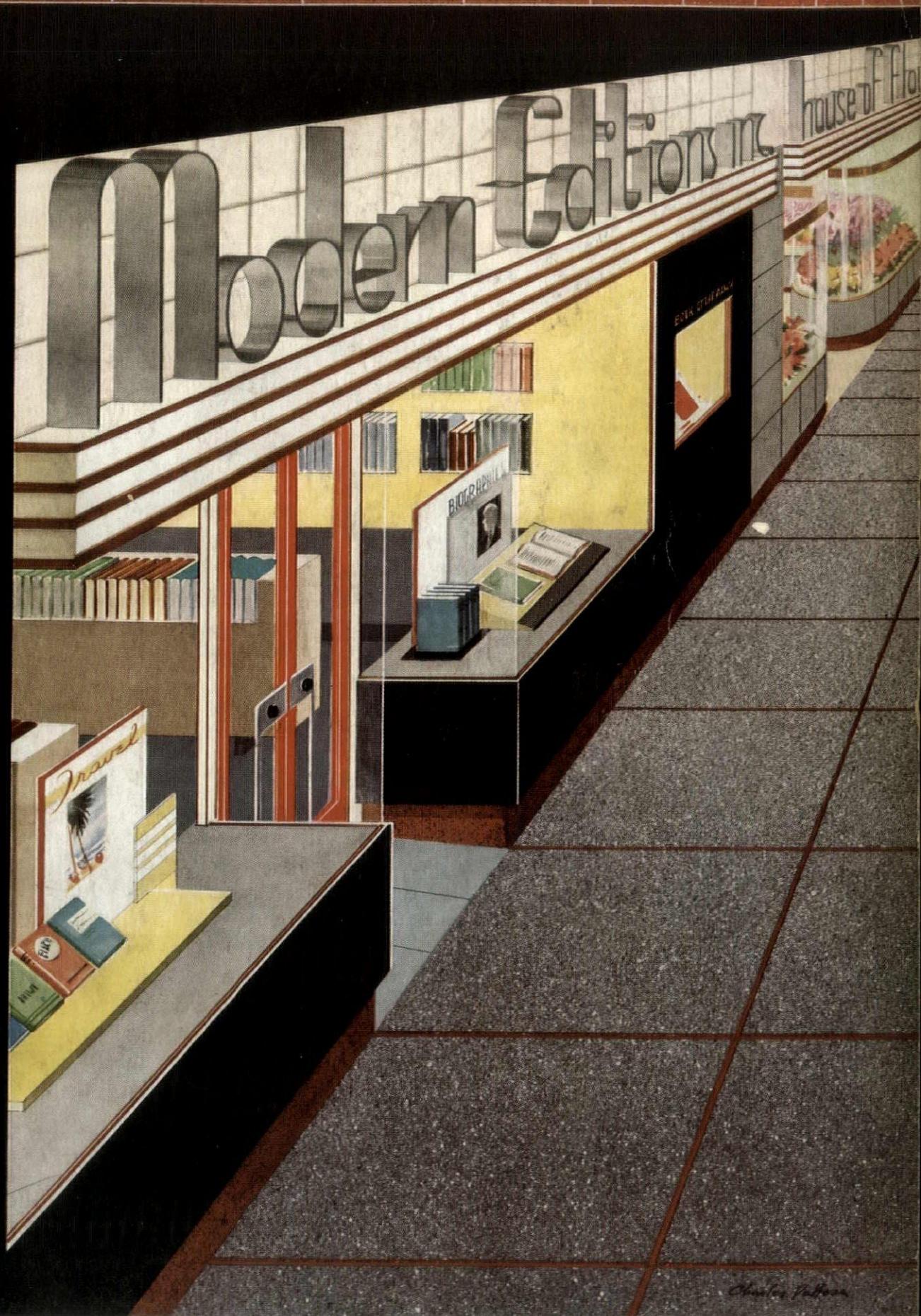


AMERICAN ARCHITECT AND ARCHITECTURE



Charles F. Johnson

Cape Cod house built by Geo. W. Statzell, Inc., at Colonial Park in Springfield, Delaware County, Pa.



Anaconda *Economy* Copper Roofing Wins Nation-Wide Acceptance

Important advantages of Anaconda *Economy* Copper Roofing:

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Anaconda *Economy* Copper Roofing offers all the traditional charm and durability of copper roofing at a cost which has justified its extensive use on homes throughout the country.

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The American Brass Company has familiarized the sheet metal trade with Anaconda *Economy* Copper Roofing. Experienced contractors in all sections of the country are available for its efficient application. For further information, see our catalog in Sweet's.



Anaconda Copper

THE AMERICAN BRASS COMPANY, General Offices: WATERBURY, CONN.
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FOR THEIR OWN HOMES . . .



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American Architect and Architecture, published monthly by Hearst Magazines Inc., 572 Madison Avenue, New York N. Y. \$3.00 per year; Canada, \$4.00; Foreign, \$5.00. Entered as second class matter April 5th, 1926, at the Post Office at New York, N. Y., under the act of March 3rd, 1879. Issue 2658, dated June, 1937.

"CORROSION STUDY"

shows where to use

WROUGHT IRON



● Genuine Wrought Iron was specified for the main supply, hot and cold water lines, also heating supply and return lines in Summit County Home, Summit County, Ohio.

● Genuine Wrought Iron was specified for the main supply, hot and cold water lines, and drains in the Silver Lake School, Silver Lake Village, Ohio.

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AMERICAN ARCHITECT AND ARCHITECTURE

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WHEREVER INDUSTRY DEMANDS THE *Utmost* IN ROOF *Protection*



Continental Can Company's Houston, Texas, Manufacturing and Warehouse Building. Protected with 50,000 sq. ft. Ruberoid Built-up Roof.

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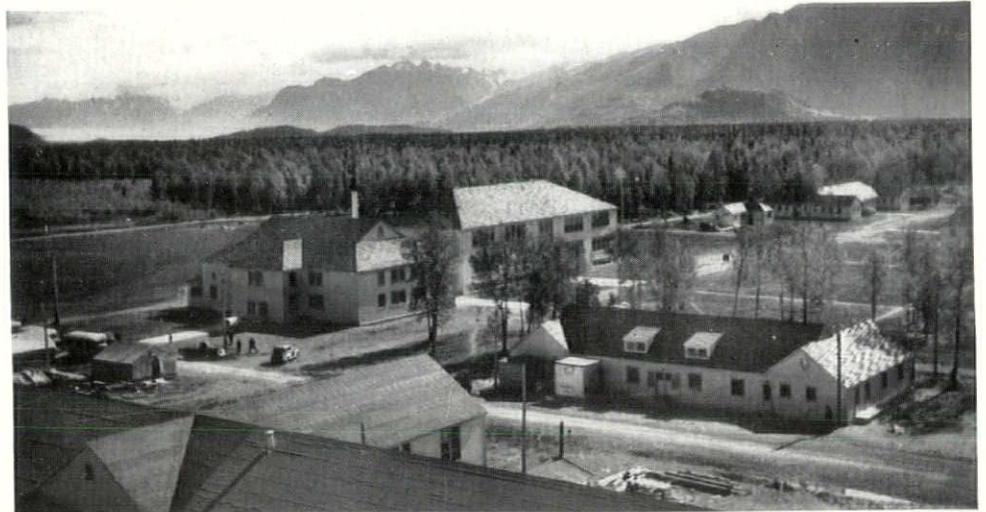
In addition Kawneer furnishes entrance doors, and architectural metal work to special details. The durable Alumilite finish may be specified for aluminum, as Kawneer maintains adequate equipment for producing this attractive finish.

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STORE FRONTS

PALMER'S PIONEERS

Recalling the days of the covered wagon, but quickened to the tempo of the twentieth century, was the wholesale trek under the auspices of the government of people from the drought belt to Alaska. What was wilderness soon became a planned town called Palmer. Magnificently set amid the Chugach Mountains, it now has a \$125,000 school and a community hall and a hospital. Surrounding the town are 40-acre tracts of land on which the government built homes, barns and other necessary buildings. These small farms were also equipped with machinery, livestock and poultry for the "pioneers of 1935." Today Palmer is a moderately thriving town with most of its citizens independent of government support.



PHOTOS: JOHN WALSH, JR.

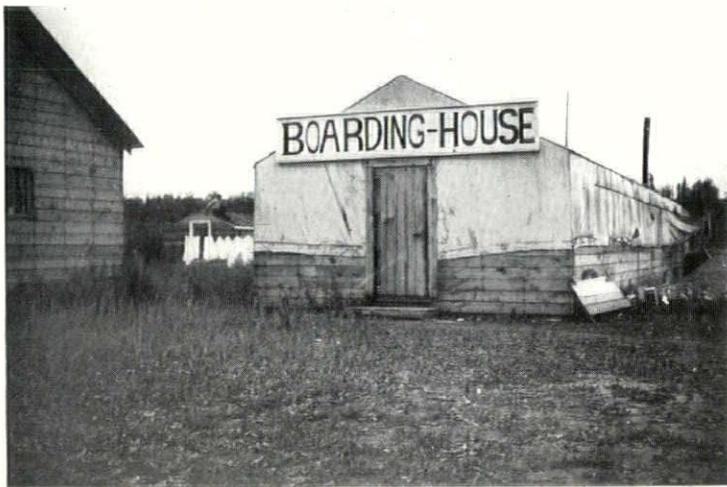
The schoolhouse and hospital in Palmer with the Chugach Mountains looming up beyond and steaming Knik Glacier in the distance to the left in the picture



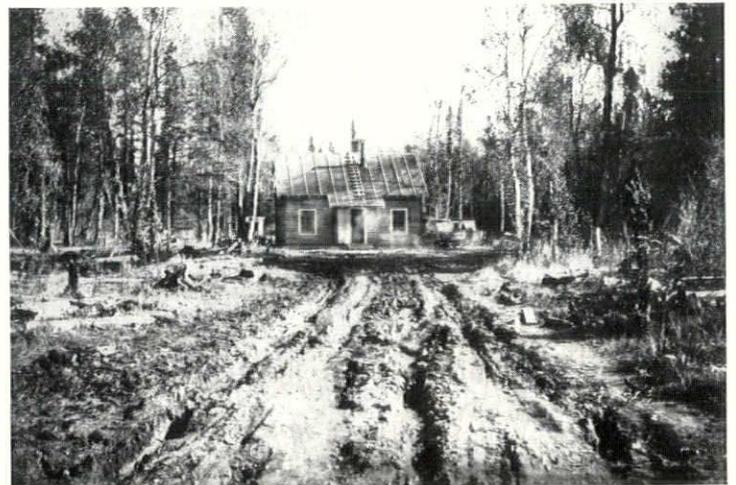
Built of logs St. Michael's Church will be a permanent home for worship



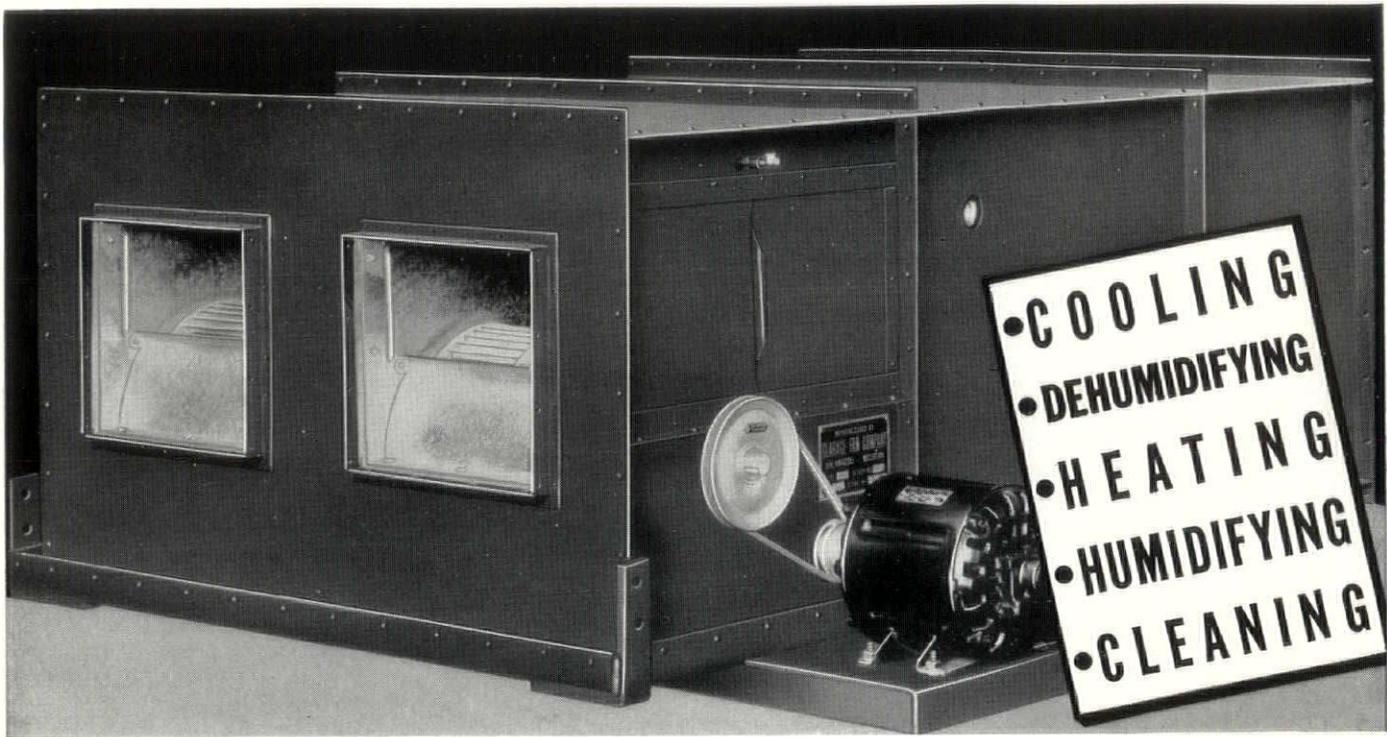
An elevated food cache for storing food during the winter months



Workers at Palmer are fed at a reasonable cost in private boarding houses since the closing of A.R.R.C. mess hall



This log cabin is the home of Vernon Olmstead, tenth colonist to declare himself independent of further government credit



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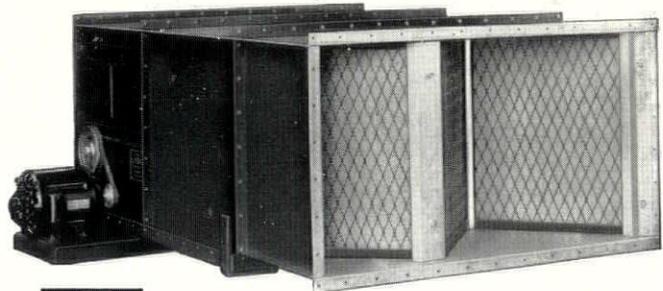
In the first place, these units are scientifically designed to give accurate and dependable results. Secondly, they are remarkably compact and easily installed. You can plan to suspend them from the ceiling, or mount them on platforms or on the floor.

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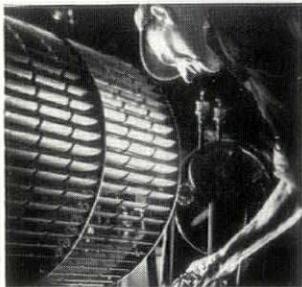
cold water, brine or any direct expansion refrigerant as the cooling medium—hot water or steam for heating.

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Inlet end of Multitherm Unit, showing filters. Every unit can be made completely automatic in operation—regulated by room thermostat and humidistat.



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one pictured above knows that these materials retain their high rate of absorption all during their long life. And so, they serve their purpose with *true* economy.

And, like these architects, he knows what it means to have available an experienced engineering service like Johns-Manville's. Time and again, these J-M Engineers . . . by co-ordinating the sound-control work with basic architectural designs . . .

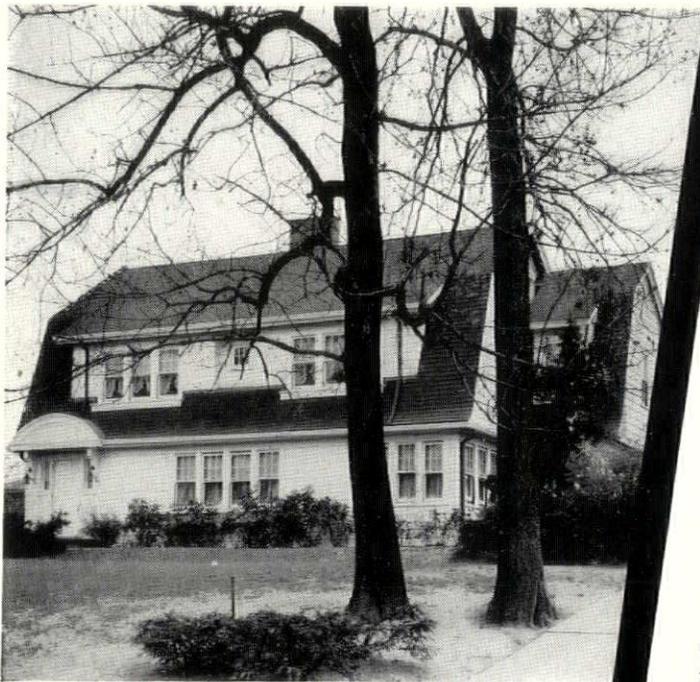
and by assuring proper application of the materials . . . have helped architects solve acoustical problems with utmost efficiency and economy.

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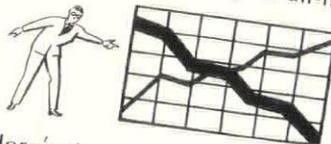
Harry M. Price, Architect
 Cincinnati, Ohio



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Eagle White Lead gives
 an elastic paint film that
 doesn't crack or scale . . .

● Preference for Colonial architecture is reaching an all-time high—and paint failures are reaching an all-time low.



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Home-owners appreciate the added protection that Eagle Pure White Lead gives. It wears down by a gradual, even chalking—leaves a perfect surface for repainting. This chemically active pigment makes paint that actually costs less per square foot per year.



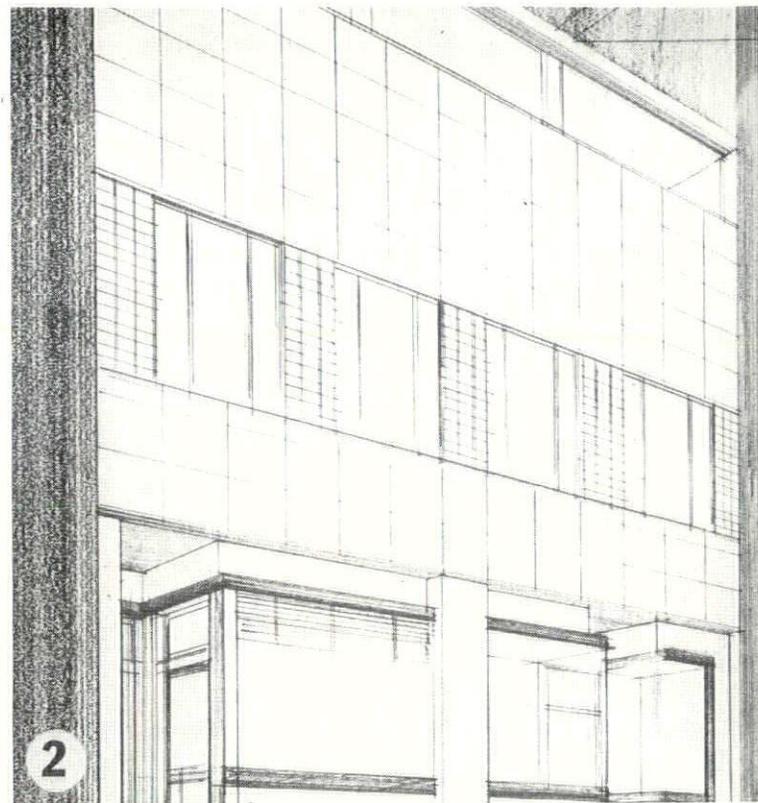
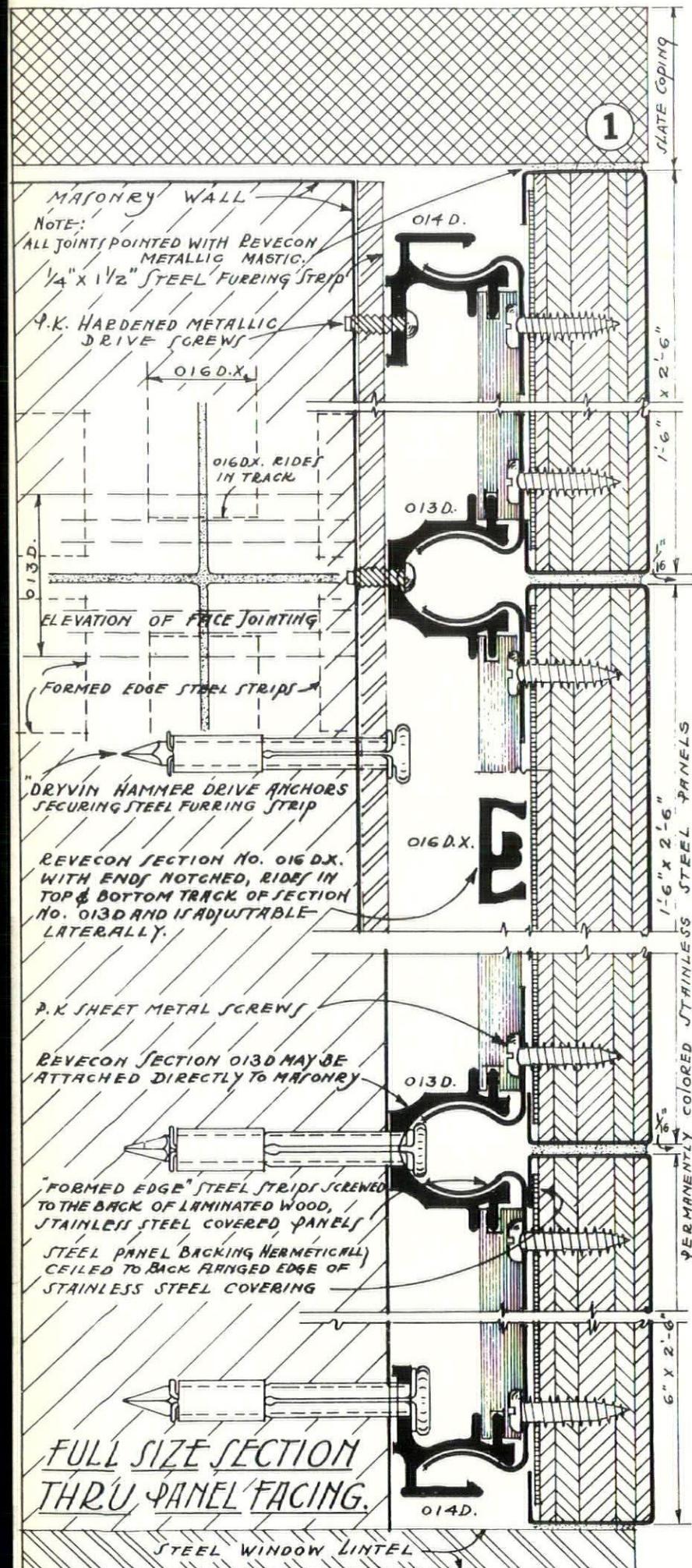
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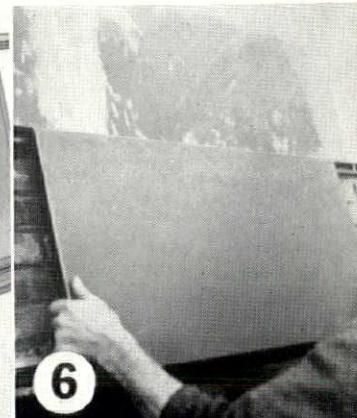
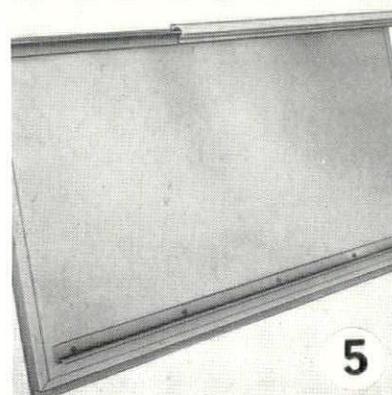
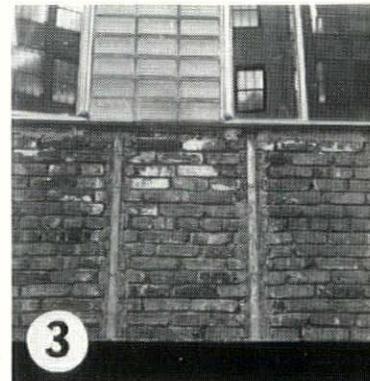
CHOICE
 OF GOOD
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First Exterior Use of Permanently



KEY TO PICTURES

1. Full-size detail drawing showing method of erecting panel facing using Bach process permanently colored stainless steel panels with Revecon Structural Sections for new building constructed for The Dog Bath Club, 144 East 57th Street, New York City.
2. Design sketch showing face of building with panels indicated.
3. Part of building wall showing steel furring strips attached to wall with "Dryvin" Hammer Drive Anchors as manufactured by the Star Expansion Bolt Company.
4. Building wall showing horizontal Revecon Holding Members No. 013D fastened to furring strips with Parker-Kalon Hardened Metallic Drive Screws.
5. Stainless steel used in panels (back view below) furnished by a U. S. Steel Corporation subsidiary, permanently colored by the Bach process. Armorply stainless steel panels furnished by United States Plywood Company, Inc. Illustration shows how preformed metal strips secured to panels interlock with Revecon holding members.
6. Panels are easily pressed into interlocking engagement with Revecon horizontal holding members and with vertically placed Revecon Structural Sections riding in channels provided in the horizontal members.
7. Progress picture showing upper panels in position.
8. Detail showing close-up of soffit panels in position.
9. Completed building with all panels in position.



Colored Stainless Steel Is Erected With

REVECON* STRUCTURAL SECTIONS

Showing the first exterior use of permanently colored stainless steel fabricated panels, utilizing a new patented process of coloring stainless steel developed by Oscar B. Bach, 305 East 46th Street, New York, N. Y. Applied as a decorative metal modernizing facing erected with REVECON Structural Sections. Architects: Bloch & Hesse, 18 East 41st Street, New York City.

THIS new use of stainless steel consists of a light gauge of 18-8 metal wrapped over a 5-ply laminated wood core panel and soldered to a light-gauge sheet of mild steel covering the rear of the panel.

Pre-formed strips of mild steel (having Revecon formed edge profile, which fits and interlocks with the internal profile of the Revecon holding members) were screwed to the back of these panels, which were then ready for erection. (See Figure No. 5.)

Revecon Holding Members No. 013D were attached horizontally to 1½"x¼" vertical furring strips, previously erected, with drive screws. The permanently colored stainless steel panels, as above described, were then pressed into engagement with the Revecon members, holding these panels securely in a

uniformly flat plane with all joints equal in width.

As each panel was placed, Revecon Sections No. 016DX, notched to ride laterally in the track provided at top and bottom of the horizontal Revecon Sections 013D, were placed vertically. Besides acting as a spreader, these increase the grip of the formed-edge steel strips interlocking with the horizontal members. They also provide a vertical-joint backing designed to receive the Revecon Metallic Mastic, sealing the edges of the adjoining panels; and they establish a dependable base for aligning the faces of all panels into a uniform surface plane.

The Revecon sections securely retain the panels in position and are completely concealed by them. At the same time they permit

easy removal and replacement of one or more panels as desired. The soffit panels across the band of show windows and into entrances in this structure are also of permanently colored stainless steel and were similarly erected with Revecon Structural Sections.

The Oscar B. Bach process of coloring stainless steel opens an entirely new field for this material. Although the building here illustrated is gray in color, any desired color scheme may be used.

Revere Revecon Structural Sections are made of strong aluminum alloy by the extrusion process. When erected as detailed above, they form a strong, light framework with minimum field erection costs. The fidelity of profile assured by the extrusion process provides an accurate, uniform base for the overlying panels.

Write on your own letterhead for the REVERE TECHNICAL HANDBOOK pictured below. Contains full-size illustrations and descriptive text showing how Revecon Structural Sections are used to apply rigid sheet materials of any thickness up to ½" to exterior or interior surfaces over any type of superstructure. Address your inquiries to our Executive Offices, 230 Park Avenue, New York City.

Revere Copper and Brass

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PAUL REVERE

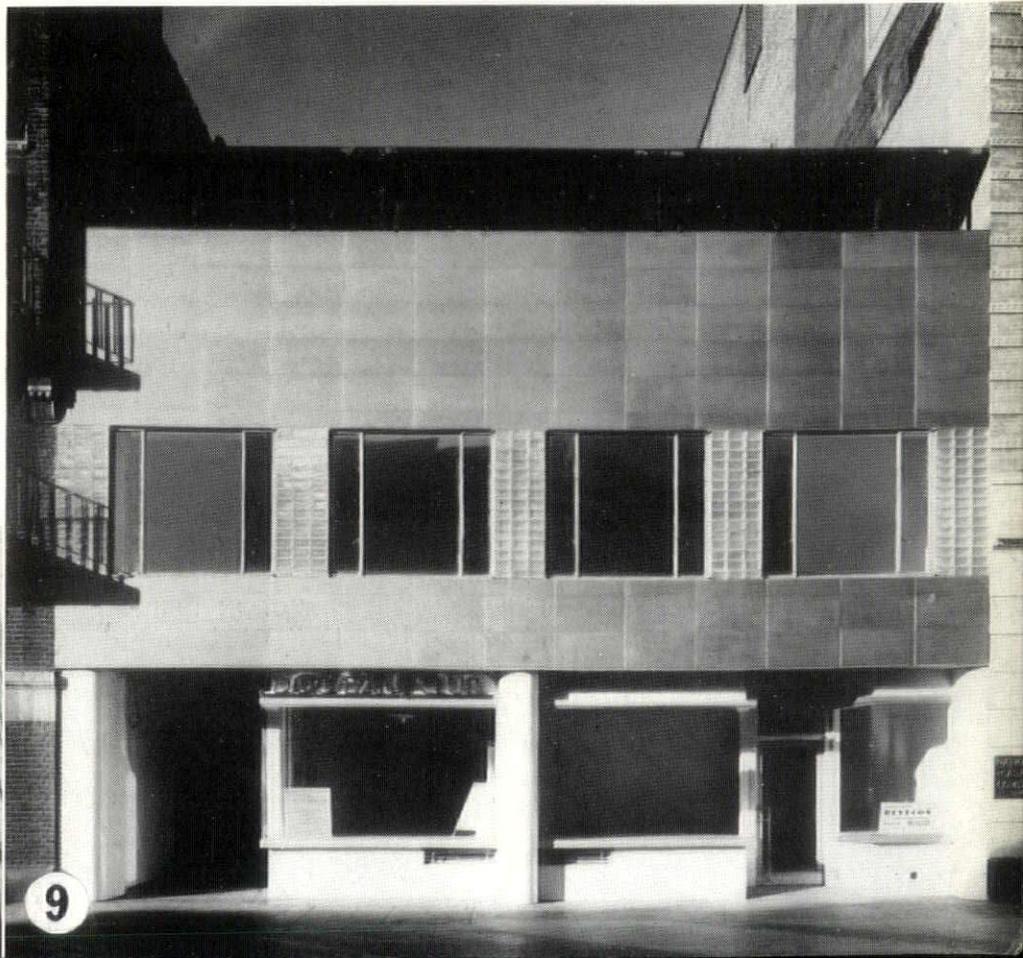
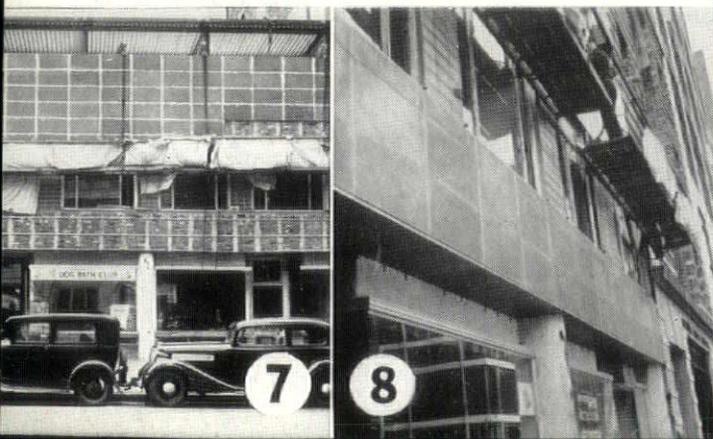
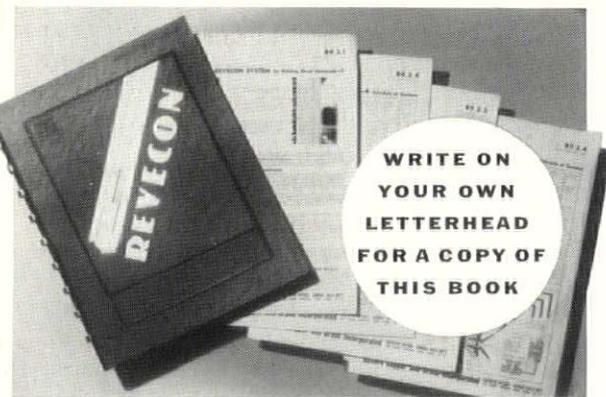


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* U. S. Patents No. 1,973,796; 2,006,994; 2,012,070; 2,073,277; 2,073,278. Canadian Patents No. 360,122; 365,274



GOVERNMENT AND LEGISLATION

DESPITE A NOTABLE INCREASE in both interest and activity concerning real estate mortgages, particularly those affecting small home development, many authorities feel that at least one more step must be taken to get the full benefit of existing facilities. That step is to co-ordinate the Federal mortgage agencies.

With this in mind, Paul Stark, President of the National Association of Real Estate Boards, has been in Washington recently to confer with Senator Robert F. Wagner of New York. The subject of their discussion was a national survey to be undertaken by either a Congressional committee, or the Federal Housing Administration, to determine the need for a Federal mortgage bank.

A bill providing for a Federal mortgage bank, sponsored by Senators Wagner and Claude Pepper, of Florida, now is pending in the Senate. Later discussions of the Stark-Wagner conference indicated that Senator Wagner would support a bill providing for a survey, as well as the appropriation of \$50,000 to \$100,000 to defray its expenses.

It is felt that such a Federal mortgage bank, besides co-ordinating the present agencies, would restore public confidence in mortgage investments, and bring back into that field a mass of small investors who have largely disappeared from the market. Privately managed, and operated by experts of the highest standing, the idea is scouted that it would become a dumping ground for bad mortgages. The bank would be supervised by the government just as the Federal Reserve Banks are. Because of the large flow of investment fund that a Federal mortgage bank might attract, it is also possible that interest rates would be lowered for a large body of investors. The present scarcity of lendable money is holding interest rates in many parts of the country at an extremely high level.

IT IS HARDLY SURPRISING to learn that Governor Herbert H. Lehman is receiving letters and telegrams by the hundreds in protest to the McNaboe Bill. Introduced by Senator John J. McNaboe, New York Democrat, the bill provides that no person shall be employed for architectural, engineering, or technical service on any public works, building or project of the state, or its civil divisions, or cities, if there is in regular service a person whose duties or functions are of a similar nature; or if there are persons on preferred or eligible lists who have been separated

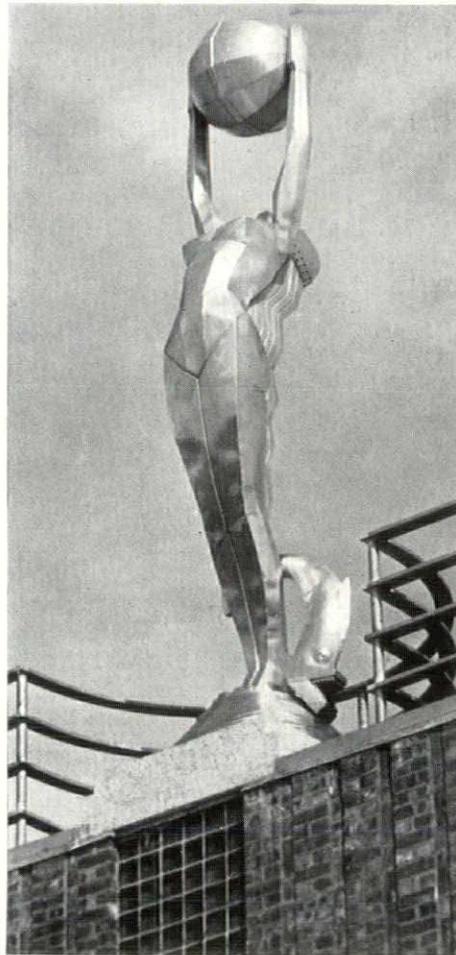


PHOTO: ANNE ESTABROOK

One of the 16-foot stainless steel figures for the Astoria Pool which are the largest of this material in America. Designed by Sculptor Emil Siebern, they are fully reinforced and all pieces were welded with a 65% silver alloy

from similar positions or are eligible for appointment from a civil service list.

The bill makes an exception where the services of persons of "peculiar or exceptional qualifications" are required, but limits the employment of such persons to service of advisory or consultant nature. If such persons require the work of assistants, the bill further provides that such assistants shall come from the regular service or from eligible lists.

While the bill has passed both houses of the Legislature, it has not yet been submitted to the Governor. . . . There is still hope.

CONSTRUCTION

THE VIGILANCE COMMITTEE OF THE CONSTRUCTION INDUSTRY OF THE CITY OF NEW YORK: Thus does the dust of last June's apartment house collapse take form in this "modern" generation. Unpleasant, but apparently necessary, this organization has been quietly and persistently

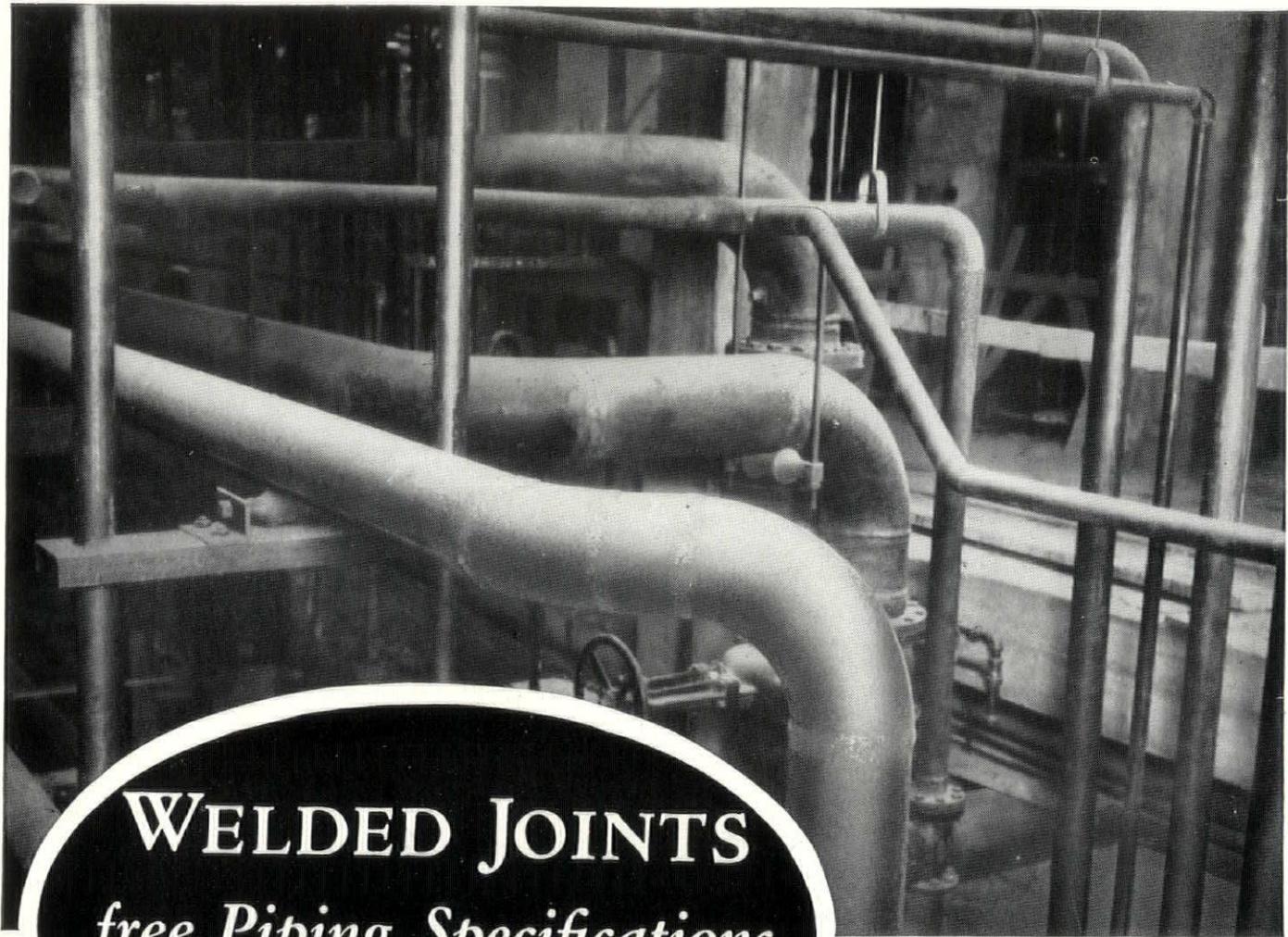
taking over the leadership of those interested in safe building, and safe investment therein.

For three-quarters of a year every phase of the construction industry has been investigated. More than 128 group meetings have been held to study the problems of each division. And now the work of these Vigilantes is approaching a climax. Their findings are to become the property of the entire financial, real estate, and construction worlds. To quote an article by Myron L. Matthews, "The medium (of investigation) has been and still is the writer's Ten Point Plan for Rehabilitation of the Construction Industry. In fact a new term is being evolved for the Ten Point Plan. It is the 'Construction Constitution.'

"Briefly the Ten Point Plan advocates architectural and engineering planning and supervision on every job; construction to be done by career builders—not the 'here today and gone tomorrow' type of contractor; the employment of a general contractor as the recognized practical construction and assembly expert and sub-trade co-ordinator for the individual job; the acceptance of a position of selective lending of money for building by lending institutions, according to quality construction standards and other factors pertaining to real estate long term investment; provision for granting pay roll or character loans to worthy contractors with a bona fide contract to perform; structural and economic rating of new buildings as a guide to making permanent building loans, sales, and mortgage transfers, and case histories of old structures; adoption of certain proposed amendments to the present city building code; removal of the influence which makes labor's services so competitive and variable that labor is harried and contractors themselves do not know how to estimate their job labor costs; credit ratings for every person, firm, or corporation seeking loans, and special contractors, material men and others to be relieved of being forced into any position where they are collectively doing the major financing of the job."

While it is far from desirable for any group—labor, capital, or real estate—to take a too literal stand on "government by the people," it is important that steps be taken to co-ordinate the present lack of integration in the construction industry which would permit the recurrence of "jerry building" to any traceable extent.

NEW ORDERS BOOKED DURING MARCH by the fabricated structural steel industry were the largest since July of last year, according to reports received by the



WELDED JOINTS
*free Piping Specifications
from Many Limitations*

Welding, more than any other method of installation, allows the free and adequate exercise of creative planning in piping specifications.

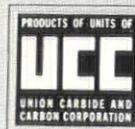
Oxy-acetylene welding makes piping systems truly jointless, and leakproof for the life of the pipe. The welds have the full strength of the pipe, take up less space, look neater, and involve no additional time or cost for construction. When welding is used, the ideas behind the

specifications can be embodied in the piping surely—economically—permanently.

Linde engineers, from their welding experience on many millions of feet of building pipe, have prepared technical data especially for those interested in specifying "Piping Joined by Oxy-Acetylene Welding." Ask the nearest Linde office for complete details before writing specifications. The Linde Air Products Company, Unit of Union Carbide and Carbon Corporation, New York and Principal Cities.

Everything for Oxy-Acetylene Welding and Cutting

LINDE OXYGEN • PREST-O-LITE ACETYLENE • OXWELD APPARATUS AND SUPPLIES FROM



LINDE UNION CARBIDE

THE MODERNITY OF A HOME DEPENDS ON ITS ELECTRICAL WIRING



PROTECT YOUR CLIENTS
WITH G-E HOME WIRING

In this day and age, when people are wanting better light, electric kitchens, and electrically controlled air conditioning, you can't afford to specify wiring that won't bring proper current to this equipment. Houses without adequate electrical wiring are not modern no matter how attractive they are.

Be sure the houses you design are abreast of the times by specifying G-E Home Wiring—Planned Wiring. This wiring is flexible, can be made to fit any requirement or size of house. Choice of types of materials is also flexible. In all cases, G-E Home Wiring assures convenient and efficient use of all modern electrical appliances and equipment—provides for increased use of electricity in the future.

G-E Wiring Materials are ideal for modern wiring—sure to give long, satisfactory service. The line is complete including G-E White Rigid Conduit, BX, "Safecote" Wire, Switches, Convenience Outlets, including a new Radio outlet, Fuses, and Branch-circuit Circuit Breakers.

For further information on G-E Home Wiring, Planned Wiring, or on G-E Wiring Materials, see Sweet's Architectural Catalogues for 1937, Time Saver Standard or write to Section CDW-716, Appliance and Merchandise Dept., General Electric Company, Bridgeport, Conn.



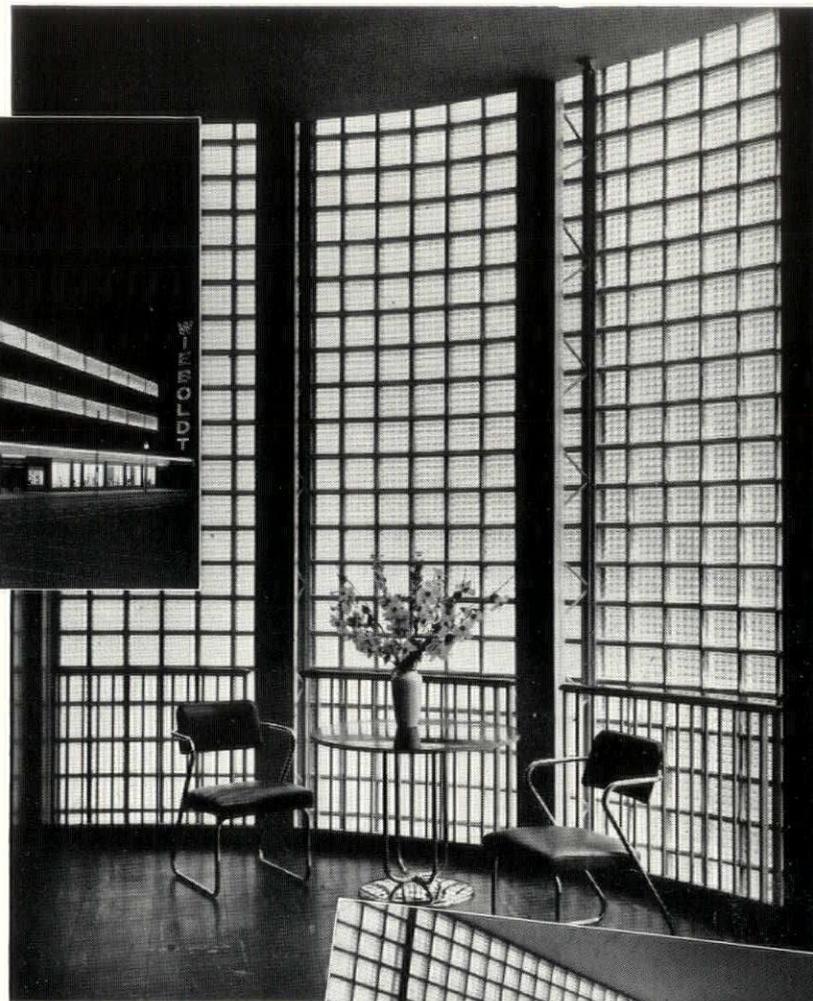
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ELECTRIC**

WIRING MATERIALS

APPLIANCE AND MERCHANDISE DEPT.
GENERAL ELECTRIC COMPANY
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 Holabird and Root, architects,
 R. C. Wieboldt Company,
 general contractors.



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Through the medium of Insulux Glass Block—the new and better building material—this modern department store is given merchandising power that could be attained in no other way. Each of the many departments is flooded with diffused daylight that speeds up sales and makes shopping pleasant and easy. At night as may be seen from the photograph, the store becomes a fascinating, colorful display—a compelling advertisement of inestimable value. Insulux Glass Block is abundantly suited to countless similar applications in commercial and industrial buildings. Send the coupon for interesting details. Owens-Illinois Glass Company, Toledo, Ohio.

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PHOTO: PICTURES, INC.

Sunlight and air are a primary requisite for school buildings. This new elementary school in Rome has filtered air and special tinted glass to eliminate glare



PHOTO: GLOBE

Newest buildings in the vast English slum elimination campaign are those in Kensington. The nursery school and playground are built on the site of a former gas tank

American Institute of Steel Construction. They totaled 182,049 tons for the whole industry, approximately 77.8 per cent of normal (normal being the yearly average for the years 1928-31 inclusive). This brought the total for the first quarter approximately 9 per cent above the same quarter of last year. Shipments during March also increased: carrying the total

for the quarter above last year. The work ahead likewise is larger. The very marked increase in bookings and shipments during March is partially accounted for by the noticeable slump in February.

FOR THE 4 MONTHS ENDED APRIL 30, 1937, the average price of real estate bond issues advanced 0.2%, according to the

May 1st Amott-Baker Realty Bond Averages, based upon 200 selected issues of properties in New York, Buffalo, Boston, Philadelphia, Pittsburgh and other eastern cities. For the month of April, however, a decline of 1.6% was indicated, which compares with a decline during March of 2.2%.

IN THE INTEREST OF REALISM, the results of a recent study by the American Iron and Steel Institute are well worth a moment's consideration. The Institute has just completed a comparison of the standard of living here, as against those in other nations, confined to the field with which it is most familiar—the steel workers. The task which the Institute set for itself, however, was not that of determining how the dollar compares with the pound or the franc, but rather how many hours a steel worker in this country has to work to obtain certain necessities of life, as compared with the workers of England or France.

Here are some of the results:

A dozen eggs, a pound of bacon, a loaf of bread, a bottle of milk, and other items, can be bought by American steel workers with the money earned for 1½ hours of work. In England the time required would be 3¾ hours, in Germany 7 hours, and in Belgium 14 hours.

For the money equivalent of 14 minutes work the American steel worker can buy a pound of bread and a quart of milk. In England it would take the equivalent of half an hour, in Germany 35 minutes, and in Belgium approximately an hour.

In twelve minutes the American steel worker can earn enough to buy a pound of beef, whereas the British worker would require 20 minutes, the German 38 minutes, and the Belgian nearly two hours.

Certainly these terms are as simple and graphic as could be desired. While bread, meat and milk are not the be-all and end-all of any standard of living, nevertheless, they form a representative and readily interpreted measure of the economic position of workers in one of the world's largest industries.

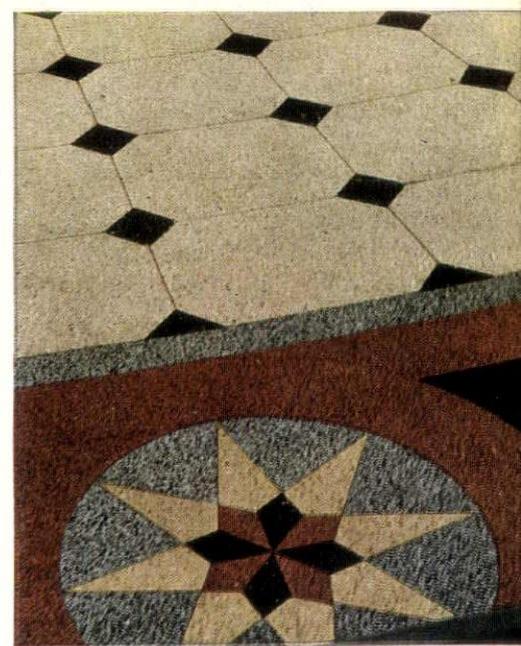
HOUSING

ONE HOUSE, CARRYING OUT THE IDEAS OF 11,000 PEOPLE is the accomplishment of J. Alfred Valentine. Built in his Robins Hill Colony at East Williston, L. I., it is a composite of the views expressed in answer to questions sent out by the Niagara Hudson System, to customers in the territory between the Hudson River and Niagara Falls. The architect was Reed Barrett.

This Atlas White terrazzo floor, in the Administration Building of the Chrysler Corporation, Detroit, was installed by the Art Mosaic & Tile Company of Toledo. Albert Kahn, Detroit, architect.



This White terrazzo entrance floor to Walker's clothing store, Columbus, Ohio. Meanor & Handloser, Washington, W. Va., architects. Art Mosaic Tile & Marble Company, Columbus, terrazzo contractor.



AS INDIVIDUAL AS YOU PLEASE

FINE terrazzo puts no restrictions on the hand of the designer.

For example, the handsome floors shown here. No two are alike, either in design or in the use of color combinations. Yet they are identical — in quality, durability, in low-cost upkeep. That's why a fine terrazzo job delivers two-way satisfaction; to the man who creates it; to the man who pays for it.

Truly fine terrazzo, with its warm rich colors and clean-cut patterns, is possible only when *white* cement is used. That is why Atlas White portland cement (plain and waterproofed) figures in so many outstanding terrazzo jobs. Universal Atlas Cement Co. (United States Steel Corporation Subsidiary), 208 South LaSalle Street, Chicago.

Garfield Park Administration Bldg., Chicago. Michaelson & Rognstad, architects; American Mosaic & Terrazzo Co., terrazzo contractor, both of Chicago.

T-6



FINE TERRAZZO MADE WITH ATLAS WHITE PORTLAND CEMENT



H & H

Weatherproof Switch, Receptacle

These devices defy the weather at outside entrances, on porches, in patios, for operating *outdoor* lights or appliances. The Switch No. 7981 has completely enclosed mechanism. Its cadmium-finished brass plate fits over a rubber mat, weather-tight. Operated by a handy indicating lever. Fits any standard wall box; comes in single-pole, double-pole, 3-way and 4-way types. Complete listings in data-sheet on request.

The Receptacle No. 7792 provides for plugging-in lights on porches or terraces, for Holiday tree or lawn lighting and for operation of *outdoor* appliances. Saves nuisance of temporary wiring from inside. Has cadmium-finished brass plate, fitting on rubber mat, with metal cap to screw over receptacle opening when not in use. When connected, the regular plug cap may be covered with metal Cap No. 7793.

HART & HEGEMAN DIVISION
THE ARROW-HART & HEGEMAN ELECTRIC CO. HARTFORD, CONN.



PHOTO: WIDE WORLD

Dr. Roscoe Guernsey congratulating the winners of American Academy in Rome Fellowship awards. They are (left to right) Richard Gardner Hartshorne, Jr., John Finley Kirkpatrick and John Amore

The house is built of brick, and the Georgian Colonial design was selected as most representative of the conservative ideas revealed by the survey. One of the interesting features is the liberal installa-

tion of automatic appliances, again at the insistence of those who answered the questions. To be on the safe side, Mr. Barrett installed not only a thermostatically controlled oil burner, but summer

and winter air-conditioning, and violet-ray glass in the windows. The result, as he expressed it, is, "a year-round climate like a sunny day in California."

Concrete foundations were built for the inside as well as outside walls to eliminate any possibility of sagging, which might, by forming crevices, create drafts and waste heat.

The house has eight rooms and three baths. With an attached garage and terrace, it occupies a 1/3 acre plot.

A SERIES OF ARTICLES ON THE "ENGINEERED HOUSE" has been running in the New York Herald Tribune's housing pages and will soon be available to the public in pamphlet form. The theme of the articles, which have dealt largely with standard units, has been to show that standardization of dimensions for various parts of a house can bring economies without loss of individuality.

Mr. William Lescaze, a leading exponent of modern architectural design, has offered some interesting comments on the possible effects of such a development. "The benefits of engineered housing are obvious to me," he says. "Parts that produce the maximum of efficiency, can be adapted to living conditions, and at the same time cut down building costs, should certainly be produced, in due time, for all of the working elements within every type of building. The architect will use them as he now does his raw material. When this day comes, the conditions that now present so many technical problems will have been solved, to a large degree, and the architect's job will be more intensively a creative one."

Mr. Lescaze feels that standardization will accelerate wider acceptance of modern design since, through its greater flexibility, it will meet the changing needs of modern life. His own formula of what constitutes the basic characteristics of modern design includes:

1. Planning rooms so that they have a functional relationship to each other, and make life in the house easy, pleasant and comfortable for the people in it.
2. Treating the exterior of the house to conform to the interior plan.
3. Considering the climate and topographical elements of the land on which the house is built.
4. Using economically and efficiently those materials which produce maximum comfort and esthetic effect.

B. J. ADAMS, PROFESSIONAL HOUSE-WRECKER, told Police Justice Clyde H. Jacobs, of Norfolk, Va., that he had made an "honest mistake" when he started wrecking the wrong house. It was shown that he had a permit to wreck a house

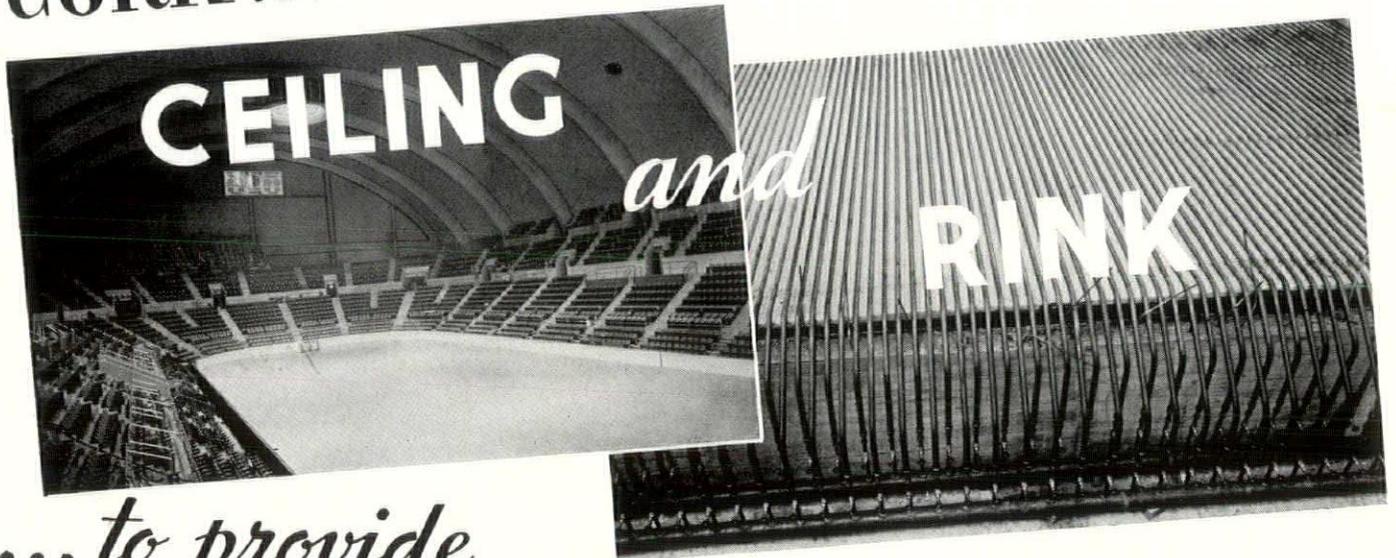


PHOTO: WIDE WORLD

W. Parker Lyon of Arcadia, California, satisfies his desire to be a museum curator with his private museum housing what is supposedly the largest collection of cigar store Indians in the world

IN HERSHEY SPORTS ARENA

CORK was chosen for



... to provide
Acoustical Treatment and Insulation

IN the unique new Hershey Sports Arena, Hershey, Pa., Armstrong's Cork plays a dual role. Two layers of 2" Armstrong's Corkboard used to insulate the base of the rink assure economical operation and facilitate fast freezing of the ice sheet. The one-hundred-foot high arched ceiling and the end walls are covered with 1½" Armstrong's Corkoustic which provides acoustical treatment, decoration, and insulation.

The Hershey Sports Arena is the largest span monolithic concrete structure in this country. Its unique construction provides an interior entirely free from pillars and columns. And its five huge concrete arch sections, each 232 feet wide by approximately 80 feet in length, rest on lead hinge plates to avoid the possibility of cracking from expansion and contraction.

This remarkable structure with

a seating capacity of more than 7,000 for ice events was built by the Hershey Lumber Products Company. Designing and supervising engineers for the building were the Roberts and Schaefer Company of Chicago who are representatives in the United States for the Zeiss-Dywidag patented construction employed.

For more than a third of a century, Armstrong's Corkboard has been the standard insulation for all types of air conditioned and normally heated buildings. The unique cell structure of cork not only effectively resists the passage of heat, but also provides high resistance to moisture. Thanks

to its high insulating efficiency, Armstrong's Corkboard offers a dependable aid to temperature control that results in lower fuel bills and more economical operation of heating and air conditioning equipment. For complete details, samples and prices, write to Armstrong Cork Products Co., Building Materials Division, 926 Concord St., Lancaster, Pa.



Exterior of the Hershey Sports Arena. Heating pipes are located behind alternate rows of seats. Ventilating fans change air every 15 minutes.

