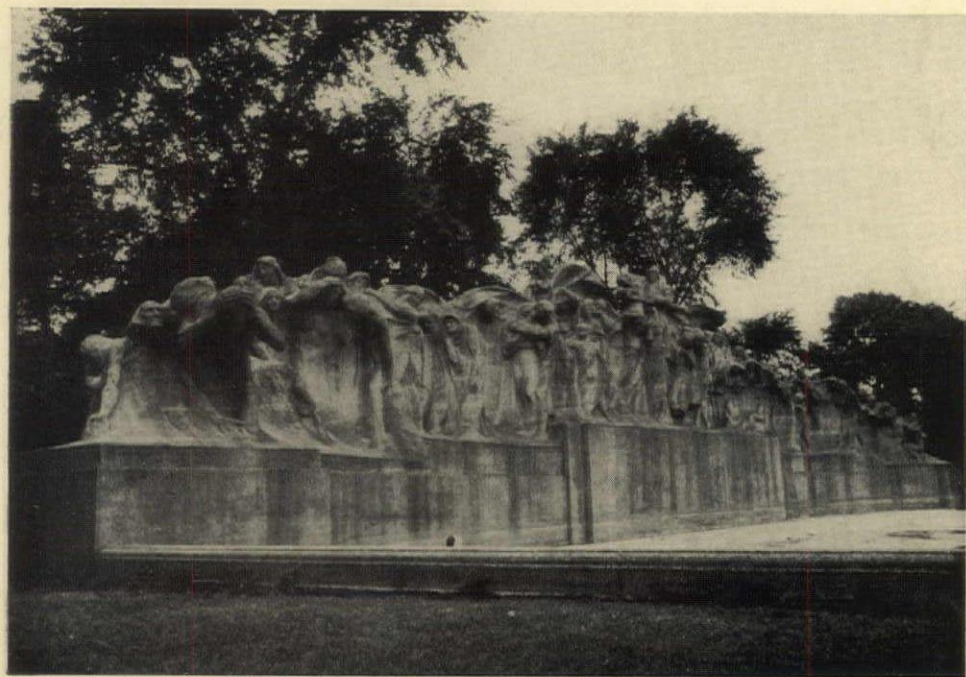


THE FEDERAL ARCHITECT

*Published for the Association
of the Federal Architects*

*October, 1939
Vol. 9, No. 6*



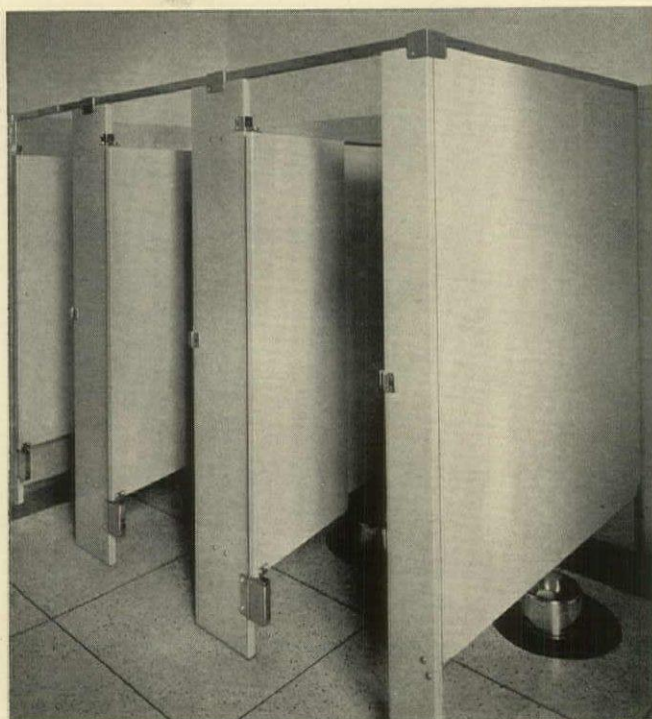
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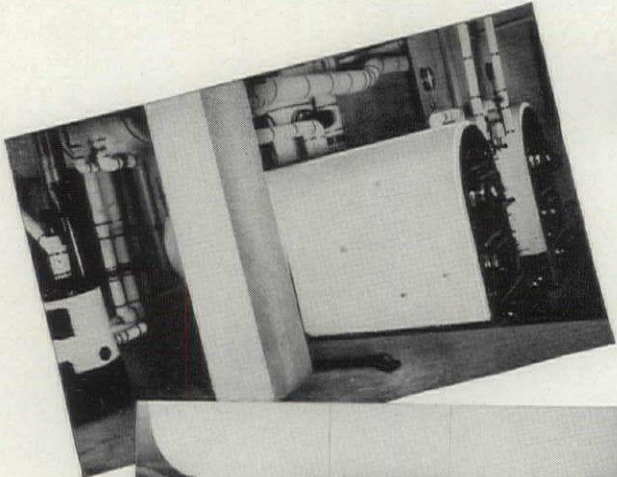
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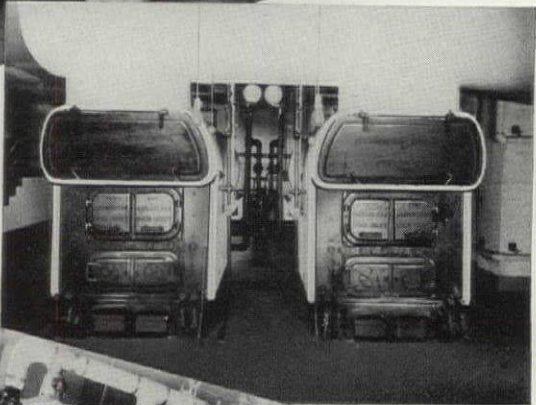
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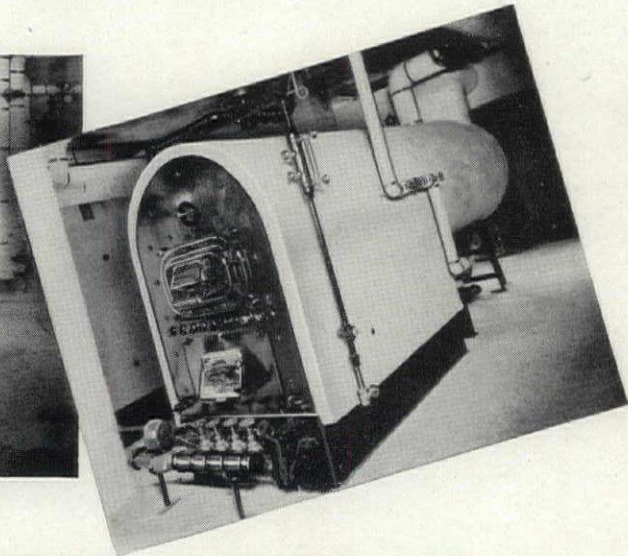
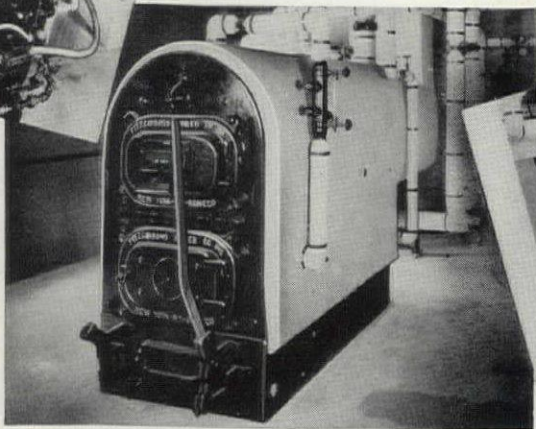
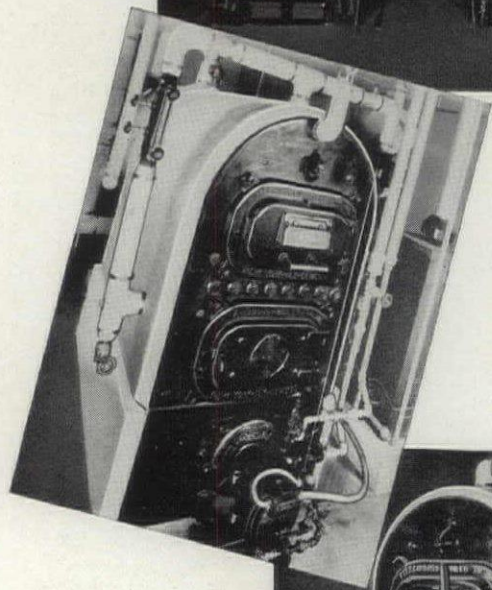
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A MODERN MATERIAL

THE library equipment installed in the new Annex to the Congressional Library on specification of Pierson & Wilson is the most modern and efficient in the world, and therefore it was in keeping that a modern and efficient material like Formica should have been used in working some of it out.

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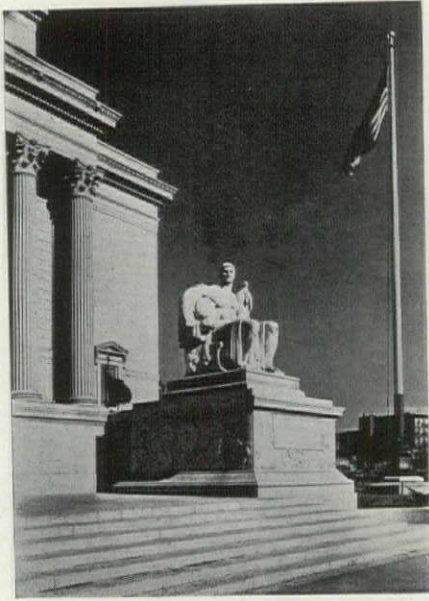
FORMICA

In this reading room Pierson & Wilson used Formica Realwood table tops, Formica shelving and large Formica panels with metal trim.



Card index cases with Formica morocco surfaced plates used as drawer fronts and as panels on the ends of the cases.

FOR FURNITURE-FIXTURES AND BUILDING PURPOSES



THE FEDERAL ARCHITECT

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

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Vol 10
No. 2

OCTOBER, 1939

EDWIN B. MORRIS, *Editor*

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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 for the Association of Federal Architects, 1700 Eye Street, N. W., Washington, D. C. Subscription price \$1.00 per year.

EVERY ARCHITECT SHOULD KNOW

A NUMBER OF FUNDAMENTALS CONCERNING AIR CONDITIONING AND REFRIGERANTS

ONE of the most exacting duties of an architect or engineer is to draw concise and invariable specifications for the guidance of contractors and the protection of his client. Such specifications should be founded on the specifications and regulations of nationally known and accepted authoritative bodies interested solely in public welfare.

The National Board of Fire Underwriters, Underwriters' Laboratories, Inc., and the National Fire Protection Association are institutions of this class. Each has contributed to the fundamental specifications covering air conditioning and refrigerating machinery. Every architect and engineer should have a copy of their rules and specifications:

(1) 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 as Recommended by the National Fire Protection Association." (This is also the A. S. A. standard Z33.2). Address National Board of Fire Underwriters at 85 John Street, New York City, or 222 West Adams Street, Chicago, Illinois, or Merchants Ex-

change Building, San Francisco, California.

(2) Underwriters' Laboratories, Inc., Subject 207, "Standard for Air Conditioning and Commercial Refrigerating Equipment." Address 207 East Ohio Street, Chicago, Illinois.

(3) Underwriters' Laboratories, Inc., Subject 207, "Standard for Unit Refrigerating Systems." Address 207 East Ohio Street, Chicago, Illinois.

(4) Underwriters' Laboratories Report MH2375 entitled, "The Comparative Life, Fire, and Explosion Hazards of Common Refrigerants." Supplies of this publication are exhausted at the Underwriters' Laboratories, but may be consulted in most public libraries in the United States. Reprints have been made by Kinetic Chemicals, Inc., Tenth and Market

Streets, Wilmington, Delaware, and are available at \$1.00 each.

It is often hard to compare values and capacity of the equipment offered and so it is well to provide that the contractor shall express his rating according to the following methods:

(1) "Standard Method of Rating and Testing Mechanical Condensing Units"—Price 15¢.

(2) "Standard Method of Rating and Testing Air Conditioning Equipment"—Price 20¢.

These standards are obtainable from the American Society of Refrigerating Engineers, 37 West 39th Street, New York City.

An example of concise yet comprehensive specification formulation that everyone should have may be obtained for 5¢ from the Superintendent of Documents, Government Printing Office, Washington, D. C. It is "Federal Specification for Air-Conditioning Units (Room-Coolers); Electric-Motor-Driven, Portable," 00-A-361 of July 23, 1938.

By following these rules you avoid any possibility of penalty to your client in insurance rates and promote safety of life and property. The "Freon"* refrigerants meet the requirements of these specifications.



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LETTER FROM JUDGE WETMORE

Coral Gables, Florida
October 21, 1939

Dear Eddie:

I wish I could prime the old pump and get a stream of ideas to running. However, pump priming presupposes that the supply is abundant and not that the difficulty is wholly mechanical when all you get in return for your efforts is a squeak and a gurgle.

The conflict that is under way in Europe has set me to thinking, and like other citizens of our republic I am wondering whether or not we can keep out of the conflict, and if not what the effect will be on the old office of which I was once a component part. One of the most trying experiences I had in the old office was when Secretary McAdoo's order was issued prohibiting the letting of contracts for new construction work during the World War in the interest of conserving man power, materials and transportation facilities for military purposes. After that steam roller had passed over us the third dimension had disappeared. I had a heck of a time finding work for the field force and sometimes there was a questionable disproportion between the contract price of jobs and the salaries of the superintendents, if you know what I mean. Yes; Eddie, that's what we called them in those days—superintendents. That was before we acquired so many engineering titles. At one time it looked as if the vogue might reach the char force and cause its personnel to be designated as sweeping and scrubbing engineers. In the office we went ahead with the drawings and speci-

cations so as to be in readiness for the order which we knew would come sometime:—"You may fire when you are ready Gridley." We rearranged the drawing files, inked in drawings, and did other rainy day jobs, and welcomed work from other Departments like manna from Heaven. I hope the office may not again experience such a condition.

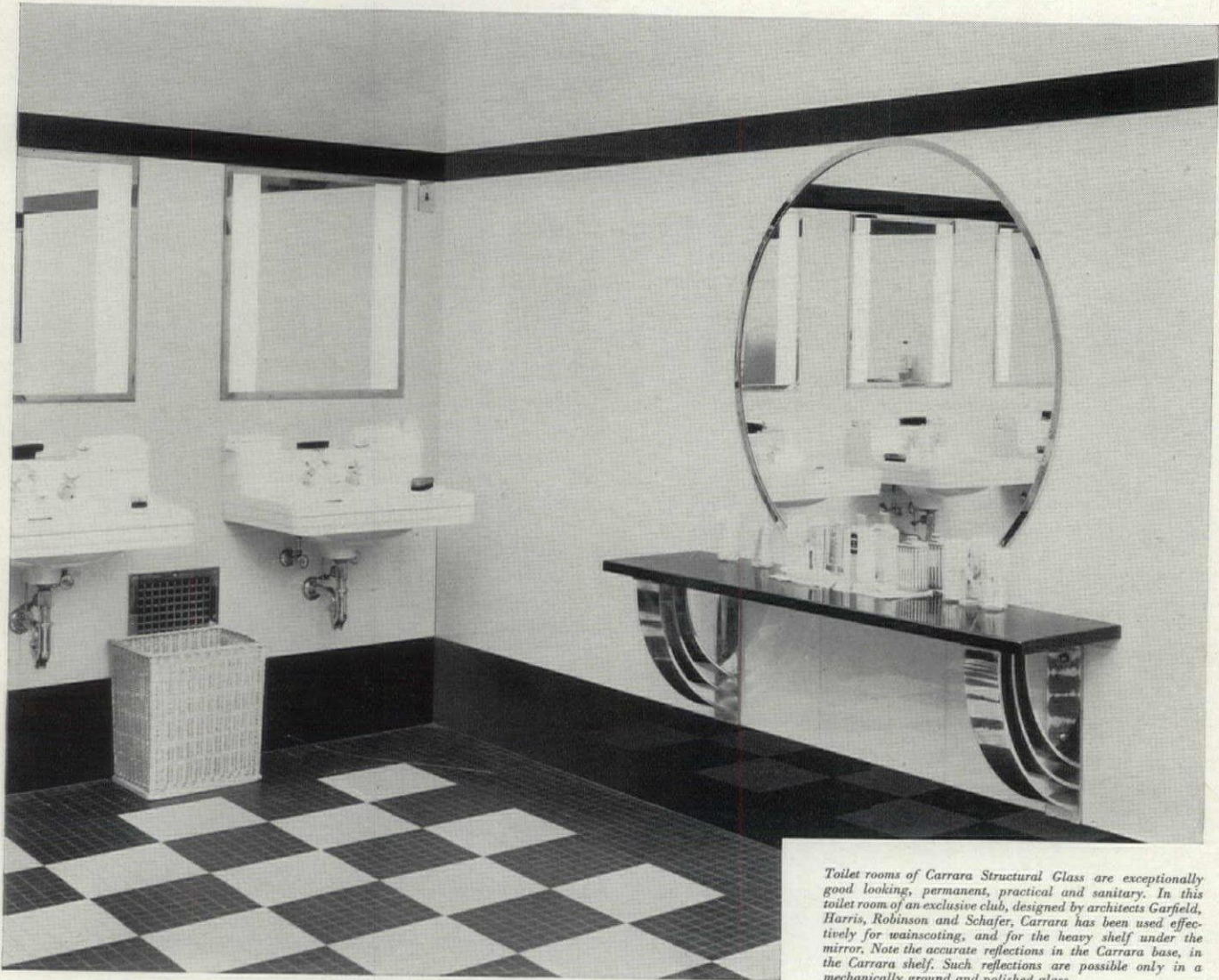
Sometimes I get a case of grins when I recall the indignation exhibited by certain members of congress in the old days over what they termed wanton profligacy and extravagance in expenditures made for the construction of public buildings in small communities. It eventually resulted in the enactment of legislation prohibiting the acquisition of sites in communities having a population of less than five thousand or the erection of post office buildings in places where the postal receipts were less than ten thousand dollars. I wonder whether that enactment, which was in the form of permanent legislation, has been repealed or has "gone with the wind." Considering the generosity displayed in scattering post office buildings around the country I should think the old mill would run out of grist some of these days unless the bars are let down to take in smaller villages. By smaller villages, Eddie, I mean the kind where there is a cross-roads having a general store in one corner of which is a post office, and within the radius of a half mile there are a garage and filling station, a town hall used for miscellaneous meetings including divine service, a combination pool room and barber shop with a beauty parlor annexed, a few houses with conventional out buildings, a justice of the peace and a constable, and one man who lends money to the remainder of the community at six per cent—or more.

One thing I note with satisfaction is that in these days limits of cost seem to be fixed with some logical relation to the importance of the place. It was not so away back yonder when the prominence of the congressman was the moving consideration. The result was as incongruous as putting a ninety dollar saddle on a twenty dollar burro. I recall one such instance when the superintendent in his final report stated that the building was very attractive architecturally but looked like a diamond stud in a dirty shirt.

It seems to be a coincidence that we both think the past summer was a hot one; but since receiving a letter from Construction Engineer Holloway, I am beginning to weaken on that point. He refers in an off-hand manner to 120 degree weather at Phoenix where he recently supervised a remodeling job and tells me that in company with his good wife he motored to his present assignment at Oxnard, California, starting at 4:00 A. M., to avoid the heat of the day, with the thermometer registering 102 at that hour. I guess we don't know anything about it. It reminds me of the chap who had been going places and seeing things and was regaling a couple of cronies with the intimate details. Each had a foot on the brass rail and the two companions were drinking it all in along with some liquid refreshments. But they were not the only auditors. Ten feet or so away a nondescript using an elbow to lean on as a prop, was

(Continued on page 27)

ALL CARRARA IS *Structural Glass at its Best!*



Toilet rooms of Carrara Structural Glass are exceptionally good looking, permanent, practical and sanitary. In this toilet room of an exclusive club, designed by architects Garfield, Harris, Robinson and Schafer, Carrara has been used effectively for wainscoting, and for the heavy shelf under the mirror. Note the accurate reflections in the Carrara base, in the Carrara shelf. Such reflections are possible only in a mechanically ground and polished glass.

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Architects everywhere agree that Carrara is a beautiful material for

toiletroom walls, partitions and stiles; for entrance lobbies, corridors, bathrooms, kitchens and scores of other uses in buildings of every type. But Carrara has other qualities, too, which recommend it highly. A wide range of attractive colors, of thicknesses, of decorative treatments, which means latitude in design. Exceptional sanitary qualities. Easy cleaning. Permanence. Low maintenance.

