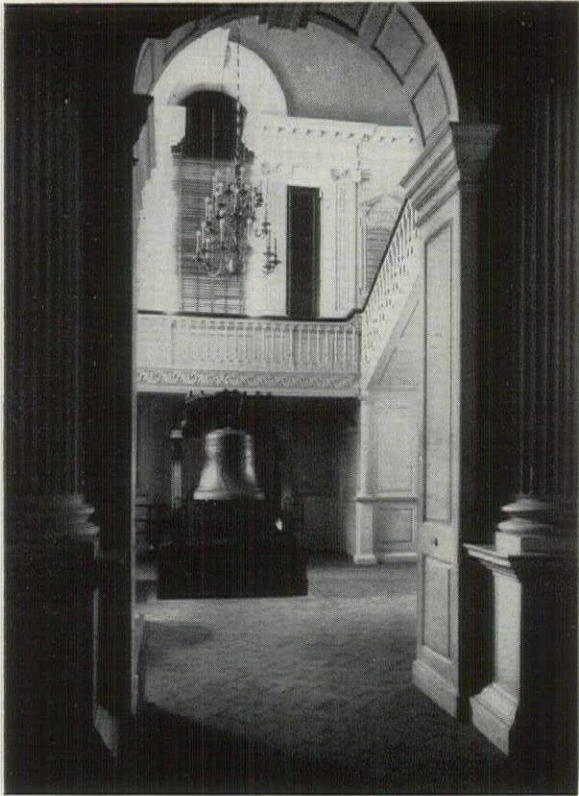
Our aim is not to be self opinionated. For a while when Government architects were under criticism, we defended them, knowing that while Government architects were subject to the same failings and shortcomings as other architects they were also not barred from having the same merits.

We have also advocated restraint in the matter of plunging into "Modern" architecture, with the idea that the heritage of the past is equally valuable with the inspiration of the present and that you cannot wholly discard the one any more than you can wholly discard the other.

Further we do not wish to be a prophet or a leader. We do not wish to advance further than architects' pencils have advanced. We are not a beacon.

We like to help architects think about architecture, not as a throbbing problem, but as a gentle absorbing, companionable thing, as creation which flows softly and without too much precept from one's hand, rather than from formulae and rigid reasoning consciously set in motion in the mathematical portion of one's head.

We should like if at all possible to be diverting, to set up that same spirit that exists when architects get together before an open fire after dinner and speak of their aims and problems.



ANOTHER VIEW OF THE STAIRWAY  
SHOWING THE LIBERTY BELL

A STUDY of the early days of the historic State House results in the conclusion that the foundations of the building were laid in the year of Washington's birth, 1732.

On August 8, 1732, the Speaker of the General Assembly of the Province, Andrew Hamilton, reported to the House that he had provided material to "carry on the building in the manner as the House now sees fit."

Following this report records of the Assembly state:

"Mr. Speaker then produced a draught of the State House, containing the plan and elevation of that building, which, being viewed and examined by several members, was approved of by the House."

The House likewise refused to release the Speaker from supervision of the work. Upon these and other facts rests the claim that Hamilton was the real architect.

Andrew Hamilton has one more thing to commend him to the annals of history. In 1735 a certain printer in New York City was sued by the Governor of the State for libel, because he had published an article in which he charged the Governor with unfair practices in connection with the courts and with jury trials which made a fair trial in the courts impossible.

The bar of New York City feared to represent the defendant, as it was made clear that to do so would bring the wrath of authority down upon them. Andrew Hamilton volunteered to defend the printer and carried through a case historic in the annals of jurisprudence. By adroit reasoning he established that in this case the jury was judge of both the law and the facts. Later when permission to introduce testimony showing the printer's statements concerning the courts to be correct was denied, Hamilton recommended that each juror call upon his own experience with the New York judicial system to prove the truth of the printer's statements. As a result of this recommendation, the jury found for the defendant. The trial was so widely followed in England and America that the expression, now a part of the language, arose "as smart as a Philadelphia lawyer".

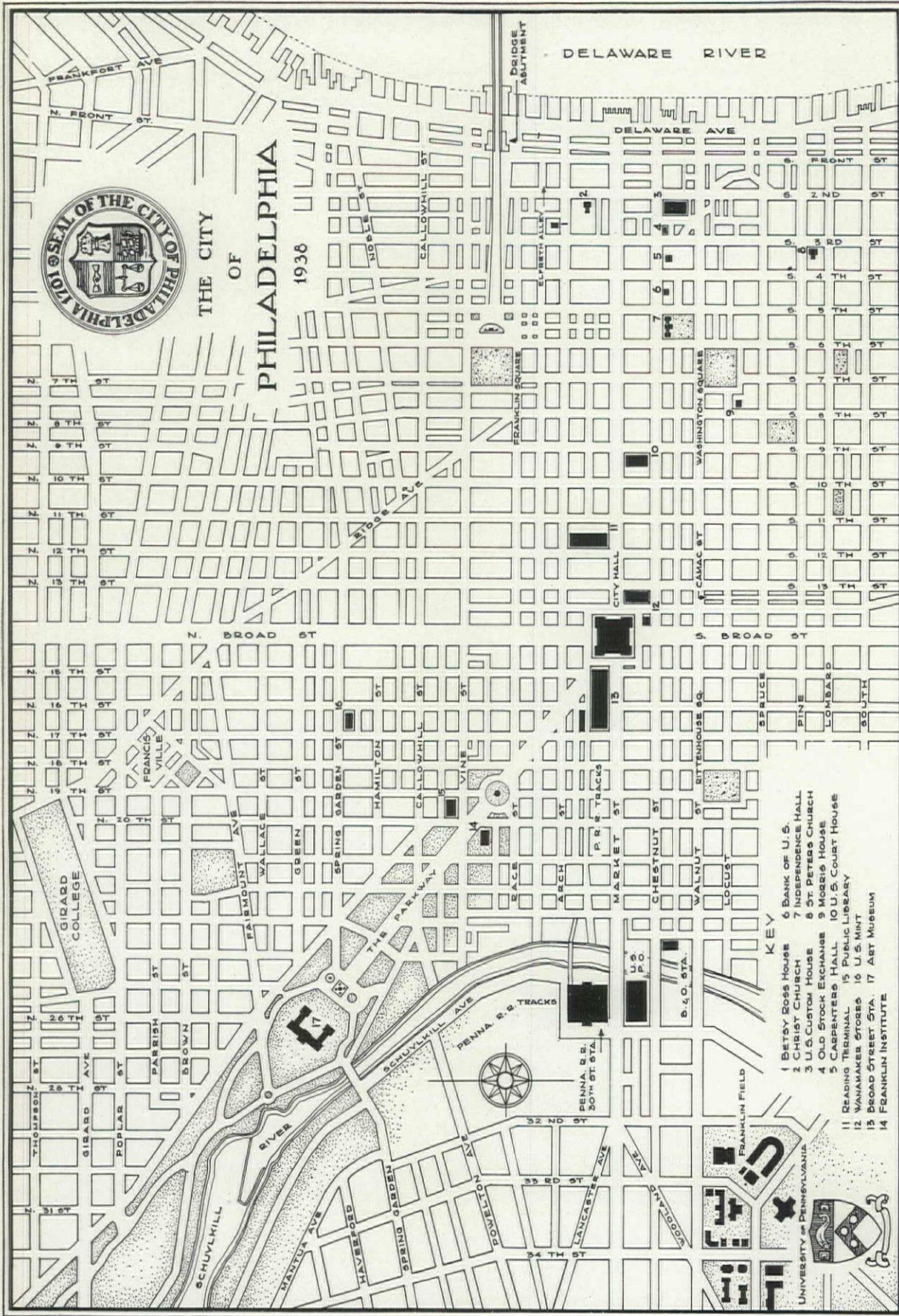
The windows of the structure were left unglazed from 1735, the time the building was nominally completed, until 1741, during which time the deliberations of the Assembly must have been carried on under very healthful and invigorating conditions.





*STAIRWAY INDEPENDENCE HALL*

It is interesting to note that the floors are of brick.



MAP OF DOWNTOWN PHILADELPHIA

The City Hall, forming a pedestal for William Penn, is the landmark for Philadelphia. From it to North and South extends Broad Street, a thoroughfare 14 miles in length. The diagonal Parkway extending to the Art Museum is of comparatively recent construction and is very interesting. The other diagonal street is Ridge Ave., which is the old Ridge Road extending northwest from the old city, through the rural districts. Francisville was then a village far distant from the city whose streets are parallel to "The Ridge," a most confusing maze for persons unfamiliar with that part of the city. At the left is part of the plant of the University of Pennsylvania, soon to be 200 years old.



*Fairchild Aerial Survey*

**T**HE City Hall tower surmounted by William Penn marks the center of activity. The ambitious and successful diagonal Parkway extends from this center to Zuntzinger, Borie and Neady's Art Museum, a fine piece of color architecture in the Parthenon tradition. Paul Jennewein's pediment sculpture in polychrome terra-cotta, one group of which is now in place, is strikingly beautiful.

The tracks to the west are Pennsylvania Railroad's entry to the metropolis, soon to be abandoned in favor of the 30th Street station across the Schuylkill, which building can be seen in part against the left margin.

The Schuylkill, with its row of boat-houses, is a recreational place. It is bordered by Fairmount Park, seen across the top of the picture, an area of wide extent, charmingly kept in pastoral simplicity.

Below City Hall is the busy district. The tall black building is the Saving Fund Society building, designed by Howe and Lescaze, Philadelphia's most important concession to moderne architecture. The rectangular building below City Hall is Wanamaker's against its shadowed side Epiphany Church.

The large building near the left margin is the Philadelphia Fidelity building, designed by Simon & Simon. It is at the corner of Broad and Walnut Streets. The corner at one time belonged to Stephen Girard.

The story is that when Joseph Bonaparte was living in Philadelphia and sought a home for himself and the pretty little shop-lady whom he met while buying a pair of suspenders one day, he tried to buy the Broad and Walnut corner saying "Mr. Girard, as a purchase price, I will cover the ground for you with silver dollars." To which the canny Girard replied. "That is satisfactory, Mr. Bonaparte, if you will place them edgewise."



AIR VIEW OF CENTER OF CITY

Fairchild Aerial Survey

**T**HIS shows the south of Market Street district, at one time, before Philadelphia moved residentially to the suburbs, deemed to be the most advantageous social location.

The thin tall building in the centre of the near foreground, the Chateau Crillon apartment house, has a background of one-time swank Rittenhouse Square upon which faces swank Holy Trinity Church. The square is now surrounded to some extent by shops and has lost its residential character.

The step-back building on the far side of the Square is the well-equipped Penn Athletic Club.

In the centre of the picture is the pagoda-topped Lincoln-Liberty building, designed by John T. Windrim, the floor lighting of which is a feature of the night picture of the city.

About one third the distance between the right-hand margin and the bridge across the Delaware, the cresting of the Philadelphia Customs House silhouettes against the water. The bridge is the one for which Paul Cret worked out the architecture. It spans the water which used to separate Philadelphia from the town of Camden, New Jersey and puts an end forever to the vaudeville jest which questioned whether the distant Camden could actually be in the United States.



Photograph by Philip Wallace

*THE BETSY ROSS  
HOUSE*

*Arch Street near  
Second*

*(Restored by  
R. Brognard Okie)*

**T**HE famous house where the first flag was made. The legend is that she persuaded the flag committee to use the 5-pointed star on the flag in lieu of the more British 6-pointed. She solved the difficulty of cutting the 5-pointed star by folding the cloth intricately, snipping it once and producing the star.



Fairchild Aerial Survey

## PHILADELPHIA FROM THE DELAWARE

THE area of low buildings adjoining the river front is the old Colonial city. The tall spire at the left is St. Peter's and the spire at the right hand margin is Christ Church. To the left, or south, of the large rectangular structure at the water front is Walnut Street. Following this street westward the round portico of the old Stock Exchange can be seen and still further the brick Curtis Publishing Company Building with its white upper story, which faces Independence Square and Independence Hall, hidden by other buildings.

In the dim centre is City Hall, now the focal point of business. The very white structure to the left is the Elverson building an all terra cotta structure designed by Ranken and Kellogg, which houses the old Philadelphia institution, the *Public Ledger*, now operating under the *nom de plume* of the *Inquirer*.

At the left margin, beyond the streets, is the indistinct line of the Schuylkill River. The middle of the nineteenth century saw the city extending from the Delaware to the Schuylkill, a band of eight east and west streets, from Vine on the north to Pine on the south giving rise to the doggerel so puzzling to each generation of Philadelphia children :

"Market, Arch, Race and Vine

Chestnut, Walnut, Spruce and Pine

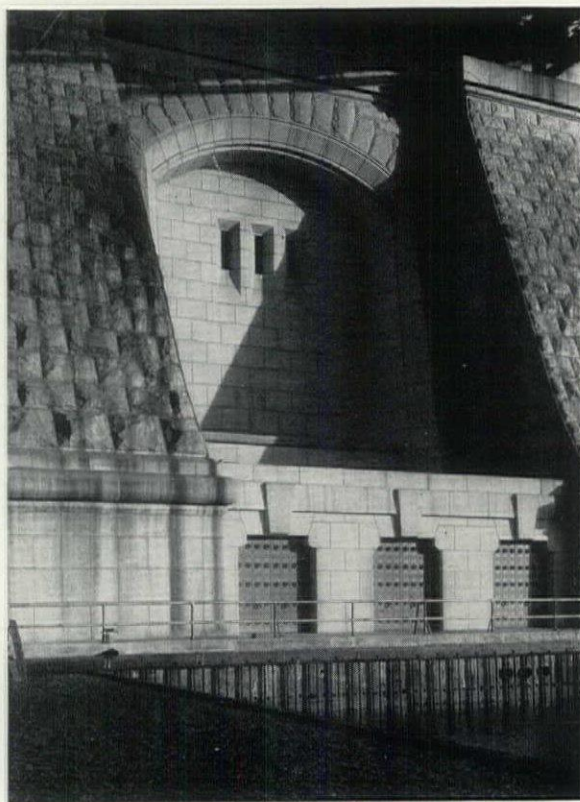
All begins with A."



WHEN more or less light and airy comment was made to Mr. Cret, architect for the bridge, along the lines that it might be very convenient to be the architect of bridges, trains and Federal Reserve buildings, on the theory that one derived as a result free crossings, free railroad journeys and free handfuls of currency when needed, Mr. Cret replied in this minor key:

"Your picture of my life is more attractive than the commonplace reality. You might have added a few touches, as, for instance—Mr. Cret (in depression times) going to the Central Heating Plant in Washington and being treated to free heat; or, if and when expelled from his office for overdue rent, let us say, going to another client (the Philadelphia Zoo) and getting new quarters with outdoor grillaged sleeping provision."

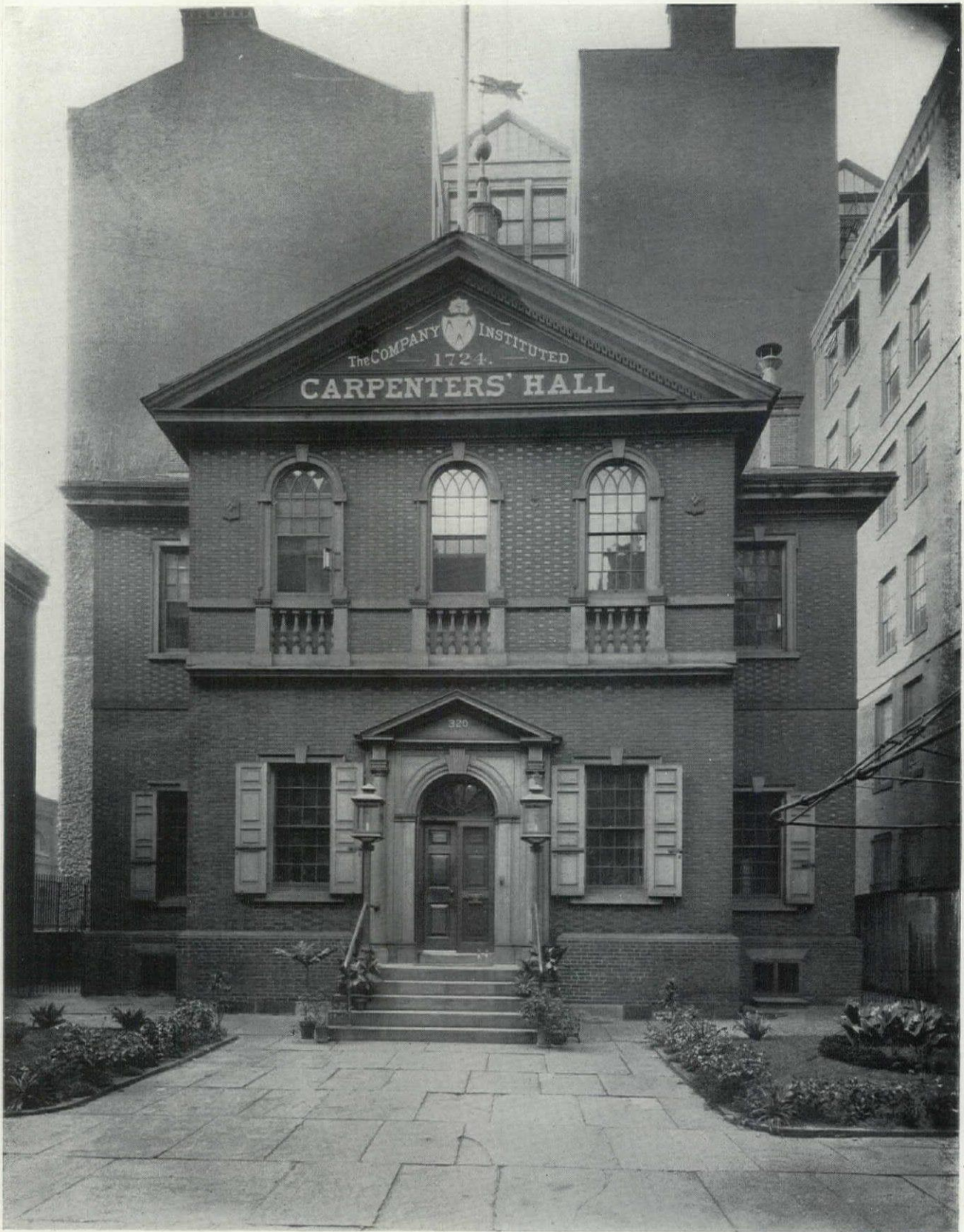
*PART OF ABUTMENT OF  
DELAWARE RIVER BRIDGE*







*THE DELAWARE RIVER BRIDGE—ABUTMENT*  
*Architectural Design by Paul Cret*



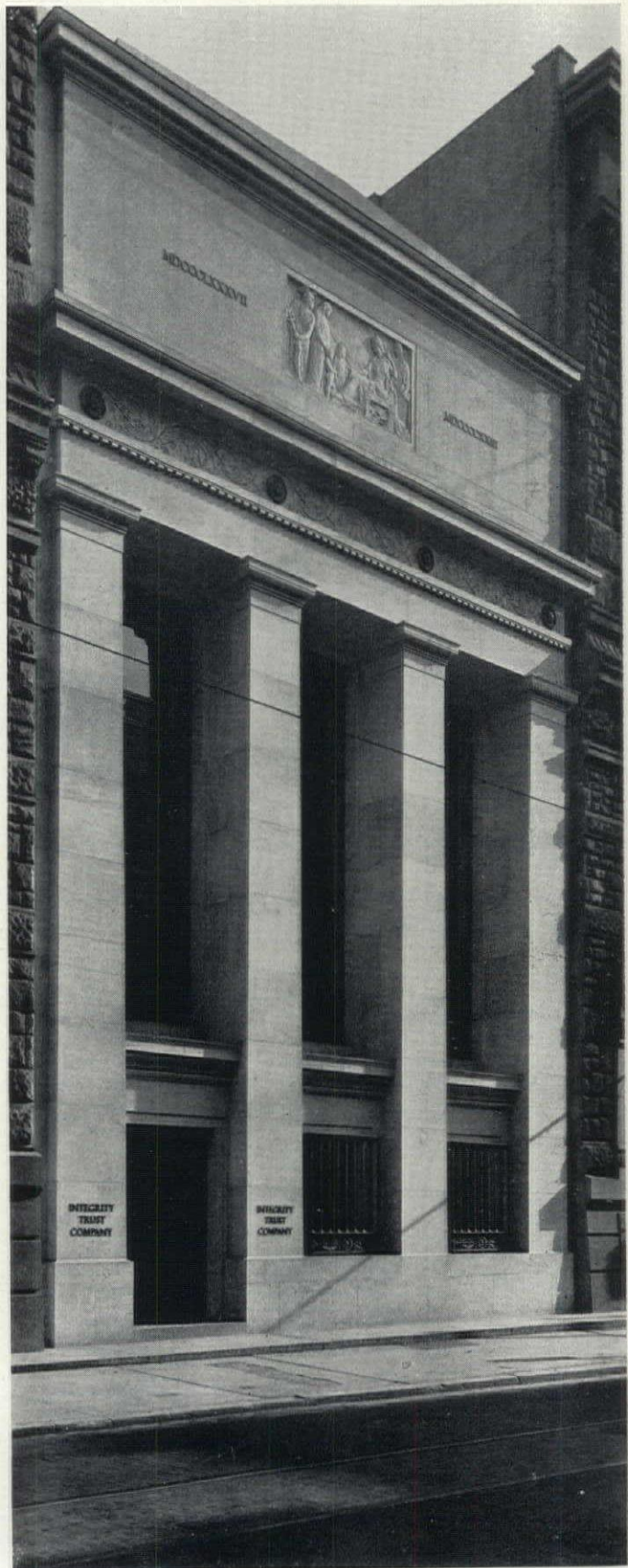
*Photograph by Philip Wallace*

**CARPENTERS' HALL**  
*3rd and Chestnut Street*

This building was erected in 1770 and in it in 1775 the first continental Congress was held.