Armstrong's CORKBOARD INSULATION

4th in a Series

News!

On those "Last-minute"

COOLING JOBS

*Controlled-Cost Air Conditioning
will simplify your problems*

THE "last-minute" rush for summer cooling equipment is on.

And once again Frigidaire *Controlled-Cost* Air Conditioning proves its ability to simplify the problems of architect and engineer.

For one of the major advantages of this "Product of General Motors" is that it presents *all the facts* about each job in concise, engineering terms—in *advance of installation*.

Your client gets the *kind* of air conditioning he needs—the *amount* he should have—a method of installation that is most practical for *his* building—and *control over all costs from first to last*.

Get the facts about Frigidaire *Controlled-Cost* Air Conditioning *today*. Write or wire Delco-Frigidaire Conditioning Division, General Motors Sales Corporation, Dayton, Ohio.

**Now . . . Winter
Air Conditioning for
Residences in the
\$4,000 class and up**

THE overwhelming popularity of forced warm air heating combined with winter air conditioning is becoming more apparent every day.

The new Delco Conditionairs make this form of heating and air conditioning available for houses of any size—and selling at any price from \$4000 up.

The Delco Conditionair uses either gas or oil—air conditions as it heats—yet costs no more than automatic heat

What *Controlled-Cost* Air Conditioning Means to Architects

1. A system that gives the desired atmospheric conditions—your client pays *only* for what he needs.
2. Equipment of exactly the right size and capacity for your client—neither too small, which would mean unsatisfactory service; nor too large, which would be wasteful and costly.
3. A *method* of installation that suits any building—whether remodeled or new, owned or rented, therefore controlling the ultimate cost.
4. *More* cooling action with *less* current consumption. Hence a control over operating costs.
5. Dependable, *proven* equipment for low maintenance cost.

And gives you and your client a presentation of *all* the facts, so that you will know *and can therefore control* the entire cost.

alone. It can be purchased with cooling equipment in one convenient "package" or cooling equipment can be added later, if ducts are properly designed.

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AUTOMATIC COOLING, HEATING AND CONDITIONING OF AIR

Casement WINDOWS

Double Hung WINDOWS

WINDOWS
PERMATITES

**Weathertight · Rattleproof
Suitable for Air-Conditioned
Buildings · Moderate in Cost**

Here are reasons why air-conditioned or insulated buildings need the weathertight qualities of Permatite Windows—in bronze or aluminum.

You know that approximately 20% of the heat loss in the average home in Winter is through the windows. Conversely, in Summer—hot air seeps in and reduces air-conditioning efficiency. Exhaustive laboratory tests indicated that Permatite Windows—both casement and double hung—offered *unprecedented* resistance to air infiltration. At 25 miles per hour wind velocity, the double hung windows permitted only .14 cubic feet per minute—which represents many times the efficiency required by U. S. Government specifications. The casement windows permitted no measurable amount of infiltration—even at 40 miles per hour wind velocity.

This performance is due to the built-in, metal weatherstripping, a patented feature of Permatite Windows. It forms a virtually air-tight seal—that also keeps out rain, dust and dirt. These windows will not warp, stick or rust—require no paint and have



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34-19 Tenth Street · · Long Island City, N.Y.

practically no maintenance cost. They are easily operated—yet are sturdily built.

The many exclusive features of Permatite Windows and their high-quality materials and workmanship appeal particularly to builders of schools, hospitals and other public buildings. Here the effective control of air and temperature is vital. These patented windows make a real contribution to the solution of this problem—and cut fuel costs.

Now you can give the many advantages of these fine windows to your clients, even for homes of medium cost. The price is moderate—lower than ever before for windows of equal quality.

We invite you to consult Sweet's or write us for a fully illustrated catalog.

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Bronze or Aluminum • Casement or Double Hung

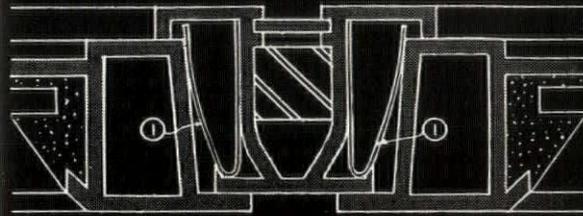


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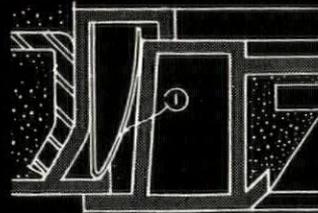
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SECTIONAL DETAILS SERIES K1. ALUMINUM CASEMENT



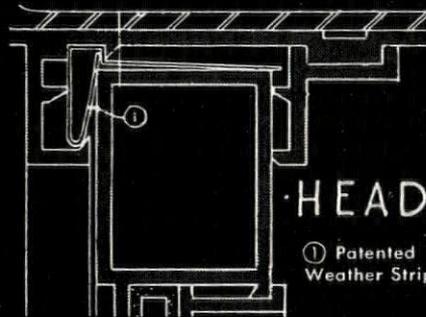
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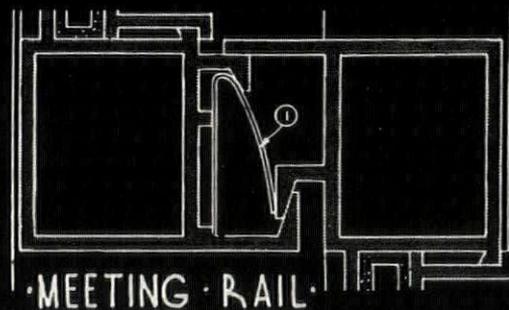


• JAMB •

SECTIONAL DETAILS SERIES H3. ALUMINUM DOUBLE HUNG



① Patented Weather Strip



IN SWEET'S CATALOG FILE
you will find 36 pages of construction details, and results of laboratory infiltration tests. Consult Sweet's or write us for a fully illustrated catalog.



PHOTO: GLOBE

Art comes to the prosaic wind indicator for flying fields. This new one developed for the government is a large, brightly colored affair which is outlined with electric lights for night flyers

owned by S. E. Casper. Instead of removing that house, however, the workers started tearing down a house one block away. The building designs were similar.

Justice Jacobs dismissed the case, ruling that legal proceedings, if any, should be civil rather than criminal.

THOSE WHO HAVE FACED OPPOSITION TO THE WAGNER-STEAGALL HOUSING BILL may find fresh stimulation in the six reasons offered in its favor by Walter R. McCornack of Cleveland, Ohio, chairman of the Housing Committee of the American Institute of Architects. The occasion was a letter to Senator Hugo L. Black, chairman of the Senate Committee on Education and Labor.

"First, we feel that no real advance in housing will be made until some centralized authority such as set up in the Bill is created . . . those interested in housing will then have a group with authority to whom they can go with constructive suggestions.

"Second, we do not believe that the United States can long defer an attack on the question of sub-standard dwellings for the millions who are not properly housed. The country cannot afford to have any great percentage of its population living in quarters unfit for habitation, and many governments have fallen because they have neglected the welfare of a large number of their citizens.

"Third, the present housing bill de-

centralizes housing and places it in the hands of responsible local groups where it rightly belongs.

"Fourth, capital subsidy has been eliminated. Through the subsidy proposed, we believe a much better control of rents will be brought about.

"Fifth, from reliable information we find that there are so many families with incomes below \$1,000 who cannot, therefore, afford to pay a rental above \$15 per month, that we do not believe the Housing Act will in any way interfere with private industry. In fact, we believe it will eventually act as a stimulant to private capital by setting up a definite line of demarcation between public and private housing.

"Sixth, we believe that there will be great advantage in a centralized authority which has power to carry out extended research in all the fields which are inter-related in housing."

RESEARCH INTO HOUSING NEEDS IS BECOMING LESS AND LESS THE PROVINCE OF ARCHITECTS AND CONSTRUCTION MEN ALONE. At the close of the fifteenth annual session of the Milbank Memorial Fund at the New York Academy of Medicine, a report was read from the round table on hygienic aspects of housing.

The committee reported, among other things, that the construction or remodeling of from six to nine million homes during the next ten years is essential to

satisfy minimum needs. "A substantial proportion of this necessary housing," the report said, "must be built and maintained by government subsidy."

Specific needs to raise homes from the substandard class included, approximately 1,000 cubic feet per person for living and sleeping rooms combined; glass window space equal to 15 per cent of the floor area; artificial light at least equal in density to the light thrown two inches by a candle. The report also discussed sanitation and heating.

SHOWS AND FAIRS

THE PRESIDENT'S VETO OF FEDERAL PARTICIPATION IN THE NEW YORK WORLD'S FAIR came, to put it mildly, as something of a shock. Under even the most cursory glance there are many reasons why his action was the last thing to be expected. Certainly it could not have been because of the money involved—a mere \$5,000,000. There's the Florida Ship Canal, for example—millions of dollars gone largely "puff." There's 'Quoddy—tens of million, "puff—puff." But perhaps the most stinging aspect is the fact that the President rejected a proposal of his own home state, backed by members of his own party from New York.

From the President's explanation—which had the same hollow ring that his charges against the Supreme Court had—it seems obvious that his objections were based upon the fact that the bill had been altered so as to take control of this expenditure out of his hands, and place it in those of a commission. As far as "invading the province of the Executive" is concerned, it might better have been phrased "invading patronage."

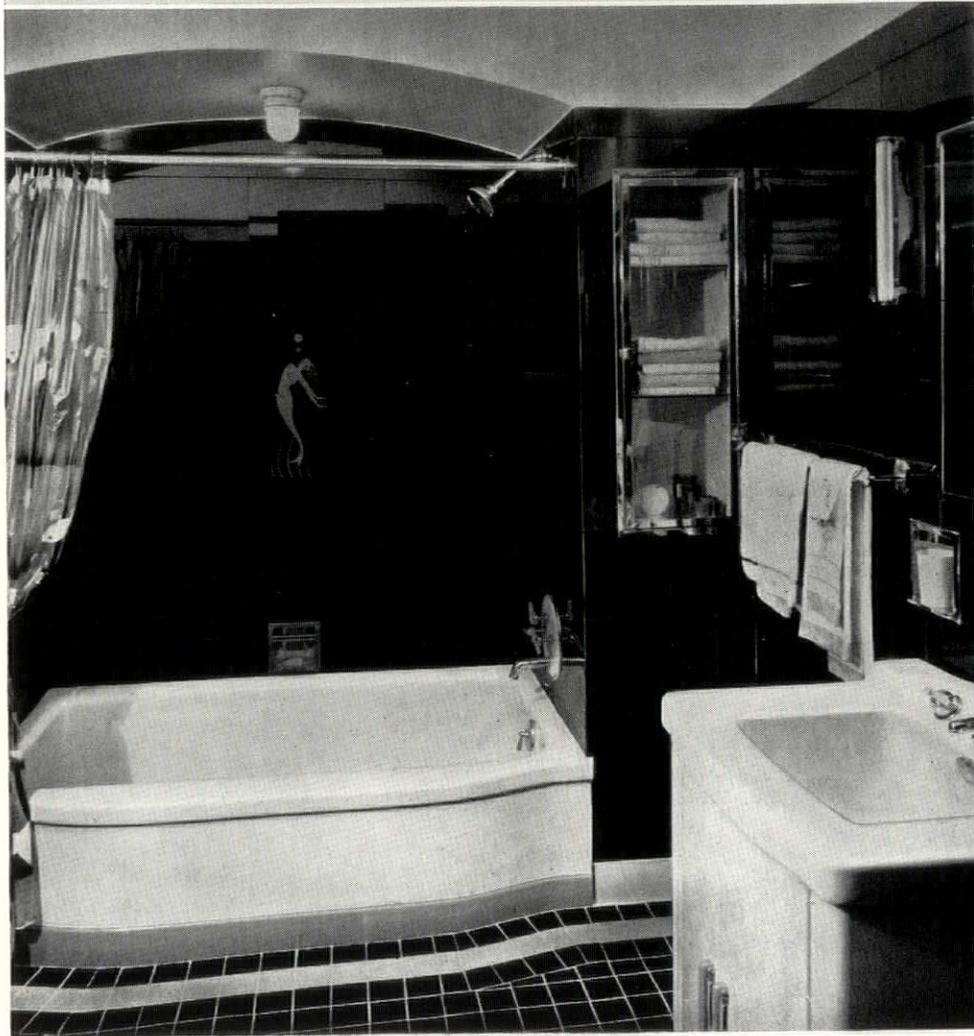
At that, the President should not be too satisfied with the whole thing. The New York World's Fair will most surely bring large receipts to the Federal government. Thus, any hindrance to its success can only act as a boomerang.

Of course, the bill was immediately rewritten, cutting the amount to \$3,000,000, and empowering the President to appoint the commissioner general of the proposed Federal Fair Commission. Grover Whalen, president of the World's Fair Corporation appears to have some assurance that in this form it will be approved, so that it is likely no great damage will be done by the original veto.

THE FIRST COMPREHENSIVE EXHIBITION OF MODERN ARCHITECTURE ever held in London will open at the New Burlington Galleries on June 21st, under the auspices of the M A R S (Modern Architectural Research) Group. Rather

(Continued on page 136)

GIVE A *New Kind*
OF BATHROOM BEAUTY
to the homes you design



CARRARA Structural Glass for bathroom and kitchen walls has won the widespread approval of architects for two reasons: its beauty and its practical features. Carrara's polished, reflective surfaces and rich, warm color-tones give you new opportunities for creating original and striking effects. And its versatility . . . the many treatments such as shading, fluting, laminating, sand-blasting and painting to which

it is adaptable . . . greatly widen your design possibilities. Its practical features include permanence; imperviousness to moisture, chemicals and oils; freedom from checking, crazing or staining; and easy cleaning with nothing but a damp cloth. Send for our book "Carrara Modern Structural Glass" which contains complete information. Address Pittsburgh Plate Glass Co., 2334 Grant Bldg., Pittsburgh, Pa.

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The modern structural glass

THE Pittsburgh Plate Glass Company maintains a nation-wide system of branch offices and fully stocked warehouses, supplemented by thousands of dealers. We are therefore particularly well equipped to provide quality paint and glass products to meet the architects specifications with utmost promptness and efficiency in any part of the country. We invite you to take advantage of this convenient source of supply.

A complete line of Pittsburgh Products of the following types is available through our 74 branches in leading cities:

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Polished Plate Glass
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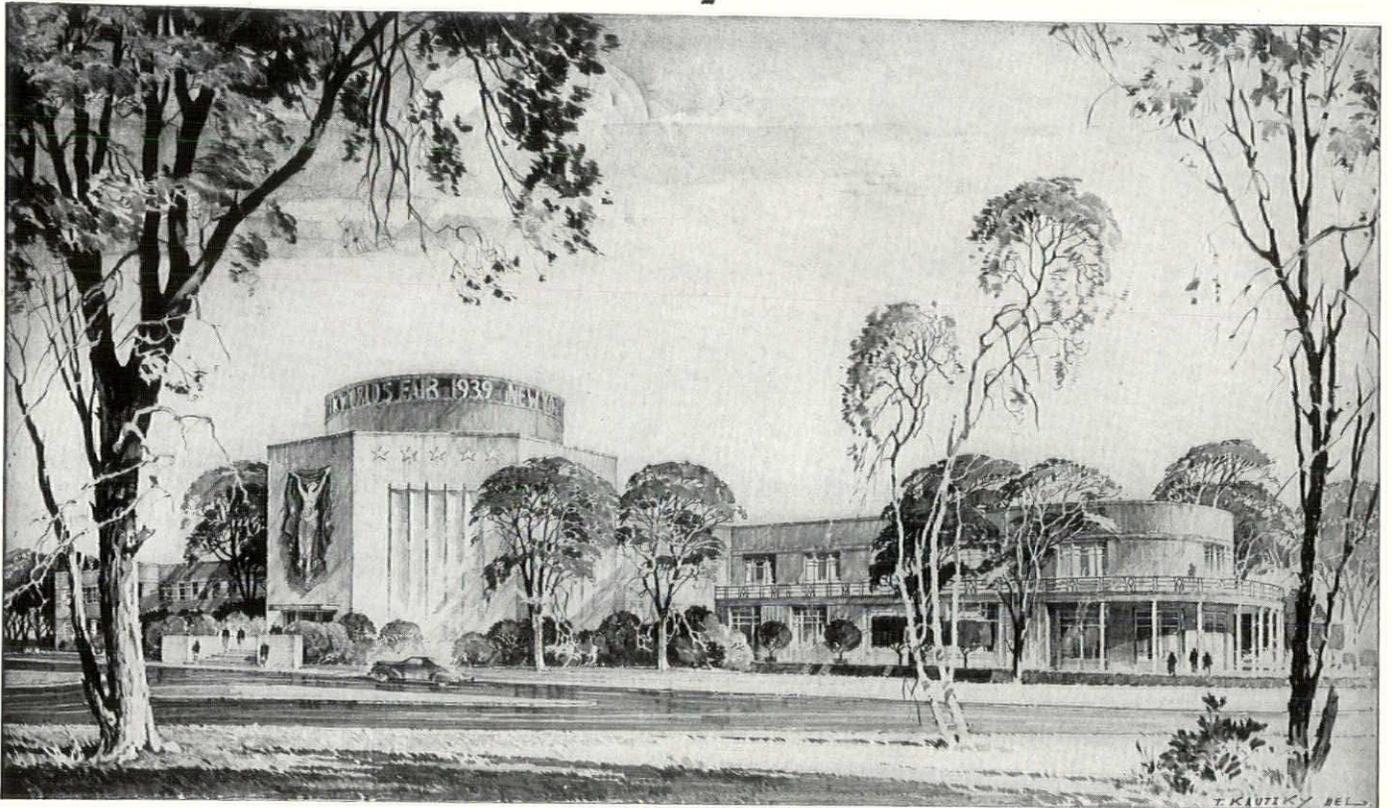
PITCO STORE FRONT METAL

See Sweet's for complete specifications and for addresses of Pittsburgh Plate Glass Company branches.

Paint **PITTSBURGH** *Glass*
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NERVE CENTER

of the "World of Tomorrow" started
with a pencil



The Administration Building—New York World's Fair 1939 Inc.
Harvey Stevenson & Eastman Studds, John A. Thompson & Gerald A. Holmes, Edgar I. Williams, Kimball & Husted—Assoc. Architects

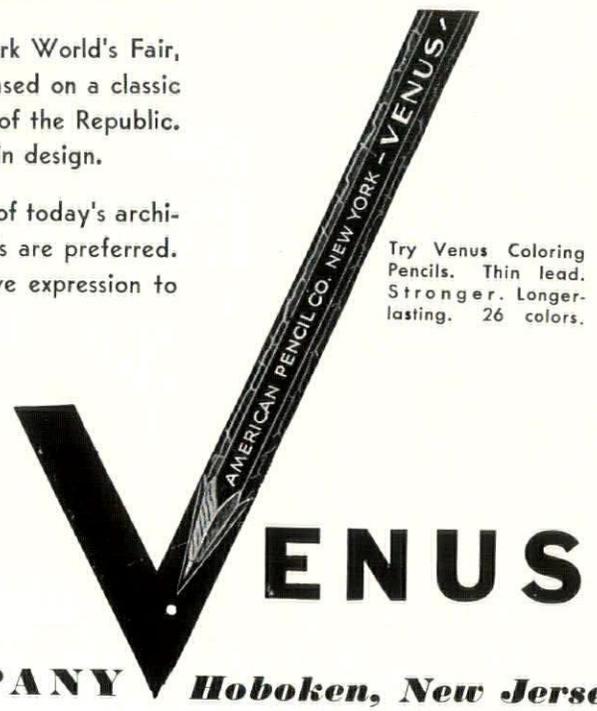
THE Administration Building, first structure of the New York World's Fair, begins to rise on Flushing Meadows. The architecture is based on a classic tradition inherent in American building during the formation of the Republic. Carried out in a modern manner, it marks an important step in design.

We are proud of the fact that in drafting rooms where many of today's architectural achievements are taking place, Venus Drawing Pencils are preferred. All along the line pencils take an active part, helping to give expression to each new idea.

Venus Drawing Pencils are graded with the utmost precision. Every pencil in each of the 17 shades of black, is always identical. They are smoother, stronger, super-fine, because of colloidal lead* an exclusive chemical process. These points of superiority have helped to make Venus Pencils the largest selling quality pencils in the world.

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This building and many of the others that architects saw during the Boston Convention, are constructed of HARVARD Water-struck BRICK—the brick that has won the acclaim of architects because of its unusual color and texture. HARVARD Water-struck BRICK is now available on specification, in any part of the country where fine work justifies the use of the best materials.

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Lowell House, Harvard:—Coolidge, Shepley, Bulfinch & Abbott, Architects



HARVARD WATER-STRUCK BRICK

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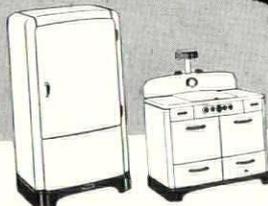
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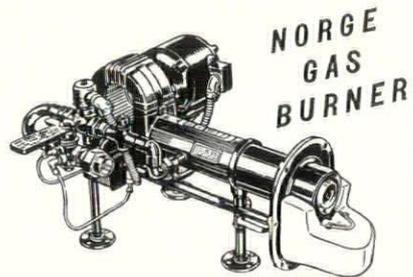
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Home Appliances



**WHIRLATOR
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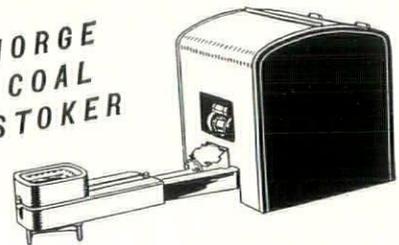
The Norge Oil Burner operates on the exclusive Whirlator principle—clean, quiet, economical. For use in the Norge Fine-Air Furnace or in modernizing existing heating plants.



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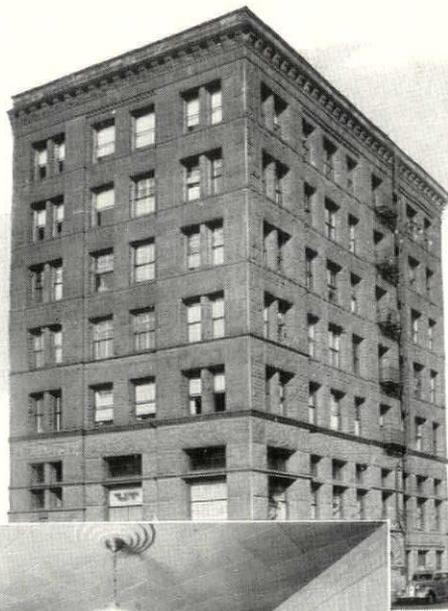


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A NEW LEASE ON LIFE...



● When the owners of this bank building in Sioux City, Iowa, decided to renew the interior of this building, following a decision of prominent engineers that the building was structurally sound and "worth bringing up to date," the question was—what to do?

1 Nu-Wood to the Rescue!—Nu-Wood, the insulating interior finish, was used to bring the building back to profitable life. With its beautiful texture, modern patterns and soft colors, Nu-Wood made offices such as the one above, attractive to tenants once more.

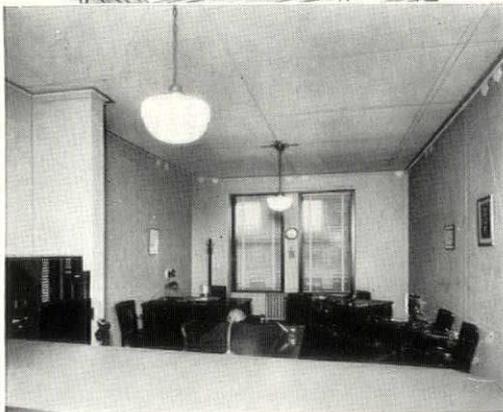


2 Peace and Quiet—the clatter of typewriters—the jangle of street noises—was hushed by Nu-Wood. For Nu-Wood, too, is an efficient noise quieter.

3 Reception Room Miracle—Here is another office in the building—a reception room that has been completely transformed by the use of Nu-Wood Board on walls and ceiling.



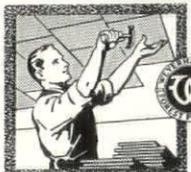
4 Where Waiting Is a Pleasure—This is an application of Nu-Wood in a doctor's office in the Sioux City building, illustrating the variety of individual effects which Nu-Wood makes possible. →



← **5 From the Owner's Point of View**—Nu-Wood will reduce operating cost in this building because it is a permanent interior finish, requiring only occasional cleaning. Today, Nu-Wood is used in practically every office of the building, including the bank offices on the first floor.



NU-WOOD the insulating interior finish

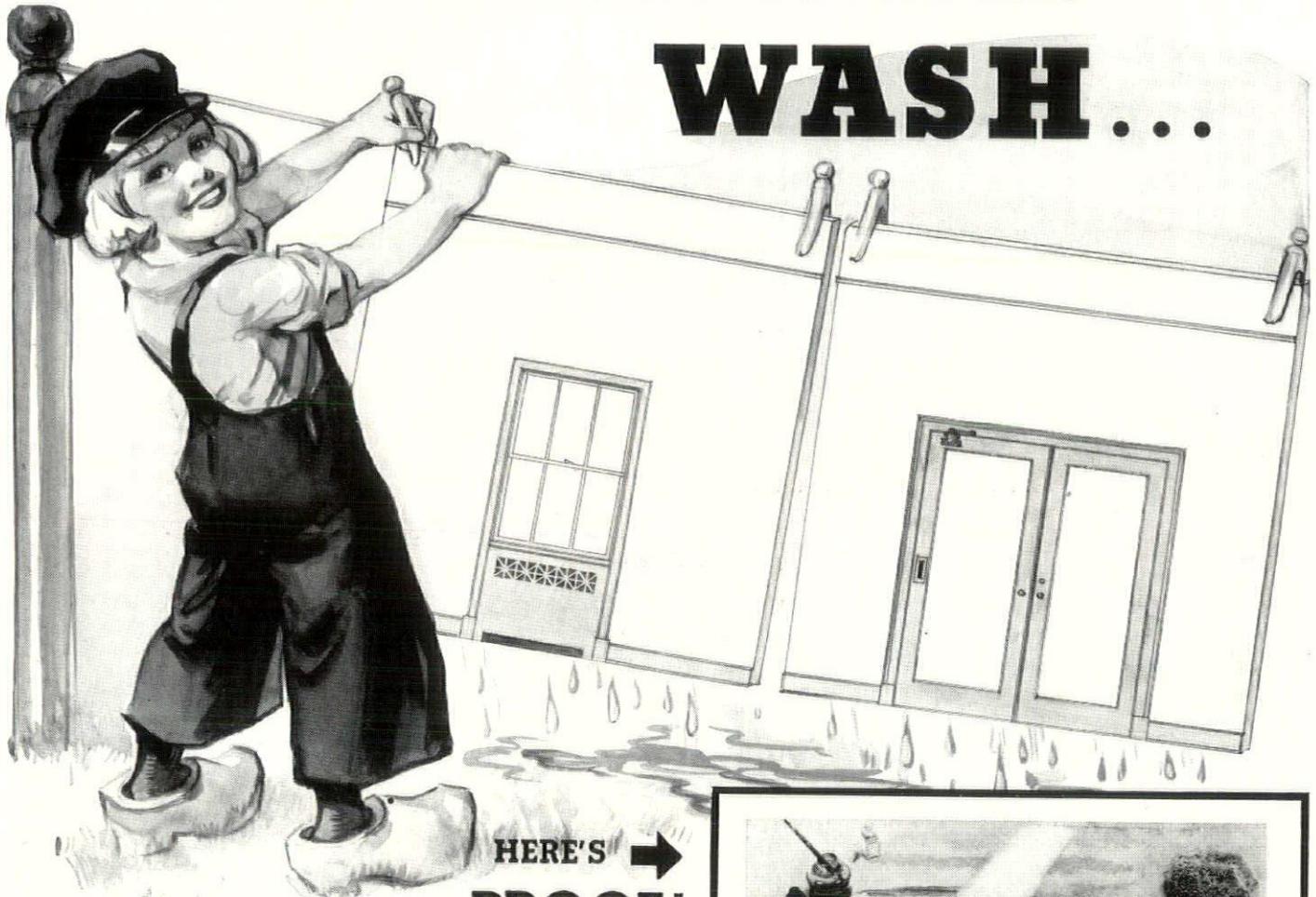


WOOD CONVERSION COMPANY
 Room 159-6, First National Bank Building, St. Paul, Minnesota
 Gentlemen: I want to know more about Nu-Wood for New Construction Remodeling

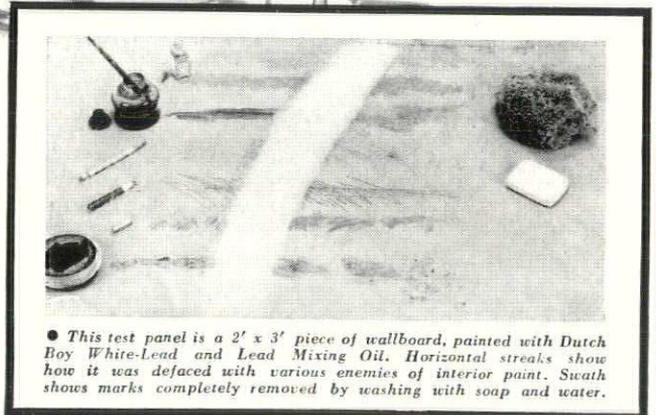
Name.....
 Address.....
 City..... State.....

All the marks come out in the

WASH...



HERE'S →
PROOF!



● This test panel is a 2' x 3' piece of wallboard, painted with Dutch Boy White-Lead and Lead Mixing Oil. Horizontal streaks show how it was defaced with various enemies of interior paint. Swab shows marks completely removed by washing with soap and water.

*W*ashability means economy. That's true of fabrics (ask your wife). And it's just as true of interior paints. When a paint is *really washable*, the job can be kept new-looking much longer.

Far otherwise when paint is durable but not really washable. It may last. But stains and smudges seem to sink in and become permanent "decorations". So repainting time comes much sooner than expected.

Flat paint made with Dutch Boy White-Lead and Dutch Boy Lead Mixing Oil has all the durability for which white-lead is famous. In addition, this paint is washable in both senses of the word. (1) Its beauty is not destroyed by hard scrubbing. (2) Those scrubbing really get you somewhere. Stains

and dirt actually do "come out in the wash".

For proof, look at the test panel at right...walked on for a week. Then smeared with grease. Stained with mercurochrome. Streaked with pencil, crayon and lipstick. Daubed with shoe blacking.

Then came the washing with soap and water. And it left that much abused panel looking as clean as when it was first painted.

Now consider briefly this paint's many other advantages. It has all white-lead's characteristic richness, solidity and depth, a paint of unusual beauty. Because of its excel-

lent sealing power, it stops suction and hides fire cracks.

Finally, this paint gives you all-round economy. It has high coverage (800 sq. ft. per gal. on smooth plaster), mixes quickly, spreads easily. Add up those three qualities, and you have low first cost. Then add long wear and *real cleanability*, and you have low cost per year.

DUTCH BOY WHITE-LEAD AND LEAD MIXING OIL

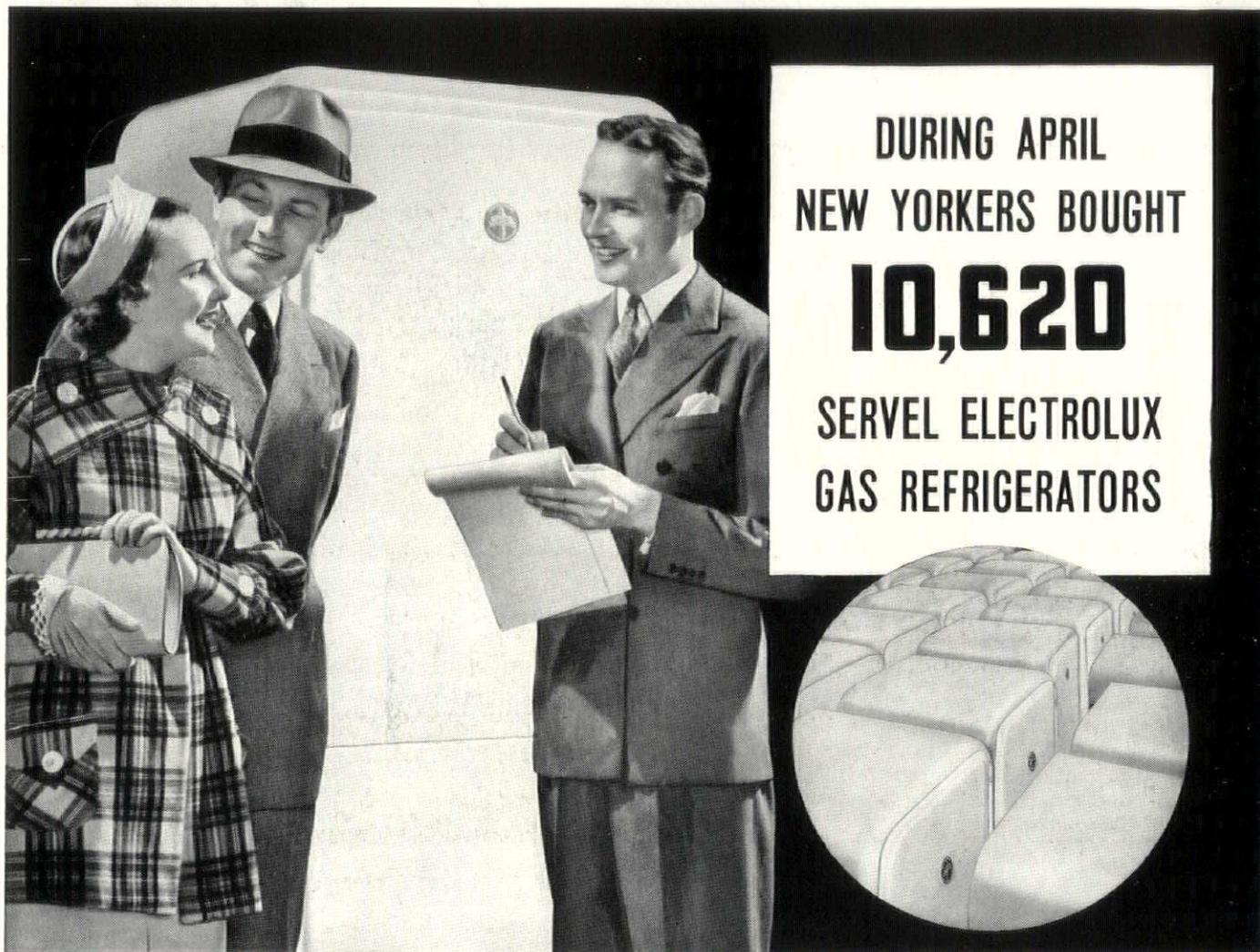


NATIONAL LEAD COMPANY—111 Broadway, New York; 116 Oak St., Buffalo; 900 W. 18th St., Chicago; 659 Freeman Ave., Cincinnati; 1213 West Third St., Cleveland; 722 Chestnut St., St. Louis; 2240 24th St., San Francisco; National-Boston Lead Co., 800 Albany St., Boston; National Lead & Oil Co. of Penna., 316 Fourth Ave., Pittsburgh; John T. Lewis & Bros. Co., Widener Bldg., Phila.



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NOW ALL RECORDS SMASHED



DURING APRIL
NEW YORKERS BOUGHT
10,620
SERVEL ELECTROLUX
GAS REFRIGERATORS

BIG SWING TO SERVEL ELECTROLUX Because of Its Permanent Silence . . . Continued Low Cost

HERE'S further proof of the ever-mounting popularity of Servel Electrolux—the refrigerator whose freezing system has no moving parts.

In April—even before hot weather—sales of Servel Electrolux in New York City were the greatest for any month in its ten-year history. They totaled more than 10,000 for the thirty-day period!

And that means, probably, the greatest monthly sales in this territory of *any* refrigerator, *any* time.

Think of it. This great record was established in a city where,

already, more than 4500 apartment buildings were equipped with gas refrigeration . . . where, already, more than 175,000 gas refrigerators from 5 to 10 years old were still in constant use, giving silent, money-saving service. Such overwhelming enthusiasm can mean but one thing. It means that New York builders and owners *know*, by its performance, that Servel Electrolux gives more years of satisfaction and economy.

To the tenant, the simpler operating system of Servel Electrolux brings the twin comforts of silence and savings. To the owner, it brings freedom from trouble and costly upkeep.

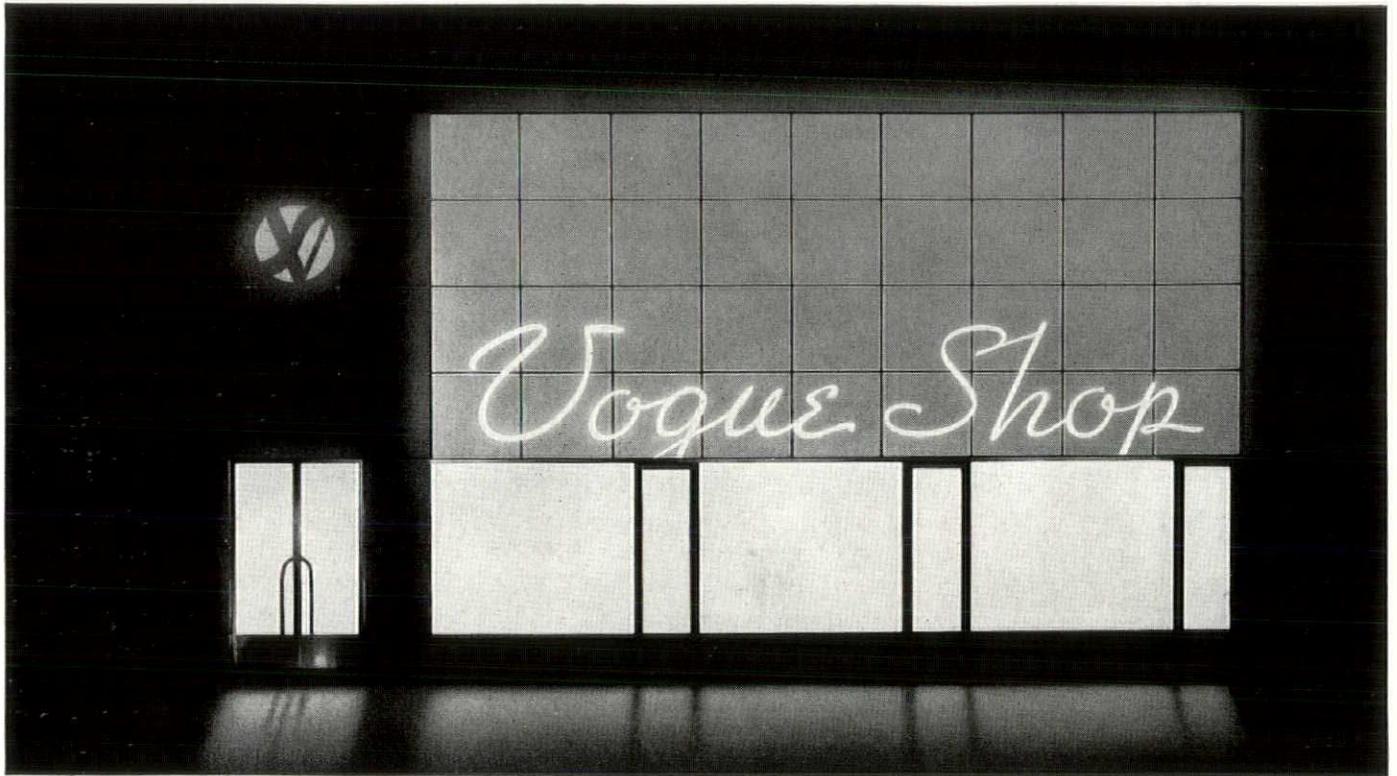
Before you decide on refrigerators, see the new Servel Electrolux models on display at your local gas company. Servel, Inc., Servel Electrolux Refrigerator Sales Division, Evansville, Ind.

TUNE IN "THE MARCH OF TIME"—Columbia Network—Thursday evenings, 10:30 Eastern Daylight Time. Sponsored by Servel Electrolux

EXPERIENCED BUILDERS SPECIFY SERVEL ELECTROLUX
THE GAS REFRIGERATOR

NOW YOU CAN BUILD WITH

Color and light



Specify VITROLUX the Colorful, New Tempered Glass

● VITROLUX, the New Color Fused Tempered Plate Glass, makes color and light a definite building material and an integral part of the structure itself. Walls of Vitrolux, in combination with Vitrolite Opaque Structural Glass stand out in vivid colors by day. When the Vitrolux is lighted from behind at night, walls become brilliant, colorful symbols of progressive business. Walls of Vitrolux give off a luminous cheer that bids welcome to the passing throng.

Vitrolux is available in almost any color or combination of colors, in varying degrees of translucency. The colors are fire-fused on the inner surface, and become an integral part of the glass itself.

Vitrolux has unusual physical characteristics. It is from 3 to 7 times as strong as ordinary plate glass and is highly resistant to physical and thermal shock.* Vitrolux, like Tuf-Flex Tempered Plate Glass, cannot be cut after tempering and therefore the exact sizes required must be specified when ordered.

The use of Vitrolux for exterior walls or for ceilings offers tremendous possibilities for striking lighting effects and unusual building design. Complete data is available to architects on request. Libbey-Owens-Ford Glass Company, Toledo, Ohio.

*The special treatment given this glass greatly increases its strength but prevents it being cut or ground like ordinary glass. Use care to avoid striking exposed edges or puncturing its surface with pointed objects. Cutting the surface or chipping the edges causes this glass to disintegrate and fly into relatively small crystals.

VITROLUX

Color Fused Tempered Plate Glass

A LIBBEY • OWENS • FORD PRODUCT

AMERICAN ARCHITECT AND ARCHITECTURE

THIS MONTH—AN ADVENTURE IN MAGAZINE MAKING

AS EDITORS we gain our impressions—hunches if you like—as to what the architects of the United States want to see in their professional journal in three ways. One source is through correspondence—the architects tell us, somewhat vaguely, it is true, about the help they would like their journal to bring them. A second source is through travel—we spend a great deal of time and energy, not to mention money, in running around the United States interviewing our readers, seeing for ourselves what they are doing, and gaining at first hand an idea of their needs. The third source is our collective imagination in formulating, through our own experiences as practising architects, the sort of help we might like to receive.

And now we are trying out a new source—a new way of bringing the magazine closer to the architects' ideas of what it should be. The scheme, in brief, is to have a section of the magazine actually edited by a local group of practising architects. Boston being the Convention city this year, we naturally turned in that direction. A group of architects who happened to be the Boston Society of Architects' Committee on Publications and Information was induced to demonstrate in the pages of this issue how they would edit their professional magazine.

In order to make the scheme more easily workable, we turned over to them sixteen pages of blank paper with the request that they put on those pages just what they themselves as practising architects would like to see. There were no reservations on our part—they selected their subject matter, their photographs, made their own suggestions as to page layouts, and in general treated their sixteen-page form just as we regular editors do the whole magazine.

The architects of Detroit are the next ones to have a go at this new sort of magazine making—in the August issue. Then comes a group of the architects who have been in Washington assisting the various Government departments. Pittsburgh is to follow shortly, Baltimore, several West Coast cities. Unless we are far awry in our judgment, there is going to be a considerable degree of rivalry developed as this series progresses. It will be particularly interesting and instructive also in differentiating between the sort of problems that are most immediate in the various communities. The Boston men are thinking along one line, possibly Pittsburgh along an entirely different line, yet their thinking must, it seems to us, be of interest to the profession as a whole.

Allow us to present, therefore, in the sixteen pages beginning on page 59 the Boston editorial board's magazine microcosm.

THE BOSTON GUEST EDITORS

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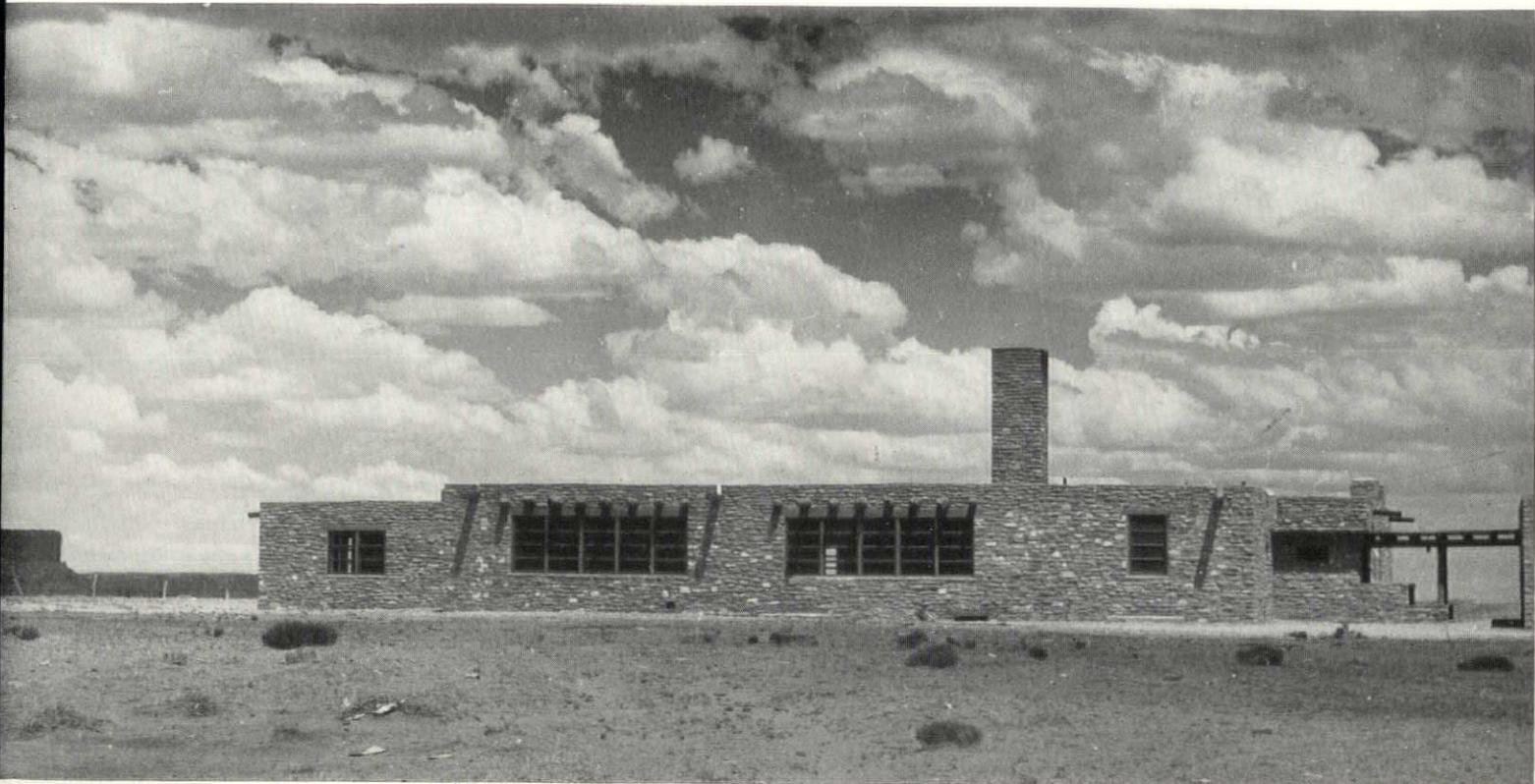
PHILIP DANA ORCUTT, A.I.A.
Executive Editor

NEXT MONTH—Out of an unusually varied menu for the July issue, there is space here to mention but a few of many items: Transportation problems and the architect's part in their solution; highlights from the A. I. A. Convention; summer air conditioning; another Unit Planning presentation; and the Architectural Overtones sound off from Ireland.



PHOTO: STOWELL

SANTA CLARA PUEBLO EAGLE DANCE



PHOTOS: WILSHIRE PHOTO SERVICE

INDIAN RESERVATION BUILDINGS IN THE SOUTHWEST

MAYERS, MURRAY & PHILLIP, ARCHITECTS

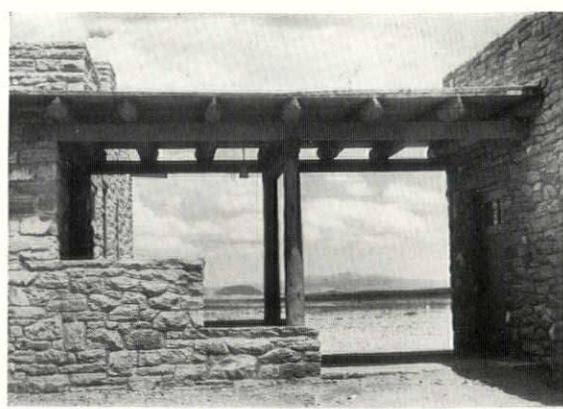
BY JOHN COLLIER, Commissioner of Indian Affairs

THE INDIAN SERVICE, in administering the affairs of the Indian population of the United States, maintains field units at approximately 100 points in more than 20 states. Across the years many types and kinds of buildings have been erected. The architectural treatment for the facilities to be provided largely were decided by local authorities. In their decisions it was necessary to be guided by the amounts appropriated by Congress for the new construction. Generally speaking the result was a conglomeration of nondescript masses of wood, brick, stone, or other building materials, totally devoid of architectural feeling. It is not uncommon to find flat and gable roofs aimlessly intermingled.

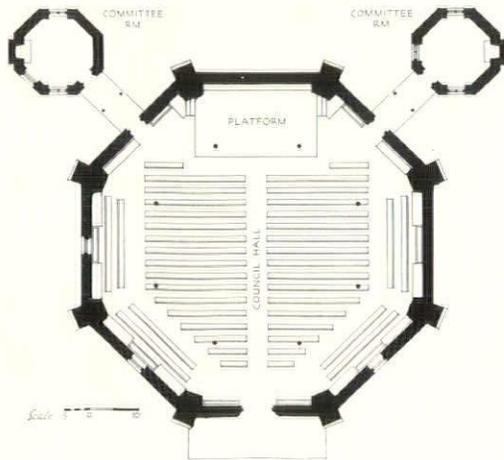
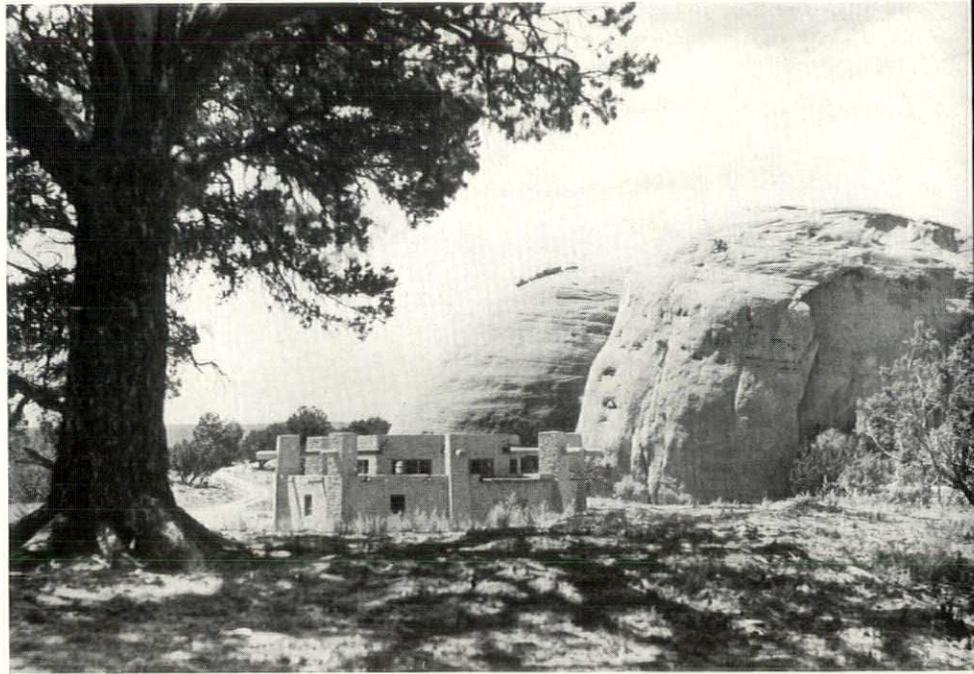
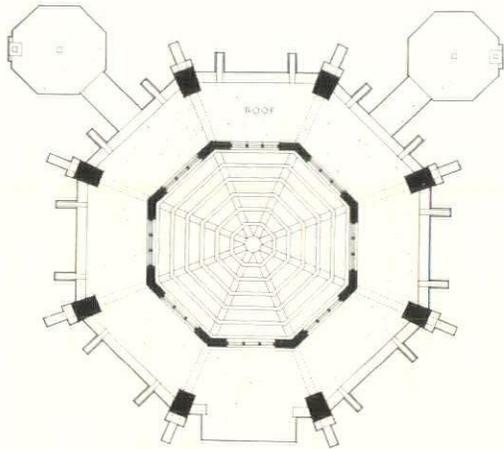
Beginning about 1930 some improvement was shown in the design of buildings and more care was exercised in locating them in relation to other structures. The first steps were taken in advance planning. With the advent of the public works program an opportunity was presented to pursue further skillful planning and to give more attention to the design of our structures. In the early stages of the program, considerable money was provided for day schools, hospitals, and other structures in Arizona and New Mexico. Both of these States have large Indian populations and numerous kinds of building materials are available on the reservations. Our own architectural staff was inadequate to prepare the large number of plans needed to insure speedy construction. An outstanding firm of architects, having practical experience in work similar to that in the Indian Service, was engaged to assist in preparing the plans. Extensive field studies were made. Many of the projects were to be located at isolated points where previous construction had not been undertaken. The architects were commissioned to plan for the present and the future and take into account:

- (a) The prevailing type of architecture in the immediate vicinity.
- (b) Suitability of the plan to the surrounding landscape.
- (c) The availability of native building materials.

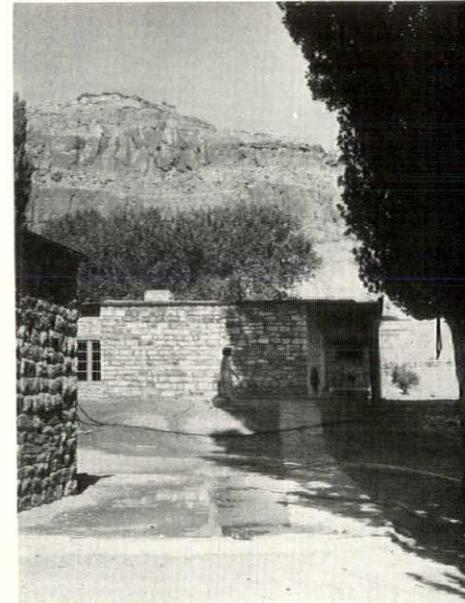
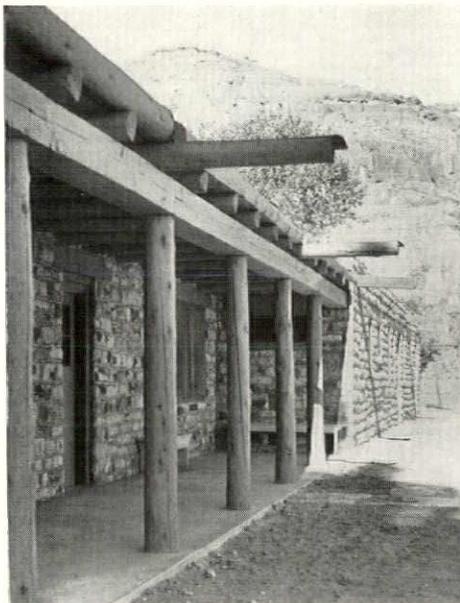
General view and detail of a Day School in Thoreau, New Mexico



Plans (below) of the octagonal Council House (right) at the Navajo capital in Window Rock, Arizona



Details (right) of the Day School and Community Center in Moenave, Arizona



Typical plan of Day School and Community Center showing attached teachers' quarters

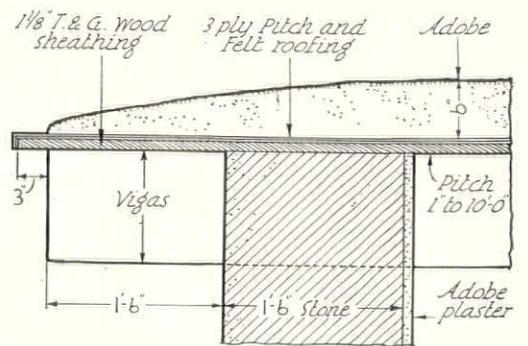
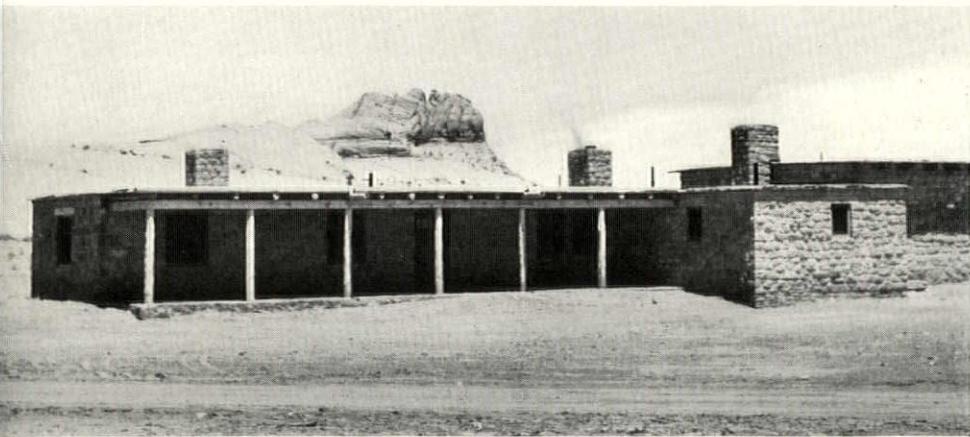
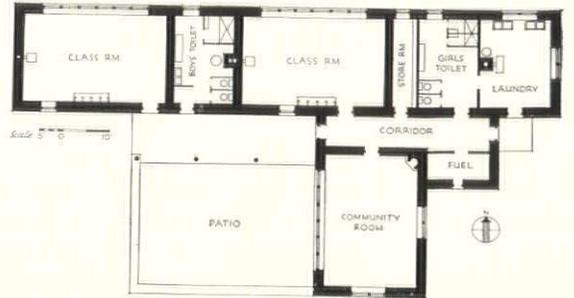
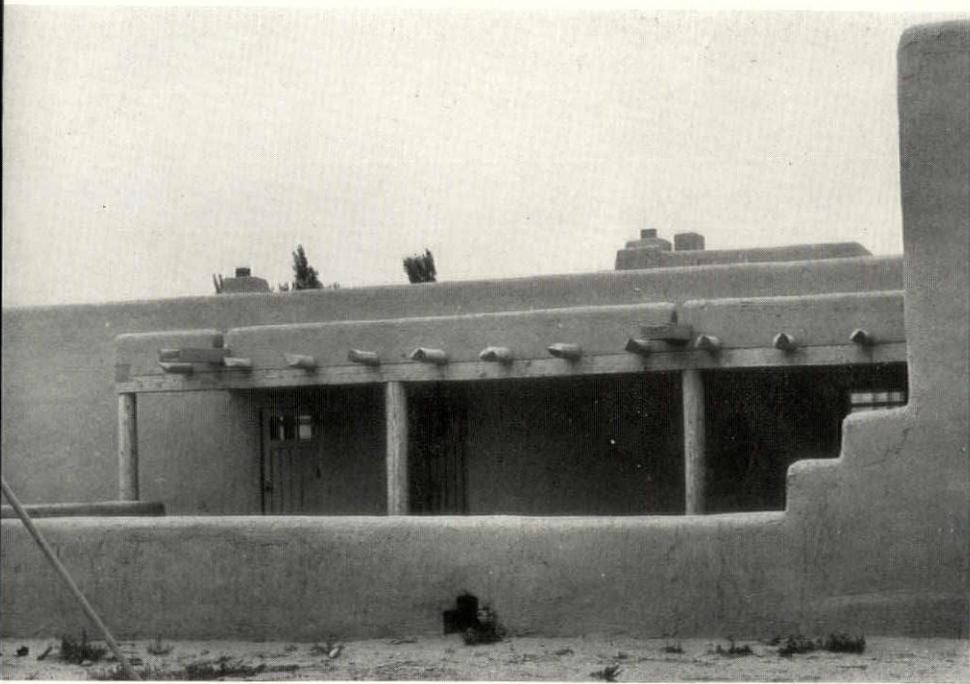
(d) The design of structures capable of meeting all of our requirements and at the same time being of simple design.

(e) The maximum opportunity for Indian employment.

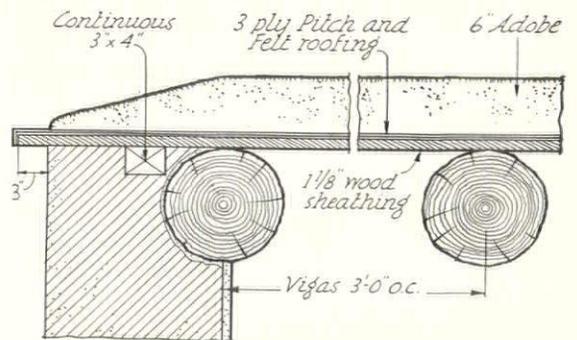
The results have been most pleasing. On the San Carlos Reservation in Arizona the buildings are of tufa stone taken from the reservation. At Taos, New Mexico, a high school building and auditorium were built of adobe, the material being obtained near the building site. At Salt River, near Phoenix, Arizona, sand and gravel were plentiful and the Indian Service manufactured a cement tile to be used in building a combined elementary and high school, and teacherage. This type of construction is being used in numerous instances, and is most satisfactory. At the Zuni Pueblo, a high school building and hospital were built of stone quarried by the Indians from their own lands. At Window Rock in Arizona, and throughout the Navajo reservation the buildings have been of stone.