Here is an ideal material for the resourceful architect to work with.

We urge you to write us for complete information, contained in our illustrated booklet entitled "Carrara, the Pittsburgh Plate Glass Co., 2024-9 Modern Structural Glass." Address Grant Building, Pittsburgh, Pa.

Carrara
THE MODERN STRUCTURAL GLASS

PITTSBURGH PLATE GLASS COMPANY



THE FEDERAL ARCHITECT

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■ **S**OME recent investigations into the construction of houses for the purpose of placing or renewing loans disclosed shockingly bad construction had been employed. At the time of sale attention had been distracted from such defects in the matter of framing, wiring, radiation, etc., by flashy paint jobs, tricky accessories and the like.

All of this points to the need for an architect in all construction work, not as a luxury but as a matter of good investment. A long while ago the theory was exploded that it was a wise economy to save lawyers' fees by drawing up one's own will or other documents where binding legal phraseology was the primary factor.

The primary factor in a house is that it perform its functions properly. It has to be comfortable, strong, lasting and a pleasure to look at. The operation builder will make it plenty good to look at. But can the purchaser depend upon him to be such a saintly character that, in the face of keen competition, he will not cut down five or ten per cent on the radiation, or use cheap framing lumber, or omit building paper and flashing, or run pipes, ducts and wiring so that future repairs are at unwarranted expense and with the maximum of annoyance to everyone concerned?

A house is like an automobile, only more so. An automobile always breaks down at a maximum distance from a service station, and at a time when the personnel of the station has left for the night or to go to the World's Fair. Similarly the lighting, or the plumbing or the heating of a house always breaks down over the week-end—when there are guests.

The most favored time for the bathroom plumbing over the dining-room to go into a drip is the week-end of Laboy Day, when all plumbers go to the seashore. Freezable pipes, likewise, appear to get into a weakened condition and to have a low resistance

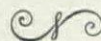
beginning at noon Saturday. A pipe will very seldom freeze and burst on a week day, except perhaps in the middle of the night when there is a pretty deep snow.

That's a house for you — always sitting down thinking up trouble and deciding it just simply hasn't got the courage to go on. A house just loves to get on sick leave and relax.

For that reason it has to be endowed with a strong constitution in the first place. A contractor, or a builder, or an operator isn't the man to assume the responsibility for providing that strong constitution. He wants to get out for the minimum cost, which is natural, since nobody likes to cut down his own profit. There has to be an umpire there to see that for an honest price the builder provides a proper piece of construction, with no "may-be's" in it. And the only proper umpire is an architect.

As we say, a house is temperamental and always a potential source of expense and grief for repairs and replacement. For that reason it should never be put together under the sole control of a person whose instincts are to leave out rather than to put in the work and materials which are the essentials of good practice. The architect's fee is saved of course, but, in so doing, there is stored up a lot of expense and pain for the owner.

It would save so much human suffering if owners could only learn that before they build, rather than afterwards. But what is the method of teaching them?



■ **W**E squeaked into an extremely embarrassing position a little while ago. Having lived in Washington ever since almost the days of L'Enfant, we were asked by our good friend Mr. Kenneth Reid of PENCIL POINTS to write a little primer about the places where one eats when one is in Washington.

We could have done a little better job if we had been asked to write a story about our major difficulty of how to get together enough to continue to do the eating above referred to with satisfying regularity. Anyway we did write the article, and due to an error which we should have prevented our name was flatteringly printed with the caption following thereafter "A.I.A." Now we are not a member of the American Institute of Architects, so this put us in the position of crashing the party.

We blushed about this, because we are naturally shy and, to the best of our knowledge and belief, we never crashed a party in our life—except one time—Well, never mind that. We did expect a lot of our A.I.A. friends to speak to us pretty harshly, and were relieved to find that it was generously regarded as a mere boyish prank which would be all right, if not repeated.

Mr. Reid wrote us "Some of the Washington architects took me to task for having endowed you with membership . . . and I am afraid the only thing that can be done to make an honest woman of us is for you to join up."

The idea is good. Also we are having our legal department look up the moot point as to whether citation by one of the profession's leading magazines does not automatically get us in by adverse possession or something.



■ WE have just passed through Hallowe'en. It is an uncomfortable time for those past the exuberant stage of youth. Those whom time has caressed with touches of grey become uneasy concerning the things they own—swinging gates, garden furniture, automobiles—which are bound to receive rough treatment.

It is our annual sacrifice to Organization, the factor that makes the Nation. Think of the effective coordination that is necessary to see that all automobiles and all shop-windows are properly soaped! What a disgrace to the youth of the republic if one were missed!

This feat in itself must require the building up of a powerful unit in every city. It would not be beyond the scope of imagination if at Easter-time a Grand High Exalted Soaper were enthroned with power to build

up an army of lesser soapers who would perhaps go through skull practice during the spring and summer.

A well-thought-of architect of our acquaintance stated the other day that he favored a complete abolition of Hallowe'en, an absolutely distorted and wrong point of view. The question was put to him as to his acts in his youth upon this great feast night.

He admitted, not without pride, that he had been considerable of a hellion. He recounted, with some satisfaction, the tale concerning the balloon-frame house, at the time unsheathed, which he and his companion pushed over.

A grand feat! It required organization, leadership and the coordination and pooling of young strength. The flattening out of that piece of construction, surprising as it may have been to the owner, was a great builder-up of character. How better could those youngsters have learned the value of unity.

In addition there was the element of danger. One of the other architects present at the discussion spoke reminiscently of rock-salt and eating his meals standing up for several days after Hallowe'en due to close shooting by the owner of a cow, which he and his companions were trying to lead off preparatory to placing her in an upper-story class room.

The wagons which were patiently taken apart and put together again on high roofs! The little outdoor cubicles which were removed and embarrassingly placed in the middle of Main Street, causing difficulties on the premises from which they were removed as well as in the location they assumed!

Such glorious events do not occur without thought. They represent inspiration, preplanning, conference, the skillful uniting of the energies of many persons to accomplish many things. Under the folds of the star-spangled banner the blood of the nation flows in these youths who, in moving these outhouses, in deflating these tires, in repainting these fences, in trading Mr. Brown's concrete cupid for Mr. Smith's iron deer, develop, as the result of hard labor and considerable personal inconvenience to themselves, an understanding of how to get things done.

Wrigley
Building

333 Michigan
Ave.

Pure Oil
Building

Pittsfield
Building

Methodist
Church

1 LaSalle
Street

Strauss
Building

Adler
Planatarium

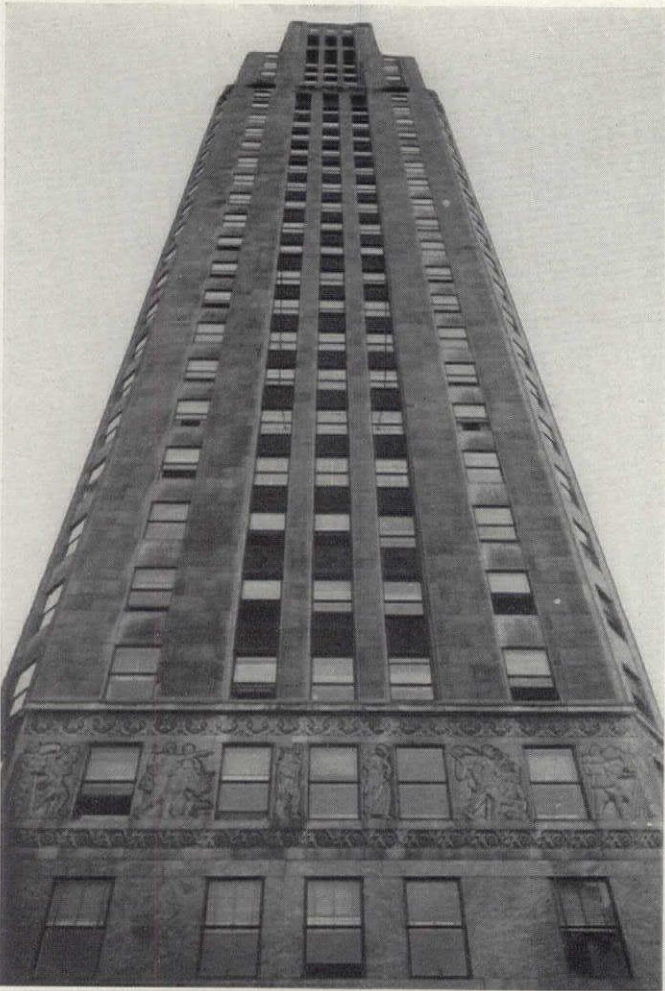


Merchandise
Mart

Wacker Drive

Opera

This air view shows the relation of the heart of Chicago to the river and lake. The two white streaks across the lake are breakwaters. At the edge of the water is the Outer Drive. It makes two right-angle turns toward the left of the picture to cross the bridge at the mouth of the river. Inshore from the Outer Drive is the wide carpet of park. The Wacker Drive seen at the river bank is a two-level thoroughfare which is one of the traffic blessings of Chicago.



Harriss

*BUILDING AT 333 MICHIGAN AVENUE
WHICH HOUSES MANY ARCHITECTS*

■ **W**HEN the civic-minded cow kicked over Mrs. O'Leary's lantern some years ago to start the great Chicago fire, it is doubtful if even the cow realized that that inspired act would result ere long in the creation of the charming and spectacular city which is now Chicago.

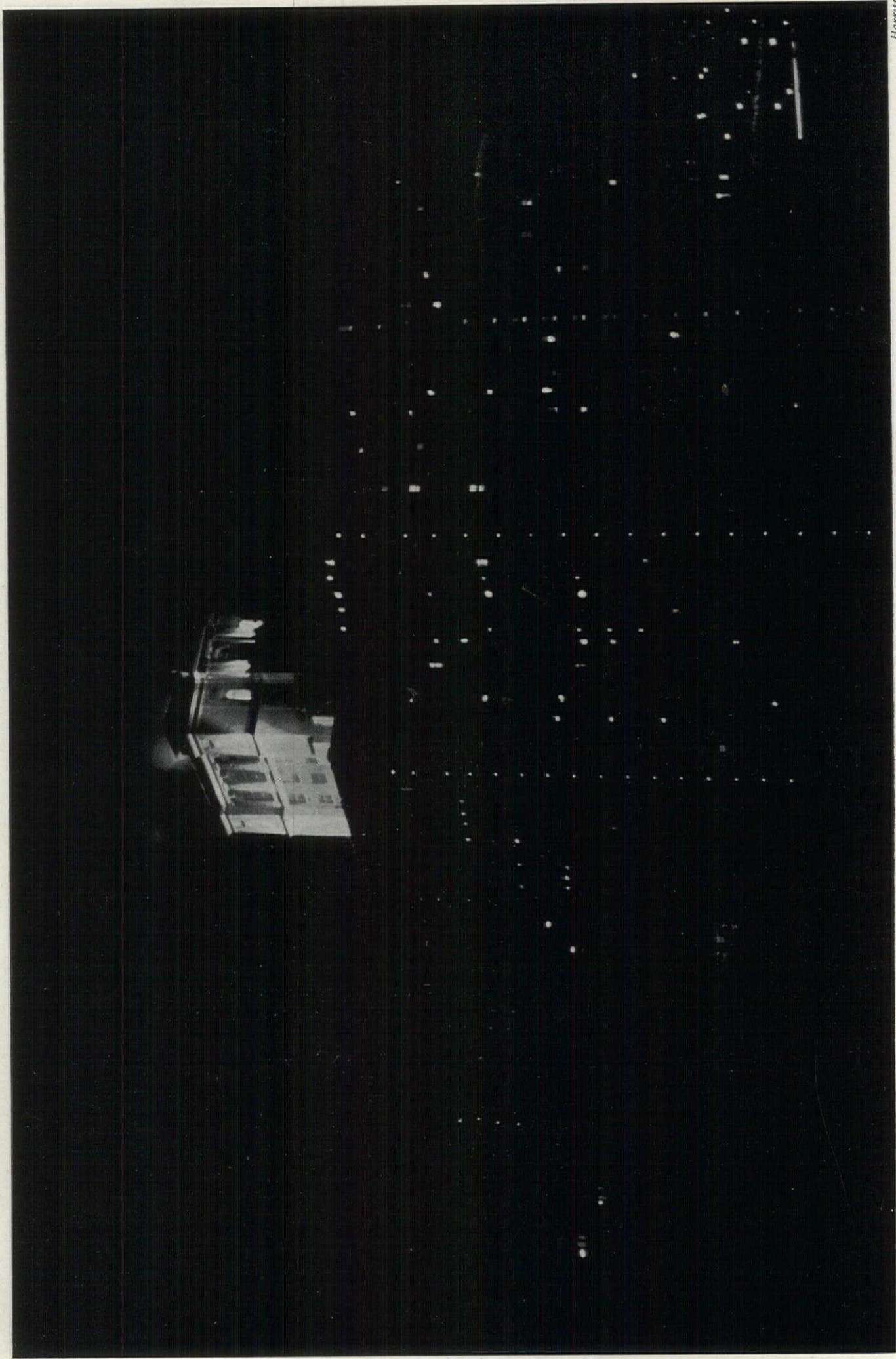
The glorification of the lake and the gradual picturizing of the Chicago River have built a town which is a scene as well as a commercial idea. The completeness of the civic development of Michigan Avenue and the wide lakefront park is almost breathtaking. And the River, once a disgusting and muddy ditch, is now a grand canal, with such impressive buildings as the News, the Opera and the Union Station dressing its shores.

It is a pleasant city to go about in. One feels, perhaps, a period now of time-out in its development. No movement is going on. Labor conditions and political conditions have not been too conducive, possibly, to new construction development. On the other hand, the depression and the existence of many huge office buildings have made useless hundreds of once valuable structures, not a few of which have been razed to save taxes. Thus there have been numerous steps backward to counteract the steps forward, and the city is static.

Such a static condition does not affect the city's pleasant atmosphere. It is full of good architecture—the Board of Trade, the News, the Tribune buildings. Hotels and eating places are nice. Its incidental offerings are inspiring.

Among these is the Fountain of Time. A photograph of this is on the cover of this issue. It was designed by Leonardo Taft and executed in the concrete which is the specialty of John Early in Washington. It is doubtful if so huge and awe-inspiring a sculptural group could have been satisfactorily constructed in any other material. For physical beauty it is marvellous. For sentimental and emotional appeal it is an epic. One wonders it is not spoken of more. One can stand before it and be filled with reflections upon the fierce and inescapable forces which affect the saga of this life in which we live. Perhaps it is too trite—being another way of saying we live and we die.

We print pictures of the chapel at the University of Chicago, of the Rosenwald Museum and of 333 Michigan Avenue—interesting architectural landmarks of the city. The air view shows how comfortably the town nestles between the streamlined lake and river.



THE STEVENS HOTEL, CHICAGO, AT NIGHT
Holabird and Root, Architects

Harris
There is a certain quality about the Stevens Hotel which makes it for many people typify Chicago. It is mostly because of its location, overlooking the lake and the lakeside parking development which make the city so distinctively beautiful.



Harriss

CHAPEL AT THE UNIVERSITY OF CHICAGO

Bertram Goodhue, Architect

The FEDERAL ARCHITECT · OCTOBER, 1939

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Harriss

THE ROSENWALD INDUSTRIAL MUSEUM

Charles Atwood, Architects
Daniel H. Burnham,



Photo by Horydczak

ANNEX TO CONGRESSIONAL LIBRARY

*Prentice and Wilson, Architects.
Architect of the Capitol, Associate Architect.*

ANNEX TO THE CONGRESSIONAL LIBRARY

■ IT is always a pleasant pastime to speculate as to what persons of former eras would think if they suddenly found themselves living in the present. During a recent visit to the new streamlined annex of the Congressional Library, the thought arose as to the astonishment that would be experienced by the architects of the main Congressional Library, which they made the most efficient thing of its kind in its day, were they now to view the smooth efficiency of the new annex.

The exterior of the building is very calm and uninterrupted. It is an efficient casing for the effective operations that go on within it, where there is scholarly quiet while all around complicated processes go on.

Vastly greater in mass the annex carries out the spirit of the lovely Folger Library adjoining. The simplicity of Folger does not blow up too well to the great expanse of the annex and one cannot but feel that the architects of the annex deliberately sacrificed some of the spectacular they might have achieved had they not chivalrously striven for harmony with the adjoining structure.

It is all in all restful to have the unity of purpose that now exists between the two buildings.

It would be better possibly if some of the sandblast type of ornament of the annex were more deeply eaten

into the marble to be effective from a greater distance. The fine ornament around the entrances has to be viewed closely if one is to be conscious of its excellent design.

We first were to go to the great reading rooms on the upper floor. We passed through an entrance lobby fully wainscoted with as uniform and harmonious a display of our great American figured marble Saint Genevieve Golden Vein as is ever seen.

On the top floor, the centre catalogue room and the two flanking reading rooms are very fine. They are deliciously and whole-heartedly modern in scheme and accoutrements. These are the spaces, I think, that would most have astonished the architects of the original library.

The catalogue room and reading rooms, first of all, have no windows—a heresy in the old days. They are air-conditioned and lighted with diffused and indirect illumination that has the shadowless effect of daylight.

The materials for the counter-tops, catalogue cases, drawer fronts, counter fronts and table tops are most interesting. The counter tops are cork. The catalogue cases are a combination of alluminum and this mysterious phenol-formaldehyde discovery—in this case the product known as Formica.



EAST WALL OF NORTH READING ROOM, ANNEX, LIBRARY OF CONGRESS

Showing Ezra Winter's mural based on the Canterbury Tales. The first three figures are the Miller, the Host and the Knight. The North wall represents the Prologue to the Tales.

The material is manufactured by piling a number of sheets of fibre impregnated with a Bakelite or a Urea varnish upon a suitable backing material like fibre board and subjecting it to heat and pressure which vulcanizes it into a single sheet. In some cases the backing material is omitted and the resulting sheet is a veneer about 1/16 of an inch thick which is then veneered by the usual methods to a Plywood backing. The result is a charmingly satin-smooth, rigid material, cigarette-proof, cocktail-proof (of no interest to the average library) and stain proof.

This material all around gives a satisfying result which has a nice feeling of being able to stand absent-minded abuse by human beings.

The reading tables are of the long refectory type. They look like beautiful examples of satiny-finished wood. Actually they are this Formica. The wood effect was obtained by placing a layer of thin veneer walnut in the pile of lamination near the surface, so that when the pile was pressed together you had the beauty of the wood combined with the resistant quality of the formaldehyde material. The architects dream, seldom realized, has always been unperishable beauty.

Two glorious murals in the north reading room by

Ezra Winter depict the characters in Chaucer's Canterbury Tales. One thinks of when one was made to memorize "Whanne that Aprille with his Shoures soote—" and is glad that out of all that pidgin-English Winter was able to paint such eminently satisfactory murals.

Particularly impressive are the mechanical means in the annex for obtaining books from the parent building, which is a quarter of a mile away. Conveyors move down from the various floors of the annex under the street and into the main building, an endless series of trays on chains guided by sprocket wheels. Books placed thereon go to their destination without further touch of human hand.

Within the building if an employee finds himself stuck with a book on the fifth floor which he wishes to send to the second, instead of lugging it there under his arm, he puts it on a gridiron sort of gadget, dials the number 2 on a circular thing and the book disappears to turn up at the second floor.

When there gets to be hot and pressing need for certain books in the annex, an attendant puts an order slip in a small pneumatic tube, turns around, takes a deep breath and the book comes to him in a container through a large pneumatic tube.



*WEST WALL OF NORTH READING ROOM ANNEX, CONGRESSIONAL LIBRARY
This shows the continuation of the Canterbury Tales
mural on the West Wall. The table tops are Formica.*

Persons desiring to make extended researches are given luxurious, air-conditioned cubicles for their use during the period of the research.

For wainscot in the corridors in connection with these cubicles, for base and chairrail in corridors except where marble occurs, this Formica material has again been used, very successfully.

The walls and doors of the telephone booths are also of this material, as are toilet room doors. It has a cleanly feel, which is pleasant in places continually used by the public.

