

THE FEDERAL ARCHITECT

January - 1931



Published by
THE ASSOCIATION OF FEDERAL
ARCHITECTS

WASHINGTON, D. C.

INDIANA LIMESTONE



UNITED STATES POST OFFICE, SPRINGFIELD, ILLINOIS
Exterior of Variegated Limestone from Quarries of the Bloomington Limestone Company



INDIANA LIMESTONE, through years of usage in many of the finest buildings of America, including numerous U. S. Government

Buildings, by reason of its fine weathering qualities and consequent permanently good appearance, along with decidedly moderate cost, has very generally become recognized as the most suitable and desirable material for important buildings, whether they are of modest size or the largest of monumental structures.

Purpose—

This Association has been organized by the operators listed below as an Information and Service Bureau for the Industry here, architectural and building professions.
No Sales - Service Only

THE quarry and mill facilities of the members of this Association furnish unexcelled facilities for the execution of the finest character of work. An abundance of the choicest grades of stone is available, along with ample mill capacity for the speedy execution of any possible volume of important work.

OUR members own over 2,950 acres of proven stone land, of which only 130 acres are now under active quarry development, with a present output of over six million cubic feet per year and a maximum output with present equipment of well over ten million cubic feet.

BUILDING STONE ASSOCIATION OF INDIANA, INC.

Box 54 / / BLOOMINGTON / / Indiana

Bedford Cut Stone Co.
Bloomington Limestone Co.
Edward Edinger Co.
Empire Stone Co.
Carl Furst Co.
B. G. Hoadley Quarries, Inc.

MEMBERS

Harding & Cogswell, Inc.
Indian Hill Stone Co.
Independent Limestone Co.
Matthews Brothers Co.

Monon Stone Co.
Mutual Oolitic Cut Stone Co.
Shawnee Stone Co.
Swenson Stone Co.
Victor Oolitic Stone Co.
H. A. Woolery & Son

INDIANA LIMESTONE



UNITED STATES POST OFFICE AND COURT HOUSE, FARGO, NORTH DAKOTA
Indiana Limestone Exterior from the Quarry and Mills of H. A. Woolery & Son, Bloomington, Indiana.

THE CUT INDIANA LIMESTONE for numerous United States Post Offices and other Federal Government Buildings has been supplied by member firms of this Association. These structures stand as evidence of the merit, stability and economy of Indiana Limestone.

THROUGH the courtesy of Federal Government Architectural Departments, this Association is furnished with plans and specifications on all United States Government building projects where Indiana Limestone is specified. Plans are made available to each member firm thereby facilitating the rendering of bids on cut stone.

THE total normal annual production of member firms is approximately Two Million cubic feet of finished stone. The potential maximum yearly capacity is much larger.

CUT Stone Mills in the Indiana Limestone district are, as a whole, equipped with the latest improved stone working machinery. The efficiency of these mills cannot be surpassed, nor can any quarry district equal their cut stone production. The building Contractor is consequently assured of prompt shipments regardless of the quantities required for the largest of monumental structures.

CUT STONE ASSOCIATION OF INDIANA BLOOMINGTON / / INDIANA

MEMBERS

Bedford Cut Stone Co.
Bloomington Limestone Co.
The Carl Furst Company
The Edw. Edinger Co.

Harding & Cogswell, Inc.
Indian Hill Stone Co.
Matthews Brothers Co.
Monon Stone Company

Perry Stone Company
Reed-Powers Cut Stone Co.
Shawnee Stone Company
H. A. Woolery & Son



THE Columbus Doors of the Capitol
See article on "The Use of Copper in Federal
Architecture."

THE FEDERAL ARCHITECT

Publication of The Association of Federal Architects

EDITOR

EDWIN B. MORRIS
Treasury Department

MANAGING EDITOR

GEORGE A. DAIDY
Treasury Department

Supervising Architects Office
Washington, D. C.

Vol. I, No. 3.

JANUARY, 1931

7

ASSOCIATE EDITORS

COL. GEORGE G. WILL
War Department
COMDR. F. W. SOUTHWORTH
Navy Department
CHARLES H. STRATTON
Veterans' Bureau
WILLIAM PARTRIDGE
Nat'l. Cap. Park & Planning Com.

Published quarterly during the months of January, April, July and October. Yearly subscription rate \$2.00.
Single copies 75c. Checks payable to "The Federal Architect." All rights reserved.

THE question has been raised among private architects throughout the country as to whether it might not be advisable to give out all Government architectural projects to outside architects.

While THE FEDERAL ARCHITECT, being the representative of architects in the Government service, cannot pose as being a disinterested advisor upon this question, yet possibly its view from within may shed some light upon it which may be welcome to those outside the service who are giving it consideration.

The first point that arises naturally is that of architectural design. Into this there enters the factor of the inspired individual ability which often exists in offices headed by distinguished private architects and is not so often found in Government offices.

This inspired ability has in the past resulted in the designing by private architects of a number of Government buildings which stand as shining examples of monumental architecture. Every architect and every American citizen should be proud of such achievements as the Federal buildings (to pick them at random) at New York, Indianapolis, Cleveland, Denver, and New Orleans. They are architecture of a very high type, the result of cultured minds guided by the instinct of genius.

The architectural field is now as full of men of such inspired ability as ever, and it is these that the present building program needs. Projects of such size as to be worthy of the efforts of men of this calibre are given out. It would be absurd not to make use of their ability, so that we may have through the country

Federal buildings representative of the very highest architectural spirit of our time.

There is, however, a very definite specialized knowledge necessary in designing Government buildings—just as there is a very definite specialized knowledge necessary in designing theatres, or hotels, or railroad stations, or telephone buildings. It is a thing that cannot be acquired quickly.

One recalls that when James Gamble Rogers was working on the plans for the New Orleans Post Office he was informed that a former employe of the Supervising Architect's Office was soliciting employment in his organization. He drew a sigh of relief. "Thank goodness," he said. "Now we can get our post office screen worked out."

The matters of planning and detail to fulfill conditions set up by the Post Office, the Department of Justice, Customs, Weather Bureau, Cotton Inspection, Internal Revenue, and so on, are things requiring considerable experience and specialized knowledge.

In a resolution passed by one of the Chapters of the American Institute of Architects upon the general subject of who should design Government buildings, appears a statement that one of the members of this particular Chapter felt that "in smaller work the Government has produced far better architecture than the local architects."

This statement shows observation and the results of some travelling about. It is the conclusion also arrived at by those in the Government after some thirty years or more of experience in dividing its work between private architects and their own technical organiza-

tion. The resolution comments upon the member's statement by saying "This Chapter believes that when a failure occurs in design or in any other respect, when a local architect is commissioned, this failure is directly the failure of the Supervising Architect in his capacity as Supervising Architect."

Doubtless that is true. The Supervising Architect could supervise and revise and restudy drawings submitted by private architects and by a firm process of education and diplomacy route the design into the proper groove. The Supervising Architect does do just that in the case of large buildings which have been let out to other architects, checking over the practical requirements and when necessary the design. But in the case of the small buildings it is obviously easier to make the drawings.

—♦—

THE FEDERAL ARCHITECT wishes all its subscribers, advertisers, friends, enemies (we're big hearted) a happy and remunerative New Year. Nineteen-thirty wasn't much of a year, as years go. However, we all lived through it. And, by the law of averages, there ought to be more breaks in 1931.

Therefore let us hope since this is a government of checks and balances, that this year there will be more checks and larger balances.

Let us hope that bridge scores will be higher and golf scores lower, that loud speakers will not be so loud and red lips not quite so red.

Let us hope they will devise a way for pedestrians to cross streets, that there will be banquets without get-together songs, and parties without paper hats.

Let us hope the younger female generation will decide whether it is going to wear its hair long or short and abolish this waterfall stuff abaft the neck that is marring our landscape.

—♦—

We are publishing an article on Copper and Bronze in this issue. It is our

present purpose to print, whenever possible, articles on materials, as architects are becoming more and more material-conscious (to use a commercial term). In addition the present paper gives us a chance to publish under a convenient bracket, several photographs which we consider valuable: the Mount Vernon one, which is one of the best of the mansion; the unusual garden view of the White House and the fine photograph of the Lafayette statue.

In connection with the latter may we digress to remind you of the story in regard to this monument. It is said Theodore Roosevelt suggested that the imploring lady at the foot of the pedestal was saying, "Here, take your sword and give me back my clothes."

—♦—

We sometimes think it would be better if private architects would be very loath to criticize for public consumption designs prepared in Government Offices. Often private, not altogether unselfish, interests are served by casting aside completed drawings and beginning again. To make this process easier, architects may be called in under the plausible cloak of public interest, asked if there is any way the Government design can be improved. Any well-trained architect can always see some way of at least changing the design. That is at once seized upon, and pressure brought to bear to have the work done over again. This delays the Government's program, which in this crisis is very unfortunate.

In criticizing any design for a building, the criticism should be not whether it can be changed with a possibility of improvement but whether as it stands it is or is not a creditable piece of architecture.

If every set of drawings put out by architects in the United States were subject to cancellation on the statement of some other architect that the design could be changed for the better, there never would be another building built by an architect.

New Office Building, House of Representatives, Washington, D. C.