Approximately \$11,000,000 was provided for hospitals, day and high schools, quarters for employes, dormitories, shops, gymnasiums, auditoriums, and other buildings. In the construction of many day schools, water supplies had to be

Adobe Day School (top and plan) in San Ildefonso, New Mexico. . . . Day School and Community Center (center) in Kayenta, Arizona. . . . Day School and Community Center (below) in Twin Lakes, Arizona



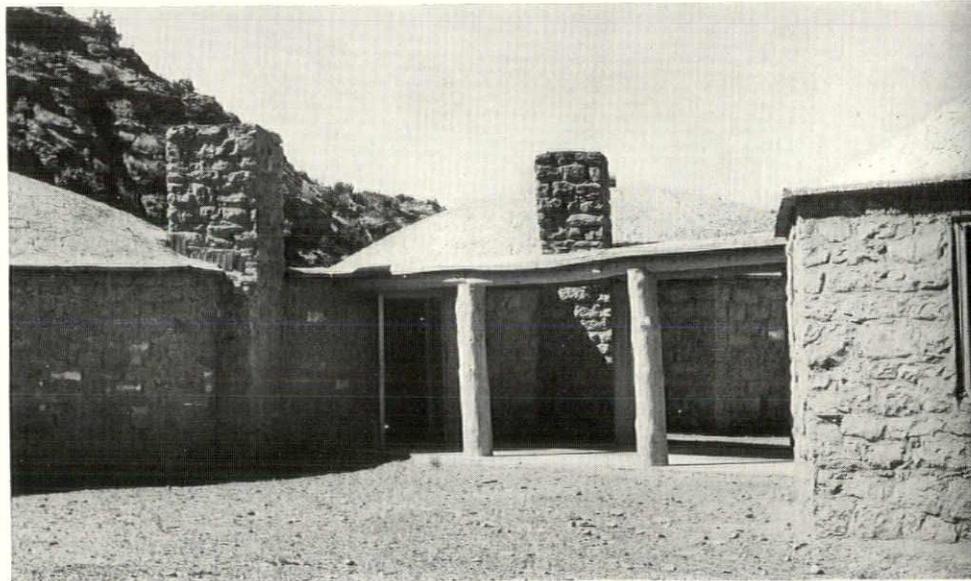
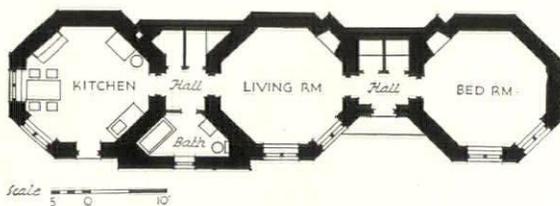
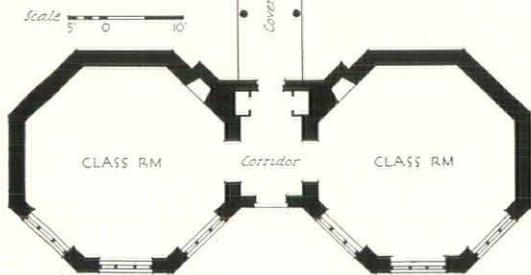
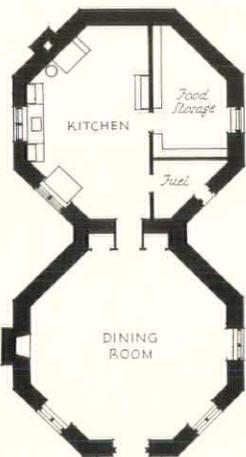
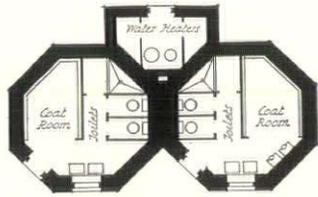
PROJECTED EAVES



END EAVES

Characteristic roof and wall sections showing how the vigas project beyond the exterior walls

Day School and Community Center in Shonto, Arizona, based on Navajo hogans. These octagonal buildings with interesting domed roofs seem an integral part of the surrounding landscape

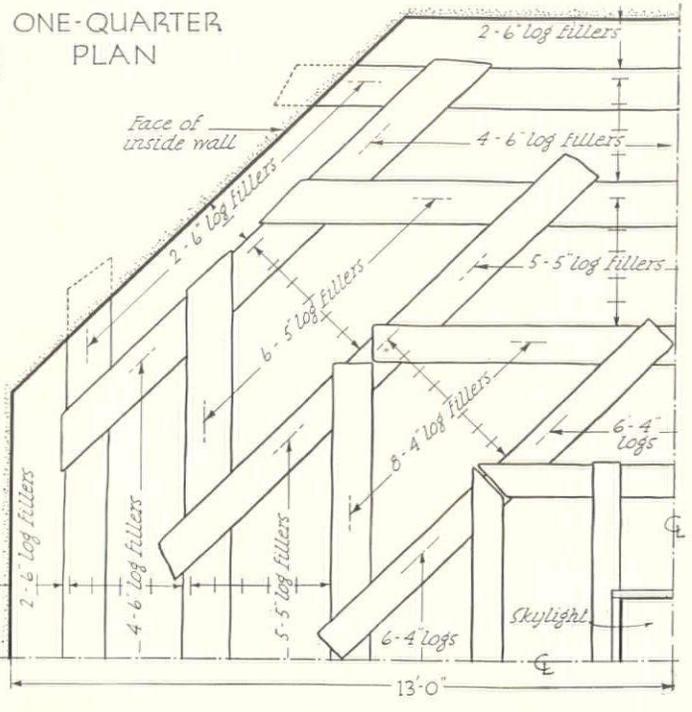
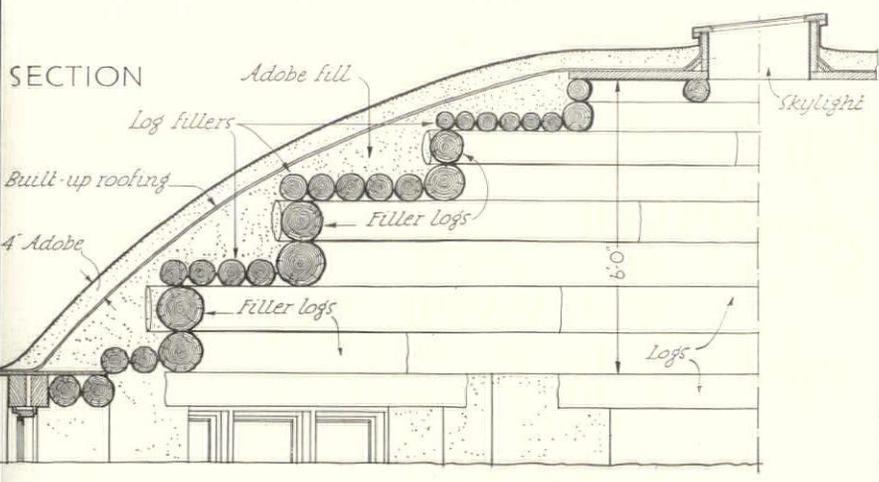


developed and sewer systems installed; light plants were also provided for the larger schools.

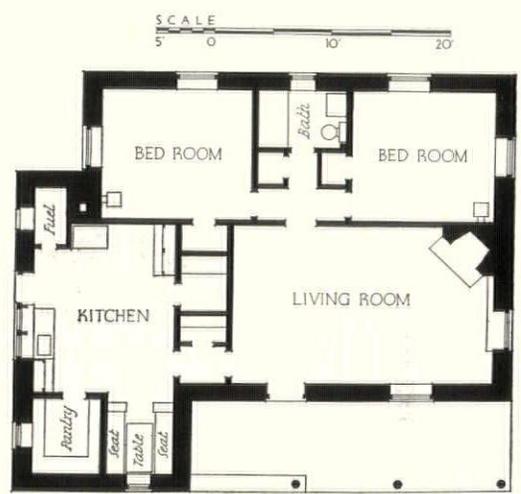
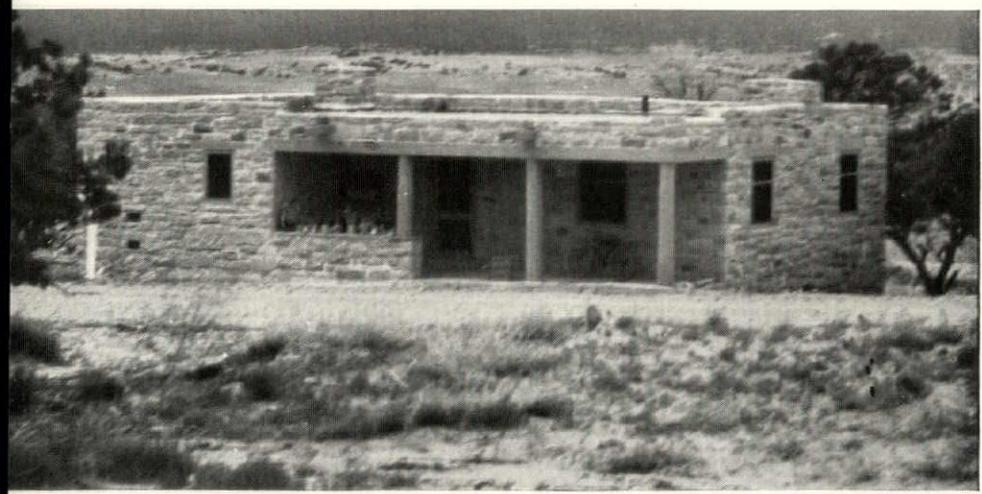
The architecture of the new structures conforms to that usually used in a given community. Among the Pueblos of New Mexico the typical Pueblo style of architecture is followed. This consists principally of straight walls and flat roofs with vigas which serve as a support for the roof; the ends protruding through the parapet give a pleasing architectural finish.

In and around Phoenix, Arizona, Spanish Mission style of architecture is used. Long, low buildings, with wide over-hanging eaves and tile roofs, fit artistically into the surrounding landscape of palm and other tropical plants.

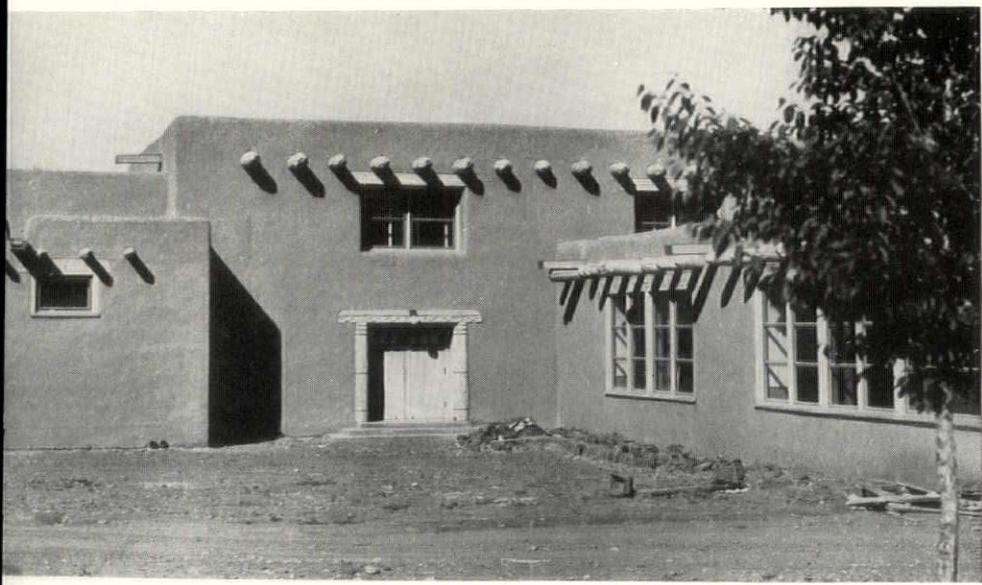
In the Navajo area stone has been laid in adobe mortar and the ancient method of insulation used by the Navajos has been applied, even with the flat roof structures, by using a built up roof and then covering it with six inches of adobe. As construction has progressed, the Indian Service has attempted to emphasize that the Government was building for the benefit of the Indians and that in return it would expect some co-operation in having the Indians assume a responsibility for maintenance. In performing this maintenance the Indian, in some cases, would be using materials with which he is familiar; that is, in repairing washed mortar joints he would use native adobe and apply it by a method, the effectiveness of which has been established by long experience. The Indian thus has a many sided interest in



The Navajos developed an extremely efficient roof, so far as insulating qualities are concerned, for their domed hogans. This typical section and plan based on early precedent has been used on buildings in Shonto, Arizona

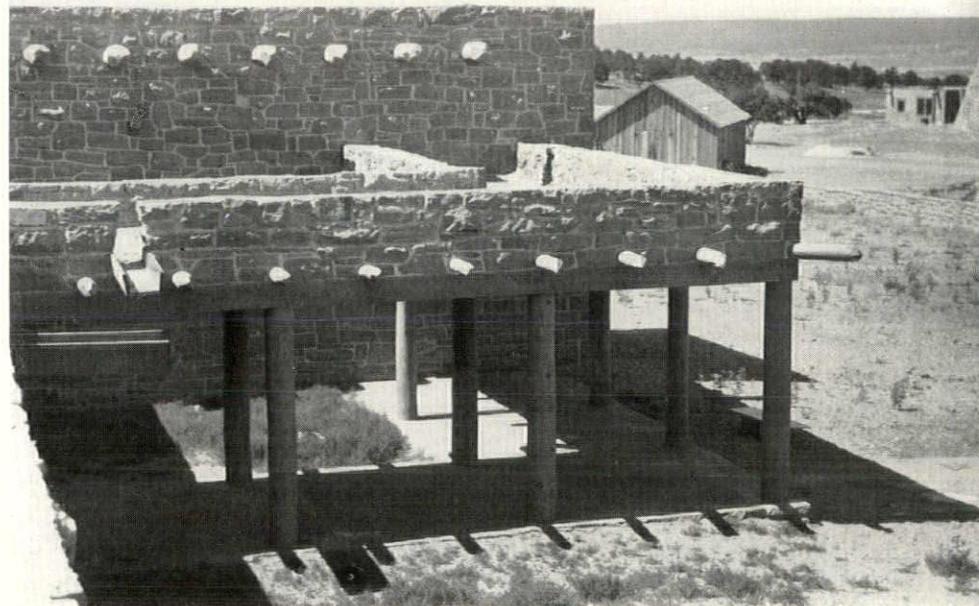
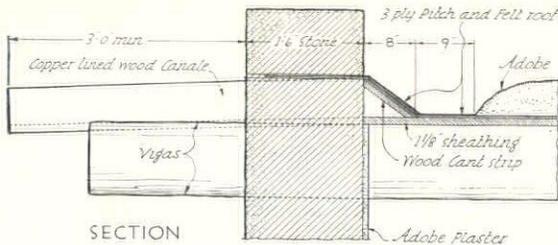
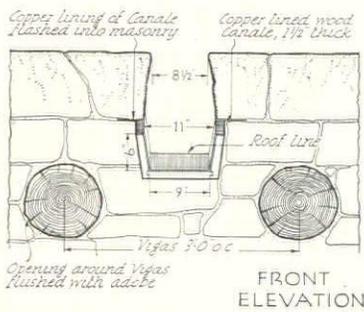
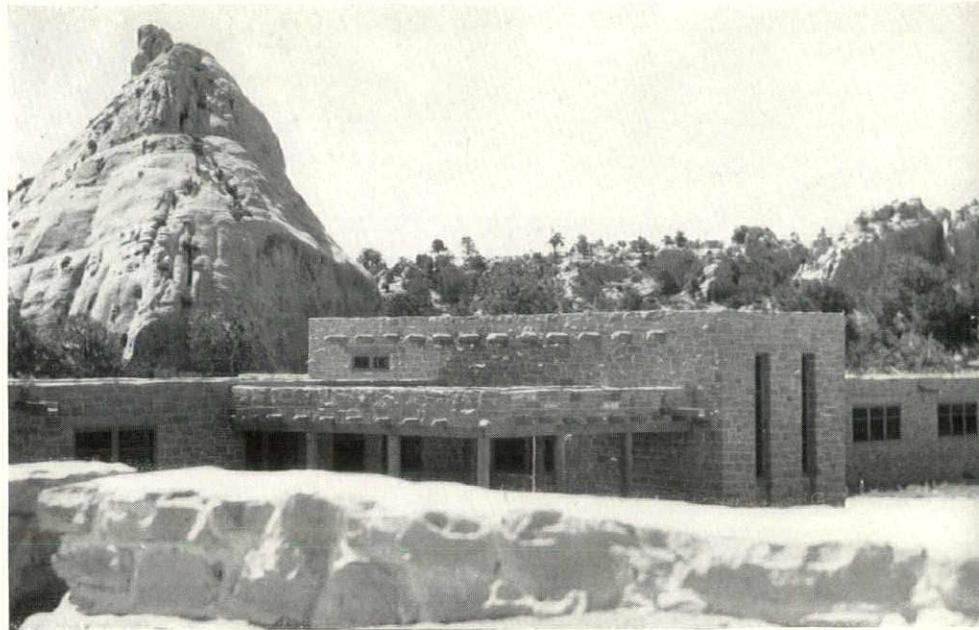


Employees' Cottage and plan in the Navajo capital, Window Rock, Arizona



Day School in Taos, New Mexico

Two views of the Administration Building,
Navajo capital, Window Rock, Arizona.
(Below) Elevation and section of a canale



the building. He has had some part in its original erection, he and his family benefit daily by its use, and he feels a responsibility for its proper upkeep.

The Indians in addition to the income received have gained wide experience in the building trades. Many of them have become skilled mechanics. Two day schools were constructed by 100% Indian crews. More than one million dollars was provided for a central agency for the Navajo jurisdiction at Window Rock. This job involved 47 sets of quarters, an administration building, a council house, a central heating and power plant, a sewer and water system, and numerous other structures. A construction camp with a peak of 550 men was maintained. Approximately 92% of all labor was Indian. The general practice has been to use a skilled mechanic as a leader for each of the building trades; such as plumbing, steam fitting, electrical wiring, and painting. The Indians have learned readily under the guidance of these leaders.

The progress made during the last three years will be carried forward as funds are made available to the Indian Service for future construction. I am convinced that the pursuit of this policy not only will improve the Indian Service structures but will go a long way toward fitting the Indians for the building trades and at the same time inspire them to utilize the materials that they have at hand for more permanent homes for themselves.

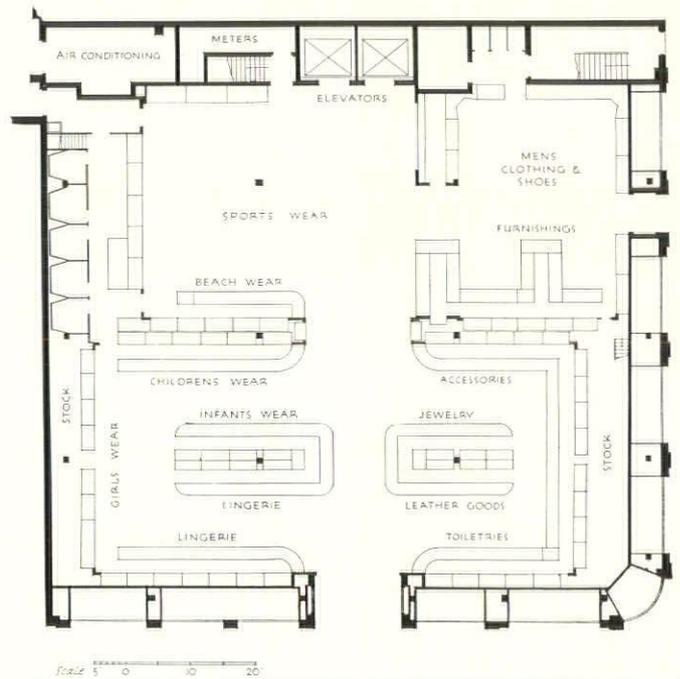


PHOTOS: SAMUEL GOTTSCHO



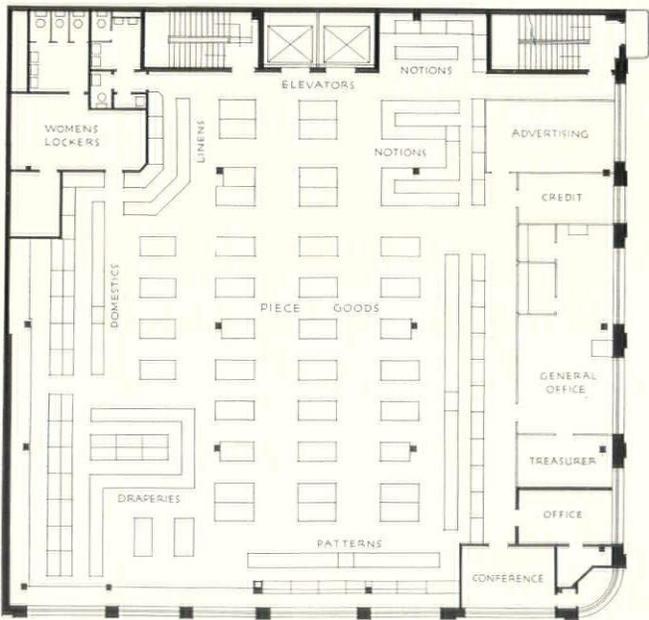
**HATCH'S DEPARTMENT STORE
WEST PALM BEACH, FLORIDA
JOHN L. VOLK, ARCHITECT**

Started as a remodeling job using what was formerly part of Hatch's original store and a bank which occupied the corner, plans worked out more economically and efficiently by gutting the old building entirely, retaining only the exterior concrete walls which were but slightly altered. Kawneer show windows were installed on the ground floor, and Hope steel casements on the floors above

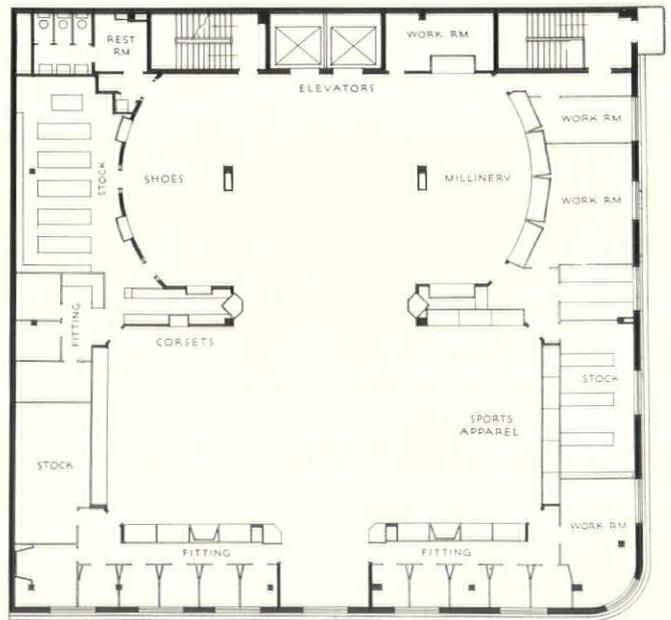


The store as planned is laid out like a number of combined specialty shops, each department being complete in itself with adjacent stock rooms. The locations and sizes of the various departments may be seen from the plans. Flooring materials include terrazzo, rubber tile, wood, and carpet, depending upon the location and traffic. Store equipment is by the Grand Rapids Store Equipment Company. Lighting fixtures, typical for every floor and made an integral part of the design, are by the Erikson Electric Company. The whole building is completely air-conditioned and an even temperature and even humidity maintained at all times

HATCH'S DEPARTMENT STORE,



SECOND FLOOR



THIRD FLOOR

WEST PALM BEACH, FLORIDA

JOHN L. VOLK, ARCHITECT



Articles of clothing which involve large display and storage areas, besides a longer interval of time for inspection, fit, and purchase, were placed on the top or third floor. Spaciousness was gained by eliminating two of the structural columns that were necessary on the floors below

HATCH'S DEPARTMENT STORE, WEST PALM BEACH, FLORIDA, JOHN L. VOLK, ARCHITECT

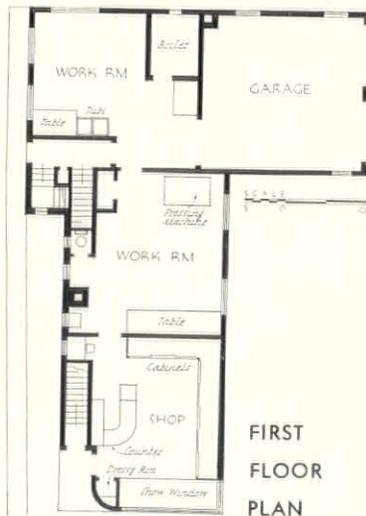
MASTER CLEANERS SHOP, WHARTON, N. J.

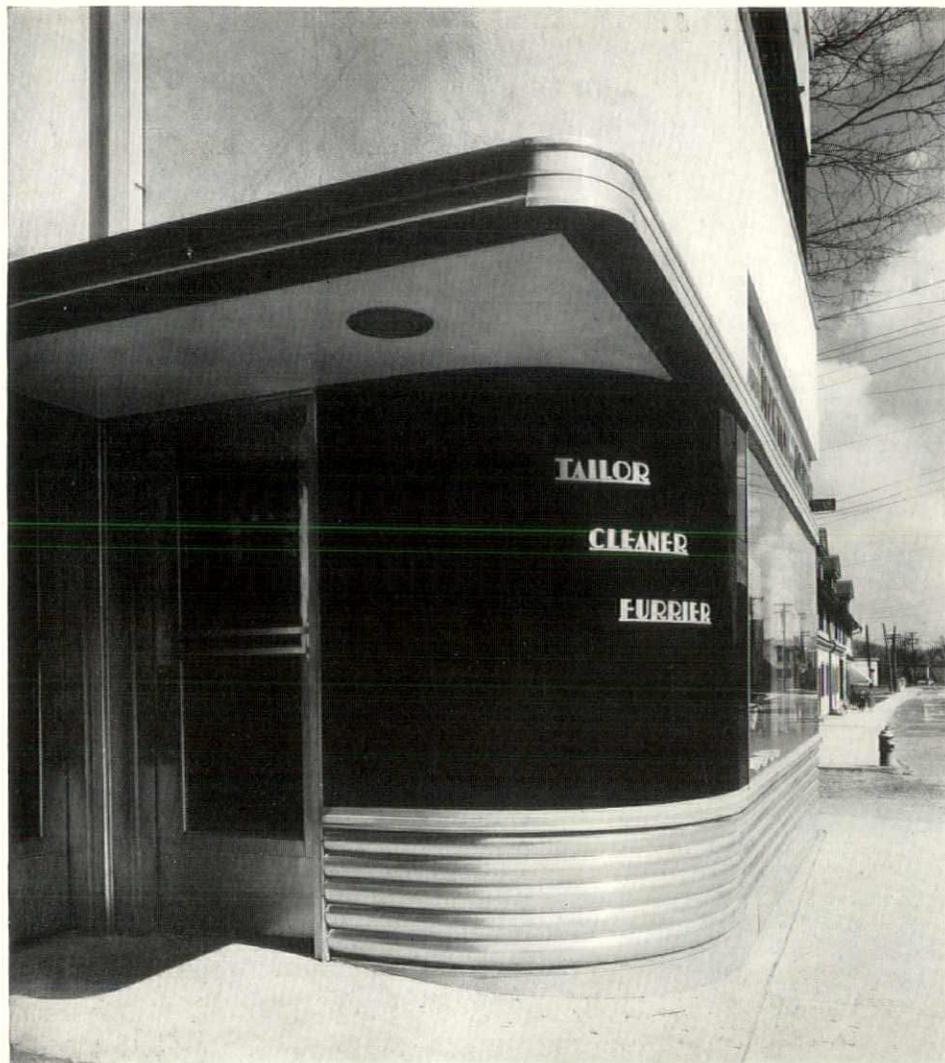
H. WEARNE, DESIGNER
O. H. TORP, ARCHITECT



PHOTOS: SCHNALL

A remodeling to the extent that previous foundations were used, the building consists of a cleaner's shop with living quarters above. Construction is frame with stucco on Ecod metalated lath. Rear walls and garage are of concrete block painted with Medusa Portland Cement paint. Insulation is U. S. Gypsum insulating wool; glass blocks, Owens-Illinois "Insulux." Heating is by Quiet May oil burner and American Radiator boiler and concealed convectors





Black Carrara glass was used at the rounded entrance corner to allow for a small dressing room within the shop. The show window is Pittsburgh Plate glass, and the store front, Kawneer. The sun room in the living quarters on the second floor permits a maximum of light and an uninterrupted view down the street. Casements are Fenestra with Pittsburgh Pennvernon window glass and Columbia venetian blinds



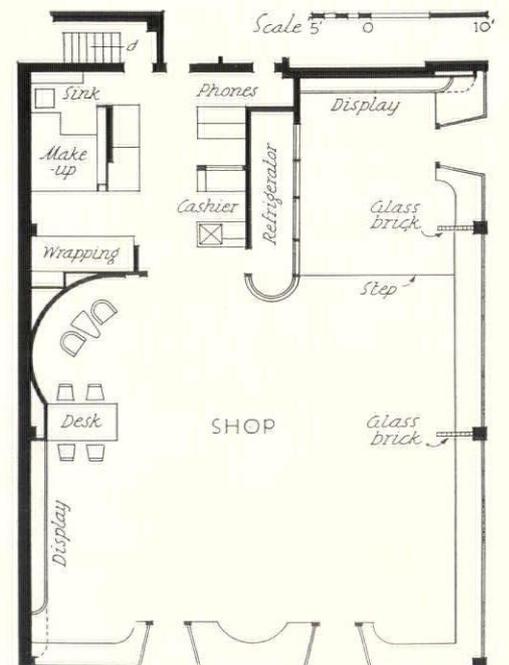
MASTER CLEANERS SHOP
WHARTON, N. J.

H. WEARNE, DESIGNER
O. H. TORP, ARCHITECT



PHOTOS: LOUIS WERNER

A dramatic background for the sale and display of flowers and vases is supplied by the juxtaposition of large planes and curves containing lighted showcases and paneled in the contrasting tones of Brazilian rosewood and bird's-eye maple. Flooring is black rubber inlaid with a large scale conventional "stem and leaf" pattern in white; lighting is indirect from ceiling luminaires designed to repeat the floor pattern. Particularly unusual is the frank use of the refrigerator as the main focal point of the entire scheme. Glass brick curtain partitions, dividing the window space at two building columns, serve as separation for the merchandising of different kinds of flowers without cutting off the necessary cheerful luminosity of daylight



FLORIST SHOP FOR M. GOLDFARB
NEW YORK CITY
GILBERT ROHDE, DESIGNER
MEYER KATZMAN, ARCHITECT

FLORIST SHOP FOR M. GOLDFARB, NEW YORK

GILBERT ROHDE, DESIGNER, MEYER KATZMAN, ARCHITECT

Refrigerators are one of the most important display centers in the merchandising of flowers, yet seldom is their importance emphasized. In this instance the specially designed refrigerator is placed at right angles to the wall and has a semi-circular glass wall at the outer end which furnishes an interesting architectural feature. The interior lighting system, which is usually the source of thermal loss, is provided with a gravity draft ventilation system



BOSTON ARCHITECTS AND AVOCATIONS



At left, FELIX A. BURTON is a member of the rapidly expanding army of philatelists, but we doubt whether all the pages of his ponderous album are as well filled as the one the photographer (who is also the subject) shows us

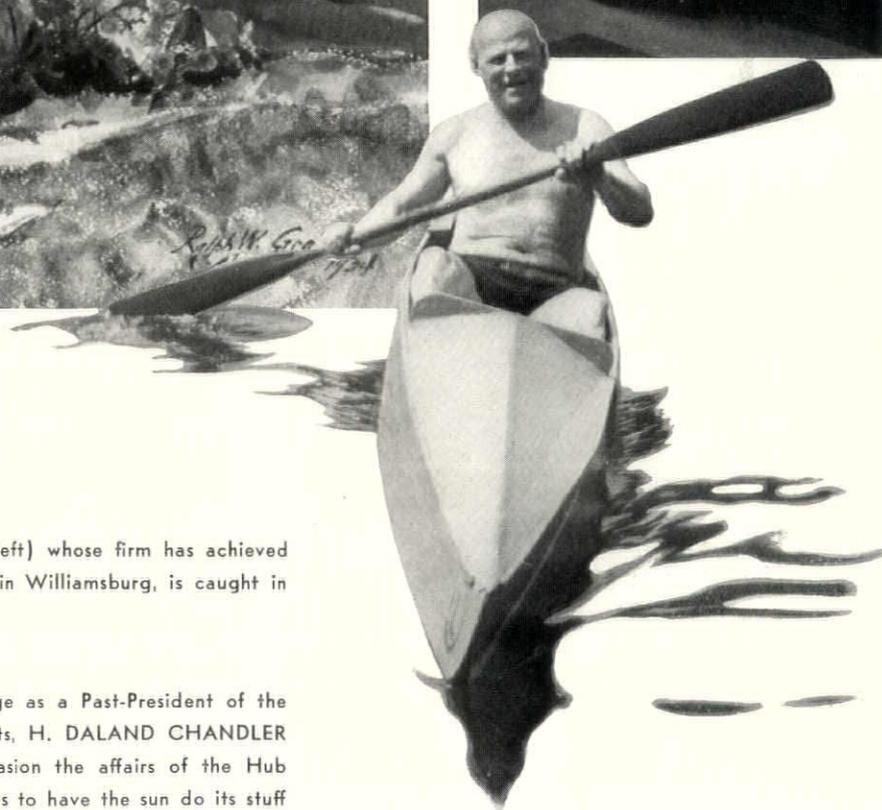
When WILLIAM STANLEY PARKER is not formulating new AIA documents, that deep bass voice of his is a powerful asset in his favorite avocation—dramatics

Below, a watercolor from RALPH W. GRAY'S recent New York exhibition, which contains an incidental—and most lifelike—portrait of Robert P. Bellows, his fellow Bostonian, fellow painter, fellow architect, and fellow Fellow, AIA



ANDREW H. HEPBURN (left) whose firm has achieved such a notable restoration in Williamsburg, is caught in one of his lighter moments

Even so exalted a personage as a Past-President of the Boston Society of Architects, H. DALAND CHANDLER (right), puts aside on occasion the affairs of the Hub and goes out on the Charles to have the sun do its stuff



RECOGNIZED SUPERIORITY

NO architect could possibly doubt the superiority of the architect in the field of building. During the past fifty years this superiority has been increasingly evident both in architectural work and in public recognition. Most tangible evidence of it may be found in laws passed by the majority of the states, requiring the services of architects for all important buildings.

¶ Probably the greatest acclaim for the architectural profession came at the beginning of this century—a lavish era, a time of snobbish, exuberant and extravagant striving for the “architectural effect.” It was an age of admiration and imitation of all period styles, especially those used in ancient castles and palaces. The architect, because he was traveled and also because he was trained to reproduce these styles, assumed a dominant position. Thus he created in the public imagination visions of the traditional professional, esoterically equipped with silk hat, spats and a walking stick; the artist who never forgot his superiority.

¶ Things have changed. Today the public is asking for a demonstration of superiority in directions other than decor. The architect's superiority is now challenged by the engineer, the industrial designer, the building contractor, the manufacturer and merchant of building materials and equipment, and by the government building bureaus. To gain necessary public recognition the architect's superiority must be demonstrated as follows:

1. SUPERIORITY IN PLANNING FOR USE. . . . Planning for convenience and comfort, for all-around efficiency and for economy of construction, operation and maintenance. As planners, architects must be supreme.

2. SUPERIORITY IN STRUCTURAL AND MECHANICAL DESIGN . . . The architect's claims to leadership have been retarded by the development of a plethora of synthetic materials and new mechanical devices. It is now practically impossible for a single professional man to master the intricate problems pre-

sented in selecting materials and equipment and properly correlating them into the building.

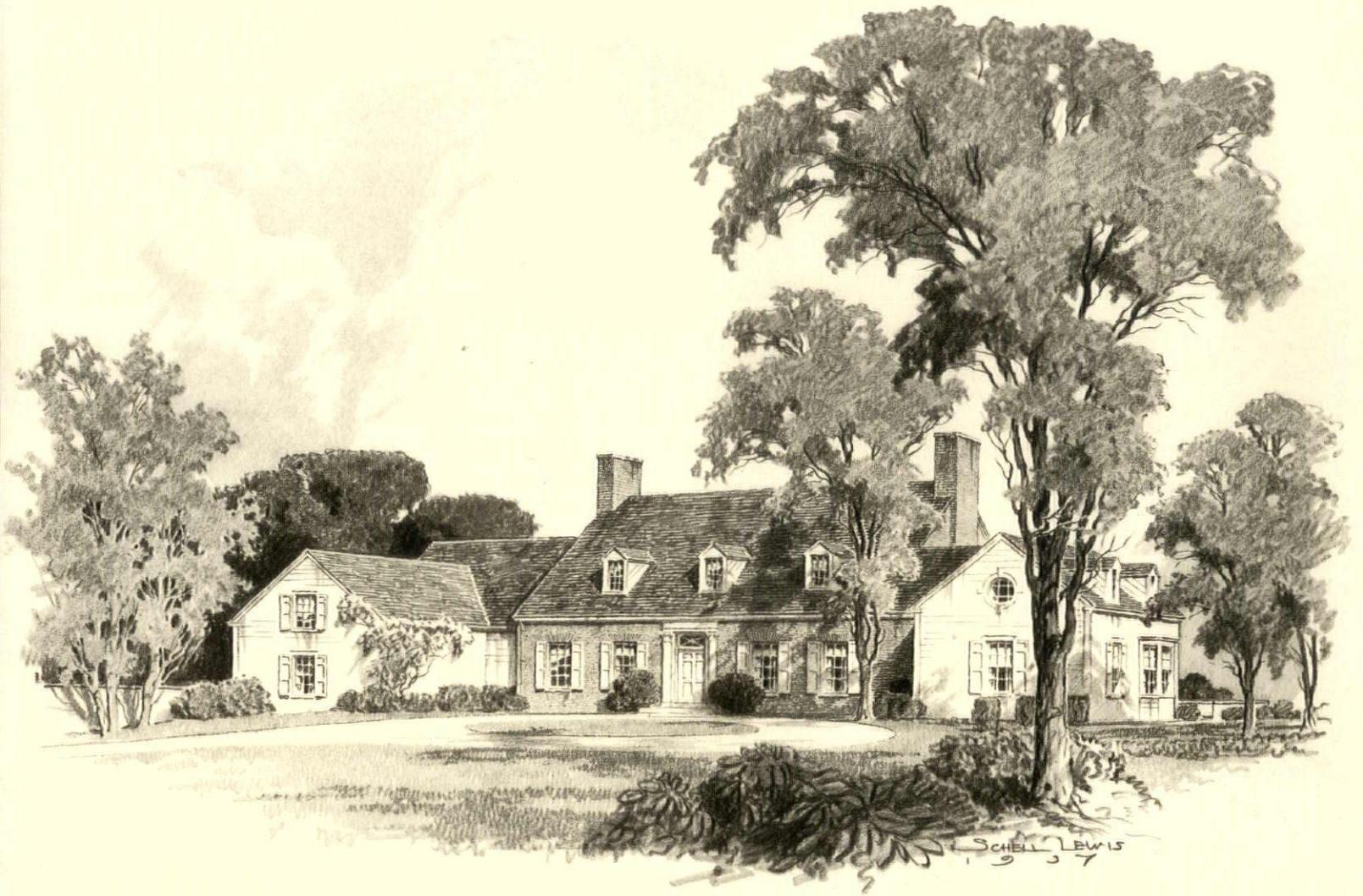
3. SUPERIORITY IN ECONOMIC ADVANCEMENT . . . Building has become primarily a complex arithmetic of financing, operating and financial return. Naturally the functions of the architect must now also include those of appraiser, economist and real estate expert.

4. SUPERIORITY IN DESIGN . . . The demand for aesthetic appeal or emotional response has always been met by architects almost to the exclusion of all other operators in the building field. Architects chose the styles, set the pace, provided the effect. With the change in style, necessitated by economy which eliminated applied decoration, the architect has been forced to greater inventiveness in the use of structural form and color. The breaking down of the old criteria of period authenticity has opened the field to designers other than those trained in the different architectural schools. The problems of designing are more difficult when the elements are those of pure structure, simple materials and choice of color, instead of traditional forms and designs that are assembled in every architect's library. The criteria of proportion and form have changed so that the public is bewildered and recognition of pre-eminence in design is difficult. Yet this is the one field (coupled with that of planning), in which the architect must remain supreme.

¶ Recognition usually follows convincing demonstrations of superiority, but recognition today does not always follow of its own accord, and the public may accept a spurious quality if the latter is publicized and advertised sufficiently. It remains, therefore, for the architectural profession not only to demonstrate its ability in these four phases of architecture to its own satisfaction, but to adopt methods of informing the public of its abilities and accomplishments in order that it may receive from the public, in the face of competition, new opportunities to exercise its abilities and receive the rewards of recognized superiority.

Kenneth K. Stowell

EDITOR.

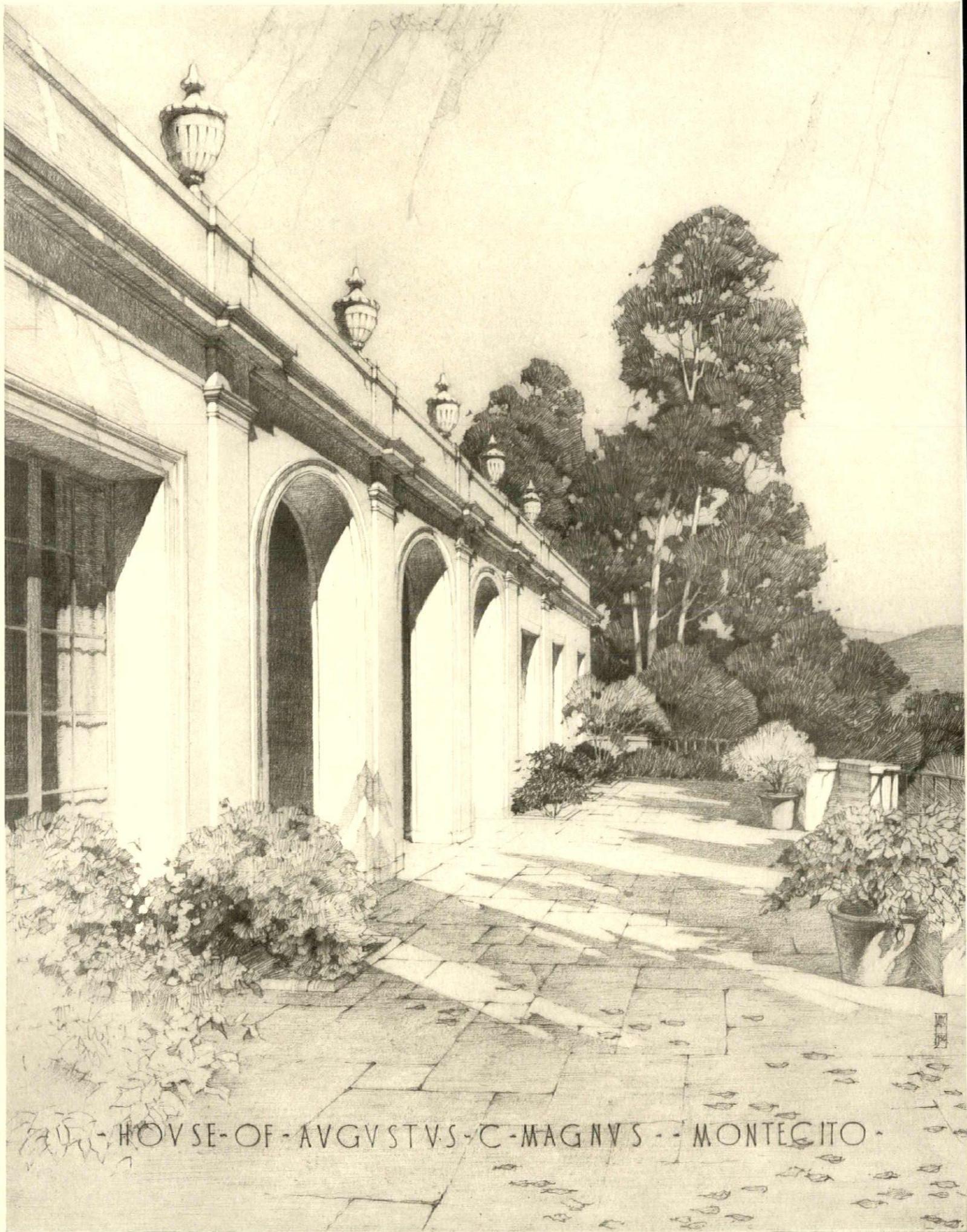


SCHELL LEWIS

Study of house for Mr. and Mrs. George Herbert Walker, Jr., Greenwich, Conn. Philip Ives, architect

WITH the purpose of illustrating different approaches in technique and in composition, the editors asked eight pre-eminent delineators in the architectural field to send in each his own choice of a representative rendering. The only requisite was that the subject be a house. Here, then, is a cross-section of America's contemporary ideas of pictorial representation

EIGHT HOUSE RENDERINGS BY EIGHT DELINEATORS



HOUSE OF AUGUSTUS - C. MAGNUS - MONTECITO



On facing page, MALCOLM P. CAMERON

A detail of the Augustus C. Magnus house, Montecito, Calif.
Reginald D. Johnson, architect

Above, CHESTER B. PRICE

House of Miss Margaret Cargill, New Canaan, Conn.
Edwin Maxwell Loye, architect

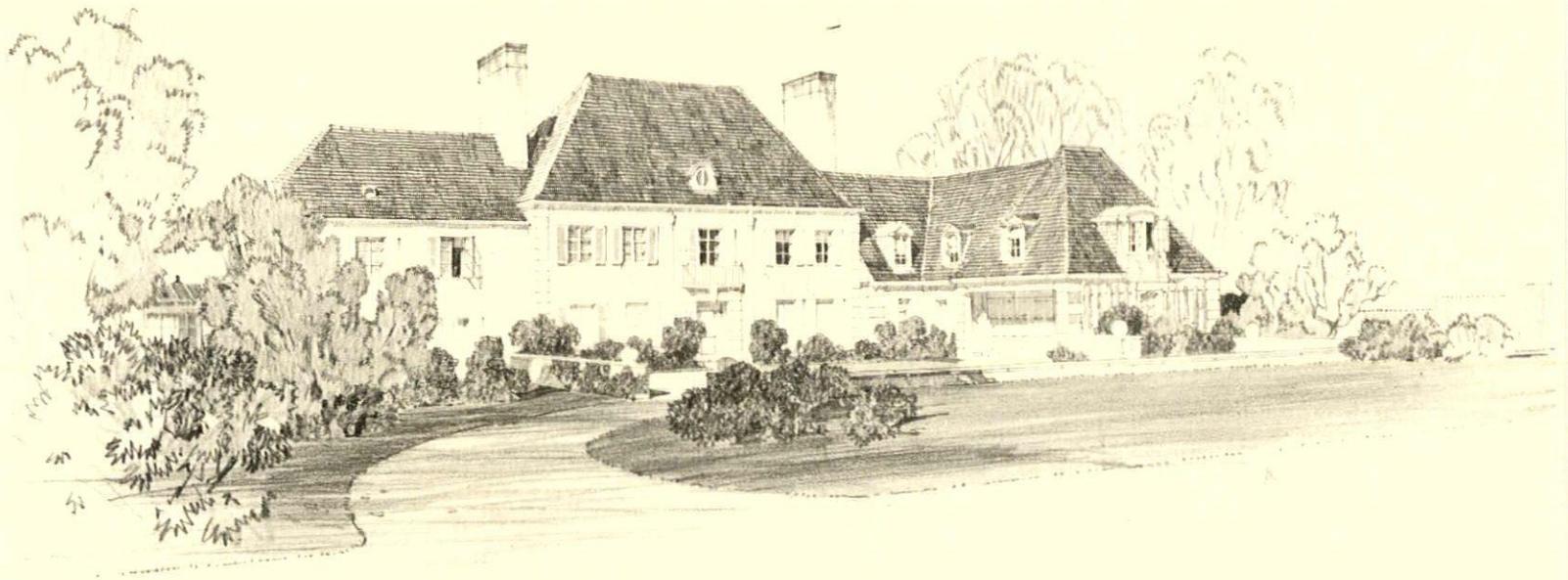


THEODORE KAUTZKY

Study of a house designed by Franklin P. Hammond, architect



J. FLOYD YEWELL
House for Mrs. Catherine Hess Ryan, Scarsdale, N. Y.
Dwight James Baum, architect



LOUIS CONRAD ROSENBERG

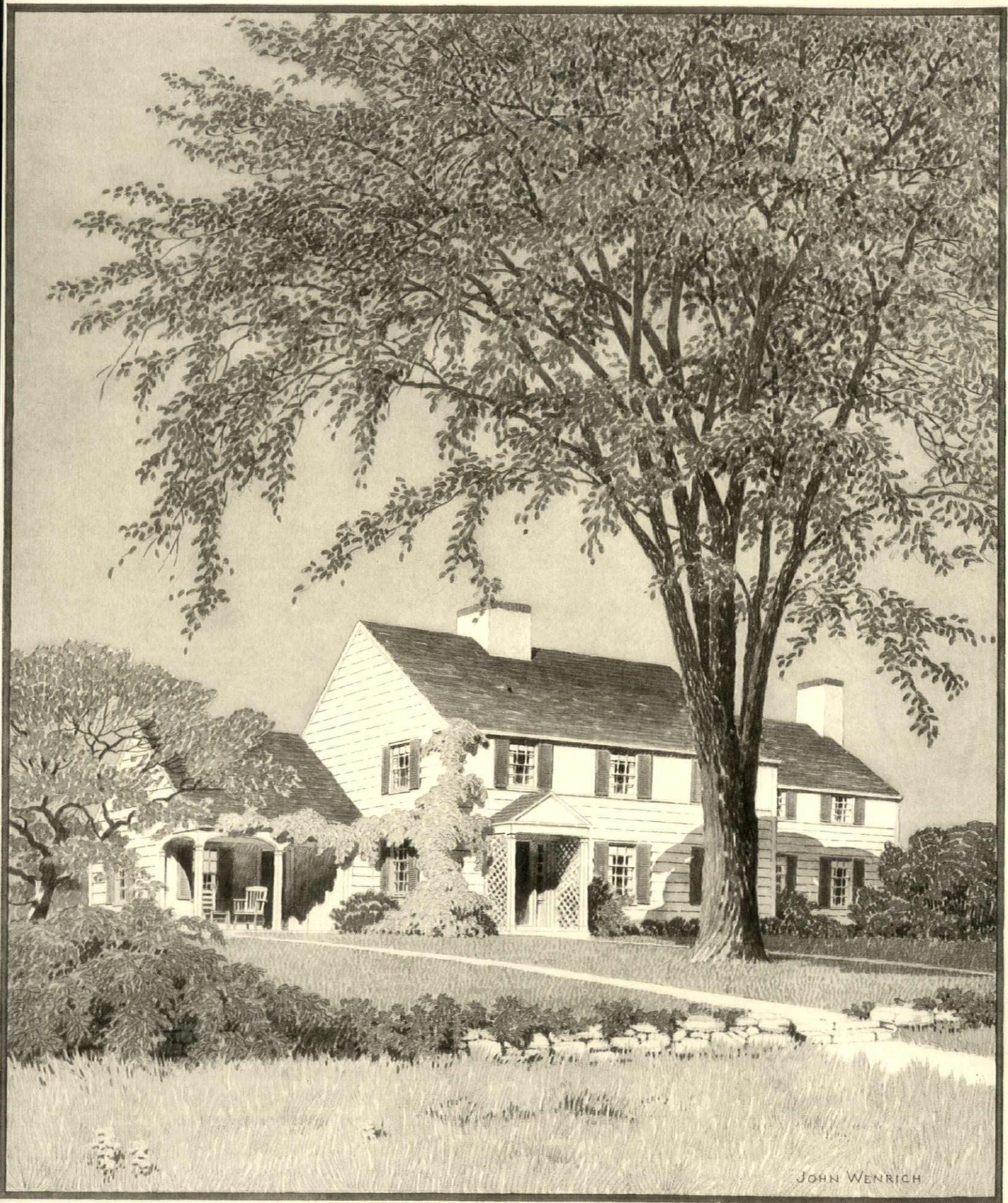
House for Mr. and Mrs. Raymond C. Rose, Southport, Conn.

Louis Conrad Rosenberg, architect

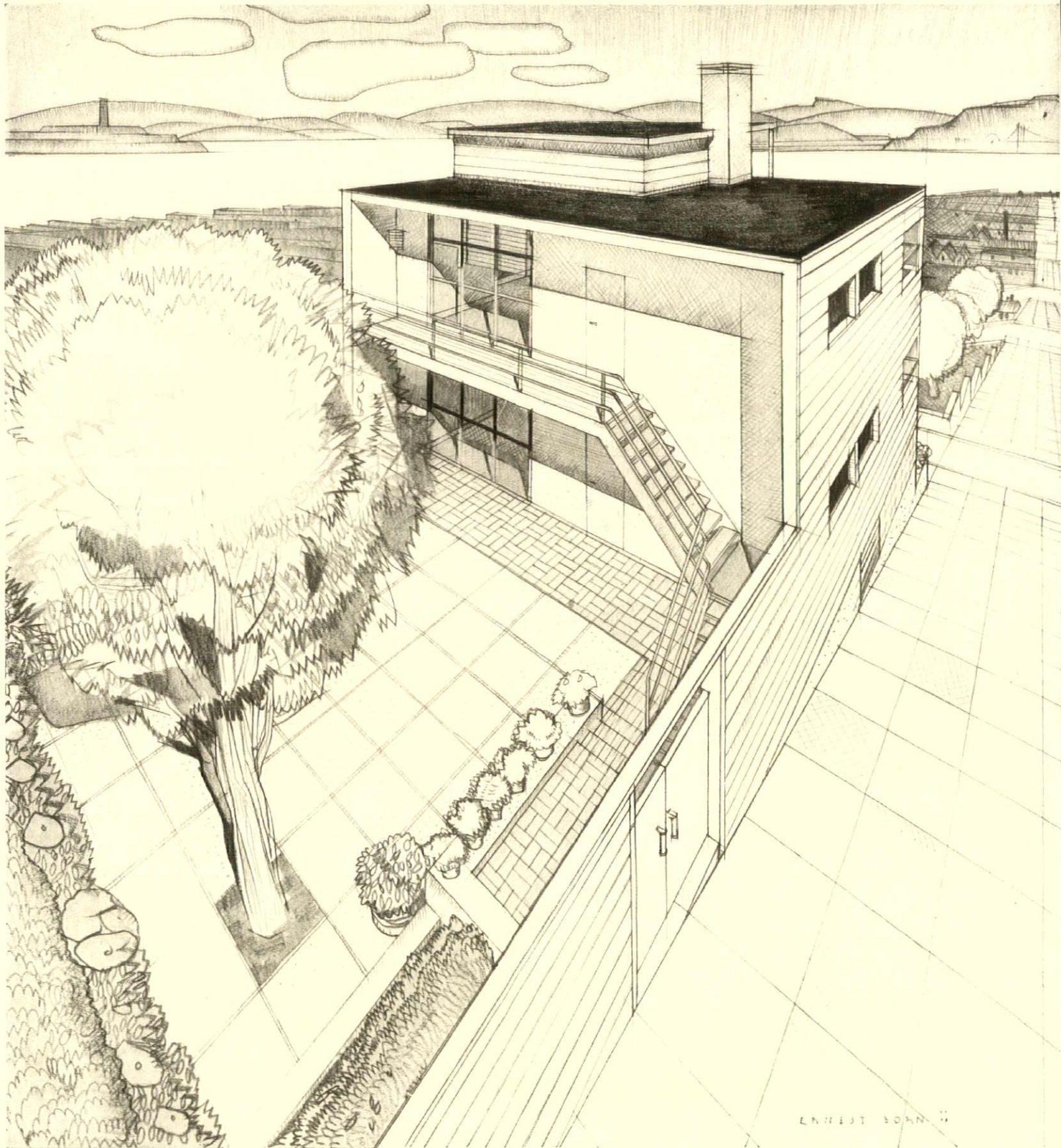
On facing page, JOHN WENRICH

A house designed by Howard L. Stone, architect, in

Rochester, N. Y.



JOHN WENRICH



ERNEST BORN

House for Maxine Albro, San Francisco, Calif. Ernest Born, designer



BOSTON

Convention City of the A.I.A. in June

BY PHILIP DANA ORCUTT, A.I.A.

THE architectural fame of Boston could rest secure on its early, so-called "Colonial" architecture alone. Again Boston architects led the way out of the degenerate Gothic of post-Civil War days. Its architecture today, considered by itself, would keep it in its preëminent position were all else destroyed.

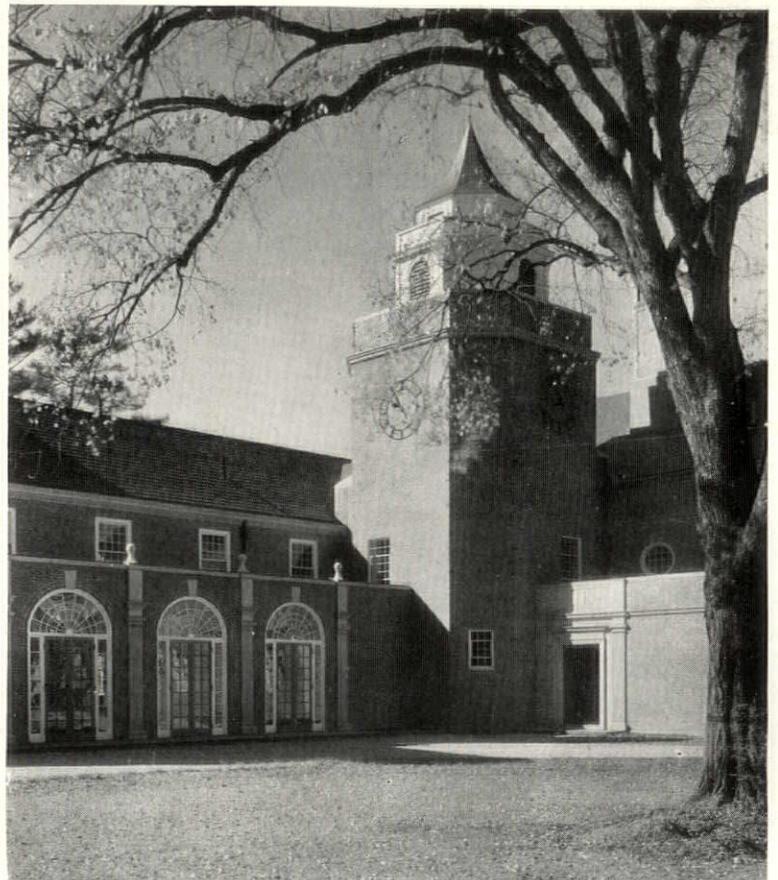
It has been the intent within the limits of these few pages to present, as evidence of the past grandeur, a single house, Gore Place (page 67), probably the greatest residence which the North gave to the country in its period and certainly one

of the half dozen outstanding historic-architectural masterpieces of the United States. This Place is now being restored and it is here that the President's Reception of the Institute Convention will be held.