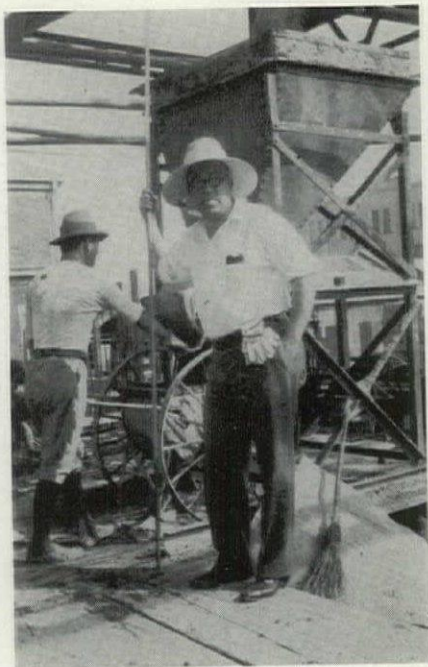
There is considerable satisfaction in visiting this

building. One has the feeling that a conscientious and exhaustive effort has been made to utilize all the best of modern construction research—air-conditioning, studied illumination, materials best suited to the purposes, the most ingenious mechanical devices.

One is the more impressed with the thought that in modern times an architect to build a large building must be many things—an artist, an understander of machinery, a student of mechanical equipment, a researcher into materials and, in general, a designer of many things beside rooms, corridors and architectural facades.



An award in the National Plastics Competition was made for the use of Formica in the Congressional Library Annex. This contest was conducted by the magazine Modern Plastics and the award was made to Pierson & Wilson for their use of the material in the Library. It was the first of three awards, in the classification designated by Modern Plastics as "Decorated Laminates."



Allison, Construction-Engineering in Japan.

Since the 1923 earthquake in Japan, the greatest catastrophe recorded in modern times, during which Yokohama was totally destroyed and Tokyo mostly so, the rebuilding of Tokyo and Yokohama has been along modern lines and modern architecture, including some examples of Greek and Roman Classic, but mostly the so-called "Modern" as we know it here in America.

Japan has looked to the Western World for design for a number of years past, adapting same to quake-proof construction. Many American architects and contractors were involved in the rebuilding of these two devastated cities, and some remained in Japan long after the reconstruction was complete on work in other industrial cities of the Japanese Empire. One of the outstanding examples of modern architecture that weathered the great 1923 earthquake with very little damage, was the world-known Imperial Hotel in Tokyo, designed and supervised during construction by Frank Lloyd Wright, noted American architect. Numerous other fine buildings constructed since the quake of outstanding architecture have been designed and built by other noted American architects, such as McKim, Meade and White, Van Buren Magonigle, Cass Gilbert, Jay Morgan, and many others.

The American Embassy group in Tokyo, designed by Van Buren Magonigle, of New York, is built on a sharply rising terraced slope, and consists of four rather pretentious buildings in the modern manner, with a touch of Persian and Japanese influence. The buildings are: The Ambassador's Residence, the Chancery (office building), and two apartment houses for resident Americans of the Embassy staff. The site of five acres located in the center of Tokyo is enclosed by a high, reinforced concrete wall, topped with beautiful wrought metal work, imposing entrance gates, gate houses, etc.

ARCHITECTURE IN OTHER CLIMES

JAPAN

by Laurence E. Allison, Construction Engineer on the American Embassy and Consulate Buildings—1930-1932

Other features within the compound are a swimming pool, bath house, a large reflecting pool, fountains, bronze lanterns for lighting the grounds, wisteria arbors, and a most wonderful gardening scheme, including unusual trees and lesser plants, vine clad retaining walls of stone forming terraces up to the Ambassador's residence on the high point of the property, which is approached from the lower level or Chancery entrance on the court by two winding paths and steps. From this high elevation a magnificent view is possible to all points of the compass over the city of Tokyo.

Before construction could be started on the site in connection with the Embassy buildings, one of our most important tasks was to hire a corps of Japanese draftsmen and translators to adapt our structural and reinforcing drawings to meet Japanese standards for earthquake proof construction. Then all titles, notes, dimensions, etc., on all drawings had to be changed to Japanese for convenience of the general contractor and sub-contractors, all being Japanese. This further included the translation of our specifications and contracts into printed Japanese, which resulted in working from two complete sets of drawings and specifications, one in English and the other in Japanese.

In the case of the Consulate Building in Yokohama, the drawings were prepared in Japan by an American architect, long a resident of Yokohama, and were furnished in both English and Japanese.

The Japanese unit of measurement comparable to our standard foot, is known as a "shaku", and is about 3/32 of an inch less than the American 12 inch unit. From this one can readily see the complication of fractions involved in transposing from American standard to Japanese standard measurement. The "shaku" is subdivided into tenths, known as *sūn*, instead of 12 inches, like our foot; each *sūn* then divided into tenths is known as *bū*, etc. Thus the "shaku" contains 10 *sūn*, or 100 *bū*, but does not check either with the French metric system or any other country's system of measurement. A special scale and six-foot rule were furnished for my use, with Japanese measurement on one side and American standard on the other.

The Consulate Building in Yokohama was designed by Mr. Jay Morgan, an American architect, formerly of Chicago and New York, who has been a resident of, and in business in, Japan since several years before the great earthquake.

His inspiration was our famous White House in Washington, D. C., and is the only building of such design, as far as I know, in Japan. This building, also of quakeproof construction, is located along the waterfront, or Bund, which is a beautiful park for



Ambassador's Residence, Tokyo.

several miles, creates both a striking and harmonious appearance in such a setting. Being of early American design, it is truly a welcome sight to American travelers approaching Yokohama, Japan, by ship, and looks just like a little bit of the homeland in an Oriental setting, with the famous Fujiama in the background. The great Japanese mountain so beloved by the Nipponese, is sixty-five miles distant, but appears much closer, and with startling majesty on a clear day.

The following is a description of structural design used in a country where earthquakes are of frequent occurrence.

The backbone or skeleton of all good buildings of any consequence in Japan is of reinforced concrete or structural steel frame, of special structural design, enclosed entirely in concrete. In many instances structural steel members are also caged or surrounded with reinforcing steel before pouring of the concrete.

Construction methods used in the Embassy group in Tokyo and the Consulate Building in Yokohama, were along the lines of two well-known American systems of construction: reinforced concrete and structural steel frame, differing only in the fact that a combination of both were used, steel content increased, and that other details of construction were elaborated upon, particularly bracing, in order to resist unusual stresses upon structural members, caused by continual earth tremors, usually a daily occurrence, ranging from mild shocks to tremors of great magnitude and violence. In September, 1931, our foreign buildings were subjected to tremors of more than usual violence, lasting over an intermittent period of ten minutes, and all buildings weathered this quake without fracture of walls or plaster, but considerable paving was damaged about the grounds and streets and had to be repaired and reset. Curbs, paving, etc., are set in small units and repair is mostly a case of grading and resetting. All pipe lines entering the buildings and below the ground surface have flexible connections at frequent intervals, and where entering catch basins and manholes, so are seldom broken. During the construction period, several more disturbances similar to aforementioned were experienced, but not of such violence. Tremors such as above

described usually cause much damage to light construction in residential sections. One never forgets such experiences, and is more safe inside of a quake-proof building than out in the open.

In the case of the Embassy group, test pits and borings disclosed both rock and soft earth strata, the earth being quite deep in places. Piles were driven into the earth strata to solid bearing, and over the entire area covered by each building, a heavy reinforced mattress footing was placed, extending beyond the building line the distance of the depth of footing. All exterior walls and principal interior walls are of heavy reinforced concrete, the steel being continuous from the foundation mats up through the roof slabs. Laps of all reinforcing rods are 60 diameters and each rod bent to a full half turn at the ends. More than twice the reinforcing steel usually used in similar buildings in America was used in these buildings: At window and door openings, reinforcing steel in diagonal position was used at all corners of the openings. Steel wall mats, or assemblies in some cases, consisted of horizontal, vertical, and diagonal members usually spaced not more than six inches on centers.

In addition to reinforcing rod steel, considerable structural steel was also used, particularly in the Consulate building in Yokohama, which is located in the greatest center of quake disturbance. Yokohama is usually the hardest hit of any large city.

The foundation mattress footing under this building, as near as I can recall, is a continuous slab twenty-two inches thick with cross ribs on top of the slab, all reinforced with one-half inch up to one inch and one-half rod steel, also rail and grillage steel. The basement floor slab is eighteen inches above the mattress foundation slab, with a sand and gravel cushion between. The mattress foundation slab rests on sand and gravel. All superstructure is continuous from mattress.

Both structural columns and beam steel were used for the substructure and superstructure, enclosed by reinforcing steel caging including roof trusses. In some cases, the steel was so closely spaced that only pea gravel could be used in the concrete aggregate. However, this is a common occurrence in most quake-proof construction in Japan. A very fine brand of Portland Cement is produced by the Japanese known by the brand name of "Sano" cement. Test cylinders taken from the batches which were mixed by weight on the building sites, withstood pressures far above specification requirements. All concrete work was both rodded and vibrated in place, and practically all surfaces were equal to architectural concrete surfaces now produced here in America, though they were later roughened for reception of finish hereinafter described. Due to frequent earthquakes creating such unusual stresses, structural engineering in Japan has been developed to a high degree, particularly since the great catastrophe of 1923.

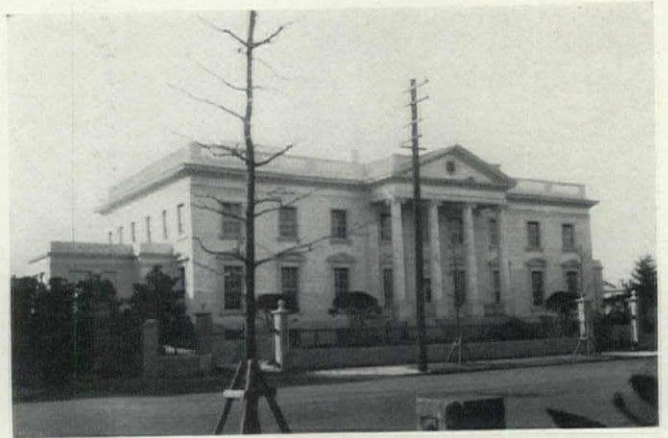
Exterior wall finish of the Embassy buildings, including enclosure walls around the site, is a sort of polished surface stucco, consisting of an application of five coats of mortar, applied direct on poured con-

crete wall surfaces previously roughened, and to the Japanese is known as "Jinzoseki", meaning a polished stone surface. Each coat of mortar is broomed after application. A seaweed binder is used generally in the first three coats. The seaweed is prepared by being boiled in large kettles on the site during construction progress, the seaweed fibres becoming tough in tensile strength through this process, and suspended in an almost transparent gelatinous mass. This mass is mixed into the mortar and forms both binder and reinforcement, resulting in a tough coat of mortar which appears to expand and contract without fracture during temperature changes, precipitation, or arid spells. Over the third coat of this material, a fourth coat of Portland cement mortar is applied, and the surface well scratched to receive the fifth and final coat, which in this instance was white cement, white marble dust, white sand, etc. A drying period was allowed between each coat. After curing all surfaces were hand honed, using water with the honing equipment, to a brilliant polish which tones down with weathering, but gives the appearance of the building being one enormous monolithic block of white marble with window and door openings cut into same. Bands, belt courses, trim, frieze, etc., were cast separately of the same material, but were fitted so closely into sinkages, and joints so carefully honed, that in all cases the work appeared continuous and without visible jointing. The thickness of a five-coat job will average one and one-half inches, but can be safely applied up to the usual thickness of stone facing or three and one-half to four and one-half inches by this method, and using a greater number of coats. This finish is durable and impervious to the damp, humid climate of Japan.

Roofs are covered with a heavy gauge ornamental copper, fabricated on the site in a modified Japanese Temple roof style, and presents a very pleasing appearance. Space under the roof on the Chancery Building and two apartment buildings is enclosed by parapet walls, and the roof set back, forming a walkway between the parapet walls and eaves of the roof. The roof is supported by an inner wall with large screened openings in it with doors leading out onto the walkway around the buildings under the eaves line. The walks and space in under the roof proper have been paved with quarry tiles and a roof garden provided on top of the two apartment buildings under the main roof. This provides air circulation for one full story height between the last story of the apartment buildings and the roof. This space is used for recreation by the tenants of the buildings.

Around certain window and door openings, wide bands of small vari-colored glazed mosaic tiles in beautiful pattern were used. Over the upper windows of the Chancery, the United States seal made of Architectural Terra Cotta, in colors, was placed nearly flush with the surrounding wall finish. Other windows are enclosed with beautiful bronze and wrought iron grilles. All entrance doors are of heavy ornamental bronze, well designed.

In these buildings, particularly the Ambassador's Residence and Chancery Building, the interior marbles, tiles, cabinet woods, flooring, etc., were imported



*American Consulate Building: Yokohama
Like the White House in Washington*

from many parts of the world. There are many fireplaces trimmed in rare marbles, marble door trim and combination marble and fine wood casings, baseboards, moldings, etc. Among the cabinet woods used were mahogany, ebony, teak, walnut, etc. This group of buildings truly represents a great and glorious country, in a noble and befitting manner.

Exterior wall finish of the Consular Building in Yokohama was also covered with the "Jinzoseki" finish, applied to the concrete wall surfaces as previously described under the Tokyo Embassy group, except that the last heavy coat of mortar consisting of white marble dust, white marble chips, and white cement, etc., was laid off in a uniform pattern to resemble stone jointing over the entire exterior wall surfaces. This was accomplished by special strips being used to form the horizontal and vertical stone jointing. These strips were later removed without any damage to the grooves thus formed, the entire surface hand honed to a perfect polished glazed surface, and the joints tuck-pointed with mortar of a slightly different color.

The building presents the appearance of a fine polished white marble-faced structure, and is truly beautiful. Bands, sills, trim, watertables, cornices, balusters, rails, etc., were all formed in place, are reinforced, and are an integral part of the structure.

Mechanical equipment for all of the buildings such as plumbing fixtures, electric fixtures, boilers, tanks, motors, ventilating apparatus, finish hardware, etc., made in America and shipped to the contractors. Most of the pipe and fittings were made and tested in Japan before using.

All structural materials such as piling, cement, sand, gravel, reinforcing steel, structural steel, wood framing, millwork, ornamental metal, miscellaneous iron, granite, roofings, etc., were furnished by the Japanese General Contractor. The original contract for the Embassy Buildings in Tokyo was let in America to the Wharton-Green Company of New York, who in turn, sublet the entire contract to Ohbayashi-Gumi Limited, General Japanese Contractors. This firm carried the contract to completion, handling all details.

In the case of the Consulate Building in Yoko-

(Continued on page 29)

STONE WORK

PART II

Mortar

Mortar is the means by which the individual stones of mass or structural stonework are consolidated into an integrated mass. In such work the mortar is an element of the completed work in which it performs the several purposes of providing bedding for the superimposed pieces of stone, of bonding the individual units of stone each to adjacent units, of filling up interstices between adjacent stones, of cementing the dissociated units into a monolithic mass, and of providing the barrier against the infiltration of the elements. As modern practice has largely abandoned the use of mass or structural stonework except for use under special conditions and has come to utilize stone more as a veneer for structures in which the primary structural element is a steel or reinforced concrete frame, the function of mortar has been modified to a considerable extent. Its strength, for example, is no longer exclusively relied upon to consolidate the elements of the mass into a structural entity nor to transmit the full weight of the superimposed structure downward in progressively increasing increments to the foundation.

The requirements of modern practice have introduced into the matter of mortars, elements for consideration which are incidental to the change from older practices. The use of thin sections of stone, often as thin as four and six inches for stones having large dimensions of height and width, has introduced such problems concerning mortars and their uses as the uniformity of bearing over the areas of horizontal joints, the water tightness of exposed joints of limited depth, and the compositions of mortars which may be used safely with stones of different characteristics and strengths. Rather than imposing new conceptions of the desirable properties of mortars, the modern requirements emphasize the importance of elements which have been long established as characteristic of good mortars.

Turning first to the composition of mortars. The designing agency habitually specifies the proportions in which the constituent materials shall be mixed and the purposes for which different mortars shall be used. Under such circumstances the field engineer has no authorized alternative but to follow the requirements of the specifications. If, however, he shall have knowledge of an inconsistency between the character of the specified mortar and the conditions under which it is proposed to be utilized and desires to take steps to obtain official modifications to suit those conditions, his recourse lies in a report, with recommendations, to the designing agency.

In the interest of brevity, a detailed discussion of the cement mortars, which are rather extensively covered in the chapter of this series devoted to brickwork, will be omitted here.

In addition to the cement mortars, elastic compounds are required to be used in portions of designated joints at various places in stone structures. These compounds are usually commercial products which are forced into portions of joints by pressure guns in order to form water-tight joints which possess flexibility and resiliency. For thin section interior standing stone, plaster of paris mortar is most generally used.

Reverting to the matter of mortars for structural uses, particular emphasis must be placed upon workability, plasticity, strength, impermeability, and freedom from elements that will stain the stonework. Plasticity and workability are highly essential because of the conditions under which the joint mortar is to be used. Deficiencies of these qualities become manifest through difficulties encountered in forming uniform bedding in the narrow horizontal joints and through the uneven bedding of large stones which, in extreme cases, may cause a breakage of the stones improperly bedded. Strength of mortar, while dependent quite directly upon the specifications, must be adequate to support the superimposed loads. With modern cements, however, the strength of the mortar is more likely to be excessive than deficient. If such be the case, subsequent normal shrinkage in the mortar or the transmission by it of excessive loads at the

faces of joints will result in ravelling or spalling the corners of the stones if the latter have less strength than the mortar. Impermeability of the mortar itself is obtained by the use of properly graded sand together with thorough mixing prior to use. Impermeability of the mortar, however, is not to be confused with impermeability of the finished stonework. The latter is not obtainable even with the most impermeable mortar unless the workmanship put into the setting is such as to eliminate all of the sources from which leakage may spring. Non-staining characteristics of mortar derive from the absence in the mortar of any chemical the fugitive nature of which will leach out under the action of moisture entering into the stonework and subsequently evaporating from its surface. When the source of the staining is in the cement which is specified to be used, the field engineer has little opportunity to eliminate it. If, on the other hand, it is in the sand, rejection of material containing the undesirable and deleterious substance is proper.

Field Supervision

The supervision and inspection of the placement of the stone embraces many phases beginning with the delivery of the material on the site, through the period of its placement in the work, to its completion and acceptance in the building as a whole. The inspection involves activities which may be reviewed under several headings.

Inspection of Material on Delivery

While it is the contractor's responsibility to furnish and install only such material as will be acceptable when completed, it is advisable, because of the nature of the material, that a general inspection be made on its arrival at the site. First inspection should be made to determine conformity of the various pieces with the approved sample, as respecting quality, limits of imperfections, and finish of surfaces, and to isolate and cause removal from the site of material irreparably damaged in transit. The rejection of materials by the inspector for noncompliance with contract requirements, might be from the following causes: first, in materials; poor quality in structure, improper texture, off color, bruised or stained surfaces, fractures, sand holes, patched surfaces, over-predominance of characteristic imperfections; second, in faulty fabrication; coarseness in or evidence of poor workmanship, as improperly cut reprises, miters, and, return heads, seats, beds, ends, backs, depressions and hollows beyond those allowable, joints out of square, improperly finished or wavy surfaces, irregularities in cutting of moldings, alignment and poor matching of ends of moulded work, improperly cut holes for lewis and anchorage connections; stone weakened by back-checking; or, third, in handling; chipped edges in arrises and corners of exposed work, and stains which cannot be satisfactorily removed before placement.

Inspection of Equipment

It is essentially the contractor's problem to organize and furnish the equipment adequate for and consistent with the extent and nature of the work. It is within the province of the construction engineer, however, to call to his attention the rigging and hoisting equipment if it is inadequate, inefficient or otherwise unsatisfactory, either for the handling and care of the materials or for the protection and safety of workmen. Satisfactory stone material can be spoiled by the use of improper or inadequate equipment as well as by inexperienced or careless workmen. The magnitude of the work should be the principal factor in the determination of the type of equipment; that usually required for small buildings will be entirely different from that for the handling of the stone for large buildings. The important factor is that the equipment and devices for the handling of the stone be adequate and consistent with the sizes and kind of stone and with the character of the work. Stability and adequacy of scaffolds and their maintenance in good condition is essential not only for the safety of workmen but also for good workmanship which is unattainable if the workmen are

conscious of possible accidents growing out of insecure scaffolding.