By DAVID LYNN, *Architect of the Capitol*

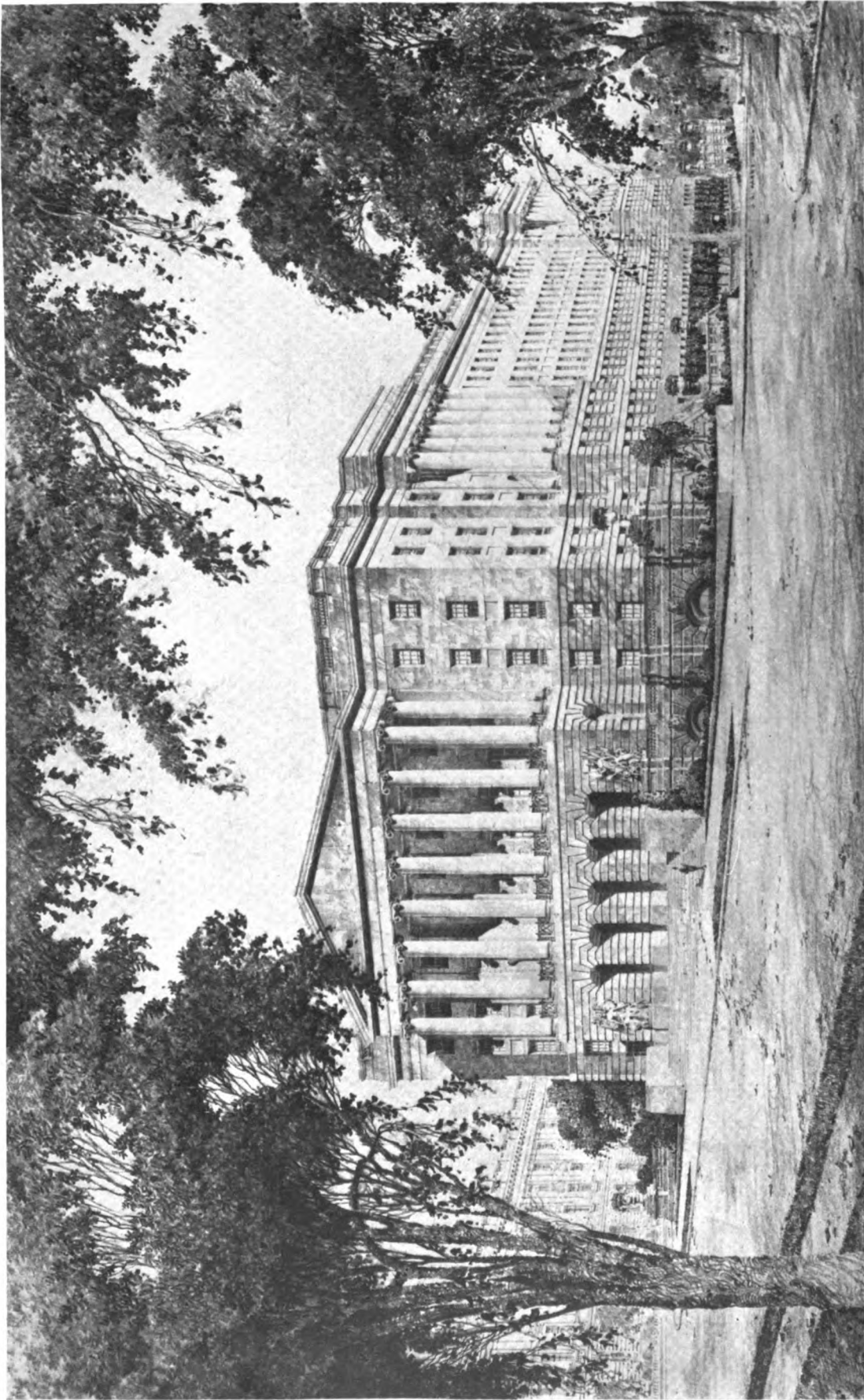
ON December 8, 1930, Mr. David Lynn, Architect of the Capitol, acting for the House Office Building Commission, consisting of Hon. Nicholas Longworth, the Speaker of the House of Representatives, Hon. Isaac Bacharach and Hon. John N. Garner, entered into a contract with The Consolidated Engineering Company, of Baltimore, Maryland, for the construction of the new office building for the House of Representatives, to be constructed on the square bounded by South Capitol Street, New Jersey Avenue, B and C Streets, S. E. The contract is for the superstructure only, the foundations having recently been completed by the Chas. H. Tompkins Company, of Washington, D. C.

Thus enters into the final stage a project which has engaged the attention of the House Office Building Commission, the Architect of the Capitol, and the Allied Architects of Washington for a period of several years, and the enframing of the Capitol Grounds comes one step nearer to completion. The problem of a proper and suitable border for the Capitol Grounds goes back many years, farther, indeed, than 1901, when the McMillan Commission urged the necessity for the acquisition of all of the property facing upon the Capitol Grounds, and since that time the American Institute of Architects, the Fine Arts Commission, the Architect of the Capitol, and the National Capital Park and Planning Commission have consistently and successfully worked in the interest of the ultimate accomplishment of the plan. Working under the handicap of the poorly placed Library of Congress Building, the project has steadily moved nearer to completion; first the two imposing buildings for the House and Senate, designed by Carrere and Hastings and executed

in detail by Elliot Woods, then Architect of the Capitol; the start on the Union Station Plaza treatment, now in process of development by Bennett, Parsons and Frost; the scheme for the U. S. Supreme Court, designed by Cass Gilbert; and the new building for the House of Representatives. The latter projects and the problems of the new Botanical Gardens, the annex to the Library of Congress and the development of the Senate Office Building terraces are all under the immediate direction of David Lynn, Architect of the Capitol.

The present House Office Building has long been overcrowded. Not many years after its erection, it became necessary to construct an additional story in the form of a "set-back," but even with this added space each member has only one relatively small room and many of the committees are working in cramped quarters. With a view to studying the whole situation, Congress, in 1925, made a nominal appropriation to cover the cost of preliminary studies for a new building, and the Architect of the Capitol, by authority of the House Office Building Commission, entered into contract with the Allied Architects of Washington, D. C., for the preparation of preliminary sketches, estimates, etc. The Allied Architects is an incorporated group of Washington Architects, all members of the American Institute of Architects and registered under the laws of the District of Columbia.

The form of procedure under which the organization develops a project is unique, and has, to date, proven most successful. The sketches for the proposed building, together with a detailed survey of the requirements, estimates, etc., were completed and submitted to the Commission early in 1926 after a series



NEW OFFICE BUILDING, HOUSE OF REPRESENTATIVES
Washington, D. C.

THE ALLIED ARCHITECTS OF WASHINGTON, D. C., INC.
Consulting Architects

DAVID LYNN
Architect of the Capitol

CONSOLIDATED ENGINEERING COMPANY
Contractor

of competitions between the members of the Allied. In the early part of 1929, The Allied Architects were retained as consultants to the Architect of the Capitol and they were directed to proceed with the preparation of the plans and specifications. By the early fall of 1929 the general plan had been approved by the Building Commission and the exterior design by the Fine Arts Commission, thereby permitting the development of the final plans.

The design for the foundations was determined upon early in 1930 and this part of the work was started in June. The site is on a steep hillside, there being a difference in present grade of 32 feet between the high and low parts of the square. Originally, however, there was a much greater difference, with an average fill over the lot of over 20 feet. As a result of data obtained from test pits and borings it was decided to use spread footings, and because of the spacing of the columns, caissons were not deemed practicable; therefore, the entire site was excavated down to natural grade and the footings placed just below that point. No water was encountered. After the pedestals supporting the columns had been poured, the whole site was back-filled to within 3 feet of the lowest floor levels. The foundations were completed early in December, 1930, at a cost of approximately \$162,000.00.

The plans and specifications for the superstructure were completed early in September and bids were received on October 28th. Over 50 general contractors received plans and of these 29 submitted bids. There was a range in price of 18% between high and low bidders, but only 4% between the 10 lowest bids.

The Consolidated Engineering Company was low, their bid being \$5,270,000.00. This proposal was accepted without any of the alternates, and the fabrication of the steel by the American Bridge Company is now in process. The general contract calls for completion on May 30, 1933.

The building will contain 250 suites, each consisting of a large general office, private office, storeroom and toilet. Equipment such as file cases, bookcases, wardrobes, storage cabinets, and safes are built-in, and are included in the contract. The finish in these suites is to be of American walnut. There will be five large committee rooms, each approximately 30 ft. by 50 ft., and 12 smaller committee rooms. An assembly room to seat 450 is provided. The remainder of the building is given over to such uses as a post office, document storage rooms, telephone exchange, fireproof storage rooms for members, etc.

The exterior of the building will be of Georgia marble with a base and terraces of pink granite. The court is to be faced with Indiana Limestone. The general design, both as to the exterior and the interior is restrained and simple, the early Federal work of Thornton, Hadfield, Hoban, Mills, Bulfinch and Walters being used as the sources of inspiration for the work. The difficulty of an irregular site combined with very unfavorable grade conditions, have been successfully overcome by the use of a system of terraces which contribute very greatly to the attractiveness and dignity of the building, while at the same time providing much needed additional space to meet practical requirements.

Elizabeth, Alice, Jane and Rose
Went to the game and damn
near froze,

"Pumps and silk stockings are
not enough clothes,"

Said Betty to Alice and Jane and Rose,
—*Dartmouth "Review."*

"Found one Vest (or waistcoat) in
Blue Print Room, Arlington Building.
Owner kindly call to see J. E. Miller,
Room 790. Due to stress of work vests
are no more needed or worn in Construc-
tion Division of the Veterans' Bureau."