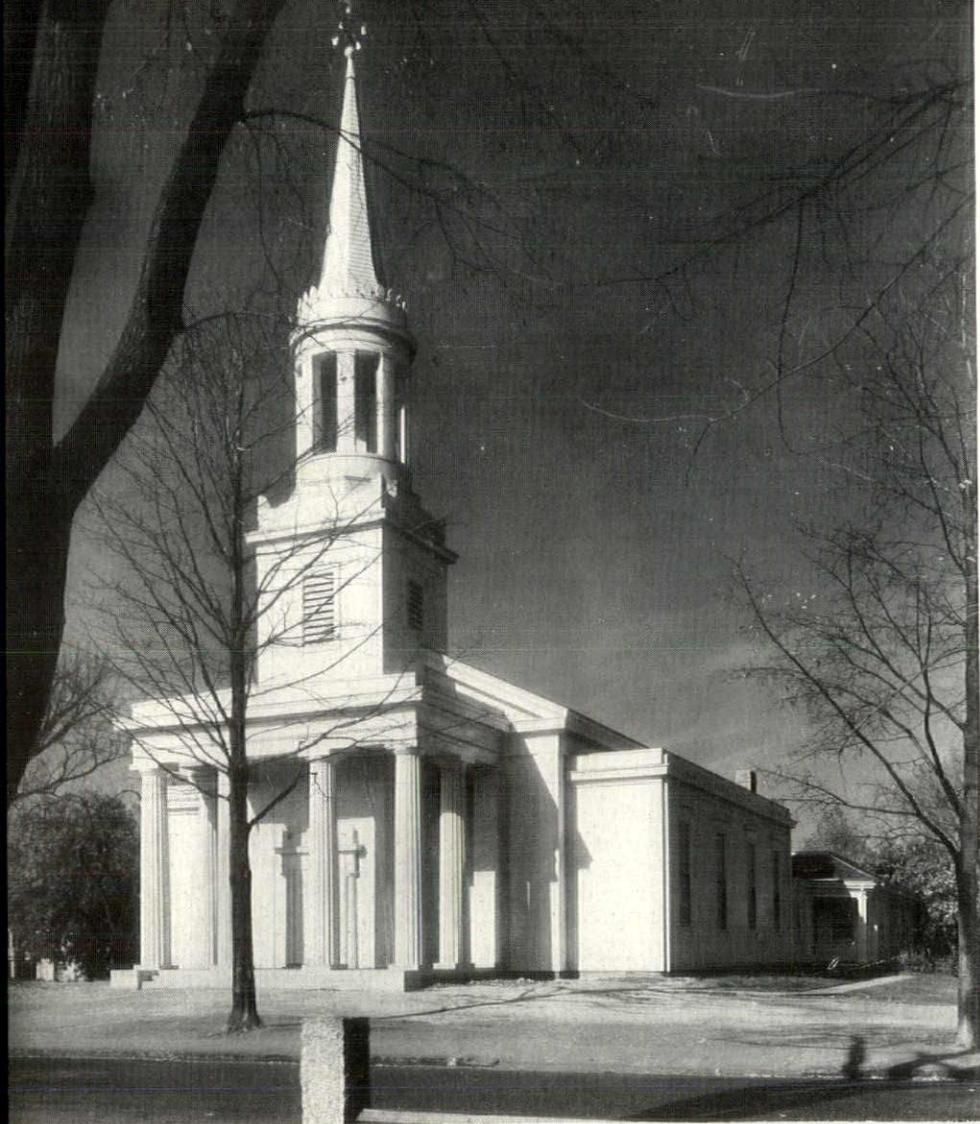
All other work shown is within the past decade and is intended to be typical rather than definitive, illustrating characteristic building in as many branches of the art as possible and, where practicable, contrasting the traditional school with the expressionistic. All else, most of which has been frequently published, has been omitted.



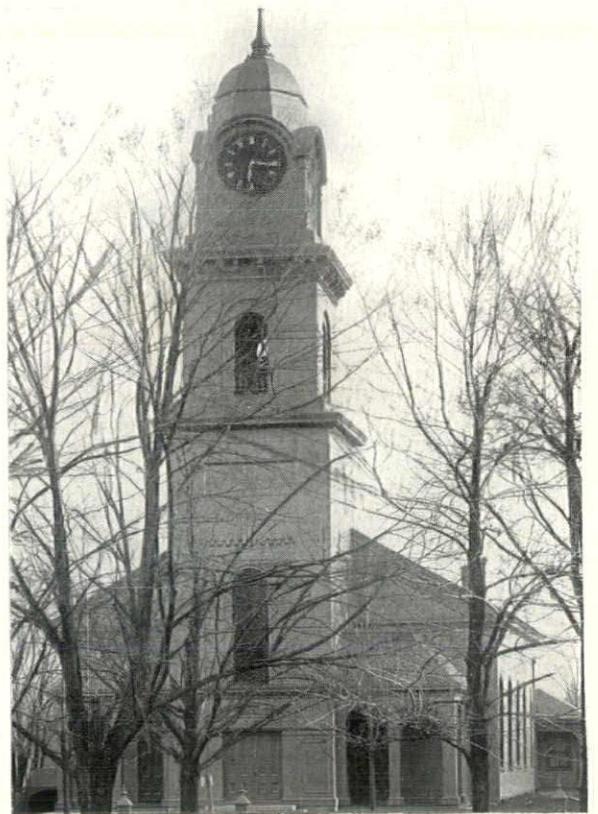
Rindge Technical School, Cambridge, 1933. Built on the arc at the intersection of two radial streets. Ralph Harrington Doane, architect.



Roxbury Latin School, 1926-28. Privately endowed since the Eighteenth Century. Design chosen by competition. Perry, Shaw & Hepburn, architects.



**FIRST PARISH CHURCH (UNITARIAN),
WALTHAM, REBUILT IN 1932-33,
ALLEN, COLLENS & WILLIS, ARCHITECTS**



For reasons of economy and to permit third class construction, the old foundations and two sidewall openings were used. The old foundations proved too wide for the new design and a double colonnade was introduced to cut down the width.

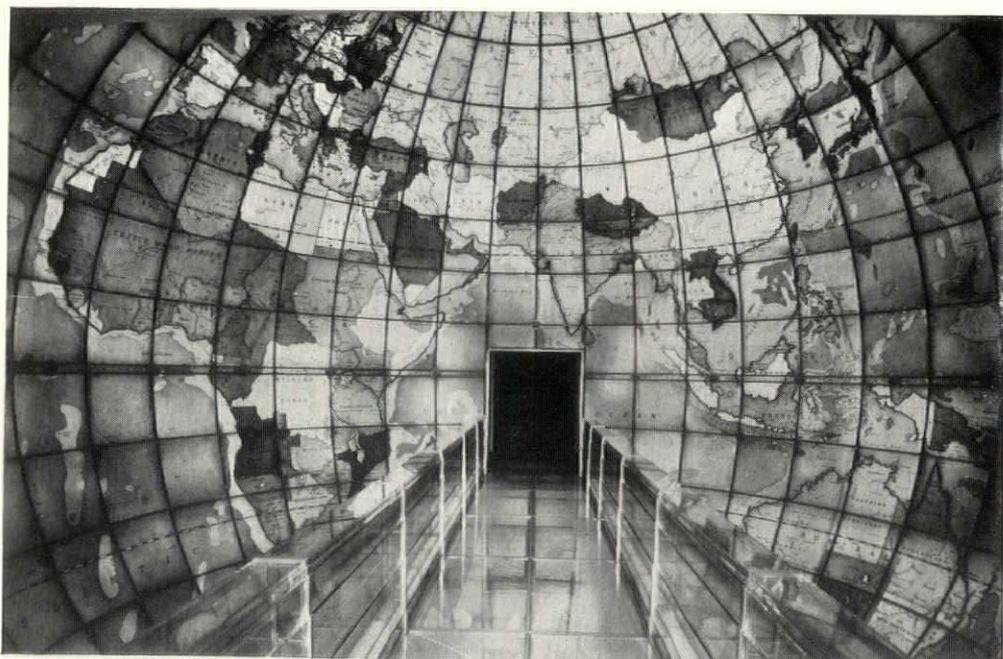
The Church which this replaced was, as shown above at right, of the post-Civil War period when proportion was customarily sacrificed to pretension.

The design chosen avoided the early type of Church architecture in New England. The period of the design is early Nineteenth Century, selected as the period of the rise of Unitarianism around Boston. This was particularly suitable in Waltham as Governor Gore who lived there was both a prominent early Unitarian and its most popular and influential citizen.





**CHRISTIAN SCIENCE PUBLISHING SOCIETY
BUILDING, BOSTON, BUILT 1935,
CHESTER LINDSAY CHURCHILL, ARCHITECT**



It was desired to express the peaceful harmony of a religious organization while adapting the structure to its multiple business needs. Elevations in limestone. First Class Construction.

Part of the walled garden (above at left) forms an outdoor reception room, illustrating the use of garden space in connection with a city office building. Garden design by the architect.

The Mapparium is a large sphere of glass and bronze thirty feet in diameter, an accurate reproduction of the world depicted upon the surface, geographically correct, creating a map in true perspective, visible in its entirety as in no other form. The colors fused on the glass are executed with modern technique. The bridge penetrating the Mapparium is of structural glass which, except for a minimum of steel reinforcing, supports the loads imposed upon it. Lighting is from without. Originated and designed by the architect.



**ALL SAINTS' CHURCH (EPISCOPAL),
WORCESTER. REBUILT 1932-35,
FROHMAN, ROBB & LITTLE, ARCHITECTS**

The old foundations and exterior walls were mostly retained from motives of economy, materially restricting the plan.

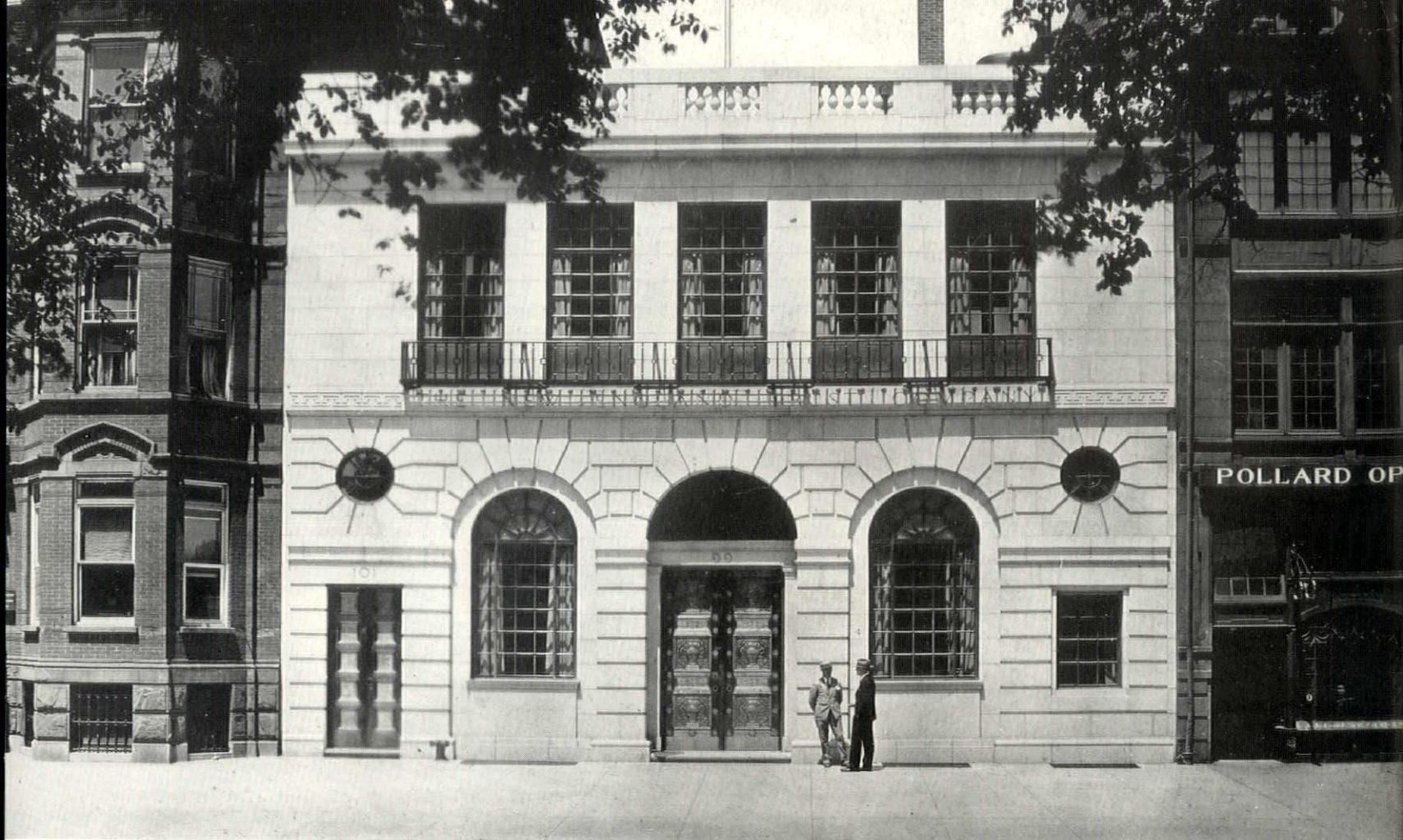
As shown by the illustration above, before the church was burned, the emphasis of the elevation was horizontal. By moving the nave columns closer together and adding no more than three feet to the roof, an effect of much greater proportional height was achieved. The pitch of the roof is over 45°. Second Class Construction. Stone reredos gift of Mrs. G. Washburn in memory of her husband.

Appropriation was made for space and use functions only. The problem was to overcome this limitation to achieve a creditable piece of architecture. Elevations in cast stone. First Class Construction.

**MOTOR MART GARAGE, BOSTON,
BUILT 1926,**

RALPH HARRINGTON DOANE, ARCHITECT





**BRANCH OFFICE, NEW ENGLAND TRUST COMPANY,
RESIDENTIAL DISTRICT, BUILT 1929,
HENRY & RICHMOND, ARCHITECTS**

Street elevation, classic treatment in New England granite to achieve maximum weathering resistance and most pleasant textural aging under city dirt conditions. Attempt to express feeling of old New England.

Interior, at right, finished in Czecho-Slovakian oak. Attempt to express intimate and friendly advisory relationship between bank and customers and to avoid, as far as possible, commercial atmosphere. First Class construction.





**HOUSE AT GROTON, NORTH ELEVATION, BUILT 1932,
WILLIAM T. ALDRICH, ARCHITECT**

Texture of brickwork achieved by use of old English bond. Character given to house by use of nicely designed chimneys. Thinness of roof prevented by carrying break front through roof to support pediment.

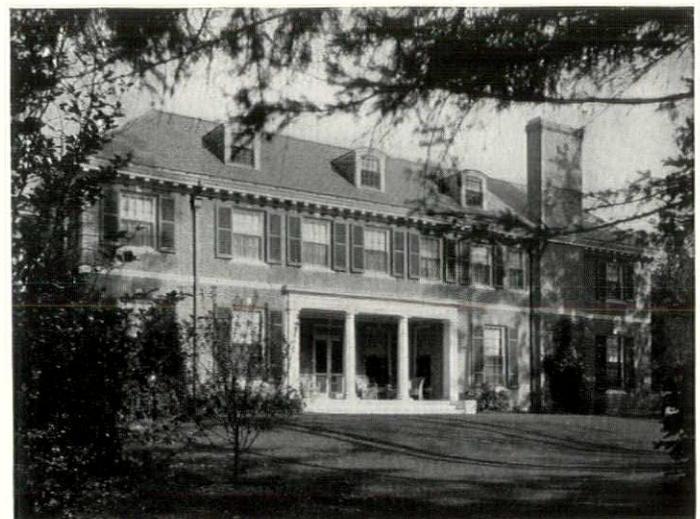


Photo by Haskell, Boston.

**HOUSE IN BROOKLINE, BUILT 1930,
EDWARD H. PRICHARD, ARCHITECT**

**ROMAN CATHOLIC DIOCESAN HOUSE,
DOWNTOWN BOSTON, REBUILT 1934-35,
RICHARD SHAW, ARCHITECT**

The adjoining buildings show the type of structure replaced. As this building includes both an Oratory for meditation and prayer, and also the offices and presses having to do with the supplemental business of the diocese, the problem was to balance the expression of the two functions. The use of a porch sets back the entrance to the Oratory.

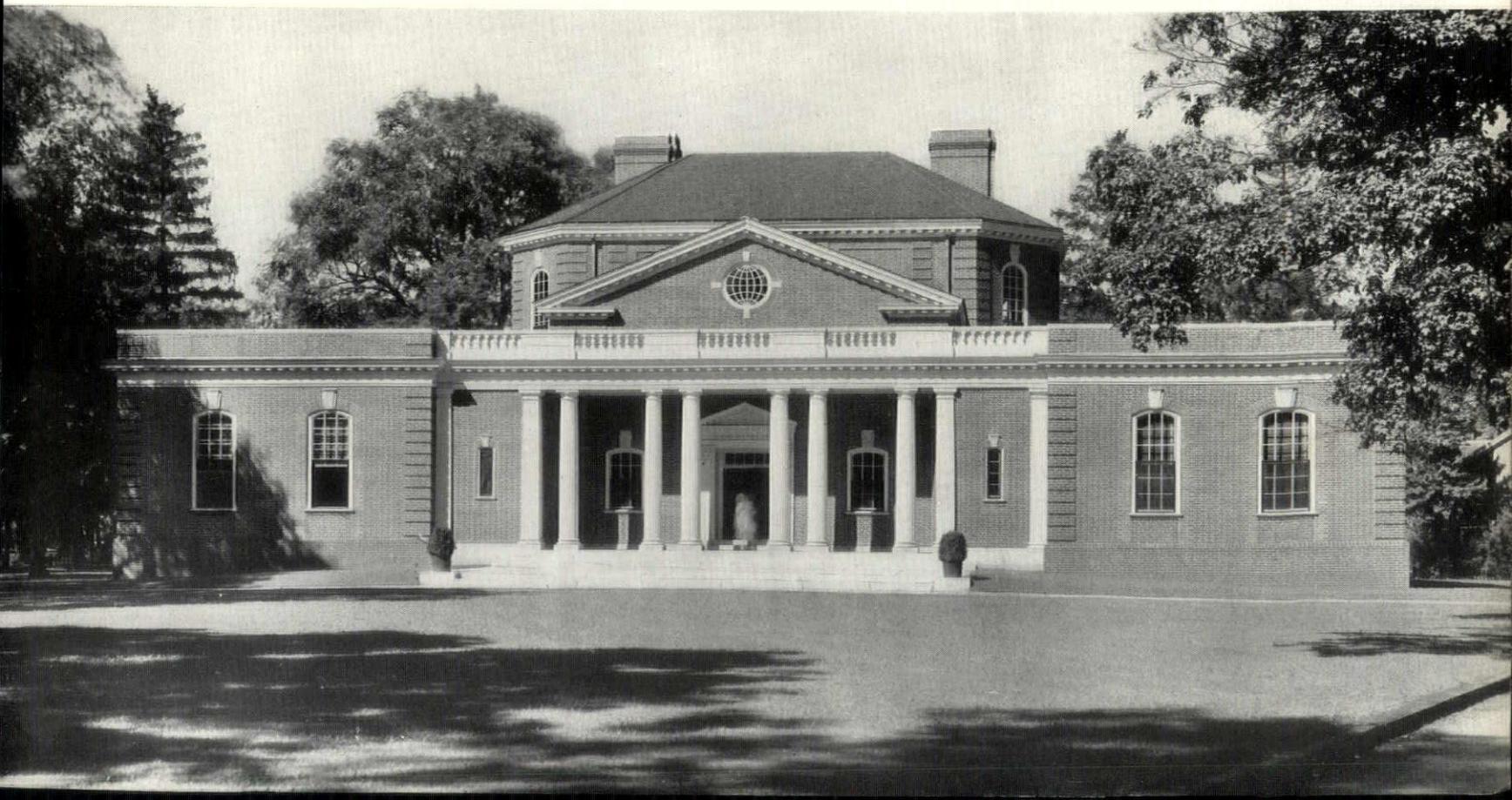
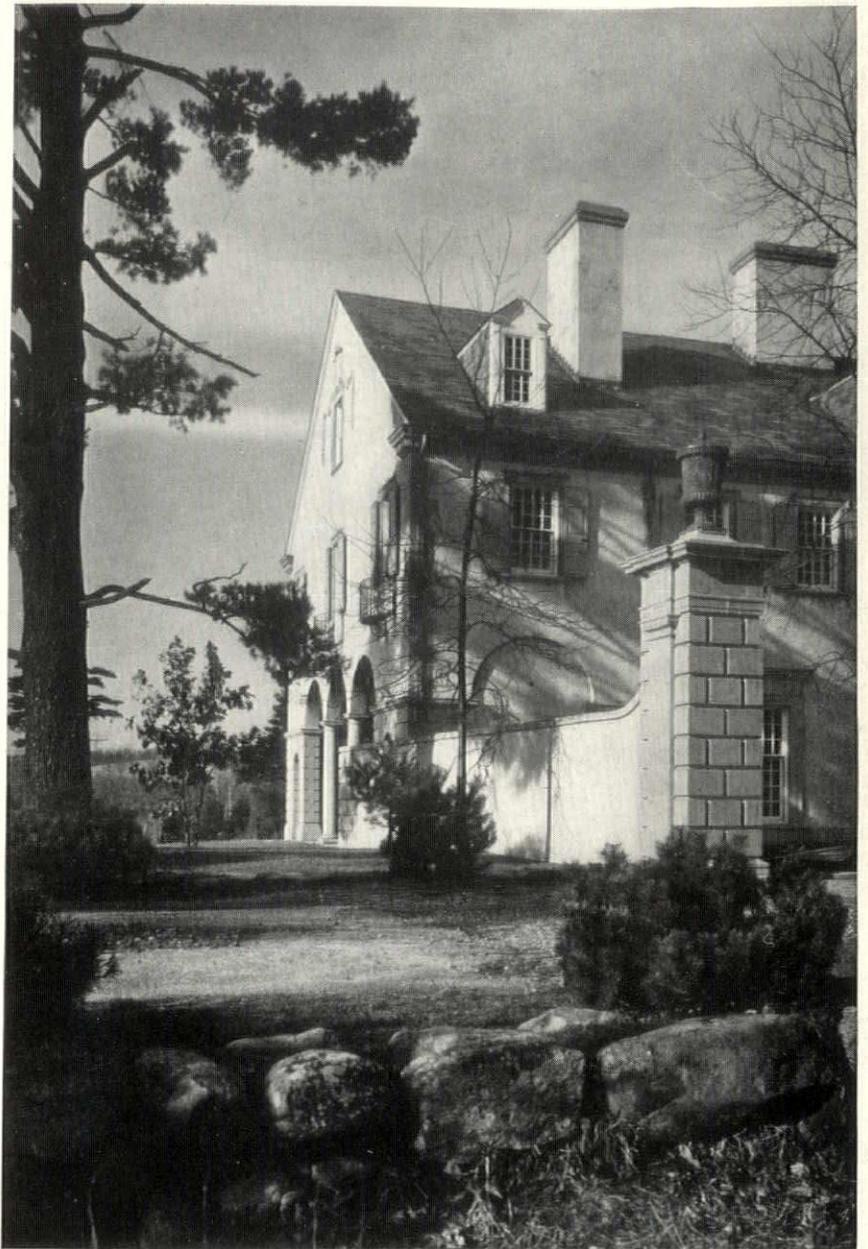
**HOUSE AT NORTH ANDOVER, BUILT 1913-32,
PERRY, SHAW & HEPBURN, ARCHITECTS;
FLETCHER STEELE, LANDSCAPE ARCHITECT**

Unusual procedure here was that landscaping was completed before house was started. Foundations were built and allowed to settle for a year. The garage was built the following year, and the shell of the house the year after that. Changes in design were constantly made as time permitted detailed study of owner's needs and special site conditions.



**CONCORD FREE PUBLIC LIBRARY,
CONCORD, REBUILT 1934,
FROHMAN, ROBB & LITTLE, ARCHITECTS**

Library which was replaced was, as shown above, one of the characteristic atrocities of the 1870's. The two-story delivery room in the center, however, while unlike anything which would tend to be designed either earlier or later, was unusual in style and of great dignity. Further, it held many associations with the literary era and characters of Concord, and was retained.



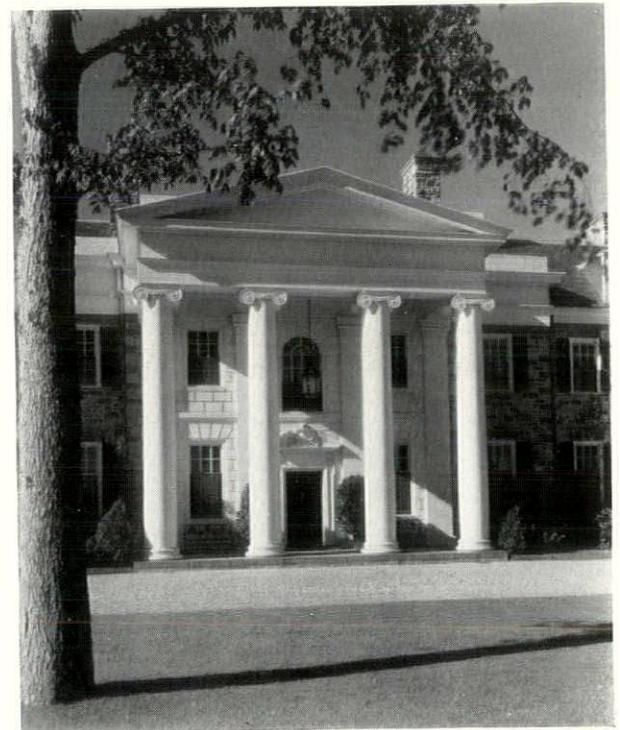


**INTERIOR, HOUSE IN BEVERLY, BUILT 1928,
J. HAMPDEN ROBB, ARCHITECT**

Character of period around 1790 in Southern United States. Rooms with high stud. Fieldstone exterior. Demonstrates adaptability of this Anglo-American late Eighteenth Century type house to furniture of other periods or of exotic provenance. Photo by Marr, Boston

**FRONT ENTRANCE OF HOUSE AT SOUTH HAMILTON,
BUILT 1931, WILLIAM T. ALDRICH, ARCHITECT**

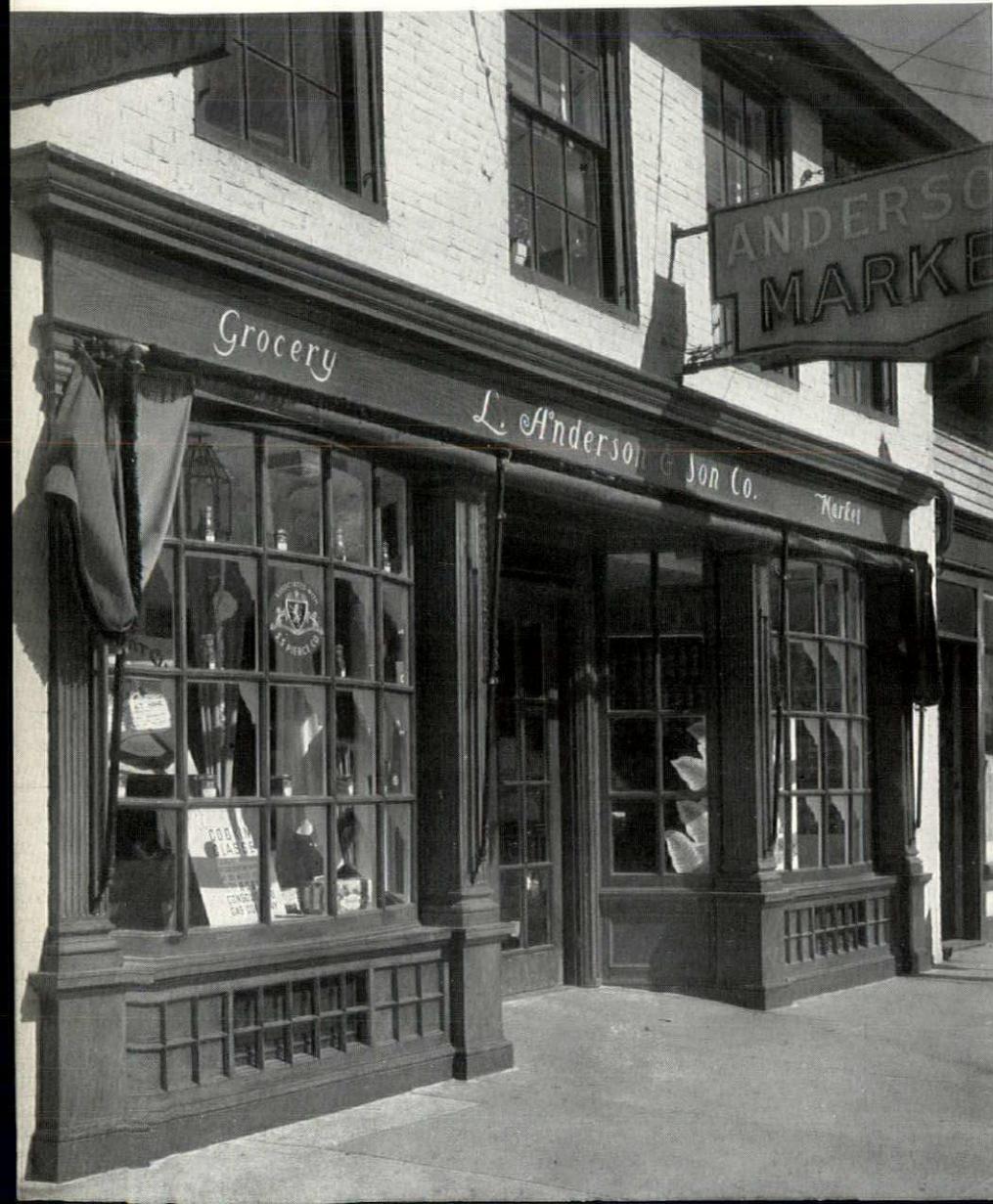
House of native field stone. Formal porch including rustication entirely of wood, painted white. Note chimney treatment. Arch-top window lights circular stairs rising over entrance door.



**STORE FRONT, CONCORD,
REMODELED 1936**

FROHMAN, ROBB & LITTLE, ARCHITECTS

The feeling on the part of shop owners that large areas of plate glass are required to display their goods is difficult to overcome. Here the architects installed two slightly bowed-front windows with 12" x 16" glass, and oak muntins in natural finish on the exterior. Behind each horizontal muntin is a four-inch shelf giving additional display space. The interior is painted white, setting off the merchandise to make these the most colorful windows in Concord.





South elevation from the ha-ha wall

GORE PLACE, WALTHAM, MASSACHUSETTS

The Beginnings of a Restoration

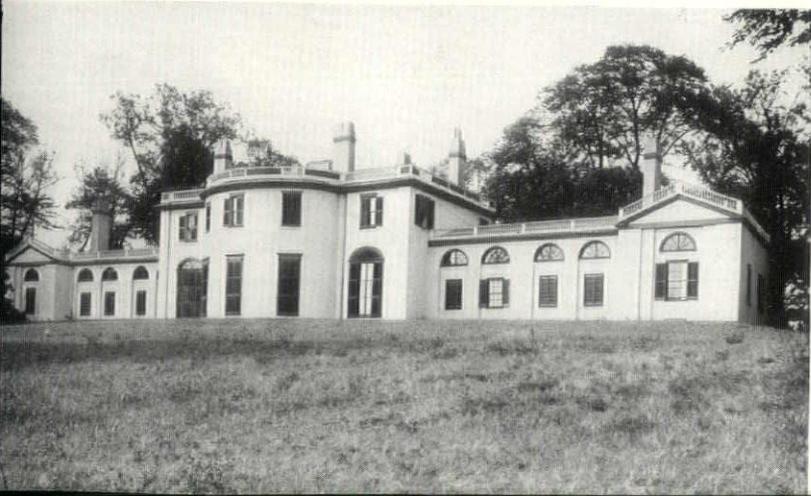
By PHILIP DANA ORCUTT, A.I.A.

IN 1786, Christopher Gore, twenty-nine years old, and already the best known lawyer in Massachusetts, a veteran of the Revolution, Commissioner for Massachusetts (with Hancock and Adams) to ratify the Federal Constitution, and appointed by George Washington as the first United States District Attorney of Massachusetts, bought his original forty-acre lot, eight miles from the State House. Whether there was an existing house on it, or whether he built a new "mansion," is not yet known. It is known that he lived here until 1796, surrounding the property with a Mile Walk, and dividing it into quarters "each belted by a half dozen rows of trees shading a walk with every variety of forest tree, so that the birds nested there as if in the wild wood."

In 1796 Gore was sent to England, as Commissioner under the Jay Treaty, and later as Chargé d'Affaires. There he

remained for eight years, during which time (in 1799) the House was burned. His letters of the five succeeding years are filled with references to the new House he proposed to build. The architect is not known, and quite possibly may have been English, as it seems unlikely that Gore, knowing the property as intimately as he did, would wait five years before having plans drawn. He returned to America for a brief visit in 1801. Place, Bulfinch's biographer, credits him with the House, but no known evidence supports this. It seems unlikely that McIntire, who was building The Vale, an almost adjoining estate, for one of Gore's most intimate friends, Theodore Lyman, could have devised the plan or have designed with such simplicity and absence of ornament, as McIntire's introduction to architecture had been through his original trade of wood carving. Again, Doctor

South elevation 1910 showing paint and balustrade

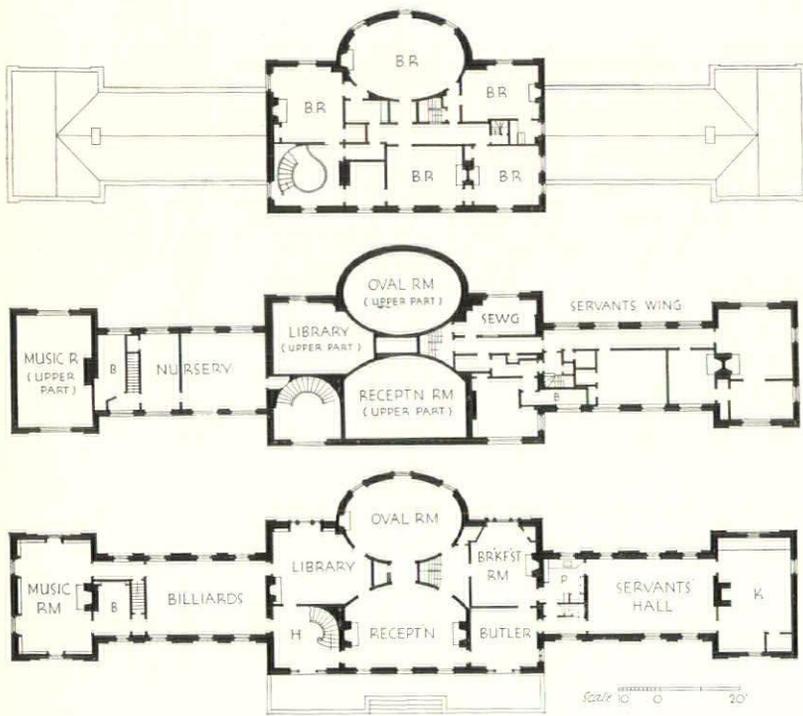


Stable and coach house from the Mile Walk





North elevation from the east. This photograph and the plans below are reproduced through the courtesy of Historic American Building Survey



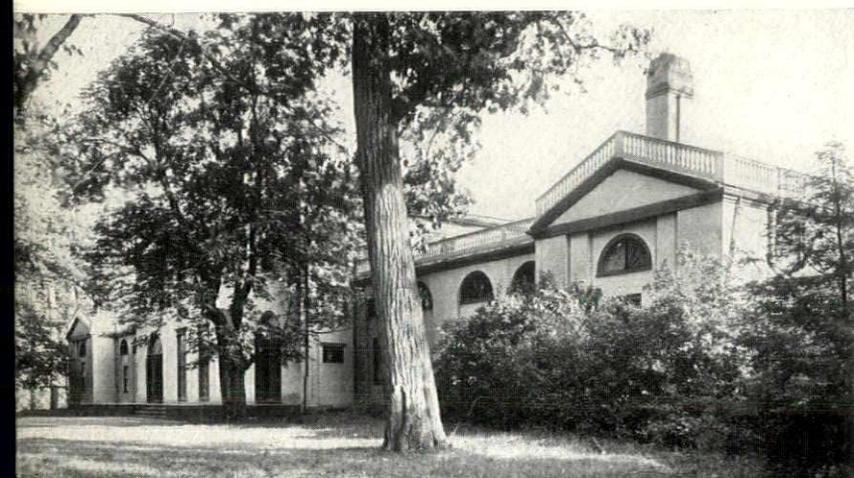
North elevation in 1910 from the west

Thornton's work, notably *The Octagon*, in Washington, suggests him as a possibility. In England, Henry Holland, architect to the Prince Regent, was at the height of his fame, and would be the logical man to whom Gore would turn. Holland's work was notable for the beauty of its proportion and the absence of ornament, characteristic of Gore Place. But this is all conjecture, as even in the account book of Governor Gore, in which the costs of the House are set down, there appears no reference to or evidence of a fee paid to any architect.

In 1804, Christopher Gore returned to America, soon to be Governor of Massachusetts, Representative and Senator in Washington, and one of that small group who so successfully guided the early Republic through probably the most difficult period in its history. Almost at once he began gathering the materials for the House, "carting and rafting same to Watertown." Construction was not really begun until 1805, and it was in June of 1806 that he announces the completion of the House by writing, "Although built with the greatest economy and absence of ornament, will still keep me at the Bar longer than my love of indulgence would desire."

The House, placed far back from the road, and concealed from it by trees, stands on a slight eminence. From the

Farm cottage built circa 1835





State Reception Hall

south elevation the lawn sweeps down to a back road, across which the eye is carried through vistas and over a ha-ha wall to one of the three ponds now included in its present seventy-six acres.

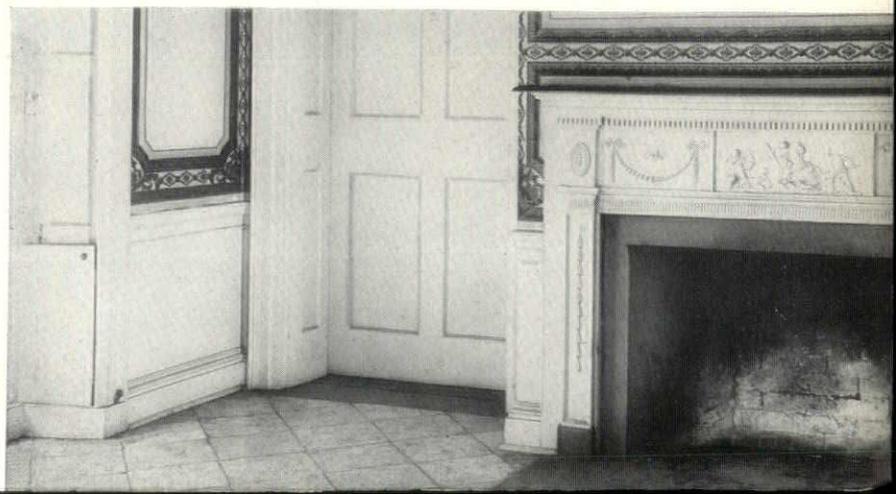
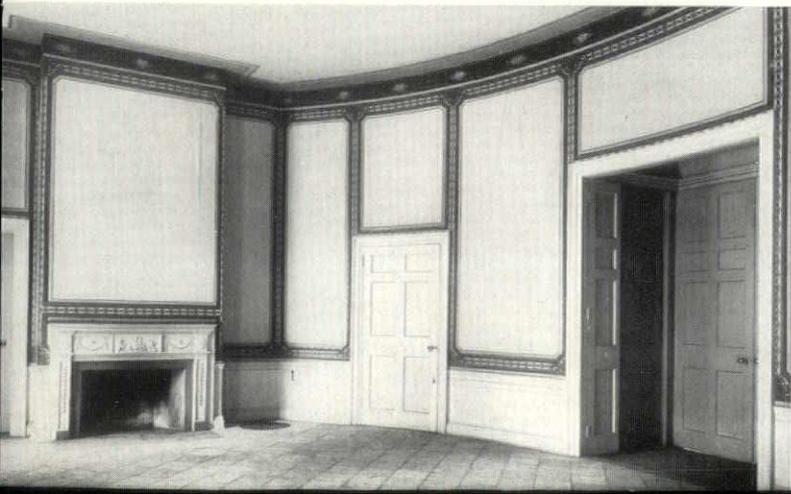
The central mass of the House is flanked by two outstretched wings, the entire length being about one hundred seventy-five feet—large in scale for New England, and much more characteristic of England or of the South.

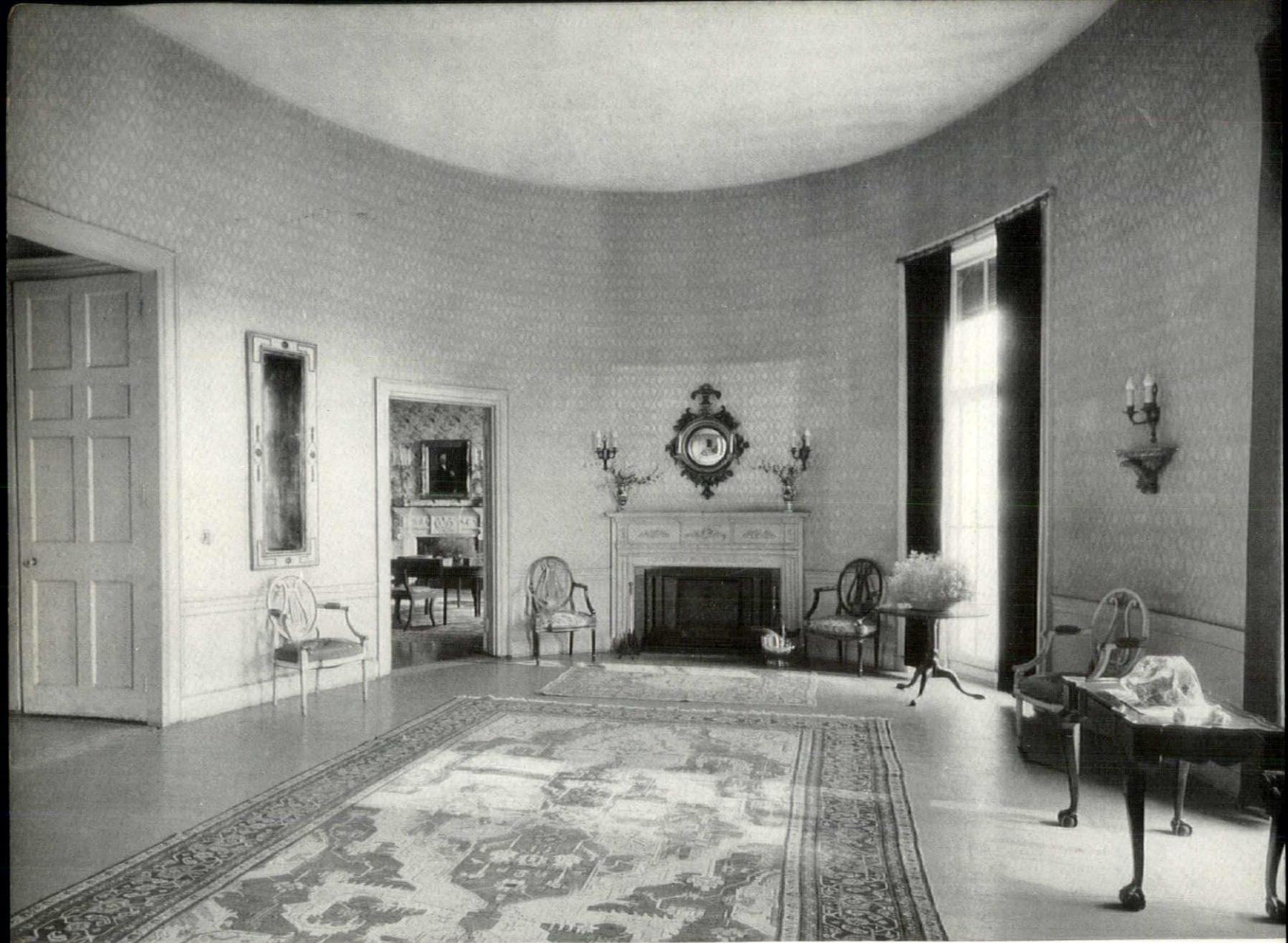
The plan is extremely ingenious, providing easy access

throughout the House and quite evidently contemplating its use for the extensive entertaining required of a man of prominence in public life of that day. At the same time, Gore's family was small, and it was desirable that the intimate life of the home should not be dwarfed by seeming immensity. The architect achieved this quite remarkably considering the fact that there are some twenty-two rooms to serve five chambers. The scale of the State Reception Hall, the Oval Room, and the Music Room or Art Gallery,

State Reception Hall before previous owner removed original wall paper with simulated cornice

East mantel in State Reception Hall showing strong classic influence and English type mahogany shelf





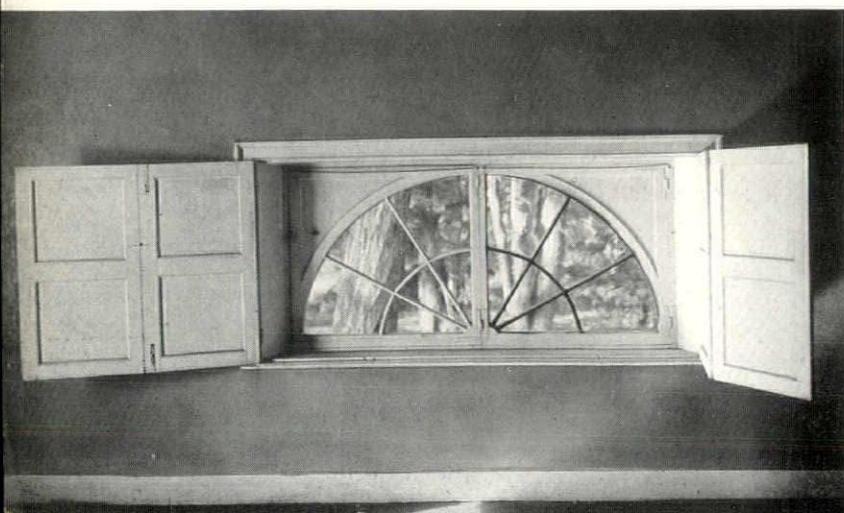
The Oval Room

with a stud of over fifteen feet, permits their use by large numbers of people. Their arrangement facilitates the easy flow of a large number of guests at one time. The breakfast room, used as a family dining room, and ingeniously sharing its tall window with a small room above placed *entresol*, is of "family" scale. The nursery, used for nephews and nieces, as Gore had no children himself, is interestingly of still smaller scale. The dado and the lunette windows are child high, and the low ceiling is an elliptical arch. Curiously, the ceiling of the secondary and adjoining room, with the same central stud, is in the form of a barrel arch.

The mantels form the principal ornament in the House. These, or some of them, quite possibly may have been executed by McIntire, as they are entirely characteristic and worthy of his quite distinctive art. The different types in the House are here illustrated, and show a marked change from the simple and well proportioned classic design to the transitional one in the Library, which indicates all too clearly the beginning of the end of this architectural period.

Apropos of fireplaces, it is interesting that the one in the Library is placed where it will give some heat to the Entrance Hall, and that the flue for this angles up through the

Lunette window



Stair balustrade





The Library

wall so that the fireplace in the room above is approximately four feet to the right of the one in the Library, and over the door shown. In another room the flue goes straight up in one wall, and then takes the form of a buttress or shallow half arch through the attic to another wall, through which wall it continues up at a sharp angle to meet the chimney. Apparently this was done to permit placing the chimneys symmetrically, although in contemporary English work, ambulatory flues seem to be the rule. Elsewhere, heat for the halls was provided by stoves.

The circular stairs express the best of the period, and

the light rail seems to have retained its watch-spring strength from the beginning. At intervals iron balusters, indistinguishable in appearance from the wood, ensure rigidity.

Throughout the House the hardware and materials are comparable in quality and thoughtfulness to the design. Butts are so designed that when the doors are opened they rise to clear the carpet. Drawers in the pantry cupboard glide as smoothly on brass rollers as they did a century and a quarter ago. Nothing was spared that could conceivably facilitate the use of any part of the House. Perhaps this accounts for the fact that the nails and hardware amounted

Bedroom over Library



House from pond





Music Room mantel



COURTESY HISTORIC AMERICAN BUILDING SURVEY

Library mantel

to more than twenty per cent of the total cost of the building, which was only slightly over \$20,000. In preparing for the restoration it is fortunate that enough of the original shutter pulls and door hardware survive, so that at least some of the rooms will have exact reproductions, and the other rooms can be restored in the same feeling.

The bricks, of small scale and flat shape, set in Flemish bond, cost \$7.50 a thousand. These had been painted white for many years. Whether they were originally painted is a question yet to be determined, with the evidence inclining, both from the standpoint of waterproofing and design.

towards paint. The original trim was sandstone in color, to match a sandstone terrace set high for easy entrance to a coach. The paint was sanded. The original balustrade around the roof seems to be more consistent with light painted brick than with the more pleasing natural salmon pink. The paint was removed by a subsequent owner.

The interior colors throughout the House were mostly soft and warm grays. Glass and stone were expensive, but labor was negligible. The floors of the two entrance halls and of the State Reception Hall are of American marble, supported from beneath by massive groined brick vaulting

Entrance door exterior



Entrance door interior





BY HISTORIC AMERICAN BUILDING SURVEY
Oval Room mantel



COURTESY HISTORIC AMERICAN BUILDING SURVEY
West mantel, State Reception Hall

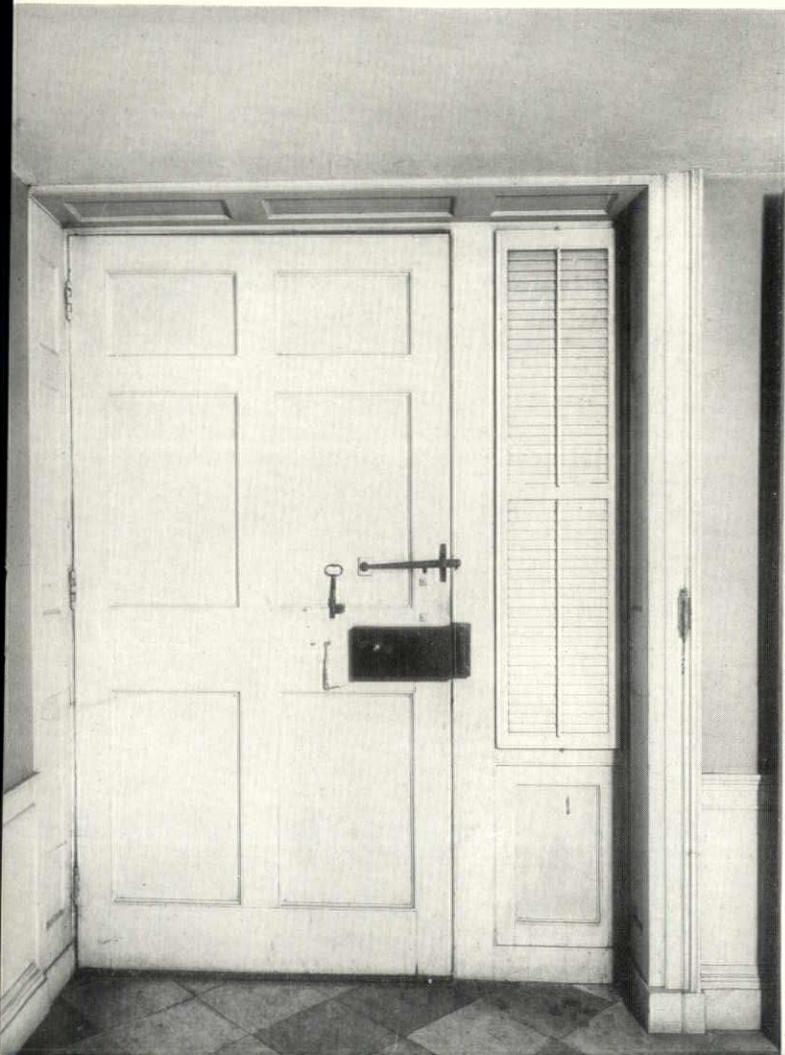
The entrance doors were traditional, but the louver doors of the Governor's Chamber, known in New England as "Newburyport doors," seem to indicate the modern and practical trend of Gore's mind, as does the massive bath placed between the Billiard Room and the Art Gallery on the ground floor. Over this an opening in the ceiling permitted servants to pour water down upon the occupant, forming what may be the first formal shower bath. Unique for the period, in America certainly, was a water closet, not dissimilar in appearance or functioning from those of the present day.

Other buildings surviving on the Place are the Farm Cot-

tage of 1835, occupied by the superintendent of the grounds, and a stable, possibly antedating the House, and on which was lavished the same thought in construction and design.

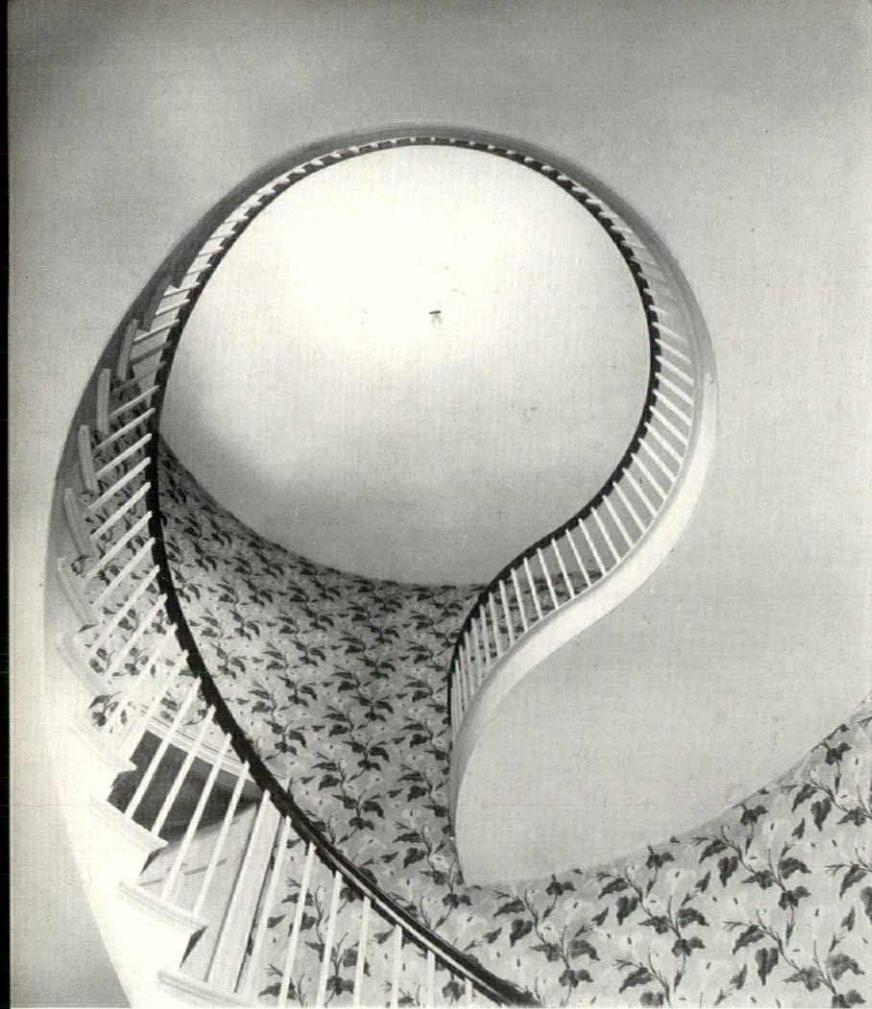
Gore Place is owned and maintained, and will be restored, by Gore Place Society, a charitable corporation, with volunteer officers, formed for this purpose and supported entirely by voluntary contributions. The House is open at all reasonable hours. Architects have been and are particularly welcomed. Already a number of them have made use of the facilities of the Place for study and comparison in executing work of the present day.