Inspection of Setting

Inspection of the setting of stonework presumes that prior determination shall have been made of the acceptability, in all particulars, of the individual stones to be set, of the suitability of the mortar to be used, of the applicability of the methods to be utilized and of the competency of workmen to be employed. Thus the inspection of setting is primarily directed to the workmanship applied to the placing of the stone and to the detection of damage suffered in moving the individual pieces from storage to their respective places in the finished work. Upon completion of the setting, the stonework will have assumed its permanent characteristics which will thereafter convey or fail to convey the feeling and atmosphere which were sought in its conception and it will perform or fail to perform the structural functions essential to the integrity of the construction. The setting of the stone is the materialization of an idea, a dream or possibly an inspiration of the designer, through the operations of the builder. Viewed in this light, over-emphasis of the importance of adequate and competent inspection of stone setting appears to be impossible.

The fundamental requirements for good stonework are that the appearance of the finished work shall conform to the expressed directions of the designer and that the completed construction shall be structurally sound. In the attainment of these ends, the nature and character of the inspection must be such as will insure these results. As between these fundamental requirements there is no priority of importance. If the finished work shall faithfully fulfill the expressed requirements of the designing agency but its appearance prove disappointing, the field engineer will have performed his function. If, on the other hand, the finished work shall prove to be structurally deficient as the result of poor workmanship, the engineer will find little consolation in the fact that he may have learned something that should be done differently upon future jobs.

The setting of exterior stonework falls into two broad classes. That in which the stone is utilized with little shaping and fabrication prior to its use is rubble masonry. That in which the stone is highly fabricated and finished prior to its use is ashlar masonry. Between these two extremes are gradations in refinement of fabrication covering the entire range between them.

The setting of rubble masonry is very generally required to be preceded by the construction of a sample wall which, after being approved for conformity with specification requirements, serves as the standard for exterior appearance to which the finished surfaces of the structure should conform. If the sample wall is required to be constructed under the direction of the foreman and with one or two of the key workmen who will subsequently be employed upon the permanent construction, an excellent opportunity will have been utilized to determine upon the precise operations required to lay up satisfactory work and thus eliminate experimental methods from the permanent work.

In appearance, rubble masonry appears to be the result of a haphazard procedure. As a matter of fact, first class rubble work is more exacting in the demands made upon the builder than are the more highly fabricated types of masonry. The stone is generally delivered to the work in random sizes and shapes devoid of schedule. From the mass of irregular stones, selection of the particular stone which possesses the color, shape and size to be laid in each specific place must be made. The arrangement of stones in the face of the wall must be such as to form courses at required intervals or they must be such as to avoid the appearance of courses. In bearing walls provision must be made for adequate through bonding of the work.

The construction of rubble masonry requires careful supervision in order that the appearance of work laid up by different workmen is harmonious in pattern, joints and finish. In no other class of stonework are the individual tastes, inclinations and qualifications of different workmen so readily apparent in the finished rubble stonework.

The irregular shapes and crude surfaces of stones used in rubble masonry introduce factors of great importance in the building of structurally sound work. The irregularities

of the contact surfaces require adequate mortar and good bedding. In vertical joints, excessively large cavities may be chinked with spalls or smaller stones provided that they are entirely surrounded by mortar. Due also to the irregularities in the shapes of individual stones, rubble masonry work requires proportionally large quantities of mortar in order to fill all voids and cavities. On this account, an unscrupulous builder may find it to his interest to use no more mortar than the inspector requires. Particularly in the more porous varieties of stones care must be observed to prevent absorption of mixing water of the mortar by the stone by thorough wetting of the stones prior to setting.

When stonework is used as ornament for brickwork in the form of quoins, trim for openings, arches or similar details, the improper alignment of joints in the brickwork and the stonework may detrimentally affect the architectural appearance.

The individual stones which enter into ashlar masonry are all fabricated and finished to be placed in predetermined and specifically designated places in the structure. The workman has no alternative but to place each stone in its intended location. With the removal of the necessity for selecting and fitting rough pieces of stone into the work as in rubble masonry, other conditions are introduced which require operations of entirely different but equally exacting natures. Exposed surfaces which are designed to lie in the same plane must lie only in that plane; continuous joints must be in perfect alignment; joints designed to fall upon separated parts of the same line, either horizontal, vertical or diagonal, must be upon that line; the widths or thicknesses of joints must be precisely those contemplated in the preparation of the shop drawings. These requirements reflect the perfection of craftsmanship that monumental buildings, in which ashlar masonry is more predominantly utilized, are considered to embody. The inspection of the setting of ashlar will be greatly facilitated if the field engineer will discuss with the foreman in charge of the work the methods to be utilized in order to obtain the desired results and reach an agreement with him concerning the procedure to be followed. During the initial stages of the work and until the workmen become thoroughly familiar with the technique agreed upon, close supervision of their work will usually yield large returns as the work becomes more advanced. Care must be exercised to insure the proper and full bedding of stones in the setting mortar; all joints must be filled tightly beyond the depths reserved for pointing; parging of the backs of stones, where required, must be conscientiously done; and the spaces between the stones and the backup material, whether previously built or carried up with the stone must be thoroughly filled with mortar or grout as conditions permit or the specifications required. Where stones have been recessed, grooved or specially bedded to fit around, over or upon adjacent steelwork, their setting requires careful attention and supervision. In all cases areas of stone against which mortar is to be placed require thorough wetting before placing in contact with the mortar.

In the larger cities, mechanics thoroughly familiar with the operations required and experienced in the setting of ashlar are usually available. In smaller communities, however, such workmen are seldom available and the quantity of stone to be set is so small that the cost of importing experienced men is prohibitive. Under the latter conditions, it is the usual practice to set the stone with bricklayers which brings about a situation which imposes upon the field engineer a considerable burden of educating the workman to the point where he will turn out acceptable work.

The refinements of setting ashlar emphasize the importance of uniform joint thicknesses. The greatest uniformity is obtainable by the use of nonrusting metal gages. Such gages consist of narrow metal bars which extend back from the face of the work a distance equal to that to be penetrated by the pointing mortar and are of a thickness equal to that of the finished joints. When a stone is to be set, the gage for the bottom joint is laid along the face of the previously laid lower course and the bed mortar spread over the remainder of the joint to a depth which, after compacting under the weight of the newly laid stone will correspond with the thickness of the gage. For vertical joints, the gage is held in the corresponding vertical position until the newly laid stone shall have been shoved firmly against it. The gages are

removed promptly after the respective stones shall have been set and bedded. For inspection purposes, the field engineer may verify the proper thicknesses of joints if he will provide for himself a metallic pocket gage that will just slip between adjacent stones when they are properly set. Such a gage should be not less than two inches in length. If a shoulder is provided at a distance from the front edge of the gage equal to the depth of pointing mortar to be subsequently applied, an inspection of that detail can be made concurrently with the verification of the joint thicknesses.

As a general rule, the use of wedges may be taken as the earmark of inexperienced workmen. Experienced stone setters need to employ them only occasionally and under special conditions such as to facilitate the setting of lintels, the bedding areas of which are small, or to hold a freshly set stone against tipping until it can be positively anchored into place. Wedges, when used, should be as small as possible, of soft wood and thoroughly soaked in water prior to their use. They should be removed from the work as quickly as possible. The principal menace to the work which is introduced by wedges arises from absorption of moisture by the wood which causes its expansion with the result that enormous local pressures are exerted upon the stones. The result is spalling along edges and irreparable damage to the work.

For all exterior stonework, protection of unfinished work against infiltration of water from the top must be provided, otherwise efflorescence with its accompanying discoloration and disfiguration may be expected to ensue. A safe rule is that top of unfinished work shall be protected at all times, except for those portions upon which work is in progress, with an adequate covering capable of shedding water and discharging it beyond the edges of the exposed area. Canvas provides the most effective covering; lapped planking laid to slope for drainage are better than nothing.

Setting of interior stone is subject to the same general requirements as for exterior stone but with proper allowances for the less rigorous climatic conditions to which it is subjected and for the usually more favorable conditions under which access to it is had. On the other hand, the finer finishes in which they are manufactured require more careful handling.

The purposes for which stonework is used in interiors are predominantly decorative. Harmony of color and perfection of installation contribute largely to the performance of its function. Where latitude of selection is made possible by the availability of several pieces of stone of like dimensions, care should be exercised to place adjacent to each other those pieces which produce the most pleasing effect. In setting, preservation of surface planes warrants serious attention. It must be remembered that irregularities in surfaces lying in a single plane are more pronouncedly revealed by reflected than by direct light.

In the laying of flooring stone, the fill must be as nearly level as possible and the individual stones fully and evenly bedded. Preliminary to laying, the stone should be laid out over considerable areas, including whole rooms if possible, in order that pattern and fit may be adjusted to such extent as may be required to take care of minor discrepancies and obviate the possibility of introducing small supplementary or adjustment pieces.

In setting of standing stone as for wainscots, the mortar will usually be plaster-of-paris. The respective slabs when set against a structural wall should be set with buttons of plaster-of-paris well distributed over the area rather than solidly backed with the mortar.

Whether the stonework be exterior or interior, the best of materials and workmanship may be spoiled by lack of adequate protection after setting. At best, construction operations are inherently robust rather than delicate. Logical procedure often dictates the performance of subsequent operations which entail features that are potentially harmful to previously completed work. The purposes for which the stonework are employed are predominantly suggestive of luxury rather than of utility. In recognition of these considerations, the protection of stonework deserves and demands serious consideration. Projecting ledges, sills and details should be protected by planking; minor projections which will collect falling mortar by heavy paper; protruding or exposed corners, by substantial timber guards. Surfaces which are exposed to defacement from any source should

be guarded by fender or covering consistent with the possible hazards to which they may be subjected.

Pointing of Stonework

The purpose of pointing is twofold: first, to seal exposed joints with mortar which will be impenetrable to moisture; and second, to finish the joints of the masonry over entire wall area of building so that they will present a uniform finished appearance. In some instances it is more practicable and advisable to do the pointing immediately after the setting of the stone in order to insure good bonded joints. Such instances include the bed areas of comparatively small pieces such as balusters, small cap stones and similar parts of ornamental work and such other stonework as, after setting would later be accessible with difficulty or great hazard as in the case of pinnacles, turrets and such features. Usually, however, the pointing is done at the time of cleaning down of the exterior masonry surfaces. At the time of setting, the stone is so bedded that the outer face of joint is left free of mortar for a depth of approximately one inch. Specifications usually require that the joints be raked out to a certain minimum depth and be wet thoroughly prior to the application of pointing mortar. A successful and permanent job can be expected only when the joints have been thoroughly cleaned out to the depth required, all dust and loose particles brushed out, and the joints thoroughly wetted prior to the placing of the mortar. If the joints shall have been insufficiently raked out while the mortar is green, it will be necessary to cut out the mortar to the required depth with a quirking tool or with a special grinding wheel. In performing this work care must be exercised to prevent damage to the exposed arries of the stone. Unless the surfaces within the joint and the mortar at back is thoroughly wetted, absorption of moisture from the small body of mortar inserted will weaken its adhesive and hardening qualities. The pointing mortar should be rammed into contact with and bond continuously to the setting mortar in all back and side surfaces of the joints. All pocketed air should be forced out and the joint so tightly filled as to resist the penetration of water. The freshly pointed joints should be kept moist for several days during the curing period. Pointing should not be done in freezing weather nor when freezing is imminent. During periods of hot weather particular care should be exercised to insure that the fresh work be kept moist and under cover during the curing period to insure proper setting and hardening. The tools used for pointing should be of non-rusting metal in order that the work will not subsequently stain.

While the quality and required plasticity of the pointing mortar is essential, a good job of pointing is obtainable only when first-class workmanship is put into the placement and finishing of the mortar. The outer form of joint is determined by the designing agency and may be one of various types or section. Water tightness of the finished structure is more nearly assured when the form of joint is designed so as to shed water rather than hold it.

The joints in ashlar masonry and fine cut work are required to have a uniform width and a finished profile section such as: concave, flush or weather-struck type.

In rubble masonry the design may require joints of various widths and of such detail as: flush, weather-struck, concave, ribbon, beaded or grooved type. The surfaces of wide joints are often required to be brushed with burlap or by straw broom to remove sheen caused by the pointing trowel or tool.

A special pointing with an elastic compound is required for joints in the top and wash surfaces of projecting courses, cornices, top and bottom rails of balustrades, blocking courses, copings of parapet walls, and the horizontal top joints abutting these courses. The purpose of this type of joint is to provide a sealed watertight filling which will not be affected by movement in the masonry arising from either expansion or contraction of the stone material, ordinary settlement in the structure and walls, or from other like causes. Prior to the placing of the compound, the joints must be cleaned out to a minimum depth, and the edges and inside surfaces of joints must be carefully treated as required with a sealing solution in order to preclude the absorption by the stone of the oil in the compound. Application of the compound should be made only when the stone is thoroughly dry and it should always be placed by pressure gun. One or more applications may be necessary to seal the joint properly

because of air pockets which form within. The best finish of such joints is a good convex contour which will allow for shrinkage of the material caused by escape of air from within and by movements of the building. Care must be exercised in the finishing of these joints to prevent the discoloration of the face of the stone around joint.

For interior marble, slate and like materials, the joints are required to be much less in width than for exterior stonework and require no special pointing. The joints in such work are usually filled and finished with grout mix of neat cement or plaster of paris at the time the material is set. Close inspection and supervision is necessary to see that all such work is properly done at time of initial setting as correction of defects is generally unsatisfactory.

Cleaning of Stonework

The cleaning of exterior stone is a requirement which is applicable to both new and old buildings. For new buildings the purpose of the cleaning of stone is the removal of mortar stains and accumulations accruing from setting operations, together with all surface dirt and disfiguration accumulated during construction. For old buildings the purpose of the cleaning is renovation and restoration of originally clean surfaces by the removal of all accumulated dirt, soot, grime, and stains.

Preliminary to discussion of the methods and processes of cleaning, it is proper to consider the fundamental consideration from which a cleaning project emerges. For some reason or other, the owner decides that the stonework shall be cleaned. Whether it be a new structure which he desires shall be delivered to him in all the grandeur of its newness or an old structure from which he desires to remove the dirt and discoloration accumulated through years of service, his fundamental wish is that the renovated building shall be clean and that it shall suffer no material damage from the processes employed in the cleaning operation. To emphasize the point, usually the owner has no interest in the manner in which the building is cleaned as long as it suffers no damage as a result of the operation.

Processes applicable for general cleaning purposes under conditions which entail no special considerations fall into principal classes which may be designated as: first, the dry brushing method; second, the wet bath method; third, the steam cleaning method, and; fourth, the abrasive method. Of these methods, the use of the last is restricted to the cleaning of old buildings. In addition to these, other special processes are applicable for use in specific cases where the discolorations are of such obstinacy as to defy removal by such of the general methods as may be applicable to the affected stone or stonework.

The dry brushing method consists of removing the extraneous material from the stone areas by the use of either hand operated or power driven brushes having fibrous or wire bristles. If wire brushes are used, the metal of the wires should be such that those particles which wear off during the process and adhere to the surface will not stain it through subsequent corrosive action. In general, the process may not be considered to be highly effective for the cleaning of surfaces in which there are depressions into which the bristles cannot be made to penetrate readily or for the removal of surplus mortar accumulations which adhere with considerable tenacity.

The wet bath method consists of removing the extraneous material from the stone areas by first scrubbing them with a bath of water containing a cleansing agent and following immediately with a bath of clear water to remove the deposits which would remain following the evaporation of the residual cleansing solution. The cleansing agent utilized in each case must be adapted to the requirements of the specific job. It may be boiled soap powder, it may be sal soda or ammonia, it may be muriatic acid or a specially prepared or a commercial compound. It is fundamental that the agent utilized shall have no deleterious effect upon the stone to which it is applied nor upon the mortar with which it comes in contact. The actual cleansing is accomplished by the scrubbing with the impregnated solution. This is accomplished by applying the solution to the surfaces with brushes, which may be either manually operated or power driven, and scouring thoroughly until the deleterious substances are dissolved or removed. As the work progresses, the scrubbing

must be followed promptly with a thorough washing of clear water which will remove or dilute to a harmless strength the residue of the impregnated solution and will flush off the dirt-charged remains of the initial scrubbing. Particular care must be given the selection of the brushes used in this process and only those utilized which are consistent with the nature of the stone to which they are applied and to the character of the finish upon exposed surfaces. If brushes having metallic wire bristles are used, the use of ordinary iron or steel wire must be avoided otherwise rust stains will appear subsequently as corrosion takes place.

The steam cleaning process consists of removing the extraneous material from the stone areas by the application of steam by one of two methods. In the live steam method, the cleansing agent is introduced into the boiler and steam generated from the mixture is blown against the surfaces to be cleaned through nozzles connected to lines running directly from the boiler. Such nozzles are usually equipped with supplementary nozzles from which water is sprayed upon the steamed surfaces immediately following the cleaning with the steam in order that the washing will promptly follow the steaming. In the cold steam process, the temperature of the cleansing agent is reduced by the introduction of cold water into the steam at the discharge nozzle. The washing down of the areas is accomplished by shutting off the steam and playing clear water upon the treated surfaces. While the use of steam methods is well established in the industry, they should be employed with the greatest caution and even then should be under the direction of master workmen of long experience in their use and whose knowledge of the interaction of the cleaning agents, the steam, and the stone has been definitely established.

The abrasive method employs fine sand under pressure as the cleansing agent for the removal of extraneous matter. The sand-blast method consists of directing a stream of sand laden compressed air against the areas to be cleaned until the clean surface of the stone is exposed. Subsequently the accumulations of sand and dust are removed by air jet or brushing. The wet sand-blast method, or the hydro-silica method as it is sometimes termed, consists of directing a stream of sand laden water against the areas to be cleaned until the clean surface of the stone is exposed. Subsequently the accumulations of sand and dirty water are removed by spraying with clear water. These means of cleaning are employed almost entirely upon old buildings. The abrasive effect upon the cleaned areas is considerable at best but is less for the wet method. The sand should be selected so that no discoloration of the stone will result from its use.

Cleansing agents must be selected with due regard for the character and finish of the stone to be cleaned and after consideration of the nature of the extraneous material to be removed. Granites, due to their hard crystalline structure and their composition principally of quartz and feldspar, are resistant to attack both by acids and alkalines for considerable periods at ordinary temperatures. For cleaning them, most any cleaning agent may be employed which will remove the extraneous matter satisfactorily. An alkaline solution will usually remove soot and smoke accumulations readily. Special attention must be given bush-hammered and sand-blast finished surfaces to insure thorough cleaning and washing down in order that no subsequent staining will ensue.

Limestones, particularly those employed in exteriors of buildings, offer less resistance to damage by cleaning agents than granites. As a preliminary operation, limestone surfaces can be most satisfactorily cleaned if they are first vigorously brushed down with stiff fiber brushes which will remove the principal and loosely adherent extraneous matter. Then follows an acid bath composed of one part of muriatic acid (HCl) and not less than ten parts of water. The latter should be applied with a wide brush and allowed to remain until nearly dry when it should be washed down with a brush operating in a stream of water from a hose. The chemical action which takes place between the acid and the limestone is extremely mild due to the weakness of the solution. It consists of the formation of calcium chloride, the most soluble of calcium salts, which readily dissolves in and passes off with the wash water. The method has the advantages of relatively low cost and of perfect safety for the workmen.

Sandstones, except for a few of the denser and finer grained varieties, have a more coarsely granular structure

than other building stones and, therefore, accumulate extraneous matter upon their surfaces more readily and to greater extent than the others. The removal of extraneous matter may be done, in the milder cases, by the wet bath method utilizing vegetable fiber brushes and a wash in which the cleansing agent consists of sal soda or ammonia mixed with the water in the ratio of one part of the agent to ten parts of water. In the more aggravated cases, resort must usually be had to one of the steam cleaning methods in which an alkaline agent is employed.

Marbles, because of their finer textures and of the more refined surface finishes generally applied to them, require careful consideration of the means to be utilized in their cleaning. Polished surfaces should never be subjected to treatment with acids, nor should they be touched with brushes having wire bristles. As a general rule, a preliminary washing with clear water followed by the application of the wet bath method in which fiber brushes and a one to ten solution of sal soda or ammonia in water are utilized for the cleansing bath will yield good results.

The principal difference between the cleaning of exterior and interior stonework arises from the fact that whereas the former is cleaned only at intervals of years and involves an operation of considerable magnitude, the latter is usually done frequently and assumes the nature of routine care and maintenance. The processes hereinbefore discussed are equally applicable to exterior and interior stonework, but because of the more continual attention which it usually receives and of the less rigorous conditions to which it is exposed, interior stone seldom requires the full application of the more rigorous measures employed for exterior work.