The Use of Copper in Federal Architecture

By WILLIAM A. WILLIS, *Manager*
COPPER & BRASS RESEARCH ASSOCIATION

THE weathervane atop the cupola at Mount Vernon, Va., a dove of peace on a rod above a ball, is made of sheet copper. Just who put it there and when is a question. Some think it was erected at the time the mansion was rebuilt in 1743 after the fire of 1730; others that it originated with General Washington who enlarged the house in 1775. At any rate this useful ornament of pre-revolutionary days, now beautifully green with age, is an object to which the copper industry points proudly as a symbol of the enduring qualities of the metal.

George Washington's faith in copper, brass and bronze, so strikingly evidenced by their extensive use in his home on the Potomac, was shared by his associate patriots who helped found the republic.

They had inherited knowledge of copper's rust-resisting qualities through its sturdy service in the Old World and had applied it to their houses, churches and other important buildings in America. Copper mining had become an American industry in 1632, in Massachusetts, only twelve years after the landing of the Pilgrims. The tidings of America's Declaration of Independence, a document which reposes in a bronze cabinet in the Library of Congress, had been rung to the world in 1776 on a bell made of copper.

So it was only natural that the first architects to whom was entrusted the design of Federal buildings from which would be carried on the business of the new nation did not have to look far for



THE Lafayette Statue in Lafayette Square, Washington, D. C.
A fine example of the use of bronze.

materials that symbolized the strength and hoped-for endurance of the republic. Too, the Government was to be its own landlord, paying not only the original cost but also the cost of upkeep. So it was that copper entered into almost all the early Federal construction, as, for example, the roof of the Capitol.

Part of the Capitol roof dates back to 1827, more than a hundred years. It was put in place when the building was reconstructed after the fire set by the British during the War of 1812. Those sections covering the graceful wings of the Senate and House were laid during the Civil War, when, with Washington menaced by Confederate Armies, Abraham Lincoln sought to stimulate Northern confidence by a spectacular Government building program. To the recognized sturdiness of the Capitol roof the copper industry also likes to point.

The problems of the Federal architect today virtually being the same as in the early years of the republic, it is natural that so much copper, brass and bronze go into this important construction. Hardly a Government building worthy of the name is erected without a surprising quantity of these metals in one form or another—roofs; flashings, gutters and downspouts; skylights; pipe; telephone and electric wiring; hardware, window stripping, grilles, radiators, ornamental doors and windows, balustrades, light fixtures. They have added beauty to these buildings as well as stability.

To the credit of its corps of architects, the Federal Government has taken a leading part in the fight against what I like to call "rust insurance." And rust insurance is as important as fire insurance. You see no engines and ladder apparatus dash down the street, you hear no screeching sirens; yet, silently, steadily and without warning rust in American buildings takes a toll of a billion dollars a year.

The loss through rust might be

greater still were it not for the insistence of the architects of good buildings for the installation of piping of copper and brass, a distinct movement which has sent the consumption from 16,000,000 pounds in 1922 to 78,000,000 pounds in 1929, an increase of 387 per cent.

"After all," the architects say, "the price of the labor is the same. The difference in the cost of the materials is made up after a short period of years when it would be necessary to replace pipe that corrodes."

In the matter of roofing those charged with the design and erection of Federal buildings intended to last through the centuries often are tempted to try something new. Often the experiments fail. Flashing into my mind is the Navy's experience with the dome of the Annapolis Chapel. A roofing material other than copper crowned the chapel for a while, but the leaks could not be stopped. Disgusted, the Navy tore off the roof and now copper has taken its place.

As a roofing material copper has kept apace with modern architectural ideas and construction. Sometimes the call is for plain copper which will develop a rich verdigris, as with the main building of the Library of Congress and its recent additions; sometimes it is for lead-coated copper, which, to attain an effect, will constitute the roof of the new House Office Building. But, whatever the call, the basic, red, rust-resisting metal is the same, so that those responsible may rest assured that their drawing-board children are well-capped, not for ten years, nor twenty, but hundreds.

Government experience with roofing applies equally to gutters and downspouts, to flashings and skylights. Even in its cheap construction, the dwellings for noncommissioned officers at permanent posts, the Army finds long-run economy in the use of sheet copper. Copper screens, too, have demonstrated

their worth throughout every branch of the service.

To comment on the use of copper in Federal architecture without saying something about its ornamental service would be like a visit to California without a word on the weather. On every side are brass grilles, railings, counters, bronze doors, tablets, statues. Brass and bronze vie for first place for light fixtures and hardware.

The most magnificent doors on the American Continent are the Columbus doors at the rotunda entrance of the Capitol. In height they measure seventeen feet, in width they measure nine. They are bronze and so is the casing.

Randolph Rogers designed the doors in 1858. They tell, in nine scenes, the story of Columbus' discovery of America. Rogers intended to have them cast in Europe, but it was at the time of the Civil War and the cautious moulder wanted cash in advance.

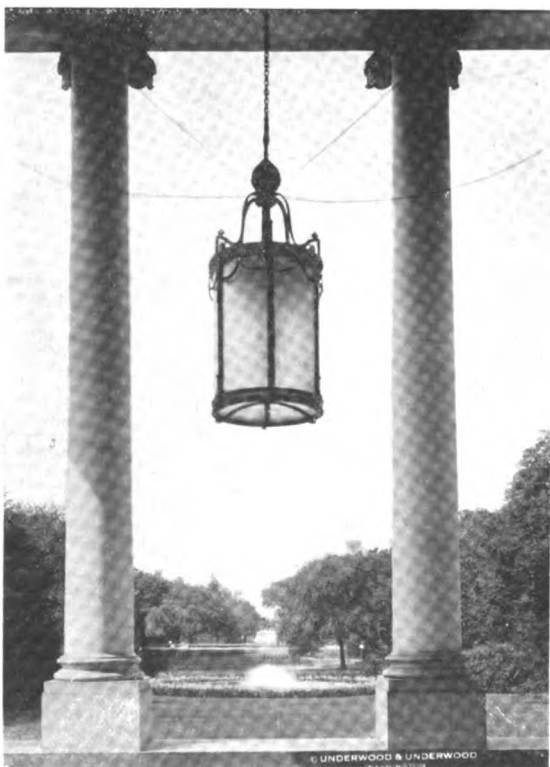


"In that case," said Rogers, "we'll take the models back to America."

To the world of art this seemed ridiculous but the superb work of the Americans dispelled all doubt of their ability in this direction.

The bronze figure on top of the Capitol dome is of a woman grasping a sheathed sword with one hand while the other rests on an American shield. She is the Statue of Freedom. Nineteen feet, six inches high and weighing 14,985 pounds, the casting was made near Washington, the necessary copper and tin purchased from two companies still in existence. But that is only one of hundreds of masterpieces in bronze in Federal architecture, a long list which runs from strict ornamentation to ornamentation combined with a more practical purpose, as, for example, lighting fixtures.

Federal architects have been keen in perceiving the beauty and dignity of lighting fixtures of brass and bronze. They have realized that a well-planned,



well-built structure is better set off when this essential appurtenance bespeaks solidity and cannot become discolored or easily broken. The wide price range, too, permits the use of such fixtures even when appropriations are limited and when rigid economy is essential. Naturally it is not possible to erect in the ordinary Government buildings the exclusive specimens of craftsmanship that are to be found at the Capitol and in the White House.

At the White House the front portico holds a magnificent hanging lantern of bronze under which always passes the President of the United States. It is

twenty inches in diameter and bronze brackets hold the glass cylinder through which comes the light of fifteen bulbs. Just inside, in the foyer, is another similar lamp, also of bronze. Bronze pedestal lamps, each with a cluster of twelve electric bulbs grace the corridors that lead to the entrances of the famous East, Blue, Red and Green rooms and the State dining room.

The three great chandeliers of the East room are considered by artists to be among the finest in America. The crystals which give them such great magnificence have a foundation of bronze.