Butler's door interior
SCALE SHOWN BY SEVEN-INCH KEY

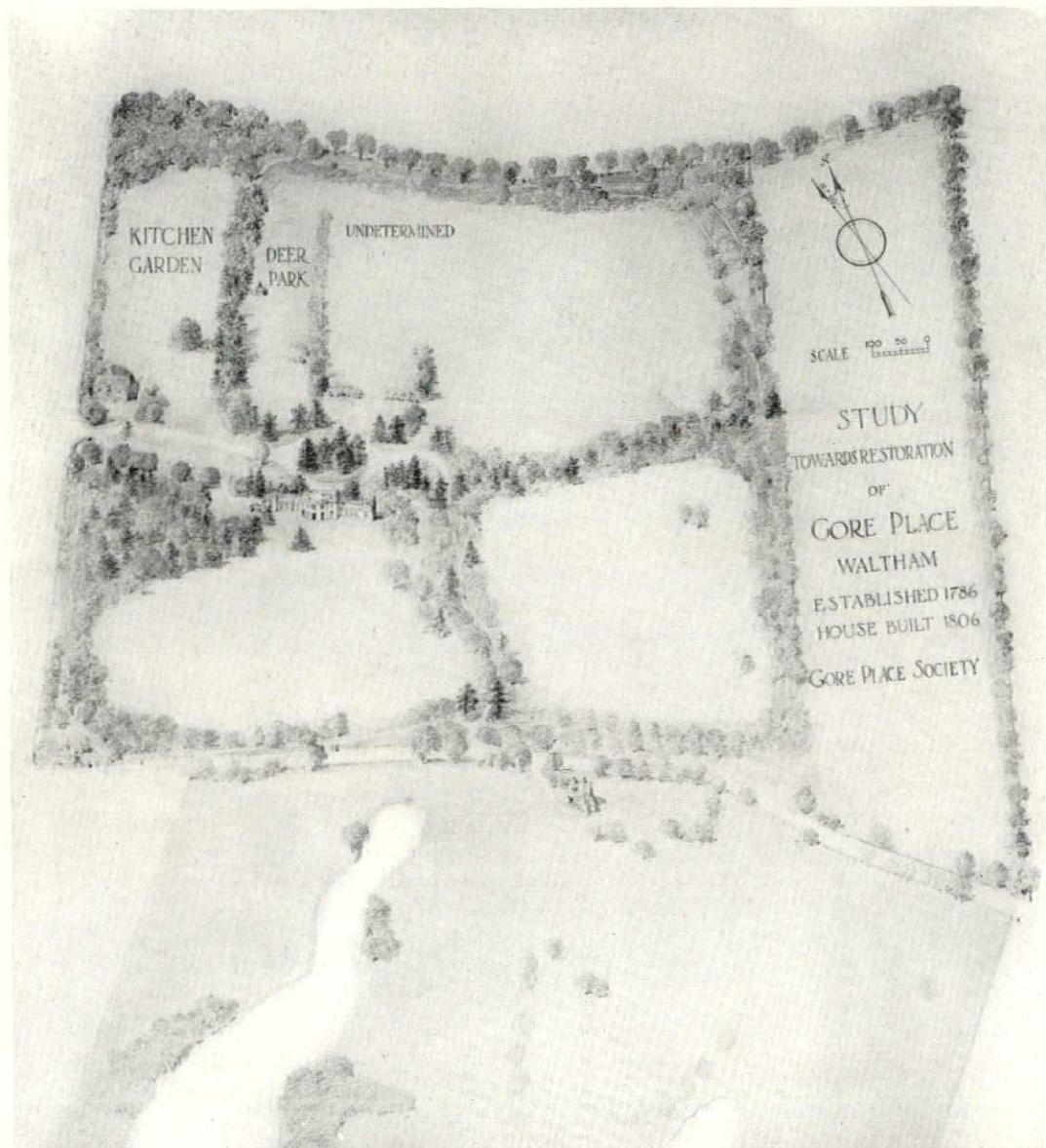


Louver door, Governor's Chamber





Stairway details



THE PORTFOLIO Flèches



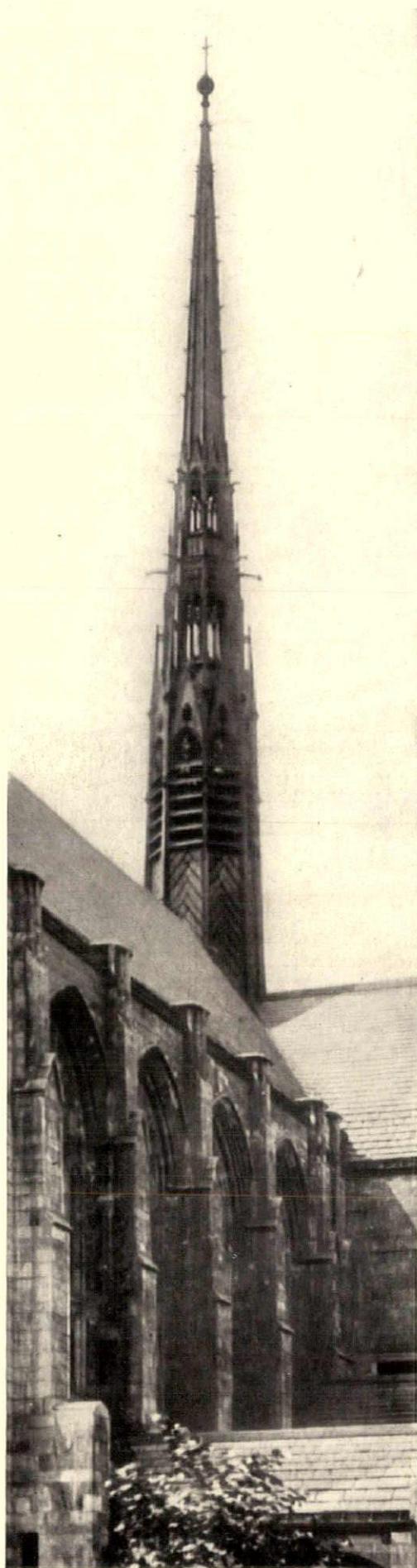
BY BURTON HOLMES FROM EWING GALLOWAY

Notre Dame, Paris

PORTFOLIOS IN PREPARATION—Tombstones, July . . . Vertical Sun Dials, August . . . Wall-face Dormers, September . . . Door Steps, October

The Editors welcome photographs of these subjects. . . . Forms close eight weeks in advance of publication. A list of the subjects that have appeared will be sent upon request. Certain of these past Portfolios are available to subscribers at 25 cents each; or five subjects for one dollar

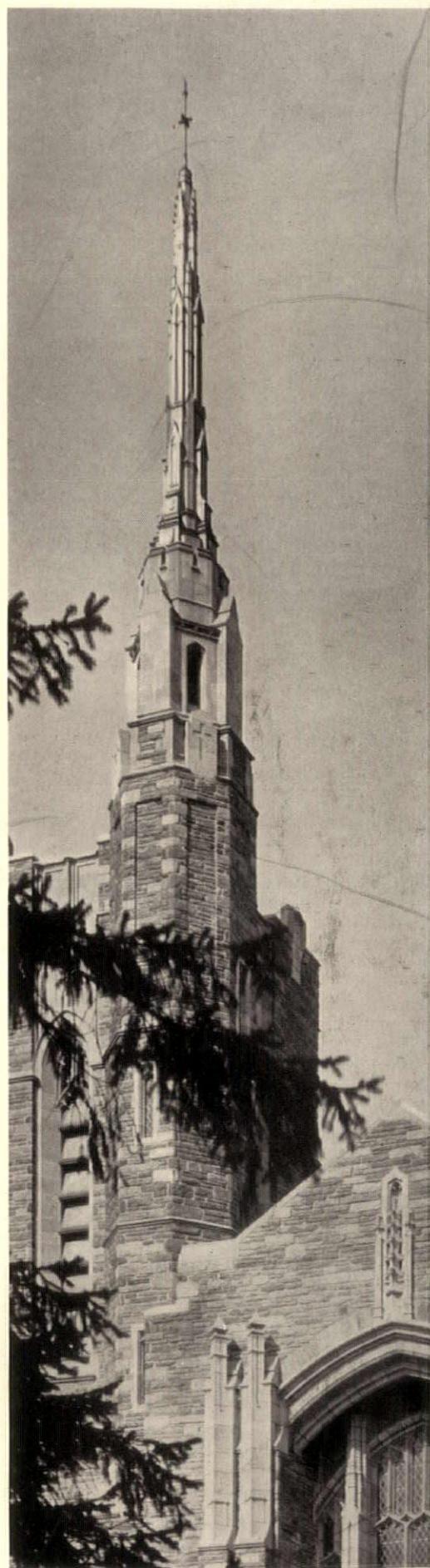
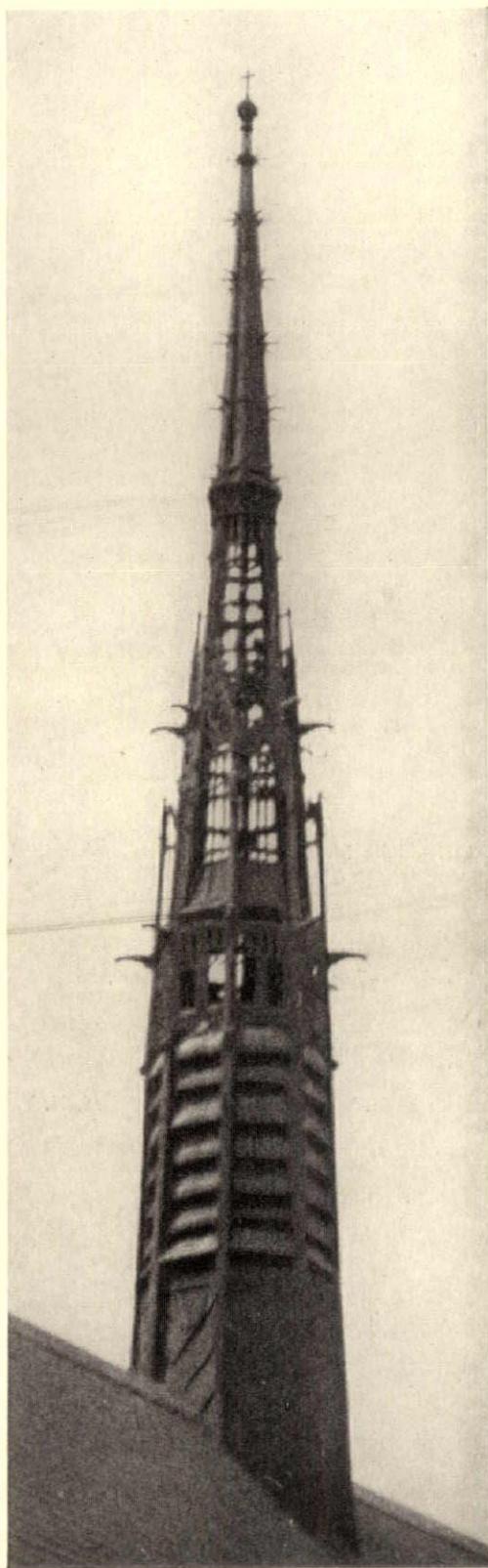
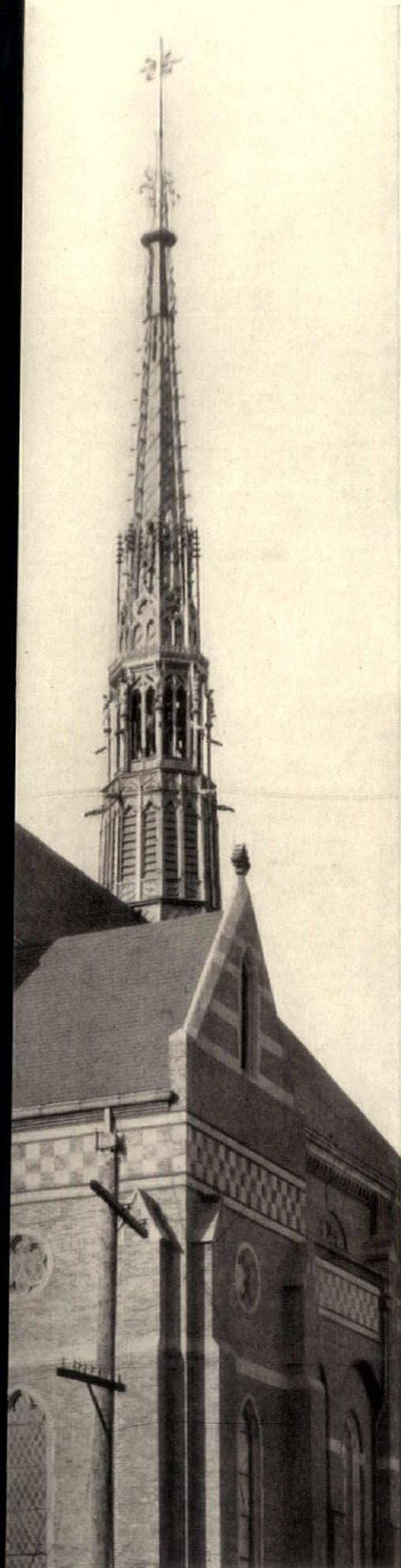
NUMBER 128 IN A SERIES OF COLLECTIONS OF PHOTOGRAPHS ILLUSTRATING VARIOUS MINOR ARCHITECTURAL DETAILS



Left—Baptist Church, Pittsburgh, Pa.
Cram, Goodhue & Ferguson

Above—Chapel of the Intercession, New York, N. Y.
Bertram G. Goodhue

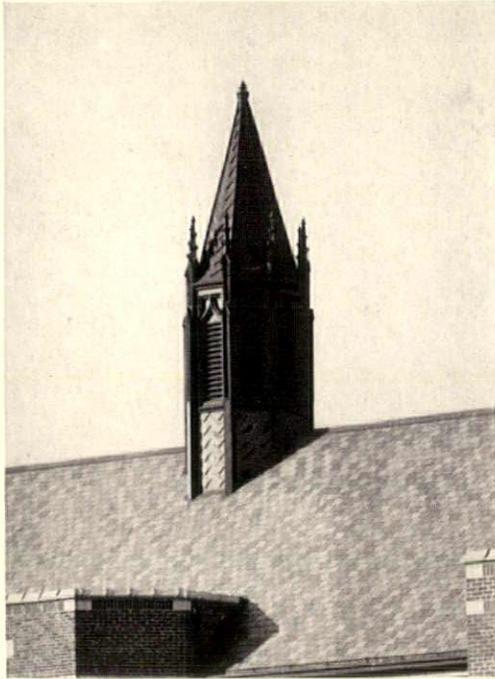
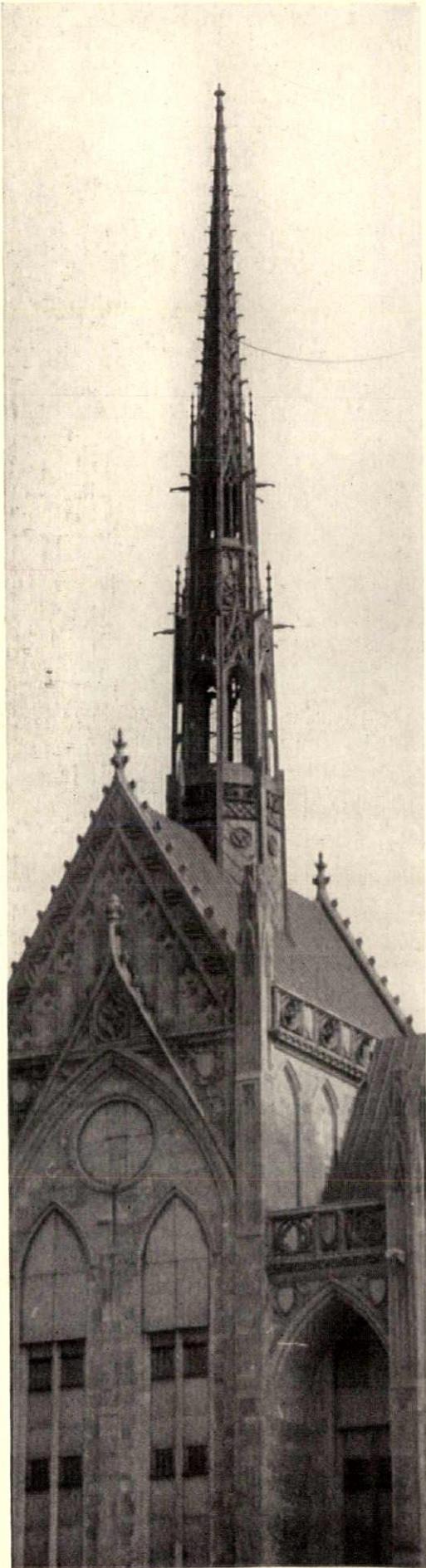
Right—Church in the Gardens, Forest Hills, N. Y.
Grosvenor Atterbury



Left—Saint Florian's Church, Detroit, Mich.
Cram & Ferguson

Above—Park Avenue Presbyterian Church
New York, N. Y.
Cram, Goodhue & Ferguson

Right—Bryn Mawr Presbyterian Church
Bryn Mawr, Pa.
Walter T. Karcher & Livingston Smith

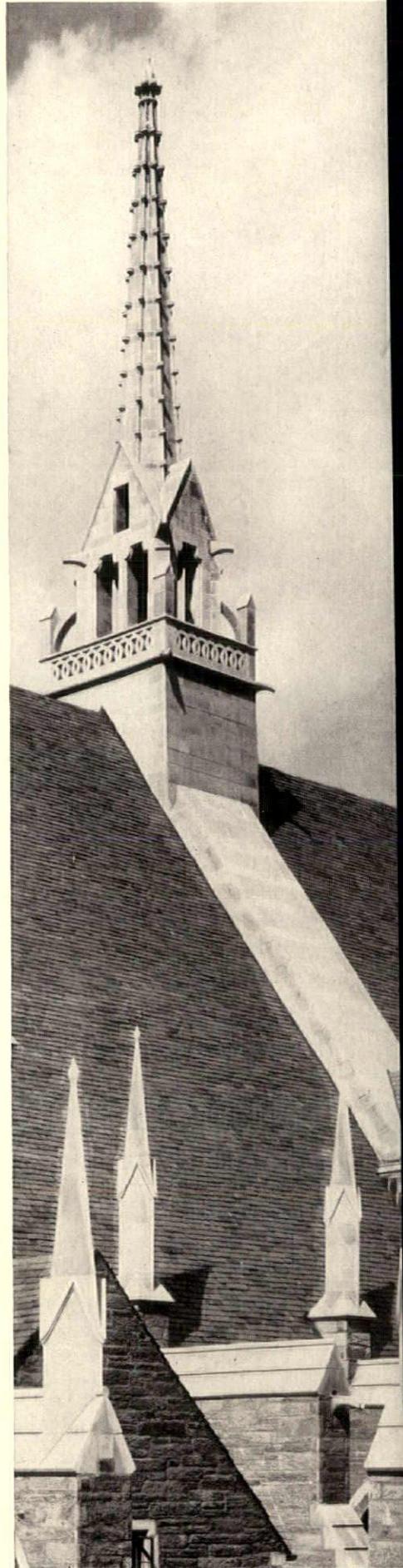
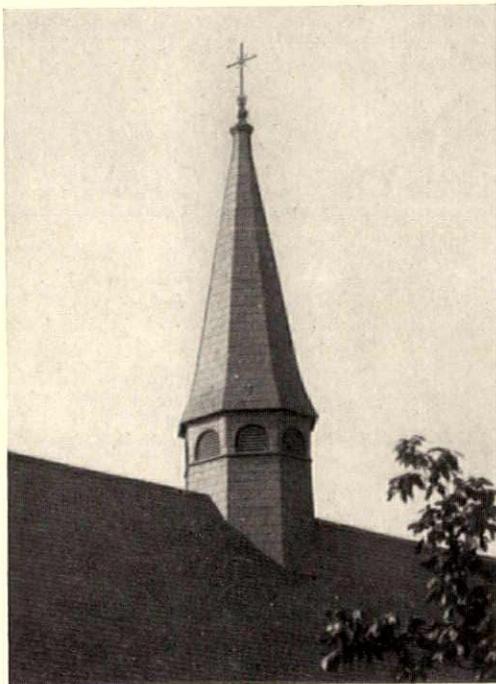


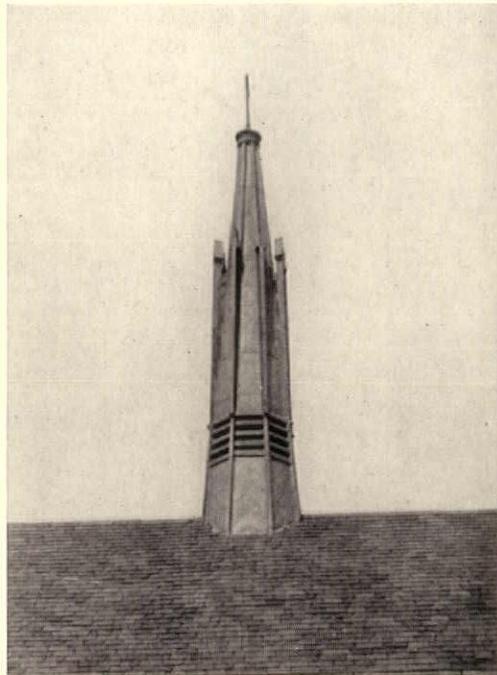
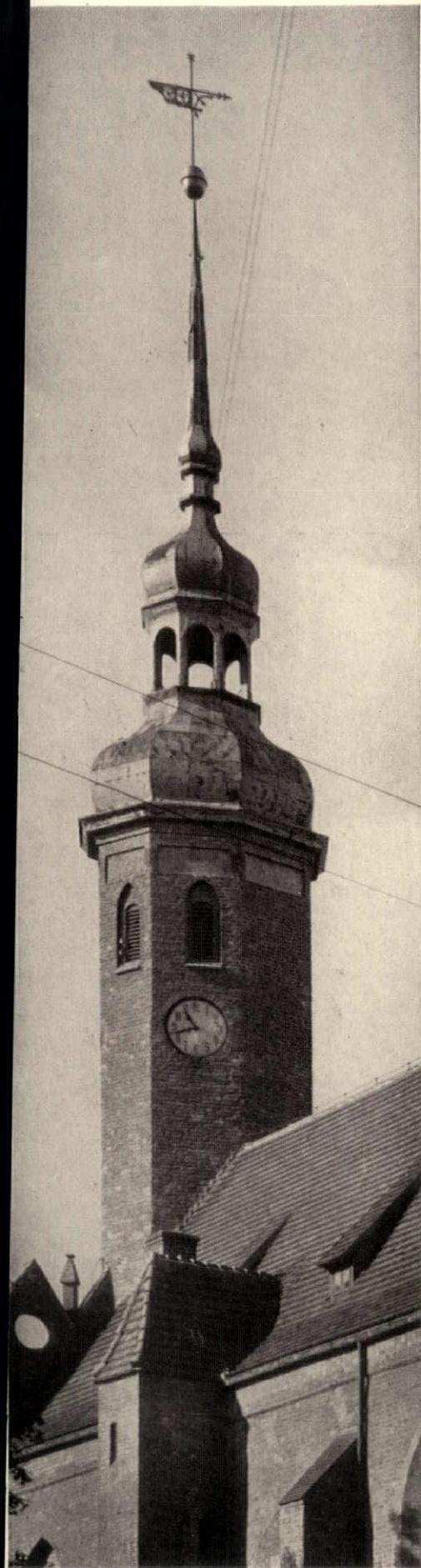
Howard School, Wilmette, Ill.
Childs & Smith

Left—Heinz Memorial Chapel, Pittsburgh, Pa.
Charles Z. Klauder

Right—Goodhart Hall, Bryn Mawr, Pa.
Mellor & Meigs

Church of St. William, The Abbot, Seaford, N. Y.
James W. O'Connor



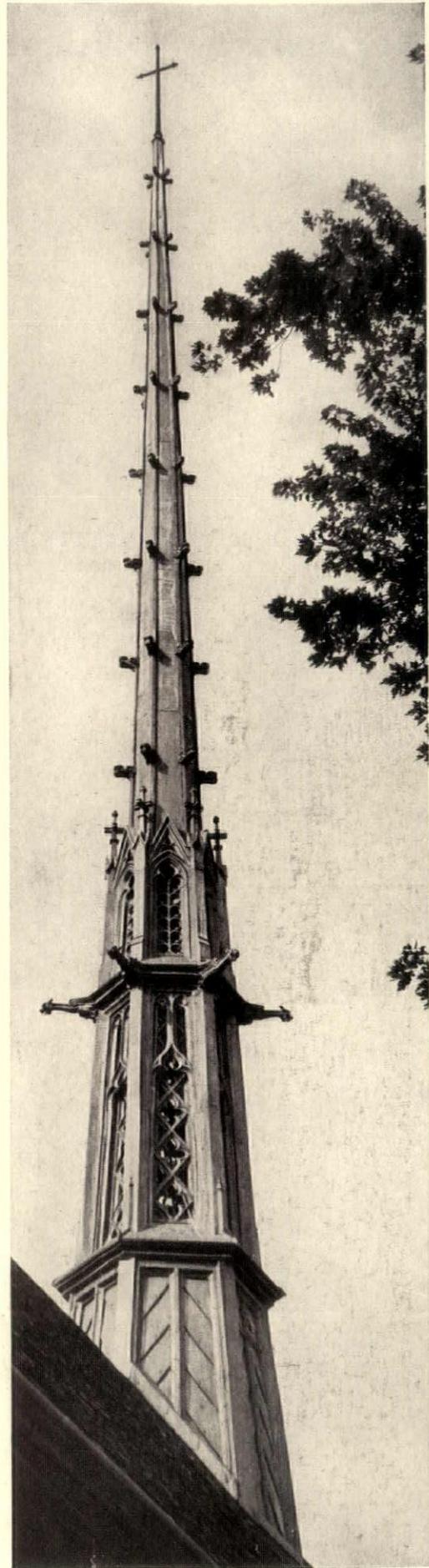
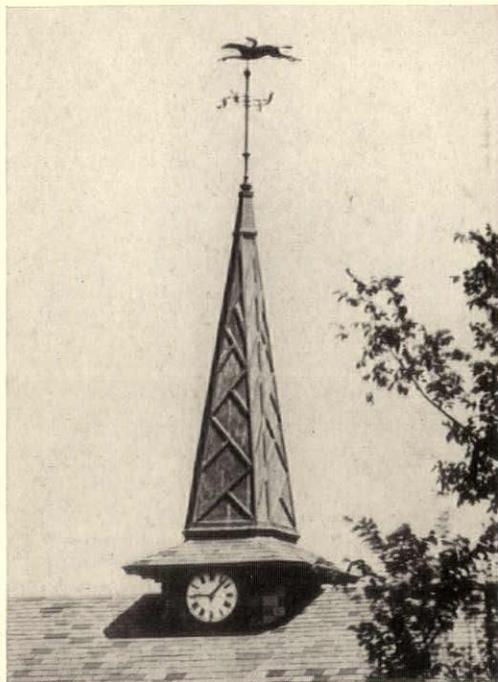


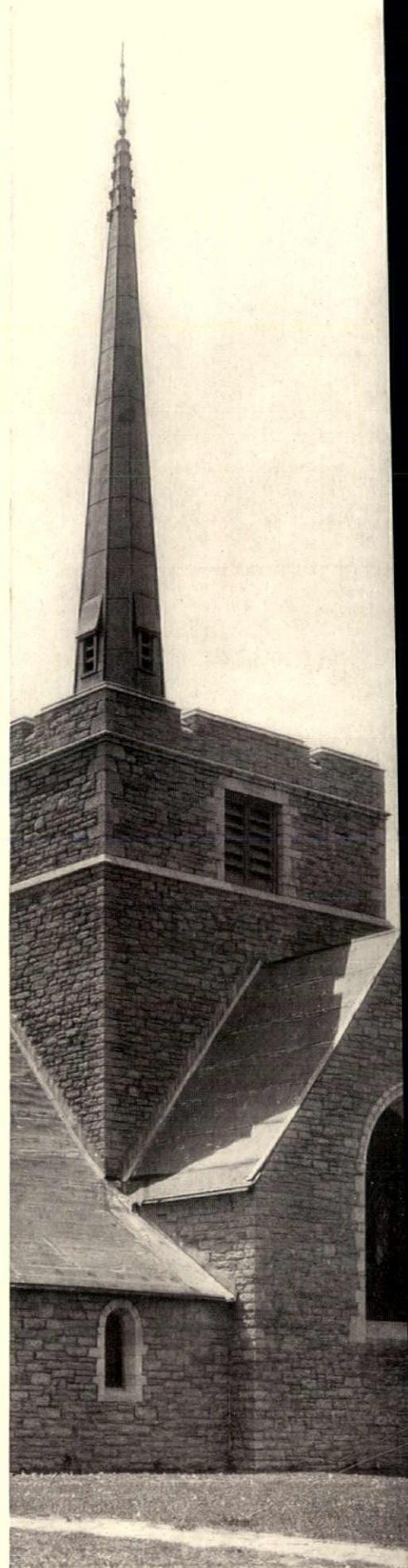
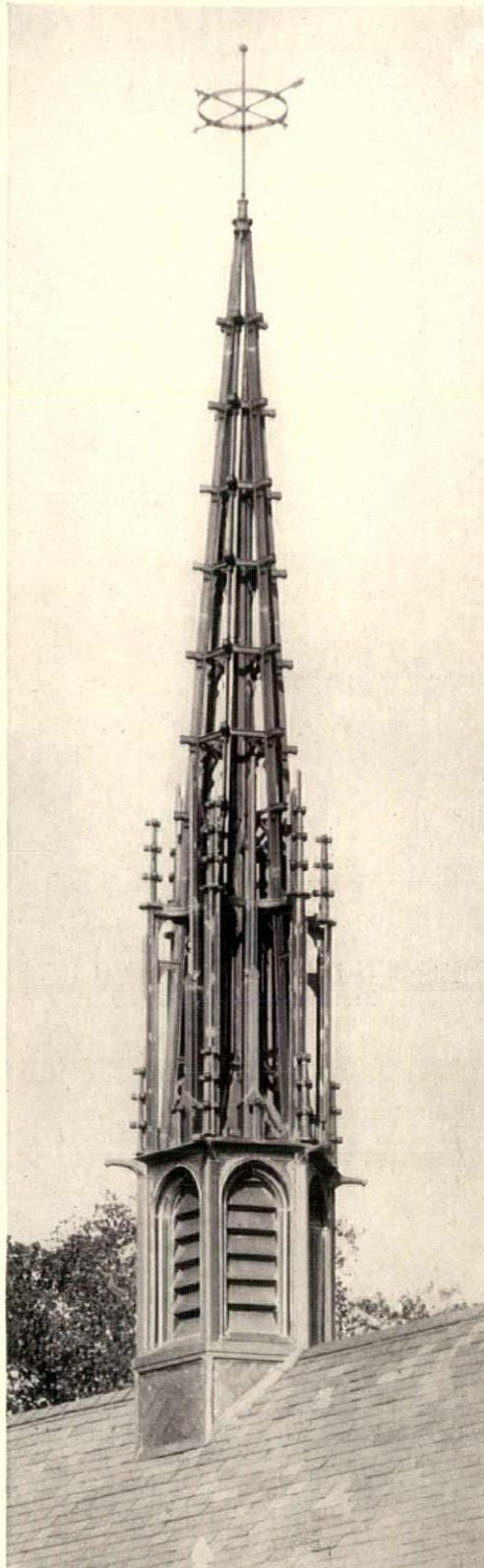
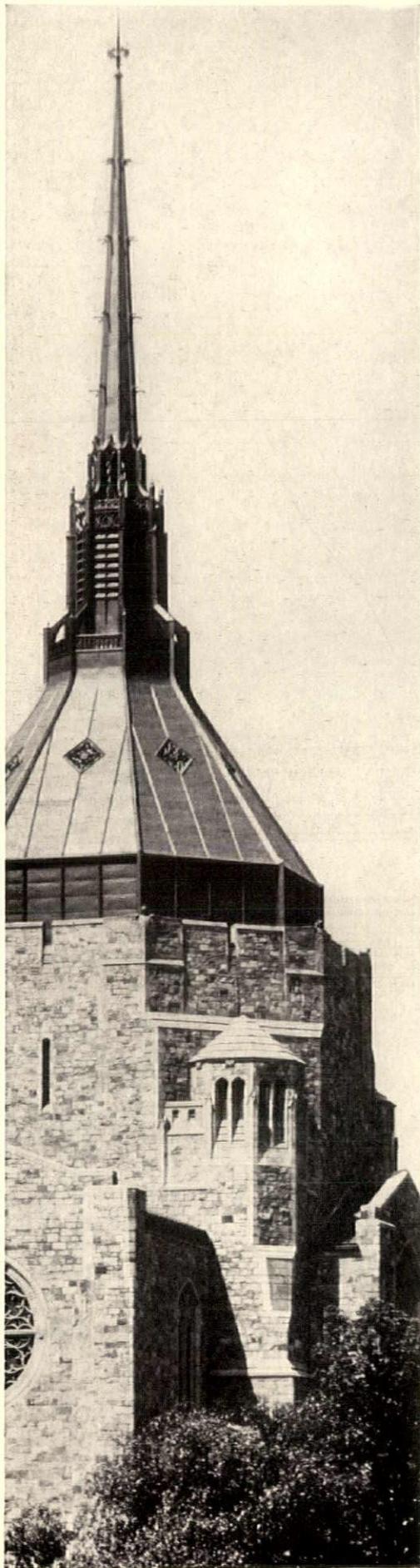
Holy Rosary Church, Houston, Tex.
Maurice J. Sullivan

Left—The Schlosskirche, Stolp, Germany

Right—St. Paul's P. E. Church, Chestnut Hill, Pa.
Zantzinger, Borie & Medary

Oyster Bay, N. Y.
Walker & Gillette

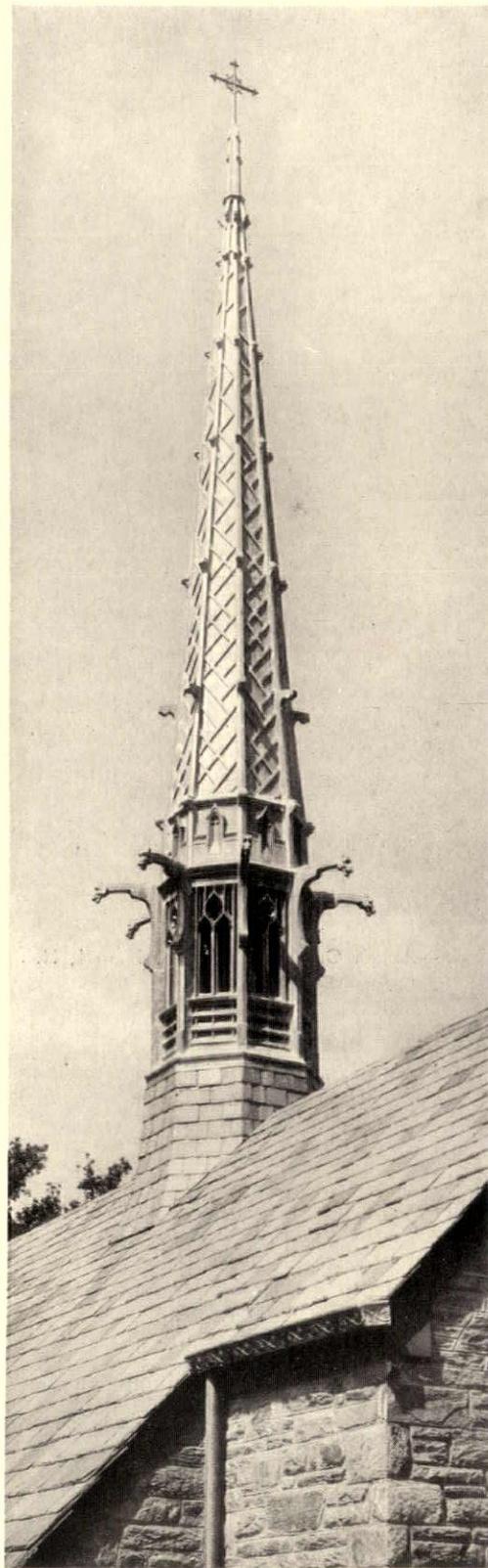
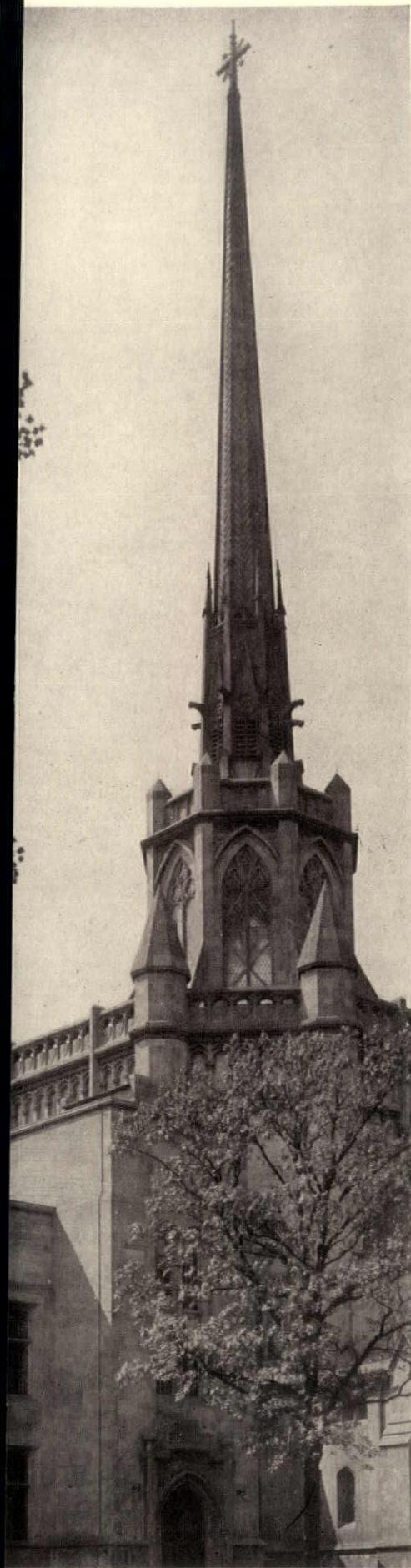




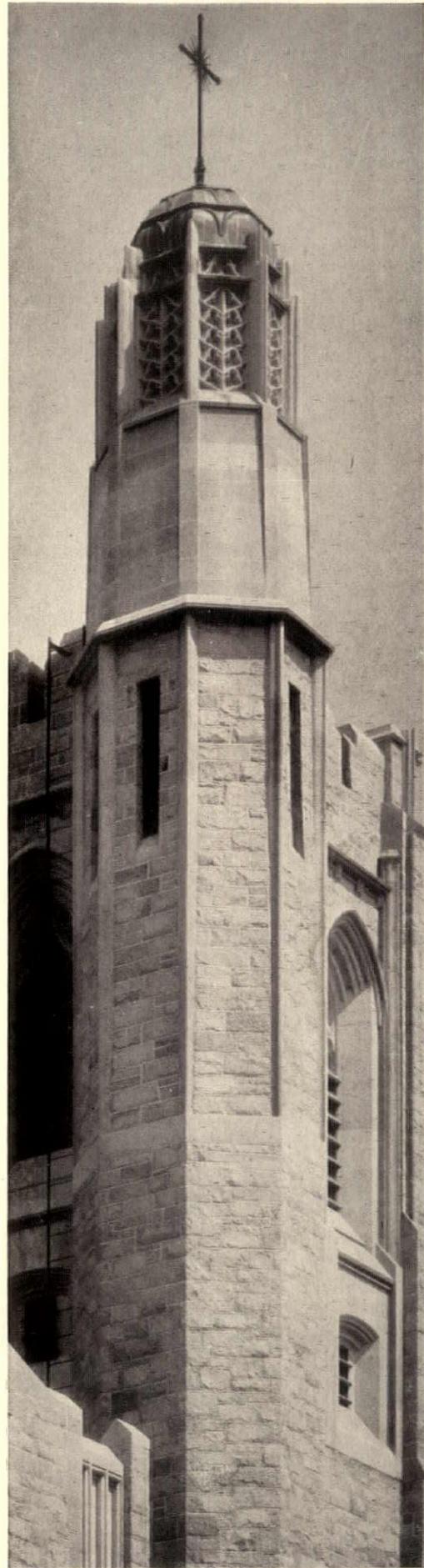
Left—Epworth Euclid Church, Cleveland, O.
Mayers, Murray & Phillip; Walker & Weeks

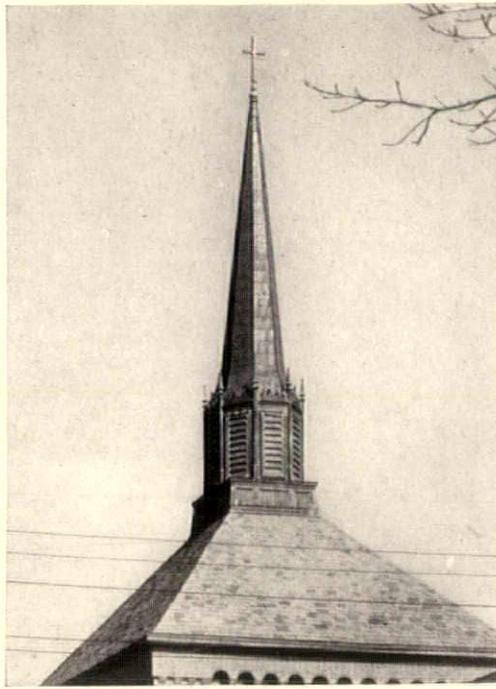
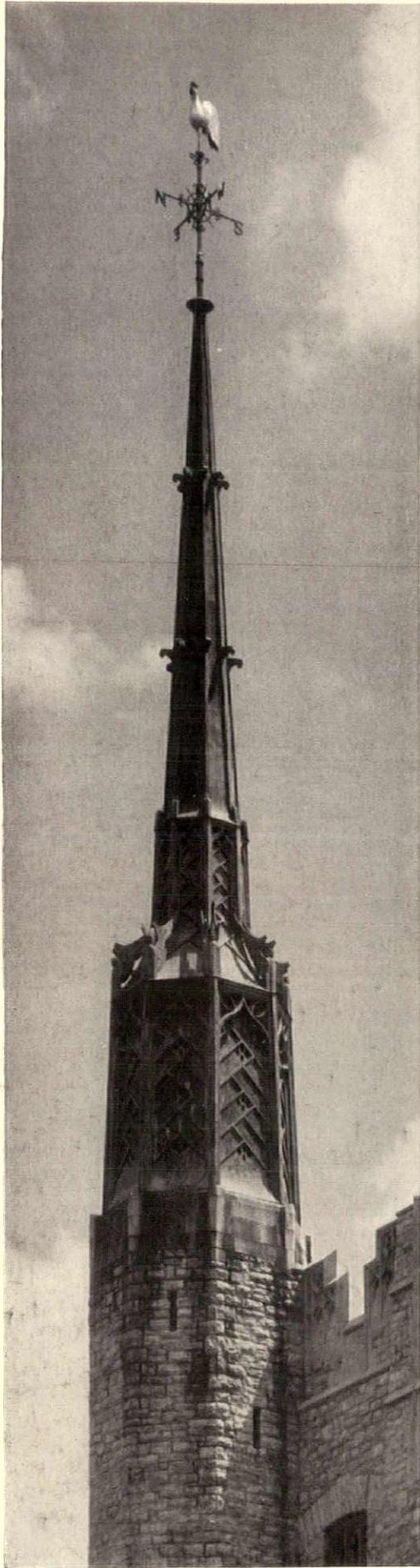
Above—First Congregational Church
Kalamazoo, Mich,
Aymar Embury II

Right—Community Church, Mariemont, O.
Louis E. Jallade



Left—Hennepin Avenue Methodist Church
Minneapolis, Minn.
Hewitt & Brown, Inc.
Above—Turner Memorial Chapel, Germantown, Pa.
Sundt & Wenner
Bureau of Architecture, M. E. Church
Right—St. Elizabeth's Chapter House and Church
New York, N. Y.
Robert J. Reiley



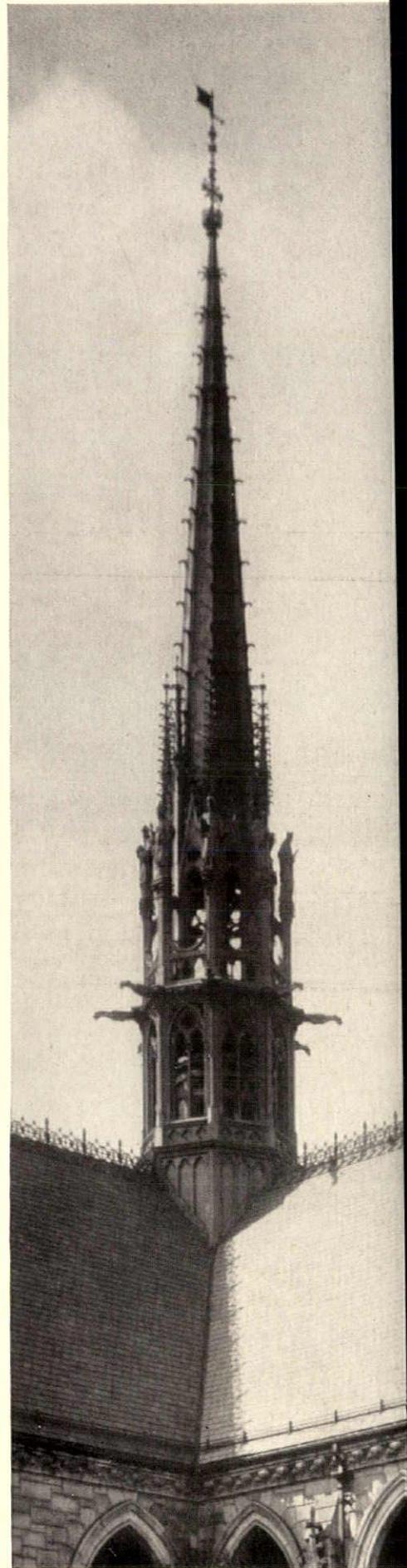


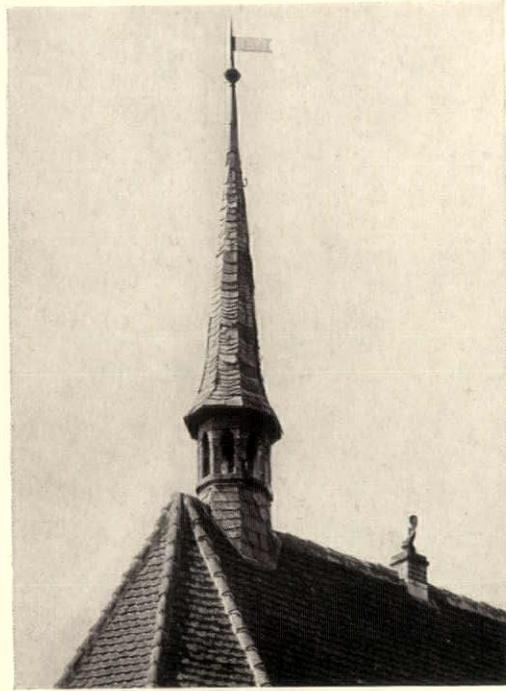
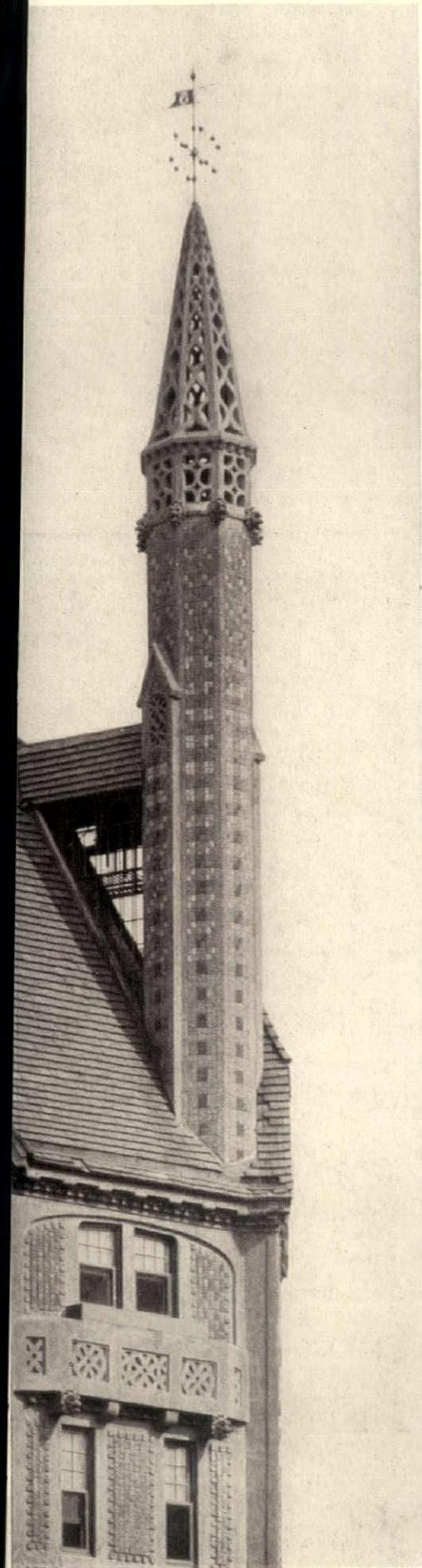
Poor Clare Monastery, New York, N. Y.
Robert J. Reiley

Left—Gunnison Memorial Chapel, Canton, N. Y.
Mayers, Murray & Phillip

Right—Roman Catholic Cathedral, Newark, N. J.
Schickel & Ditmars

Larchmont Avenue Presbyterian Church
Larchmont, N. Y.
Office of John Russell Pope



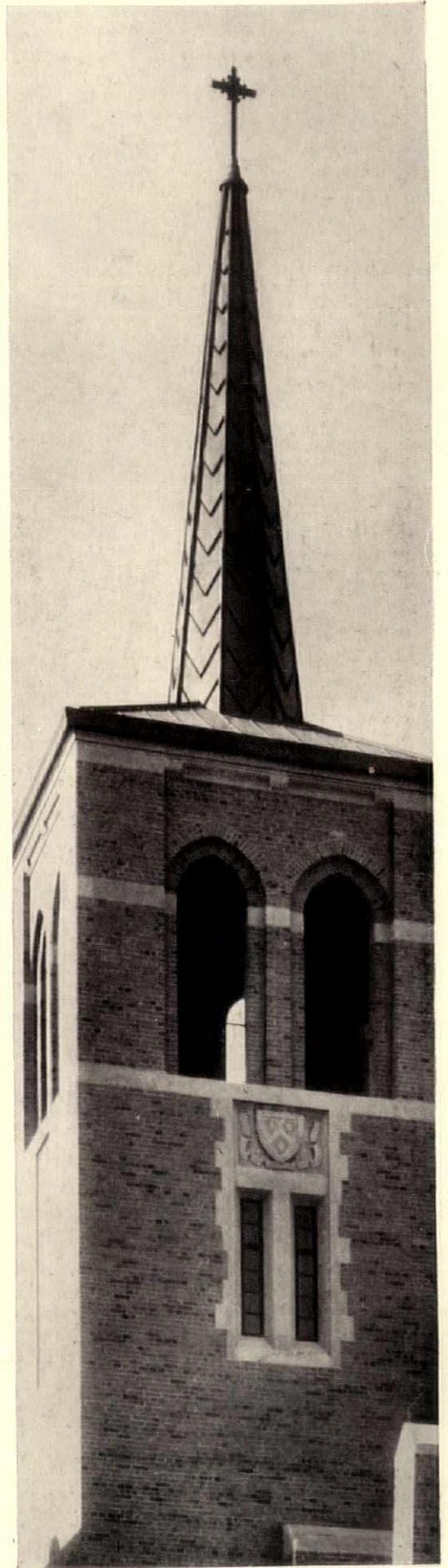
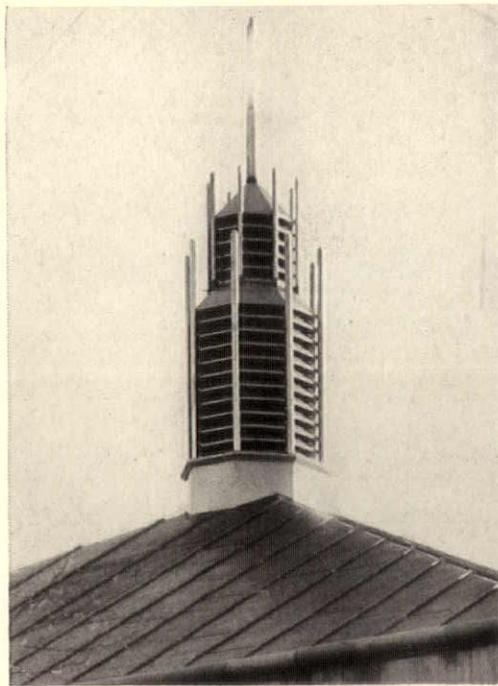


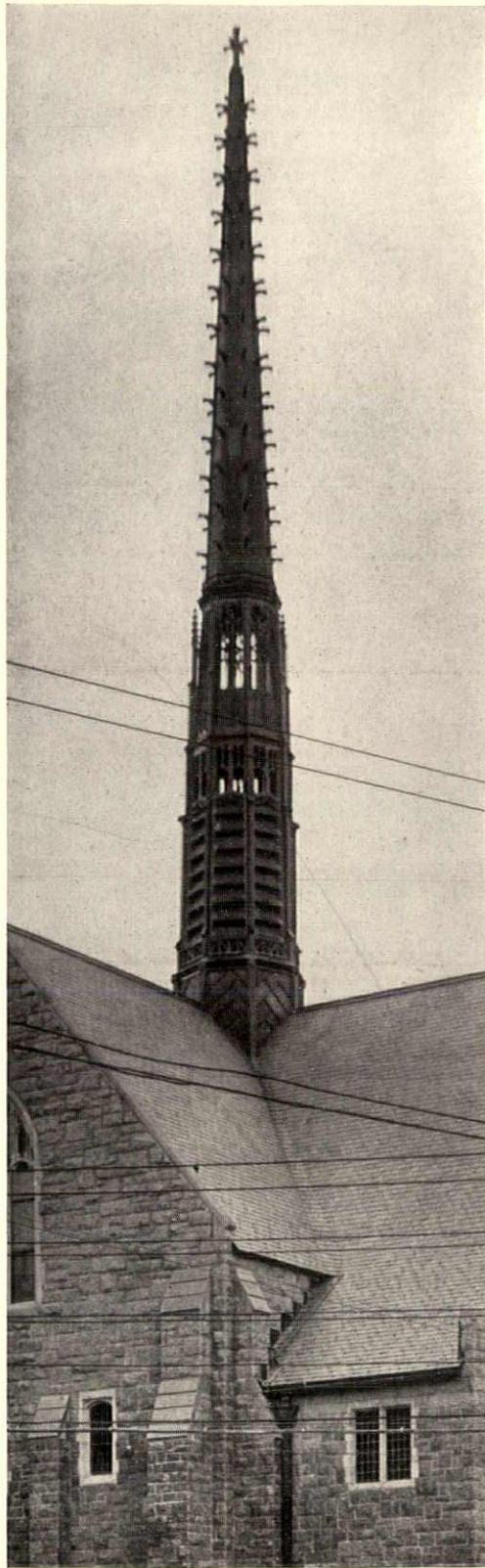
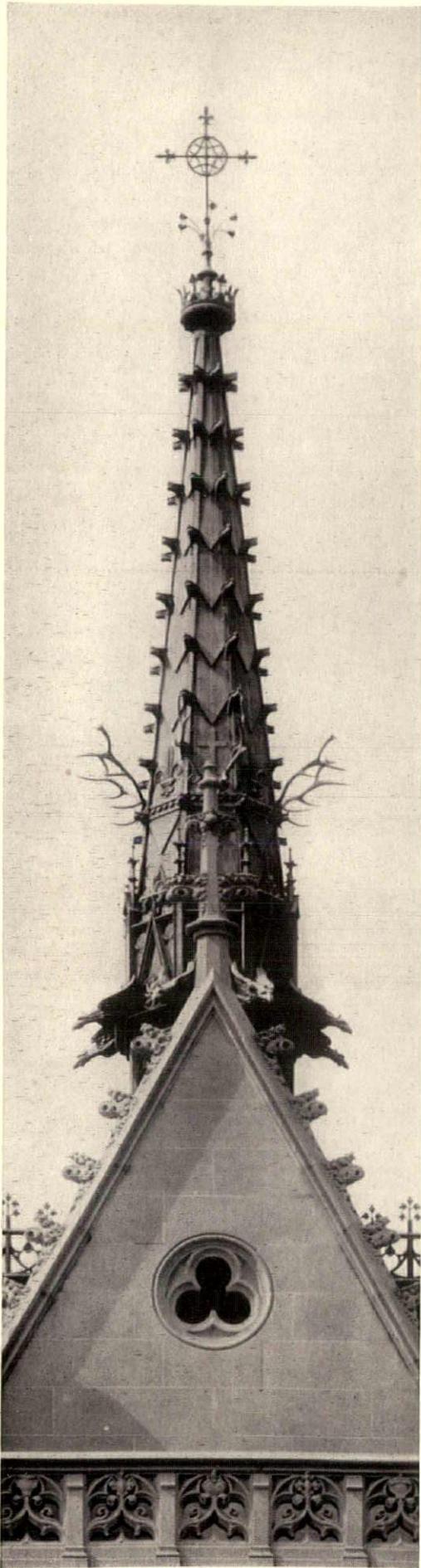
Church of Vorkerode, Germany

Left—The Inn, Forest Hills, N. Y.
Grosvenor Atterbury

Right—Church of St. Catherine of Sienna
New York, N. Y.
Wilfrid E. Anthony

Civic Auditorium, Kalamazoo, Mich.
Aymar Embury II

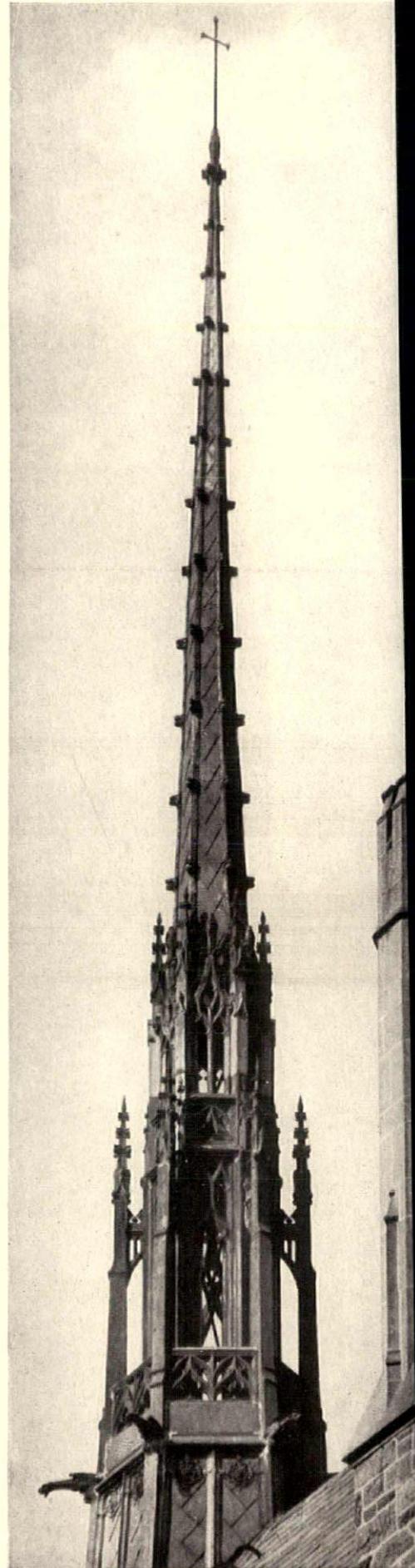


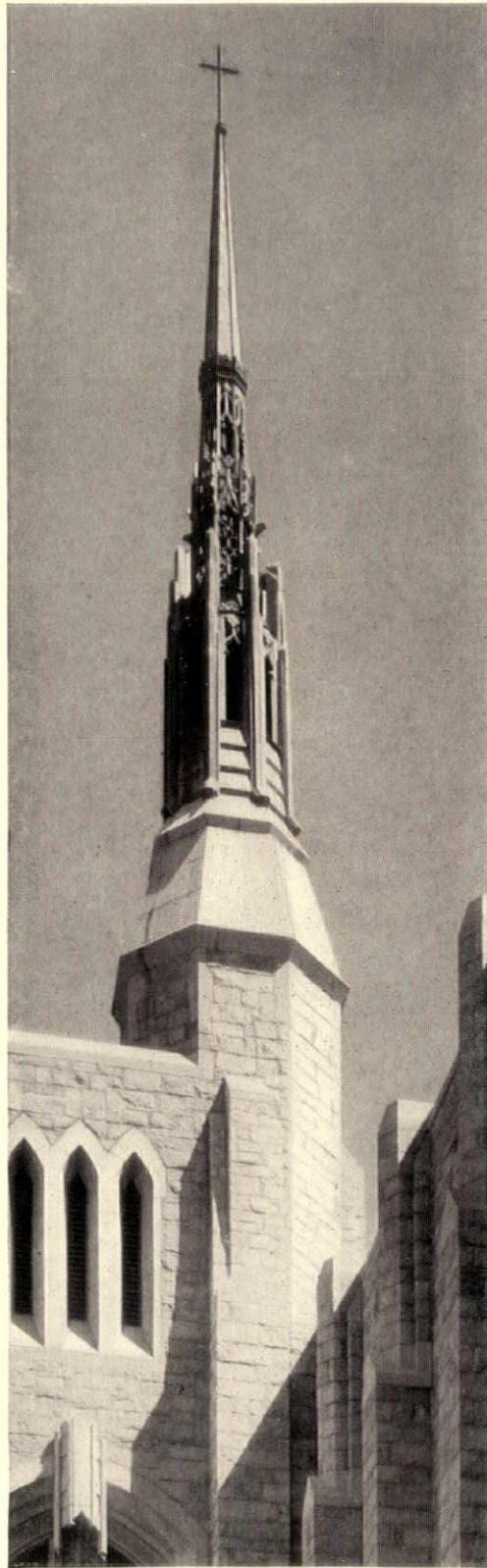
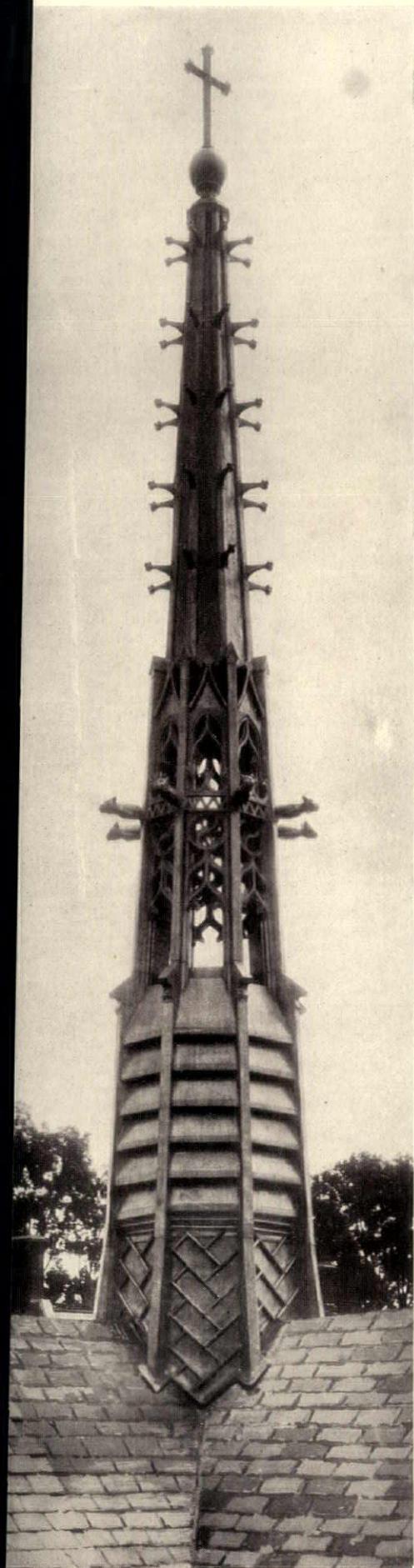


Left—O. H. P. Belmont Mausoleum, Woodlawn, N. Y.
Hunt & Hunt

Above—All Souls Church, Bangor, Me.
Cram & Ferguson

Right—The Philadelphia Divinity School
Philadelphia, Pa.
Zantzinger, Borie & Medary

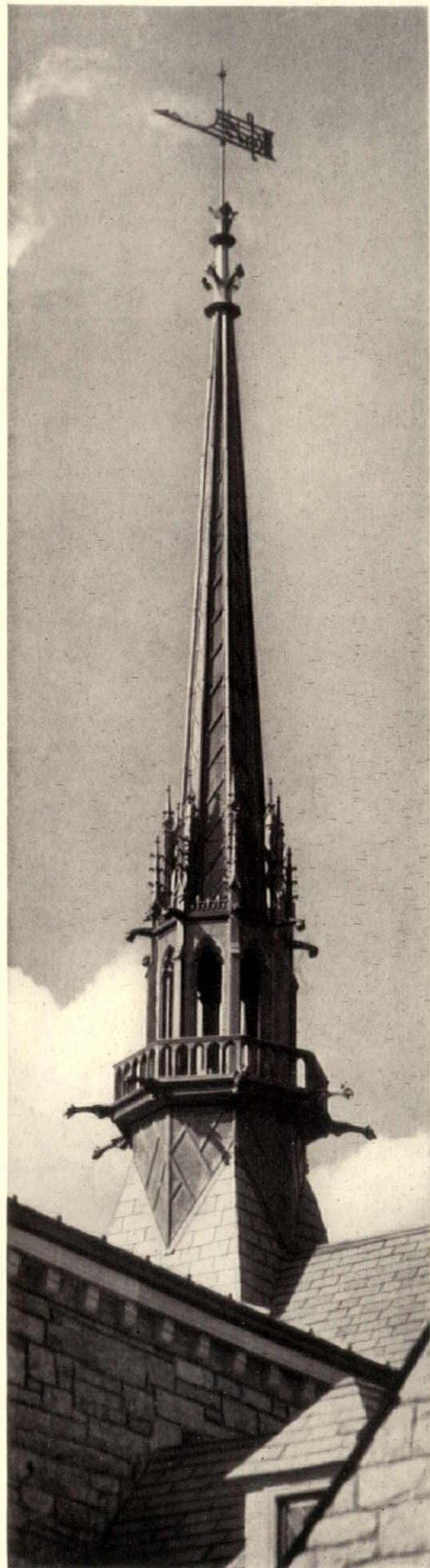


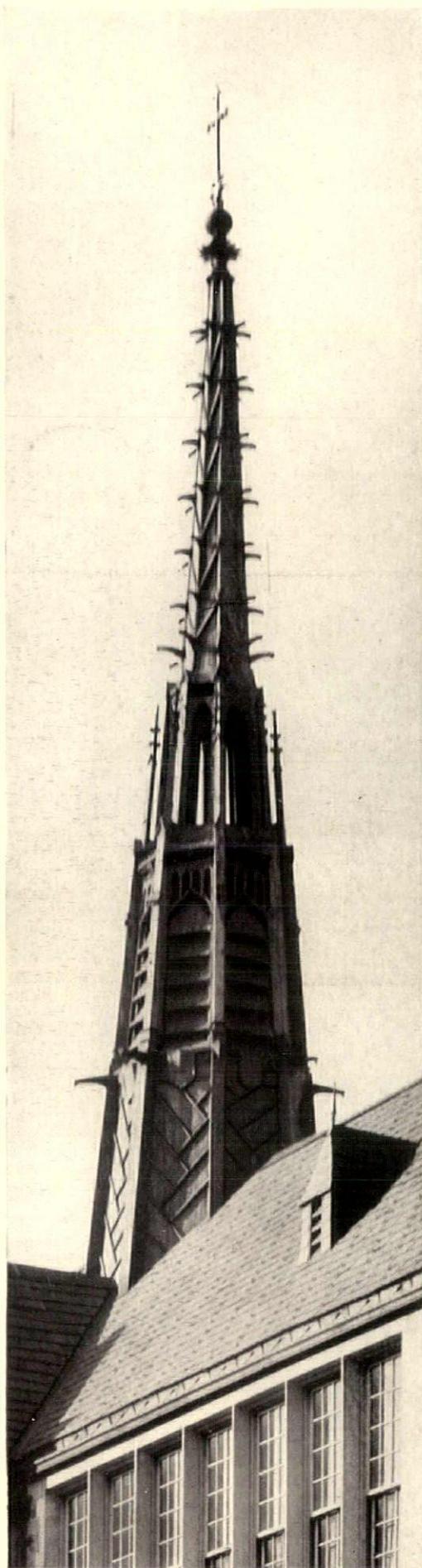


Left—St. Madeleine Sophie's School
Germantown, Pa.
Henry D. Dagit & Sons

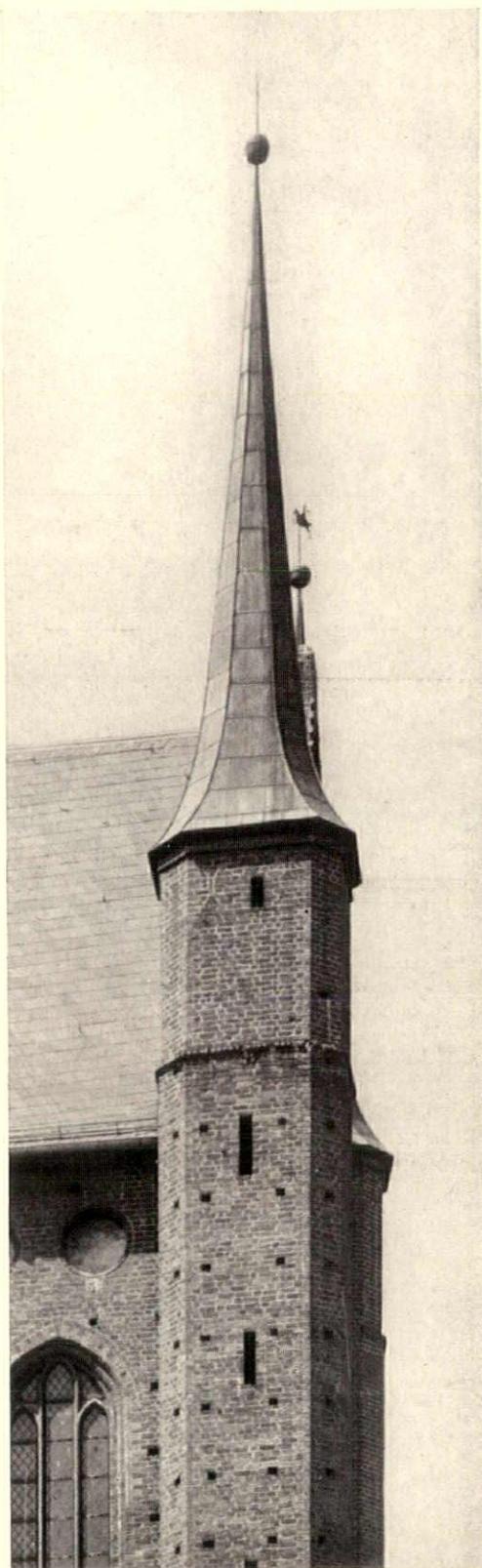
Above—Our Lady of Refuge Church, Brooklyn, N. Y.
Henry V. Murphy

Right—Belle Skinner Music Building
Poughkeepsie, N. Y.
Allen, Collens & Willis



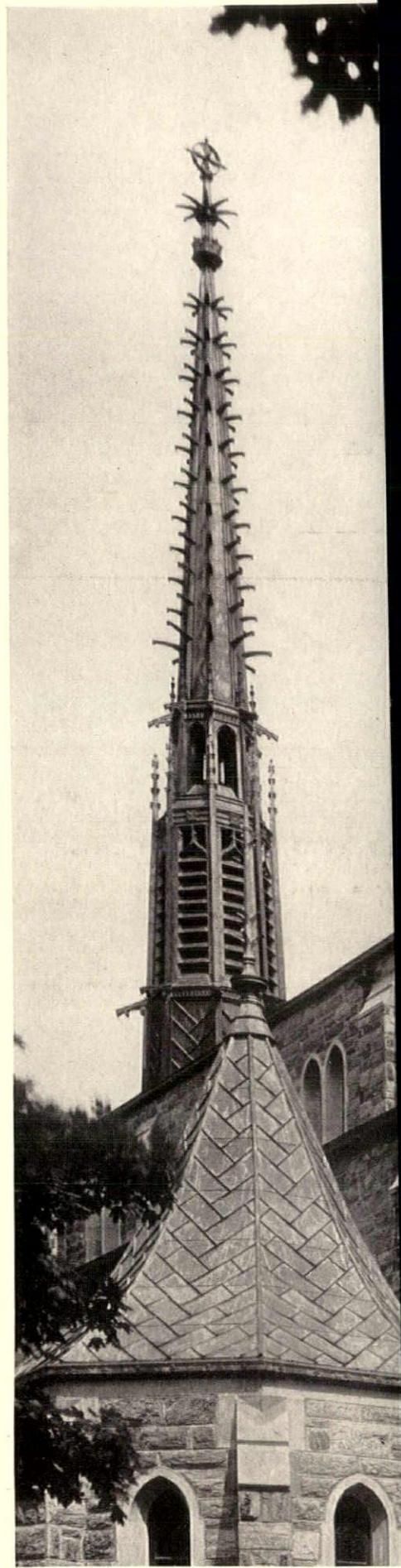


Left—Our Lady Queen of Martyrs Church
Forest Hills, N. Y.
Maginnis & Walsh



Above—St. George's Church, Wismar, Germany

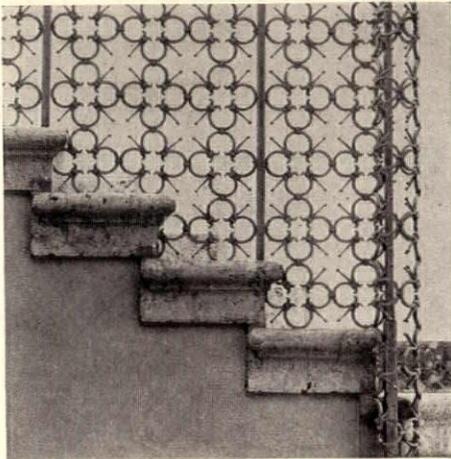
Right—Our Lady of Sorrows Church
South Orange, N. J.
Maginnis & Walsh



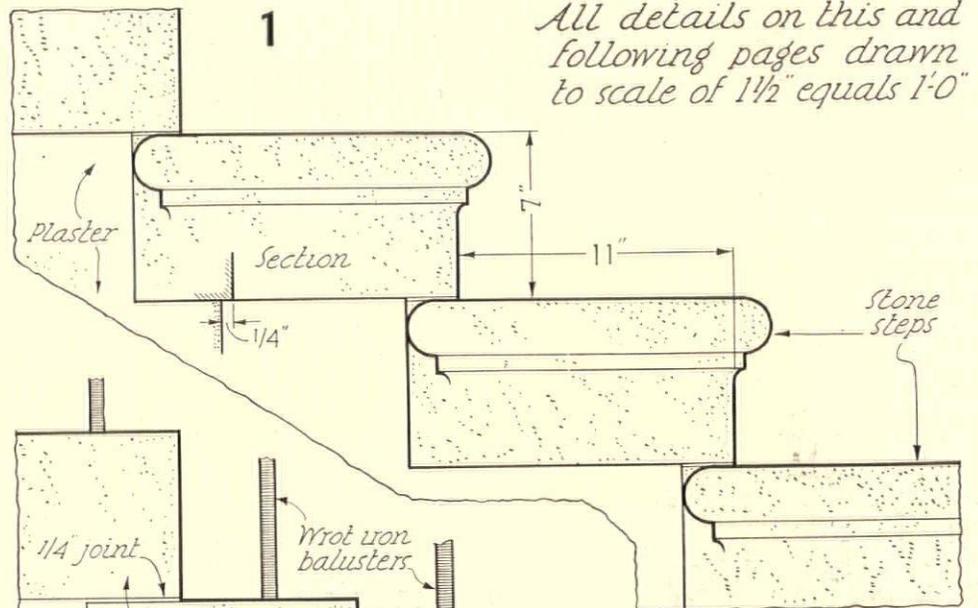
FAVORITE FEATURES

Common problems of design in everyday practice—how the results look and how the drafting-room detailed them

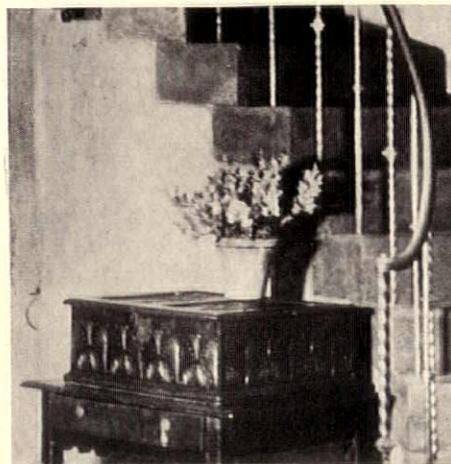
Stair Ends...