*INTEGRITY TRUST  
COMPANY*

*717 Chestnut Street  
Paul P. Cret  
Architect*



*Photograph by Philip Wallace*



*Photograph by Philip Wallace*

*DORMITORIES  
UNIVERSITY OF PENNSYLVANIA*

*Cope and Stewardson, Architects*

**B**ENJAMIN FRANKLIN'S University, founded in 1740, originally located in the heart of the old city, moved a century ago to farmland district across the Schuylkill River to escape city congestion. City conditions have again enveloped it, Pennsylvania Railroad's 30th Street Station is at its doorstep, making it again a focal metropolitan place.

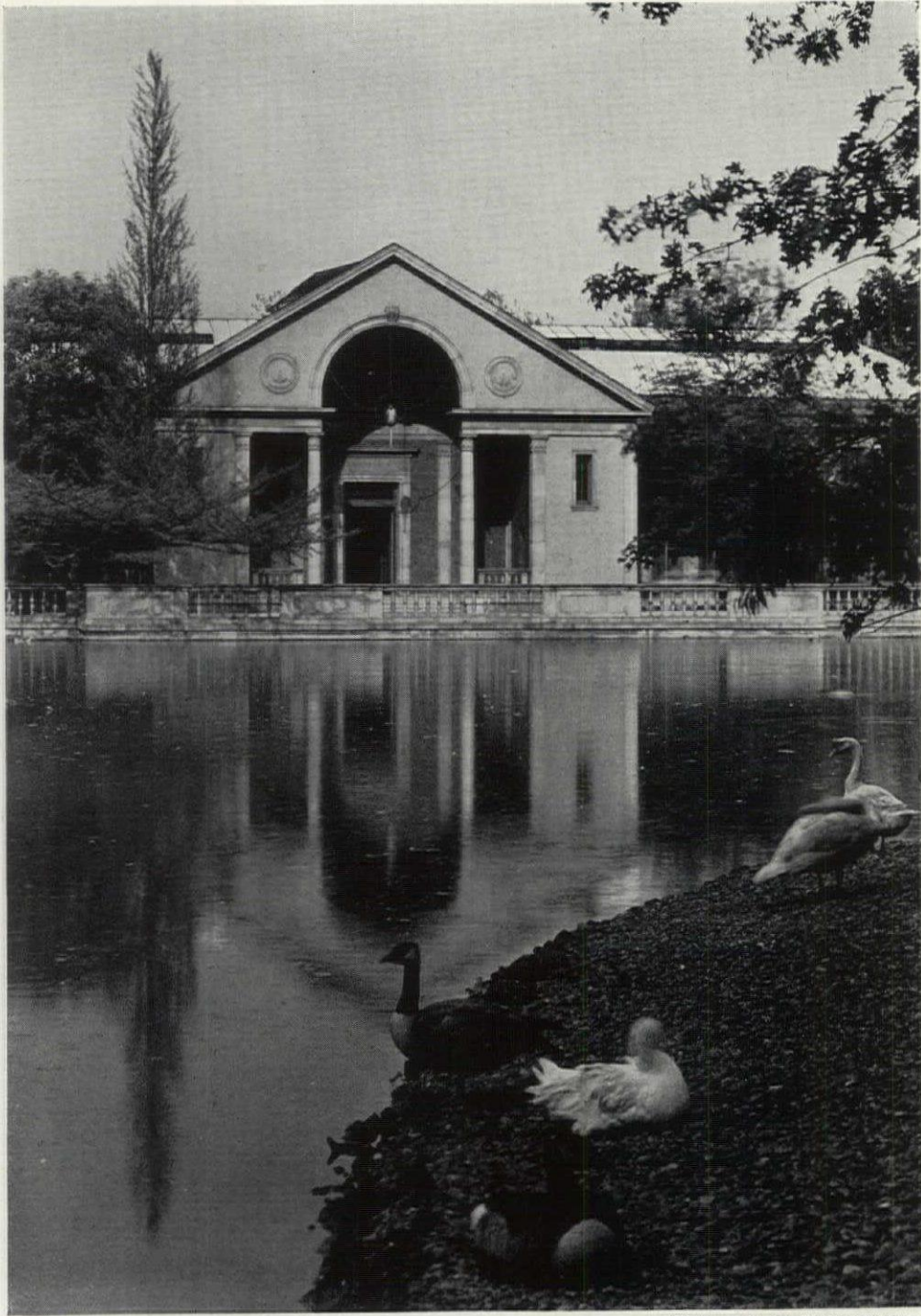
The dormitories here pictured are fine scholastic architecture. It was in their courtyards that the Frankenstein creature, the "Rowbottom," was born and grew to monster proportions. A mild young student named Rowbottom had a friend, during his undergraduate days, who used to seek him in the late hours when the student body was just beginning the delicious pursuit of sleep.

The nocturnal silence would be shot through by the wistful cry of "Yea, Rowbottom." Possibly Rowbottom slept soundly or was not in his room. The friend was not deterred by such obstacles and continued shyly yet persistently to call, until the whole body undergraduate was awake wondering how they were going to get to sleep again or whether they wanted to.

Blissfully unconscious of the waking consequences of his innocent shouting, the visitor came again and again. The pyjamaed student body, at length despairing of curing him, began to help. When he shouted, "Yea, Rowbottom," a hundred voices from a hundred windows also shouted, "Yea, Rowbottom," and then the long tiers of dormitory windows would belch a bedlam of Rowbottoms, amply sufficient to rouse the student of that name from his grave had he been there.

The Dormitories would then be alive, straining at the leash like a giant refreshed with cocktails. The mob of somnambulists would issue forth on a night of destruction and carnage similar to a Japanese invasion.

This peculiar ritualistic ceremony occurred again and again and continued long after the bystander Rowbottom and his wistful friend had gone out into the wide world. Christian influences have now been brought to bear, and as a result the lust to invade and conquer Philadelphia following the Rowbottom battle cry, has dimmed and may almost be said to be no more.

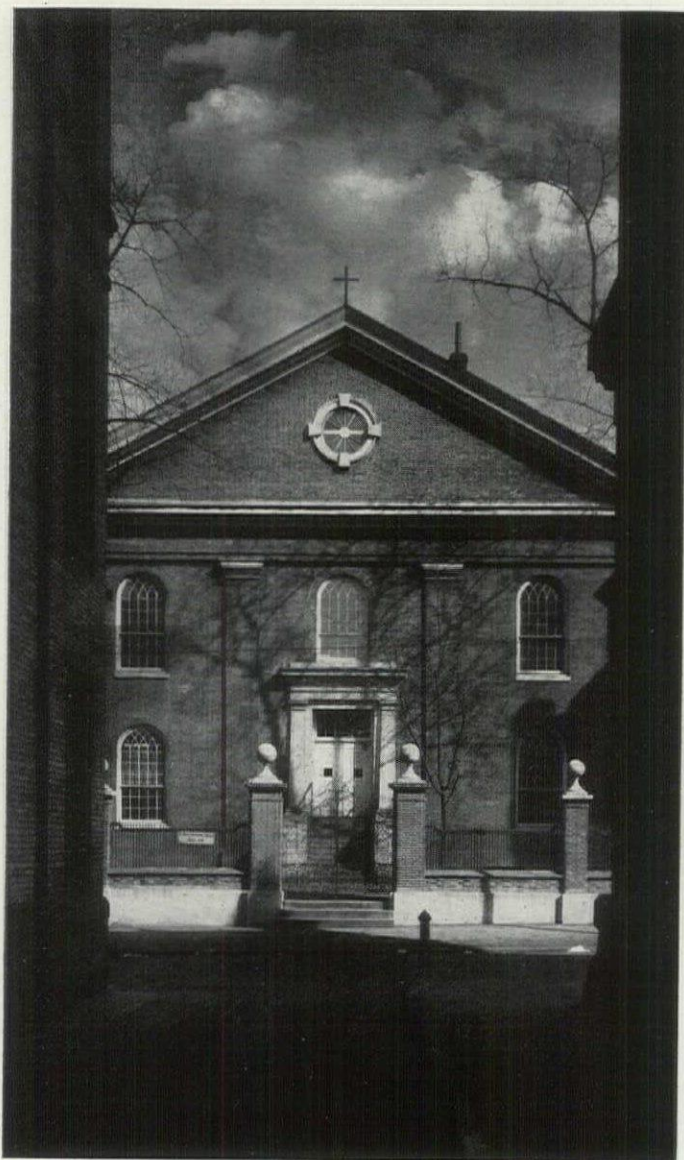


*Photograph by Philip Wallace*

*BIRD HOUSE  
PHILADELPHIA ZOOLOGICAL GARDENS*

*Mellor and Meigs, Architects*

*ST. PAUL'S CHURCH FROM  
WILLING'S ALLEY*



**S**T. PAUL'S was one time in the heart of the business district. Opposite, at 4th and Willings Alley, was the erstwhile location of that Philadelphia institution the Pennsylvania Railroad.

On the opposite page is the entrance to the chapel of Girard College. Stephen Girard, in his will, established this College and provided funds for it, to serve as a home and a fount of education for orphaned boys.

To keep this institution from ever being entwined with any religious group, the will provided that no minister of the gospel should ever enter its grounds, a provision which has been faithfully kept.

Another provision was that the grounds should be entirely surrounded by a stone wall 20 feet high. At the time of construction a wall of this height above ground was felt to be too jail like and so was constructed 10 feet above ground and 10 feet below ground.

*Photograph by Philip Wallace*



*Photograph by Philip Wallace*

*GIRARD COLLEGE CHAPEL*  
*Thomas and Martin, Architects*



*THE NORTHWEST CORNER OF NINTH AND MARKET STREETS*

The State-War-and-Navy type of building occupying the corner is the old Post Office built in 1884. It is now being torn down to make way for the new Federal Court House. The benign statue of Ben Franklin, long a city institution, will now repose in the open space between the Government and Paul Cret's White Federal Reserve building adjoining. On the 9th Street facade is a sculptural panel by Daniel Chester French, which it is proposed to set up in Fairmount Park.

The Government site was the early location of the University of Pennsylvania.

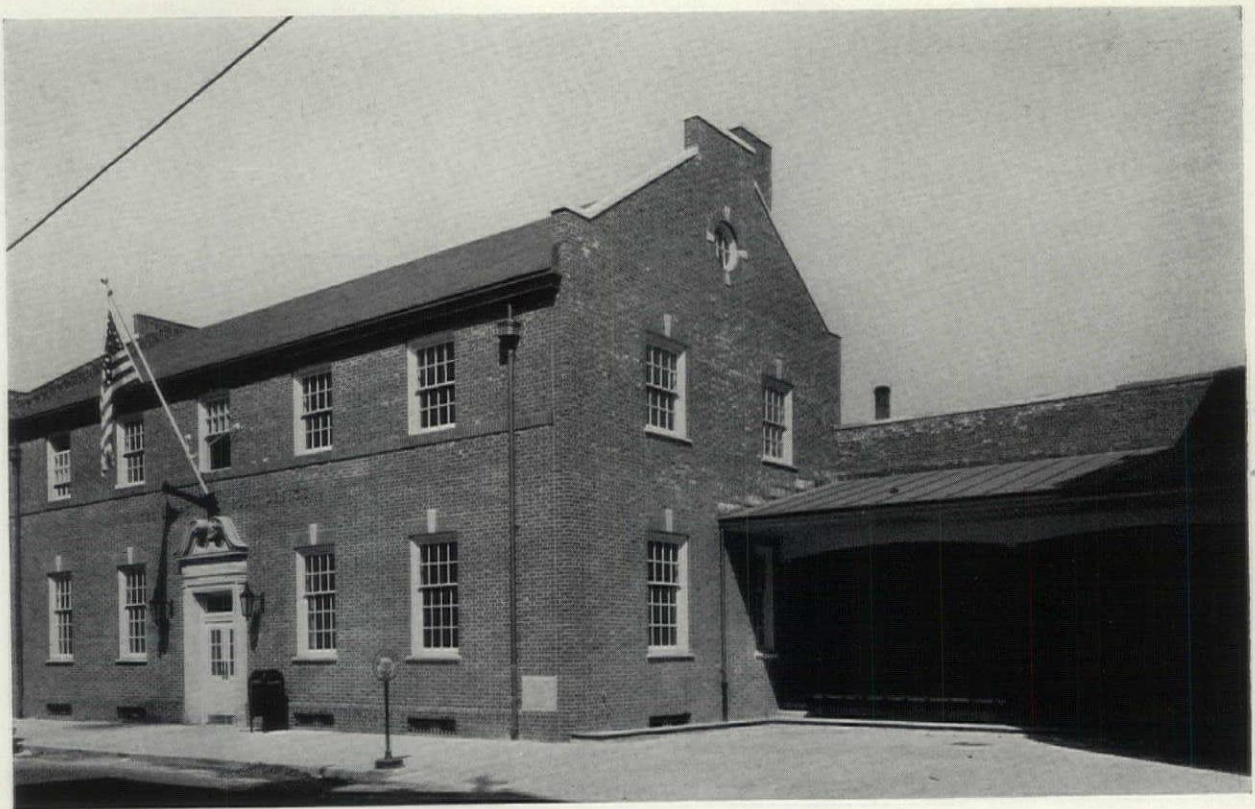
The deserted condition of the streets at high noon appears to corroborate the high-hat claim by other towns that Philadelphia is a city of rural quiet. Philadelphians however insist that this picture was taken on Sunday.





PHILADELPHIA POST OFFICE

*Rankin and Kellogg  
Tilden Register and Pepper  
Supervising Architects Office, Architects*



SOUTHWARK POSTAL STATION  
PHILADELPHIA

*Victor D. Abel and  
Supervising Architects Office, Architects*



*Photograph by Philip Wallace*

*THE OLD STOCK EXCHANGE, DESIGNED BY WILLIAM STRICKLAND, LOCATED AT  
WALNUT, SECOND AND DOCK STREETS*

This is a fine splash of architecture, with its crib at bold scale of the monument of Lysicrates it has something!

The crooked street at the right is Dock Street, marking the former course of Dock Creek which was filled in years ago to form it.

In the distance on Walnut Street (at left) is the white-topped Curtis Publishing building, which marks Independence Square.



*U. S. CUSTOM HOUSE AND APPRAISERS STORES  
PHILADELPHIA*

*Ritter and Shay  
Supervising Architects Office, Architects*

Note the shadow of the Lysicrates monument lantern of the old Stock Exchange touching the base of the building. The dark structure with the Federal insignia in the gables, is the old Appraisers Stores building.



*Photograph by Philip Wallace*

#### *ELFRETH'S ALLEY LOOKING WEST*

**E**LFRETH'S ALLEY, now Cherry Street, is a pleasant cozy thoroughfare running from Front Street to Second and deriving in the old days considerable importance from being so close to Second, that busy mart of trade.

It would have been an entertaining place to live, with the whiz and clatter of carriages and stage-coaches a step away; and yet to be in luxurious and pleasant aloofness of the small street.

It would have been pleasant to pass the time of day with the residents therein. There was David Trotter, a cabinet maker. And there also was a cedarcooper, a cordwainer, a whitesmith, a pewterer—all very estimable professions. There were as well shipmasters, carpenters, a violinist, a boat builder and a brassfounder. At the head of the street was a Porter's Stands to accommodate travellers arriving by coach.

There was thus quiet within sight of dizzy activity. The charm of the place is that the whole block has been preserved. In the Alley today one may see sixteen-foot Colonial dwellings, with charming doors and windows, continuously occupied for two hundred years. There are some in



*Photograph by Philip Wallace*

### *ELFRETH'S ALLEY LOOKING EAST*

which beautiful woodwork still remains and is much treasured by the owners. Although surrounded by business, the narrow street retains its interesting character and continues, at least outwardly, untouched.

In 1690 a certain Jeremiah Elfreth purchased land at the waterfront near Blue Anchor Inn in order to develop it as a shipbuilding plant. This resulted in dissatisfaction among the townspeople who claimed that the land was reserved for a public dock. The Elfreth family was thereupon crowded out but acquired property between Front and Second street. The connecting street, then Gilbert's Alley, soon got to be known as Elfreth's Alley.

The little street became a favorite residential place. There is a legend that Talleyrand once stayed there and others that Benjamin Franklin and Stephen Girard lived there.

Rudyard Kipling was much impressed with Elfreth's Alley and mentions it in two of his stories in the collection under the title "Rewards and Fairies."



*Photograph by Philip Wallace*

*CHRIST CHURCH (1727)  
2nd and Market Street*



*Photograph by Philip Wallace*

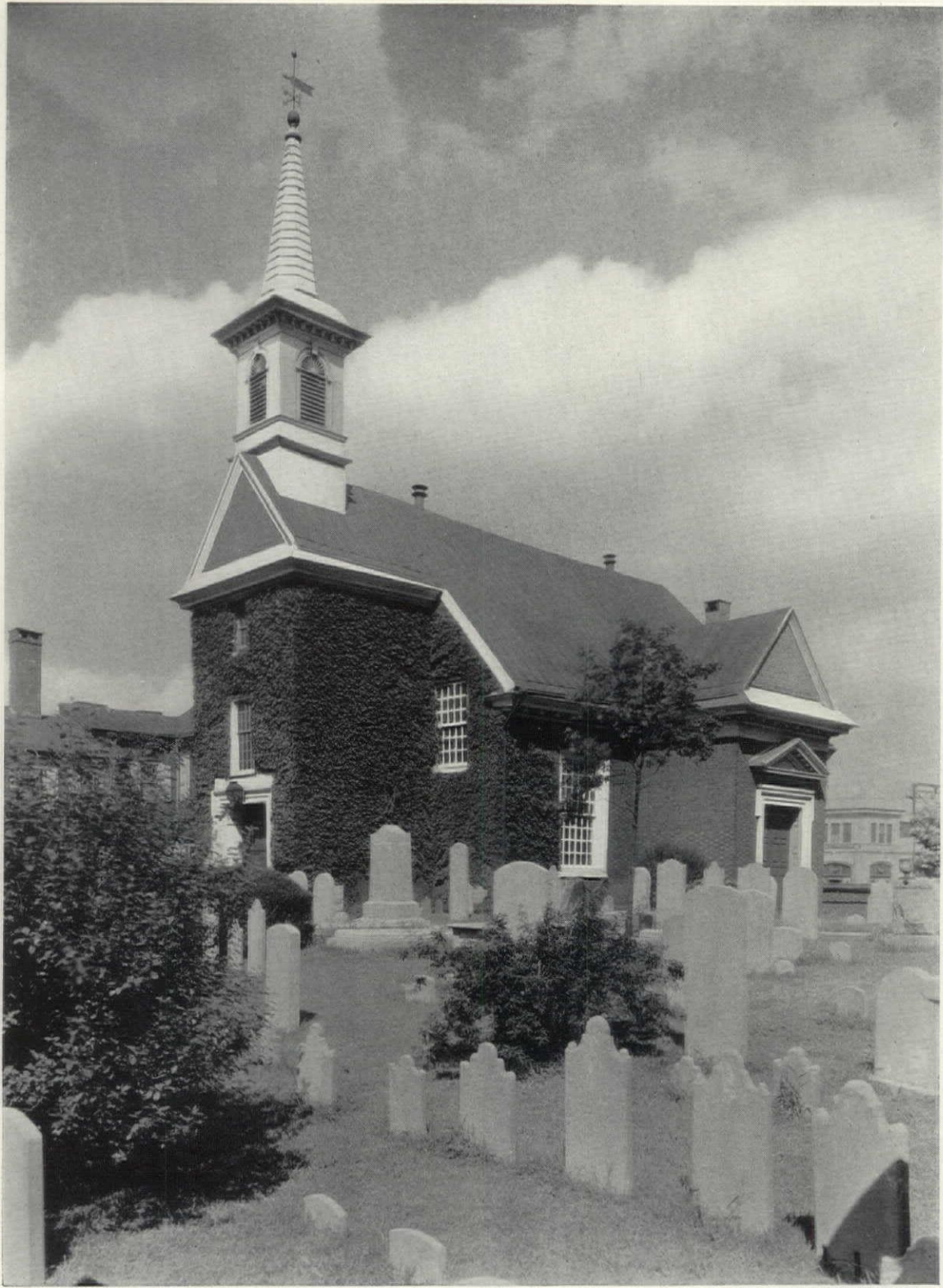
*ST. PETER'S CHURCH (1761)  
3rd and Pine Street*