In practice, all of the building stones are utilized for interior work. The use of the granites, limestones, and sandstones is much more limited than that of the marbles. The former serve specialized purposes as for lobbies, corridors, and large rooms or auditoriums of monumental structures; the latter find wide and varied uses in structures of all sizes. For present purposes, the discussion of cleaning of interior stonework is restricted to the care of marble.

The finish almost universally given interior marble is highly polished. The preservation of such a finish precludes the use of any harsh abrasive in the cleansing agent and requires careful selection of the agent and of the method of application. The success that may be expected of any method of cleaning depends to a large degree upon the softness of the water used—the softer the water, the more satisfactory the results.

The operation of cleaning the marble involves: first, the washing of the surfaces with clear water; second, washing with the solution containing the cleansing agent; third, washing promptly with clear water; and, fourth, rubbing down and drying with soft cloths or chamois.

For colored marbles, a cleansing agent of soft soap made from vegetable oils will usually prove satisfactory. For white and light colored marbles, however, the repeated use of soap will lead to a yellowish surface discoloration. For such marbles the cleansing agent should be ammonia used in as weak a solution as will remove the surface film of grease and dirt but in no case stronger than one part of ammonia to ten parts of water. The use of acids, except oxalic, as cleaning agents is harmful to the finish of marbles. Oxalic acid used with ten parts of water at infrequent intervals is beneficial in the preservation of polished marble surfaces. Particular caution is required if floor marble is cleaned with soap in order to insure the removal of all residual soap from the floor surface otherwise a slippery and dangerous surface will result.

The removal of stains either from interior or exterior stonework presents specialized problems and requires the adoption of measures which are consistent with the nature of the stain and the character of the affected stone. The methods most generally applicable involve the use of a poultice usually composed of plaster of paris as a vehicle into which has been mixed the chemical or absorbent agent whose action upon the stained stone will bring about its removal.

The cleaning of stonework is no work for an amateur—either as supervisor or superintendent. As in many other fields of construction operations, there is no substitute for experience and judgment in the personnel responsible for the operations. When in doubt, call an expert. The damage

that may be wrought through the adoption of improper methods may be of such magnitude and is certain to be of such permanency as to form a lasting memorial to an improper decision. An aid to the determination of the method to be adopted for a particular project is the cleaning of relatively small sample areas by several processes which may appear to be suitable. Based upon the results of such tests, the process which promises to be most satisfactory may be adopted.

When the designing agency shall specify specific methods by which stonework shall be cleaned and the contractor shall comply with those requirements, the field engineer or supervisor has little latitude in the modification of methods either in the interest of a more satisfactory cleaning job or in the safeguarding of the integrity of the structure. If, on the other hand, the designing agency shall restrict its requirements to a general statement of the fundamental interests of the owner that the structure shall be cleaned without damage to it, the field engineer or supervisor is called upon to exercise his best judgment, subject to such mandatory approvals as may circumscribe his authority, so that the objectives of the operations shall be attained. In any event, prior to permitting work upon any major portion of the structure to be undertaken, the most important phase of the engineer's activities occurs during the preparatory stages when the details of the work are being determined. One of his chief interests should be the establishment of the competency of the superintendent and foreman in charge of the work and of the ability and willingness of workmen to perform their tasks carefully, thoroughly, and in strict conformity with the details of the method adopted. Recourse should be had to an abrasive method only as a last resort after determination that no less rigorous method will produce the desired results, and with further restriction that dry sand blast should be utilized only upon the granites.

Efflorescence in Stonework

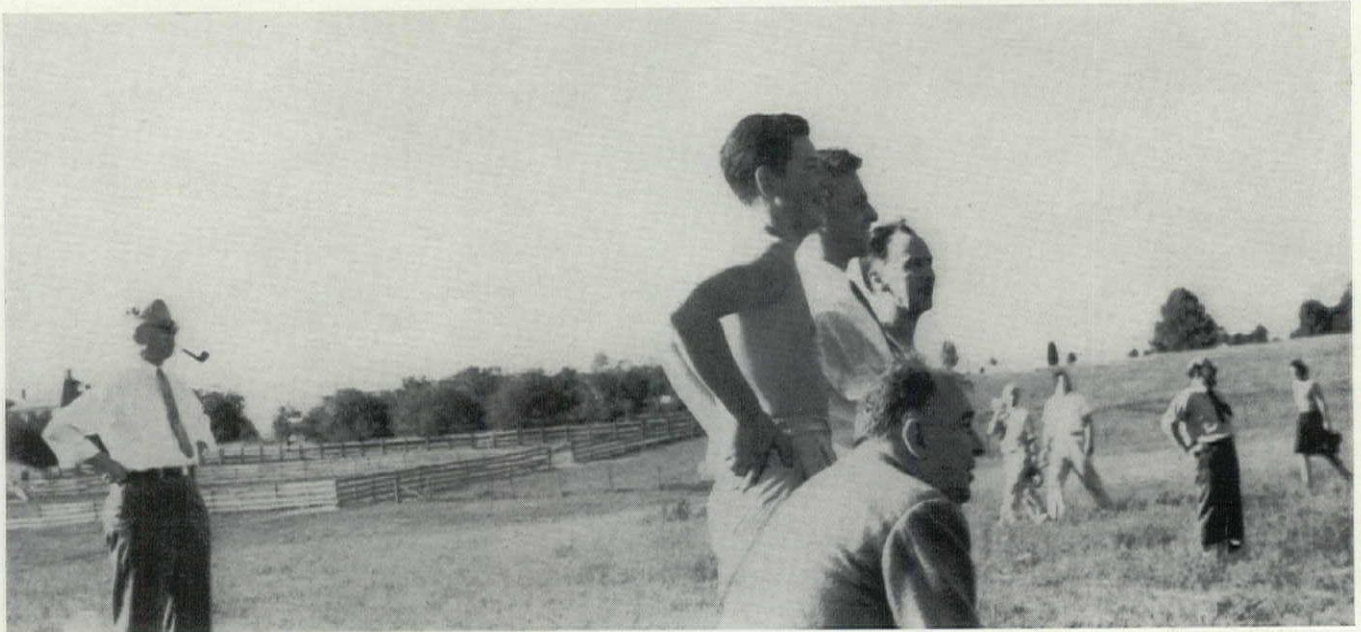
Efflorescence in exterior stonework is evidenced by the appearance of an unsightly whitish, powdery substance on exterior wall surfaces of stone masonry. Its presence is usually definite evidence that moisture has at some previous time entered the wall. It is generally conceded that efflorescence is the direct result of the action of moisture on the soluble chemical constituents in the structure of the stone or in the ingredients of the mortar, or both, which in solution eventually finds its way to the outer surface of the wall. There the liquid content evaporates, leaving the residue of crystalline powder, principally composed of lime carbonate and sulphate.

Efflorescence may become evident at various places upon the surface of the building and may originate in such causes as: pervious mortar, poorly filled joints, or the porous and absorbent nature of the stone. Conditions are favorable for efflorescence where the stone grade course, which contacts the soil, is pervious to moisture and, by absorption during periods of wet weather or snow, will cause the wall above grade course to become permeated by capillary attraction.

A surface accumulation of soot and dust particles may cause a surface discoloration in addition to that caused by its adherence to the structure. During wet seasons and periods when the atmosphere is saturated with moisture, this accumulation absorbs the moisture and forms an acid solution which is drawn into the stone by capillary attraction. This solution sets up a chemical action within the stone and subsequently leaches out with the result that the surface of the stone is discolored by an efflorescence which partakes of the characteristics of a weathering.

Where conditions contributing to the efflorescence in particular cases are traceable to the quality or absorbent characteristics of the stone selected, or to the design of construction detail, the responsibility therefor lies clearly with the designing agency. However, where the efflorescence is found to be resultant from poor workmanship in the placement of the materials, improperly prepared mortar, lack of proper precautions and supervision by contractor or his personnel in charge, the responsibility lies with the contractor and the personnel engaged in construction operations. In turn, where such conditions are found to exist, a reflection on the inspection and supervision by the construction engi-

(Continued on page 30)



Hart and Pipe

MacDonald

Monfalcone

SUMMER OUTING ASSOCIATION OF FEDERAL ARCHITECTS

*Illustrated with candid camera
studies hitherto unpublished*

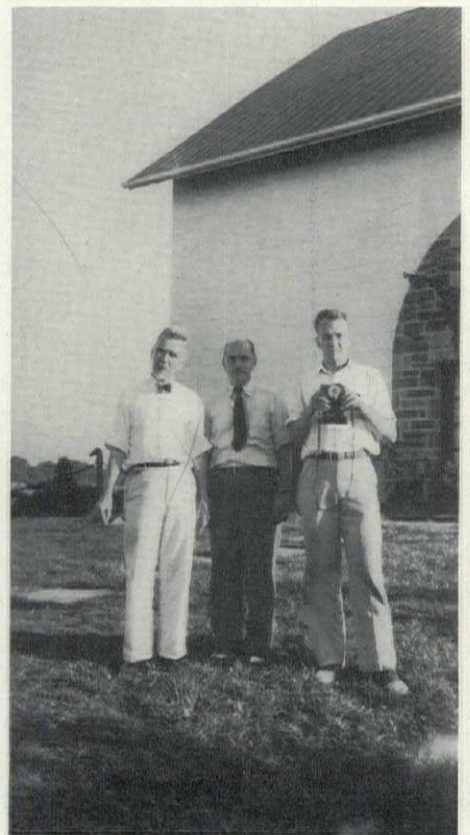
Humphrey Monfalcone

ON Saturday, September 16th, the Association of Federal Architects had a Summer Outing. It was pretty close to the time for the budding of the last rose, and therefore very close to the autumnal season, but when the matter was submitted to the Comptroller he ruled that any event actually previous to September 21st was in the Summer season.

At any rate it was an ideal Summer day and everyone came equipped and ready for Summer sports. Many athletes hitherto unknown performed in spectacular and amazing fashion at soft ball, croquet, bridge and badminton.

Perhaps the most spectacular performances came later when dinner was served. Brook Johns, who operates a renovated barn for restaurant purposes, provided plenty of food—and a plenty was needed—for the hungry horde of Sammy Wests, Culbertsons and Glen Cunninghams. It was an inspiring thing to see the hundred or more architects, wives and sweethearts gathered in the lengthening shadows of the trees, and to think that architecture isn't such a bad thing after all.

This was the first meeting at which Monfalcone acted in his new role as president of the Association, and the occasion was satisfactorily auspicious. Ray Hart was also present, with his inevitable pipe, lending distinction to the party.



(Continued from page 6)

taking it all in too. Suddenly, sliding along on his elbow as though it were a sled runner, the nondescript halted alongside the aforementioned group and said to the speaker; "Hy you; I suppose you think you have been everywhere and have seen everything; but did you ever have delerium tremens?" "No," said t'other feller. "Well then," said the intruder, "you ain't seen *nothing* yet."

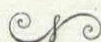
And, Eddie, continuing to discuss the weather, because it seems to be something that we have more of down here than almost anything else, unless it is war news or the debate in the senate on the neutrality bill, I might add that the weather bureau forecaster here seems to have got tired of being a broadcaster and his turned the job over to a subordinate who has been giving us no better weather than his boss who dealt us highs and lows without shuffling the cards. I don't know whether this subordinate is a New Dealer but he is a raw dealer. It's been a long time now that he has been serving us daily for mid-day consumption the same old "partly cloudy with occasional showers" and occasionally seasoning the Season with a sprinkling of squalls.

From a meterological standpoint the Bahama Islands stand in about the same relation to us that the Balkans do politically to the rest of the people of Europe. Both are hotbeds for hatching disturbances. Old Boreas and Jupiter Pluvius are the Hitler and Stalin of the elements, and they meet out there to hatch out their deviltry. This past season they mixed the brew for three or four tropical disturbances, some of which died a borning, and none of them came this way. We are now approaching the end of the hurricane season and dare indulge the hope that the gods of the bellows and watering-pot may "fold their tents like the Arabs and silently steal away." With the going of the hurricane season comes the tourist season and nothing can be done about it. Judging from the crowds at the two race tracks the principal purpose of a large number of tourists in coming here is to offer up a sacrifice on the altar of Lady Fortune. They are attracted to the races where their dollars are extracted and subtracted. I think there are other things that are worse morally, but few that are less remunerative. The business interests here are anxious to have the racing season curtailed; but I fear they are less concerned about protecting the tourist than they are in diverting their dollars into the channels of trade and listening to the tinkle of their cash registers. If they were sincere and wholly disinterested they would fight all forms of gambling, but it makes a difference whose balloon is punctured. There is one game of chance where the odds are always against the wise guy that thinks he can beat the other fellow's game. Believe it or not there is no ordnance against selling cantaloupes, and yet if trying to pick a good one isn't a gamble than I don't know when I have been badly stung.

Well the old office has again been reorganized, has had its face lifted and is lying in the lap of the gods. I hope they will be good to all of you, to whom I send affectionate regards and best wishes, and hope you won't have to operate through any boards, because

as General Goethals once said, "all boards are long, narrow and wooden."

Sincerely,
"The Judge."



LETTER FROM RICHEY

New Orleans, La.
July 14, 1939.

My Dear Eddie:

While looking through my file of THE FEDERAL ARCHITECT today, it came to my mind that I had failed to submit to you the usual "monthly report" for several months past, so will now advise you that I am still on the map, in the vicinity of New Orleans. I have been a little worried thinking you might quote from one of my reports, as you did several months ago, where the construction engineer stated, relative to reinforcing not in place, "I advised them I would not make any further visits unless they notified me." Well, Eddie, this just about evens up matters in connection with the case where the office sent an engineer to make an inspection of a post office building, which had been razed two years prior to the date the engineer was sent. In such case all he could do would be to inspect the site and advise it was still there.

I suppose you have noticed how our State of Louisiana are always the result when one "gang" or party is in power a number of years. Not many years ago, architects, contractors, material men, e. c., were convicted of graft in connection with the construction of the Pennsylvania State Capitol, where Republicans had been in power for a number of years. I recall they bought the furniture by the cubic foot, taking the longest dimensions in three directions; the light fixtures were purchased by the pound, and when investigated, the tubes and shells were found to be filled with lead to increase the weight. Etc., etc., etc.

Then I recall the "turn-over" in San Francisco in the middle eighteen-nineties, where Chris Buckley, a blind saloon keeper, had been boss for twenty years, and who fled to Canada. Such is life in politics. I prefer the business of not building houses.

When going through some old papers a few days ago, I found a rate card which I took from a door to a room in a hotel in western Tennessee, in which I stayed over night a few years ago. It reads as follows:

RATES—HOTEL	
One on bed	\$ 1.00
Two on bed	2.00
Three or more on bed	5.00
Meals50
Meals served in room, unless sick75
Room soiled by drunkenness	10.00

Being on a \$5.00 per diem, I could not take advantage of the \$10.00 rate.

Here is a story from the ancient archives, which you may enjoy. A number of years ago, a construction engineer applied for a ticket at a railroad station in the State of Washington, presenting a transportation request which the agent refused to honor. A business man from Illinois standing nearby said to the Construction engineer, "If the agent will not accept your transportation request for the purchase of a ticket, I will take it and advance you as much money as you need to pay for the ticket." The transaction took place, the business man taking the request and giving the engineer cash to pay the agent. When the business man, on his return home, wrote the office requesting payment on the request, the matter was finally straightened out by the construction engineer sending the office a money order for the amount of the request, the office sending the money obtained by cashing the money order to the business man in Illinois, the construction engineer sending in a voucher to reimburse him for the amount paid for the ticket, the office honoring the voucher and marking the transportation request "Cancelled".

I had a similar experience at Hope, Arkansas, years ago. I presented a transportation request to the ticket agent for a ticket from Hope to New Orleans, but the agent said he knew nothing about such requests and would not honor it.

The train was made up and standing at the depot, which at that time was the end of the road, and due to leave in about ten minutes. I told the agent, "Very well, I am going to get on the train and if the conductor puts me off, your road may have to answer to the Government." I took my seat in the coach and about two minutes before time to leave the agent came out and gave me a ticket in exchange for the request.

At times I have known construction engineers to kick because the ticket agent would request to see their identification card before honoring a transportation request. This is wrong, for the agent is following instructions and in demanding the engineer identify himself the agent is giving him protection. Should a construction engineer lose one or more transportation requests and some person find and use them, the engineer would be held responsible for the value of the transportation thus purchased. The agent demanding that construction engineers, or other government employees, identify themselves is a guarantee that he will not issue tickets to persons not entitled to use transportation requests.

I have seen a copy of the Bulletin got out by District Engineer Newman, which you mentioned in the FEDERAL ARCHITECT, and it impressed me very much, especially the list of items to check up prior to a final inspection of a building. Immediately after the districts were formed and I was in charge of District No. 4, I prepared and issued to each construction engineer in the district a similar list, entitled, "Reminders"; with request that prior to final inspection they check over the items listed and see that corrections were made as necessary, before requesting final inspection, and thus keep the list of "defects and omissions" at time of final inspection down to a minimum. Every person was well pleased with the "Reminders", as was evidenced by requests for copies received from engineers in other districts. The only adverse comment was by an office official, who, when I showed him a copy of the "Reminders", said, "I such had been sent me when I was in the field I would have thrown it into the waste basket." Subsequent years, however, have shown that I was just blazing a trail for others to follow.

I was very much elated to hear that Mr. Reynolds has been continued as head of the transferred Building Branch, as he is a man well fitted for the position. I am sure if he is given free rein and not fettered in any manner, he will prove to be an admirable head of the Public Building unit of the Federal Works Agency. I understood some time ago there were several others after the position, but I considered they were just wasting their time if Mr. Reynolds desired the job. He is better fitted for the position than any other man in the organization.

It was also a pleasure to learn that Mr. Simon had been recalled to fill out actively his extension term, by returning to his former position of Supervising Architect. No better man could be found to place at the helm during the adjustments which must take place, as the Public Buildings unit becomes a part of the Works Agency. Mr. Simon's experience in the office has given him a knowledge not possessed by any other man. It is said that "it is hard to teach an old dog new tricks", and this is true to a certain extent, but the old dog knows tricks that the proponents of new ones never will know. This is the case with Mr. Simon: he has been familiar with the workings of the Supervising Architect's Office over a long period of years, and this knowledge, possessed by no other man, will be valuable in planning for future operations. I wish both Mr. Reynolds and Mr. Simon continued success.

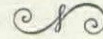
Did you notice in the newspapers, a few days ago, in the column by Dale Harison, the few lines relative to New York, which he gave as originating on the register of the old Waldorf-Astoria Hotel, New York, and reading as follows:

"Vulgar of manner and over fed
Overdressed and underbred;
Heartless—godless—hell's delight;
Rude by day and lewd by night;
Purple-robed and pauper-clad;
Rotten, raving, money-mad;
A squirming herd in money's mesh;
A wilderness of human flesh;
Crazed by avarice, lust and rum—
New York, thy name's Delirium."

These lines originally came from the pen of Byron R.

Newton, who afterwards was Assistant Secretary of the Treasury, and in charge of the Supervising Architect's Office. Mr. Newton wrote many verses, some anonymously, this one being entitled "An Ode To New York", and was first published in "The Little Herald", an office edition of the New York Herald, printed for circulation at the office dinners.