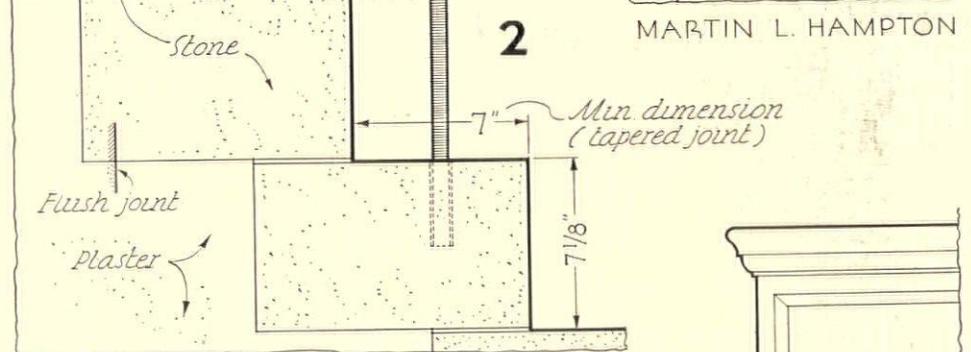
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All details on this and following pages drawn to scale of 1 1/2" equals 1'-0"



2

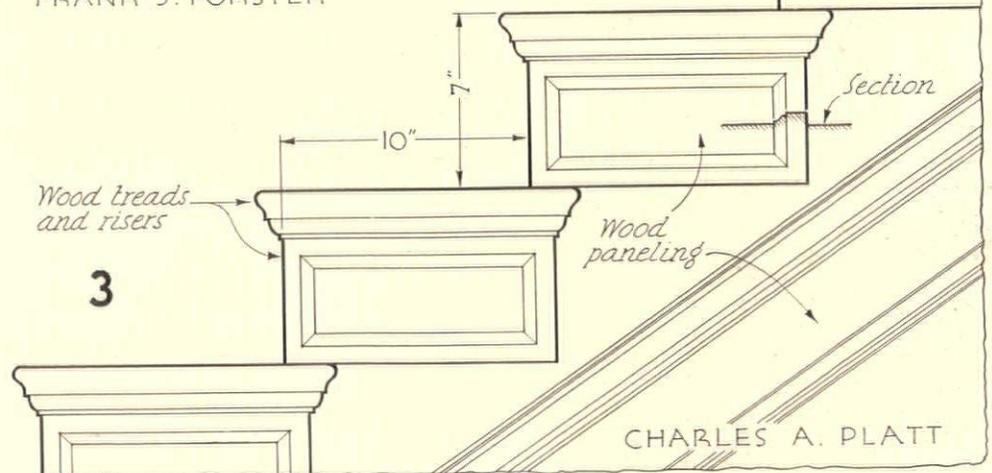


MARTIN L. HAMPTON

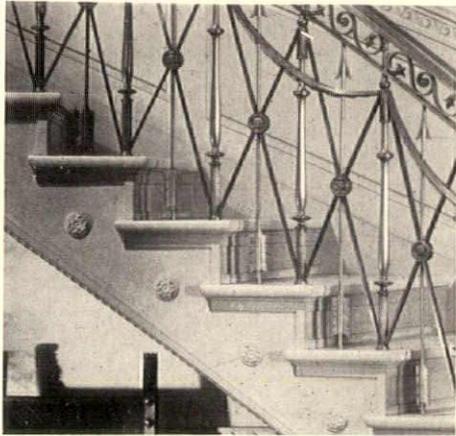
FRANK J. FORSTER



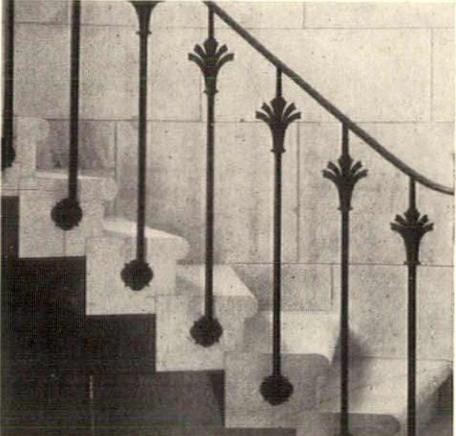
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CHARLES A. PLATT



4



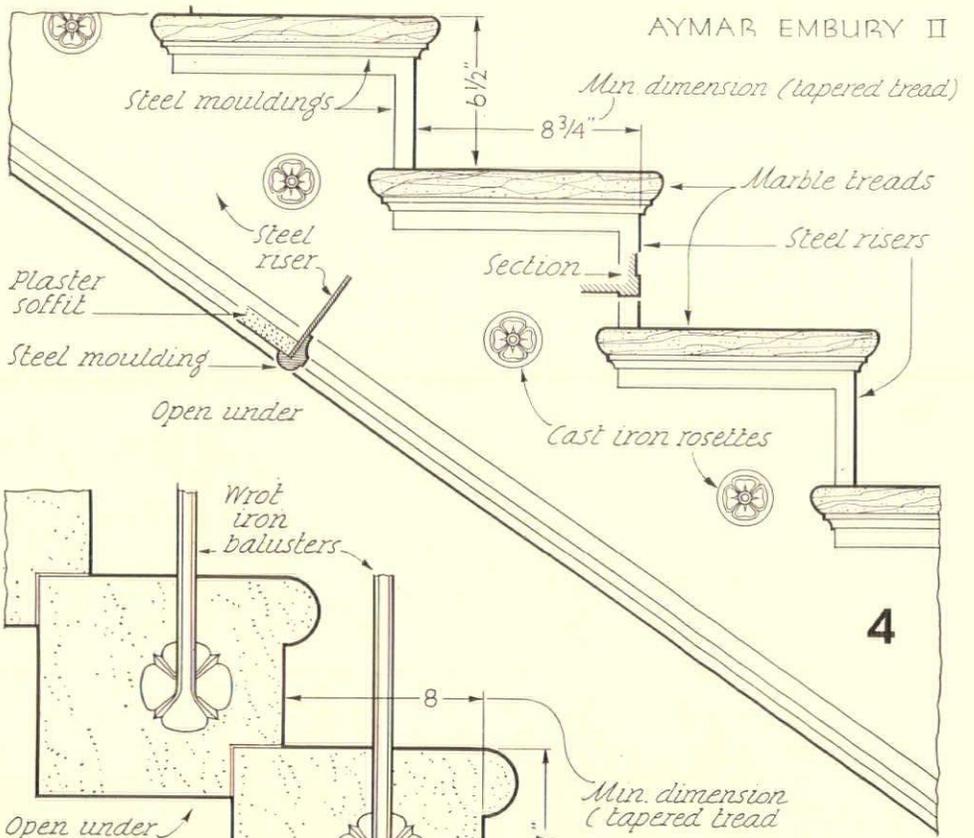
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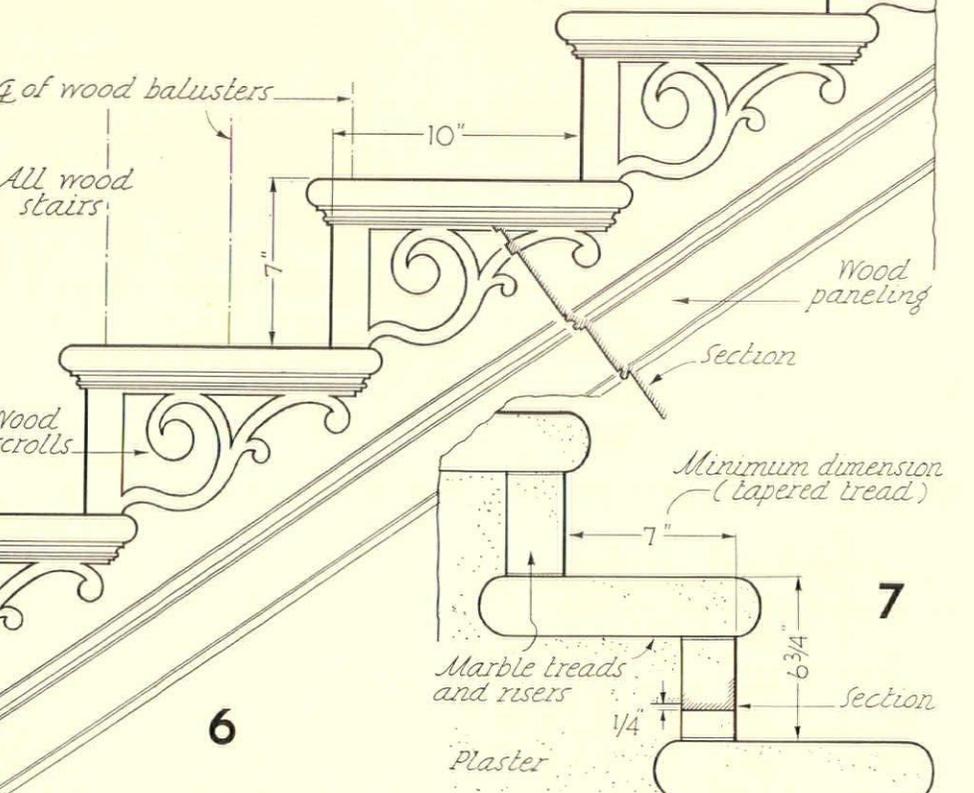
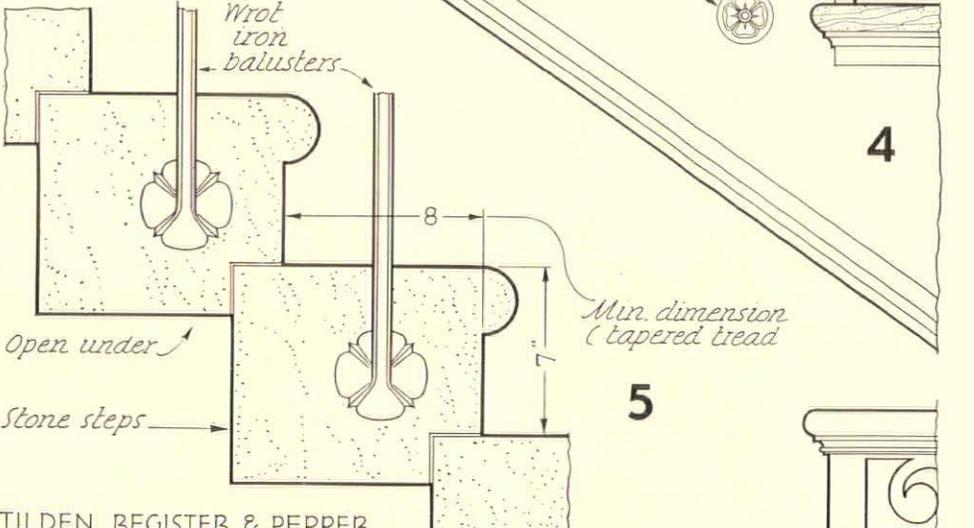
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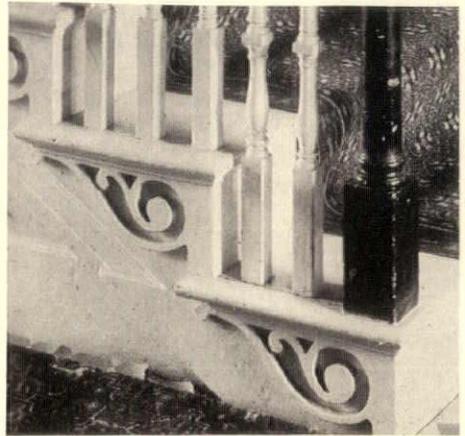
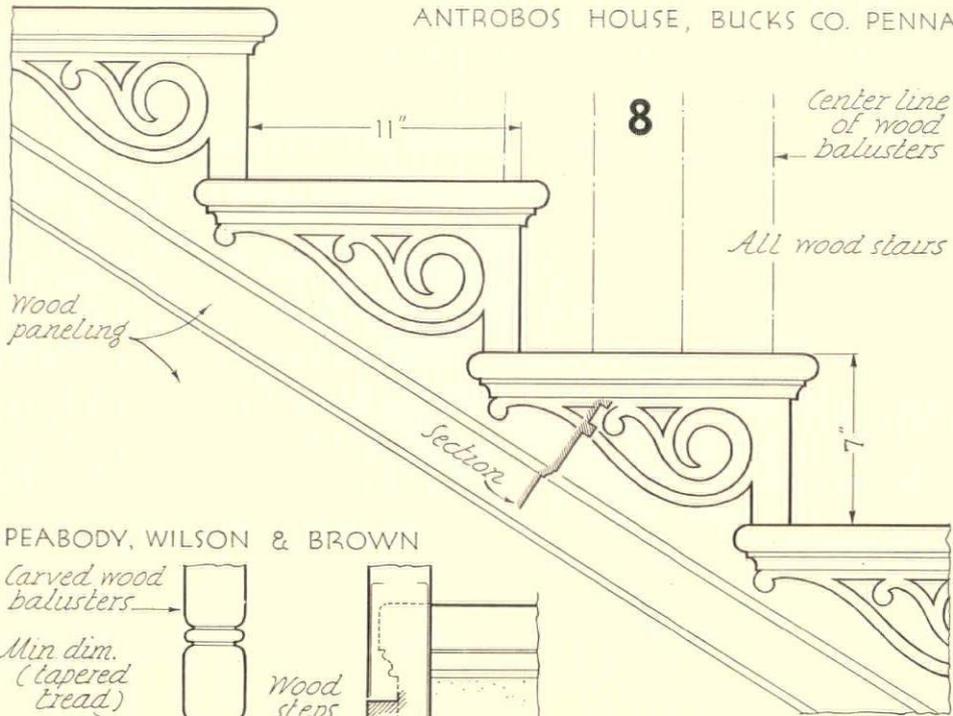


4



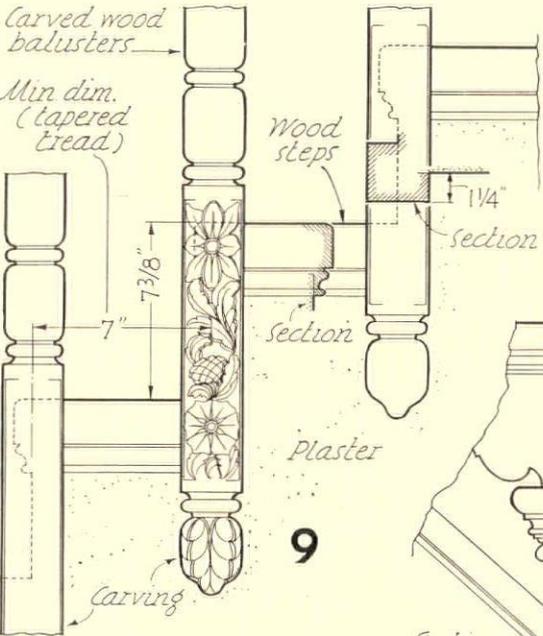
MORRIS HOUSE (1820)
SANATOGA, PENNA.

GREVILLE RICKARD



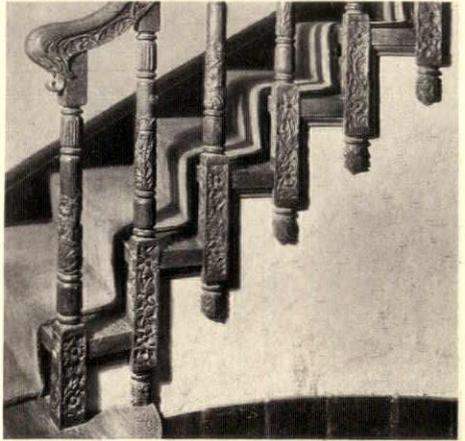
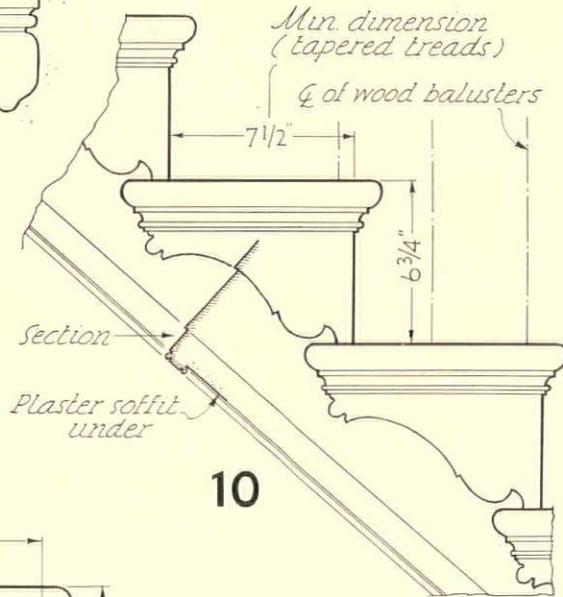
8

PEABODY, WILSON & BROWN

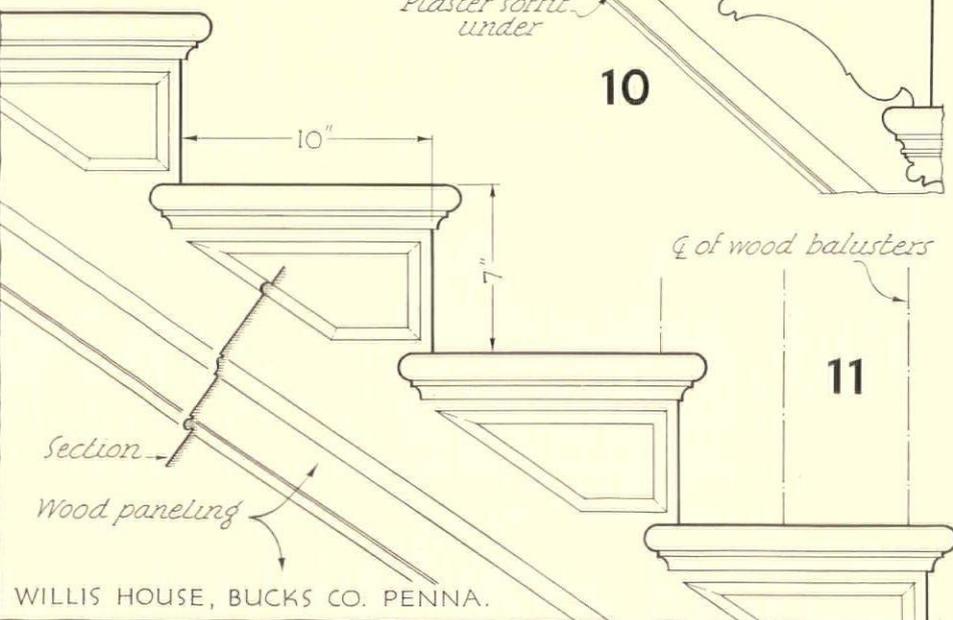


HENRY R. SEDGWICK

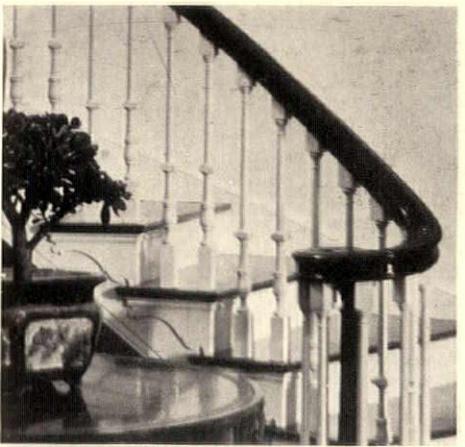
Min dimension (tapered treads)
G of wood balusters



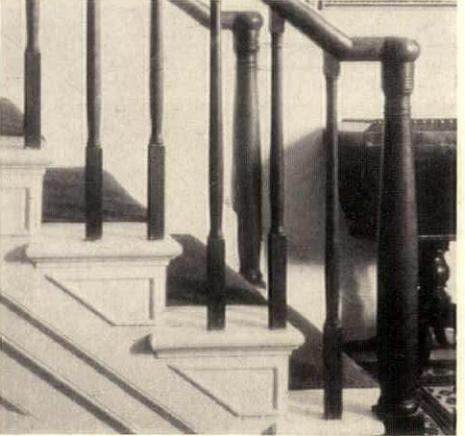
9



WILLIS HOUSE, BUCKS CO. PENNA.

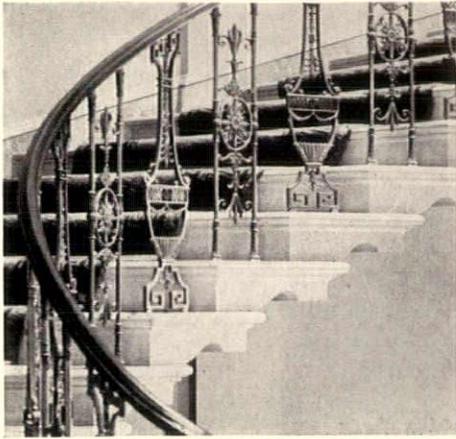


10

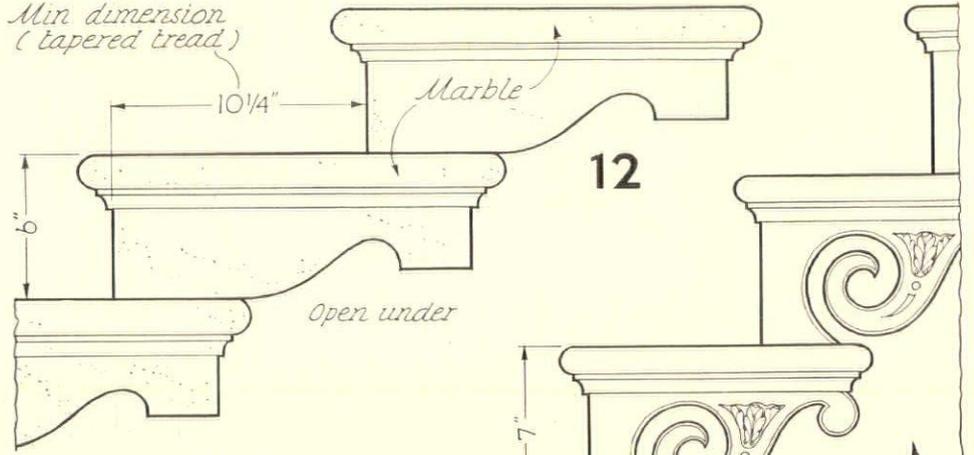


11

12

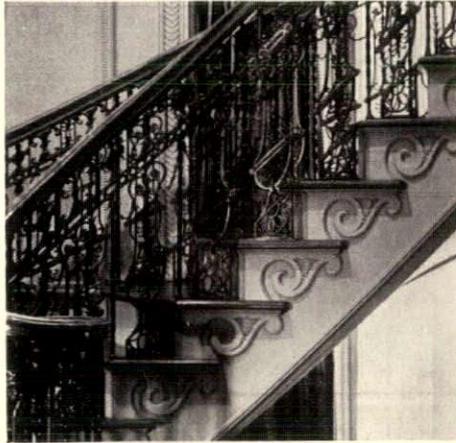


Min dimension (tapered tread)

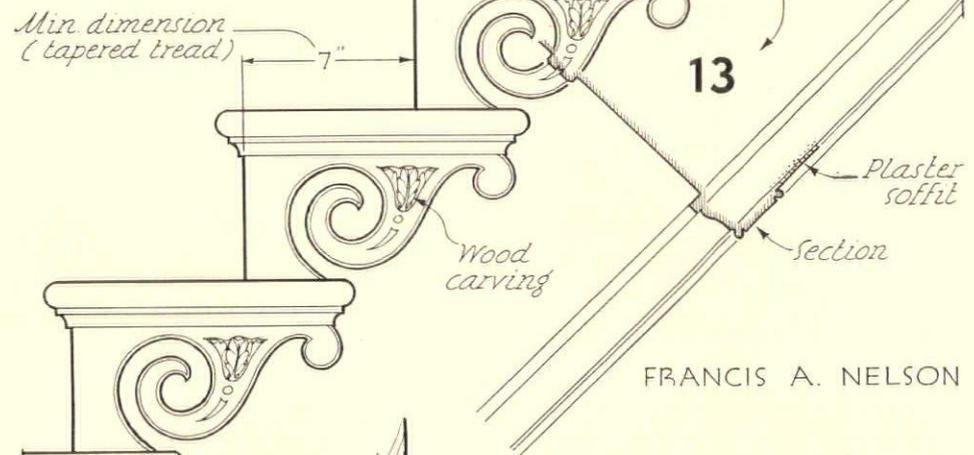


LITTLE & BROWNE

13

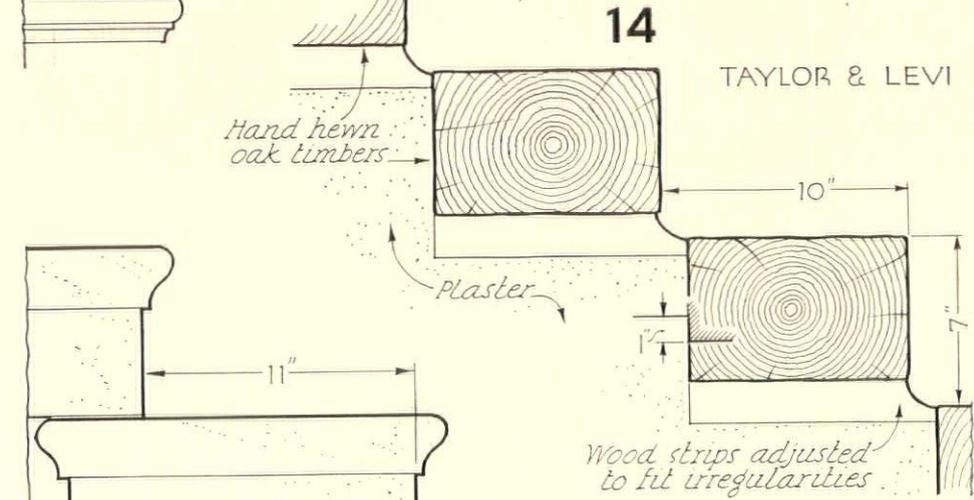
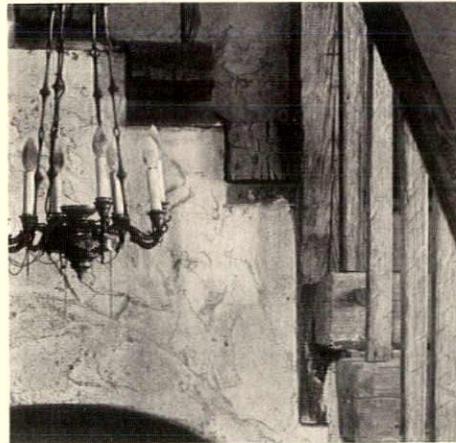


Min dimension (tapered tread)



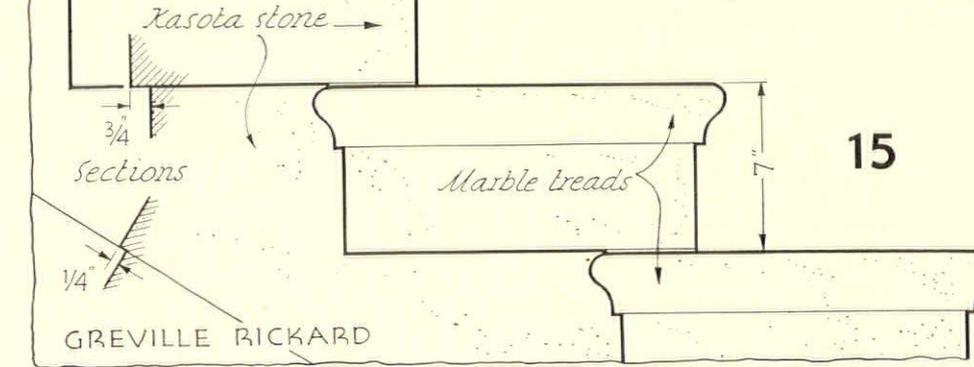
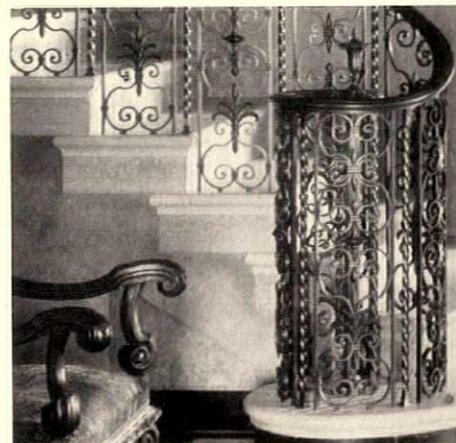
FRANCIS A. NELSON

14



TAYLOR & LEVI

15



GREVILLE RICKARD

THE DIARY

Mary Taylor



Saturday, May 1.—A month or so ago I went in to see Eugene Twachtman's recently developed technique in the prefabrication of walls for small houses. Here is prefabrication in action. He molds a piece of wall, story high, flatwise on a steel bed, putting a reinforcement, steel windows, door frames, even including the butts. A small crane mounted on a derrick lifts these wall sections from a truck, stands them in place, and the whole house is assembled in a few hours. The sections present square edge to square edge, the half-inch space between being filled with a compound made of laitance and sand. This becomes hard enough to grind off the surface with a carborundum wheel, but retains enough elasticity to keep the joint tight even with some movement. Usually the whole exterior surface is painted with a white cement paint.

Monday, May 3.—Lunched with Harry Leslie Walker, whose spare moments these days are being put upon a staggering task. He is writing a concise encyclopaedic record of the terms used in medieval ecclesiastical architecture. With all the mass of literature relating to English architectural subjects, there is a job that seems to have been entirely neglected. So if Harry Walker lives long enough to complete it, which I hope, but which both he and I very much doubt, the world will be able to riffle over a few pages and find just what a chantry is, for instance, how it came about, and how it was used; what a cellarer was in the monasteries, and what was his job.

Tuesday, May 4.—There is a new branch post office nearing completion on East 23rd Street, which I went to see today in company with Lorimer Rich who designed it in collaboration with the Procurement Division of the Treasury Department. Rich has used a polished dark red granite from Colorado on the facade which has all the richness of color of a fine marble.

Wednesday, May 5.—Lunched with Rutherford Boyd, whose fascinating researches into the mathematical controls of design have engaged his spare moments for some years. He tells me that he has just entered a new phase. Through the aid of the cinema, he is developing a pictorial representation of the development of three-dimensional forms from the parabolic curve—and all synchronized with a musical composition by one of the French composers. Some of the technical difficulties arising from the fact that the action in these three-dimensional forms must be made to time accurately with changes in the music, are the sort that might discourage any one but a Rutherford Boyd.

Friday, May 7.—A month or so ago I was quoting in these pages H. S. Goodhart-

Rendel, who had written a book of essays called, "Vitruvian Nights." It seemed to me that he displayed therein an astonishing erudition and an ability to provoke thought. And now comes the news that he is to succeed Mr. Percy Thomas as president of the Royal Institute of British Architects. Mr. Goodhart-Rendel has been in practice since 1910, has written brilliantly, and—most astonishing—is a Bachelor of Music and a composer of considerable note. Such a well rounded wealth should bring a great deal to the difficult post that he is to occupy.

Monday, May 10.—I was interested to see that Sir Raymond Unwin, in accepting the Gold Medal of the R. I. B. A. last month, took it almost for granted that the members will believe that he is truly grateful, and passed right on to a constructive summary of what has been going on in England and in the United States. It was particularly comforting to have Sir Raymond, who in years gone by used to come over here and tell us how much better these things were being done in England, reverse the process and tell the R. I. B. A. members that if they really want to see some action in town planning and achievement they should come over and see us. As a specific instance of our progress, he cites the TVA, where is being planned conservation and use of a territory of about four-fifths the size of England; the significance of New York City's new charter in that planning is inserted as a keystone in the whole structure; and the significant recognition of the function of planning in the President's scheme for reorganization of the Federal Administration.

Wednesday, May 12.—George C. McAneny says that of New York's new charter, to become effective January 1, 1938, no feature is of greater importance than the provision for city planning. A new department is provided, to be headed by the chairman of a City Planning Commission. The Commission will have broad powers. Its first duty will be to prepare a master plan, to the lines of which all future public improvements will be required to conform. It will be the custodian of the official City Map, will have wide authority in zoning, and it will prepare each year a capital budget governing the City's expenditures for permanent improve-

ments, from subways down to the smallest fire house. It seems curious that it has taken so many generations of city dwellers to reach this obviously rational procedure.

Friday, May 14.—The Enoch Pratt Free Library in Baltimore, which has rendered many notable services, now comes out with a series of forty or fifty leaflets providing reading lists upon the fine and applied arts. Here, for instance, are some titles of lists that would interest any of us: Modern Architecture; The Medieval Craftsman; The Gothic Spirit in Architecture and Sculpture; American Antiques. Each provides a list of twelve or fifteen books presenting various phases of the subject. Enoch Pratt Library is generous enough to suggest that other institutions may find these lists valuable, and offers to supply them at cost with the imprint of other libraries, schools, or museums.

Saturday, May 15.—I had the difficult job today of trying to tell a group of the National Association of Real Estate Boards operators the difference between good and bad house plans. What is a good plan for one client, may be a very bad plan for his brother; a plan that is perfectly good in itself may be bad because it is improperly oriented; a plan may be lacking in merit merely because the client is lacking in money to pay for what he should have. It is a rather reckless soul, therefore, who will attempt to draw a line separating the sheep from the goats.

However, if I failed to pass on any information, I certainly did gain some in the reactions of the buying public over a wide territory. These men, who are producing and selling homes in various parts of the country, agreed almost unanimously that the separate dining room is still an essential; that the prospective home owner shies at a flat roof; that a house which they label somewhat carelessly as a "Cape Cod type" seems most nearly to satisfy the average demand.

Monday, May 17.—Kenneth Stowell and I up to Fieldston with Dwight James Baum to see a new group of houses that he has just completed. Proceeding in just the opposite direction from Andrew J. Thomas, who designed Forest Hill in Cleveland to have a uniformity of style and material, Baum sought for wide variety in both. The houses cluster around a long court, and vary in the use of brick, stone, stucco, wood; in roofs from variegated slate through several colors of flat tile. The architectural character, though differing rather widely from a layman's viewpoint, holds rather closely to derivations from the Georgian, Regency, and Greek Revival, and other byways from the highway of classicism.

Tuesday, May 18.—Lunched with Harrie T. Lindeberg, who had just returned from one of his periodical visits to Salem, Mass. He goes up there occasionally to quaff a draft of the beauty that lies in an early American community. Musing upon the restfulness of simple houses, great trees, and a color scheme that has very few but very appealing elements, Lindeberg suggested that if all the architectural books excepting possibly a copy of Asher Benjamin could have been kept out of the hands of builders and architects in these few recent generations, we might still be creating a beauty as great as that of Old Salem.

Thursday, May 20.—Francis P. Sullivan, Chairman of the A. I. A. Committee on the National Capital, takes me to task for publishing a photograph of the Capitol which, in his opinion, was taken from the one point of view from which the octagonal skirting of the dome could not be seen at all. Sullivan says that from his point of view any photograph of the East Front shows the overhang of the dome so clearly that it cannot be mistaken. Here on this page is one of the photographs that he has taken to show the overhang as conspicuously as possible. Sullivan and I agree on so many things that it is perhaps permitted to us to disagree violently on this one point of whether or not the overhang of the skirting makes it advisable to alter a piece of architecture which is so hallowed by age and association.

Friday, May 21.—If you happen to be one of the many who still have a sublime faith that the builders of the pyramids knew a lot more than appears on the surface, and built that knowledge into their great piles, prepare to be disillusioned. Dr. George Steindorff, Professor Emeritus of Egyptology of the University of Leipzig, says that all these numerological and mathematical theories, of which many books have been written and probably are to be written, are without the slightest foundation. Dr. Steindorff says that the Egyptians didn't even know π . The pyramids, the good Doctor maintains, were built solely as tombs for their great kings.

Saturday, May 22.—One sometimes wonders where all the antiques that we buy from year to year have been sojourning. The Treasury Department has an idea about it. In moving to take them off the free-entry list, it is revealed that the total importations in the last twenty-eight years are estimated at over \$640,000,000. The more startling point, however, is that the Treasury thinks that seventy-five per cent of these were fakes. Herbert Cescinsky is of the same mind, for he estimates that about seventy-five or eighty per cent of the "artistic an-



Here's another photograph of that much discussed overhang of the Capitol dome skirting, taken by Francis P. Sullivan. Does it offend your esthetic sensibilities?

tiquities" granted free entry since 1907, most of which came from Great Britain, were of recent and ingenious fabrication.

Wednesday, May 26.—There was some discussion in these pages two or three years ago regarding the desirability of some form of insurance against obsolescence in buildings. J. C. Knapp, a vice president of the Otis Elevator Company, pointed out that we are in the habit of writing off depreciation with the theoretical result that at the end of a period we have no further financial obligation, and also, unfortunately, no useful building. Instead of devoting the profits of the building to amortization, if a percentage could be set aside for insurance against obsolescence, there is no particular reason why we should not have at the end of the period, a going concern, practically as up-to-date and efficient as when built.

Dr. Hans Heymann came over from Germany recently, and is in some quarters credited with being the father of this idea. He, however, calls it by a better name—property life insurance. Dr. Heymann, an international authority on banking and insurance, tells of the great success already attained by this form of insurance in Germany. The plan recognizes the fact that buildings are possessed of an even more

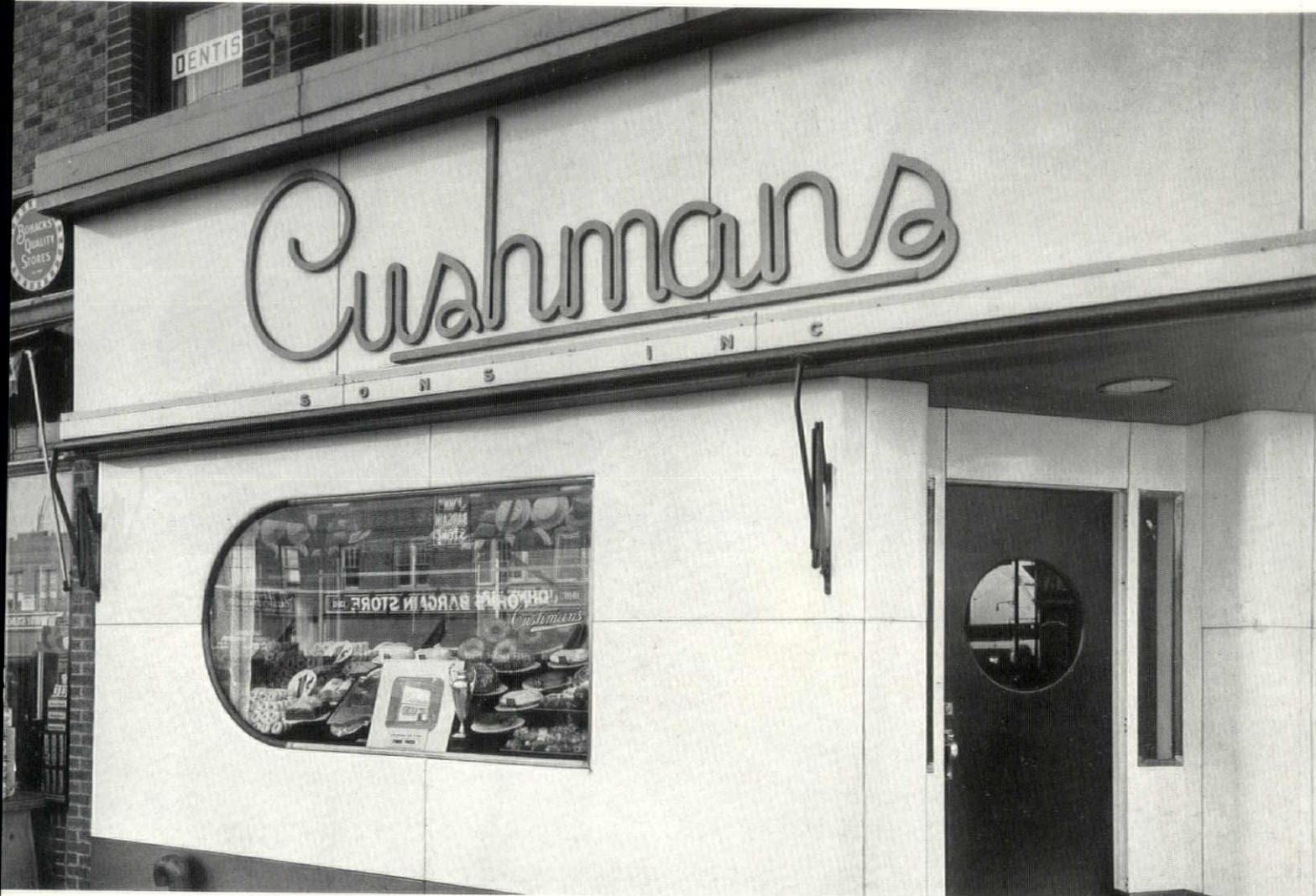
definite period of life than the human body and are, therefore, equally insurable against the loss of their economic life.

Washington, Thursday, May 27.—Dove here on a flying trip to tell the Structural Clay Products Institute why there should be some measure of modular relationship between the various clay products and other elements of the building with which they are combined. In a word, it seems hard good sense to use a different yardstick for brick, structural clay tile, steel window wood windows, backing tile, stone sills, and the like. A combination of these things under our present chaos of standards resembles what the automotive industry might be if some of the manufacturers of parts used feet and inches while others whose products were eventually combined with those of the first utilized the metric system. It seems rather foolish to come all the way to Washington just to say something so obvious as that.

Saturday, May 29.—The returns are still arriving in the matter of the Code Napoleon and its predecessors. Frank Burton, in the history of the world's building codes, starts with King Hammurabi of Babylon, 2250 B.C. Hammurabi started this matter of responsibility, for his code says, "If a builder build a house for a man and do not make its construction firm, and the house which he has built collapse and cause the death of the owner of the house, that builder shall be put to death. If it caused the death of the son of the owner, then shall they put to death the son of the builder."

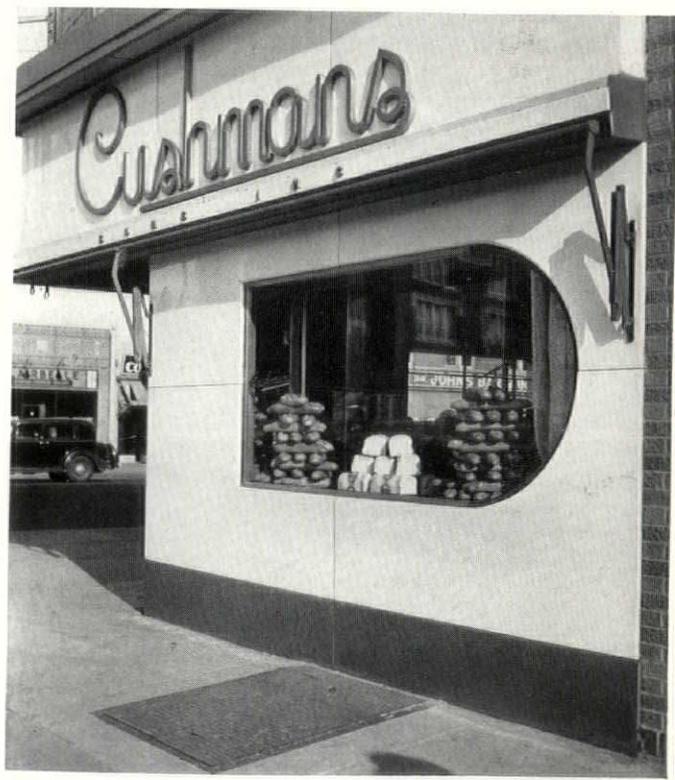
He was a bit ahead of us also in the matter of a minimum wage scale. His code prescribed the day's wage of carpenter bricklayers, and stone cutters. In this is rather surprising to find that the legal maximum day wage for a bricklayer or stone cutter was about one and one-fourth times that of a carpenter—practically the same ratio as that which obtains today between the two crafts.

Monday, May 31.—It is becoming increasingly evident each year that all great works of art finally become the property of the public. Most of these treasures, perhaps are bequeathed to public museums by private owners. Jules S. Bache apparently prefers to enjoy the pleasure of passing on these treasures during his own lifetime. For a quarter of a century he has been collecting works of the utmost interest and significance—paintings of Rembrandt, Raphael, Titian, and Velasquez, in addition to sculpture, tapestries, furniture, and porcelain. Mr. Bache has gathered these things together in his own house on Fifth Avenue, New York City, which, like the collection is now deeded to the State of New York.

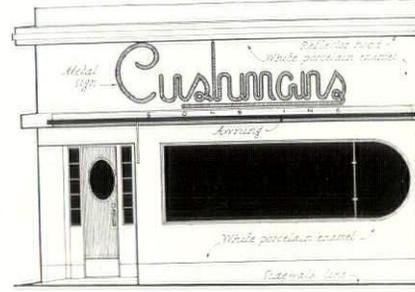
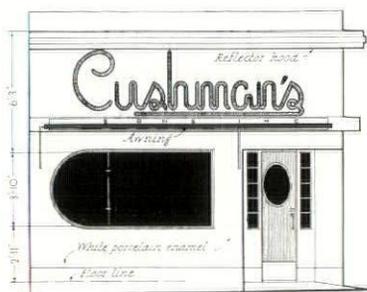
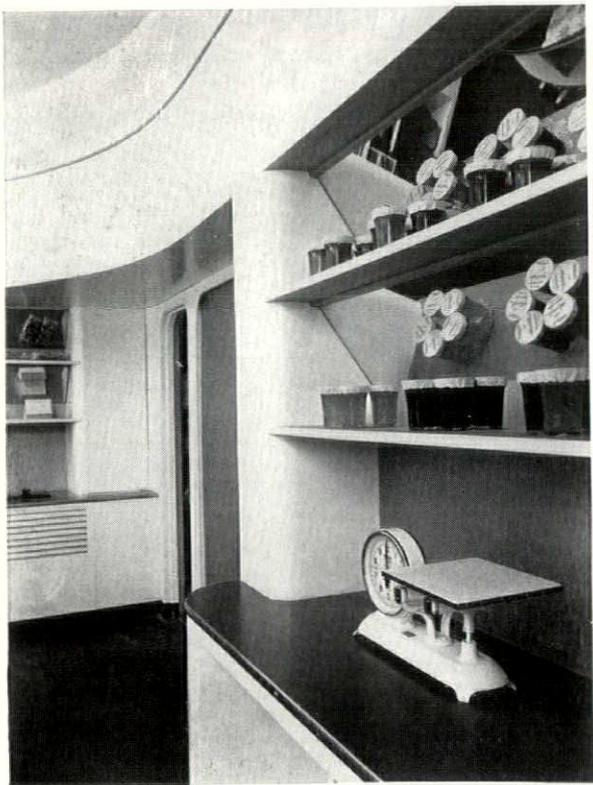


PHOTOS: SAMUEL GOTTSCHO

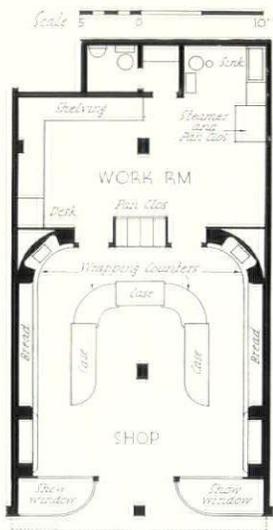
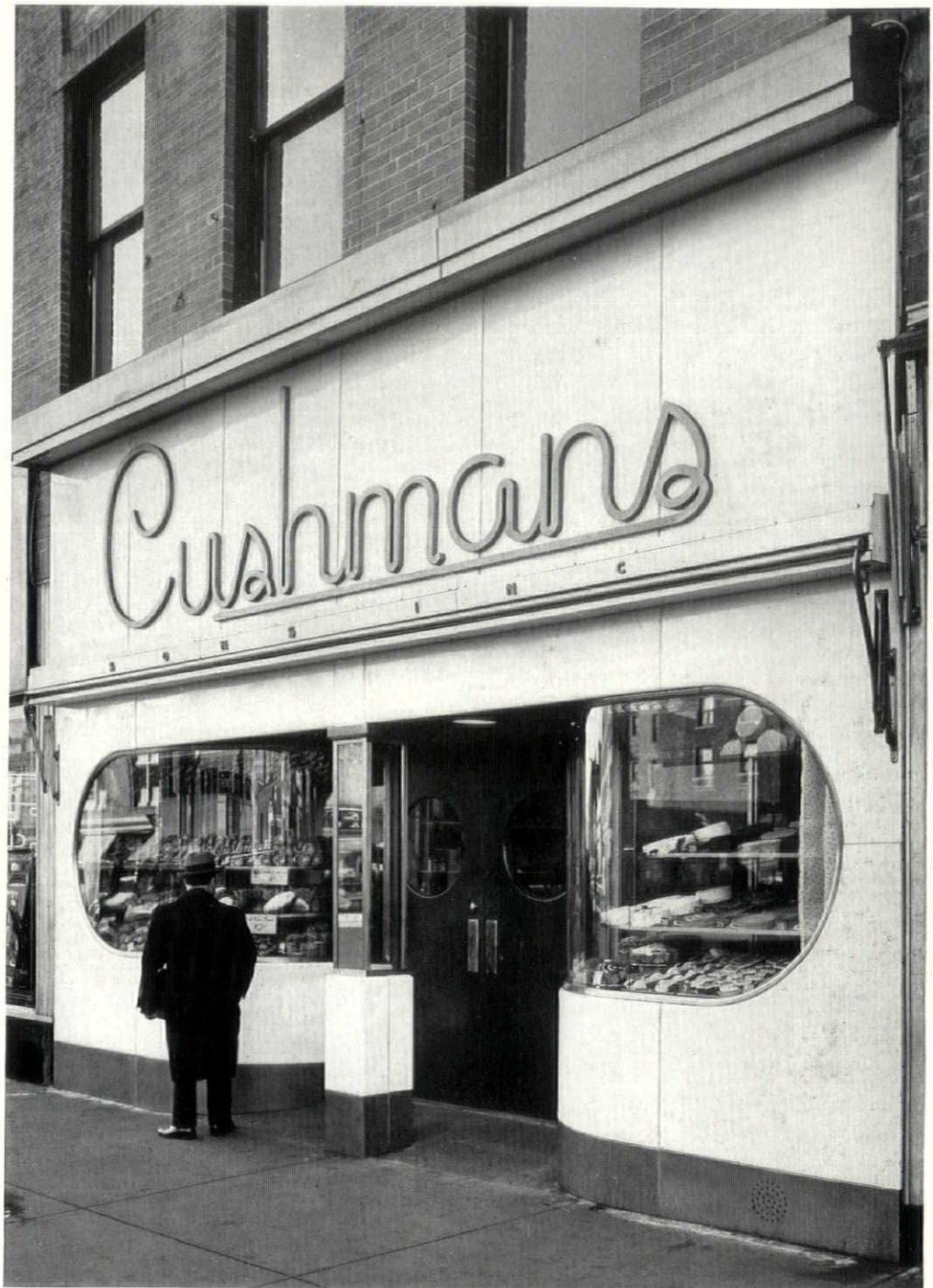
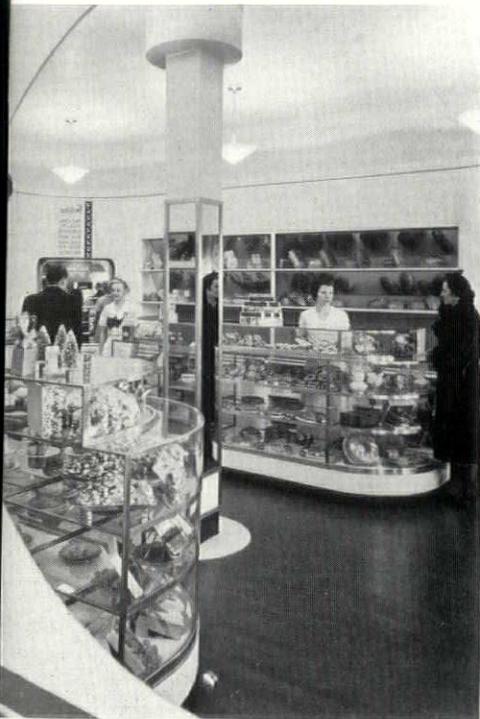
CUSHMANS SONS BAKERIES, NEW YORK
RAYMOND LOEWY, DESIGNER
WILLIAM H. FUHRER, ARCHITECT



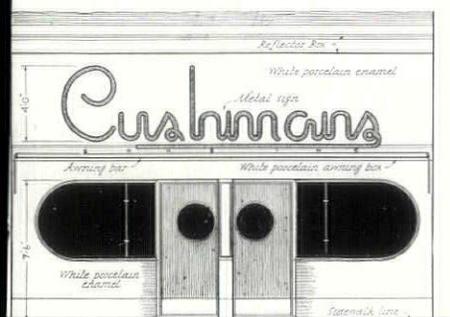
Visual appeal as a sales asset in the chain store business has been interestingly applied to Cushman's Sons Bakeries by Raymond Loewy, industrial designer. Two typical new bakeshops were designed, one a corner location and the other situated in the middle of the block. The latter is adapted to large sites by merely doubling the unit. The new stores are being used as models for the gradual reconstruction of the entire chain of three hundred stores. The fronts are of white porcelain enameled metal with the Cushman name in gold script. Celotex was used as a base for the metal fronts, which were caulked with Minwax



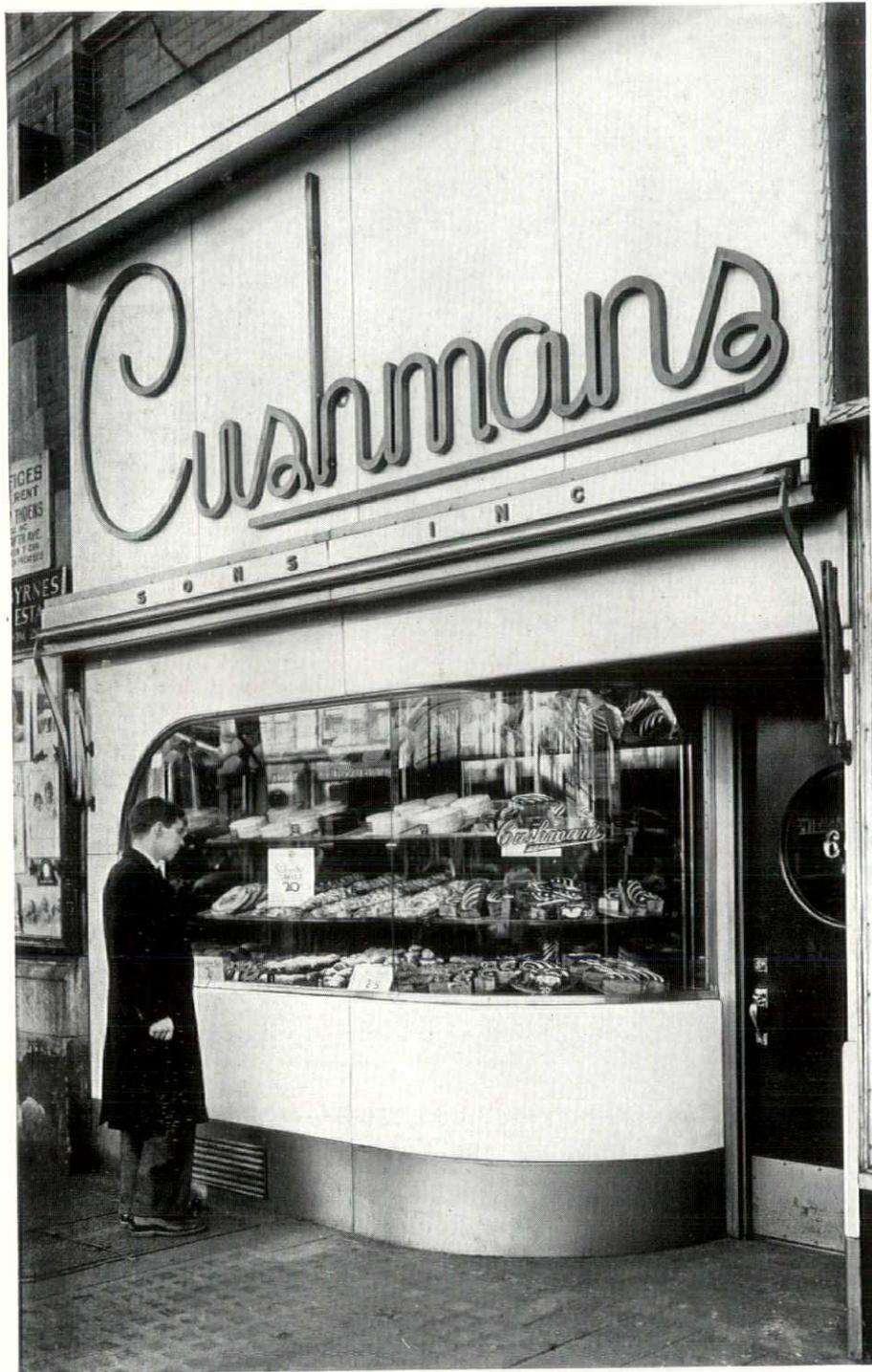
CUSHMAN SONS BAKERIES, NEW YORK



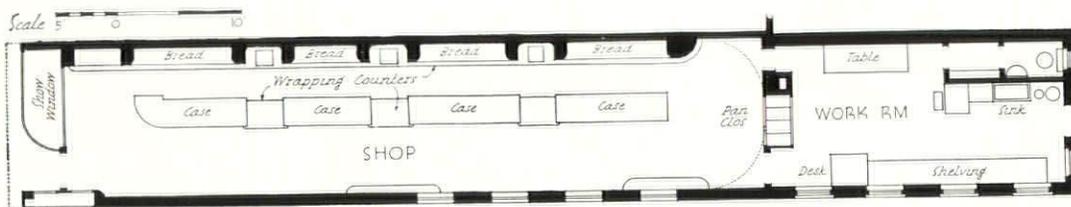
An important display feature is the arrangement of mirrors at an angle over the shelves so that the entire stock of bakery goods is visible rather than merely the front edge. Flooring is of Congoleum-Nairn blue linoleum with cream trim. Rose tan mirrors and rose tan washable wall paper with a figure in pale gold are used on the walls. Food display trays and showcases are of glass edged with Colonial brass protecting moulding, chosen because its warmer tones blend more harmoniously with the colors of bakery products. All the stores are lighted by Magnalux semi-direct fixtures



RAYMOND LOEWY, DESIGNER, WILLIAM H. FUHRER, ARCHITECT



The lighting in the show windows, which are reduced in size in order to focus attention on the window display, is an interesting variation in the use of standard equipment. Ordinary type window reflectors are concealed above a louvered ceiling and can be adjusted to focus the light on certain displays.