*Photograph by Philip Wallace*

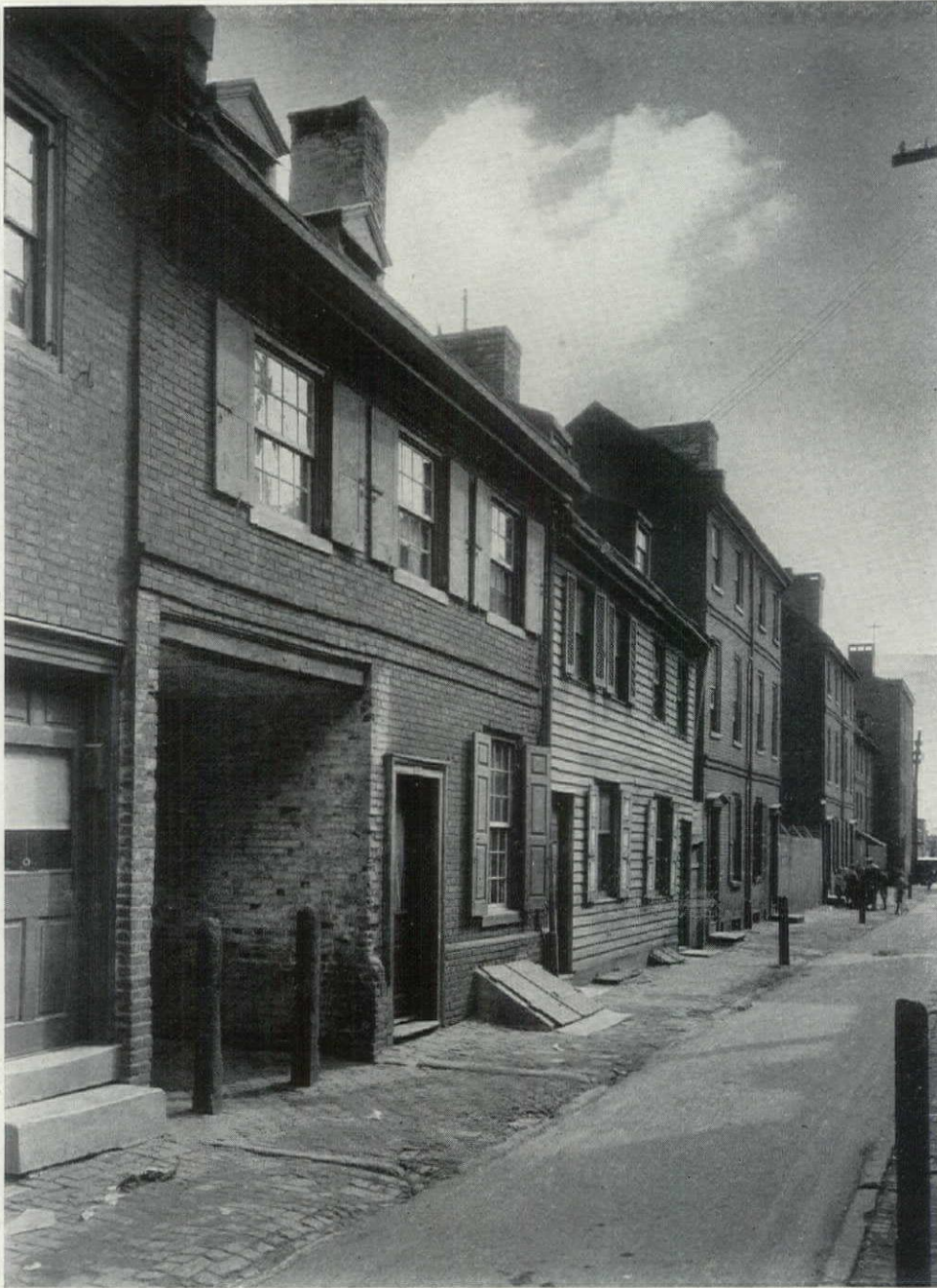
*WASHINGTON DOORWAY, CHRIST CHURCH*





*Photograph by Philip Wallace*

*OLD SWEDE'S CHURCH "GLORIA DEI" (date 1702)*



*Photograph by Philip Wallace*

*FITZWATER STREET  
NEAR 2ND STREET*

THE ancient structures on this and the opposite page in the old part of the city, quaint enough to be mistaken for movie sets, retain the atmosphere of the maritime Philadelphia of the early eighteen hundreds. This early city held its activities close to the water. Second Street, nearest to the river on the high ground that paralleled, was the busy business thoroughfare. A gentleman, wise in his generation, once said "Second Street will for all time be the important commercial street. There is the river, which will always remain." But the river ceased, with the coming of the railroads, to be the commanding factor and the financial and business district moved westward to cluster around the center of activity marked by the City Hall, leaving the old city without activity but with picturesque memories of earlier days.

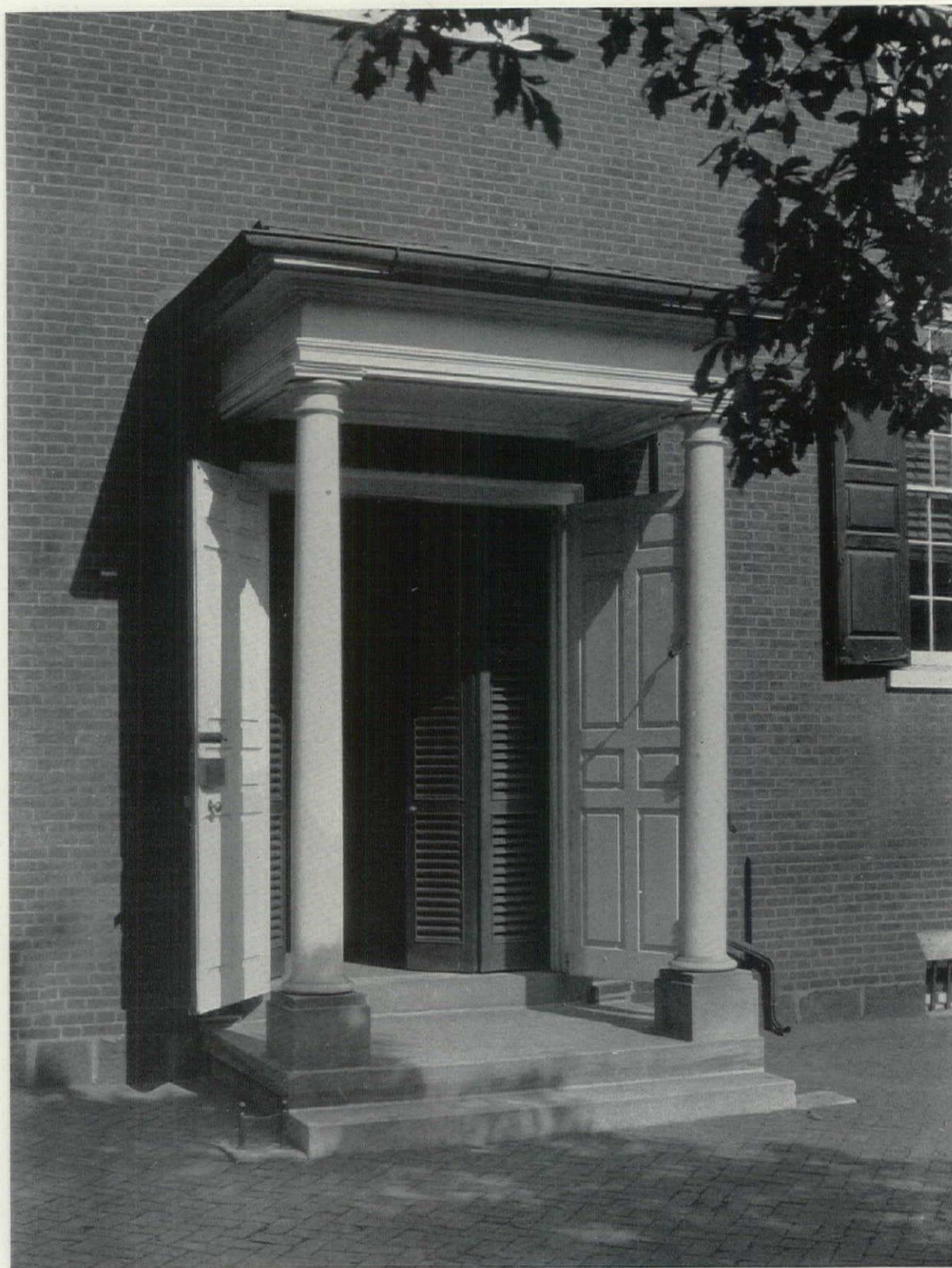


*Photograph by Philip Wallace*

*THE MORRIS HOUSE*

*225 South 8th Street*

**T**HIS is a perfect example of the so-called Philadelphia colonial architecture, which combines formality with a charming personal appeal. Note the Volunteer Fire Company seal under the middle 3rd story window which entitled the owner to have his fire put out.



*Photograph by Philip Wallace*

*ENTRANCE FRIENDS MEETING HOUSE*

Entrance to the Arch Street Meeting House erected in 1804. This replaced the former meeting house at 2nd and Market which was erected in 1695 and were it still standing would have been a fine historic monument.



CAMAC STREET

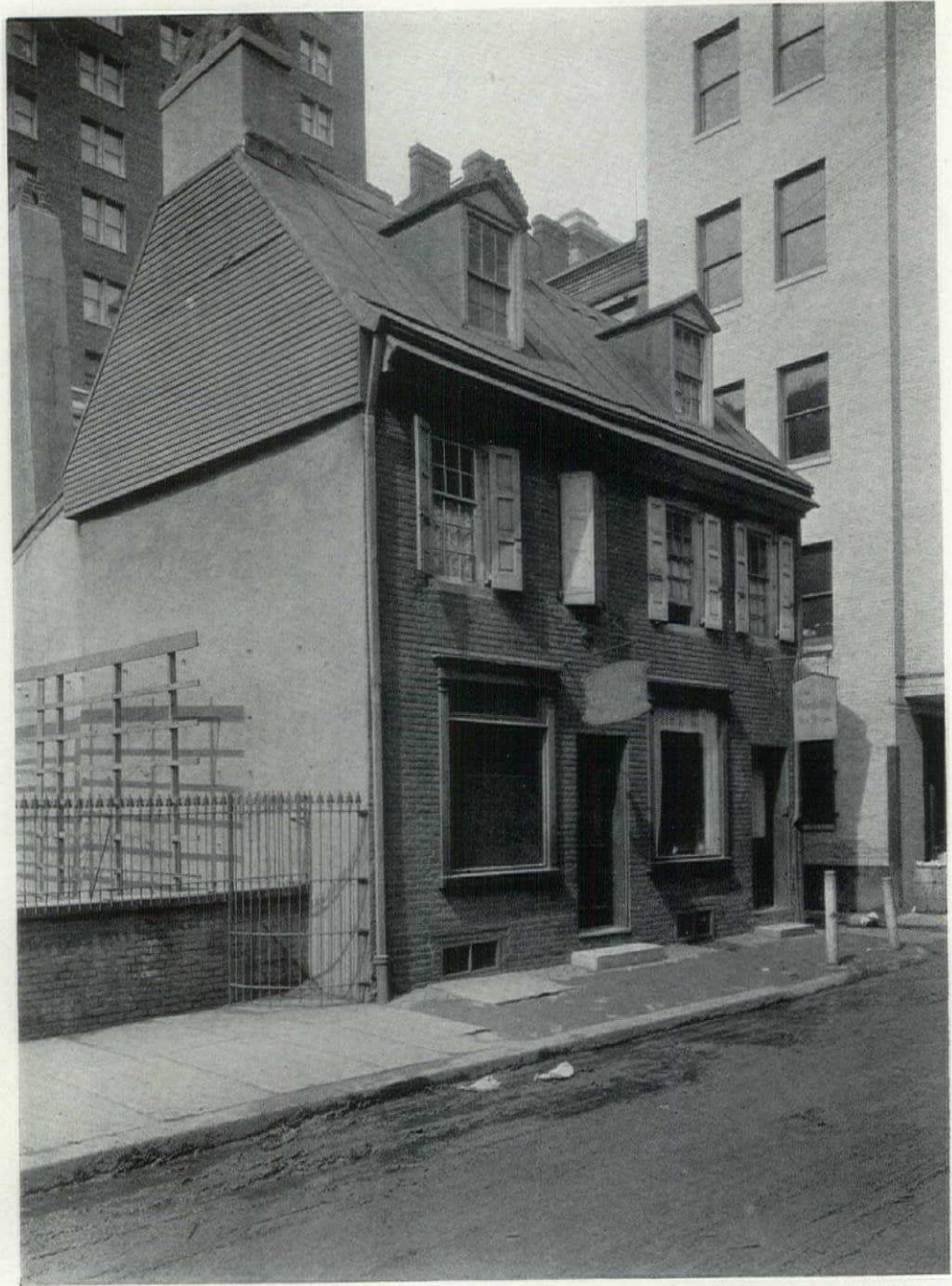
*Photograph by Philip Wallace*

THE tiny thoroughfare, Camac Street, is just wide enough to permit the passage of one vehicle. Parking used to be allowed on the sidewalks until the city fathers thought of the concrete-filled pipes which now line the curb.

On this street the Philadelphia Sketch Club (numbering Edwin Abbey among its members) long ago bought two tumbledown houses and threw them into one quaint club-house. Not long after, Weir Mitchell and his friends remodelled two adjacent houses in a fine Colonial spirit for a home of the Franklin Inn Club. About this time, David Belasco produced, with George Arliss, "The Darling of the Gods," written by John Luther Long, a member of the Franklin Inn Club. The event is pleasantly immortalized by the phrase in a little frame on the wall: "B stands for Belasco and Belasco stands for Long."

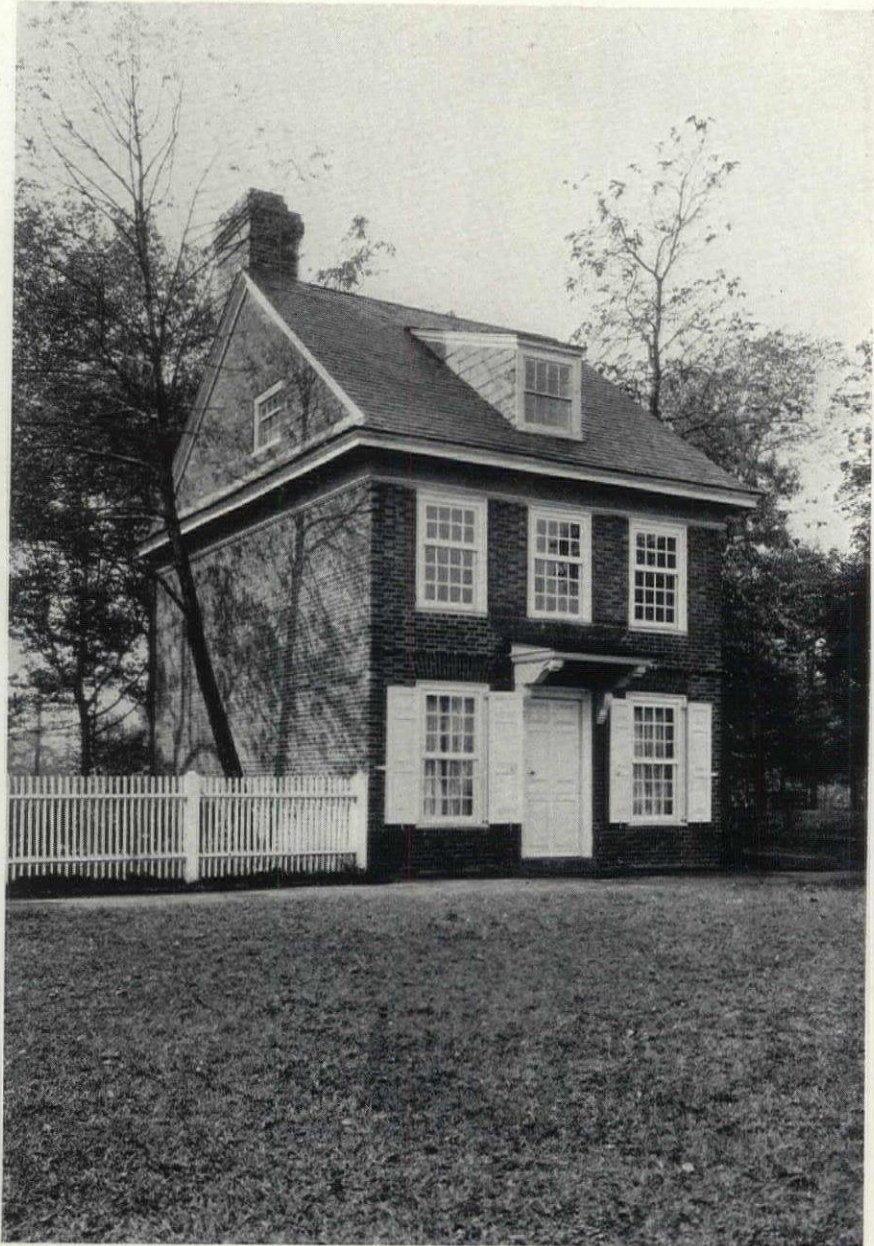
Nearby used to be the old architectural organization, the T-square Club, in quarters over a stable. One remembers the quaint stage with gas foot-lights, on which Herbert Wise's famous architectural extravaganza, "De Bumps and Buonaratti" was produced with high success.

The Quoin d'Or, a charming little French restaurant, joined the gathering, followed by the Poor Richard Club, of newspaper men, and the Meridian Club, of business men. Situated in the heart of the business district, these clubs make very convenient luncheon places, as well as spots for evening gathering. The street, in the midst of the city, has the pastoral charm of a small village.



*Photograph by Philip Wallace*

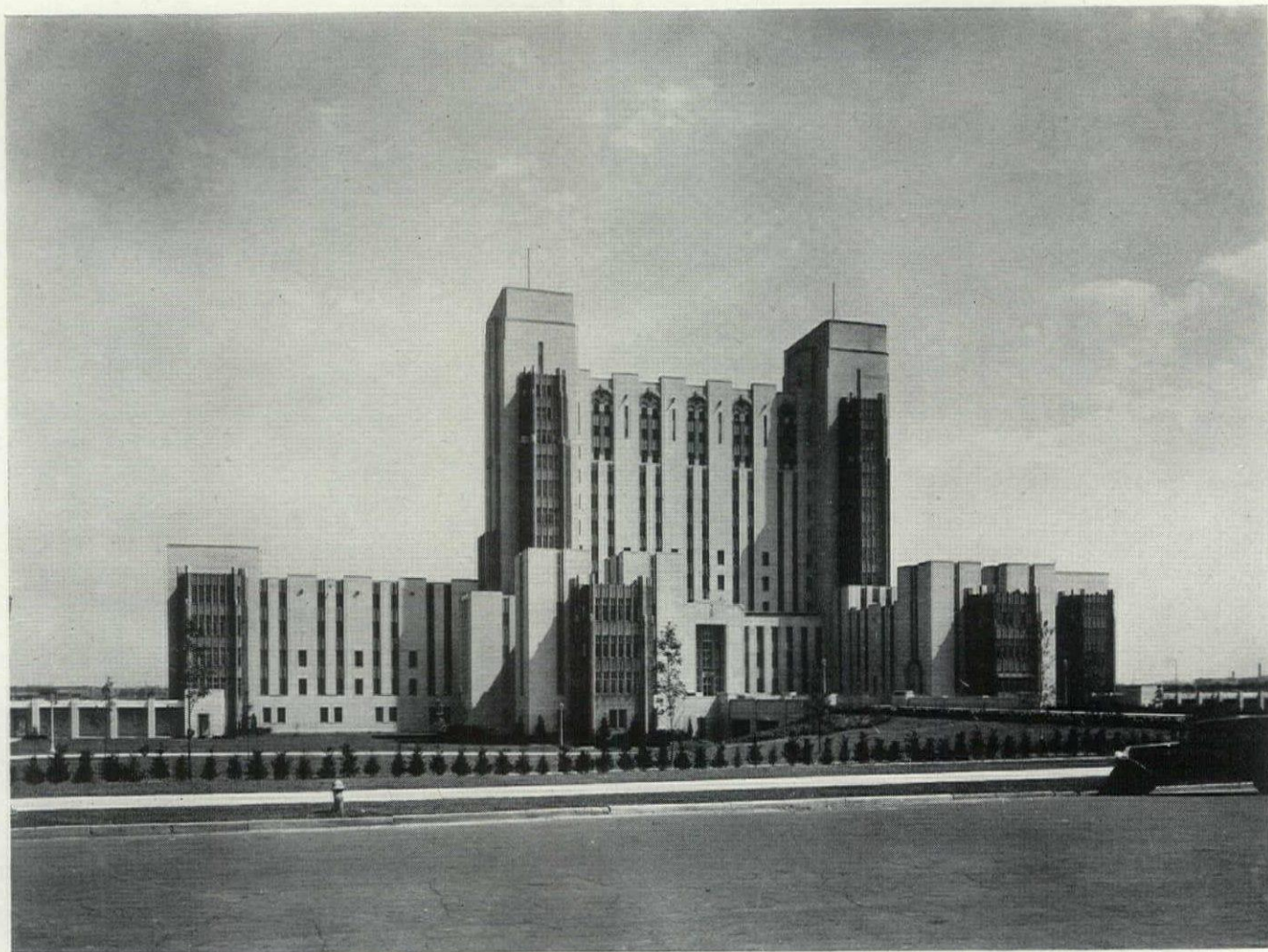
*JUNIPER STREET BELOW WALNUT*



*Photograph by Philip Wallace*

*WILLIAM PENN'S HOUSE  
FAIRMOUNT PARK*

- **A** LONG while ago William Penn's house was moved, by a community surprisingly building-conscious for the period, from its original location in Letitia Court to a picturesque spot in Fairmount Park on a high hill overlooking the Schuylkill. Travelers from New York to Philadelphia on the Pennsylvania Railroad see it on the right just after crossing the river.