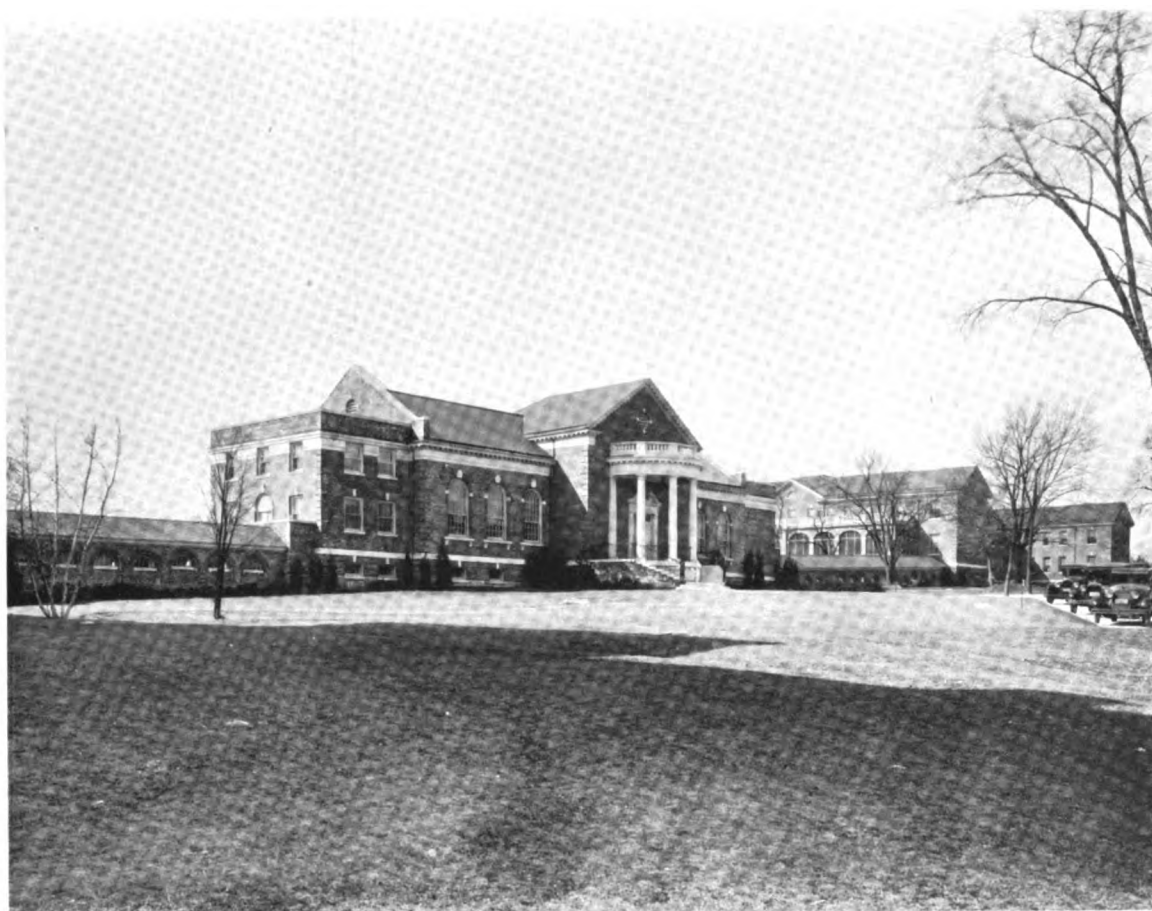
UNITED STATES VETERANS' BUREAU HOSPITAL

Bedford, Massachusetts

Administration and Main Buildings

Architects, Construction Div. of Veterans' Bureau

Murch Bros., Contractors



UNITED STATES VETERANS' BUREAU HOSPITAL

Bedford, Massachusetts

Recreation and Continued Treatment Buildings

Architects, Construction Div. of Veterans' Bureau

Murch Bros., Contractors

•••

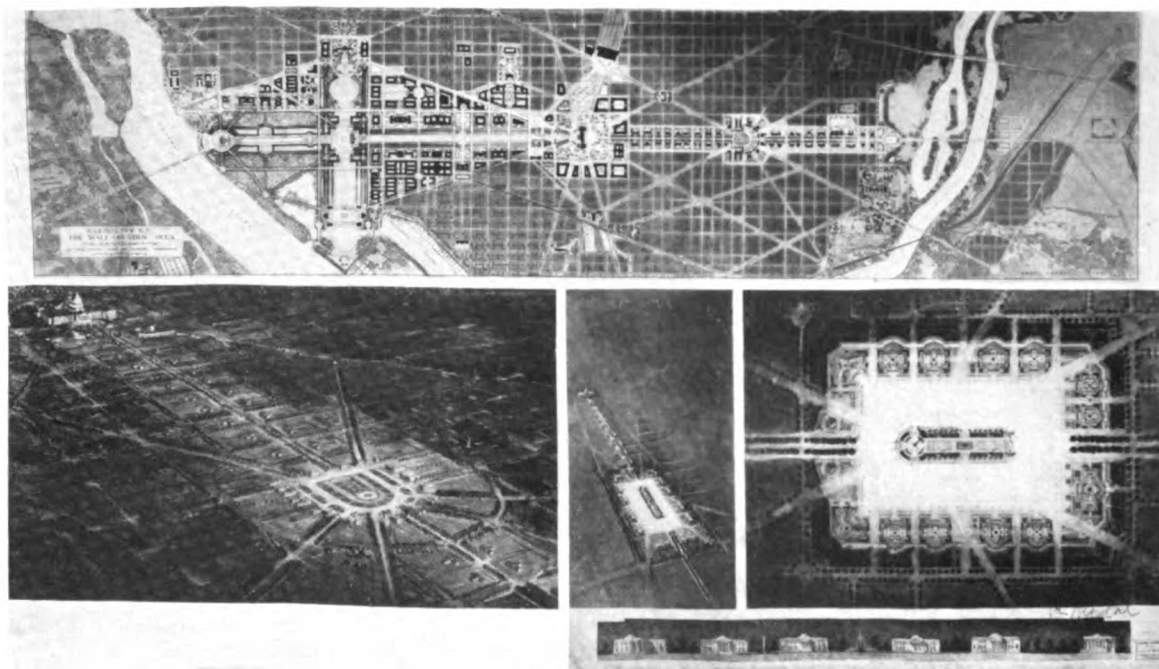
We become greatly interested in the modern trend. We find there is a tendency to drag out all the things which a former generation carefully concealed. We find the younger generation gleefully disporting itself with language that would have knocked the old-time hostess for a row of wheel-barrows. The up-and-alive debutante kneads into her vocabulary stuff of the time-honored bar-room adjectives. "Believe me," she says, "the food at the Ritz is simply lousy," and scores herself a hundred.

Anything that the bussled, pompadoured, corseted patrician of the nineties viewed with horror and dismay, this generation uses as decoration.

The thing that filled the august and precise matron of the nineties with greatest pain and disgust was the faintest suggestion of a dirty dish. After each course every flecked plate was removed. The hostess could scarcely wait

until her guests had decently and honestly eaten food from her dainty china, so great was the haste to have it taken from view. Insultingly she had the crumbs of the diners removed. And scarcely had the diners left the room than napery was snatched guiltily away and flowers and other concealing objects placed on the festive board.

And now what? We go to the Biennial Exhibit at the Corcoran and find a picture given first prize ostensibly for its composition and color. But actually why? There are lots of pictures with good composition and color. Actually and doubtless subconsciously the judges awarded the prize because of the subject. It gloried, by placing on a canvas excellent in composition and color, the thing that was most repugnant to the older generation—a table full of dirty dishes.



*Above: Tentative layout for Avenue of the States
Below: Two of the competitive designs*

Independence Square

Washington, D. C.

AT the rate at which the present intensive building project of the Government is going forward, the younger of us will see the consummation of the major part of the program of the McMillan Commission. It behooves us now to rescue while possible those additional features of L'Enfant's plan of which this Commission was cognizant but lacked the time to study.

L'Enfant's plan of 1791 was soon forgotten and the city of Washington, like Topsy, just grew. The McMillan Commission, one hundred years afterwards, endeavored to return at least to L'Enfant's principles and to restore, as far as modern conditions then permitted, the essential features of his scheme.

There were two important points emphasized in the design of the inspired first city planner which have hitherto escaped notice, namely, the city entrance

at the extremity of East Capitol Street, and an intersection or focus of a number of radial avenues, midway between this entrance and the Capitol. At the intersection of the avenues an itinerary column was to be erected, "from whose station (a mile from the Federal house) all distances to place through the Continent, are to be calculated." This feature was lost and a commonplace rectangle now known as Lincoln Square was laid out, the avenues radiating from it in a most awkward manner.

L'Enfant's intention was to first develop Capitol Hill (Jenkins Heights). He states in his plan that he designed an arcaded street from the present Lincoln Square to the Capitol, "under whose cover shops will be most conveniently and agreeably situated." The Capitol building faces this proposed district, but early real estate speculations and the

subsequent disastrous failures of the large holders so clouded the titles of this vicinity that a northwest impetus set in, leaving this most desirable and healthy section in a state of suspension. It is the ambition of those city planners now working upon the development of Washington to restore to its deserved importance this part of the city.

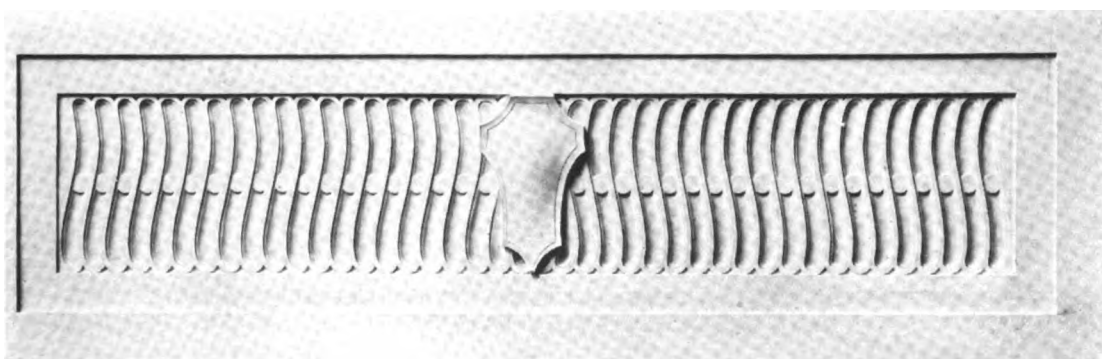
A plan to rehabilitate East Capitol Street, the avenue leading to the front of the Capitol, has been prepared. The most interesting suggestion presented by Mr. C. W. Eliot of the National Capital Park and Planning Commission proposes the conversion of this thoroughfare into an "Avenue of the States," each block to contain a building erected by a State, with facilities for a museum of State resources, offices and a gathering place for the native sons.