CUSHMANS SONS BAKERIES, NEW YORK. RAYMOND LOEWY, DESIGNER. WILLIAM H. FUHRER, ARCHITECT



PHOTO: SCHNALL

UNIT PLANNING · VI THE STORE

BY J. R. VON STERNBERG

Subjects already presented include closets, stairs, kitchens, classrooms and bathrooms. In future articles hospital rooms and wards, apartments and public toilets will be discussed

BEHIND any successful store or store front design lies a considerable knowledge of merchandising as well as architectural skill. Stores vary widely as to type and merchandising technique. Elements of their planning and equipment are subject to so many different combinations that apparently there exists very little basis upon which standardization of these elements may be achieved in any practical form.

But principles of merchandising are common to each store, whatever its size and character. These principles relate primarily to methods of display which, in turn, must be developed in reference to the human figure. Display methods involve physical problems of planning and equipment. And upon this practical basis can be formulated a certain degree of standardization in store elements which reflect, in terms of architectural practice, well recognized principles of successful retail merchandising.

In the accompanying Time-Saver Standards, a number of these elements of store planning and equipment are presented. The following paragraphs discuss the application of these planning units to the general problem of store design.

For clarity this problem can be divided into three parts; the shell of the store; the store front; and the store fixtures. To a certain degree all are subject to the possibility of change and adjustment to serve new merchandising needs. Therefore an outstanding requirement of store design is provision for flexibility in arrangement of all its elements. This flexibility can be forecast to a certain extent. But fashions in merchandising change so far as outward form is concerned. New forms and manners cannot always be envisioned. And, therefore, the structure and equipment of a modern store must be so co-ordinated that they fulfill present requirements and are susceptible to adjustment when a change is necessary.

AMERICAN ARCHITECT
AND ARCHITECTURE.
JUNE 1937 . . . 97



PHOTO: MOTT

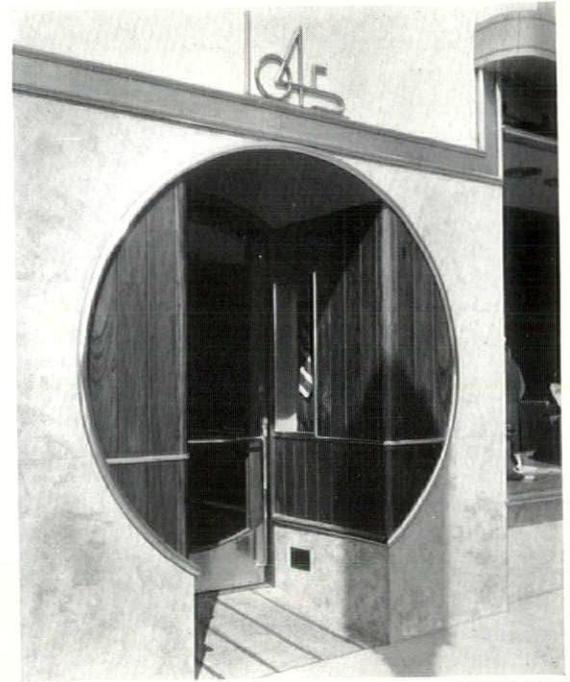


PHOTO: MOTT

Store fronts of special types are often required to emphasize the quality of merchandise in a concentrated display. In this store front notice the smaller window with the higher bulk head level for the display of small articles which require close observation

THE SHELL

This, briefly, is the bare shelter, providing protection from weather, fire and theft. It is important because it establishes limits and acts as a background and basis for front and fixtures. It must provide for heat, structure, sanitation, and ventilation, establishing each of these with regard to the merchandising use of the building.

Structurally, for example, the building must have a sound, level floor, 2" above the sidewalk. The slight difference will permit pitching the vestibule floor sufficiently for any depth of show window. The cellar must be dry (for use as a stock or sales area), should have a ceiling height of from 8'-0" to 9'-0" (to be accessible without too much climbing), and should have as few posts as possible, spaced 13'-0" to 20'-0" on centers.

Walls, floor and ceiling should be as free of breaks as possible. Pilasters interfere with shelving and wall fixtures, and may complicate the installation of ducts for air-conditioning; columns impede circulation and hinder layout; dropped beams affect sprinkler systems, ventilating ducts and impair the effectiveness of indirect lighting. A ceiling of 12'-0" in the selling floor is comfortable and a good standard, but it will not permit the introduction of a mezzanine, an important factor in many stores. 15'-0" to 18'-0" is better for this. Walls and ceilings should be preferably

of plaster, well-troweled for high light reflectivity. Walls should not have projecting baseboards as they interfere with fixture setting.

Heating and air-conditioning systems should be carefully considered. A location in the rear of the basement leaves the front free to be used for stock or selling. It is also nearer to the chimney which should always be in the rear of the building. Preferably the plan should concentrate all ventilating and heating equipment in one place. In the case of an oil burner, provision must be made to set a fuel line in the cellar floor to the street or alley.

Toilets and lockers should occupy the least valuable parts of the store. These may be accommodated in the basement, but it must be remembered that an increased use of the basement requires an increased use of stairs. The position of stairs is largely determined by the arrangement of the fixtures. Where requirements of a future tenant are unknown, it is sound practice to provide double joists on 11'-0" centers, thus permitting a choice of stair locations.

Roof insulation should be installed in all one-story stores. This often requires a hung ceiling; and where possible should include an air space of at least 3'-0" between roof and ceiling—enough for a man to crawl into. This space will permit a more satisfactory installation of air-conditioning

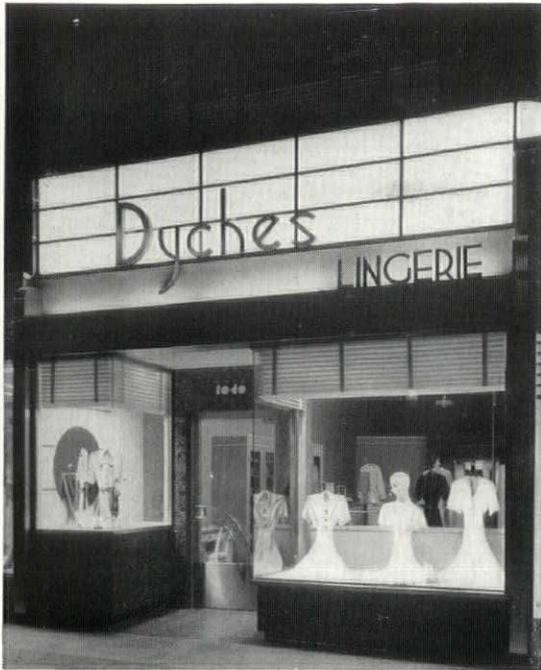
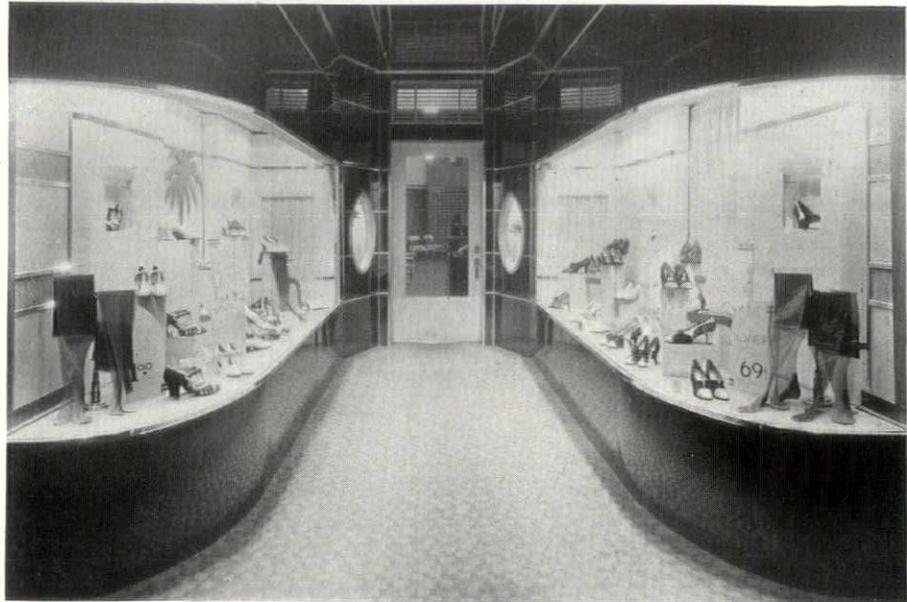


PHOTO: MOTT

In the store front above, illumination plays an important part, the luminous elements being given as much architectural attention as any of the more commonly considered elements. At the right, a long, narrow lobby designed to display merchandise and invite the customer within the store



ducts, electric wiring, recessed light reflectors and sprinklers. In addition, it can be easily vented in the summer months by means of natural or forced ventilation through roof outlets.

Electrical outlets are particularly important. Ceiling space above the first floor should in all cases allow installation of recessed light reflectors which require 1'-1½" over-all depth. Ceiling outlets in a 12'-0" to 15'-0" ceiling should be spaced one to every 100 sq. ft. of ceiling area for general purposes. In a store from 8'-0" to 16'-0" wide this spacing will result in a single center row of outlets. When the store is wider than this, two rows or more will probably be required. When two rows of outlets are necessary, they are best located on lines 5'-0" to 6'-0" from the side walls. Assuming an average fixture depth of 1'-6", a service aisle of 2'-0" and a show case width of 1'-6", the light from such ceiling fixtures will be effectively concentrated above the front half of a show case.

Base outlets should be spaced approximately 20'-0" apart. Fan outlets 8'-0" above the floor, 20'-0" apart and staggered on opposite walls will be above the fixture line and give good coverage. Where possible, fans should be located on fronts of piers or other wall projections. A floor outlet for show cases should be introduced for each 12'-0" of lighted show cases. The aim, naturally, is to make the electrical system as complete and as flexible as is possible. Spot lights and other

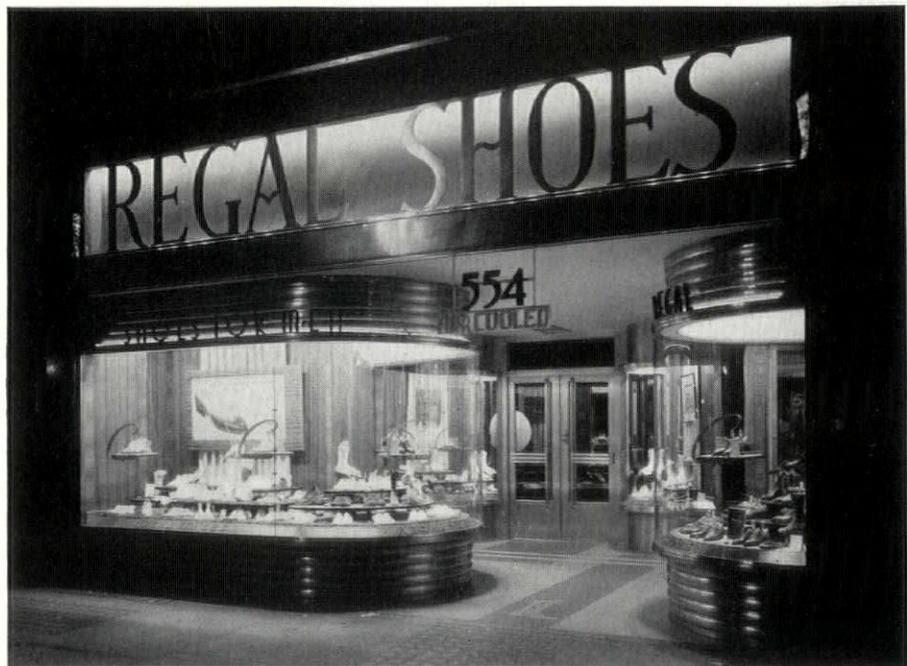


PHOTO: VAN ANDA

Shoe stores generally require show windows with many platforms built up from the bulkhead level. Items of merchandise should be displayed approximately at waist level. Note lobby space within the vestibule

• THE STORE UNIT PLANNING NUMBER..... 6

special lighting for displays and fixtures are being increasingly used and, wherever it is possible, wiring and special outlets for them should be incorporated in the original structure. The panel box of a speculative store is best located at the rear, or service end. It should be designed for a 100% increased load.

Ventilation will be best provided mechanically through vents and ducts. Skylights are now rarely incorporated in new buildings. Even windows in the rear of a store are considered comparatively needless.

PHOTOS: GOTTSCHO



The character of store interiors is determined not so much by the architectural shell as by the individual semi-portable fixtures and the decorative treatment. In the lower photograph the general illumination becomes a decorative element. Merchandise is illuminated from within the show cases concentrating the highest intensity at the point where sales are made

THE FRONT

The store front is a three-dimensional advertisement designed to serve three purposes: to sell the product, sell the name and to afford access to the interior. Comprising show windows, sign and vestibule entrance, the full force of a designer's knowledge of sales psychology, construction technique and architectural composition should be concentrated on this telling objective.

Experience has demonstrated that within certain ranges there are dimensional limitations for these areas, particularly in reference to the show windows and the entry. Store fronts can be grouped into broad classifications which are determined by the character of the product sold and the practical limitations of displaying it attractively. Also, the size of the store largely governs the extent of the entry and gives the practical limits of economical planning. On the accompanying T-S.S. are given diagrammatic and tabular data which set limits of variation with generally recognized standards of good practice.

The show window, proper, consists of a platform, transparent protecting screen and artificial lighting arranged to display the product to advantage. The height of the platform, the extent of the screen and the intensity of lighting should all be determined primarily from the standpoint of the observer. Eye-level is taken at 5'-3" above the sidewalk. From this can be derived the axiom that the display should always center below eye level. The nature of the product on display must also be considered. A small object, appealing in detail—as a pair of gloves, a printed label or a diamond ring—will require a higher display plane than larger objects such as radios or dresses.

Floor area of a window is almost, if not quite, as important a factor of design. The depth of a show window is influenced largely by the size of the object and the height of the bulkhead. It is also dependent on depth of store, number of styles to be accommodated in the window, and trade practice. The latter will generally prevail since it is already based on the size of the display and the average store depth.

The entry comprises the doors and vestibule. The problem of size is directly related to a natural resistance which all persons have to enter, willingly, a space that seems too cramped. Other contributing factors are: the number of persons using the store at peak periods, width of the store front, area of the store, and depth of the store front. Experience shows that these variables usually follow a certain pattern. In most cases the size of the store varies directly as these other factors. On the basis of this experience, stores up to 1500 sq. ft. in area (exclusive of store front), require only a single 3'-0" door in the majority of cases. Stores with floor areas greater than that require two or more doors.

Vestibule widths will vary at three typical sections: at the sidewalk, in the middle and at the door. A width of 5'-0" at the sidewalk should be minimum for comfortable passage of people. But the vestibule must provide more than comfort in passing. It must be spacious in feeling, but it

should not detract interest from window displays. It must urge the casual stroller to stop and examine the windows, move willingly toward the door and enter the shop. It must not, however, greatly reduce glass frontage of the store. A range of six to eight feet in the middle of the vestibule permits the designer to adjust his layout according to a balance desirable for each individual problem.

THE FIXTURES

Because the functions of store fixtures are so definite, fixture dimensions have become well standardized in most retail fields. The relationship between the size of the person using the equipment and the size of the article stocked in the equipment has been reduced to fine dimensions. Thus, the hangrod for women's dresses is 5'-10" above the floor, a comfortable reach for the average woman. The outside dimension of this fixture is 1'-10" to accommodate dresses or overcoats without crushing. Lengths are usually 4'-0", 5'-0" and 6'-0" to conform to almost any layout.

Similarly, fixtures for every type of progressive store have undergone standardization. Moreover, in an effort to make as few units as possible apply to as many store types as possible, some large national fixture houses have developed standard wall fixtures, show cases, and display cases that may be used in different kinds of stores handling different merchandise.

A stock wall fixture, for example, is 1'-10" deep, 6'-4" to 7'-0" high and 4'-0" long. This may consist of a lower section, 2'-8" to 2'-10" high (counter height), with sliding wood doors and wood shelves, or drawers, and an upper section with sliding glass doors and adjustable wood or glass shelves. In this unit can be kept women's lingerie, corsets, sweaters, men's shirts, hats and men's and women's accessories, such as gloves, handbags, etc. In a shallower depth of 1'-6", it may be used for men's accessories, gifts, jewelry, electric appliances, and notions.

The show case combines the functions of display, storage and selling counter and also defines the limits of service aisles. It is available in several widths, lengths and heights to meet various conditions. Widths vary from 1'-6" to 2'-6" and average 1'-10" to 2'-0". In length show cases average 4'-0", 6'-0" and 8'-0". Heights are adjusted to customer requirements. For a seated customer, the height should be 2'-10"; for a standing customer from 3'-2" to 3'-6". The trend in many Western stores is towards a greater use of "seated" show cases. This is probably due to the well-founded opinion that a comfortable customer stays longer and buys more. The "seated" show case generally has a projected edge for knee room.

Service aisles behind show cases will vary in width according to the number of clerks using them, the type of wall fixtures and the over-all width of the store. The narrowest practical aisle is 1'-8" which should be used only where wall fixtures or show cases do not contain drawers and

where there is no necessity for clerks to pass one another frequently. A service aisle width of 2'-3", commonly used in department stores, is recommended for general application. It permits easy access to drawers in fixtures and allows easy movement of clerks. In small establishments, however, economies in space must usually be made and a service aisle width of 2'-0" is usual.

The aisle width will vary, too, with the store type. In the grocery, for example, where large boxes are regularly handled behind the counters and where peak business requires many clerks and much circulation, a 3'-0" aisle is necessary. A small jewelry or hosiery store can use a 1'-10"

• THE STORE UNIT PLANNING NUMBER..... 6

PHOTO: PEYSER & PATZIG, INC. COURTESY OF GRAND RAPIDS STORE EQUIPMENT CO.



PHOTO: COURTESY OF GRAND RAPIDS STORE EQUIPMENT CO.



In most modern stores, wall cases are recessed for simplicity. Signs identifying various departments may be mounted at the cornice line in silhouette letters. For larger articles requiring space for fitting or examination, wider aisles may be used. Smaller articles must be kept closer to the customer; hence the aisles become narrower

• THE STORE
UNIT PLANNING
NUMBER..... 6

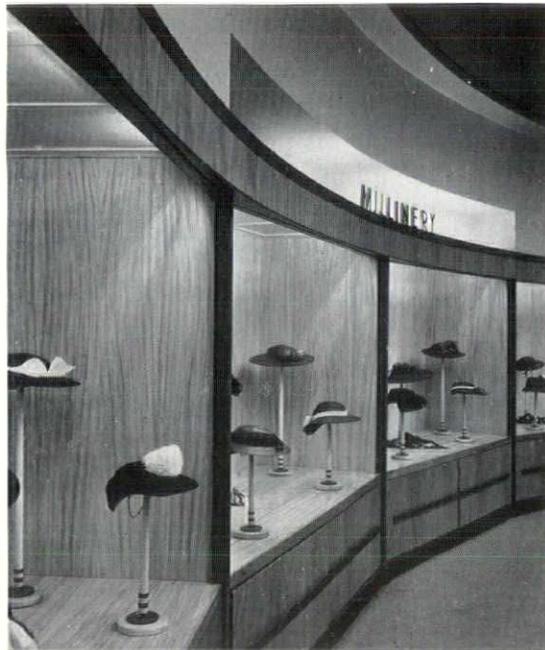


PHOTO: GOTTSCHO

PHOTO: PEYSER & PATZIG, INC. COURTESY OF GRAND RAPIDS STORE EQUIPMENT CO.

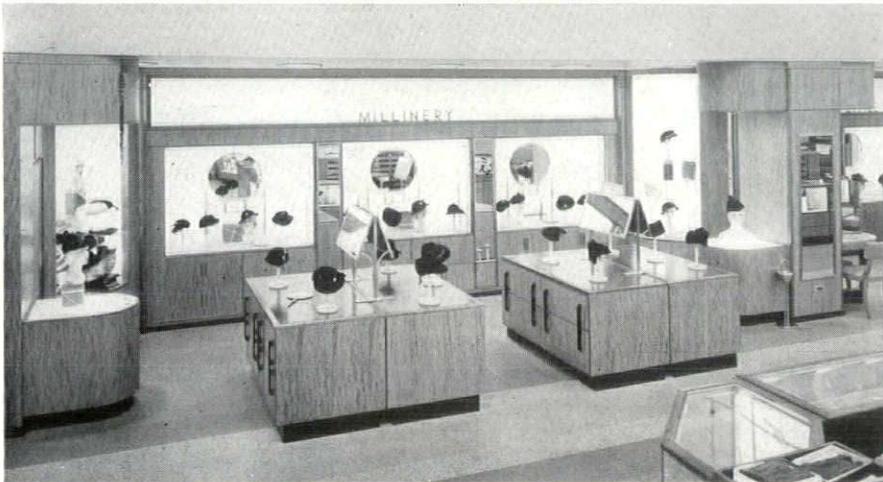


PHOTO: VAN ANDA



Such articles as shoes and hats require special consideration. Millinery counters should be kept fairly free of merchandise. Stand mirrors as well as hand glasses are provided for the customer's convenience. Layout of fixtures in all shoe stores is based upon chair sizes, fitting stool sizes, and the room necessary for access to stock

aisle without inconvenience. Women's and men's wear, drug stores, candy stores, bakeries, and stationers use service aisles varying in width from 1'-10" to 2'-2".

The public aisle is a quantity remaining after subtracting service aisles and show case depths. But a main aisle should never be less than 4'-6" for the 10'-0" shop with show cases on one side and 5'-6" for the 15'-0" shop with show cases on two sides. For the small store, 6'-0" is the recommended minimum for main aisles and 7'-0" is preferable aisle width.

Secondary aisles should be at least 4'-0" wide except in the case of self-service stores which require much more extended public space. For such stores, 3'-0" between fixtures is an absolute minimum and 3'-6" is a better width because it allows two people to pass more easily. The most spacious public aisle rarely exceeds 10'-0". This width is normally used only for congested areas, for the wider the aisle, the greater the distance between customer and selling area. In general, wide aisles make selling areas more difficult to reach and therefore reduce their relative importance.

In the arrangement of fixtures about public space, these additional factors must be considered: (1) Public spaces must not appear too important nor too empty. If possible aisles should be "encumbered" with display tables or island show cases. (2) A natural progression from one department to another should be developed. It must be constantly borne in mind, however, that visibility is a primary rule in store layout. Fixtures in the middle of the floor may be desirable or necessary from a layout point of view, but they should be low enough so that a clear view of the entire store is not obstructed. Heights of such fixtures should never exceed 5'-0" for the normal eye level is 5'-3". In a self-service store, in which the floor must be used for both stock and display, this height should be reduced to a 4'-6" maximum to afford a closer visual control.

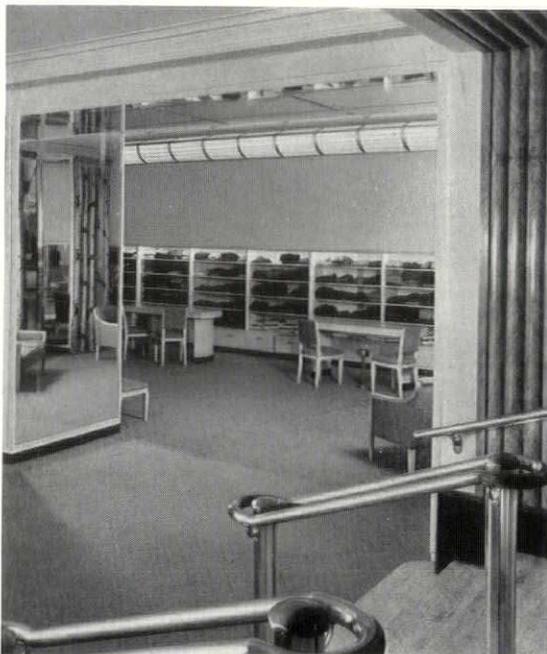
Island arrangements must often be incorporated in a wide store to obtain an efficient layout. These may consist of a hollow square formed by show-cases enclosing a service aisle. Or back-to-back fixtures may be introduced in the center of an enlarged service space. Sizes of selling or display islands developed from standard show case and fixture units are generally determined by the store's interior column arrangement.

The display table is the simplest type of island display. It is 2'-6" to 3'-0" wide, 2'-6" to 2'-10" high and is available in standard lengths from 4'-10" to 7'-0" long, variations being in units of one foot.

A simple island consists of grouped show cases. Width of the show cases will average 2'-0", and that of the aisle 1'-10" or 2'-3" when show cases contain drawers. Over-all length is usually not less than 10'-0".

A compound island consists of show cases and shelving. Back-to-back shelving will average 3'-8" over-all. Sizes of aisles and show cases will be similar to those of the simple island. Over-all island width will vary between 9'-6" and 13'-0".

Seating arrangements of shoe stores require careful study to obtain maximum seating capacity, for limits are set by seat size, fitting stool size, and required clearances for working. Seats are generally banked in rows, 1'-7" to 1'-10" on centers and 1'-9" deep. In higher-priced shops, however, the trend is towards use of individual arm chairs arranged in rows. These are 2'-0" to 2'-2" on centers and about 2'-0" deep. For comfortable working and including clearance for a fitting stool, 3'-6" should be reserved in front of the seat. This will determine two rules for seating arrangements: (1) At least 4'-6" for clearance and access to shelves should be allowed in front of seats facing shelves. (2) At least 7'-0" to 7'-6" clearance should be allowed between rows of chairs facing each other. Seat rows are usually broken at ten-seat intervals to permit freer circulation.



Shelving types and sizes illustrate the manner in which store fixtures have been designed to accommodate the merchandised product with the least waste space. A grocery store, for example, will have shelves of varying heights because of variations in sizes of packaged foods. A top shelf usually is 1'-2½" or three cans high, the average can height for No. 2 and No. 2½ can size being 4½". A jewelry store may use a 6" shelf depth for displaying small objects, such as watches, small clocks or glassware and a deeper shelf (1'-10") for flatware and large clocks.

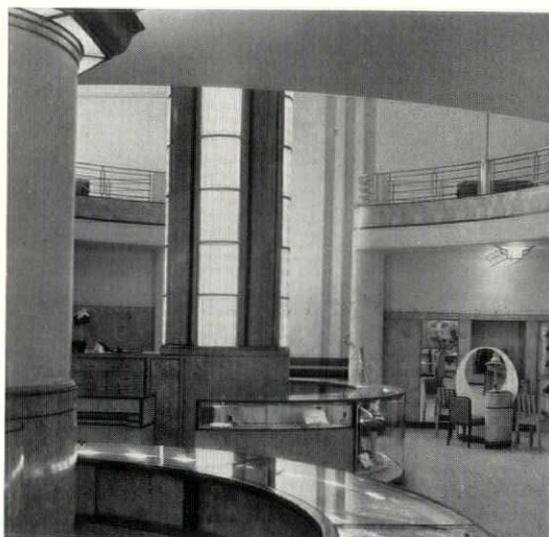
Shoe shelving has few height limits. The between-shelves dimension and the shelf width and depth will vary with different brands of shoes. Exact sizes can be determined accurately only by measuring the shoe boxes to be accommodated. Usually, a shoe shelf will hold six boxes of men's shoes and seven of women's between pilasters. A quarter to a half inch extra is allowed as a tolerance for easy removal. Shelves are now usually one box high; depth will average about 1'-2".

TIME-SAVER STANDARDS DATA

Definite data for use in planning all parts of the store are included in the accompanying Time-Saver Standards. Serial No. 81, "Store and Shop Planning—Basic Data," is concerned with the physical limitations of the store structure. Serial No. 82, "Store Front Planning," presents the data necessary to design the store's main advertisement—its front. In Serial No. 83, "Store Fixtures and Interior Layout," the stock sizes of store fixtures and their relation to interior layout are presented.

The data on which the Time-Saver Standards are based are the result of a comprehensive survey which has taken into account real estate, merchandising, and structural requirements. All three are equally important and should receive equal consideration. The electrical recommendations included have been checked with competent authorities.

All the data presented are intended to serve as general guides. In no case should they be regarded as "fixed." Variations to suit each individual problem are to be expected.



• THE STORE UNIT PLANNING NUMBER..... 6

In many stores more attention is being paid to the customer's comfort while shopping. Chairs are often introduced and, as shown in the lower picture, sometimes necessitate recessed fronts of show cases. The use of decorative general illumination emphasizing architectural elements such as columns or aisles and the use of mirrors to help create the effect of spaciousness should all be considered



PHOTOS: MOULIN—COURTESY OF GENERAL ELECTRIC

PURPOSE

Store fronts are discussed on T-S.S. Serial No. 82, "Store Front Planning"; fixtures and layouts will be found on T-S.S. Serial No. 83, "Store Fixtures and Interior Layout." This T-S.S. is concerned with space, mechanical and structural requirements of the store in general. Data have been compiled by J. R. Von Sternberg.

GENERAL REQUIREMENTS

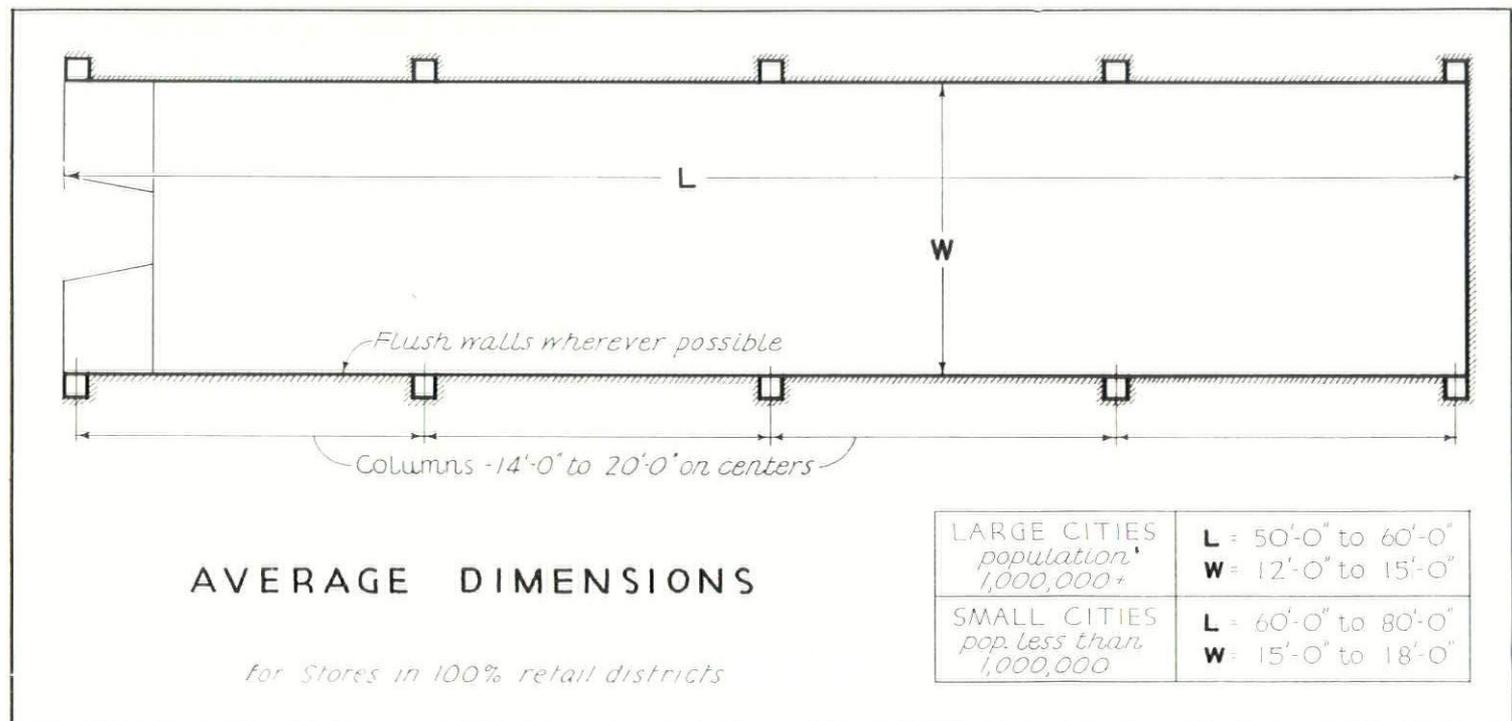
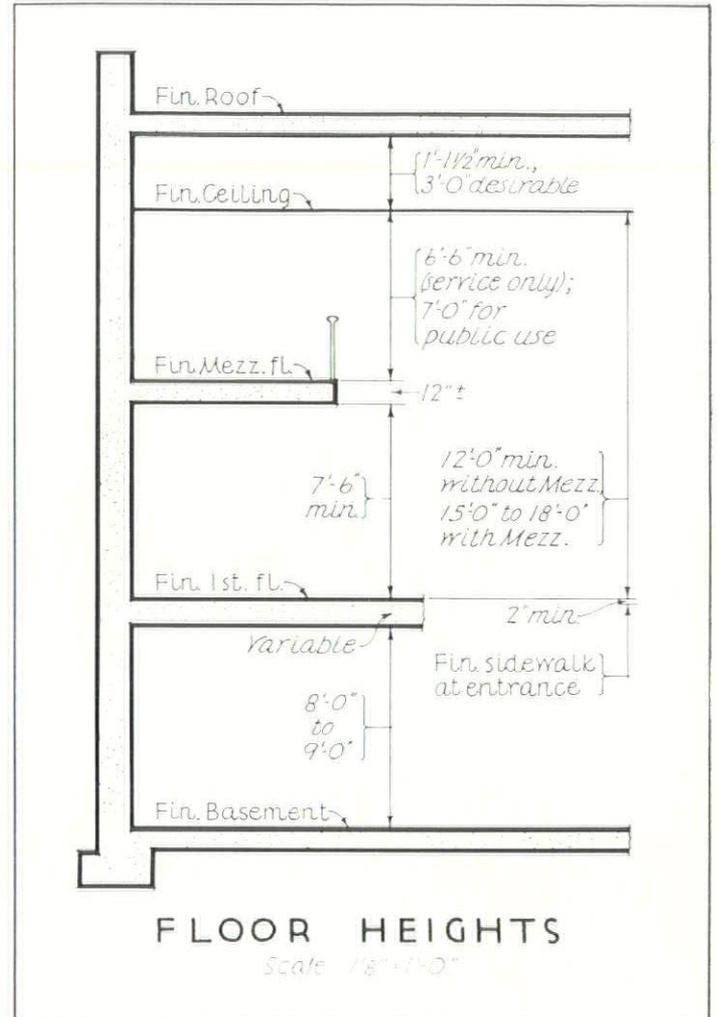
Structure. Columns should be spaced as far apart as is economically reasonable: 13 to 20 feet. Floors, if framed in wood, may have double joists on approximately 11'-0" centers to provide for changing stair locations. Floors should support a live load of 75 to 100 lb. per sq. ft. Basements should be waterproof. Walls, floors and ceilings should be free of "breaks" if possible. Varying floor levels and projecting pilasters interfere with fixture setting; pilasters, if used, should be furred out to approximately 1'-2" (normal fixture depth; see T-S.S. Serial No. 83). Installation of ventilating or air conditioning ducts may be unnecessarily complicated by pilasters or dropped beams.

Ventilating and air conditioning ducts can be accommodated in a ceiling furred 3'-0" below the roof. This dimension also permits easy access for repairs, and permits easy installation of electrical wiring and sprinkler systems. The minimum depth for installing recessed ceiling fixtures is 1'-1½".

Service portion, including toilets, lockers and mechanical equipment requiring servicing or occupying floor space, should be located in least valuable portion of store; that is, in portion of first floor farthest from the street entrance, or in the basement. Chimneys, unless they serve a decorative purpose, should be similarly located.

Dimensions shown in the diagrams are based upon real estate, merchandising, and structural requirements as well as dimensions of the human figure, and fixture and aisle sizes. Inclusion of the necessary working and storage spaces, such as wall cases, clerk's aisles, showcases and islands, will in each case permit public space within the store of approximately the proper size. For further information on store layout see T-S.S. Serial No. 83 "Store Fixtures and Interior Layout."

Interior finish should be of a material and color having high light reflectivity. If painted, light colors such as white, cream



STORE and SHOP PLANNING—Basic Data

or ivory are preferred. Floors may be of any material which is easily cleaned. Baseboards should be omitted so that fixtures may be set flush with the wall. Stairs should have non-slip treads.

ELECTRICAL

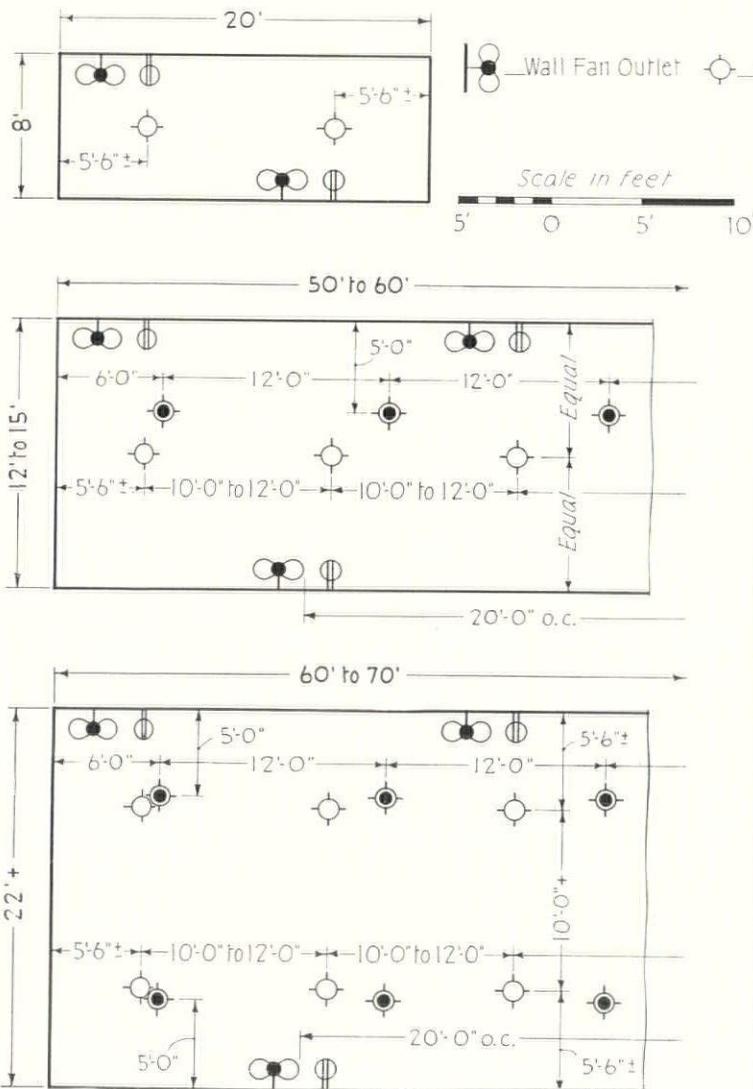
In addition to recommendations made below for general and counter lighting, and convenience outlets, protective alarm systems, and local or display illumination of merchandise are to

be considered. The latter requires from 2 to 4 times the intensity of general illumination throughout the store in order to command attention. Several methods of display lighting are in common use including recessed coves behind cut-out signs or displays, louvered spotlights, floodlights, counter lights for color matching, and fitting room and mirror lighting. Standard showcase equipment is available for tubular bulb, Lumiline, and ordinary bulb lamps. From 40 to 60 watts per running foot of show case will supply from 50 to 100 foot candles in normal conditions.

ELECTRICAL LAYOUTS

Plans shown below indicate recommended spacing for general illumination by direct or semi-direct ceiling fixtures such as luminaires. Many modern stores require such installations as recessed troughs; projecting panels; wall, column or sign-coves; wall urns or boxes; or flared coves on columns. These provide decorative lighting as well as general illumination; and may also be designed as to provide high intensity illumination of display counters

Intensity of general illumination for average store types, shown at "A" below, should be maintained no matter what kind of fixture is employed, bearing in mind that indirect fixtures such as recessed coves require greater wattage per outlet than exposed luminaires. For specific types of stores, recommended intensity may be modified. For instance, the "salon" type of dress shop or beauty parlor requires intensities from 25% to 50% less than indicated below; a chain department store requires a correspondingly higher intensity



SYMBOLS

Wall Fan Outlet Ceiling Outlet Floor Outlet Convenience Outlet

AVERAGE REQUIREMENTS

A - GENERAL ILLUMINATION

FL. AREA - Sq. ft.	WATTS PER UNIT OF AREA
100	200-300
150	400
500	1200

Ceiling outlets on alternate circuits approx. 10'-0" o.c.

B - COUNTER LIGHTING

Provide one floor receptacle for every 12'-0" of showcase

C - CONVENIENCE OUTLETS

FAN OUTLETS: 20'-0" o.c., spaced alternately on opposite walls, 8'-0" high
VACUUM CLEANER OUTLETS: in bases, spaced similarly to fan outlets. Place convenience outlets in faces of piers or projecting pilasters if existing

D - PANEL BOARD

Located in service portion of store (rear or basement); and should be designed to accommodate a 100% increase in load

STORE FRONT PLANNING

On this T-S.S. will be found data useful in planning store fronts. General store planning is discussed on T-S.S. Serial No. 81, and fixtures and interior layouts on T-S.S. Serial No. 83.

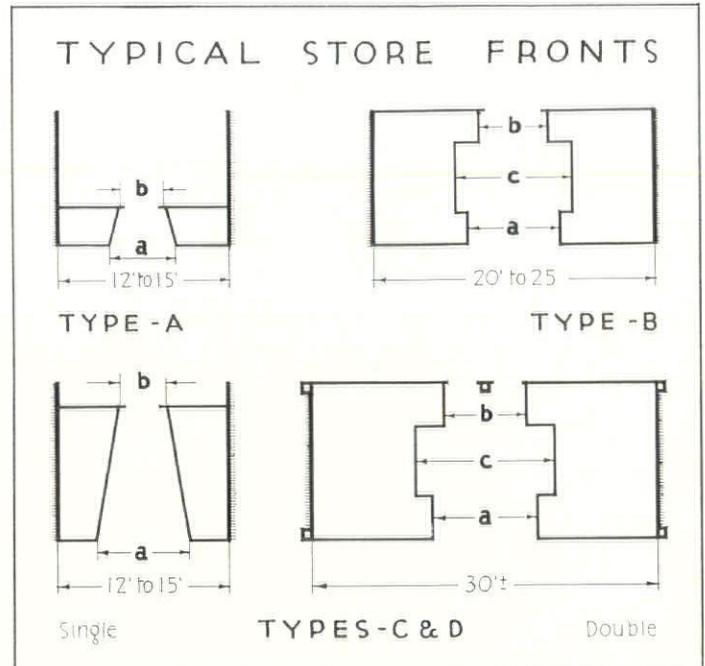
DESIGN FACTORS

In essence the store front is a three-dimensional advertisement, and apart from aesthetics is successful only insofar as it accomplishes this purpose. It consists of: the windows, the sign, and the vestibule. The accompanying diagrams and tables set up standards as a general guide to good planning. All are subject to adaptation under specific conditions. Vestibules, for instance, may be located anywhere within the store front; but the general proportions shown have proved satisfactory in providing room for customers entering the store and in persuading passersby to enter willingly.

LIGHTING

Signs should be located as close to eye level as possible. Larger signs may be designed in many ways including luminous glass letters, silhouettes lighted from behind, or edge-lighted signs.

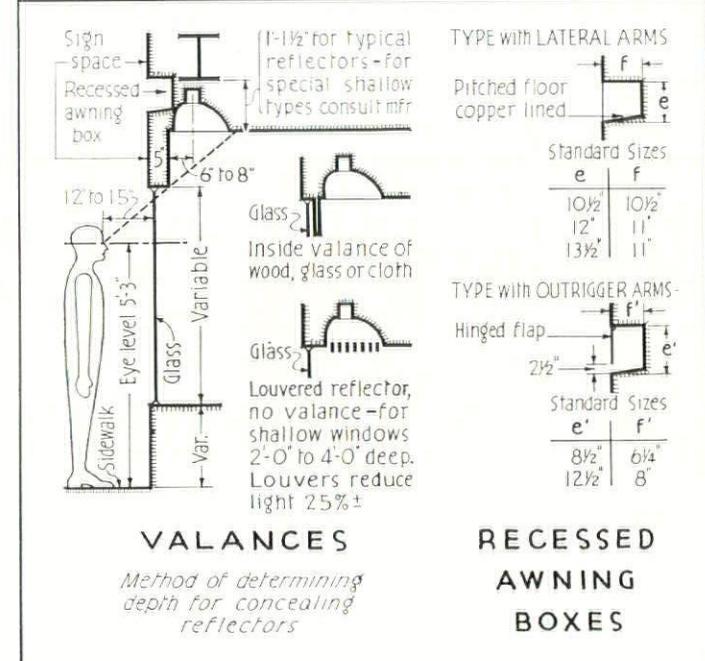
I - STORE FRONTS for TYPICAL OCCUPANCIES	
TYPE A	
<p>1. SERVICE STORES: Barber shops, beauty parlors, cleaning and dyeing, laundries, shoe makers</p> <p>2. SMALL OBJECTS - Food: Bakeries, dairies, groceries, delicatessens</p> <p>3. SMALL OBJECTS - Miscellaneous: (in quantities) Art, books, china, florist, hardware, jewelers, liquor, optical, tailor (custom), tobacco shops</p>	<p>KIND OF DISPLAY: Small articles requiring min. window area. Stock brilliant, requiring medium intensity lighting; easy access except in service stores. Food and florist windows require ventilation. Objects for close inspection displayed at waist level as if held in the hand</p> <p>RECOMMENDED AVERAGE SIZES: Window depth: 3'-0" to 5'-0". Bulkhead height: 2'-0" to 3'-6". Glass height: 3'-6" to 8'-0" (avg. 4'-0" to 6'-0"). Window lighting: 100-200 W. per outlet, 12" o.c.</p>
TYPE B	
<p>1. VARIED STYLE STOCK: Corsets, dresses, haberdashers, men's clothing, shoes, women's wear</p> <p>2. BULK DISPLAY - Large Items: Musical instruments, radios and refrigerators, sporting goods</p>	<p>KIND OF DISPLAY: Styles or models important; unit size & setting call for large windows & access doors. Larger merchandise displayed 2'-0" back from glass; smaller generally below eye level, often in shallow windows. Spotlights used</p> <p>RECOMMENDED AVERAGE SIZES: Window depth: Large, 4'-0" to 6'-6"; small, 3'-0" to 4'-6". Bulkhead height: Large, 1'-0" to 1'-10"; small, 1'-6" to 2'-2". Glass height: Large, 6'-6" to 9'-0"; small, 5'-0" to 7'-0". Window lighting: 150-200 W. per outlet, 1'-3" o.c.; additional spot and convenience outlets</p>
TYPE C	
<p>1. BULK DISPLAY - Small Items: Electrical appliances, house furnishings, luggage and leathergoods, radio accessories and service</p> <p>2. SMALL OBJECTS - Style or Limited Display: Drugs, furs, handbags, hosiery, men's hats, men's shoes, millinery</p>	<p>KIND OF DISPLAY: Style and display important as in Type B, but items fewer, and smaller in size and range. Objects for close inspection displayed at waist level. Backgrounds enhance color, texture. Shelves, platforms, may be built in</p> <p>RECOMMENDED AVERAGE SIZES: Window depth: 2'-6" to 6'-0" avg. (millinery & furs, 5'-0" to 8'-0"). Bulkhead height: 1'-6" to 2'-4" (millinery 2'-8"). Glass height: 6'-0" to 8'-0" (house furnishings to 10'-0"). Window lighting: 150-200 W., 1'-3" o.c.; additional spot and convenience outlets; possibly footlights</p>
TYPE D	
<p>1. SPECIAL TYPES: Automobiles, Furniture, open-front markets, etc.</p>	<p>KIND OF DISPLAY: Autos: spec. displays and spotlighting, gen'l lighting by louvered reflectors, possibly access windows. Furniture: room-size displays; large access doors; wall, ceiling and convenience outlets; general lighting low; large wall and floor space. Open-front markets a special problem.</p> <p>RECOMMENDED AVERAGE SIZES: Window depth: 6'-0" to 11'-0". (Omit back for autos). Bulkhead height: 0" to 1'-2". Glass height: 8'-0" to 11'-0". Window lighting: 100-500 W., 1'-3" o.c.; louvered lenses. Concealed spotlights, additional wall, floor, ceiling outlets</p>



VESTIBULE REQUIREMENTS

	TYPE A	TYPE B	TYPES C & D	
			Single	Double
a	5'-0" to 6'-0"	6'-0" to 8'-0"	6'-0" to 8'-0"	7'-0" to 9'-0"
b	3'-8" to 4'-0"	For 1 Dr. 3'-8" x 4'-0" For 2 Drs. 5'-6" x 6'-6"	3'-8" to 4'-0"	6'-6" to 8'-6"
c		7'-0" to 10'-0"		7'-6" to 20'-0"
Height	7'-4" to 8'-6"	9'-0" to 10'-6"	7'-6" to 8'-6"	9'-0" to 10'-6"
* Light	One outlet 100 watt	Combined decorative light and illumination; Neon tubes or lamps; in coves or in lensed reflectors 8'-0" o.c.		
Door Size	3'-0" x 7'-0"	1 Dr. - 3'-0" x 7'-0" 2 Drs. - 2'-6" x 7'-0"; 3'-0" x 7'-0" or 7'-6"	3'-0" x 7'-0"	2 Drs. - 2'-6" x 7'-0" 3'-0" x 7'-0" or 7'-6"

* Lighting variable; see text



STORE FRONT PLANNING

Entire store fronts may be treated as luminous architectural elements using bands of light, "spots" of light or colored light in patterns, graduated floodlighting, etc. Random spots of light, unstudied as to design, are to be avoided.

Intensity of store front lighting, including signs, front and show window lighting, should be carefully studied as to relation of the elements to each other and to their surroundings, and as to type of business. The sign, as an advertisement, should be brightest; show windows next; and general decorative store front lighting subordinated. Conservative stores require less

brightness than theaters. Treatments of large areas, or use of color, will permit lighting in a low key. Show window lighting wattages noted should be multiplied by the following factors, which are based upon average brightness of typical commercial districts:

Typical shopping centers (cities)	1.0	Neighborhood stores (small towns, industrial districts)50
Secondary shopping centers (cities, main centers towns)75	Brightly lighted areas (Times Square, N. Y.)	2 to 2.5

II - STORE FRONTS - AVERAGE DIMENSIONS (Figures indicate range of sizes in common use)

STORE	STORE FRONT TYPE	BULK-HEAD HT.	GLASS HT.	WIN-DOW DEPTH	LIGHTING in Watts per Lin.Ft. Outlets 12" x 15" o.c. (SEE TEXT)	WINDOW BACKS	STORE	STORE FRONT TYPE	BULK-HEAD HT.	GLASS HT.	WIN-DOW DEPTH	LIGHTING in Watts per Lin.Ft. Outlets 12" x 15" o.c. (SEE TEXT)	WINDOW BACKS
Art	A-2	2'-2"	3'-6"	3'-0"	100 200	Neutral color, suitable for tacking no portion of window more than 3'-6" from access door	Grocery	A-2	1'-8" 2'-4"	6'-0" 7'-0"	3'-0" 5'-0"	150	Open - clear view into store
		3'-0"	6'-0"	4'-0"			Haberdasher Varied stock	B-1	1'-6" 2'-2"	6'-0" 7'-0"	3'-0" 4'-0"		200
Auto	D	0"	8'-0"	6'-0"	300 500	None	Haberdasher Limited stock	C-3	2'-6" 2'-8"	5'-0" 6'-0"	2'-6" 3'-0"	150	Closed
		12"	10'-0"	8'-0"			Hardware	A-3	1'-6" 2'-6"	6'-0" 8'-0"	4'-0" 6'-0"		200
Bakery Candy	A-2	2'-0"	5'-0"	2'-0"	150	Glass, wood. Screened vent ducts to outer air; assume size of 100 sq. in. per 1000 watts	Hats Men's	C-2	2'-0" 2'-4"	6'-0" 8'-0"	3'-6" 4'-6"	200	Closed - 1 access door
		2'-6"	6'-0"	3'-6"									
Books	A-3	2'-4"	4'-0"	2'-6"	100	Closed, wood; or partially open possibly with shelving for displays	Hats Women's Millinery	C-2	2'-2" 2'-8"	5'-0" 7'-0"	3'-0" 5'-0"	200	Closed
		3'-2"	6'-0"	3'-6"									
Clothing Men's	B-1	1'-6"	6'-6"	4'-0"	200	Closed, 1 access door per window; partitions or screens often divide window into 4' to 6' units	House furnishings	C-1	1'-6" 2'-0"	8'-0" 10'-0"	4'-0" 6'-0"	200	Closed
		1'-10"	8'-0"	6'-0"									
Clothing Women's	B-1	1'-0"	7'-0"	4'-0"	200	Closed, 1 access door per window; usually light hard woods	Jewelry Inexpensive	A-3	2'-8" 3'-0"	4'-6" 6'-0"	2'-6" 3'-6"	150	Closed, removable; provide access passage
		1'-3"	9'-0"	6'-6"									
Dairies Delicatessen	A-2	1'-8"	5'-0"	2'-6"	150	Closed or open; access doors 1'-6" by 4'-0" to 2'-0" by 5'-0", max. reach 3'-6". Vent unless refrigerated; see "Bakery"	Jewelry High quality	C-2	3'-2" 3'-6"	3'-0"	1'-0" 2'-6"	100	Closed, removable; provide access passage
		2'-4"	7'-0"	4'-0"									
Drug	C-2	2'-0"	6'-0"	2'-0"	200	Partially closed - openings to view interior; provide access passage	Leathergoods Luggage	C-1	1'-6" 2'-0"	6'-6" 7'-6"	6'-0" 8'-0"	200	Closed, provide shelves 15" to 24" apart for luggage displays
		2'-6"	8'-0"	3'-0"									
Florist General	A-3	1'-0"	6'-0"	3'-0"	150	Open - additional glass and metal shelving - Ventilated	Liquor	A-3	1'-10" 2'-6"	5'-0" 6'-0"	2'-0" 4'-0"	150	Low rail
		Water-proof floor; drainage	8'-0"	6'-0"									
Florist Hotel, Cut flowers	A-1	3'-0"	4'-0"	3'-0"	100	Closed - additional glass and metal shelving. Vent unless refrigerated	Optical	A-3	3'-0" 3'-6"	4'-0" 5'-0"	2'-0" 3'-0"	150	Generally closed; whole window free in design
		9'-0"	5'-0"	4'-0"									
Furniture	D	9"	11'-0"	12'-0"	250 300	Closed; access doors, 4'-0" x 6'-8"	Radios Refrigerators	B-2	1'-6" 2'-0"	6'-0" 8'-0"	4'-0" 5'-0"	200	Open or closed
		1'-2"	Room-size, 9' x 12' rug, wall space	8'-0"									
Furrier	C-2	1'-8"	6'-0"	3'-0"	200	Semi-closed or closed, rich wood preferred	Shoes Men's	C-2	1'-10" 2'-2"	6'-0" 7'-0"	2'-0" 4'-0"	150	Closed
		2'-4"	8'-0"	6'-0"									
Service Barber Beauty Cleaner and Dyer Laundry	A-1	1'-8"	6'-0"	1'-6"	200	None; interior appearance important	Shoes Women's; or Men's and Women's	B-1	2'-0" 2'-4"	5'-0" 6'-0"	3'-0" 4'-6"	150	Closed
		2'-0"	8'-0"	3'-0"									
Sporting goods	B-2	1'-6"	6'-0"	3'-0"	200	Closed	Tailors	A-3	1'-6" 2'-0"	6'-0" 8'-0"	3'-0" 5'-0"	150	Preferably open
		2'-0"	7'-0"	6'-0"									
Tobaccos	A-2	2'-6"	4'-0"	2'-0"	100	Closed	Tobaccos	A-2	2'-6" 3'-0"	4'-0" 6'-0"	2'-0" 3'-0"	100	Closed
		3'-0"	6'-0"	3'-0"									

STORE FIXTURES and INTERIOR LAYOUT

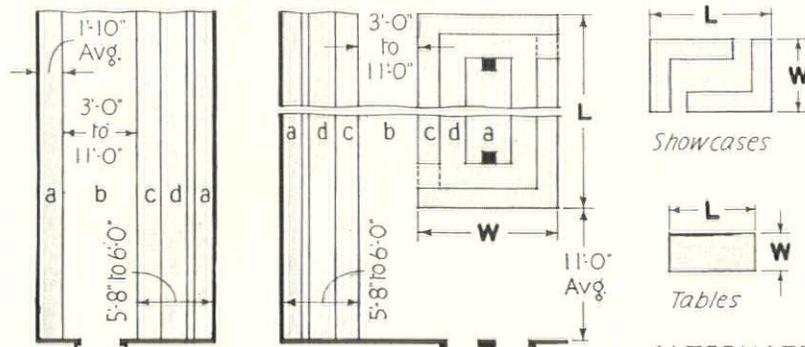
Layouts of typical store interiors and sizes of typical fixtures are given on this sheet. Store planning in general is discussed on T-S.S. Serial No. 81 and store fronts on T-S.S. Serial No. 82.