*PHILADELPHIA NAVAL HOSPITAL*

*Bureau of Yards and Docks  
Navy Department  
Karcher and Smith  
Architects*





*U. S. VETERAN'S HOSPITAL  
COATESVILLE, PA.  
Recreation Building*

*Construction Division  
Veteran's Administration  
Architects*

**C**OMMANDINGLY situated on a prominent ridge some thirty miles west of Philadelphia, this imposing Georgian group looks out over a wide region of historical background. It seems especially appropriate that the magnificent terrain that attracted our forefathers' interest should contribute its remedial and recuperative qualities to our modern veterans, and that every brick and stone in the buildings—by the design adopted—swings memory to the vigor and stamina of those early settlers.



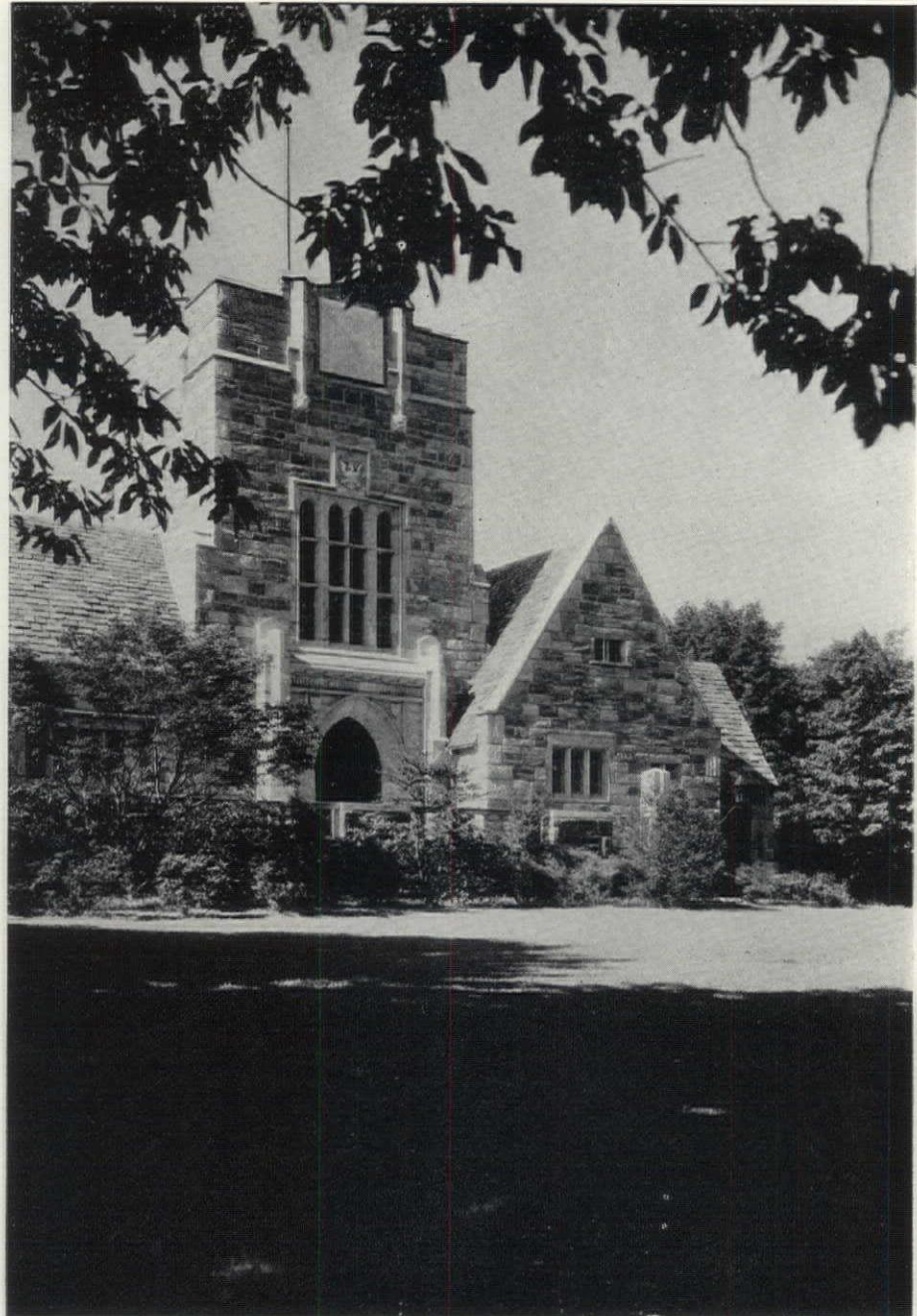
*Photograph by Philip Wallace*

## SUBURBAN PHILADELPHIA

### *HOUSE AT VILLA NOVA*

*R. Brognard Okie, Architect*

The charm of suburban Philadelphia is that it is so continuous. Many beautiful houses and estates, touching make mile upon mile of carefully-tended terrain. Through all of it is the theme of simplicity, as though the houses were built for fun rather than show. Mr. Okie, architect of the house shown above, is one of the exponents of free and informal residential architecture, built for living in.



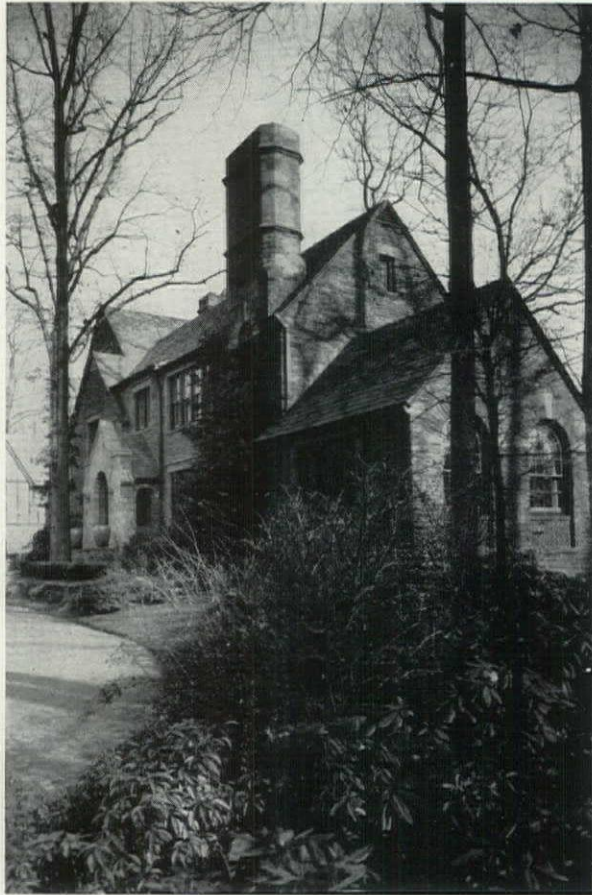
*Photograph by Philip Wallace*

*WAR TRIBUTE HOUSE  
MERION, PA.*

*Karcher and Smith  
Architects*

The type of architecture that is typical of suburban Philadelphia.

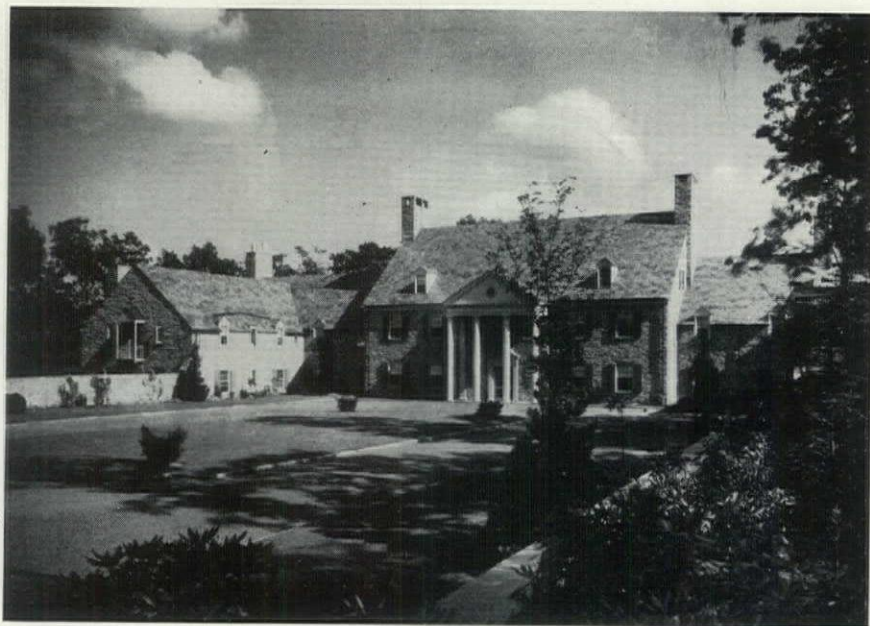
*Photographs by Philip Wallace*



*HOUSE IN  
GERMANTOWN  
Boyd, Abel and Geigert,  
Architects*

MORE BUILDINGS DESIGNED TO  
BE LIVED IN.

*HUNTING VALLEY  
COUNTRY CLUB  
Tilden and Register  
Architects*



WASHINGTON'S army from December of 1777 to the Spring of 1778, when Philadelphia could again be entered, spent a hard winter at Valley Forge. The house shown here was Washington's headquarters. It is a charming piece of architecture and has been carefully preserved and restored. A tunnel from its basement to the reverse, dug by the first owner to facilitate escape from Indian attack, is still partially intact.



*WASHINGTON'S  
HEADQUARTERS AT  
VALLEY FORGE*

*Restored by the  
Valley Forge Park  
Commission*

*Photograph by Philip Wallace*

# STRUCTURAL STEEL

## Definition.

Structural steel embraces all steelwork, the function of which is to support the structure or any portion thereof. It may consist of a few lintels or a few beams in simple structures; it may consist of floor joists and roof beams or trusses in bearing wall types of construction; or it may consist of a full steel frame with heavy grillages for full skeleton type structures. The framing for elevator shafts and supports for stairways (but not the ornamental railings, fascias and appurtenances thereto) are classified as structural steel.

## Developments Precedent to Delivery of Structural Steel.

Structural steel requirements for a particular project appear first in the drawings and specifications covering the project. These are usually referred to as the design or general drawings. Usually these requirements appear only in sufficient detail to indicate the general form of the finished product, the makeup of the several sections to be employed, and, sometimes, details of specific points which the designer considers important enough to show on the general drawings.

Preparatory to undertaking the fabrication of structural steel, the fabricator prepares shop drawings, based upon the design drawings. The shop drawings incorporate all the relevant information obtained from the design drawings and supplement it with all necessary detail data required by the shops in the fabrication of each individual piece of steel. In the preparation of shop drawings, the fabricator may find it necessary or desirable to change some sections or details from those shown upon the design drawings, with the result that the shop drawings may differ somewhat from the design drawings. General practice, however, requires that the fabricator submit the shop drawings to the designing agency for check and approval before fabrication is started. In the event that the steel-work must be erected in a particular sequence, or special precautions taken to perform certain operations in a specific manner, the shop drawings usually carry a note to that effect either upon one of the drawings or the erection diagram.

Only for minor orders is the required steel taken from the fabricator's stock piles. Usually he places an order with a rolling mill for a specific list (called the mill order) of plates and shapes needed for the complete work. The order designates the specifications to which this material must conform. As each item of the order is completed at the rolling mill, it is marked by the appropriate contract number and such other data as the fabricator may specify so as to quickly identify the respective pieces upon delivery at his plant.

Arriving at the fabricating plant, the material is stored in stock piles. Great care is taken to keep the materials for different contracts separated. From these piles the materials are put through the shop where they are worked up, in conformity with the shop drawings, into the component parts ready for shipment to the site. As fabrication is completed, each member is marked with the designation indicated for it on the shop drawings, together with any notations necessary to insure its proper handling without confusion. Often, in the case of heavy pieces, or pieces of odd shape, the center of gravity may be indicated, so as to facilitate safe handling by unloading and erection crews.

Shop painting is done in the storage yards, which are generally located adjacent to one end of the fabricating shop. When areas in contact after fabrication are required to be painted, such painting is done immediately prior to assembly as the several pieces come through the shop.

From the fabricating plant, structural steel is shipped to the site. Upon arrival it comes under the jurisdiction of the Construction Engineer for the first time, unless he shall have been instructed and authorized to inspect it at the mill or shop.

## Mill Inspection.

Mill inspection of all steel is made by the inspectors of the mill, even though the Government provides for inspection

by its own forces or through an inspection bureau. Mill inspection for any order embraces a chemical analysis and tensile and bending tests of each heat, any portion of which has been utilized in the filling of the order, and surface inspection of all sheared plates. Surface inspection of universal mill plates and shapes is not generally made as the processes of rolling these are less productive of imperfection than are those employed in sheared plates.

Principal defects encountered in sheared plates embrace: "Off gage," too thick or too thin; "off size" not proper dimensions; "split," a crack in the face of a sheared edge indicating a fissure in the plate due to failure to weld after rupture under the rolls; "cropped ends," failure to cut off all of the cropped end which occurs as incidental to the rolling; "snaix," the presence of irregular folds on the surface (top or bottom) caused by failure of an overlapping piece of material to weld to the main body of the plate during the rolling; "bricked bottom," a defect of the bottom of the plate resulting from the presence of a foreign substance which is ground into the surface and produces a scab or pitted scar; "pitted," pits in the surface.

## Shop Inspection.

Shop inspection of fabricated steel is made after the various pieces have been completed and while they lie in the storage yard after passing through the shop. Usually shop painting is in progress during inspection or has been completed prior thereto. When the Government provides for shop inspection either by its own forces or through inspection bureaus, the inspectors of the fabricating company generally give little attention to the shop inspection; on the other hand, when no outside agency performs this inspection, the inspectors of the fabricating company inspect the work prior to shipment.

Shop inspection is in many respects a business in itself. A professional shop inspector acquires a technique and store of information through long experience, which, if an attempt were made to describe it completely, would require more space than is here available. Salient points with respect to it may serve as a useful guide to Construction Engineers who may be assigned to make inspections of shop work either at the fabricating shop or upon delivery of the material at the site of the structure. Proper procedure would embrace:

A. *Preparatory.* Procure a complete set of shop drawings, as approved, and study them carefully in the office, noting all special requirements as to workmanship, unusual operations which the shop might overlook, and any feature which deserves especial attention before shipment.

Procure a copy of the specifications for structural steel, study them carefully to ascertain any special processes of manufacture to be employed.

B. *Beams.* Inspection of beams and simple pieces not a part of a framework involves the following:

(1) Proper size and section.

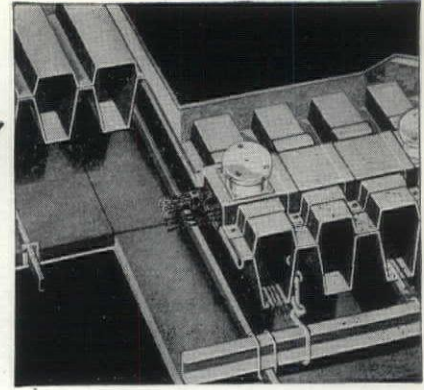
(2) Length; the tolerance to be allowed in the length varies with the place which the piece will occupy in the completed structure. In general, pieces will be expected to vary from the precise lengths shown upon the drawings from  $\frac{1}{16}$ " to  $\frac{1}{4}$ " the variations generally being in the provision of greater length.

(3) Open holes; check the sizes and locations with tolerances commensurate with limits of accuracy procurable with punches when holes are punched full size. Gages are measured from the backs of angles, the backs of flanges of channels and beams, etc.; all spacing is measured from one end so that separate holes and groups of holes are correctly spaced with respect to each other.

(4) Anchor bolt holes; check sizes, locations with respect to each other and to the center of the beam.

(5) Bearing plates; check sizes, thickness, anchor bolt holes.

*Anticipate today*



## THE ELECTRICAL DEMANDS OF TOMORROW



*Here is a typical floor area in a building where the Robertson Floor System was used. Wiring is in place and floor outlets have been installed at desired locations. Inset illustrates cellular structure of the Robertson Floor, and shows how cells may be used as wireways. Note the header which distributes wiring through the floor cells. Additional floor outlets may be installed as desired.*

**S**TEEL, stone, bricks and mortar are durable materials. You are pretty well assured that the buildings you design today will be rendering satisfactory service ten or twenty years hence . . . as far as their structural features are concerned. But what about their electrical facilities? Will your buildings provide for all the electrical needs the future may bring? Or will new electrical demands, as the years pass, necessitate costly modernization work or even cause complete electrical obsolescence

long before the building's time? By the use of the Robertson Steel Floor, you can anticipate, in the buildings you are designing today, the electrical demands which the future will make upon them. The Robertson Floor offers a new kind of electrical availability. Every hollow cell comprising it may serve as a wireway for wiring distribution. Changes and additions become quick, easy and inexpensive to make. In buildings housing statistical services which involve extensive electrified equipment,

the Robertson Floor is particularly valuable.

This modern floor also provides numerous structural advantages. It is strong, lightweight, compact. Cuts dead weight on floor areas. Speeds up building erection. Reduces fire and accident hazards. Saves money. We invite you to write for free copies of our booklets "New Life for Buildings" and "Wiring Robertson Cellular Steel Floor" which give complete facts. H. H. Robertson Co., 2008 Grant Bldg., Pittsburgh, Pa.

## ROBERTSON STEEL FLOOR SYSTEM

(b) Alignment; straight within limits of manufacture.

*C. Bearing Wall Jobs.* Steelwork of this class usually has all holes punched full size and very little or no planing of joints. Roof trusses are generally fabricated and riveted for shipment either as a single piece or in the fewest practicable number of pieces. Inspection of this class of work involves the following:

- (1) Beams, Purlins, Joists, etc.
  - (a) Proper size and section.
  - (b) Length; tolerance to be allowed for under length is small, probably about  $\frac{1}{8}$ " ; for over length, about one-half of the clearance provided between adjacent beams when they meet end to end. Where beams frame into other beams or columns and are provided with connection angles, the overall length over connection angles should be correct to about  $\frac{1}{16}$ " unless the shop drawings require the length to be EXACT.
  - (c) Open holes; check as described under Item B, Beams.
  - (d) Anchor bolt holes; check as described under Item B, Beams.
  - (e) Bearing plates; check as described under Item B, Beams.

- (2) Columns.
  - (a) Proper size and section.
  - (b) Length: From bottom of sole plate to top of cap or to end of a spliced section within limits of tolerance consistent with the class of workmanship specified. For column sections with one or both ends milled, lengths should be exact and milled ends accurately finished to proper level.
  - (c) Open holes; check sizes and locations.
  - (d) Lug and seat angles: check location with respect to adjacent open holes.
  - (e) Alignment: straight within the limits of manufacture and free of twist.
  - (f) Anchor bolt holes: check sizes and locations.

- (3) Slabs and Bearing Plates.
  - (a) Check sizes and thicknesses.
  - (b) Check anchor bolt holes.
  - (c) Check surfaces for irregularities that would impair column bearing.
- (4) Roof Trusses.
  - (a) Check representative and random members for size and section.
  - (b) Overall dimensions: check each truss or section thereof for conformity with dimensions which will insure the proper fitting of each truss upon the supports provided therefor.
  - (c) Open holes; check sizes and locations.
  - (d) Lug angles; check location with respect to adjacent open holes.
  - (e) Bearing plates; if any, check as for beams.
- (5) Rods, Bracing and Miscellaneous.
  - (a) Check as consistent with principal parts of the steelwork.

*D. Full Skeleton Frames and Heavy Jobs.* The inspection of steelwork for jobs of this character follows closely that outlined for Bearing Wall Jobs. The principal differences are those arising out of the greater tonnage and complicated assemblage of parts and the refinements in shopwork specified in order that the skeleton when completed will conform as nearly as practicable to the desired shape. Refinements which may be employed, wholly or in part and their effects upon shop inspection embrace:

- (1) Milled Column Joints.

Column sections, one or both ends of which have been milled, must be of exact length, milled surfaces must be finished to accurate bevells; must be free of twists.
- (2) Reamed Connections.

Whenever field connections are required to have open holes sub-punched and reamed, the tolerance in their location and spacing is nil.

### (3) Assembled and Reamed Trusses.

Occasionally a heavy and important truss is required to be assembled and main connections reamed while it is so assembled. In such cases, after the truss is assembled and before reaming begins, check the overall dimensions of the truss and the positions of panel points. This is usually a surveying operation. Before the truss is disassembled for shipment, connecting pieces must be match-marked and open holes for other connections should be checked so that the trusses are ready for shipment when disassembled. Check the out to out dimensions of the trusses at panel points where field connections occur, as heavy built-up sections will "pack out," which may produce erection troubles unless connecting parts are fabricated so as to compensate for this condition.