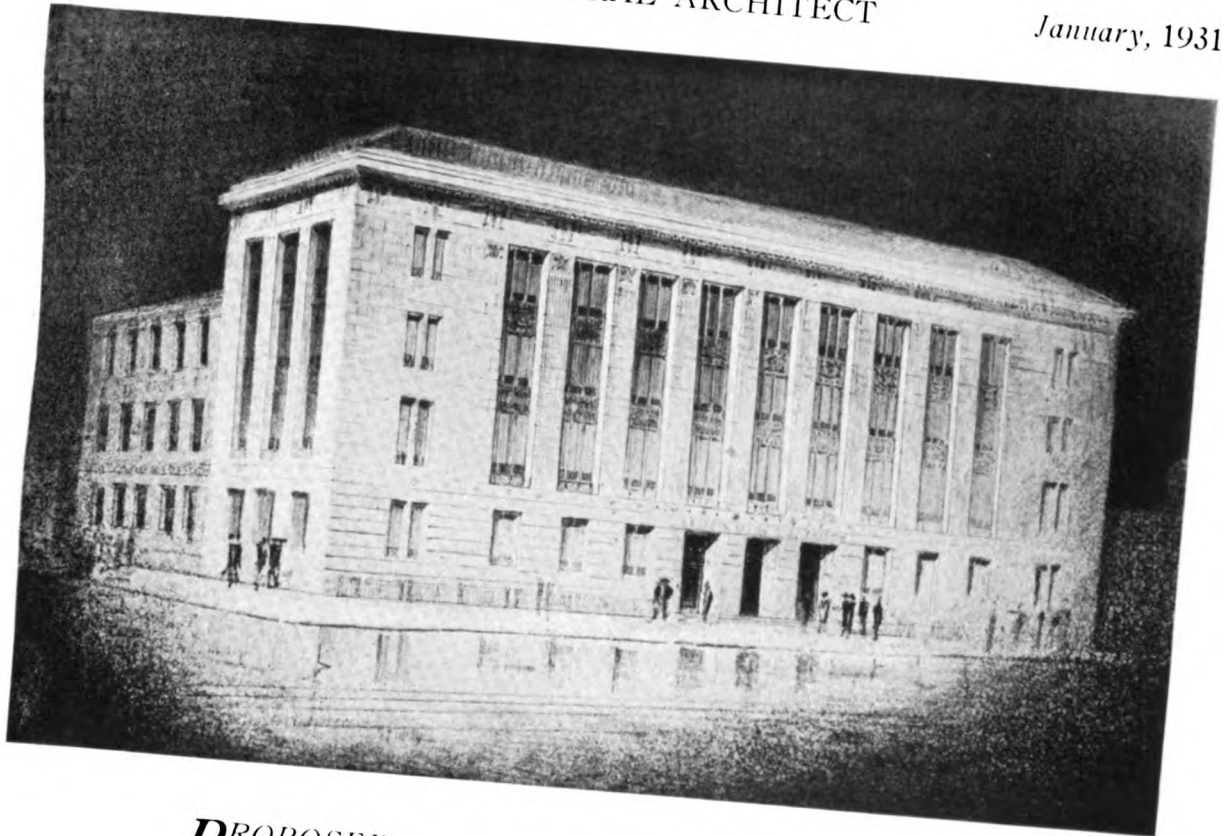
Lincoln Square in this scheme would have a monument recalling the L'Enfant itinerary column, and would form the nucleus of this broad Avenue of the States. Around this monumental plaza, to be known as Independence Square, would be grouped the buildings of the thirteen original States. Beyond Independence Square the Avenue would continue to the Anacostia River, where an esplanade similar to the plaza and bridgehead of L'Enfant would be developed. The new park bordering the Anacostia or Eastern Branch widens at this point and would form a suitable site for a large stadium and drill field.

Interest in the development of the National City is widespread, and certain problems have been attacked by various bodies of architects throughout the country. The plaza marked by the itinerary column of L'Enfant (Lincoln Square) has been made the subject of a "class A" Beaux Arts problem, whose results as shown in a recent exhibition were examined with interest by many of the Federal Architects.

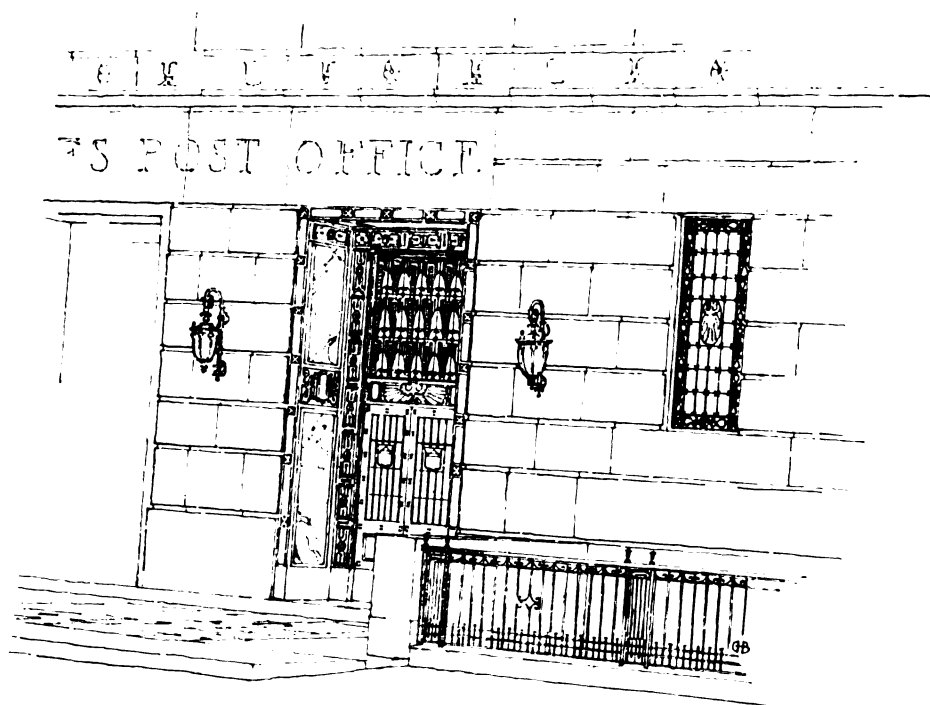
A tentative layout for the proposed Avenue of the States, showing its relation to the Capitol and the development of the central area of Washington, is here illustrated. Below is a design by James Hankin of New York University, receiving the only First Medal awarded. The author of this sketch has preserved, perhaps unfortunately, the shape of the present Lincoln Square with its awkward radiating avenues. From the point of view of plan the sketch of Edward Noback of Yale follows the semi-circular form shown in Ellicott's design, though the architectural arrangement of the buildings is far inferior to that of Mr. Hankin. The projects submitted show a great variety of type and much ingenuity in grouping the surrounding State buildings in a dignified manner, without interference from the many streets and avenues.

This nation-wide interest in the planning of the Federal city is most encouraging to those now working for the development of Washington and the execution of L'Enfant's dream.





PROPOSED new Federal building at Springfield, Massachusetts. Below is a detail of one of the entrances.



RECENT CONTRACTS AWARDED IN OFFICE OF SUPERVISING ARCHITECT

Pittsfield, Mass., Post Office; extension and remodeling of building and removal of frame building; contractor, Chas. Weitz Sons, 713 Mulberry St., Des Moines, Iowa	\$ 136,193.00	Iowa City, Iowa, Post Office; extension and remodeling; contractor, Henry B. Ryan Co., 500 N. Dearborn Street, Chicago, Ill.	\$ 123,000.00
Louisville, Ky., Post Office; foundations; contractor, Henry Bickel Co., Inc., 435 Garden Street, Louisville, Ky.	68,305.00	Spartanburg, S. C., Post Office & Court House; construction; contractor, Algernon Blair, 1209 First National Bank Bldg., Montgomery, Ala.	227,497.00
Toledo, Ohio, Court House & Custom House; construction; contractor, N. P. Severin Co., 222 West Adams Street, Chicago, Ill.	713,550.00	Crete, Nebr., Post Office; construction; contractor, Ernest Rokahr & Sons, 856 Stuart Bldg., Lincoln, Nebr.	47,500.00
Albuquerque, N. Mex., Post Office & Court House; construction annex building and extension and remodeling of Post Office; contractor N. P. Severin Co., 222 W. Adams Street, Chicago, Ill.	503,000.00	Clarksburg, W. Va., Post Office & Court House; construction; contractor, John Largura & Co., 3672 Adams St., Gary, Ind.	278,500.00
Albuquerque, N. Mex., Post Office & Court House; complete elevator plant; contractor, Otis Elevator Company, 810 18th St., N. W., Washington, D. C.	37,774.00	Casper, Wyo., Post Office, Court House, etc.; construction; contractor, Murch Bros. Const. Co., 611 Olive Street, St. Louis, Mo.	265,000.00
Pawtucket, R. I., Post Office, etc.; construction; contractor, Brooklyn & Queens Screen Mfg. Co., Inc., 17 Williams Ave., Brooklyn, N. Y.	153,000.00	Bloomington, Ill., Post Office; construction; contractor, James I. Barnes, Barnes Building, Logansport, Ind.	158,300.00
Ogden, Utah, Post Office & Court House; Remodeling & Extension; contractor, James J. Burke & Co., Salt Lake City, Utah	267,355.00	Fall River, Mass., Custom House & Post Office; construction; contractor, Edmund J. Rappoli, 515 Massachusetts Avenue, Cambridge, Mass.	407,000.00
Harrodsburg, Ky., Post Office; contractor for construction, Fanning and Sweeney, Inc., Greensboro, N. C.	62,200.00	Lewistown, Mont., Post Office; construction; contractor, McGough Bros., 1945 Jefferson Ave., St. Paul, Minn.	133,000.00
Mexia, Tex., Post Office; construction; contractor, Samford Bros., Inc., 301 Washington Ave., Montgomery, Ala.	71,045.00	Morgantown, W. Va., Post Office; extension and remodeling; contractor, Samuel Plato, 614 Walnut St., Louisville, Ky.	71,950.00
Kansas City, Mo., Post Office, etc.; preliminary excavating, etc.; contractor, G. H. Shartzer, North Irwin St., Dayton, Ohio	36,941.00	Portsmouth, Va., Post Office; extension; contractor, Jones Bros. & Co., Wilson, N. C.	80,940.00
Marshfield, Wis., Post Office; construction; contractor, McGough Bros., 1945 Jefferson Ave., St. Paul, Minn.	74,450.00	New London, Conn., Coast Guard Academy; construction; contractor, Murch Bros. Const. Co., 611 Olive St., St. Louis, Mo.	1,818,000.00
Framingham, Mass., Post Office; construction; contractor, W. H. Hodsdon Company, 325 Union Trust Building, Little Rock, Ark.	134,343.00	Corvallis, Oregon., Post Office; construction; contractor, Hallbauer-LaBahn, Inc., 844 Rush St., Chicago, Ill.	104,000.00
		Oklahoma City, Oklahoma, Post Office & Court House; construction; contractor, Devault & Dietrick, Inc., Canton, Ohio	951,532.00
		Kosciusko, Miss., Post Office; construction; contractor, Algernon Blair, 1209 First National Bank Bldg., Montgomery, Ala.	43,436.00