H. G. RICHEY.



CHANGES IN ASSIGNMENTS

Carl O. Allison New York, N. Y.	Barney D. Ladd Bethany, Mo.
Chas. C. Converse Chicago, Ill.	Francis H. Lore Washington, D. C.
Leslie McQuilkin Dallas, Texas	L. G. Lyman Charlotte Amalie, St. Thomas, V. I.
Nathan Abramson Lacomia, N. H.	D. G. McCulley Seattle, Wash.
John A. Ackerman Rockmart, Ga.	Raymond A. McGarry Shelbyville, Ill.
Francis C. Allein Lititz, Pa.	Ray M. McNairy San Francisco, Calif.
Lucius E. Allen Cocoa, Fla.	Fred Mackey Abingdon, Ill.
John J. Austin North Bergen, N. J.	Walter J. Mark Minot, N. Dak.
Theodore W. Beland Bethesda, Md.	Caleb C. Motz Washington, D. C.
Herbert A. B'ogg Albion, Ill.	Wolf Mueller Booneville, Miss.
Guy W. Bradford Ashburn, Ga.	Clinton J. Muncie Marietta, Okla.
Archibald W. Brown Benton, Ark.	James L. Murphy Medford, Ore.
Earl Gordon Brown Madison, Conn.	Cecil E. Myers Albuquerque, N. Mex.
Harold K. Cottrill Peabody, Mass.	Chas. M. Neidelman Bridgeville, Pa.
Louis C. Crew Kankakee, Ill.	Dexter S. Neil Delmar, N. Y.
Chas. W. Davis Lake Providence, La.	Walter E. Perkins Savannah, Mo.
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Frank C. French Ord, Nebr.	Clarence R. Rogers Beaksville, N. C.
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Maurice Gay Masontown, Pa.	Carl W. Schweizer New Orleans, La.
Paul Giddings Many, La.	Emil C. Seiz, Jr. Washington, D. C.
Charles E. Gordon San Francisco, Calif.	Harold C. Skilling Kent, Wash.
Edgar L. Grover Warrenton, Ga.	E. H. Somers Red Springs, N. C.
Edward C. Haideman Hamburg, Pa.	Frederick P. Stern Ashland, Mass.
Robert S. Hale Washington, D. C.	Edwin J. Stotler Hubbard, Ohio
Willard J. Hall Alderson, W. Va.	Ralph H. Strait Sandusky, Mich.
Nels Hansen Milwaukee, Wisc.	Archie L. Striegl Hudson, Wisc.
Ferd. E. Hayes, Jr. Chicago, Ill.	Howard W. Thayer Elizabeth City, N. C.
Roy J. Janis Willmar, Minn.	Oits Ashton Waldrop Columbus, Ind.
William M. Javins Montpelier, Ohio	Ricardo F. Wallace Carthage, Miss.
George L. Jensen Beresford, S. Dak.	S. Warmolts Monticello, Ind.
George W. Jevne Gardena, Calif.	Carroll A. Warthen Washington, D. C.
Wm. S. Johnson Texarkana, Tex.	George F. Wilcox Washington, D. C.
James J. Kerley Union City, Pa.	Lewis D. Yood Fort Thomas, Ky.
Guy T. Kuntz Orofino, Ida.	<i>Resigned</i>
Emil W. Kunze Salt Lake City, Utah	Harold H. Dewhirst 9/28/39

(Continued from page 20)

hama, the contract was let in Japan to Takenaka Komuten, a Japanese General Contractor, and well known for having built many of Japan's fine buildings.

Except certain mechanical equipment and furniture, all materials for this building were furnished by the Japanese contractor, subject to inspection by the American architect located in Yokohama, and myself.

The Japanese Government sends a certain number of students in architecture and engineering each year to all the well known countries of the world, particularly to America, and this combined experience is developing design and construction methods to a high standard. Many of these students upon return to their native Japan have become well-known architects and engineers. They are well organized through Architectural and Engineering Societies.

My own office and technical staff consisted of four Japanese graduates of well-known American Universities, and one man the product of Waseda University in Tokyo. These men were all competent Engineers, and trustworthy, and our association during construction progress of the buildings was harmonious and pleasant. One of these men was a master of English, and acted in the capacity of my interpreter during my entire stay in Japan, and became my constant shadow and companion. After about six months of constant association with more than a thousand Japanese on the five buildings in the two cities, I began to pick up the language in good style, and within a year was doing well enough to travel most any place

in the country alone, though for all business transactions I kept my interpreter handy and used him until the completion of my work in the land of "Fuji-ama" and the "Cherry Blossoms".

Mechanics of the various skilled crafts are well trained, and produce quality work. They are organized through guilds similar to our trades unions, except there are generally two classes of mechanics in each trade, the Number 1, or best, and the Number 2. These people really serve a long apprenticeship and have to be topnotch to become a Number 1 mechanic only after passing a hard examination.

Hourly rates range from three to ten cents per hour, and the very best mechanic is available at ten cents per hour, but ten cents per hour in Japan will go a long ways. Sunday, in Japan, is not observed, as these people are not Christians, but follow the teachings of Buddha, and Shintoism (ancestor worship), so a seven-day week, ten hours per day is usually worked. Certain religious holidays are observed each month, but workers are rotated in such a manner that there are always plenty of men available seven days a week, which was the case during construction of our Foreign Service Buildings, except for the first five days of the New Year. This time is always the occasion for a great holiday season in Japan, and calls for much celebration from the lowest coolie to the highest caste Japanese. Much feasting is indulged in, gifts exchanged, and old debts paid. Everyone tries to start the New Year with a clean slate, and at peace with his gods, a commendable custom indeed. "Arigato". (I thank you).

WASHINGTON HAVERSTICK DIES

Washington Haverstick, 87 years old, for many years inspector of federal building, died Sept. 18, 1939.

He and his wife had observed their 65th wedding anniversary a few days before his death.

Major Haverstick, born in Pennsylvania, spent his boyhood in northeastern Indiana. He went to Waukesha at the age of 34 in 1886 at the time of the opening of the Wisconsin Central railroad, now the Soo line. He helped build this road. Being a locomotive engineer at the age of 22, he became an engineer for the Wisconsin Central. In 1896 he was promoted to the position of traveling engineer.

At the time of the Spanish-American war he left the railroad temporarily and enlisted, retiring from the army with the rank of major. After returning to railroad service for a year after the war, he received an appointment from President McKinley as general inspector of federal buildings. He held this position until he retired in 1930 at the age of 78.

He was a 32nd degree Mason.

He is survived by his wife and three children, Mrs. Fred Wadsworth, George and Frank, and three grandchildren.

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(Continued from page 25)

neer is inevitable.

The principal cause for efflorescent conditions on exterior wall surfaces is due to lack of proper attention and precautions during the period the building is under construction both before and after it is under roof. The following are predominant causes: poor or coarse mortar lacking density and adhesiveness; improperly filled end joints; lack of covering and protection of tops of walls when under construction particularly during inclement weather and non-working periods; and unfinished joints in the wash surfaces of projecting ledges, cornices of parapet walls in which the joints are required to be filled to within a certain depth from top and which are then left open and uncovered, pending the placement of the elastic pointing compound.

Efflorescence may be removed more or less completely from the wall surfaces by any of the processes herein described for cleaning of stone surfaces. It may not reappear after the wall has been cleaned down and the joints pointed satisfactorily; then again, the condition may become evident from time to time after periods of driving rains and snow, in which case the source of trouble would have to be determined and a remedy prescribed for its correction. The procedure and work necessary for such correction might prove to be an expensive one, at such time as the work may be performed.

LETTERS

Ligonier, Indiana,
Oct. 9, 1939.

THE FEDERAL ARCHITECT,
Washington, D. C.

Dear Mr. Morris:

Your card arrived about the same time as orders for the transfer of my headquarters. However, as I am out here where the Fuller Brush man has failed so far to catch up with me, we gladly open the door wide and welcome you in with an apology for my delinquency.

Here is my check for \$1.50 to cover back and future subscription time to the Federal Architect, which I trust will help brighten your day as each arrival of the FEDERAL ARCHITECT does mine.

Very truly yours,
WM. R. McNULTY.

THE FEDERAL ARCHITECT,
Washington, D. C.

Dear Mr. Morris:

The unobtrusive "gentle reminder" at the bottom of an in-

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912.

OF FEDERAL ARCHITECT, published quarterly at Baltimore, Maryland, for October 1, 1939.

Before me, a Notary Public, in and for the State and county aforesaid, personally appeared Edwin B. Morris, who, having been duly sworn according to law, deposes and says that he is the Editor of the FEDERAL ARCHITECT and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 411, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are:

Publisher, Association of Federal Architects, 1700 Eye St., Washington, D. C.

Editor, Edwin B. Morris, 1700 Eye St., Washington, D. C.

2. That the owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding one per cent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a firm, company, or other unincorporated concern, its name and address,

ner page of your July issue did not elude my habitual thorough perusal of your highly esteemed publication. Or—was it my subconsciously guilty awareness that directed my none too keen bifocaled optics to this particular inconspicuous paragraph?

I have received no notification that I am in arrears for my subscription and have no record of the date and amount of my last remittance, but am under the impression that I am one of your delinquents.

At any rate, you will find enclosed my check for two bucks to bring me up to date.

Please advise me as to the status of my subscription.

Very truly yours,
FREDERICK P. KAFKA,
 Construction Engineer.

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Ye Ed, with tongue in cheek,
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 Refuses to be meek
 In **THE FEDERAL ARCHITECT.**

The illustrations chaste
 Are chosen, we suspect,
 With most discerning taste
 For **THE FEDERAL ARCHITECT.**

Judge Wetmore airs his views
 In candid retrospect—
 The intellectual booze
 Of **THE FEDERAL ARCHITECT.**

Though its glory soon may wane
 If these lines the Eds. reject,
 May we never wait in vain
 For **THE FEDERAL ARCHITECT.**

From my deflated purse,
 Unelated, I select
 My much belated dues
 For **THE FEDERAL ARCHITECT.**

A. H. HOWLAND, C. E.

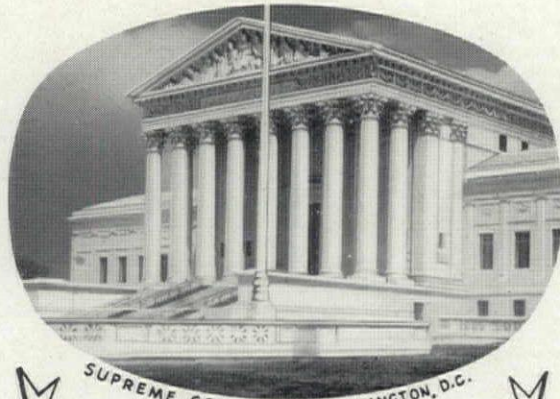
as well as those of each individual member, must be given.)
 Edwin B. Morris, 1700 Eye St., Washington D. C.; Association of Federal Architects, 1700 Eye St., Washington, D. C.; N. D. Montfalcone, President, 1700 Eye St., Washington, D. C.; L. H. Boring, Secretary, 1700 Eye St., Washington, D. C.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.) None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

EDWIN B. MORRIS, *Editor.*

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ADMIRAL PEOPLE'S TALK AT THE ANNIVERSARY DINNER

This magazine takes pleasure in printing these gracious words of Admiral Christian Joy Peoples

It is particularly fitting that the members of the Office of the Supervising Architect should have this dinner to signalize its 103 years' service under the Treasury Department.

A century and three years of notable service. Few branches of the permanent Federal establishment have had such a historical record. During that period the office has had its ups and downs naturally, and it goes into its new field of endeavor, the Federal Works Agency, at what might be called the height of its career with a building program of large proportions and well under way.

It has been a real honor for me to have served nearly six years with the office, immediately a part and a vitally important part, of the Procurement Division. Whatever success has been achieved; whatever accomplishments have been made, have been due to the loyal and faithful work of all the men connected with it. If it has been a success the credit is sufficient to give to each and every one of them; if it had been a failure that failure would have been mine.

But we were fortunate in having as our executive head Mr. Morgenthau who through his business experience and professional training was an inspiration to us all, and who had a large appreciation of the work being done.

The primary purpose of the 5 or 6 appropriation acts for the construction of public buildings was the relief of unemployment, and the only way to relieve unemployment was to get men to work, and the quickest way that could be done was to get projects under contract at the earliest date. This necessitated doing the work here in Washington, and we brought in from various sections of the country 22 Consulting Architects of outstanding reputation to develop the larger buildings in our building program. Then we created the Advisory Committee on Architectural Design, which sits once each week, and which criticizes from a constructive point of view the tentative designs prepared by the Consulting Architect or by the Group Chief. The Advisory Committee on Architectural Design, together with the Supervising Architect has brought about harmony, individuality and dignity in design, and at the same time, has avoided undue extravagance in construction costs and the waste of space in the interiors, so that I have often said, and I am glad to repeat that under Mr. Morgenthau's inspiration there has been brought about during the past five years a real evolution in the design of Federal Buildings. It has been an epoch, the making of an era, of distinctive, constructive programs.

Now competition is our middle name. As Director of Procurement I believed in competition wherever it was obtainable, not only in the procurement of materials, but also in the procurement of professional services.

After considerable study of the question by representatives of the Treasury Department and the Architectural Profession, experimental competitions for design only were authorized; the working drawings to be developed by the Public Buildings Branch. The first program issued May 25, 1938, called for the design for a number of small typical Post Offices. 431 competitors from all sections of the country submitted drawings and a jury composed of 8 nationally known architects recommended the acceptance of 10 of the designs for production.

On June 28, 1938, a national competition was announced for a larger Federal building at Covington, Kentucky, estimated to cost \$450,000, and 216 architects entered this competition.

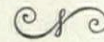
As a result of the response to these experimental competitions the Secretary of the Treasury approved extension of this system as a matter of regular policy on the same basis as the Covington competition, that is the selection of the design only by competition, and the retention of the architect winning the competition during the preparation of the working drawings by the Procurement Division, but limiting the competitors to regional districts rather than national, the United States being divided into 11 regions on an equitable

basis. The program for the first region was published May 11, 1939 for Leavenworth, Kansas. A program is now being prepared for the proposed building at Evansville, Indiana, and similar competitions will be conducted in each of the remaining 9 regions as soon as projects become available and sites have been selected for appropriate buildings. The selection of designs for buildings through the medium of open competition should have a stimulating effect on the architectural character of Federal buildings, and the competition procedure should afford a widespread equal opportunity to all architects to qualify for participation in Government building programs.

The selection of designs by competition is the only fair and equitable way for the Government to handle this business. It removes from the administrative head the pressure to select friends and friends of friends; it throws the door of opportunity wide open, and the result, I am sure, in the long run will be to the best interest of the Government and of the Supervising Architect's Office.

I believe that the joy of human relationship constitutes the greatest satisfaction in any field of endeavor, and as you pass from under the Treasury Department each individual should not permit himself to drop into the hum-drum routine, but through renewed effort in viewing the picture as a whole, resolve to do, if possible, better and harder work than before.

You have all worked hard and nobly in handling in 5 years 2,484 buildings in as many communities throughout the length and breadth of our land, and amounting in all to a total of \$467,342,000 of new construction, and I say again it has been an honor to me to serve with you, so while I may say "Good-bye" officially, I will never say "Goodbye" to any of you personally.



POLE CAT FISHING PARTY

The Pole Cat Fishing Party arranged by Mr. Otis R. Poss, Assistant Superintendent of Repairs was held on June 17 and 18th at Piney Point, Maryland.

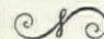
The members of the Party consisted of Zurborg, Stromberg, Hirschfeld, Bergstrom, Southworth, Siez, Johnson, Bill Jones, Guthridge, Herring, Brooks, Harry "Wild" Herman, Lou Mason, Groner (the second story man), Abadie, Volz, Henthorn, Poss, Bounds, Al Lee, Dixon, Oliver, Cavett, Olsen, Lyman, and Holden (the real fisherman).

First prize was given to Holden for catching the largest fish (prize was a fishing reel). Second prize went to Poss for catching the most fish (prize was a fishing tackle box with a quart of ? ? ? to wet his lips in case he didn't catch any fish on his next trip). Third prize was taken by Stromberg for catching the smallest fish (prize was a tide table booklet with tackle line, hooks, and weight).

A good time was had by all even though the rain and storm dampened our spirits on Sunday morning. One could not help but have a swell time with the "Wild Man" Harry Herman on the go all the time.

The highlight of the party was a shiner received by Harry Herman under his left eye given by his one and only "himself." Bill Jones and Johnson were not in such good shape from their frequent skirmishes with the "Wild Man."

Another party is anticipated soon with Bill Jones as the Master of Ceremonies.



We have been advised that Mr. H. G. Ritchie, retired District Engineer, has been elected to honorary life membership in the American Association of Engineers, in recognition of his past membership and interest in the association. We also understand that Mr. Richey recently refused to consider an appointment by the Housing Authority, as Resident Engineer on one of the housing projects in New Orleans.

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WORK IS GREAT STUFF

It is generally conceded that Architects as a whole are probably the most versatile group of men in the professional world. In the past few years of nation wide and universal depression many stories have been told by men in the Procurement Division of their various employments; to which they were driven by dire necessity. Far too many of these experiences are of such pathetic nature that they are best forgotten in the present good fortune of the individual in being once again steadily employed in the architectural field. Occasionally, however, the raconteur possesses such a deep sense of humor that, far from being embittered by his past adversities, his character has become enriched thereby.

A personal experience of a certain young architect may be classified in this category. The episode occurred some years ago in New York City during a period when there appeared to be no openings whatever for architectural draftsmen. After many weeks of fruitless endeavor in search of work of an architectural nature, the time came when occupation of any sort was eagerly sought. The young architect soon found that jobs of any kind were few and far between.

One day, while visiting one of the larger department stores in the city, he chanced to overhear part of a conversation wherein he learned that the store had no one to repair toys and that they were on the lookout for an expert toy repairer. He immediately presented himself at the store's employment office and asked if they had a position for an expert repairman. He was advised that they did indeed have such an opening and he succeeded in satisfying the employment representative that he was just the man they were looking for. He was shown to a small repair shop and assigned to his first task. Before long he was all but convinced that in spite of his determined efforts to make good, this first task would never be completed and would prove to be his last in this capacity.

A large doll, which originally had possessed that mechanical triumph, known as "Sleeping Eyes," had been brought into the store for repair. It appears that some precocious child had damaged the eyes to such an extent that they had been forced back into the cranial cavity. Upon removing the integral head and shoulder plates from the doll's torso, the amateur repairman was able to perceive that the eye mechanism had been anchored with plaster of paris on special imposts. The anchorage for the eyes seemed to have been broken beyond hope. Nevertheless, he believed that an expert should know how to accomplish this seemingly impossible task. For an hour and a half he labored with all the means at his command to make the beautiful azure eyes open and shut again in their former manner. The beautiful azure eyes, however, defied his most ingenious efforts and he became bathed with a cold perspiration of despair. The exultation with which he had accepted this glorious opportunity but such a short time before had by now entirely dissipated.

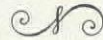
Castling about in desperation for some as yet untried method by which he could perform this miracle of repair, his eyes alighted upon the boxes of stock materials with which the upper shelves were lined. As if in answer to a prayer, upon some of these boxes, covered with dust, he was able to make out the words "Doll Heads." In a few moments these boxes lay open upon his work bench and he had made the selection of an azure eyed sleeping doll head of the identical size needed to suit his purpose. It mattered little that the hair was of another color. It required but a short time to exchange the wigs in a satisfactory manner. He also faithfully reproduced upon the countenance of this new doll the blemishes the other doll had received at the hands of her little mistress. With the new head securely back on the torso, the job was successfully completed.

It is truly said that nothing succeeds like success. Carrying the doll with the proud mien of a man who exhibits a well-earned medal recently bestowed for valor, he visited the woman in the toy department whose duty it was to pass approval upon all toy repairs. She examined the doll with amazement and assured him that he was the first repairman who had ever worked in that department store who had been able to successfully repair the damaged eyes of a sleeping doll. She further remarked that the task had usually been considered impossible and the store had here-

before refused to take such work. In this case, however, a new employee had accepted the repair job without knowledge of the policy involved. In reply to this comment, he advised that it would be to the best interest of the store to refuse any more such jobs on the grounds that it took such a long time for him to effect repair. He noticed that the store billed the customer with a charge of seventy-five cents for the work.

For the remainder of his three months as a toy repairer for this department store he wondered what would be the outcome when stock was finally taken and discovery was made of the loss of one doll head priced six dollars and fifty cents.

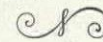
C. E. C.



The New England Brass Company, manufacturers of brass, bronze, and nickel silver, Taunton, Massachusetts, have applied for membership in the Copper & Brass Research Association.

The membership of the Copper & Brass Research Association now totals seventeen companies which manufacture more than 90% of the products fabricated from copper and its alloys. Following is the membership list:

- The American Brass Company, Waterbury, Conn.
- Bridgeport Brass Company, Bridgeport, Conn.
- The Bristol Brass Corporation, Bristol, Conn.
- Chase Brass & Copper Co., Incorporated, Waterbury, Conn.
- C. G. Hussey & Company, Pittsburgh, Pa.
- The Miller Company, Meriden, Conn.
- Mueller Brass Co., Port Huron, Mich.
- National Brass & Copper Company, Inc., Lisbon, Ohio.
- New England Brass Company, Taunton, Mass.
- The New Haven Copper Co., Seymour, Conn.
- Phelps Dodge Copper Products Corporation, New York, N. Y.
- Revere Copper and Brass Incorporated, New York, N. Y.
- The Riverside Metal Company, Riverside, N. J.
- Scovill Manufacturing Company, Waterbury, Conn.
- The Seymour Manufacturing Company, Seymour, Conn.
- The Thinsheet Metals Company, Waterbury, Conn.
- Wolverine Tube Company, Detroit, Mich.