### (4) Milled End Connections.

When the end connection angles of beams, girders or trusses are required to be milled, there is no tolerance in length and milled surfaces must be at proper bevells.

*E. Check List of Material.* The inspector should keep track of the steel as he inspects it. At each inspection, he should make a record of the pieces he inspects and the number of pieces of each kind where duplicate pieces are furnished. This is quickly accomplished by marking tallies upon the blue prints for each respective piece at the time inspection is made. These tallies can be transferred to his record of the total number of each piece required so that he can supply a report at any time showing the status of the fabrication.

*F. Shop Painting.* When shop painting of structural steel is required one of the most troublesome and at the same time one of the most important phases of shop inspection presents itself. The most important coat of paint which structural steel receives is the shop coat. Usually it is the best grade of paint ever given the steel and often consists of red lead and oil, which is a very difficult paint to apply. There are numerous formulas for the preparation of this sort of paint, but without exception they require a great amount of brushing and working in to apply them properly. The inspector should give particular attention to the process of painting and satisfy himself that the painters do not dilute the paint and apply it too thin and that they adequately work the paint into the surfaces of the metal.

*G. Correction of Defects and Errors.* When errors and defects are discovered, the inspector may reject the piece involved either temporarily or permanently, depending upon the nature and magnitude of the deficiency involved. He is in no sense responsible for the proper manufacture of the material, but he may be consulted as to the ways and means to be employed in the correction of defects and errors. He is expected to cooperate with the shop by approving a means of correction which will avoid as much wastage of labor and material as possible and yet procure for the purchaser all to which it is entitled in the way of strength and workmanship.

*H. Identification of Accepted Material.* Upon inspection and acceptances of each piece of steel, it should be stamped by the inspector with a permanent mark. This is usually done with a small hammer, one end of which is formed into a die bearing his individual mark or device which is impressed into the steel when struck sharply against it. The location of this stamp should be designated by painting around or adjacent to it an appropriate mark adopted and consistently employed by the inspector for the purpose.

### Field Inspection.

Field inspection of structural steel embraces all operations upon the material after its arrival at the site and until it is erected and completed in the project. Proper inspection involves numerous operations which may be included under several headings:



# Monticello —

declares its *Independence from Age*



**T**HOMAS Jefferson believed in building for permanence. His home at Monticello, which is considered an architectural masterpiece, is still in excellent condition because of the use of good materials and proper maintenance.

In 1926, a new roof was needed at Monticello. U·S·S Ternes were selected because this copper-steel roofing coated with terne metal is one of the most enduring that can be built. Ample proof of this can be found in the old Southern Colonial mansions where the terne plate roofs have lasted far better than other structural parts.

U·S·S Copper Steel Terne Roofs have many other valuable features — they are fire-proof, storm-proof and form a lighter, stronger roof than most materials commonly used. Ternes can be easily applied at low cost. They do not break, crack or warp, but in case of accidental damage, repairs are simply and quickly made.


Ternes are rapidly increasing in popularity for public buildings and homes. They look particularly well on houses of New England Colonial, Cape Cod, Southern Colonial and modern architecture.

With all their advantages, ternes are inexpensive—especially so when you consider their long service life.

Write for our new book on U·S·S Steel Roofing. We welcome inquiries and will gladly send complete information on various roofing sheets.

## U·S·S ROOFING SHEETS *and* TERNES

CARNEGIE-ILLINOIS STEEL CORPORATION

Pittsburgh  Chicago

Columbia Steel Company, San Francisco, *Pacific Coast Distributors*

United States Steel Products Company, New York, *Export Distributors*

# UNITED STATES STEEL

A. *Unloading and Storage.* Pieces should be carefully handled and special care exercised to prevent bending or damage. Heavy pieces should not be piled on top of light or fragile pieces.

Materials should be delivered to the site and stored so that those first required will be most accessible.

Unstable pieces should be shored and braced so as to prevent them from falling over with possible damage to persons or other pieces.

Pieces placed next to the ground should rest upon blocks in order to preserve the paint and to facilitate handling.

Boxes and kegs containing bolts, rivets or small parts should be kept in an enclosure to guard against loss.

## B. *Erection.*

### (1) *Bearing Plates, Slabs, and Bases.*

Bearing plates, slabs and pedestals should be accurately centered under the steelwork bearing upon them; they should be accurately leveled up and shimmed to proper elevation before steel is placed upon them. Proper bearing of bearing surfaces upon supporting masonry is of the utmost importance and may be procured by any of several means, the particular one used being selected by the Contractor unless the plans indicate a specific method:

(a) Finish the masonry about  $\frac{1}{4}$ " to  $\frac{1}{2}$ " high, then bush-hammer it down to a truly plane surface at the proper elevation. Give it a brush coat of thin grout immediately before setting the base steel.

(b) Finish the masonry accurately to grade and level either by a trowel finish at the time it is constructed or bush-hammer it down, then immediately prior to setting the steel apply a heavy coat of red lead and oil to the top of the masonry under the base, lay into this a piece of 12-ounce duck slightly larger than the base, paint the top of this with red lead in oil and continue with alternate layers of red lead and duck until four layers of duck with five layers of red lead have been built up. Set the base in place immediately after this treatment is completed.

(c) Finish the top of the masonry parallel to the plane of the required surface and from 1" to 2", depending upon the size of the base, below the required finished elevation. Set the base of the steel to its proper elevation using shims and wedges along the edges to support it from the masonry. At some later date to be determined by the erection of connecting parts of the building which might affect the portions resting upon masonry but in any event before the weight upon the shims and wedges is such as to injure the supporting masonry, fill the space between the masonry and the base with 1:2 cement grout. This grout should be mixed very stiff and dry enough to be easily picked up in balls. Working from two adjacent sides, pack this grout into the cavity ramming it hard against retaining strips laid along the other two sides. Continue until the entire space is filled with hard packed grout. Dress the exposed edges to a neat bevel. The following day, knock out the shims and wedges and fill the holes thus made with grout in the same manner.

(d) An alternate method for using grout is to work thin grout under the base. This method involves the same preliminary procedure outlined for the stiff grout method with an allowance for grout approximating in depth 5% of the greatest dimension of the base. Mix the grout to a smooth, soft, but not soupy, consistency and work under the base through grout holes in the base until the grout space is thoroughly filled. After initial set remove retaining strips and dress the exposed edges. After permanent set has been attained remove wedges and shims.

### (2) *Raising.*

The first operation, after setting bearing plates and bases, is the raising of the framework. This entails the

assembly of the component parts in their respective places and connecting them sufficiently to hold them together. Whether or not it is desirable to attempt to completely and accurately adjust the steelwork as part of this operation depends upon the amount of work involved and the contractor's idea as to its effect upon his schedule and program of construction. In normal operations, the number of bolts and drift pins employed at the field connections are only sufficient to meet immediate needs and prevent displacements arising out of loads likely to be imposed during current operations. While the contractor is solely responsible for the adequacy of temporary connections, the Construction Engineer should very properly call to his attention any inadequately connected pieces, the failure of which would lead to an accident or delay. Particular attention should be accorded adequacy of anchorage and guying so as to safeguard against collapse or distortion of framework by windstorm or other agency.

### (3) *Bolting up.*

Following the raising gang, a crew quickly follows, which places such additional bolts in the connections as are needed to make them adequate to carry all loads likely to come upon them prior to their completion. In any event, it is customary to leave a few drift pins in each main connection until the joints shall be finally bolted or riveted.

### (4) *Adjusting.*

When all the steel of a small job is raised and lightly bolted, or when definite portions of large frames are correspondingly erected, the various portions are adjusted to their final positions. This may be accomplished by means of guys or lines, or by means of adjustable ties and braces forming part of this steelwork. Care must be taken to have all columns, trusses and the like truly vertical or in the planes which they should occupy. Vertical columns and trusses may be checked for plumb by use of a plumb-line, a spirit level or a surveyor's transit. The method employed will depend largely upon the magnitude of the project. For tall sections of steel frame buildings, the most satisfactory check will be obtained with a transit. In using this instrument, care should be exercised to guard against errors in adjustment of the instrument by taking duplicate observations first with the telescope direct and then with it reversed.

### (5) *Final Bolting.*

For steelwork in which bolted field connections are specified, extreme importance attaches to the thorough tightening of all the bolts. In order that all bolts may be tightened to the greatest degree it will be found necessary not only to set up each one as it is encountered, but after all bolts are in and tightened, the whole group of bolts must be gone over again and again, so as to tighten up those which have become loosened by the subsequent tightening of other bolts. Except in the case of turned bolts and fluted bolts, it must be remembered that the connecting bolts do not fill the holes in which they are placed with the result that the primary resistance to slippage in the joints is provided by the friction between the surfaces of the connected parts.

### (6) *Riveting.*

Prior to riveting any connection, the parts to be riveted must first be tightly pulled together with bolts while matching of holes is maintained through the use of drift pins. No hard and fast rule can be laid down as to the proper number of bolts which should be in a connection prior to riveting. A fair figure would be forty to fifty percent of the holes should be bolted. These bolts should be tightened to the limit and the plates beaten with mauls to procure the greatest possible tightening. Riveting of any point should not start before the bolting is completed: otherwise, loose rivets will result. Important items relating to riveted connections embrace:

(a) Rivet heads should be concentric with the holes. Irregularities are apparent when heads of rivets in a single row do not line up.

(b) Excessive stock produces a collar around the head which is unsightly and undesirable.

(c) Insufficient stock results in imperfect heads, too small to be effective, and also unsightly.

(d) Loose rivets; every field rivet should be tested to ascertain whether or not it is tight. A light ball peen hammer, 3 or 4 ounces, will quickly reveal a loose rivet. Strike the head sharply on one side, lightly press the side of an index finger against that side and the surface of the member, then strike the rivet head sharply with the hammer upon the other side. If the rivet is tight, no sensation is felt by the finger; if it is loose, a shock will be felt in intensity somewhat proportional to the degree of looseness of the rivet. If the rivet is not quite loose, a slight jar will be felt. An alternate method is to hold a light washer or a coin against the rivet head in place of the finger in which case the vibration of the loose rivet is felt through the fingers holding the washer or coin.

(e) There is no question about the propriety of cutting out a really loose rivet. On the other hand, it may be preferable, in joints with many rivets, not to cut out a rivet with a slight jar when the operations of cutting out and re-driving would probably loosen up a number of surrounding rivets.

(f) Caulked rivets should always be cut out. Sometimes the riveting crew will find loose rivets and attempt to tighten them by caulking around their edges. This is done either with hand tools or with the riveting hammer. Whenever evidence of caulking is present, the rivet should be ordered cut out and the offending riveter warned against repetition under penalty of discharge for repeated offenses.

Upon inspecting and accepting any group of rivets, the inspector should make an identification mark indicating his acceptance; his initials written in kiel are customarily used.

Promptly after acceptance of a connection by the inspector, and preferably before the staging is moved, the rivet heads and all scarred places about the connection should be given a coat of the same paint as used for the shop coat for the steel. This requirement is important and should be strictly enforced.

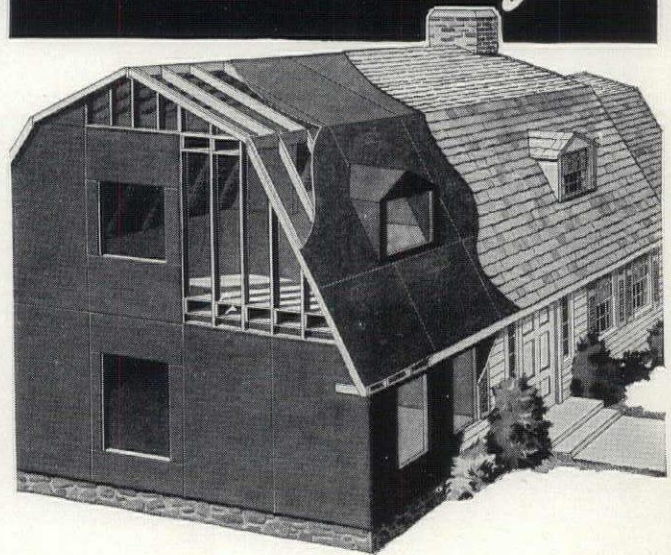
**C. Field Painting.** When field painting is required, the program should be arranged so that all steel work in the structure or in definite parts thereof can be handled as a single operation. One coat should be completely applied to the section being painted before a second is started. Sufficient time should elapse between succeeding coats to permit the earlier coat to dry before the second is applied.

Specifications usually require that ready-mixed paint be applied as it comes from original containers without the addition of any thinner. Such a requirement may easily result in a poor job of painting, particularly in cold weather when paint becomes too heavy to be worked effectively. It is often necessary to thin paint somewhat, in which case turpentine is the best thinner to use. If it is employed, precautions must be taken to insure against thinning by painters in their individual paint buckets. All thinning should be done under the Construction Engineer's supervision and in the primary container.

It is generally accepted among persons of long experience in maintaining steel structures that the proper application of field paint is of paramount importance. So far as real protection of metalwork is concerned, the shop coat of red lead and oil affords the real protection; the subsequent coats are protection given the shop coat. Since the matter of painting is so intimately connected with the life of the metal which it is desired to protect, too much attention can not be given to the field painting and particularly to the manner in which it is applied. Prior to application of field paint, all abraded spots in the shop coat should be touched up with the same paint as used for the shop coat and all dirt and rust blisters cleaned off of the surfaces to be painted.

**D. Correcting Shop Errors.** The burden for furnishing a complete structure in conformity with the requirements of the plans and specifications rests upon the contractor. This general requirement imposes upon the contractor the obligation to correct and make good any errors in the

## MASONITE DUBBLESEAL SHEATHING\* *4ways!* WORKS



\*MASONITE DUBBLESEAL SHEATHING is MASONITE STRUCTURAL INSULATION, 25/32" thick and covered on all sides and edges with a specially prepared asphalt coating.

**1. IT INSULATES.** The 25/32" MASONITE STRUCTURAL INSULATION, coated with a special waterproof asphalt, forms a super-effective barrier against the passage of heat or cold.

**2. IT STOPS MOISTURE AND WIND INFILTRATION.** The asphalt coating prevents absorption of moisture and dampness into the insulation—and, of course, into the house. It also stops wind infiltration through the walls.

**3. IT ADDS STRENGTH.** The structural rigidity of MASONITE INSULATION has been tested and proved in countless cases by the Robert W. Hunt Laboratories. The 25/32" thickness further reinforces the entire frame of the house.

**4. IT COVERS LARGE AREAS.** 48 square feet of sheathing may be applied with one piece of MASONITE DUBBLESEAL SHEATHING. This means fewer joints . . . more economical, more efficient construction.

Copyright 1938, Masonite Corporation



# MASONITE

THE WONDER WOOD OF A THOUSAND USES  
A MISSISSIPPI PRODUCT

Sold by Lumber Dealers Everywhere  
MAIL THIS COUPON FOR FREE SAMPLE AND FURTHER DETAILS

MASONITE CORPORATION, Dept. FA-2  
111 West Washington Street, Chicago, Ill.

Please send me a FREE sample and full information about MASONITE DUBBLESEAL SHEATHING.

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_

fabrication of the structural steel which may have been supplied by a sub-contractor. When such errors develop, it usually devolves upon the contractor to make good the defects, the cost of which he usually charges back against the fabricator.

#### Welded Structural Steel.

While there is a current move in commercial and industrial lines to popularize the use of electrically welded structural steel frames for buildings and other structures, the state of the art has not reached such a stage that it has been adopted for Government buildings. Developments in the art are taking place rapidly. At the present time the technique of shop practice appears to be well along toward standardization, although changes and improvements are constantly developing. On the other hand, field and erection problems are not solved to the point where welded frames are generally used in Treasury Department buildings. The principal difficulty seems to be closely related to the lack of experienced and competent welders at points removed any great distance from large centers. Under these circumstances, it is proper to incorporate no detailed information concerning this type of construction in this discussion.

#### Mutilation of Structural Members.

When, during construction, the installation of piping systems, conduit or other similar items of construction seems to have been inadequately provided for in the plans, and it is necessary to provide for this installation, particular care must be exercised in cutting away portions of structural steel and in making holes through members. Such matters should be anticipated as much as possible and time allowed to obtain approval or instructions from the designing agency before any cutting is permitted. When, however, immediate action is imperative and precludes the possibility of procuring approval or instructions certain definite principles should be observed, including the requirement of expert workmanship and no damage to surrounding metal:

(1) Holes through the webs of beams and girders should be cut near the center of the span at which point shear is at a minimum, and as nearly as possible to the neutral axis of the member.

(2) Notches or holes in flanges of simple span beams and girders should be near the end of the span, at which point moments are a minimum. In continuous spans, the point of minimum moment may be assumed to be at the end support of end spans and at approximately one quarter of the span length from intermediate supports.

(3) Widths of holes through tension members, plus any other holes in any section adjacent thereto (as for rivets), should not exceed in diameter the aggregate of the diameters of the maximum number of holes through any other section of the member; in other words, the net section of the member must be maintained. Should such a procedure make available a hole inadequate in size to accommodate the item for which provision is required, additional area may be removed, provided satisfactory reinforcing material properly developed is added to supply the required net section.

(4) Holes through compression members, including columns, should be made as nearly as possible upon their center lines without cutting away a longitudinal section of any web plate. Preferably holes should be as close as possible to points where such members are held against lateral deflection. The cutting away of metal near the outside corners of a compression member greatly reduces the radius of gyration of the member and thereby seriously impairs its strength. Compression members are designed upon the utilization of their gross sectional area. Reductions in this area of as much as ten per cent within one-fifth of their unsupported lengths from points of lateral support will not unduly overstress the metal. Between these points, removal of metal in excess of seven and one-half percent should be compensated for by the use of supplementary reinforcing metal. Compression members subjected to bending stresses, including columns of multi-story buildings, require special consideration.

## FIREPROOFING OF STRUCTURAL STEEL

#### Necessity for Fireproofing.

Structural steel is not combustible within the range of temperatures generally encountered in ordinary fires, yet it may suffer under prolonged fire. The damage results not from combustion of the material itself, but from the heat generated by the combustion of other materials adjacent to it. The primary cause of this damage is the marked decrease in the strength of steel under temperatures above 600° F. Members that are normally fully adequate to carry their own weights and superimposed loads quickly become inadequate when heated to temperatures experienced during a conflagration. At 1500° F., steel members fail under their own weight, and damage entailing total loss can occur from temperatures as low as 750° F.

A building may be constructed entirely of fireproof materials, but combustion of its contents can seriously damage an unprotected or inadequately protected steel framework.

#### Means of Protection.

Protection of structural steel is secured by encasing it in a more or less non-heat conducting material which prevents the steel from reaching a temperature that will endanger its strength to a point of failure. While no insulating material can resist the repeated alternate action of heating and sudden cooling by water, fire resistive materials embrace: building brick, sand-lime brick, burned clay or shale units, terra cotta, Portland cement concrete, gypsum, Portland cement or gypsum plaster on metal lath, and gypsum plaster on gypsum lath.

For each project the means of protection to be employed is determined at the time the plans and specifications are prepared and the requirements concerning its installation are fully described in those papers. Relevant notes concerning the various materials which may be of value to the Construction Engineer embrace:

A. *Brick.* Fire resisting qualities have been demonstrated in many fires. Large units, particularly in thin walls, may suffer damage from expansion in severe fires. Thick walls suffer less damage from expansion, but individual surface bricks may fuse from the heat or crack and spall from the action of the fire and water. First class fire resistant brick should be made of clay requiring a temperature of 2200° F. to vitrify it.

B. *Concrete.* Fire resisting qualities are due to low heat conductivity arising out of its porosity and the dehydration which begins when temperatures reach 500° to 600° F. and then proceeds slowly. Corners and edges exposed to intense heat may spall to a maximum depth of 3/4" to 1 inch.

C. *Burned Clay or Shale Units.* Manufactured in three grades: porous, semi-porous, and dense. Porosity is obtained by mixing sawdust with the clay, the former being removed during the burning of the tile. Of the three grades, porous hollow tile is the best non-conductor of heat, though lowest in compressive strength. The manufacture of hollow tile has been highly developed and requirements of the building industry are well provided for so that its usage has become quite wide.

D. *Lime Plaster.* Ordinary lime plaster is a good non-conductor of heat but in severe fires does not remain in place. A single layer may be considered a fire retardant or may be utilized as a coating for other fire resisting materials. A double covering, each layer upon metal lath and separated by air spaces, is reasonably effective for covering steel.

E. *Gypsum.* Used in various forms of protective coatings and one of the best non-conductors of heat. Plain blocks have a tendency to become calcined by intense heat but the calcined surface does not withstand the action of hose streams. Prepared or hard wall plasters form a better bond for the joints than cement mortar.

#### Current Fireproofing Practice.

The most advanced practice of fireproofing recognizes the

duration of fires to which buildings may be subjected and the extent to which protection is justified. Accordingly fireproof construction has been classified according to the duration of the fire against which protection is to be provided. The ratings provide for four (4) hour, a three (3) hour, a two (2) hour and a one (1) hour fire, for each of which minimum requirements are established.