RECENT CONTRACTS AWARDED QUARTERMASTER GENERAL'S OFFICE

Carlisle Brx., Pa., Mess Hall; N. C. Nelson, Inc., N. Y. City.	\$ 99,186.00	Fort Riley, Kan., Nurses' Quar- ters; Bushoom Bros., Fair- bury, Neb.	\$ 44,250.00
Ft. Monroe, Va., 3-4-family Apt.; Johnson Constr. Co., Norfolk, Va.	92,427.00	Ft. Geo. G. Meade, Md., Nurses' Quarters; Minter Homes Corp., Huntington, W. Va. ...	38,510.00
Picatinny Arsenal, N. J., Can- non Powder Blender; Rust Eng. Co., Pittsburgh.	58,027.00	Ft. Monmouth, N. J., 6 N. C. O. Qtrs.; J. A. Moraw & Owens Co., Chicago, Ill.	78,519.00
Randolph Fd., Texas, Constr. Bachelor Ofc. Qtrs. and 1 Bach. Ofc. Mess; Murch Bros. Constr. Co., Mo.	351,950.00	Ft. Bragg, N. C., Nurses' Quar- ters; York Constr. Co., Raleigh, N. C.	42,844.00
Post Exchange; Robt. E. Mc- Kee, El Paso, Tex.	41,160.00	Wheeler Fd., H. T., 46 N. CO. & Bach, N. C. Qtrs.; Henry Freitas, Honolulu.	409,000.00
Erie Ordnance, Ohio, Post Hos- pital; Burton Pelton, San- dusky, Ohio.	61,950.00	Fort Slocum, N. Y., 1-2Co. Bar- racks; Castor & Castor Constr. Co., Brooklyn, N. Y.	186,200.00
Selfridge Fd., Mich., Seawall Culbertson & Kelly Co., De- troit, Mich.	202,296.00	Maxwell Field, Ala., Det. Bar- racks; Ogletree Constr. Co., Anniston, Ala.	83,900.00
Ft. Lewis, Wash., Fd. & Co. Quarters; William T. Post, Tacoma, Washington.	41,200.00	Maxwell Field, Ala., Hdgr. & Opr. Bldg.; Hodgson-Jones Constr. Co., Montgomery, Ala.	58,881.00
Randolph Fd., Texas, 6 Sets N. C. O. Qtrs.; Robt. E. McKee, El Paso, Texas.	41,370.00	Ft. Sam Houston, Tex., 16 N. C. O. Qtrs.; Banspach Bros., San Antonio, Texas.	119,984.00
Walter Reed Hospital, Ad'n to Boiler Plant; Mechanical En- gineering & Constr. Corp., Washington, D. C.	44,349.00	Maxwell Field, Ala., 4 Hangars; Ogletree Constr. Co., Augusta, Ga.	107,624.00
Ft. Riley, Kansas, 9 Sets N. C. O. Qtrs.; Bushoom Bros., Fairbury, Nebraska.	125,670.00	Maxwell Field, Ala., 18 NCO Qtrs.; Batson-Cook, West Point, Ga.	121,738.52
Mitchel Fd., N. Y., Post Hos- pital; Neinken-Mertz Constr. Co., Brooklyn, N. Y.	126,322.00	Scott Field, Ill., Det. Barracks; Chas. W. Noble, La. Crosse, Wis.	98,888.00
Raritan Arsenal, N. J., 5 Houses for N. C. O. Qtrs.; Alliance Constr. Co., Inc., New York City, N. Y.	39,486.00	Kitty Hawk, N. C., Wright Memorial; Wills & Mafera Corp., New York City.	213,000.00
Randolph Fd., Texas, Sewage Plant; Rob't. E. McKee, El Paso, Texas.	56,939.00	Randolph Field, Enlisted Men's Club; Robt. E. McKee, El Paso, Texas.	44,262.00
Benj. Harrison, Ind., 3 Doub. N. C. O. Qtrs.; J. A. Moraw & Owens Co., Chicago.	43,448.00	San Juan, P. R., Co. Officers' Qtrs.; W. D. Noble, San Juan, P. R.	73,800.00
Randolph Fd., Texas, Garage; Robt. E. McKee, El Paso, Texas.	56,715.00		
Albrook Field, C. Z., 4 Fd. Ofc. Qtrs., 32 Co. Ofc. Qtrs. 27 Duplex N. C. O. Qtrs., 1 Bachelor Ofc. for 16 men, 2 -110 men AC Brx., 2-200 men AC Brx.; J. A. Jones Con- struction Company, Charlotte, N. C.	1,652,850.00		
Fort Lewis, Wash., Nurses' Quarters; Wm. T. Post, Ta- coma, Washington.	30,210.00		

"New stenographer?" asked the visi-
tor to the office.

"No. Just the old one painted up."

RECENT CONTRACT AWARDED BY
NATIONAL CAPITAL PARK AND
PLANNING COMMISSION

Washington, D. C., Arlington Memorial
Bridge; pedestals; contractor; No. Carolina
Granite Corp.; Mt. Airy, N. C. \$61,000.

RECENT CONTRACTS AWARDED IN THE CONSTRUCTION DIVISION, U. S.
VETERANS BUREAU

Camp Custer, Michigan: Acute Building, U. S. Veterans Hospital; construction; Henry B. Ryan Co., 500 N. Dearborn St., Chicago, Ill.	\$239,950.00	Augusta, Georgia: Acute Building, U. S. Veterans Hospital; construction; W. P. Rose Co., Goldsboro, N. C.	\$213,000.00
Excelsior Springs, Missouri: Officers' Duplex Quarters, U. S. Veterans Hospital; construction; Morley Construction Co., 1643 Bellevue Ave., Kansas City, Mo.	58,005.00	Gulfport, Mississippi: Additional Buildings and Utilities, U. S. Veterans Hospital; construction; Henry B. Ryan Co., 500 North Dearborn Street, Chicago, Illinois	405,800.00
Lincoln, Nebraska: Storehouse, U. S. Veterans Hospital; Construction; Olson Construction Co., 704 Stuart Bldg., Lincoln, Neb.	27,716.00	Knoxville, Iowa: One N. P. Building and Certain Alterations; construction; Bracker Construction Co., 750 Builders' Exchange, Minneapolis, Minn.	188,492.00
Washington, D. C.: Administration Building U. S. Veterans Hospital; construction; Murch Bros. Construction Co., 611 Olive St., St. Louis, Mo.	185,750.00	Memphis, Tennessee: Additional Buildings & Utilities; construction; Algernon Blair, 1209 First National Bank Bldg., Montgomery, Alabama	291,124.00

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

<i>Project and Location</i>	<i>Contractor</i>	<i>Price</i>
Improvement of Brass Foundry, at Navy Yard, Washington, D. C.	Mechanical Engineering & Construction Corporation, Washington, D. C.	\$34,975.00
Reconstruction of Pier No. 2, at Navy Yard, Philadelphia, Pa.	Triest & Earle, Inc., Philadelphia, Pa.	194,876.00
Relocating Hangars, Dismantling & Storing Hangar and Towers, and Extending Hangar, at Marine Barracks (Flying Field), Quantico, Va.	American Sheet Metal Corp., Norfolk, Va.	31,197.00
Rebuilding Piers, at Naval Submarine Base, New London, Conn.	Newport Contracting and Engineering Co., Inc., Lee Hall, Va.	114,496.00
Barracks, Distributing Systems & Road, at Marine Barracks, Quantico, Va.	Ralph Sollitt & Sons Construction Co., Chicago, Ill.	1,243,074.00
Dredging, at Navy Yard, New York, N. Y.	Morris and Cumings Dredging Co., Inc., New York, N. Y.	100,000.00
Paint & Oil Storehouse, at Navy Yard, Puget Sound, Wash.	Newport Contracting and Engineering Co., Inc., Lee Hall, Va.	72,800.00
Relocation & Remodeling of Bldg. 96, at Naval Aircraft Factory, Navy Yard, Philadelphia, Pa.	F. L. Gernet, Philadelphia, Pa.	39,231.00
Filling, Grading & Bridge, at Marine Flying Field, Quantico, Va.	Trimount Dredging Co., Boston, Mass.	473,380.00
Filling and Grading, at Marine Barracks, Quantico, Va.	Standard Dredging Co., New York, N. Y.	147,290.00
Additional Fuel Oil Facilities, at Naval Operating Base (Fuel Depot), Hampton Roads, Va.	Harrison-Wright Co., Charlotte, N. C.	76,596.00
Shell House & Magazine, at Naval Ammunition Depot, Lake Denmark, N. J.	N. C. Nelson, Inc., New York, N. Y.	38,200.00
Metal Aircraft Structures Shop, at Naval Air Station, San Diego, Calif.	Fred F. Greenfield Co., Los Angeles, Calif.	103,720.00
Improvements of Electrical System, at Air Station, San Diego, Calif.	Weimer & Peterson, San Diego, Calif.	48,300.00
Electric Traveling Gantry Crane and Runway, at Navy Yard, Mare Island, Calif.	Judson Pacific Co., San Francisco, Calif.	73,685.00
Mine Filling Plant, at Naval Ammunition Depot, Hawthorne, Nev.	C. F. Dinsmore & Co., Ogden, Utah,	333,800.00