Design of a new Post Office and Court House for Jamestown, New York, will become the project for the fifth of the series of regional architectural competitions sponsored by the Public Buildings Administration of the Federal Works Agency.

The competition will be open to all registered architects who are citizens of the United States and whose home offices are located in Region No. 3, which comprises the greater part of New York State. For purposes of these competitions, the state has been divided into two regions. Region No. 2 is made up of New York City, Long Island, Westchester, Rockland, Putnam, Orange, and Sullivan Counties, and the southern half of Ulster and Dutchess Counties. Region No. 3, in which the new competition is being held, embraces the remainder of the state.

It is estimated that the Jamestown Post Office and Court House will be constructed at a cost of approximately \$500,000.00.

Qualifications and requirements similar to those that were used in the four previous competitions will govern the contest for the Jamestown, New York, Federal building design.

The jury which will be selected to judge the designs which are submitted will be drawn from districts in the vicinity of Region No. 3, in order that all the architects within the region may have the opportunity to enter the competition.

RECENT CONTRACTS AWARDED BY PUBLIC BUILDINGS
ADMINISTRATION—FEDERAL WORKS AGENCY

Lewistown, Illinois, P. O.—construction, etc.—Stephens-Brown Company, 432 B. M. A. Building, Kansas City, Missouri	\$51,796.00
Sandusky, Michigan, P. O.—construction, etc.—H. D. White Company, 2202 W. 107th Place, Chicago, Illinois	49,848.00
Shelbyville, Illinois, P. O.—construction, etc.—Robertson Construction Co., 633 N. Grove Avenue, Oak Park, Illinois	67,400.00
Calexico, California. Inspection Station—air conditioning equipment, etc.—General Air Conditioning Corporation, 1614 East 15th Street, Los Angeles, California	23,800.00
Gardena, California, P. O.—construction, etc.—Mr. Harvey A. Nichols, 936 East Slauson Avenue, Los Angeles, California	40,474.00
Rockmart, Georgia, P. O.—construction, etc.—Mr. L. B. Gallimore, 306 Piedmont Building, Greensboro, N. Carolina	44,840.00
Los Angeles, California, P. O., East Los Angeles Branch—construction, etc.—Campbell Construction Company, 5388 Alhambra Avenue, Los Angeles, California, completion	68,850.00
Union City, Pa., P. O.—construction, etc.—Amundson & Peterson, W. Main Street, Sheffield, Pa., completion	55,600.00
Leaksville, North Carolina, P. O.—construction, etc.—E. P. Dale Construction Company, South Sterling Street, Morgantown, North Carolina, completion 210 days, contract awarded	42,985.00
Cocoa, Florida, P. O.—construction, etc.—J. M. Raymond Construction Company, 704 Atlantic National Bank Bldg., Jacksonville, Florida	54,600.00
Many, Louisiana, P. O.—construction, etc.—Mr. Shelly O. Yarbrough, P. O. Box 615, Austin, Texas, completion 300 days—contract awarded August 17, 1939	50,853.00
Middleburg, N. Y., P. O.—construction, etc.—Nicholas Villani Construction Co., Inc., 544 Davis Avenue, West New Brighton, Staten Island, New York	48,300.00
Lynwood, California, P. O.—construction, etc.—Campbell Construction Company, 5388 Alhambra Avenue, Los Angeles, California	42,363.00
Abingdon, Illinois, P. O.—construction, etc.—Carl Westberg and Company, 6234 South Oakley Avenue, Chicago, Illinois	46,936.00
Red Springs, North Carolina, P. O.—construction, etc.—Barger Bros., N. Main Street, Mooresville, N. C.	42,097.00
Milwaukee, Wisconsin, P. O., West Allis Branch—construction, etc.—The Weitz Co., Inc., 713 Mulberry Street, Des Moines, Iowa	110,250.00
Minot, North Dakota, P. O. & CT. H.—extension and remodeling—MacDonald Construction Company, 3829 West Pine Boulevard, St. Louis, Missouri	150,243.00
Hutchinson, Kansas, P. O.—construction, etc.—Busboom & Rauh, 153 South Santa Fe Avenue, Saina, Kansas	173,000.00
Pittsburgh, Pa., M. H.—extension and remodeling—Mr. M. Barash, 2132 Ocean Avenue, Brooklyn, N. Y., completion	54,470.00
Warrenton, Georgia, Agri. & P. O. Bldg.—construction—Mr. L. B. Gallimore, 306 Piedmont Building, Greensboro, N. Carolina	49,390.00
East Walpole, Mass., P. O.—construction, etc.—R. J. Connolly, Inc., 1146 Dorchester Avenue, Boston, Mass.	50,543.00
Mobile, Alabama, CT. H. & CU. H.—extension and remodeling—Foster & Creighton Co., 724 American Bank Bldg., Nashville, Tennessee	360,900.00
Alexander City, Alabama, P. O.—construction, etc.—Andrew and Dawson, 36 Clayton Street, Montgomery, Alabama	49,804.00
Chicago, Illinois, P. O.—Uptown Station—construction, etc.—Consolidated Construction Company, 9 South Clinton Street, Chicago, Illinois	206,893.00
Pittsburgh, Pa., P. O., Squirrel Hill Station—construction, etc.—Sofarelli Bros., Inc., 161—19 Jamaica Avenue, Jamaica, N. Y.	75,044.00
Preston, Idaho, P. O.—construction, etc.—L. F. Dow Company, 245 North Bundy Drive, Los Angeles, California	56,000.00
Ord, Nebraska, P. O.—construction, etc.—C. E. Goodhand, Ord, Nebraska	47,950.00
Port Everglades, Florida, Custom House—construction, etc.—Paul H. Smith Construction Co., 3301 N. Miami Avenue, Miami, Florida	50,900.00
Montpelier, Ohio, P. O.—construction, etc.—Ang Construction Co., Selby Building, Coshocton, Ohio	44,400.00
Washington, D. C., General Federal Office Building—construction, etc.—McCloskey & Company, 1620 Thompson Street, Philadelphia, Pa.	2,487,800.00
Dexter, Maine, P. O.—construction, etc.—James A. Monroe and Sons, 159 N. Washington, North Attleboro, Massachusetts	53,300.00
Yuba City, California, P. O.—construction, etc.—W. F. Stewart, 353 Linden, Auburn, California	85,015.00
Masontown, Pa., P. O.—construction, etc.—The Mutual Construction Company, 565 West Chalmers Avenue, Youngstown, Ohio	53,448.00
Blawnox, Pennsylvania, P. O.—construction, etc.—Rafferty-Kennedy Company, N. W. Corner Broad & Jerome Streets, Philadelphia, Pa.	50,400.00

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

I July through 30 September 1939

Alaska Air Bases, Kodiak Island and Sitka—Awarded to: Siems Spokane Co., Spokane, Wash.; Johnson, Drake & Piper, Inc., Minneapolis, Minn.; Puget Sd. Bridge & Dredging Co., Seattle, Wash.; as a joint venture	\$12,739,000.00
Sea Wall, Dredging and Filling, Naval Air Sta., Alameda, Cal.—George Pollock Co., Sacramento, Cal.	1,524,430.00
Barracks, Boiler & Laundry Plant, and Quarters, Submarine Base, Coco Solo, C. Z.—Robert E. McKee, El Paso, Texas	1,011,700.00
Storehouses and Power Plant Bldg., Naval Air Sta., Alameda, Cal.—K. E. Parker Co., San Francisco, Cal.	845,221.00
Roads and Exterior Services, Naval Air Sta., Alameda, Cal.—Eaton & Smith, San Francisco, Cal.	780,500.00
Dredging for Drydocks, Navy Yard, Pearl Harbor, T. H.—Hawaiian Dredging Co., Honolulu, T. H.	645,000.00
Boilers and Accessories at Navy Yard, Bkln., N. Y.; Norfolk Navy Yd., Portsmouth, Va.; Naval Operating Base, Norfolk, Va.; Naval Air Sta., Pensacola, Fla.—Ridley Stoker Corp., Worcester, Mass.	381,934.00
Electric traveling bridge cranes at Navy Yards: Boston, Mass.; Mare Island, Cal.; Phila., Pa.; Portsmouth, N. H. and Washington, D. C.—Harnischfeger Corp., Milwaukee, Wis.	300,690.00
Crane Runway Extensions, Shipways No. 1 and No. 2, Navy Yard, Brooklyn, N. Y.—American Bridge Co., Inc., New York City	277,615.00
Turbo-alternators and Accessories, at: Norfolk Navy Yard, Portsmouth, Va.; Naval Academy, Annapolis, Md.; Naval Air Sta., Pensacola, Fla.; Navy Yard, Portsmouth, N. H.—Worthington Pump & Machinery Co., Washington, D. C.	265,333.00
Barracks Building, Navy Yard, Pearl Harbor, T. H.—W. S. Ching, Honolulu, T. H.	242,200.00
Power Plant Equipment & Piping, Naval Air Sta., Alameda, Cal.—Cory & Joslin, Inc., San Francisco, Cal.	196,500.00
Central Power Plant Bldg., Navy Yard, Pearl Harbor, T. H.—Robert E. McKee, Los Angeles, Cal.	181,900.00
Salt Water Intake, Puget Sd. Navy Yard, Bremerton, Wash.—General Construction Co., Seattle, Wash.	168,800.00
Dredging and Filling, Naval Air Station, San Juan, P. R.—Standard Dredging Corp., New York City	167,900.00
Storehouse, Norfolk Navy Yard, Portsmouth, Va.—E. and E. J. Pfozter, Philadelphia, Pa.	165,630.00
Outside Machine and Pipe Shop, Navy Yard, Portsmouth, N. H.—New England General Contracting Co., New Haven, Conn.	157,980.00
Foundations for aeronautical engine laboratory and lab. office bldg., Navy Yard, Phila., Pa.—Ralph S. Herzog, Pa.	134,815.00
Switchboards, Navy Yard, Portsmouth, N. H.—Westinghouse Electric & Mfg. Co., Boston, Mass.	130,459.00
Completion of Structural Work and Plumbing Shop, Navy Yard, Phila., Pa.—Towne Engineering Co., Phila., Pa.	126,842.00
Freight Elevators, Navy Yard, Mare Island, Cal.—Otis Elevator Co., Washington, D. C.	123,363.00
Kitchen, Scullery and Cafeteria Equipment, Naval Training Sta. & Naval Air Sta., Norfolk, Va.—S. Blickman, Inc., Weehawken, N. J.	119,980.00
Landplane Hangar, Naval Air Sta., Pensacola, Fla.—Arthur F. Perry, Jr., Jacksonville, Fla.	116,850.00
Intercepting sewer system, Marine Barracks, Quantico, Va.—W. P. Thurston Co., Richmond, Va.	116,000.00
Two Apartment Bldgs., Naval Air Sta., Pensacola, Fla.—Algernon Blair, Montgomery, Ala.	115,916.00
Extension of Automatic Shop, Torpedo Sta. (Goat Island), Newport, R. I.—O. D. Purington Co., Inc., Providence, R. I.	106,156.00
Extension of Storehouses No. 2 and No. 4, Naval Magazine (Bellevue), Washington, D. C.—Victor Constructors, Inc., New York City	98,055.00
Re-erection of Seaplane Hangar, Fleet Air Base, Pearl Harbor, T. H.—Olaf Lagreid, Honolulu, T. H.	89,700.00
Completion of structural and plumbing work for Pipe & Copper Shop, Navy Yard, Phila., Pa.—M&L Construction Co., Inc., Phila., Pa.	88,764.00
Terrazzo, marble & tile floors & wainscots, Naval Hospital & Cadet Qtrs., Naval Air Sta., Pensacola, Fla.—Steward-Mellon Co., Jacksonville, Fla.	88,750.00
Boiler and Accessories, Naval Academy, Annapolis, Md.—Dravo Corporation, Phila., Pa.	87,890.00
Rebuilding bulkhead and tender pier, Naval Air Base, Tongue Point, Ore.—Makelu Constr. Co., Astoria, Ore.	86,194.00
Floors and machine tool foundations, Norfolk Navy Yard, Portsmouth, Va.—Hofheimer Concrete Corp., Norfolk, Va.	78,948.00
Completion of Intake Tunnel, Navy Yard, Wash., D. C.—Victor Constructors, Inc., New York City	74,895.00
Landscaping and Fencing, Naval Experimental Model Basin, Carderock, Md.—Edison Landscape Co., Bala, Pa.	55,830.00
Foundations for Central Office and Drafting Building, Navy Yard, Wash., D. C.—Ross Engineering Co., Washington, D. C.	53,477.00
Replacement of Gambo Creek Bridge, Naval Proving Ground, Dahlgren, Va.—C. W. Lockwood, Hampton, Va.	50,721.00
Sewage Disposal Plant, Marine Barracks, Quantico, Va.—W. P. Thurston Co., Richmond, Va.	47,500.00

Six 5-ton Wall Cranes, Norfolk Navy Yard, Portsmouth, Va.—Cleveland Crane & Engineering Co., Wickliffe, Ohio	46,465.00
Kitchen Equipment, Naval Air Station, Pensacola, Fla.—John Van Range Co., Cincinnati, Ohio	46,138.00
Air Compressors, Navy Yard, Phila., Pa.—Cooper-Bessemer Corp., Washington, D. C.	45,199.00
Foundations for 350-ton Crane, Norfolk Navy Yard, Portsmouth, Va.—Frank J. Gannaway, Norfolk, Va.	42,124.60
Foundations for material assembly shop, Navy Yard, Phila., Pa.—Kolyn Constr. Co., Trenton, N. J.	38,987.00
Bakery Equipment, Naval Training Sta. & Naval Air Sta., Norfolk, Va.—John Van Range Co., Cincinnati, O.	37,143.70
Synchronous Rotary Converter and Transformer, Navy Yard, Portsmouth, N. H.—Westinghouse Electric & Mfg. Co., Boston, Mass.	37,139.00
Tide Bridge, Naval Magazine, Washington, (Bellevue) D. C.—C. W. Freitag, Washington, D. C.	33,495.00
Heating Plant Equipment and Piping, Marine Barracks, Quantico, Va.—Lorne Plumbing & Heating Co., Detroit, Mich.	33,120.00
South Sub-Station Bldg., Submarine Base, New London, Conn.—Smith Construction Co., Derby, Conn.	32,200.00
Condensers and Accessories, Norfolk Navy Yard, Portsmouth, Va.; Naval Academy, Annapolis, Md.; Naval Air Sta., Pensacola, Fla.—C. H. Wheeler Mfg. Co., Philadelphia, Pa.	30,150.00

RECENT AWARDS MADE BY THE CONSTRUCTION SERVICE
—VETERANS' ADMINISTRATION

Dearborn, Mich.—Laundry Bldg.—Veterans' Administration Facility: John Senese Co., 295 Calvin Road, Grosse Point, Mich.	\$41,694.00
Minneapolis, Minn.—Additions to Main Bldg., No. 1—Veterans' Administration Facility: James Leck Company, 211 So. 11th St., Minneapolis, Minn.	87,922.00
Murfreesboro, Tenn.—Rapid Sand Water Filtration Plant—Veterans' Administration Facility: Burns, Inc., P. O. Box 118, Murfreesboro, Tenn.	64,963.00
Salt Lake City, Utah—Administration and Recreation Bldg., No. 6—Veterans' Administration Facility: J. S. Wetzger & Son, 408 So. Spring St., Los Angeles, Cal.	180,000.00
Jefferson Barracks, Mo.—Boilers & Boiler Plant Equipment—Veterans' Administration Facility: Stephens-Brown Co., 432 B. M. A. Bldg., Kansas City, Mo.	43,684.00
Alexandria, La.—Recreation Bldg., No. 8—Veterans' Administration Facility: Andrew & Dawson, P. O. Box, 1301, Montgomery, Ala.	111,693.00
Camp Custer, Mich.—Connecting Corridors—Veterans' Administration Facility: Miller-Davis Co., 1919 Factory St., Kalamazoo, Mich.	43,600.00
Jefferson Barracks, Mo.—Nurses Qtrs. Bldg., No. 18—Veterans' Administration Facility: Lecontour Parsons Construction Co., 4121 Forest Park St., St. Louis, Mo.	227,490.00
Batavia, N. Y.—Administration Bldg., No. 3—Veterans' Administration Facility: R. Norton Reed, 39 Liberty St., Batavia, N. Y.	93,901.00
Montgomery, Ala.—Buildings and Utilities—Veterans' Administration Facility: Algernon Blair, 1209 First Nat. Bank Bldg., Montgomery, Ala.	1,042,917.00

RECENT CONTRACTS AWARDED BY OQMG, WAR
DEPARTMENT, OVER \$10,000.00

Barksdale Field, Louisiana—16 Barracks, 4 Mess, 4 Recreation (Temporary Buildings)—Pittman Brothers Construction Company, New Orleans, Louisiana ...	\$124,954.00
Bolling Field, D. C.—10 Barracks, 2 Recreation (Temporary Buildings)—E. H. Martell Company Inc., 907 15th Street, N. W., Washington, D. C.	74,700.00
Chanute Field, Illinois—Fire and Guard House—Brockmeyer Construction Company, 634 North Grand Boulevard, St. Louis, Missouri	74,958.00
Chanute Field, Illinois—2 Additional Boilers in Central Heating Plant, Dravo Construction Corporation, 322 Pennsylvania Avenue, Pittsburgh, Pennsylvania ...	115,490.00
Chanute Field, Illinois—56 Temporary Barracks and 5 Recreation Buildings—William C. F. Kuhne, Rantoul, Illinois	347,797.00
Duncan Field, Texas—Temporary Barracks, Mess and Recreation Buildings—Ed. W. Oeffinger, 710 Avenue A, San Antonio, Texas	27,290.00
Hamilton Field, California—Paved Aprons and Drainage—N. M. Ball Sons, Box 404, Berkeley, California	129,674.00
Hamilton Field, California—Barracks Mess and Recreation (Temporary Buildings)—Robert McCarthy, 1363 14th Avenue, San Francisco, California	87,919.00
Langley Field, Virginia—Temporary Barracks, Mess and Recreation Buildings, Dewey G. Weddle and Company, 802 National Bank of Commerce Building, Norfolk, Virginia	264,130.00
Lowry Field, Colorado—Units 1B, 1C, 3B, 3C of AC Barracks—Mead and Mount Construction Company, Denver, Colorado	512,000.00
Lowry Field, Colorado—Central Heating Plant—Mead and Mount, National Building, Denver, Colorado ...	490,400.00
Lowry Field, Colorado—Temporary Barracks, Mess and Recreation Buildings—Thomas Bates and Sons, Denver, Colorado	189,350.00
March Field, California—Barracks, Mess and Recreation (Temporary Buildings)—Escherich Brothers, Los Angeles, California	194,985.00