#### Fire-Resistive Floors and Roofs.

Apart from consideration of structural requirements, minimum thicknesses of materials exclusive of plaster or floor fill, for fire-resistive floors and roofs for the four classes are:

	4 Hour	3 Hour	2 Hour	1 Hour
Concrete slabs without metal lath and plaster ceiling .....	5"	4"	3"	2½"
Concrete slabs with ¾" suspended ceiling of Portland cement or gypsum plaster on metal lath	4"	3"	2"	2"
Structural clay tile arch with floor fill of 2" non-combustible material ...	8"*	6"*	4"	4"
Concrete joist with hollow filler units of burned clay or shale, concrete or gypsum .....	8"	6"	5"	4"
Concrete slabs between concrete joists with ¾" ceiling of Portland cement or gypsum plaster on metal lath...	3½"	2½"	2"	2"
Concrete slabs between concrete joists without a metal lath or plaster ceiling .....	4"	3"	2½"	2"
Concrete slab between protected steel joists with ¾" ceiling of Portland cement or gypsum plaster on metal lath...	3½"	2½"	2"	2"
Gypsum roof construction .....	—	—	—	2½"

\*Structural clay tile to have 2 cells in depth of the floor.

#### Protective Coverings for Structural Members.

Exclusive of plaster and exclusive of splice plates and rivet heads, minimum thicknesses of materials for the protection of structural parts under stress for the four classes are:

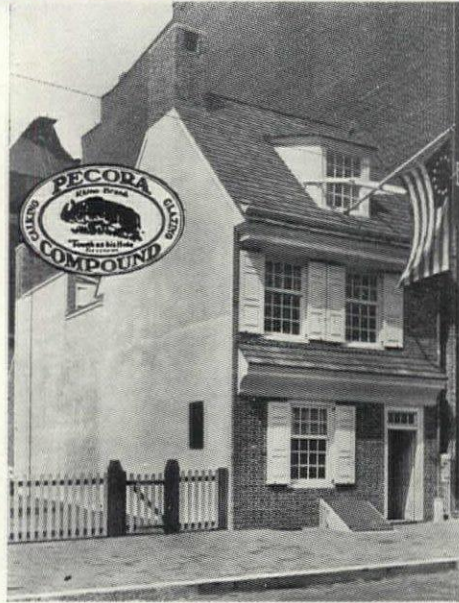
- Metal columns, and metal members supporting more than one floor:
 

	4 Hour	3 Hour	2 Hour	1 Hour
(a) Concrete or poured gypsum..	2½"	2½"	2"	2"
(b) Building brick ...	3¾"	3¾"	2¼"	2¼"
(c) Hollow units of burned clay or shale, concrete or gypsum .....	4"	3"	2"	2"
(d) Portland cement or gypsum plaster on metal lath.....	—	—	—	7/8"
- Metal beams, girders, and trusses and steel joists.
 

(a) Concrete or poured gypsum ..	2"*	2"*	1½"	1½"
(b) Hollow units of burned clay or shale, concrete or gypsum block ...	3"	2"	2"	2"
(c) Portland cement or gypsum plaster				

# CAULK all Joints

## WITH PECORA COMPOUND



### The BETSY ROSS HOUSE

One of Philadelphia's historic shrines, this birthplace of our Stars and Stripes Flag has been carefully preserved for future generations. To prevent moisture and dust leaks, with consequent deterioration, all window and door frames have been caulked with Pecora Calking Compound. Pecora is the preferred caalking compound where absolute reliability is demanded; for properly applied, it will not dry out, crack or chip. Widely used for air conditioning projects and as an important aid in preventing heat loss.

### Other Pecora-Protected Philadelphia Buildings

*Penna. R.R. 30th St. Station  
Federal Reserve Building  
Benjamin Franklin Memorial  
Tower—Liberty-Lincoln Building  
Union League Building  
Fidelity-Philadelphia Trust Company  
Bell Telephone Company  
Campbell's Soup Company  
Grasselli Chemical Company*

The use of Pecora Calking Compound is nation-wide. A majority of the important structures completed in recent years, including more than 300 Federal Buildings, have been made weather tight with Pecora.

#### PECORA CARTRIDGE CALKING GUN



This new type, high pressure Cartridge Calking Gun (patent applied for) is a great time and material saver. Pecora Calking Compound is specially packed for this gun in non-refillable metal cartridges of approximately one quart and one pint capacity.

*Creators of  
Calking Compound  
in Cartridges*

*Write for new Folder*

### Pecora Paint Company, Inc.

SEDGLEY AVE. & LAWRENCE ST., PHILADELPHIA, PA.

Member of Producers' Council, Inc.  
Established 1862 by Smith Bowen

ALSO MORTAR STAINS • SASH PUTTIES • SUCTION MASTICS

# DAYLIGHT

Solar heat  
reduced

{ Uniform light  
Diffusion

## CLAD-CRETE

### ROOFLIGHTS

Permanent — Weatherproof

Installed in Apex Building  
and  
Federal Warehouse  
Washington, D. C.

## MAGNALITE

### Diffusing Glass

Type A and B Plain and Wired

Installed in Agricultural  
Building, Washington, D. C.

#### UNIFORM LIGHT DIFFUSION

One set of lenses spreads light evenly at right angles to their axes. The other set spreads light in the opposite direction to cover an area the shape of the glass opening.

Total diffusion angles average about 32°.

**AMERICAN 3 WAY-LUXFER PRISM CO.**

517 W. 45th St.      2139 W. Fulton St.  
New York, N. Y.      Chicago, Ill.

on metal lath applied direct or suspended .....	—	—	—	7/8"
3. Reinforced concrete columns, beams, girders and trusses; concrete protection for main reinforcements .	1 1/2"	1 1/2"	1"	1"
4. Reinforced concrete slabs or walls; concrete protection for all reinforcement ....	1"***	1"***	3/4"***	3/4"***

\*May be 1 1/2" for flanges less than 3/4" thick.

\*\*May be reduced by 1/4" for slabs which are covered by Portland cement or gypsum plaster, applied direct or suspended as a ceiling.

#### Facing Materials.

Facing materials of building brick, sand-lime brick, burned clay or shale units, terra-cotta, or Portland cement concrete or other especially approved material may be considered as fire-protective covering. Stone or other non-combustible facing material of a minimum thickness of 3 3/4" used for the exterior facing of a building, shall be considered to be effective for one-half of the required fire resistance period and the remaining one-half shall be provided by a fire resistive material in accordance with the tables hereinbefore included concerning walls and structural members; provided that the total thickness shall be not less than the tabular values.

#### Gypsum Restriction.

Gypsum shall not be used as a fire-protective covering for that portion of any member which is in an exterior wall or below the finished first floor line.

#### Support of Facing for Lintels and Spandrel Beams.

Where lintels or spandrel beams are protected from fire, the non-combustible facing over openings, if not over 4 inches in thickness, may be carried on an exposed steel angle anchored to the protected member at not to exceed 3 foot centers.

#### Construction.

In all cases, the materials and types of construction are described and shown in the plans and specifications. In the interpretation of these and in the execution of the work covered by them attention may be directed to points which may arise in connection with the work.

Regardless of the type of fireproofing to be constructed, particular attention should be given to the construction of pipe chases adjacent to structural steel. Good construction dictates that these be separated from the steelwork by a wall of fireproof material. The construction of this wall, which is hidden after the work is completed, is of very great importance. Condensation and the accumulation of moisture upon the pipes, leaks in them and expansion under service conditions may give rise to seepage of water and cracking of the finished work which might seriously affect the cost of maintaining the structure. So far as possible, cold water and waste lines should be run in separate chases from steam and hot water lines. Precautions should be taken where hot water and steam lines pass through floors to see that no damage from expansion can occur. So far as is possible, hot water and steam lines should be kept away from the immediate fireproofing of column metal as high temperatures maintained in close proximity to the wall for a long period will penetrate to the steel and cause the column to expand while adjacent columns may be contracting due to colder surrounding temperatures. To the extent that such matters lie within the Construction Engineer's jurisdiction he should seek to procure the arrangement of pipes within chases which will be most favorable from the standpoint of future maintenance.

There is little to be said concerning the construction of brick, hollow tile and terra cotta fireproofing except to emphasize the importance of thoroughly filling all joints in the work and all spaces between the fireproofing and the metal with mortar.

Concerning concrete fireproofing, there are some matters which may require special attention. There are two types of concrete fireproofing in current use; one, poured in place; the other, built up with a cement gun commonly referred to as gunite. In both types, the system of steel reinforcing bars and mesh is hung upon and attached to the member to be protected. Particular care should be exercised to insure the maintenance of their proper positions by the bars and mesh during and following the placing of the concrete. There may be a tendency of the reinforcing material to hug too closely against the surface of the metal; this tendency may be overcome by placing bar chairs or small concrete spacer blocks between the metal and the bar. In either case, the spacing device should be securely fastened to the reinforcing metal so as to prevent displacement. Frequently holes are left in the webs of deep beams or girders so that wire ties can be used to connect bars from opposite sides of the beam. These ties may be too far apart to prevent the light bars usually employed for the purpose from bending inward during the placing of concrete. When such a condition prevails, it is desirable to insert concrete spacer blocks at intermediate points between the ties. It is just as important that bars in fireproofing be clean, in good condition, and in their proper positions, as it is for other reinforcing bars to be so.

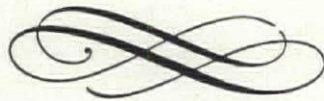
Cast in place fireproofing is often required to be poured in very thin sections. Under these circumstances, adequate rodding and spading in the forms becomes a difficult problem. The thin sections below the bottom flanges of beams and girders require particular attention; best results are often obtained by pouring from one side until the encasing con-

crete is forced under the bottom flange and rises upon the opposite side above the top of the flange, after which pouring may be completed in the unfilled side. Gratifying results may be obtained if the pouring of the encasement for a beam is started at one end and the concrete deposited on top of concrete previously placed so that the mass is worked toward the other end.

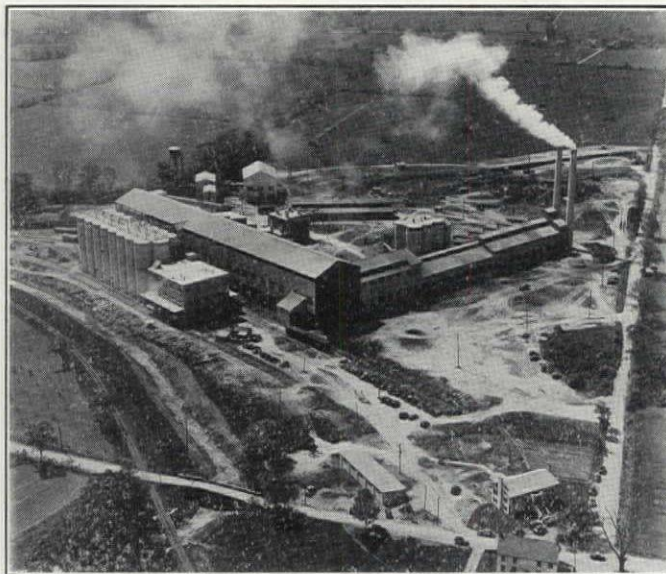
Gunite is placed with a cement gun which builds up the required thickness of covering in successive layers of sand and cement mortar. When such work is to be performed, particular care should be taken in the selection of the men who are to do the work. This class of work is done almost entirely by a small group of contractors who restrict their operations to this specialty. The work of the Construction Engineer will be greatly simplified and certainty of procuring an acceptable job better assured, if this work is performed as a sub-contract by one of these concerns.

When clay tiling is placed around columns, it should be securely held in place by galvanized wire not smaller than No. 12 gage. The wire should be wound around the tile protection in successive bands and not spirally. If the column is in an area where trucking, wheeling or handling of materials is to be done, the lower 5 feet of every column so exposed, should be protected by a steel shell not less than 1/8-inch in thickness.

Undesirable cracks which often appear in the encasement along the tops of bottom flanges of beams and girders will be largely eliminated if the reinforcement is so designed as to be hung from the top flanges instead of being hung by bent wires or bars from the bottom flanges.



We Manufacture **“PIONEER”** Brand in

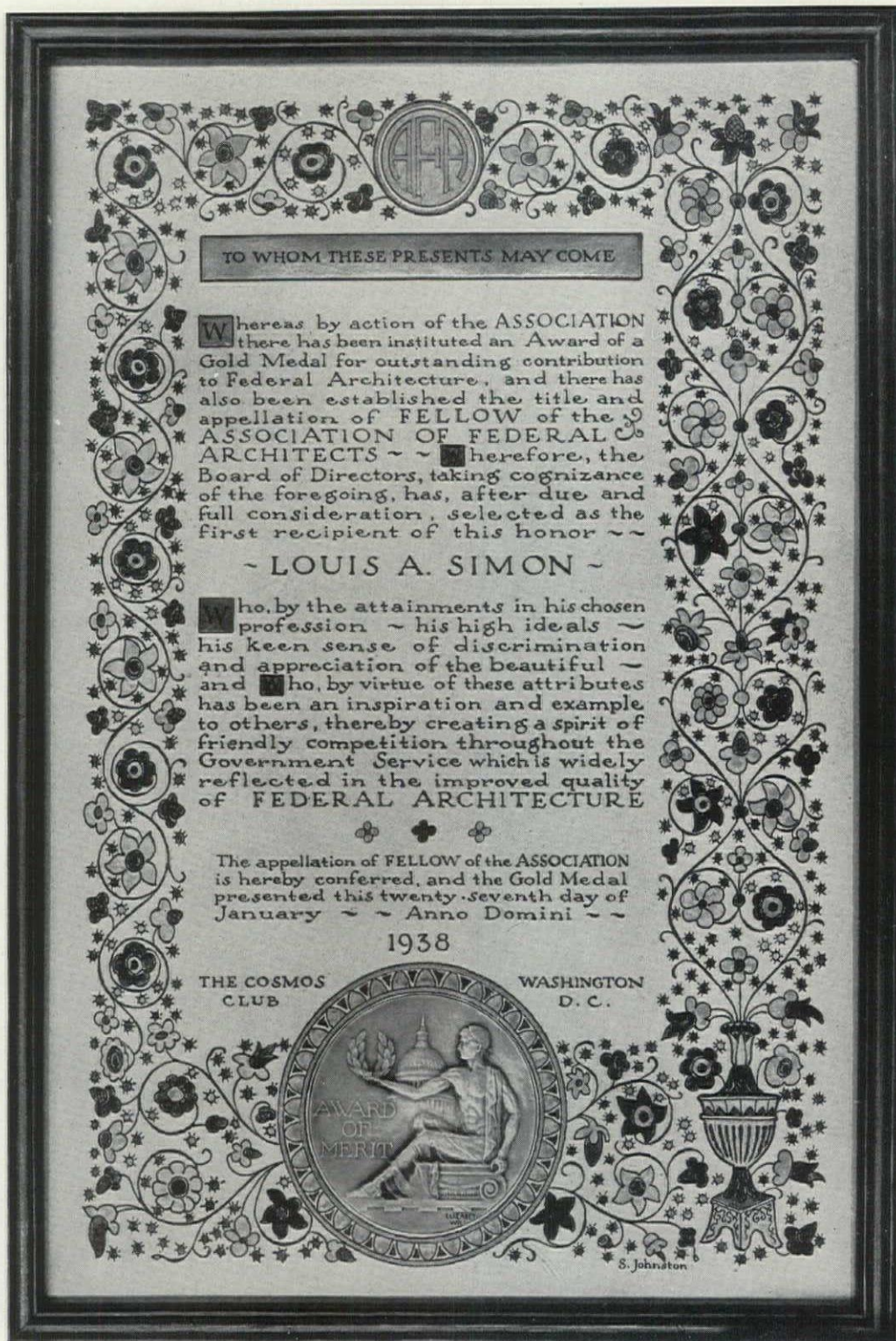


*Courtesy Dallen Aerial Surveys*

**AMERICA'S  
NEWEST  
CEMENT  
PLANT**

**NATIONAL**  
PORTLAND CEMENT COMPANY

General Offices: The Bourse, Philadelphia  
Plant: Brodhead, Pennsylvania



THE above is a reproduction of the Gold Medal and citation presented to Louis A. Simon, Supervising Architect by the Association of Federal Architects in recognition of distinguished service.



## LETTER FROM JUDGE WETMORE

(Continued from page 8)

return, in endeavoring to restore the *status quo ante*, as Caesar would have expressed it. I could have saved time, some paint and considerable strain on my golf vocabulary if I had done the original job myself.

When I assumed the position of Chief of the Law and Records Division in the old Supervising Architects Office in 1896 a friend who was one of the principal law officers in another Department called to congratulate me. During the course of our conversation he astounded me by saying that he had no respect for the law. Considering the position he occupied I was shocked, and I asked him why. His eyes twinkled as he said: "When I was a young man I liked to serve on juries and I went out of my way to be drawn. This gave me an opportunity to learn how jurymen regard the law. Later on I studied law and this gave me another viewpoint. As time went on I practiced law, and then I got another slant on the subject. Subsequently I was elected to the office of Judge and then the aspect of the subject broadened out considerably. Finally I was elected to the legislature, and right there, when I helped to make the stuff, I lost my respect for it." It may be Eddie that this accounts for the disrespect which some of our public men appear to have for the Constitution, although I didn't know that any of them helped to frame it.

It is a sad commentary on our educational system that those who are subsequently to exercise the right of suffrage are not taught to revere the charter or our liberties—the chief cornerstone on which our form of government rests. Let us hope that this neglect will be overcome by the efforts which are being made by the United States Constitution Sesquicentennial Commission.

I am one hundred percent for reverence to constituted authority, but it can go too far. Why I once had a telegram laid on my desk in which I was addressed as the Supreme Architect. But then not everyone held me in such exalted esteem. For instance there was my old friend, Congressman Gillett of New York who was one time Chairman of the House Committee on Public Buildings and Grounds, I was one of his constituents and our relations were most cordial. Congress had authorized the reproduction in *fac simile* of the so-called Jefferson bible. I asked Congressman Gillett to get me a copy. When it was off the press he wrote me a letter in which he said: "Perhaps you are not aware of the fact that Congress authorized an edition only sufficient to provide two copies for each Senator and Congressman. I very much want to have a copy for myself and as I don't know of any constituent of mine who is in greater need of a bible than you, I am sending you the other copy." Now was that nice?

I've got a trace of Scotch in me—blood not rye—and I seem to scent an opportunity to get my seasonal greeting carried to a lot of friends gratis by utilizing this letter to wish you and your subscribers a Merry Christmas and a Happy New Year.

Sincerely yours,

"THE JUDGE"

**NEW PHILADELPHIA POST OFFICE  
Equipped Throughout  
with**



**STEEL  
SHELVING**



Order your requirements from

**PENN METAL CORPORATION OF PENNA.**  
PHILADELPHIA

Manufacturers of Steel Shelving, Lockers,  
Storage and Wardrobe Cabinets

## MINNESOTA DOLOMITIC LIMESTONE

A sound durable  
stone, produced in  
color shades of

**GRAY, CREAM,  
BUFF, and PINK.**

*Fine and Coarse  
Texture Stone*



Ample production  
and milling facilities  
for any project.

**MINNESOTA DOLOMITE ASSOCIATION**  
Mankato Minnesota

Embassy of the United  
States of America,  
Istanbul, Turkey.  
November 19, 1937

Dear Mr. Morris:

I am conscience-stricken over this long delay in writing you. Life has caught me up in her longest stride. As a matter of fact I have deferred writing until I could enclose prints from the many representative pictures I have taken and collected from others of old Constantinople. Will send them soon.

It is an intensely interesting experience—endless in scope. The job, too, has turned out nicely though will take till January or February, 1938, to complete.

I soon abandoned my proposal to send you plans, cross-sections and elevations of European W. C.s. The number of varieties and ornamentations would challenge even an archaeologist!

I look forward to receiving the last issue of THE FEDERAL ARCHITECT. The last one I received was April, the Washington issue. Always enjoy your patter and the contents.

Am sending you soon a selected page from the Koran taken from a broken copy picked up at the famous bazaar here. Bought it as worthless but it turned out to be a rare copy 220 years old. Shopping out here is like that.

With highest regards,  
L. W. KING, JR.

November 16, 1937

Editor, THE FEDERAL ARCHITECT:

Dear Mr. Morris:

We, as members of the Association of Federal Architects, feel that we should have some say as to the type and merit of material published in the official publication of the Association. We therefore go on record as being opposed to the publication of such features as the "Portfolio of Buildings the Government Will Not Build This Year," the first of which, and we hope the last, appeared in the October 1937 issue.

We realize, Mr. Morris, that the author of this feature is E. B. Morris, Jr., your son. However, we trust that you are broadminded enough to understand that this is not a personal criticism of you or your son. We feel though that a feature of this type, neither a good architectural sketch nor a good cartoon, has any place in a publication of this type.

We trust that you will give this letter some consideration and possibly publication in the next issue of THE FEDERAL ARCHITECT.