"Plumrite"



"Plumrite"

BRASS AND COPPER PIPE

ALL BRIDGEPORT BRASS AND COPPER PIPE is made from electric furnace brass or copper and is fabricated in accordance with the best brass mill practice. The finished pipe is furnished in a semi-annealed or soft condition unless special requirements demand a pipe which must take exceptionally severe bends when cold. All pipe is subjected to an internal pressure test of 1000 lbs. per sq. in. at the factory and is carefully inspected to make sure that only high grade material is shipped.

CHOOOSE THE ALLOY BEST SUITED to meet water conditions. Owing to the fact that water conditions, as far as corrosive action is concerned, vary in different parts of the country, it has been found from experience that certain brass mixtures give better satisfaction and longer life than others. To protect the consumer, who can tell at a glance as to the kind of alloy he is getting, our trade-mark Plumrite, together with the name or percentage of copper, is stamped on each length 9 in. apart, as shown in the illustrations.

Bridgeport Plumrite Standard



For General Good Water Conditions

Contains approximately 60% Copper and 40% Zinc. Known as Muntz Metal. Meets A. S. T. M. specifications B 43-24, U. S. Government Master Specification 342A, Grade C, and U. S. Army Specification 83-5A, Grade C. Can be bent easily when red hot as well as when cold.

Bridgeport Plumrite 67%



For General Good Water Conditions

Contains 65% to 68% Copper. Meets A. S. T. M. Specifications B 43-24, Navy 44P-12, Grade B. U. S. Government Specifications Grade B, and U. S. Army Specifications 85-5A. All bends must be made when the metal is cold.

Bridgeport Plumrite 85%



For Corrosive Water Conditions

Salt water—water polluted with mineral acids from mines or with organic acids from peaty soils or with chemicals used in purification or softening—for ground service. Contains approximately 85% Copper, 15% Zinc. Also known as red brass. Meets U. S. Navy Specification 44 P-12, Grade A, and U. S. Government Master Specification No. 342A and U. S. Army Specification No. 35-5A.

Bridgeport Plumrite Admiralty



For Salt Water Conditions

Contains approximately 70% Copper, 1% Tin, and 29% Zinc. This alloy is used by both U. S. and British Navies for condenser tubes. A. S. T. M. Specifications B-44-24, Navy 44-B-7E.

Bridgeport Plumrite Copper



For Corrosive Water Conditions

Used for same water conditions as are given under "Bridgeport Plumrite 85%." Contains approximately 99.9% Copper. Meets A. S. T. M. Specifications B 42-24, U. S. Navy Specification No. 44-P-2C, U. S. Government Master Specification No. 287.

Bridgeport
Brass Company
BRIDGEPORT - CONNECTICUT

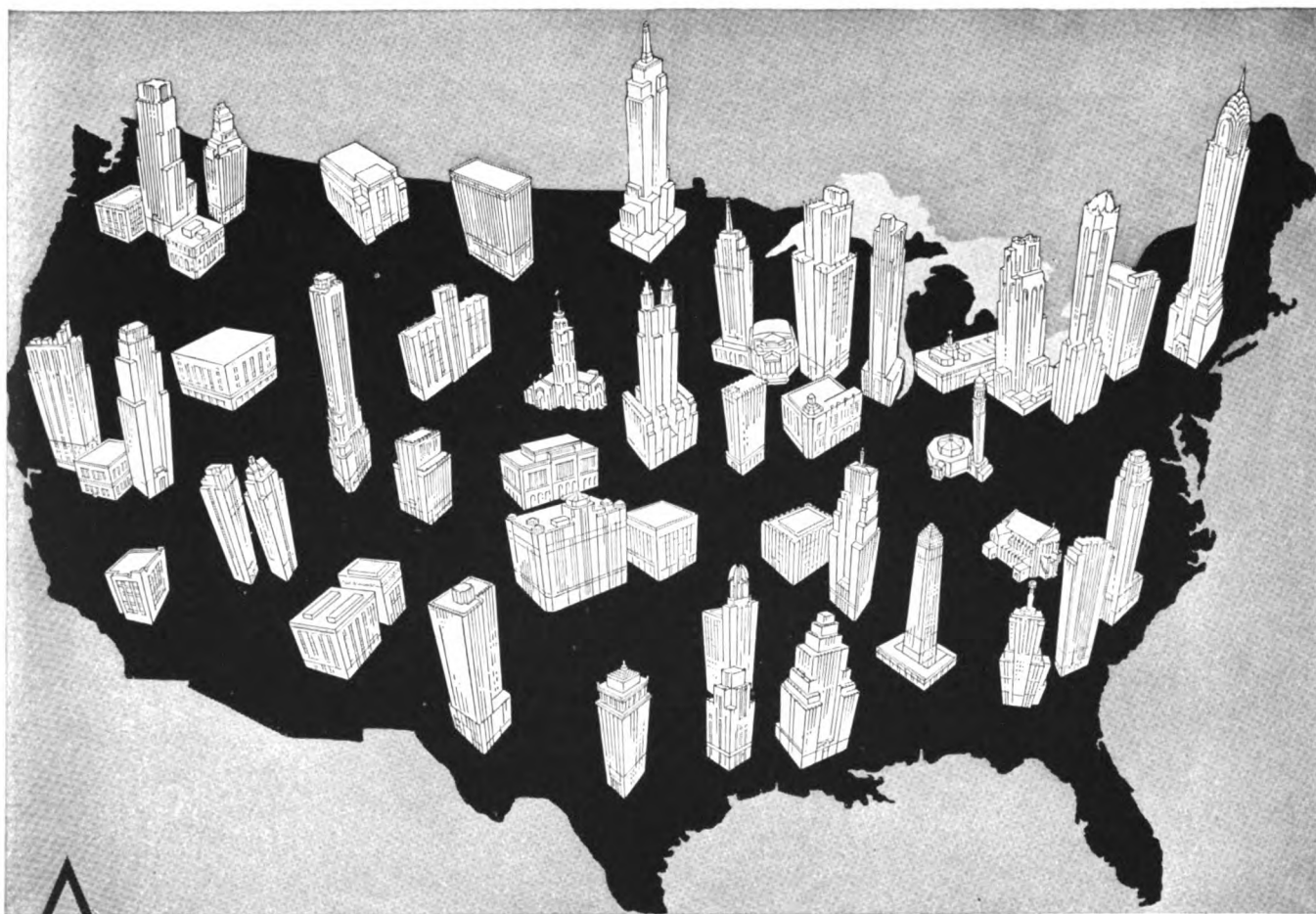
NEW YORK, N. Y., Farmers Loan & Trust Co. Building
CHICAGO, ILL., 2016 Palmolive Building
CLEVELAND, OHIO, 1969 East 119th Street
DETROIT, MICH., 12-217 General Motors Building
NEWARK, N. J., 325 Jelliff Avenue
CINCINNATI, OHIO, 537 Dixie Terminal Building

PITTSBURGH, PA., 607 Benedum Trees Building

PHILADELPHIA, PA., Bankers Trust Building
BOSTON, MASS., 1060 Park Square Building
PROVIDENCE, R. I., 70 Clifford Street
DAYTON, OHIO, 1327 Third National Building
BUFFALO, N. Y., 623 Genesee Building
AKRON, OHIO, 614 Metropolitan Building

Large Stocks of Pipe Carried in Bridgeport, Newark, Providence, Cleveland.

Member—Copper and Brass Research Association



A

lcoa Aluminum has been used on hundreds of prominent buildings throughout the country

Blending into the color scheme of modern architecture, adapting themselves, through ease of fabrication, to any decorative design and treatment, millions of pounds of Alcoa Aluminum alloys are now being used for decorative architectural purposes.

Alcoa Aluminum has been used on many prominent buildings all over the country. In these buildings it has been used for spandrels, cornices and copings, cresting, sills, window frame and sash, skylights, roofing; for decorative fascias, finials, flag pole bases and symbolic ornaments; for lighting fixtures, smoke hoods, conduit, store fronts, bank screens, bank cages, bank desks—even for clock cases, hands and numerals.

Used in all these ways, Alcoa Aluminum permits the architect to design and create a

building whose decorative detail will endure as long as the building. Alcoa Aluminum alloys resist corrosion; will not streak adjoining surfaces; need not be painted. Where desired, they can be given a high polish.

In addition to these distinctive qualities, Alcoa Aluminum alloys weigh only $\frac{1}{3}$ as much as other commonly used metals, yet are equally as strong. Their cost is low—comparable to other metals that do not have the specific structural advantages of Alcoa Aluminum.