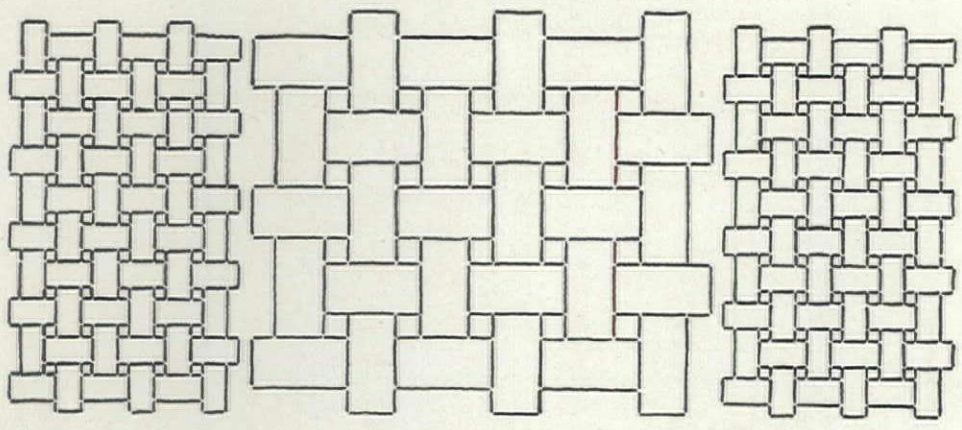
Mitchel Field, New York—Temporary Buildings—Graves-Quinn Corporation, Grand Central Terminal, New York	128,500.00
Moffett Field, California—26 Barracks, 6 Mess, 6 Recreation (Temporary Buildings)—P. C. Gibson, 372 Velarde Street, Mountain View, California	178,982.00
Scott Field, Illinois—Heating Systems for 15 Temporary Buildings—Reinke & Schomann, Inc., 1713 North Water Street, Milwaukee, Wisconsin	13,688.00
Scott Field, Illinois—6 Mess, 6 Recreation, 23 Barracks (Temporary Buildings)—McCarthy Brothers Construction Company, 4903 Delmar Street, St. Louis, Missouri	195,235.00
Fairbanks, Alaska—Experimental Concrete Slab—M. P. Munter, 29065 Street, West Seattle, Washington ...	14,490.00
Hickam Field, T. H.—97 Double and 32 Single N. C. O. Quarters—Tucker McClure, Los Angeles, California	907,183.00
Albrook Field, C. Z.—Night Lighting Installation—C. I. Bottenfield, Balboa, Canal Zone	13,090.00
Albrook Field, C. Z.—4,200 Men Barracks, 1 Mess Hall (Temporary)—Tucker McClure, Los Angeles, California	264,907.00
Patterson Field, Ohio—Barracks, Mess Hall and Kitchen Buildings, Recreation (Temporary Buildings), X. Minnigan, 16-20 Bates Street, Dayton, Ohio	63,000.00
Chanute Field, Illinois—Utilities and Concrete Floors and Ramps for Completion of A. C. School Hangars Nos. 1 and 2, J. L. Simmons Company, Citizens Building, Decatur, Illinois	87,700.00
Chanute Field, Illinois—Completion of A. C. School No. 2, J. L. Simmons Company, Inc., Citizens building, Decatur, Illinois	259,350.00
Chanute Field, Illinois—Completion of A. C. School No. 1, J. L. Simmons Company, Citizens Building, Decatur, Illinois	374,350.00
Lowry Field, Colorado—Runway Paving and Drainage J. B. Bertrand, Inc., and Peter Kiewit Sons Company, 4295 York Street, Denver, Colorado	323,000.00
Lowry Field, Colorado—850-Man Barracks, Mead and Mount Construction Company, 422 Denver National Bank Building, Denver, Colorado	704,430.00
Fort Devens, Massachusetts—Metal Shelving in 500-Man Barracks, DeLuxe Metal Furniture Company, Warren, Pennsylvania	10,758.00
Fort Dix, New Jersey—Reinforced Concrete Road Paving, Union Paving Company, 1227 North Broad Street, Philadelphia, Pennsylvania	42,863.00
Fitzsimons General Hospital, Colorado—Hospital Furniture and Kitchen and Bakery Equipment, John Van Range Company, Cincinnati, Ohio	75,129.00
Hamilton Field, California—Radio Beacon Range Building and Radio Transmitter Building, Clifton C. Newman, 507 Brannan Street, San Francisco, California	22,825.00
Hickam Field, T. H.—Power Line to and Street Lighting System within Ordnance Magazine Area, Robert E. McKee, El Paso, Texas	13,250.00
Hickam Field, T. H.—Administration Building, E. E. Black, Ltd., Honolulu, T. H.	120,500.00
Fort Sam Houston, Texas—Asphalt Tile Floors in 2 500-Man Barracks, E. Y. Sanguinet, Dallas, Texas	11,998.00
Fort Kamehameha, T. H.—Rehabilitate Sewer Pump System, City Welding Shop, Honolulu, T. H.	15,244.00
Kelly Field, Texas—A. C. Operations Hangar, Shops and Annexes, Robert E. McKee, 1918 Texas Street, El Paso, Texas	331,700.00
Kelly Field, Texas—Cadet Barracks, Academic Building, 1100-Man Barracks, P. O. B. Montgomery, Dallas, Texas	1,282,450.00
McChord Field, Washington—Electric Distribution and Street Lighting Systems, O. A. Carlson Electric Company, Seattle, Washington	183,613.00
McChord Field, Washington—Water Distribution System, Central Construction Company, Seattle, Washington	48,748.49
Fort Missoula, Montana—Fire and Guard House, A. R. Elliott, Charlo, Montana	58,776.00
Fort Myer, Virginia—Tile and Marble Work in Cavalry Barracks, Standard Art Marble and Tile Company, Inc., Washington, D. C.	15,839.00
Sacramento Air Depot, California—Sentry Houses, Entrance Gates, Fences, Lawrence Construction Company, Sacramento, California	13,166.00
Sacramento Air Depot, California—1 Traveling Bridge Crane in Center Aisle Engineering Shops, Harnischfeger Corporation, Milwaukee, Wisconsin	15,315.00
Sacramento Air Depot, California—Entrance Gates and Sentry Houses, Harry Gunther, North Sacramento, California	10,250.00
Savannah Ordnance Depot, Illinois—Bituminous Roads, Brooks Construction Company, Fort Wayne, Indiana	38,345.44
Savannah Ordnance Depot, Illinois—Concrete Road, Permanent Construction Company, Chicago, Illinois.	35,500.00
Scott Field, Illinois—Radio Transmitter and Radio Beacon Range Buildings, Dickie Construction Company, St. Louis, Missouri	19,891.00
West Point, New York—1500 H. P. Boiler—Dravo Corporation, Pittsburgh, Pennsylvania	98,850.00
Wheeler Field, T. H.—Roads—Hawaiian Contracting Company, Ltd., Honolulu, T. H.	34,475.00
Fort Totten, New York—1 Garage and Shop Building and 4 Gun Sheds, Bowe Construction Company, New York	214,787.00



by Horydezak

Congressional Library Annex

Pierson & Wilson, Archts.



#170 buff and brown
2x1 and 1/2x1/2

#570 buff and brown
4x2 and 1x1

#170 gray and black
2x1 and 1/2x1/2

Here again a leading architect has taken advantage of the wider scale offered by Sparta sizes to adjust Ceramic floor patterns according to room sizes. All tiles in Toilets and Showers by

The
SPARTA CERAMIC COMPANY
East Sparta Ohio



STORE FOR F. W. WOOLWORTH CO., EASTON, PA.

ATLANTIC TERRA

MAKERS OF AMERICA'S BEST KNOWN TERRA COTTA

101 Park Avenue, New York City

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

WOOLWORTH STORE 106, EASTON, PA.

1. Entire exterior of ATLANTIC TERRA COTTA. Two hundred feet frontage on two streets. Located on the central square; the most prominent position in the city.
2. One of the many Woolworth Stores for which we have made outstanding exteriors of ATLANTIC TERRA COTTA in the last few years.
3. Three glazed abbochrome colors (mat texture) were used, specially developed by our Laboratory for Woolworth buildings. All fired at standard ATLANTIC temperature 2400°F. Colors distributed as follows: dark tan to top of second story sill course; above that the field in warm buff with spandrels between piers in light tan.
4. Arrangement of jointing, bonding and construction carefully studied by our Engineering Department to secure best results for appearance and stability. Continuous through wall flashing at roof level and under coping provides positive water stop. No metal bars of any kind required in coping joints.
5. Ashlar machine extruded by deairing process and all flat surfaces planed in dry state before firing, insuring level face.
6. Every piece, whether machine extruded or hand pressed, made with closed scored back eliminating costly filling. Machine ground after firing to permit setting with *uniform* mortar joints.
7. Great technological progress in the last few years has made ATLANTIC TERRA COTTA the modern high quality building material.

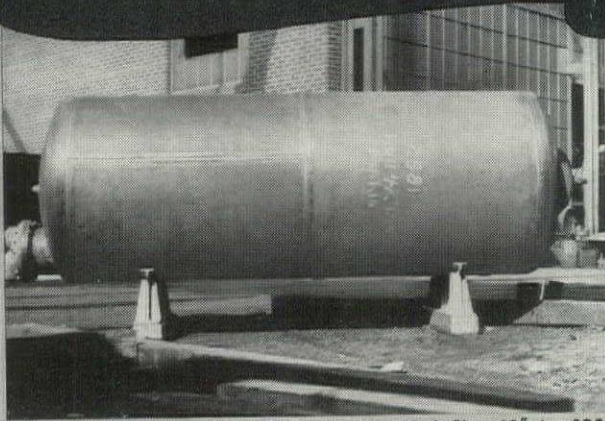
COTTA COMPANY

MAKERS OF AMERICA'S BEST KNOWN TERRA COTTA

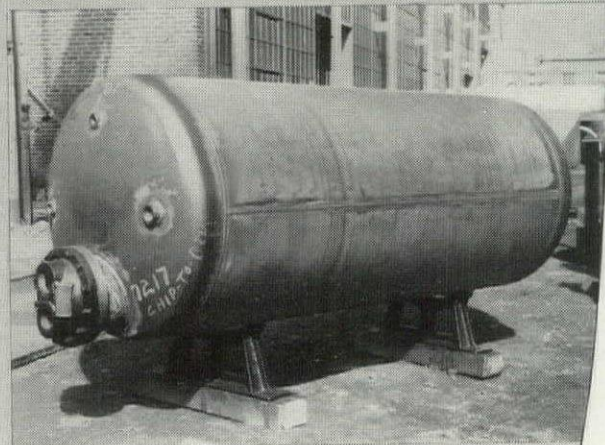
101 Park Avenue, New York City

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

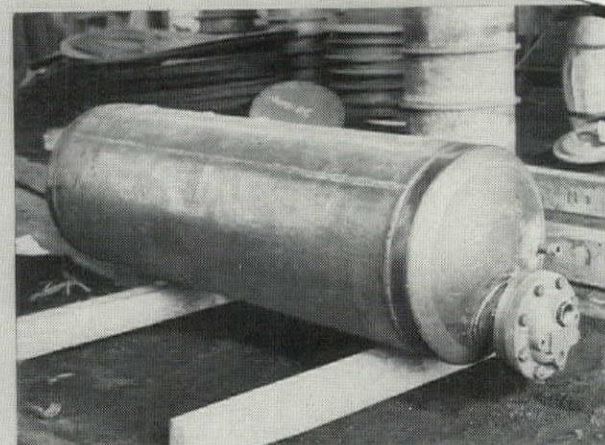
For non-rust water heaters



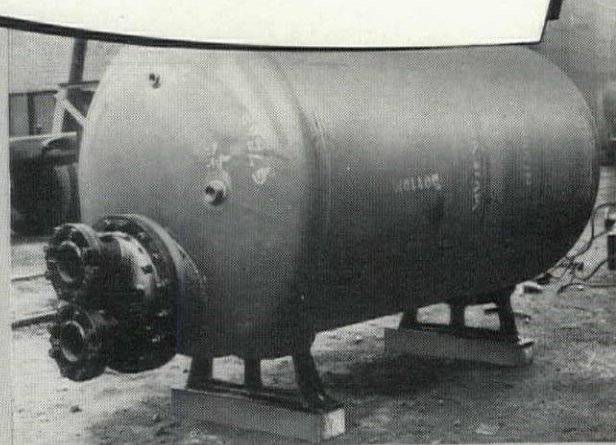
1. For New York Central Health Center, New York City, 42" d. x 120"



2. For Brooklyn Library, Brooklyn, N. Y., 36" d. x 96"



3. For Chester Post Office, Philadelphia, 20" d. x 60"



4. For Northport School, Northport, L. I., 48" d. x 96"

EVERDUR gets the call

There's good reason for the fact that nowadays more Everdur heaters are installed in a week than were built in the entire year 1929. Owners more and more realize that the "cheapness" of rustable heaters is apt to prove a false economy... that *true economy* lies in the use of heaters that *do not rust*. That's why building owners from coast to coast are demanding non-rust Everdur heaters for rust-free hot water and long heater life.

EVERDUR Copper-Silicon Alloy is exceptionally strong, rustless as copper, and readily welded. This rare combination of properties means rust-free hot water for years to come, and lasting service at low cost. For all types of installations—industrial, commercial and residential—storage heaters of Everdur are obtainable from leading equipment manufacturers.

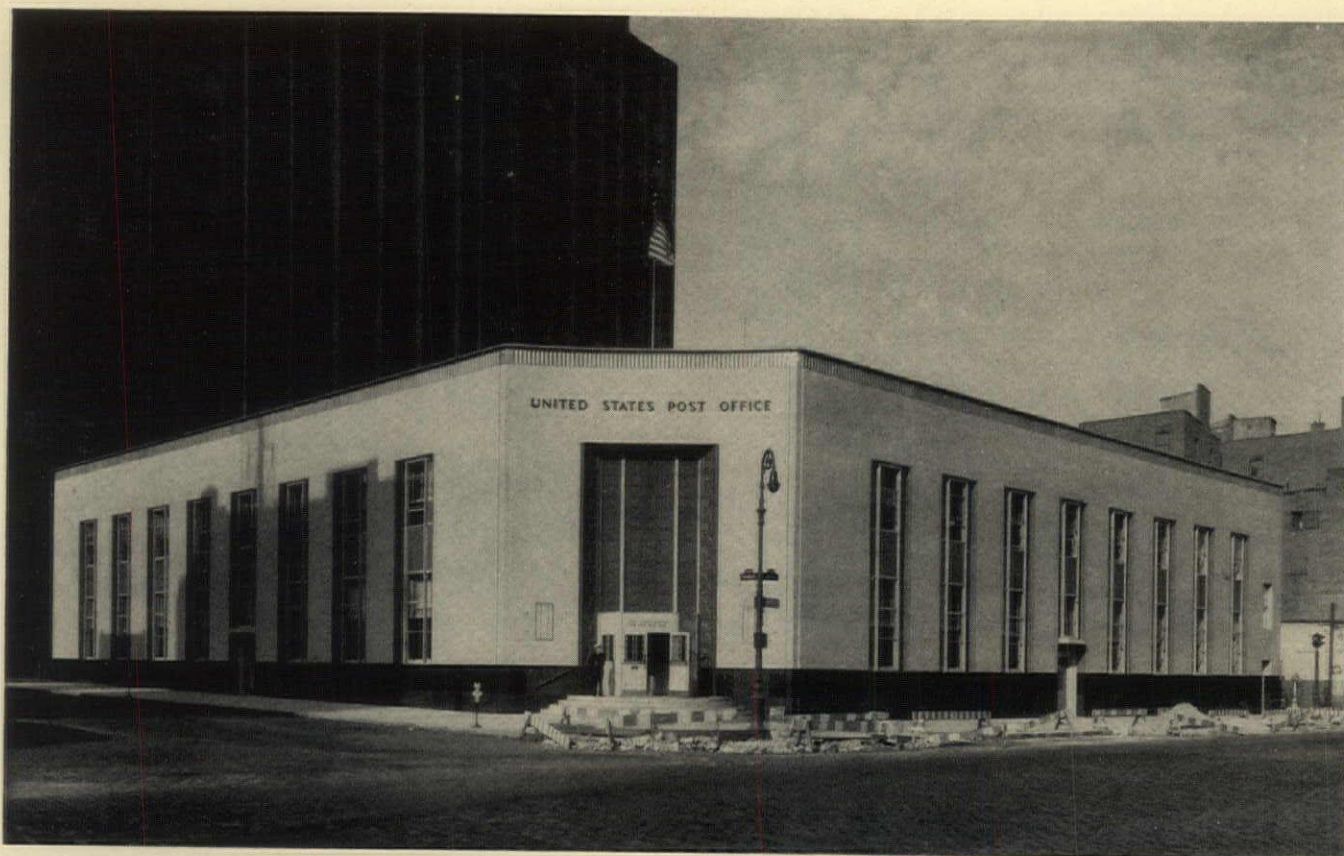
All of these welded Everdur Heaters were fabricated by QUAKER CITY IRON WORKS, Philadelphia, Pa.

3061

Everdur TANK METAL



THE AMERICAN BRASS COMPANY, General Offices: Waterbury, Connecticut
 In Canada: Anaconda American Brass Ltd., New Toronto, Ont. • Subsidiary of Anaconda Copper Mining Co.



COLOR *and* ARCHITECTURE

Contemporaneous in design, the Canal Street Post Office, occupying the entire block Canal, Church and Lispenard Streets, New York City, is faced inside and out with *colorful* Federal Seaboard Architectural Terra Cotta.

The base is multichrome black; the field a rose buff glazed multichrome with oxblood and silver trim.

Interior public lobby is two shades of dull glazed buff and boasts a beautiful terra cotta mural by Wheeler Williams, Sculptor, executed in dull Ceramic gold against a dull Spanish leather color background.

The general unit size of the exterior ashlar is 24" by 33". It is solid back and surface planed straight.

Federal Seaboard Architectural Terra Cotta meets the modern architect's demand for color, scale and flatness.

Write our New York office today for form #21 illustrating *Modern colorful Terra Cotta Store Fronts*.



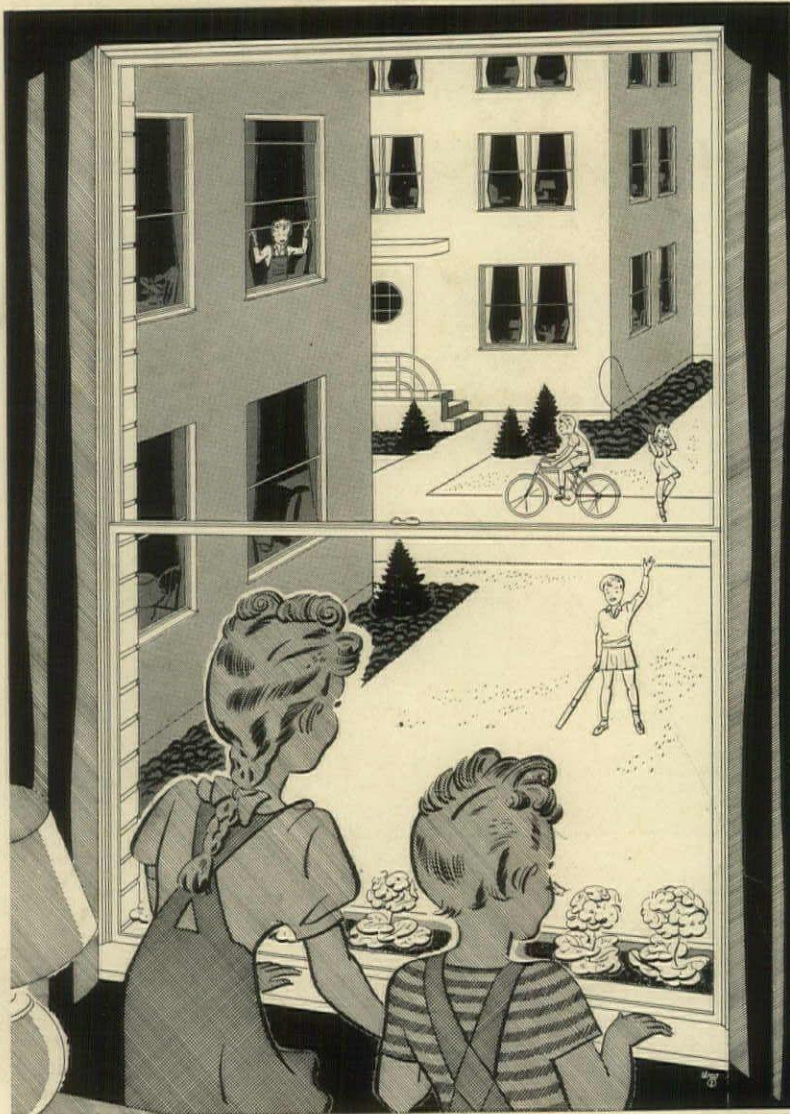
FEDERAL SEABOARD TERRA COTTA CORPORATION

10 East 40th Street, New York City

Perth Amboy, N. J.

Woodbridge, N. J.

South Amboy, N. J.



They Help Make
 Low-Rent
 Housing Projects Pay...
**Aluminum
 Windows**



ALUMINUM WINDOWS cost practically nothing to maintain. That means larger operating margins for building owners.

Aluminum resists corrosion and never needs a protective coating of paint. There's no warping or swelling to interfere with the easy operation of Aluminum Windows. No annoying, rattling looseness; they are permanently weather-tight. There's no rusting or rotting to require expensive replacements of parts.

In comparing window prices, be certain that quotations on other, less permanent windows include charges for assembly of knocked-down parts, for installation, weather-stripping, fitting and refitting, and painting. You'll find

that Aluminum Windows cost but little more.

Aluminum Windows are easy to live with. Their lightweight, accurately fitted Alcoa Aluminum extruded parts make them remarkably easy to open and close. Frames and sash are narrow, giving maximum glass area. The unpainted finish is a pleasing, neutral tone.

Aluminum Windows are fabricated by leading window manufacturers from shapes supplied by us. The book, "Windows of Alcoa Aluminum," lists these companies, includes drawings and descriptions of their various types of windows. For a free copy, write to Aluminum Company of America, 2147 Gulf Building, Pittsburgh, Pennsylvania.

ALCOA · ALUMINUM