Respectfully,  
JAMES E. ECKLOFF JR.  
HOWARD A. PAGE  
C. H. GREGGS  
O. C. DE COPASA  
HOWARD W. MEAKIN  
RUDOLPH NICKEL  
ANDREW F. McDONALD  
KARL W. HARTEG  
JOS. HALE DARBY.

November 23, 1937

Mr. Edwin Bateman Morris,  
THE FEDERAL ARCHITECT,  
Dear Eddie:

I am indebted to you for sending me a copy of the October issue of THE FEDERAL ARCHITECT. The pictures of Charleston are lovely. There is no place in the country I more thoroughly enjoyed, and the fact that I haven't the money to go to Charleston this Christmas is quite a blow.

Tell E. B. M., Jr. that his sketch for the portfolio of "Buildings the Government will not build this year" is top hole.

Yours,  
A. H. LUCAS,  
Headmaster,  
St. Albans School.

November 15, 1937

Friend Morris:

Will you be so kind as to change my address on your mailing list for THE FEDERAL ARCHITECT to 152 Wellington Road, Jenkintown Pa., and oblige?

I would not for the world want to miss a single issue of your splendid publication—and—when I do I hope to receive it printed on asbestos sheets.

With kindest regards!

Sincerely,  
H. C. KELLOGG.

Cincinnati, Ohio.  
December 9, 1937

Dear Mr. Morris:

Attached is a short poem clipped from *The Cincinnati Times Star*, which I thought you might be able to use.

Very truly yours,  
CALVIN H. COOL,  
Construction Engineer.

#### THE NEW POSTOFFICE

Noises, noises, all day long,  
Clanging, banging, loud and strong.  
First the drillers, then the roar  
Of the riveters, ten or more.  
See the concrete flowing fast,  
Making floorings that will last.  
Cranes are hoisting heavy steel,  
Men are working with a zeal.  
Soon the job will be complete—  
New post office 'cross the street.

ANITA HEATH.

Alexandria, Va.  
November 18, 1937

My Dear E. B.:

I have just looked over the last number of THE FEDERAL ARCHITECT and I am impelled to say to you that if you keep up your present policy and standard you will make THE FEDERAL ARCHITECT the best and perhaps the *only* Architectural Publication in the country.

It would seem that we *should* be able to support an Architectural Publication for *Architects* and people

of some taste and cultivation and this cannot be primarily an advertising medium. It should be good solid nourishment to the serious student and an inspiration to the younger men.

The publication of our Early American Architecture such as these Charleston photographs is excellent and I have no doubt that the Philadelphia Number will be equally worth while.

Now, if you could publish in each number a full page plate example of superb draughtsmanship—reprinted from old drawings—old books to which the average chap hasn't access—and I have in mind the Soane collection—some of the original sketches for Versailles—"Nufforge" (which is rare)—a whole host of such things which are an inspiration—and I don't know of anything more superb in the way of *draughting* per se than Jean Hulot's Prix de Rome (and attempts at the 1900 Prix). I go into this because I think that draughtsmanship has regrettably *fallen off*,—and while I do not think *draughting* is *Architecture* (and even, sometimes, too swell draughting is detrimental), at the same time we do not seem in danger at present of suffering from this particular ill.

And Lordy-O! what a wealth of swell *draughtsmanship* there is in the Beaux-Arts, 12 and 24 hour sketch problems done in the 90s and 1900s! They aren't *always* Architecture! In Tours the old Palais de Justice, done about 1830 (?)—I think *very fine*, and across the Rue Nationale is Laloux's Hotel de Ville, Vintage of 1900 (?) typical Beaux Art problems, which in contrast are *bad*.—Well, I would suggest publishing the drawings for the old 1830 Palais de Justice.

Anyway, and to repay you, personally, for reading the above I enclose my cheque for a year's subscription to THE FEDERAL ARCHITECT and I wish you Bon Voyage, in your adventure as an editor and publisher!

Who the devil is interested in garages and laundries in Kansas City? Who the devil is interested in all the folle-de-rolle of office management? — (when they ain't no offices to manage?)

In other words, Buzzy, Architecture is a *profession* and an *art*—or *ought* to be—and we *ought* to try and keep it so.

And so, with my regards and "old Times and Bright Eyes", I am,

Very truly yours,  
TOX BRONTE EVERMAN



## S. H. POMEROY CO., Inc.

Manufacturers of

Double Hung  
Metal Windows  
in Steel, Bronze  
and Copper



Factory and Main Office  
280-296 East 134th St.  
New York, N. Y.

## GLEASON-TIEBOUT GLASSWARE

*is chosen with pleasing  
regularity for the*

## FINE LIGHTING FIXTURES

*in the Country's  
Outstanding Installations.*

IN WASHINGTON



SUPREME COURT

—  
ARCHIVES

—  
DEPARTMENT OF JUSTICE



GLEASON-TIEBOUT GLASS COMPANY  
99 COMMERCIAL STREET, BROOKLYN, N. Y.

RECENT CONTRACTS AWARDED BY PUBLIC BUILDINGS BRANCH, PROCUREMENT DIVISION, TREASURY DEPARTMENT

New York, N. Y., P. O.—Mail handling equipment—The Lamson Company, Inc., Syracuse, New York .....	\$237,210.00
St. Paul, Minnesota, Court House, Etc.—remodeling including elevators—Fleisher Engineering & Construction Co., 500 Builders Exchange Building, Minneapolis, Minnesota .....	103,631.00
Boston, Mass., P. O., Lexington Branch—construction—Di Sandro Brothers, 106 Langdon Street, Providence, Rhode Island.....	65,000.00
Kingstree, South Carolina, P. O.—construction—The Loucks and Clarke Corporation, 6 - 26 Ernest Street, Wallingford, Conn. ....	42,161.00
Hyannis, Mass., P. O.—construction—The B. L. Contracting Co., 1479 Edgewater Road, Bronx, N. Y. ....	59,106.00
Ridgewood, N. J., P. O.—construction—John de Beer, Inc., 568 Abbott Avenue, Ridgefield, N. J. ....	128,100.00
Woodsfield, Ohio, P. O.—construction—Ang Construction Company, Selby Building, Coshocton, Ohio .....	40,900.00
Dover-Foxcroft, Maine, P. O.—construction—Andover Associates, Inc., 110 East 42nd Street, New York, N. Y. ....	64,500.00
Amarillo, Texas, P. O. & Ct. H.—construction—Algernon Blair, 1209 First National Bank Bldg., Montgomery, Alabama.....	369,400.00
Bethesda, Maryland, National Institute of Health construction of three National Institute of Health Buildings, Etc., (Administration Building, Industrial Hygiene Laboratory Building and Public Health Methods and Animal Unit Building), Geo. A. Fuller Co., Munsey Building, Washington, D. C. ....	986,950.00
Rockport, Mass., P. O.—construction—Di Sandro Brothers, 106 Langdon Street, Providence, R. I. ....	52,100.00
Ada, Ohio—P. O.—construction—Structural Engineering Corporation, 110 East 42nd Street, New York, N. Y.....	42,607.00
Downers Grove, Illinois, P. O.—construction—Biggs & Gregory, & Biggs Construction Co., Inc., 7635 S. Hermitage Avenue, Chicago, Ill. ....	68,200.00
Forest, Mississippi, P. O.—construction—Algernon Blair, 1209 First National Bank Bldg., Montgomery, Alabama .....	45,021.00
Fort Worth, Texas, Public Health Service Hospital—private Interior Telephone Exchange—The North Electric Mfg. Co., South Market Street, Galion, Ohio .....	43,150.00
Williamsburg, Kentucky, P. O.—construction—Andrew & Dawson, 17 Adams Avenue, Montgomery, Alabama .....	40,881.00
Pasadena, California, P. O.—extension and remodeling, etc.—James I. Barnes Construction Co., Wilhoit Building, Springfield, Mo.....	216,400.00
Alpine, Texas, P. O.—construction—J. J. Fritch, 504 Construction Building, Dallas, Texas.....	42,225.00
Rehobeth Beach, Delaware, P. O.—construction—Sefarelli Bros., Inc., 161-19 Jamaica Avenue, Jamaica, N. Y. ....	47,758.00
Riverside, N. J., P. O.—construction—Bergen Essex Construction Co., 194 Garden Avenue, Belleville, N. J. ....	44,624.00
Towson, Maryland, P. O.—construction—John K. Ruff Company, 100 West 22nd Street, Baltimore, Md. ....	99,825.00
Stoughton, Mass., P. O.—construction—The B. L. Contracting Company, 1479 Edgewater Road, Bronx, N. Y. ....	48,330.00
Ambler, Pa., P. O.—construction—Hood & Gross, 318 Perry Bldg., Philadelphia, Pa.....	58,674.00
Lakeview, Oregon, P. O.—construction—James I. Barnes Construction Co., Wilhoit Bldg., Springfield, Mo. ....	122,350.00
Appalachia, Virginia, P. O.—construction—L. B. Gallimore, 215 Watson Building, Greensboro, N. C. ....	41,000.00

Flushing, N. Y., P. O.—Forest Hills Postal Station—construction—C. H. Johannsen & Company, 565 George Road, Cliffside Park, N. J.....	109,400.00
Monrovia, California, P. O.—construction—James I. Barnes Construction Co., Wilhoit Bldg., Springfield, Missouri .....	74,700.00
Forest Park, Illinois, P. O.—construction—A. C. Atherton Co., 1791 Howard Avenue, Chicago, Illinois .....	63,333.33
Snohomish, Wash., P. O.—construction—Western Construction Co., Inc., 1008 Textile Tower, Seattle, Washington .....	54,500.00
Latrobe, Pa., P. O.—construction—J. L. Robinson Construction Co., 1100 Block Pierce Street, Baltimore, Md. ....	51,100.00
Conyers, Ga., Agriculture & P. O. Bldg.—construction—A. Farnell Blair, Lake Charles, La. ....	41,980.00
St. Albans, W. Va., P. O.—construction—Algernon Blair, 1209 First National Bank Bldg., Montgomery, Ala. ....	43,632.00
Portland, Maine, P. O., South Portland Branch—construction—The Loucks & Clarke Corporation, 6 - 26 Ernest Street, Wallingford, Connecticut .....	64,821.00
Kewaunee, Wisconsin, P. O.—construction—James I. Barnes Construction Co., State Exchange Bank Bldg., Culver, Indiana.....	55,560.00
East Hampton, Connecticut, P. O.—construction—J. Warren Mylchreest, 50 Brainerd Avenue, Middletown, Connecticut .....	47,995.00
Kilgore, Texas, P. O.—construction—Thomas L. Dawson Company, 2035 Washington Street, Kansas City, Missouri .....	78,200.00
Ogdensburg, N. Y., Custom House—remodeling—Leon Wexler, 1134 Baker Avenue, Schenectady, N. Y. ....	108,900.00
Belleville, Kansas, P. O.—construction—Busboom & Rauh, 153 S. Santa Fe Avenue, Salina, Kansas .....	53,750.00

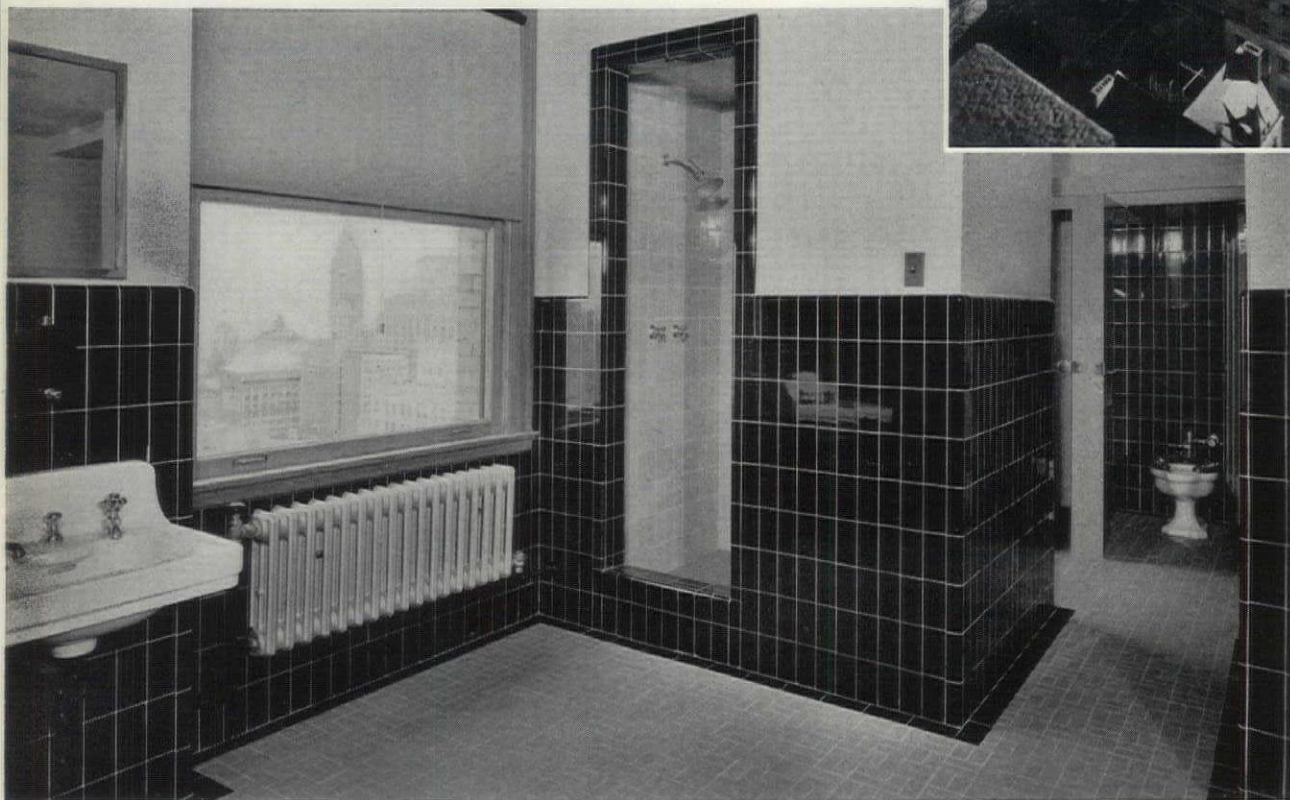
RECENT CONTRACTS AWARDED BY THE QUARTERMASTER GENERAL'S OFFICE, WAR DEPARTMENT

Denver Branch Air Corps Technical School, Denver, Colorado: Rental of Equipment—H. W. Moore Equipment Company, 6th and Acoma, Denver, Colorado .....	\$ 13,774.00
Fort Hamilton, New York: Construction and Completion of Barracks—Lieb Construction Company, Inc., 415 Lexington Avenue, New York .....	117,040.00
Hickam Field, T. H.: Construct and Complete 42 Sets of N. C. O. Qtrs., 6 Field Officers' Qtrs., and 33 Company Officers' Qtrs.—Robert E. McKee, 1128 Central Building, Los Angeles, California .....	784,300.00
Fort Jay, New York: Installation of Electrical Work in 6 N. C. O. Apartments—Elco Engineering Company, Inc., 345 E. 23rd Street, New York .....	1,740.00
Fort Jay, New York: Plumbing and Heating Facilities for 6 N. C. O. Apartments—Sugarman and Leon, 260 E. 161st Street, New York .....	5,161.00
Fort Niagara, New York: Construction and Completion of Bachelor Officers' Quarters—Snyder Construction Company, Inc., 229 Lovering Avenue, Buffalo, New York .....	52,680.00
Sacramento Air Depot, California: Heating and Ventilating in Air Corps Shop and Docks—Cory and Joslin, Inc., 50 Hawthorne Street, San Francisco, California .....	59,783.00
Sacramento Air Depot, California: Electrical Installation in Air Corps Eng. Shop and Repair Dock—Reliable Elevator Works, 619 California Street, Sacramento, California .....	107,200.00
Sacramento Air Depot, California: Construction and Completion of Interior Work in Air Corps Eng. Shop and Docks—Eaton & Smith, 715 Ocean Avenue, San Francisco, California .....	306,500.00

# ROMANY TILES in PHILADELPHIA

## MEDICAL TOWER BUILDING

*McIlwaine & Roberts  
Architects*



*Walls  
6x3 Black Glaze  
Romany Wall  
Tile*

---

*Floors  
2x4 Grey  
Ceramic Spartan  
Floor Tiles*

---

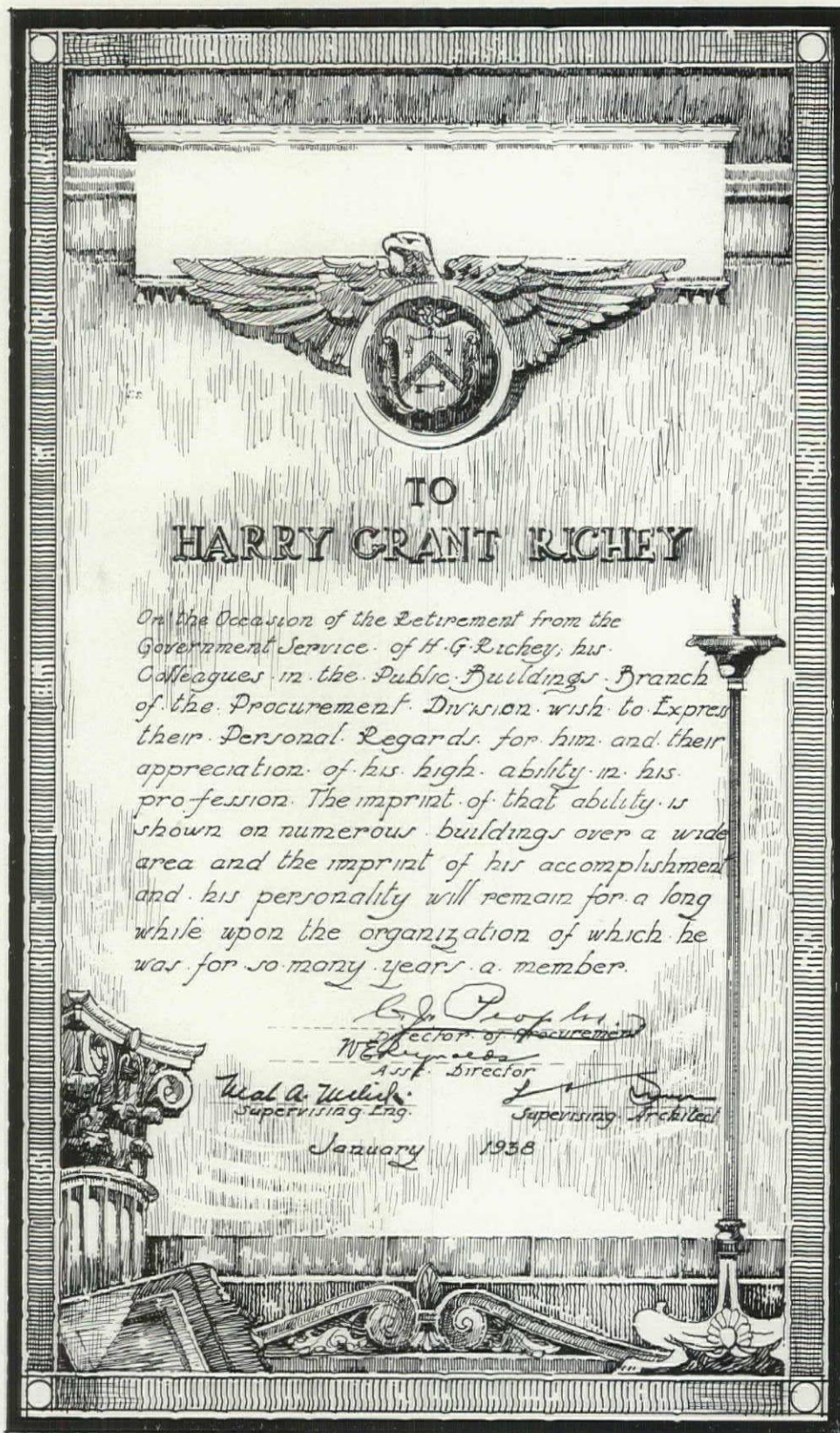
*Roydhouse Arey  
Co.  
General  
Contractors*

---

Romany Tiles are available in appropriate color, texture and size for walls and floors in either modern treatments, as illustrated or for various period designs. This flexibility makes tile suitable for all types of buildings. The durability of Clay Tiles results in floor and wall surfaces which will last the life of buildings. Impervious tile surfaces provide the utmost in sanitation and reduce maintenance costs to a minimum.

# United States Quarry Tile Co.

CANTON, OHIO



TO  
**HARRY GRANT RICHEY**

*On the Occasion of the Retirement from the Government Service of H. G. Richey, his Colleagues in the Public Buildings Branch of the Procurement Division wish to Express their Personal Regards for him and their appreciation of his high ability in his profession. The imprint of that ability is shown on numerous buildings over a wide area and the imprint of his accomplishment and his personality will remain for a long while upon the organization of which he was for so many years a member.*

*W. E. Reynolds*  
 Director of Procurement  
 Asst. Director

*Neal A. Tullish*  
 Supervising Eng.

*J. A. Weber*  
 Supervising Architect

January 1938

J. A. Weber.

Certificate given District Engineer H. G. Richey of the Procurement Division.