Our nearest office will gladly send a representative to talk with you on this modern building material. Please address ALUMINUM COMPANY of AMERICA; 2415 Oliver Bldg., PITTSBURGH, PENNSYLVANIA.



ALCOA ALUMINUM



CITY HALL,
LOS ANGELES, CALIF.

JOHN C. AUSTIN, A. C.
MARTIN AND JOHN AND
DONALD PARKINSON,
Associated Architects

*We will be glad
to send a copy of
"FLOOD LIGHTING"
brochure on re-
quest, gratis.*

TERRA COTTA *for* MONUMENTAL PUBLIC BUILDINGS

The Los Angeles City Hall splendidly exemplifies two characteristics of terra cotta:

—Its perfect suitability for the major wall surfaces of monumental public buildings, and

—The ease with which unusual effects can be created at little or no additional cost.

The entire structure above the base of the building is of terra cotta ashlar of special design, harmonizing in color with the base. The edges of each piece have been slightly rounded to a radius of approximately one quarter inch and the glaze carried around the radius. The mortar joints are recessed about the same amount.

This hardly perceptible rustication adds a touch of strength to the masonry surfaces, while the rounded edges soften the shadow line, and avoid breaking up the continuity of the wall surface with a too-heavy joint pattern.

NATIONAL TERRA COTTA SOCIETY

230 Park Avenue,

New York, N. Y.



WALTER REED HOSPITAL—Washroom

Twenty Years Old!

...and the tiles on floors and walls are as good as new. Years of use have demonstrated those lasting qualities that appeal particularly to Federal Architects.

The tiles of today in many respects are better than those of old, and at the same time they keep their reputation as being the most sanitary.

New safeguards have been devised to insure the quality of tile installation. Through a system of sealing tile containers with grade labels, adopted by the Associated Tile Manufacturers, architects are assured of receiving exactly the grade specified.

Tiles are unsurpassed as a finishing material of sustained beauty.

ASSOCIATED TILE MANUFACTURERS

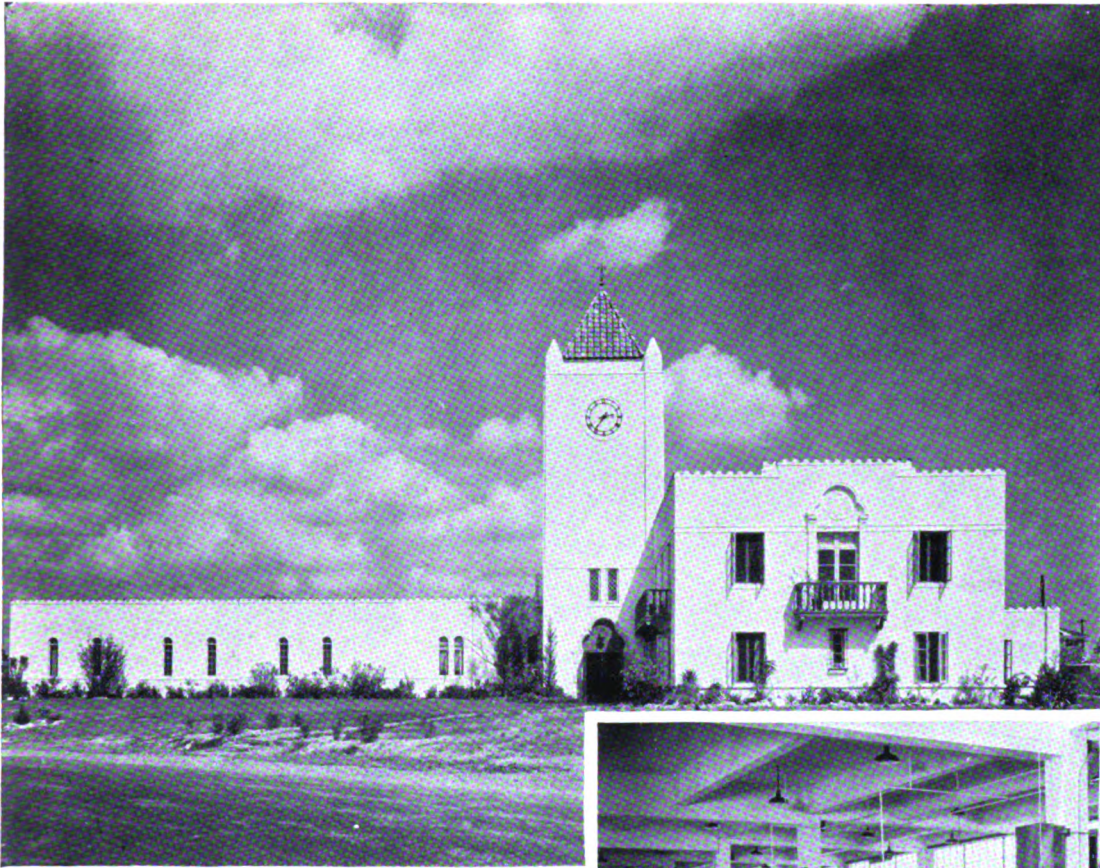
420 Lexington Avenue

New York, N. Y.

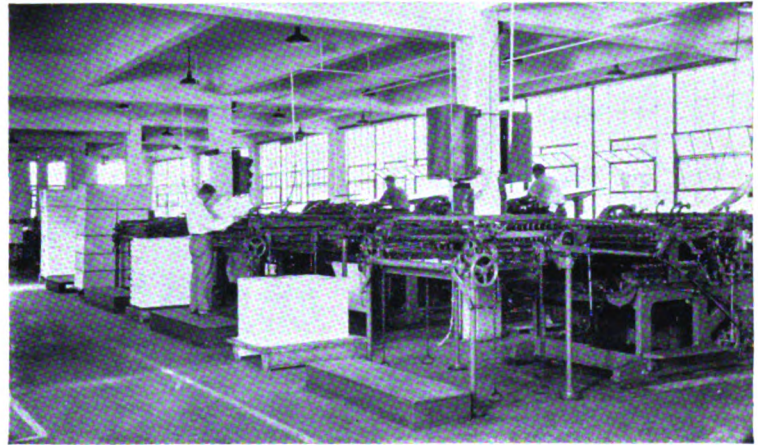


Alhambra Tile Co.
American Encaustic Tiling Co., Ltd.
The Architectural Tile Co.
Cambridge Tile Manufacturing Co.
Federal Tile Co.
Franklin Pottery
Matawan Tile Co.
The Mosaic Tile Co.
National Tile Co.

Olean Tile Co.
The C. Pardee Works
Penn Tile Works Co.
Standard Tile Co.
The Sparta Ceramic Co.
United States Encaustic Tile Works
United States Quarry Tile Co.
Wheatley Tile & Pottery Co.
Wheeling Tile Co.



Plant of the Rein Printing Co., Houston, Tex., exterior of concrete tile; structural frame of reinforced monolithic concrete. Howell & Thomas, Cleveland, O., Architect; J. B. Townsend, Houston, Texas, Contractor



CONCRETE *invites commerce to "dress up" its buildings*

An architect who had vision—and skill; a structural material that adapted itself to every requirement of his design—these, combined, produced this printing plant in Houston, Texas. Such buildings are an asset to the community and a good investment for their owners. Of all structural materials, concrete is the most versatile. It can be molded into any form. It builds foundations, super-structures, floors, and walls—and provides a suitable, dignified decorative treatment. *It is firesafe.*

PORTLAND CEMENT *Association*

Concrete for permanence and firesafety

925 NATIONAL PRESS BUILDING
WASHINGTON, D. C.



"The prudent builder will make the greatest use of Copper, Brass and Bronze."

—**REPRESENTATIVE LOUIS T. McFADDEN**
Chairman of the Committee on Banking and Currency
House of Representatives of the U. S.



"The use of Copper, Brass and Bronze in home construction has always seemed to me to be proof of good construction throughout."

—**JOHN W. O'LEARY**
President
The National Bank of the Republic of Chicago



"The real bargain in bonds or building materials is the investment that has permanent worth."

—**ROBERT O. LORD**
President
Guardian Detroit Bank
Detroit, Michigan



"The wise home builder should seek materials which will suffer the least depreciation."

—**J. F. SARTORI**
President
Security-First National Bank
of Los Angeles



"When you build your home, look to the future. Use materials that give lasting service without maintenance cost."

—**J. A. HOUSE**
President
The Guardian Trust Company
Cleveland, Ohio



"Good building materials have the same merit as Class A bonds. They represent permanent value."

—**NATHAN S. JONAS**
Chairman
Manufacturers Trust Company
New York

Always a good investment!

—say the nation's foremost bankers

BANKERS know values. Long experience has taught them to recognize a good investment. That is why leading bankers in every section of the country offer the same advice to builders: *Build for permanency—with Copper, Brass and Bronze!*

Brass or Copper pipe, Copper flashings, gutters and downspouts and solid Brass or Bronze hardware and lighting fixtures represent permanent worth in building materials. They *cannot* rust. They do not depreciate in value or service.

Although they cost somewhat more, these genuine rust-proof materials are always a good investment. Their presence in any building, from skyscraper to modest home, is taken as proof of good construction throughout. They add appreciably to the value of the property, and make it a better loan or mortgage risk.

The Building Service Department of this association will be glad to advise you without charge about the uses and proper application of these metals.

COPPER & BRASS

RESEARCH ASSOCIATION

25 Broadway, New York

Midwestern Office
Builders Building
Chicago, Ill.

Southern Office
Shoreham Building
Washington, D. C.

Canadian Office
67 Yonge Street
Toronto, Canada

Pacific Coast Office
Architects Building
Los Angeles, Calif.