## CHANGES IN ASSIGNMENTS

Thomas L. Hews,  
3102 City Post Office,  
Washington, D. C.

Nathan Abramson,  
Post Office, Cu. H., & Ct. H.,  
Cleveland, Ohio.

Carl O. Allison,  
U. S. Court House,  
Philadelphia, Pa.

Laurence E. Allison,  
Rm. 403, U. S. Court House,  
St. Paul, Minn.

George F. Baker,  
U. S. Custom House,  
Ogdensburg, N. Y.

Theodore W. Beland,  
Rm. 1023 South Interior Bldg.,  
Washington, D. C.

Robert L. Bevan,  
Kilgore, Texas.

Lester W. Bosley,  
Rm. 202, Govt. Printing Office,  
Washington, D. C.

Guy W. Bradford,  
Florence, S. C.

Earl Gordon Brown,  
Hyannis, Mass.

James G. Burke,  
San Juan, Puerto Rico.

Arthur M. Burr,  
Towson, Md.

Guy B. Byam,  
Beaufort, N. C.

George L. Cadenhead,  
Grand Rapids, Minn.

Robert J. Colgan,  
Boonton, N. J.

Harold K. Cottrill,  
Flushing, N. Y.

Louis C. Crew,  
U. S. Marine Hospital,  
St. Louis, (Kirkwood) Mo.

Frank V. Deyerberg,  
U. S. Metal Depository Bldg.,  
West Point, N. Y.

Frank H. Dohrmann,  
Siloam Springs, Ark.

John V. Dolan,  
Homer, N. Y.

Logan L. Donlin,  
Kellogg, Idaho.

Eugene M. Dwyer,  
Riverside, N. J.

Joseph H. Feehan,  
Everett, Pa.

LeRoy Fisher,  
East Hampton, Conn.

William C. Fuller,  
Apex Building,  
Washington, D. C.

Scott Fullerton,  
Kansas City, Mo.

Edward J. Garvey,  
Muskegon, Mich.

Maurice Gay,  
Woodsfield, Ohio.

Paul Giddings,  
Carlyle, Ill.

Max M. Golder,  
Rushville, Ill.

Donald J. Guthridge,  
Washington, D. C.

Clayton R. Haden,  
Union City, N. J.

Nels Hansen,  
Kingston, N. Y.

Benjamin S. Hirschfeld,  
U. S. Penitentiary,  
Alcatraz, Calif.

Fred W. Hoering,  
51 Vesey St.,  
New York, N. Y.

Edward J. Holahan,  
Apex Building,  
Washington, D. C.

Arch D. Holsinger,  
Chapel Hill, N. C.

Richard L. Jones,  
Apex Building,  
Washington, D. C.

George W. Kays,  
Alpine, Texas.

Harry D. Lackore,  
Anacortes, Wash.

Charles E. Legris,  
Kewaunee, Wisc.

Daniel J. Lix,  
Forest Park, Ill.

L. G. Lyman,  
Ridgewood, N. J.

David McClelland,  
U. S. Court House,  
Philadelphia, Pa.

D. G. McCulley,  
Shelton, Wash.

Ray M. McNairy,  
Wrightsville, Ga.

Leslie McQuilkin,  
Englewood, Colo.

L. F. Maier,  
Ambler, Pa.

Joseph E. Millet,  
Dardanelle, Ark.

Frank Mizell,  
Ville Platte, La.

Caleb C. Motz,  
Bethesda, Md.

Clinton J. Muncie,  
Forest, Miss.

John J. Murray,  
Mahanoy City, Pa.

Cecil E. Myers,  
Chicago, Ill.

Frank F. Neill,  
Ripley, Tenn.

Roy B. O'Brien,  
Marysville, Ohio.

Jay W. Palmer,  
Whitman, Mass.

Emmanuel B. Perry,  
Painted Post, N. Y.

William T. Pierce,  
Toppensish, Wash.

William T. Purcell,  
Evanston, Ill.

George L. Read,  
Jacksonville, Fla.

Joseph B. Rigo,  
Saint Albans, W. Va.

Donald B. Roben,  
Los Angeles, Calif.

E. W. Roberts,  
Paducah, Ky.

Horace B. Rose,  
Geneva, Ill.

Frank E. Ross,  
Maywood, Calif.

Jay D. Rutledge,  
Sylvania, Ohio.

Harold C. Skilling,  
Monrovia, Calif.

Donald T. Smith,  
El Campo, Texas.

Thomas M. Stephens,  
Kingstree, S. C.

Paul Tiffin,  
Arcadia, La.

Fred H. Wagner,  
Salina, Kans.

Otto H. Wagner,  
Belleville, Kans.

Otis Ashton Waldrop,  
Conyers, Ga.

Frank M. Weakley,  
Room 335, P. O. Bldg.,  
Buffalo, N. Y.

H. R. Whittaker,  
Peoria, Ill.

Fred H. Williams,  
Auburn, Wash.

### FURLOUGHED

Lucius E. Allen, C.E.,  
Eff. 11-10-37.

Jack S. Astran, C.E.,  
Eff. 12-23-37.

Howard H. Caskey, C.E.,  
Eff. 11-17-37.

William E. Lawrence, C.E.,  
Eff. 12-29-37.

Chas. M. Neidelman, C.E.,  
Eff. 12-24-37.

### DISCONTINUED

Frank R. Burton, C.E.,  
Eff. 11-3-37.

George W. Dillon, C.E.,  
Eff. 10-1-37.

Earle B. Dunning, C.E.,  
Eff. 12-31-37.

Peter J. Mascaro, C.E.,  
Eff. 10-29-37.

John R. Masline, C.E.,  
Eff. 1-13-38.

Johann J. Mummemann, C.E.,  
Eff. 11-5-37.

Lynton R. Newhall, C.E.,  
Eff. 1-28-38.

Joseph Palmer, C.E.,  
Eff. 10-19-37.

Robert C. Schacher, C.E.,  
Eff. 11-4-37.

David Schupak, C.E.,  
Eff. 12-24-37.

Frederick P. Stern, C.E.,  
Eff. 12-28-37.

E. J. Wiener, C.E.,  
Eff. 10-9-37.

Leo Wolins, C.E.,  
Eff. 10-22-37.

### RESIGNED

Milton J. Anderson, C.E.,  
Eff. 1-4-38.

Jesse J. Loeser, C.E.,  
Eff. 10-18-37.

### DIED

Henry C. Ashmead, C.E.,  
Died 12-29-37.

Roy B. Hayes, C.E.,  
Died 10-22-37.

Willis B. Hayes, C.E.,  
Died 12-17-37.

Hector Tamburrelli, C.E.,  
Died 12-29-37.

## *Announcement*

Some complaints have come to us that members of the Association of Federal Architects are not receiving THE FEDERAL ARCHITECT, due to incorrect addresses. May we ask therefore that all those members or others who do not see this notice due to not having received the magazine, because of wrong address data, send us correct mailing instructions as soon as possible. Or, conversely, if anyone who does see the notice, does not know the correct address of anyone not receiving the magazine due to wrong address, or does know the correct address of someone he does not know is receiving or not receiving the magazine, please inform us at once. See what we mean?



UNITED STATES POST OFFICE  
Huguenot Street and North Avenue, New Rochelle, New York.

Treasury Department Procurement  
Division, Public Works Branch,  
Louis A. Simon, Supervising Architect

A. J. Paretta Contracting Co.  
Builders

Frederick G. Frost and  
Hart and Shape, Associate  
Architects

Exterior of Atlantic Architectural Terra Cotta Wall Units 2'0" x 2'0" set "stack" jointed.

Color Atlantic Abbochrome mat glaze—pinkish cream tones.

Each Unit machine extruded by modern de-airing process with closed scored back. No "filling" required, thus eliminating that expense.

Each unit face planed, before firing, insuring true wall surface.

Each unit ground, after firing, on all sides providing extreme accuracy of all four dimensions.

The architects so designed the exterior as to permit use of the largest possible number of units of the *same* size. Result, great economy in cost of terra cotta and erection.

Interior lobby and vestibule lined with Atlantic Wall Units 5½" x 8" of Abbochrome mat glaze in warm brown tones.

# ATLANTIC TERRA

MAKERS OF AMERICA'S BEST KNOWN TERRA COTTA

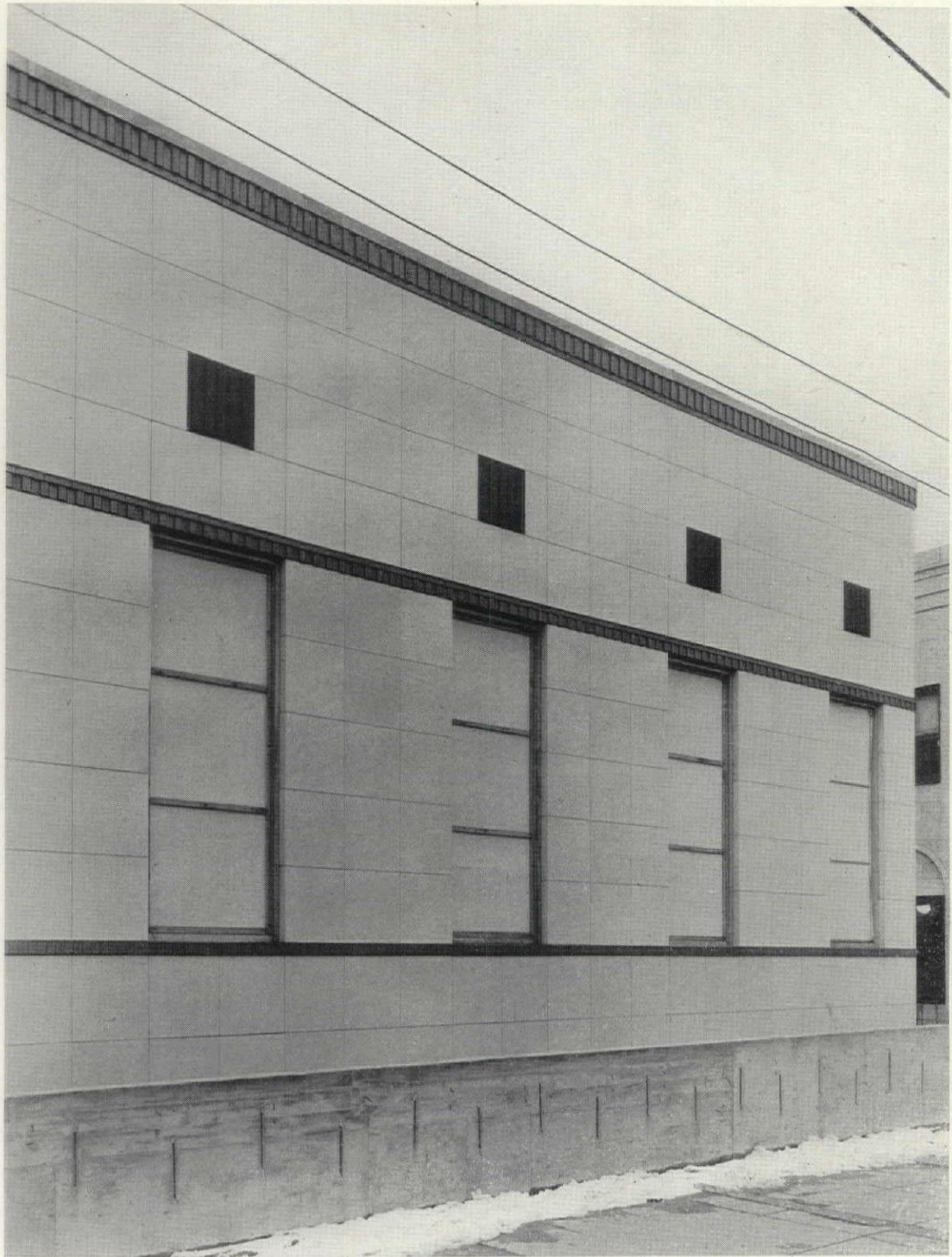
101 Park Avenue, New York City

Page 70

Southern Branch: ATLANTA TERRA COTTA CO., East Point, Ga.

The FEDERAL ARCHITECT ∴ JANUARY, 1938





Detail of portion of ashlar on North Avenue. Dark horizontal bands are face brick.  
Plaques are terra cotta same color and texture as face brick

# COTTA COMPANY

*MAKERS OF AMERICA'S BEST KNOWN TERRA COTTA*

101 Park Avenue, New York City

Southern Branch: ATLANTA TERRA COTTA CO., East Point, Ga.

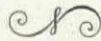
*The FEDERAL ARCHITECT* ∴ JANUARY, 1938

Page 71

Fort Snelling, Minnesota: Interceptor Sewage System (Test Holes)—W. S. Collinge, Zumbrota, Minnesota ..... 1,310.85

CONTRACTS AWARDED BY THE BUREAU OF YARDS AND DOCKS, NAVY DEPARTMENT

Track Supports, Naval Proving Ground, Dahlgren, Va.—Roberts Paving Co., Washington, D. C...\$36,308.99  
 Standby Electric Generating Plant, Aiea Naval Reservation, Oahu, T. H.—Max W. Moody, Honolulu, T. H. .... 34,750.00



EDITORIALS

(Continued from page 13)

predicted such a tangle would result and it said, "Why this outfit is the logical dark horse. Get them on the wire." And so it was.

We hope every architect reading this will remove his hat and pause five seconds in meditation. Everyone loves to preach and consider Ethics, but it is not always one has the opportunity to consider that subject with a fiscal corollary.

■ THE Board of Directors of the Association of Federal Architects have examined with a great deal of pleasure the prize winning design for the new George Washington Stamp, the competition for which was held under the direction of the Painting and Sculpture Section of the Procurement Division.

In view of the favorable impression created by the successful handling of this matter the question has arisen in the minds of the Board as to whether it would not be possible to have the above office commissioned by proper authority to take under consideration the review of the seals of the Departments, The National Seal, and the President's Emblem, with the idea of general correlation and improvement of these designs.

The feeling is that there is an opportunity to create a better balanced and more distinctive expression for each of these insignia.

The designs in use present certain difficulties for expression in plastic materials, for use in connection with building construction.

The President of the Association has brought this matter up through official channels and it will be interesting to note the results of the idea.

INDEX TO ADVERTISERS

Aluminum Company of America .....	Back Cover
American 3 Way-Luxfer Prism Co. ....	60
Atlantic Terra Cotta Company .....	70, 71
Celotex Company .....	3
Federal Seaboard Terra Cotta Corp. ....	Inside Back Cover
Fitzgibbons Boiler Co. ....	1
Formica Insulation Co. ....	Inside-Front Cover
Gleason-Tiebout Glass Co. ....	65
Kinetic Chemicals, Inc. ....	7
Koppers Products, Inc. ....	5
Libbey-Owens-Ford Glass Co. ....	9
Masonite Corporation .....	57
Minnesota Dolomite Association .....	63
National Portland Cement Co. ....	61
Pecora Paint Co. ....	59
Penn Metal Corp. of Penna. ....	63
Pittsburgh Plate Glass Co. ....	2
Pomeroy, S. H. Co., Inc. ....	65
Robertson, H. H. Co. ....	53
Sparta Ceramic Company .....	6
United States Quarry Tile Co. ....	67
United States Steel Corporation .....	55



LINCOLN TUNNEL connecting Weehawken with 38th Street, Manhattan. Engineers . . . Port of New York Authority.

# FEDERAL SEABOARD

produces Architectural Terra  
Cotta for the Lincoln Tunnel.

The recently opened Lincoln Tunnel boasts several engineering innovations, not the least important of which is the white glazed terra cotta wall rising from the pavement to the top of the safety walk on both sides of the tunnel.

Of a special, hard body produced to function under peculiar tunnel conditions, the white, dull glazed surface of the terra cotta diffuses light into the roadway and forms sharp directional lines throughout the tunnel.

Another interesting feature of the new tunnel is the double line of white ceramic lane markers in the roadway, separating east and west bound traffic. Supplanting

the usual white painted stripe which required continual and costly repainting with attendant traffic obstruction and delay, the white ceramic lane marker is permanent and self-cleaning. Wear cannot affect its color for it is white throughout its entire 4" depth and has an absorption point low enough to prevent the infiltration of oil and grease.

Consult the 1938 Sweet's Catalog Index—Section 4, Catalog 26—for a brief yet comprehensive outline of our products. Or, write our New York office for further data.

**FEDERAL SEABOARD TERRA COTTA CORPORATION**

10 East 40th Street, New York City

Perth Amboy, N. J.

Woodbridge, N. J.

South Amboy, N. J.

# in Aluminum

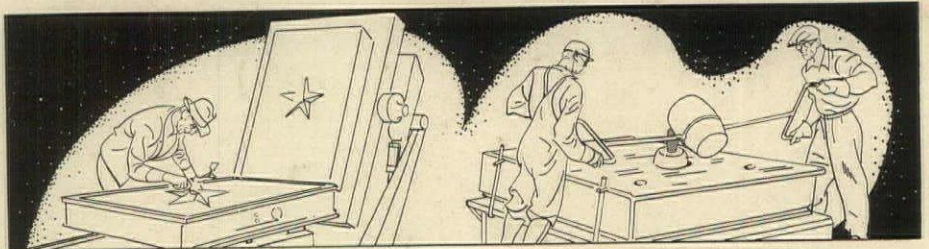
*your ideas are interpreted with the skill of a Sculptor*

Aluminum reproduces faithfully the architect's designs and, as well, gives lasting beauty, high standards of performance, economy in building and in maintenance. Available in all commercial forms; castings, extruded shapes, tubing, sheet, bar and structural shapes.

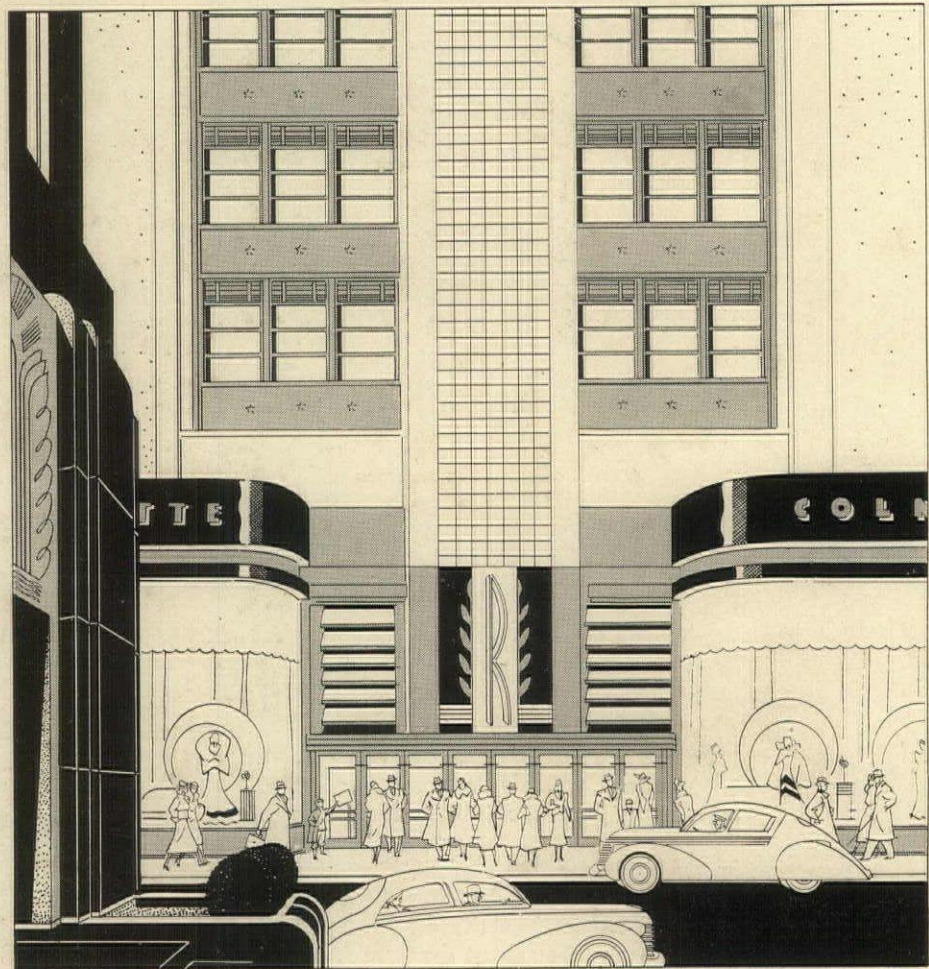
The lighter weight of Aluminum, one third that of other metals commonly used in construction, means less weight to transport and handle in building, less weight to support on structural frameworks. Erection procedures are simplified where Aluminum is used.

Because of its high resistance to weathering, Aluminum requires no painting, does not streak or stain adjoining surfaces, needs but little attention to maintain its original fine appearance. Maintenance costs are less with Aluminum.

Alcoa Aluminum assures the best in decorative architectural work. Scientific control is exercised by Alcoa research and technical men from the time the ore is mined until the finished material is delivered to the builder. We offer to the architectural profession the assistance of our engineers and manufacturing personnel for consultation on construction problems. Aluminum Company of America, 2147 Gulf Bldg., Pittsburgh, Pa.



The foundryman prepares his mold with painstaking care...metal is cast with precision typical of Alcoa foundries



ALCOA  ALUMINUM