Store fixtures are efficient only when their size is related to dimensions of articles stocked in them and dimensions of the human figure. Therefore they are available in a number of standard sizes commonly used in all retail fields. Dimensions given in the accompanying diagrams and tables, plus aisle widths, determine interior layouts.

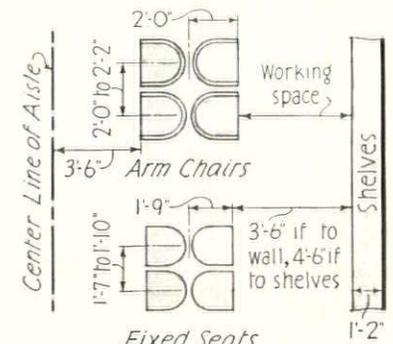
Aisle widths given are based upon several factors: Clerk's aisles are narrowest when only one clerk has access to counter and wall case; wider when several clerks must pass each other;

widest when cases of merchandise must be handled, as in groceries or at wrapping counters. Public aisles should be narrow enough so that customers are always near merchandise, yet wide enough to accommodate "peak" loads at rush hours. Main public aisles giving access to several secondary aisles, or affording space for feature displays requiring distant viewing, may be much wider.

Layout types and dimensions are intended as planning guides only, not as "fixed" standards. For instance, island cases may be placed diagonally when stores are narrow or when sides of cases afford better display of merchandise than ends, when seen from either the front of the store or ends of the aisles.



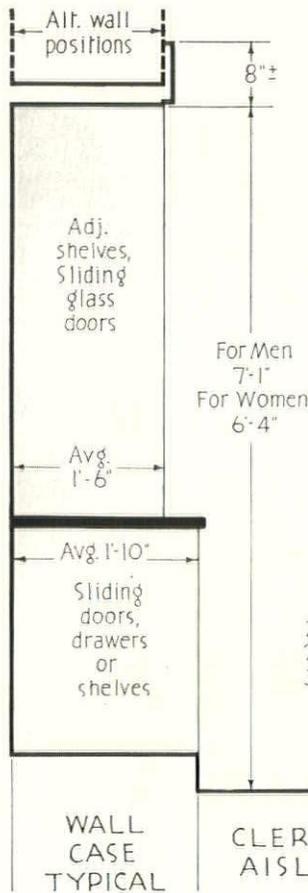
TYPE of ISLAND	L	W
With center cases	13'-0" Avg. min.	9'-6" to 13'-0"
Showcases only	10'-0" min.	5'-10" to 6'-3"
Tables only	4'-0" to 7'-0"	2'-6" to 3'-0"



SINGLE AISLE DOUBLE AISLE ALTERNATE ISLANDS
a - Tall case b - Public aisle c - Showcase d - Clerk's aisle

TYPICAL STORE LAYOUTS

Scale 1/16" = 1'-0" unless otherwise noted



SECTIONS thru TYPICAL FIXTURES and AISLES

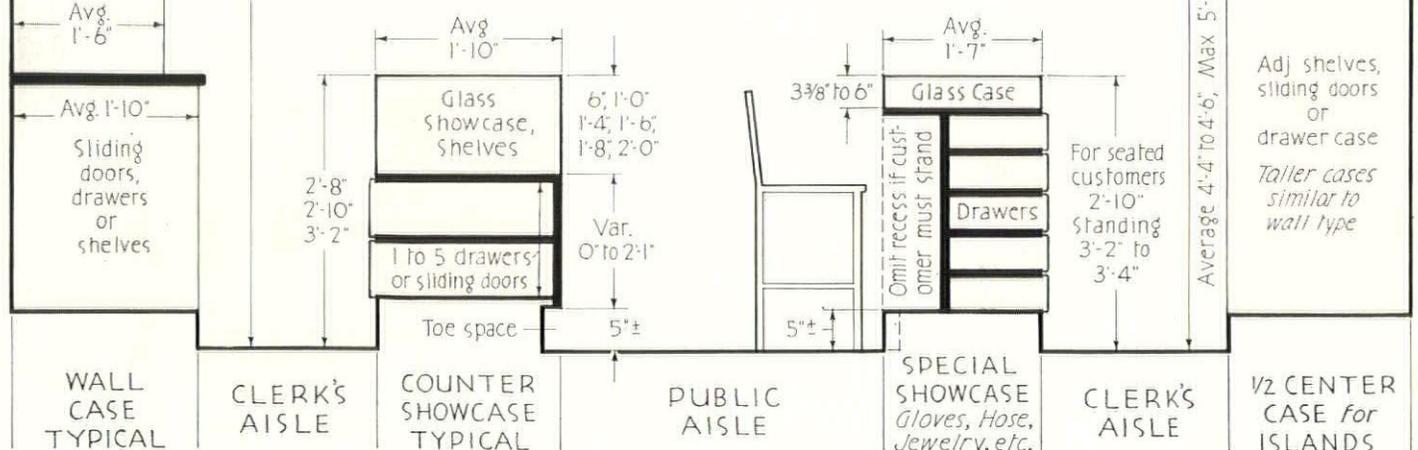
CLERK'S AISLES: Minimum width 1'-8"; recommended 2'-0" to 2'-3" wide (as for grocery) 3'-0"

PUBLIC AISLES: Main, min. width 4'-6"; avg. 5'-6" to 7'-0"; maximum 11'-0"

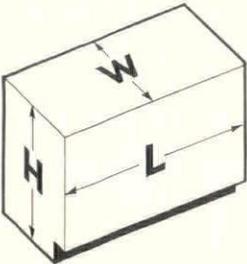
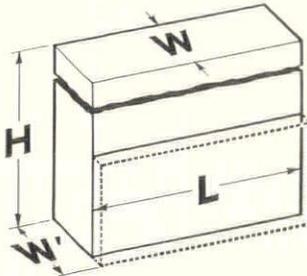
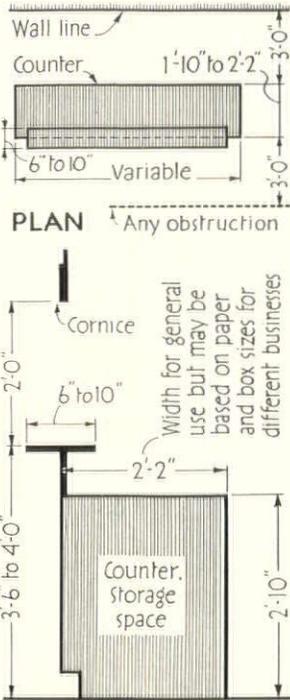
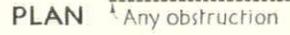
Secondary, min. 3'-0"; recom. 3'-6"

Sections drawn at scale 1/2" = 1'-0"

For Men 7'-1"
For Women 6'-4"

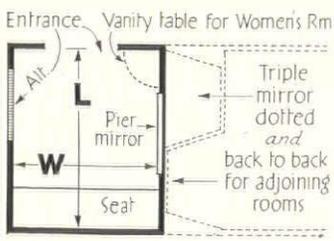
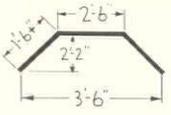
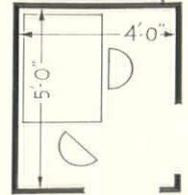


STORE FIXTURES and INTERIOR LAYOUT

SHOW CASES					TALL CASES					WRAPPING COUNTER
										
TYPE	H	W	L	REMARKS	TYPE	H	W	W'	L	PLAN
HABER-DASHERY	2'-10" 3'-2"	1'-10"	4', 6' 8', 10'	Useful for all types of Stores	WOMEN'S HANGROD	6'-4"	1'-10" (open) 2'-2" (doors)	—	5', 6', 7'	<p>Any obstruction</p>  <p>Width for general use but may be based on paper and box sizes for different businesses</p>
BAKERY	3'-2" 4'-0"	2'-4"	4', 6' 8', 10'	Often with sloping front	MEN'S HANGROD	7'-1"	1'-10" (open) 2'-2" (doors)	—	5', 6', 7'	
MILLINERY	2'-6" 2'-8"	1'-10" 3'-0"	3'-0" 6'-0"	Used singly or in pairs, back to back or mirror between	GENERAL	6'-4" (Women) 7'-1" (Men)	1'-6"	1'-10"	5', 6', 7'	
PATTERNS	2'-10" 3'-2"	1'-10"	4', 6' 8', 10'	Sloping Top	CENTER ISLAND	4'-4" 4'-6" 5'-0"	3'-0"	3'-8"	5', 6', 7'	
CASH REGISTER	3'-2"	1'-10"	Varies with Register	Register shelf 12" below top	TROUSERS	4'-2"	3'-0"	—	4'-4"	
					REVOLV'G HANGROD (Men)	3'-4" to 7'-0" Single Deck 5'-0" to 7'-0" Double	4'-2"	—	7'-0"	

SHELVING DATA

STORE TYPE	JEWELRY		GROCERY		HATS		SHOES	LIQUOR	BOOKS	MEN'S and WOMEN'S FURNISHINGS	WOMEN'S WEAR
	Large Items	Small Items	General	Staples	Men's	Women's					
DEPTH	2'-0"	6" to 1'-0"	1'-0" to 1'-6"	1'-6" to 2'-0"	1'-2"	1'-2"	1'-2"	10", 1'-2"	8", 9", 10"	10" to 1'-6"	1'-6"
HEIGHT	3'-0" Small case set above large	3'-0"	7'-10" average	7'-10" average	7'-1"	6'-4"	Dimensions vary with box sizes. Shelves 1 box high x 6-7 boxes lg. Total height unlimited.	7'-1"	Variable	6'-4" or 7'-1"	6'-4"
DISTANCE BETWEEN	1'-3" to 1'-6"	1'-0"	10" to 1'-6" adjustable	1'-8" Lower 1'-2" others	1'-0"	1'-6"		9", 12", 15"	10", 1'-2"	1'-0" to 1'-2"	1'-2" adjustable
DOORS	Sliding Glass		Omit	Omit	Sliding Glass or Open		Omit	Omit	Sliding, wood or glass, or open shelves.		

FITTING and DRESSING RMS	USE	W	L	MIRROR	ENTRANCE	TRIPPLICATE MIRROR	CREDIT BOOTH
	Customer and Fitter	3'-0" to 4'-0"	4'-0" to 5'-0"	Pier	Wood door fitted with clothing hooks	 <p>May be variously combined as: Back to back, In units of Four around posts, etc</p>	<p>Unit area can be multiplied for Dept Stores etc</p> <p>Walls, partitions, rail or open</p> 
	Customer only	3'-0" to 4'-0"	3'-6" to 4'-6"	Pier			
	Customer and Fitter	4'-6" to 5'-0"	5'-0"	Pier	Wood door or curtain		
	Customer only	3'-0"	3'-0" to 3'-6"	Triple	Wood door, hooks		

TECHNICAL DIGEST

KEY TO PRESENTATION

Typical reference:

15 N'36:14-26 **gptv**

This indicates: Issue of November 15, 1936, pages 14 to 26 inclusive, presented according to the following key:

d—detail drawing **p**—plan **g**—graph
s—section **v**—photo view **t**—text

Accordingly, **gptv** means graph(s), plan(s), text and photographic view(s) in the article mentioned.

ACOUSTICS

Acoustics in Building. (Lecture by A. J. Davis). *Architect & Building News*. (London). 12 Mr'37:339-341 †

Considers briefly churches and halls, echoes and reverberation; in more detail, noise in buildings, partitions, "the loud-speaker next door," doors and windows, floors and ceilings, vent ducts and water pipes.

CONSTRUCTION

Reinforced concrete in Fountain House, London. *Architect & Building News* (London). 26 Mr'37:373, 397-400 & loose supplement. **dpstv**

Remarkable reinforced concrete job (apartments with garages beneath). Steel beams of the size required could not be got on to the small site. All the reinforcing steel was bent on the job. One beam has a span of 48 ft. with a depth of over 14 ft. Construction details.

Exterior walls of concrete house completed in one day. *Engineering News-Record*. 18 Mr'37:403-404 †

Billner vacuum process applied to wall forms for 3"-6"-3" hollow concrete wall. Building paper on wood studs was used for central air space forms, and cloth-lined plywood panels, supported by vertical I-beams, for facing forms. Concrete was poured in lifts of 3 ft. before vacuumizing. Atmospheric pressure then pushed at back of building paper. The cloth lining was a coarse mesh to permit more uniform vacuum over the entire face from the small suction cups. Panel joints were sealed with rubber strips. Vibrators were used on the plywood in placing concrete.

In less than four hours after pouring began, the one-eighth inch finish coat was being applied.

Dry-rot. (Forest Products Lab. Report). *Architects' Journal*. (London). 11 Mr'37:447-448 **st**. Also in: *R. I. B. A. Journal* 20 Mr'37:508 †

Description of an experimental house used for 3 years' study of dry-rot. Conclusions show that if a floor has been well constructed with proper ventilation dry-rot fungus will not develop even if

the most virulent types of infection are present. Insertion of a damp-proof course of bitumen between flooring and concrete is recommended. There is a table showing the condition of five types of floor construction after they have been exposed to infection.

Earthquake-resistant design for new school buildings. (H. W. Bolin). *Engineering News-Record*. 18 Mr'37:415-419 **dtv**

Methods and details used in buildings of wood, steel, concrete and brick, which have been developed since the enactment of the 1933 structural law in California. There are many clear drawings of details and the text explains additional points.

The use of asphalt mastic for roofing. (Abstract: Building Research Station Report). *The Builder*. (London). 19 Mr'37:647-648 †

Detailed technical notes in the form of a summary of contents: Nature of materials, manufacture, methods of roof construction, laying asphalt mastic, thermal movements, weathering and solar effects are included.

White-washing is recommended to reduce solar heat absorption.

Floors with metal joists. (B. Enyedi). *L'Ossature Métallique*. (Brussels). Ap'37:189-200 **dst**

Exhaustive study of metal joist floor construction. Well illustrated with details and sections. Structural calculations are not presented.

COSTS

Elements of Building Costs. *Engineering News-Record*. 13 My'37:676-677 †

Very complete checklist of items involved in building construction of all sorts. This tabulation was compiled from a number of similar, less complete, checklists used by large construction firms.

HEATING & AIR CONDITIONING

Effect of radiator position. (A. F. Dufton & W. G. Marley. Abstract from *Journal Institute of H. & V. Engineering*). *Heating & Ventilating*. Mr'37:34 †

Careful tests have shown that total heat required for heating the rooms of a house remained the same whether radiators (electric heaters) were placed beneath windows or on inner walls of rooms.

Five types of domestic oil burners. (A. H. Senner. Abstract from Report of U. S. Dept. of Agriculture). *Heating & Ventilating* Mr'37:37-39 **stv**

Describes vaporizing, atomizing, rotary types and variations. Ignition methods are also noted. Vaporizing oper-

ates by pre-heating the fuel—atomizing, by mechanical breaking up of oil into small particles.

Chimney liners. (M. C. Eck). *Heating & Ventilating*. Mr'37:35-36 †

A concise discussion of effects of condensation in chimneys used with gas fuel, and proper lining materials for such service. Properly sized flue lining often results in 10-15% fuel saving. A relation of 10,000 B.t.u. per sq. in. has been found successful.

Copper, lead-coated pipe, transite pipe, aluminum, vitreous enamel pipe, stainless steel and tile are some of the materials considered.

Vitreous glazed tile with lead or acid-resisting cement caulking in bell or slip joints is recommended for new work. Vitreous enamel pipe is also reported quite satisfactory.

Efficiencies & costs of various fuels in domestic heating. (R. A. Sherman & R. C. Cross). *Heating & Ventilating*. Mr'37:63-64 **gt**

Abstract from Technical Report No. 3 of Bituminous Coal Research, Inc. Graph (with typical examples of use) correlating costs of gas, oil and coal, including power and allowance for ash removal.

How much cooling. *Domestic Engineering*. Ap'37:73-76, 181-183 **dgpt**

Analysis of typical (25x35 ft.) office cooling job in an existing building. Occupancy 40 persons. Diagram of recirculation, graph of moisture per lb of air for temperatures 50-100°F. dry bulb. Details of installation and typical calculations of heat gain, etc.

For present & future value insulate now. (B. F. Betts). *American Building Association News*. Mr'37:140-151 **dstv**

Although aimed at laymen, this article covers thoroughly the subject of residential insulation. It is well illustrated with process photos of placing of rigid insulation board, batts, blanket, loose fill, sheet steel, and foil on paper. There are also diagrams of the various methods and materials in place.

ILLUMINATION

New 100-watt mercury lamp. *Illuminating Engineering Society Transactions*. Mr'37:237-238 †

Bulb-within-bulb type, about 1½" diameter, 6" long. Smaller than standard 200-watt tungsten bulb but produces about same amount of light (30 lumens per watt). The other bulb is of soft glass; the inner 2"-long "thumb" is of special

A sound REASON



A California installation

TO DIMINISH SOUND is one of the soundest of reasons for the installation of Azrock. The gentle resilience of this modern mastic tile floor covering absorbs and reduces sound to a nerve-easing, comfort-producing minimum. Azrock is tough and strong, too, meeting every requirement for hard and constant wear.

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hard, heat-resisting glass. It operates from 110-115 or 120-volt line without voltage step-up for starting. Takes five minutes to warm up when first turned on.

What size window? (K. W. Schulze). *Der Baumeister*. (Munich). Ap'37:69-72 **sptv**

German text discussing general problems of natural illumination in industrial, residential and other types of buildings. A few diagrammatic plans and sections of window placement and of size.

MATERIALS AND FINISHES

Aluminum. *The Times Trade & Engineering*. (London). Mr'37: i-lxiv **tv**

An elaborate, illustrated international survey of this increasingly important industry. History, latest reports on progress of the industry in all countries. Articles on metallurgy, manufacturing processes and working methods. Many photographs of applications in all lines of construction and manufacture.

Portland Cement. (O. T. Zimmerman, from N. Dakota Engineer). *Science Digest*. Je'37: 79-82 **†**

Excellent summary of present-day knowledge of this material. Considers chemistry of ordinary and special cements: early strength cements, heat of hydration, retarders and catalysts for increasing rate of hardening, color treatment, cracking as an effect of volume change. Volume change, the most important defect, it is noted, is due to seasonal variations in temperature, temperature changes due to hydration, and to drying out of concrete.

Experience with light aggregates in concrete construction. (R. S. McLean). *Engineering News-Record*. I Ap'37:484-485 **gt**

Description of manufacture and use of light-weight aggregate in a new California Junior College building. Primary purpose was to decrease deadload since foundation conditions were poor. Concrete weighing only 115 lb/cu. ft. was used for entire structure except the cast-in-place piles. Aggregate weighed about 40 lb/cu. ft. and absorbed 30% of this weight in water rapidly. This quantity of water is expected to have a good effect on curing, and may even cause a further decrease in concrete weight with age (as water dries out). This job description includes account of vibration, steel used and cost comparison.

Finishing architectural concrete. *Architect & Engineer*. Mr'37:42-44 **†**

Patching procedure, mortar for patching, curing and cleaning walls, are topics developed in this "how-to-do-it" article.

Interior & exterior plaster. (Dr. Heyn). *Deutsche Bauzeitung*. (Berlin). 24 Mr'37:192-193 **tv**

Report of experiments with various types of plaster finishes at a technical

school at Aachen. Photographic views of ten sample textures.

Recent advances in the glass industry. (E. W. Tillotson). *American Society of Testing Materials Bulletin*. Mr'37:7-10 **†**

History. In nearly 60 years the glass industry in this country has increased the value of its annual production over 14 times. Much of this increase is due to new uses: safety glass, glass fibers, glass cooking ware and building units; but technological advances have contributed greatly.

Description of present processes of plate glass manufacture, of the electric light bulb machine, notes on the influences of chemistry and physics, and on the many new uses of the material.

Laminated glass. (J. H. Sherts). *American Society of Testing Materials Bulletin*. Mr'37: 10-12 **†**

History, manufacture and research. Description of the newer plastic layers and their improved qualities. Latest type withstands the blow of a half-pound steel ball dropped 40 ft. at 0°F, 80 ft. at 70°F, and 40 ft. at 120°F.

Tempered safety glass, which is case-hardened but not laminated, has been mentioned before in *Technical Digest*. It breaks into small granular particles when cracked, and is 5-7 times as strong as ordinary glass.

Glass fibers. (G. Slayter). *American Society of Testing Materials Bulletin*. Mr'37:12-14 **tv**

History. Insulating batts of glass fiber weigh only 1½ lb/ cu. ft. (Solid glass weighs 150 lb/cu. ft.) Tensile strength of glass rods is about 20,000 lb/sq. in., but commercially produced glass fibers have been tested to about 2,000,000 lb/sq. in. This high tensile strength tends to make compressed glass fiber batts expand after being placed in wall construction—a valuable factor in holding the insulation in place.

Normal thermal conductivity is 0.25 Btu hr.

Glass fibers are also dielectric (insulative) and fire retardant.

This article includes data on glass textiles, electrical insulation and filtering media.

Paint & the surface painted. (L. A. Jordan). *The Builder*. (London). 19 Mr'37:637 **†**. Also *Architect & Building News*. (London). 19 Mr'37:367-368 **†**

Paint on plaster surfaces involves many variables: variety of plaster or cement, state of dryness, construction of wall to permit or not to permit escape of moisture otherwise than through paint film, and finally, the degree of trowelling, which affects the suitability of surface for painting. This involves not only texture but a condition of variable porosity which influences water movement within set plaster.

A curious thing happens to wood which

is not well back-painted and which is in contact with masonry which may become damp. Solar heat on the exterior, well-painted surface draws the moisture through the wood and creates hydrostatic pressure which will cause lifting of the paint film.

Painting of metal surfaces is also given brief comment.

The application of linoleum. (F. Marescotti). *Casabella*. (Milan). Ja'37:36-41 **stv**

Brief Italian text, detail sections and views of some rather different uses of linoleum: Mounted on walls as blackboard substitute for primary school children, several stair tread and riser details, use as partition finish, treatment of edges.

PLUMBING

How pipe is made. (from U. S. Steel News). *Heating, Piping & Air Conditioning*. Mr'37: 154, 169 **dt**

Brief text and diagrams of the seamless, rotary-rolled seamless, lap-weld and butt-weld processes of pipe manufacture. Drawings were prepared by the National Tube Company.

Thirty-six floors of plumbing. *Domestic Engineering*. Mr'37:74-77 **pstv**

Description of plumbing installation in the latest building in Rockefeller Center. Sizes of soil, waste, vent and water supply piping, capacities of ejectors, pumps and tanks, hot-water supply and insulation are among items given. Clear diagrams of a well-planned typical stack arrangement.

Pumps. *Domestic Engineering*. Mr'37:84-86 **gst**

Brief article with good diagrams of different pump problems. Graph of heads and pressures.

Continued in Ap'37:81-84, 177-179 **dgt**.

Plumbing examinations. *Domestic Engineering*. Mr'37:93-95 **st**. Continued: Ap'37:94-96 **st**

Answers to problems presented in previous issues. Discussion of corrected drawings. Another sketch problem of fixture connections in this installment.

PLANNING AND DETAILS

Danish theatre reference issue. *Arkitekten Maanedshæfte*. (Copenhagen). No. 1-2'37: 1-40 **pstv**

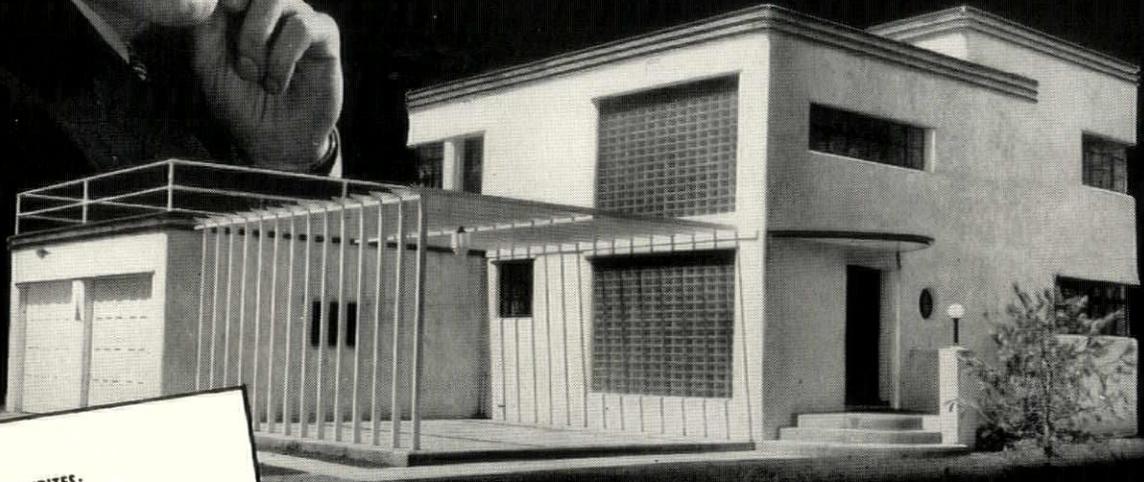
History. Two projects for Folk Theatre at Copenhagen (Knudsen & O. Jacobsen). Norrebro Theatre (Lauritzen). Bellevue Theatre (A. Jacobsen). Nykøbing Falster Theatre (Rue).

Modern airplane hangars of steel & reinforced concrete. (A. Mehmel). *Zeitschrift des Vereines Deutscher Ingenieure*. (Berlin). 6 Mr'37:290-294 **dpstv**

Three diagrams of efficiency in and accessibility of storage of planes. Construction sketches and photo views of several large span steel and concrete roof systems of varying form.

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Home of Gilbarco Owner Gustave Fassin, noted Rochester scientist who won the Lillian Fairfield Memorial Award of 1936 in recognition of his striking design of this house.

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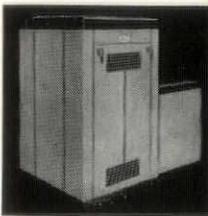
There are five models of Gilbarco Burners to meet the requirements of any home. They are supplied alone or as an integral part of one of the eight models of oil-fired Boiler Units or the nine models of Gilbarco Air Conditioning Units, which heat, clean, humidify and circulate a steady flow of healthful comfort. All are fully automatic.

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BOOKS

THE SUPERVISION OF CONSTRUCTION. By **W. W. Beach.** 488 pages, 6 by 9 inches. Illustrations from diagrams and photographs. New York: 1937: Charles Scribner's Sons. \$6.

It is perhaps not surprising that the literature of building should be full of works on design, and quite sparse in the practical side of getting things built. One reason for this, undoubtedly, is that there are comparatively few men qualified to write from a wide experience of actual construction in the field. The author is one of these few, and has produced a book that should take its place as one of the essentials in the architect's library. The book also is one that should find a place in the architectural schools, where the duties and responsibilities of the clerk of works, or construction superintendent are as an abstruse and usually closed book.

POSTERS BY E. MCKAUFFER. Foreword by **Aldous Huxley.** 67 pages, 7½ by 10¼ inches. Illustrations in half-tone. New York: 1937: The Museum of Modern Art.

A record of an exhibition in The Museum of Modern Art. New York, N. Y.

THE NEW ARCHITECTURE AND THE BAUHAUS. By **Walter Gropius.** Translated from the German by **P. Morton Shand.** Preface by **Joseph Hudnut.** 90 pages, 5½ by 8 inches. Illustrations from photographs. Printed in Great Britain. New York: 1937: The Museum of Modern Art. \$1.75.

Here is a little volume that will be heartily welcomed in that it states very succinctly and clearly the philosophy of Walter Gropius and his ideas on architectural education. In these pages Gropius makes clear the fundamentals of his belief and the course he followed in his Bauhaus experiments. Whatever course his teaching at Harvard may take, it cannot well depart from the foundation described herein.

THE MEDIAEVAL STYLES OF THE ENGLISH PARISH CHURCH. A Survey of Their Development, Design, and Features. By **F. E. Howard.** Foreword by **E. A. Greening Lamborn.** 100 pages, 6¼ by 9 inches. Illustrations from photographs and plans. Printed in Great Britain. New York: 1936: Charles Scribner's Sons. \$5.

Through the death, in the spring of 1934, of the author of this book, England lost one of her outstanding authorities on the subject of ecclesiastical art, particularly that of the Middle Ages. Mr. Howard left among his papers the manuscript of this book as part of a larger work on "Local Variations of Style in English Parish Churches." Mr. E. A. Greening Lamborn, the Oxford ecclesiologist, has edited the manuscript for the printer, and will probably complete for publication as a second volume the remainder of Mr. Howard's authoritative writings.

HOW TO WELD 29 METALS. By **Charles H. Jennings.** 100 pages, 5¼ by 8¼ inches. Illustrations from photographs and line drawings. East Pittsburgh, Pa.: 1937: Westinghouse Electric and Manufacturing Co. 50 cents.

TECNICA DELL'ABITAZIONE. Edited by **Giuseppe Pagano.** Preface by **Giulio Barella,** president of the Triennial Exposition of Milan. 150 pages, 8 by 8½ inches. Illustrations from photographs and drawings. Cardboard cover. Milan: 1936: Ulrico Hoepli. 25 Lire.

The modern Italian trends in residential furnishing and equipment, as they were shown at the Sixth Triennial at Milan in 1936. A very careful study has been made of the arrangement of living quarters, ranging from the simple needs of workmen in lodging houses, to the more complex require-

ments of professional groups, etc. In particular, the use of a module system for cabinets, tables, and other furniture, for purposes of making different combinations of parts suited to particular requirements, is a real contribution.

ARCHITETTURA RURALE ITALIANA. Edited by **Giuseppe Pagano and Guarinero Daniel.** 140 pages, 8 by 8½ inches. Illustrations from photographs. Cardboard cover. Milan: 1936: Ulrico Hoepli. 20 Lire.

Another "Notebook of the Triennial," this little book is a record of the Italian exhibit of Rural architecture at the Sixth Triennial at Milan, 1936. The exhibit shows the evolution of some of the forms of rural architecture, from the simple elemental solutions of the problems of various districts, to the regular practices of today. Beginning with the conical or cylindrical hay-stack and its adaptation into roof forms for houses, the book follows through the changes in materials which mark the steps from nomadic pastoral to settled agricultural life.

DIFFERENCES IN LIMES AS REFLECTED IN CERTAIN PROPERTIES OF MASONRY MORTARS. By **Lansing S. Wells, Dana L. Bishop, and David Watstein.** 14 pages, 6 by 9 inches. Illustrations from diagrams. Research Paper RP952. Pamphlet binding. Washington: 1936: U. S. Department of Commerce, National Bureau of Standards. 5 cents.

MODERN SMALL COUNTRY HOUSES. Edited by **Roger Smithells.** 192 pages, 8¾ by 11½ inches. Illustrated from photographs and plans. Printed in Great Britain. New York: 1937: Charles Scribner's Sons. \$7.50.

The word "modern" in the title should not be taken too literally in the current vernacular. Here are examples of many styles, including a wide variety extending from the traditional to the frankly experimental. The author says, in answer to those who maintain that the beauty of the English countryside can be preserved only by a continuation of the old pattern, "This attitude is conservatism masquerading as esthetic judgment." He rather timidly suggests that there are parts of the country where the local architecture lacks any particular merit, and also that there are secluded sites where steel and concrete could be wedded happily to their surroundings.

BOOK OF A. S. T. M. TENTATIVE STANDARDS, 1936. (Issued annually). 1390 pages, 6 by 9 inches. Illustrations from diagrams and photographs. Philadelphia: 1936: American Society for Testing Materials. Cloth, \$8; paper, \$7.

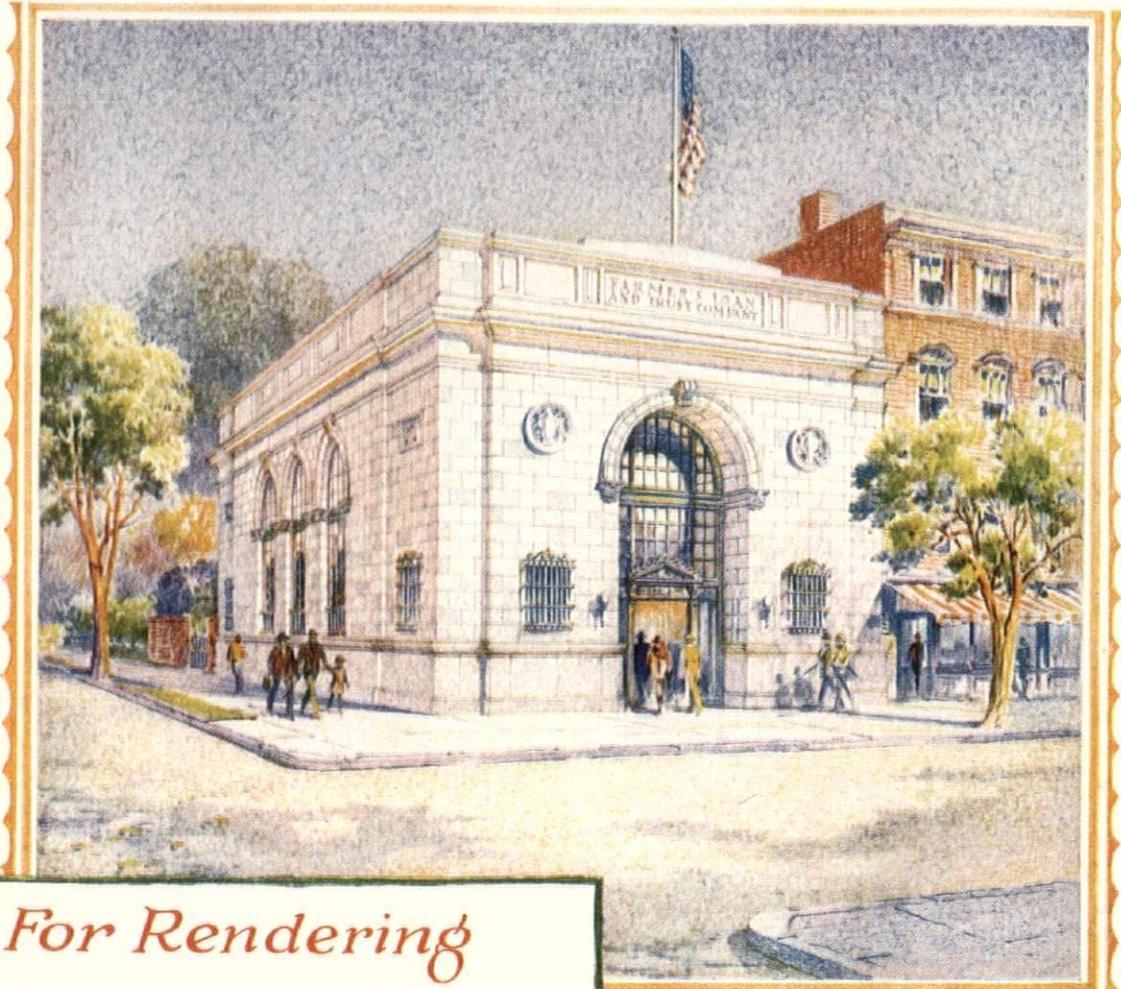
ADVENTURES IN LIGHT AND COLOR. An Introduction to the Stained Glass Craft by **Charles J. Connick.** Foreword by **Charles D. Maginnis.** 428 pages, 8¾ by 12 inches. Illustrations from drawings and photographs, many in color. New York: 1937: Random House, Inc. \$12.50; special edition in half leather with six extra color plates, \$25.

Here is something more than the essays of a master craftsman. It is, in addition, a well rounded picture of the march of the art through America up to the present. Here is pictured vividly the American deviation from the high road into the realm of the opalescent and its early return to the straight and narrow way leading up from the Middle Ages. Mr. Maginnis, in a foreword, muses upon what lies ahead of us on that road. As to the text itself, it is not often that an accomplished master of an art is also able to express himself in words. Mr. Connick does this with a delightful grace and a vast fund of colorful anecdote. The illustrations, particularly those in color, are superb.

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A. L. Guptill

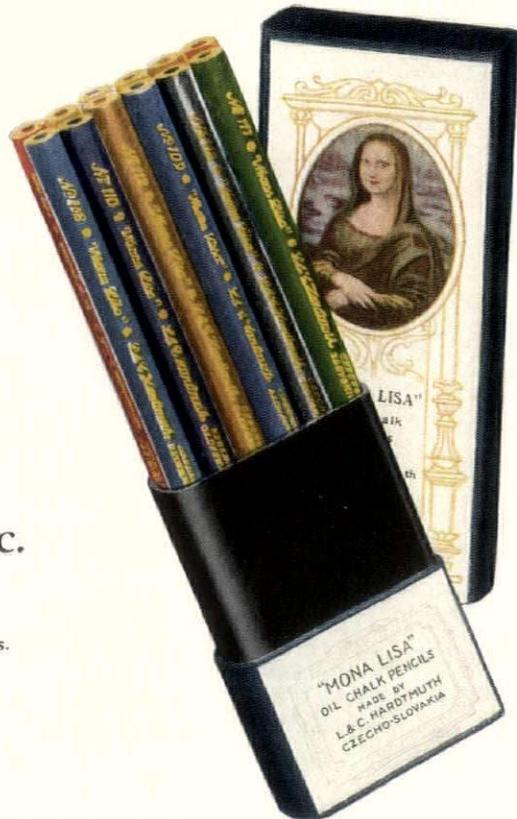


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After... there is gleaming simplicity... expressed in porcelain enamel.

SINCE the remodeling, this drug store has shown an 80 per cent increase in business. The owners are

so pleased that they are planning modern, enameled store fronts on some of their other stores elsewhere.

This job required 300 pieces of "tailormade" enameled steel to fit the original building front. The designer chose good steel. USS VITRENAMEL... the prepared enameling stock... was specified.

Why don't you look into the pos-

sibilities of using porcelain enamel? Architects are finding that porcelain enamel makes sanitary, attractive fronts for stores, gasoline stations, laboratories, bakeries and similar installations, for exterior and interior applications. When you've decided on porcelain enamel, specify USS VITRENAMEL... good sheets to clothe modern buildings.

U·S·S VITRENAMEL SHEETS

CARNEGIE-ILLINOIS STEEL CORPORATION

Pittsburgh



Chicago

Columbia Steel Company, San Francisco, Pacific Coast Distributors

United States Steel Products Company, New York, Export Distributors

UNITED STATES STEEL

MATERIALS

SEALER FOR INSULATION BOARD



The Insulite Company, Minneapolis, has adopted a new type of sealer for use on Insulite products to prepare the surface of the board for decorating with various types of paints. It also has a variety of other uses and will seal any porous surface such as plaster, brick, tile or cement in preparation for painting.

The new sealer is composed of emulsified oils combined with a chemically treated film substance. When the liquid is applied to the surface by ordinary brushing methods it penetrates into the surface apertures of the board and forms a translucent, flexible film. As this film dries, it subdues the surface fibres of the board forming a smooth, firm base for paint. This sealer can be used on either inside or outside surfaces.

801M

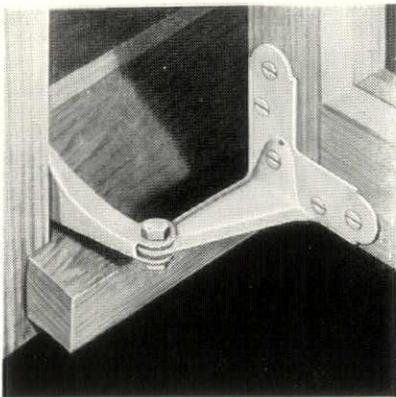
FINISHES

WALL COVERINGS

New wall coverings recently announced are termed "Decotile" and "Artwal." Both products are made of especially processed wallboard which has an unusually hard surface and waterproofed on the back. Five colors are available—midnight black, white, springtime green, pastel blue, old ivory. The surface of Decotile is scored in tile-like sections 4" square, while the surface of Artwal is perfectly smooth. Both products come in panels 4 ft. wide by 8 ft. long. The surface has a matte-glaze finish. Due to the character of the finish it is claimed that it will not crack, craze, chip or peel and that it is resistant to alkalis, acids, moisture, stains and soot. Also available for use with these two wall coverings are a special series of decorative mouldings in five types and in matching colors. Both products are manufactured by The Upson Company, Lockport, N. Y.

802M

CASEMENT HARDWARE

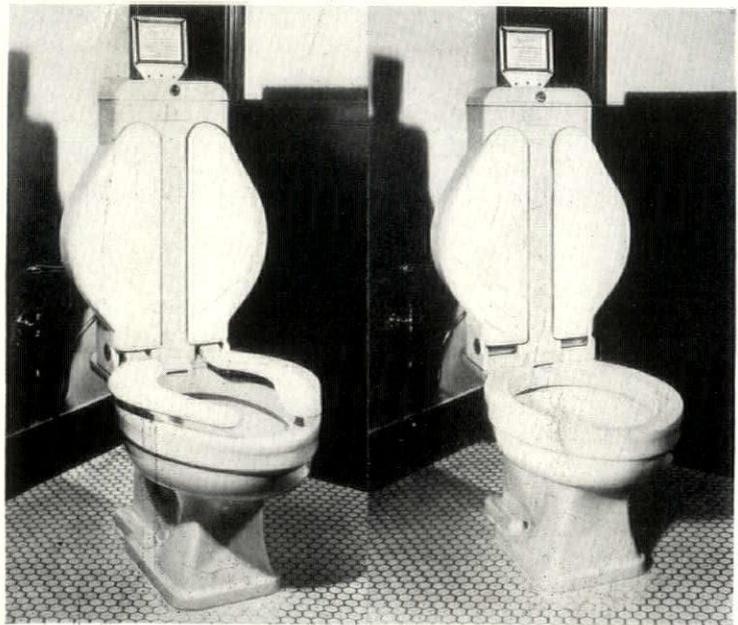


A new friction hinge for outswung wood casement windows, known as Win-Dor Series 73, is claimed to have four important features. It is an extension cleaning type unit providing a projection of 2 3/4 inches away from the sash which, when the window is open, allows four inches of space between the frame and the sash

for cleaning the outside surface of the glass from inside of

the room. It is corner reinforcing with 12 sq. inches of sash attachment surface. It has a friction knuckle adjustable to any desired tension. It is cadmium plated, bronze bushed and well made throughout. The hinge may be used with or without casement sash operator. It is manufactured by The Casement Hardware Co., Chicago. **803M**

SELF-STERILIZATION TOILET SEAT



A self-sterilizing toilet seat for use in factories, department stores, office buildings, theatres, public rest rooms and hospitals, is now on the market. This new unit, known as the Sterlette, is sterilized with live steam for 105 seconds, cooled and dried each time it is used. Operating the unit consists of pressing a push button or inserting a coin in a slot. Either operation opens the sterilizing unit and the seat comes forward ready for use. Immediately after the weight of the body is taken from the seat, it automatically goes back into the sealed sterilizing chamber where it remains until ready to be used again. The heart of the sterilizing system is a special electric steam lamp. Water introduced into a metal tubing coil which surrounds the filament of the lamp, is turned into steam almost immediately. Cooling and drying of the seat is accomplished by cold water and an electric fan. The Sterlette can be installed on any standard bowl and is said not to require any extra booth space. It operates either on AC or DC current. The Sterlette is a product of the Electric Steam Sterilizing Company, Inc., New York.

804M

THERMOSTATIC TRAP UNIT

Conversion of a two-pipe steam or hot water system to a vapor and vacuum heating system is said to be greatly simplified by a new adaptation of the Barnes and Jones thermostatic cage unit. All working parts are contained in a self-contained, non-adjustable unit comprising a cage or holder, thermostatic member, and stainless steel valve piece and seat. In changing over to vacuum heating, the valve handles and

NEW DEVELOPMENTS AND TRENDS IN

Summer Air Conditioning



NEXT month AMERICAN ARCHITECT AND ARCHITECTURE will present an informative, non-technical article in which J. C. Hardigg, Consulting Engineer, reviews eight methods of achieving complete summer air conditioning. Each method is briefly described as to its operating cycle and the general nature of the equipment employed. General limitations which govern the choice of one type of system over another are indicated. Diagrams are used to explain operating principles and to indicate the normal connections to other apparatus or utilities which the architect must provide. Purpose: To keep architects abreast of progress so they can further investigate the particular systems or methods which seem best adaptable to any given set of project conditions.

ALSO IN THE JULY ISSUE OF AMERICAN ARCHITECT AND ARCHITECTURE

UNIT PLANNING NO. VII—featuring Auditorium Seating.

TIME SAVER STANDARDS on Auditorium Seating.

TRANSPORTATION—featuring outstanding architect-designed jobs, including the Hamilton, Ontario and Buffalo Railroad station at Hamilton, by Felheimer and Wagner . . . the National Trailways Bus Depot in Chicago, by Graham, Anderson, Probst and White . . . The Bus Depot and Theatre in Helsinki, Finland, by Kokke, Rewell and Ruhimaki . . . the new Super Chief streamline train of Atchison, Topeka and Santa Fe Railroad, designed by Paul Cret, and new

cars of the Rock Island Railroad, designed by Holabird and Root.

A. I. A. CONVENTION—reported by Henry Saylor, A. I. A., Associate Editor.

ARCHITECTS AND AVOCATIONS—some of the prominent men at the convention.

ARCHITECTURAL OVERTONES—devoted to Ireland. A romantic, pictorial presentation which should be of considerable inspiration and value in domestic work.

RESIDENCE, FARMINGTON, CONN.—by Henry Russell-Hitchcock Jr. A

Greek Revival house, replanned and a modern wing added.

RESIDENCE, MIAMI BEACH—by C. F. Schoeppl. A type of house that could be used in many other sections of the country.

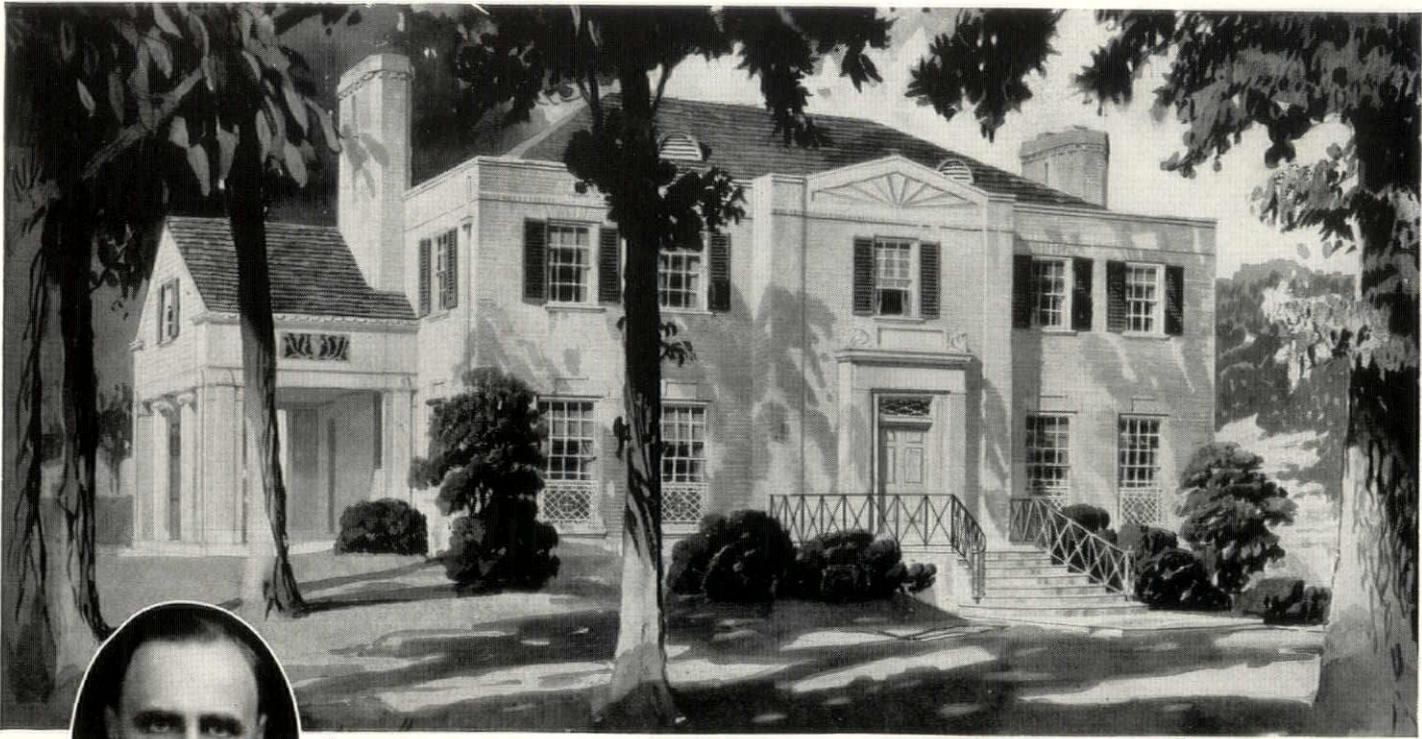
RESIDENCE, IOWA CITY—by Henry I. Fisk. A successful example of early American architecture adapted to the middle west.

PORTFOLIO—showing architect-designed tombstones and mausoleums.

FAVORITE FEATURES—devoted to masonry finials.

Don't Miss the July Issue of

AMERICAN ARCHITECT AND ARCHITECTURE



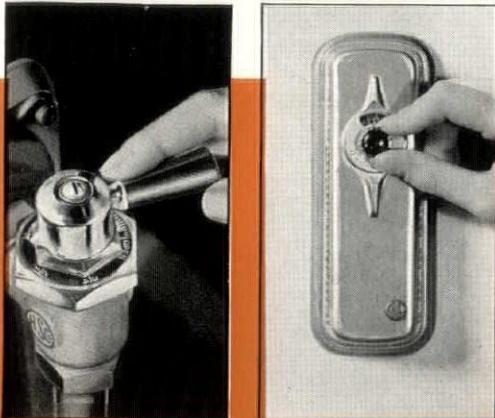
Home of Mr. and Mrs. E. T. Ryan, Scarsdale, N. Y.



Mr. Dwight James Baum
F.A.I.A., Architect

“... They wanted the best
so I specified

HOFFMAN *Controlled* HEAT with AIR CONDITIONER”



**FINGER TOUCH CONTROL
OF BOTH HEAT AND
AIR CONDITIONING**

—says Dwight James Baum, F.A.I.A., well known New York architect, who designed this home.

In this choice, Mr. Baum has recognized the inherent superiority of radiator heat. The owner will receive full measure of such advantages as *radiant* heat, correct placement of heating units and fully conditioned air.

Hoffman Controlled Heat affords an exceptionally fine form of radiator heat because of its heat-modulating features. It is a vapor-vacuum system, delivering mild heat in mild weather and ample heat on severely cold days. Its economy of fuel is a constant source of satisfaction to the owner.

The temperature of each room can be individually controlled—raised or lowered—by merely touching the lever of the Hoffman Radiator Modulating Valve.

Air conditioning is provided by a Hoffman Air Conditioner. This unit is installed and controlled independently of the heating plant and performs all the functions of filtering, washing, humidifying and circulating the air.

Hoffman's booklet, "Controlled Heat with Air Conditioning," will give you complete information. Write today. Hoffman Specialty Co., Inc., Dept. AA-6, Waterbury, Conn.

The Quality Line of  Heating Specialties

Sold everywhere by leading wholesalers of heating and plumbing equipment



Garden Decoration and Ornament for Smaller Houses

by **G. A. Jellicoe**

The author, who is well known as a town-planner and designer of houses and gardens, analyzes in this profusely illustrated volume the structural features and ornaments of gardens for small country houses, suburban and town houses. *The London Times Literary Supplement* praised it for its "beautifully chosen illustrations" and spoke of it as "of a quality rare in modern garden books . . . full of stimulating ideas." *Country Life* says "it should be of great value to home and estate owners and garden lovers all over the world."

\$6.00

The Supervision of Construction

by **W. W. Beach**

This book is perhaps the first comprehensive treatment of the supervision of construction to be published and is indispensable to architects, engineers, construction superintendents, technical libraries, students and all interested in architecture and engineering. Written by one of the best-known architect-engineers in the Middle West, it is an authentic, up-to-date handbook that fills a long-felt need. Within its 488 pages are included all the details of the superintendent's work; there are appendices, 20 diagrams and illustrations.

\$6.00

Contents

The Duties of Superintendents
A Superintendent's Records
The First Day on the Job
Beginning the Work
Contract Changes
Foundations and Masonry Materials
Concrete Form-Work
Concrete Work
Concrete Reinforcement and Other Built-in Members
Waterproofing and Dampproofing
Finishing Concrete Surfaces
Roughing-in by Pipe Trades
Job Progress
Masonry
Terra-cotta, Cut-stone, and Pre-cast Stone
Structural Steel
Miscellaneous Metal-work
Structural Carpentry
Roofing and Sheet-metal-work
Furring, Lathing and Plastering
Marble-work and Tiling
Finish Carpentry
Finish Hardware
Glass and Glazing
Painting and Varnishing
Electric Work
Heating and Ventilating
Plumbing
Completion and Acceptance
Cost-plus Construction

C H A R L E S S C R I B N E R ' S S O N S

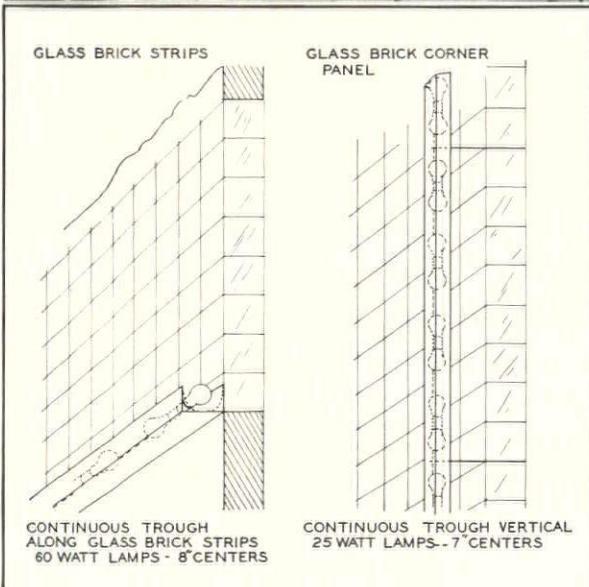
LIGHT FOR SELLING

CHARACTERIZES NEW OAK PARK, ILL. STORE

Holabard and Root, architects, Chicago. Edward Novak, lighting expert.



Luminous glass blocks and MAZDA lamps are effectively used as part of the architectural element in the new Wieboldt store in Oak Park, Ill.



Light is an important aid to sales in the new Wieboldt store in Oak Park, Ill. Both interior and exterior lighting is utilized to stimulate the buying mood.

Inside the store, modern lighting helps increase sales by heightening the display value of merchandise . . . and by helping customers see and shop more quickly and more easily. Outside, facade panels of glass blocks lighted by MAZDA lamps readily identify the store and invite customers to come in.

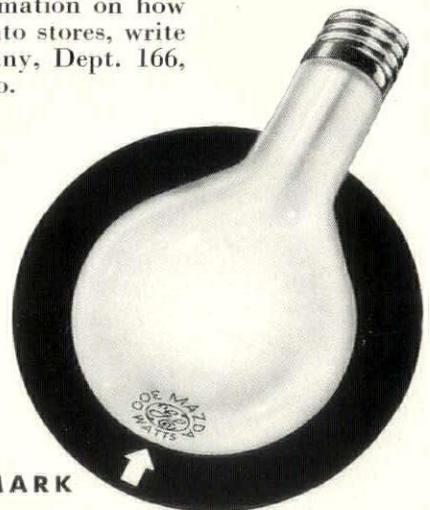
For specific, detailed information on how to build modern lighting into stores, write to General Electric Company, Dept. 166, Nela Park, Cleveland, Ohio.



USE THE G-E LIGHT METER TO CHECK LIGHTING SPECIFICATIONS

The General Electric Light Meter measures light as simply as a thermometer measures temperature. The face of the meter is clearly marked to indicate illuminations for different seeing tasks. Every architect should have one . . . especially useful in checking lighting installations to see that they are up to your specifications. Costs only \$11.50.

BE SURE TO USE LAMPS WITH THIS MARK
They stay brighter longer



GENERAL ELECTRIC

You're
A SPECIALIST



...AND SO ARE WE!

For more than 25 years, Gimco has manufactured Rock Wool insulation EXCLUSIVELY!

As an architect, you've specialized in one thing . . . and as insulation engineers, we have specialized too! By devoting years of study to the manufacture of *one* product — Gimco Rock Wool—we have been able to produce a building insulation of unsurpassed efficiency. Gimco is made by an exclusive process which gives it longer, tougher and better-insulating rock wool fibres.

**LASTING EFFICIENCY—
LOW APPLICATION COST!**

Gimco gives permanent protection against heat and cold. It is moisture-proofed and as fire-proof as the rock itself. Being inorganic, it offers no attraction whatever to vermin or the much-heard-of termites. Gimco won't decay, pack down or dust out. Installed wall thick, its conductivity is only .067 BTU's.

Then, too, Gimco costs less to install. Sealal Bats need only to be pushed between studdings or joists. Their own natural resiliency holds them permanently in place without artificial support. And for modernization of present homes, Gimco Rock Wool in granulated form can be quickly blown into empty wall and ceiling spaces. It will pay you to investigate these and other advantages Gimco insulation offers your clients. Write for free book TODAY!



Gimco Sealal Bats fit standard spaced studdings in buildings under construction.

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ROCK WOOL HOUSE INSULATION

Made by world's largest exclusive manufacturers of Rock Wool products

MAIL COUPON FOR FREE BOOK NOW! Every prospective homeowner will want to see this book on home insulation. Get copies for your office. Simply fill out and mail the coupon below!



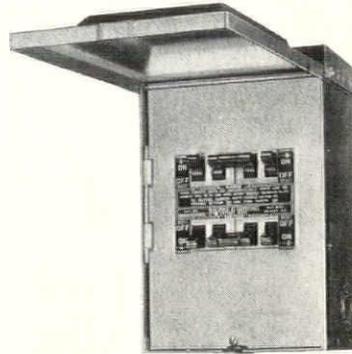
GENERAL INSULATING & MFG. CO.
Dept. 5, Alexandria, Ind.

Yes! Send me at once copies of your free book on home insulation.

Name _____
Address _____

bonnets with stems and discs are removed from the valve bodies on the return end of all radiators. A cage unit, designed to fit the valve bodies, is inserted and a cover provided to screw into the top of the bodies, making complete thermostatic traps. This method is said to avoid the dangers of attempting to remove valve bodies, leaves valve and pipe connections undisturbed, and eliminates the chance of starting leaks. No old piping is removed and no new pipes installed. This is a development of Barnes & Jones, Inc., Jamaica Plain, Mass. **805M**

MULTI-BREAKER SERVICE CENTERS



Square D Multi-breaker Service Centers are now available in raintight boxes for out-door use up to eight circuits, it has been announced by the Square D Company, Detroit, Michigan. The new boxes are said to embody all features of the Multi-breaker line, including the swing-out interior, elevated base, soldering connectors, etc. The enclosures

are made of galvanite, which is claimed to be rust-resisting, and finished in baked aluminum. Knockouts in the back and sides are located below the bottom of the base and the base is set forward in the box to prevent moisture from dripping or condensing on the terminals. Circuit capacities of 15 to 50 amperes are available for either 2-wire or 3-wire solid neutral 115/115-230 a.c. services. **806M**

MOLDED RUBBER ANGLE PLUG

A molded rubber angle plug, that is molded in one piece with the cord and designed for use with lamps, clocks and small appliances, is announced by General Electric Company, Bridgeport, Conn. The rubber plug, which was styled by Ray Patten, well known industrial designer, is molded at right angles on the cord. This feature allows the cord to lie close and flat against the wall or baseboard when the plug is inserted in outlets. The molding of the plug and cord together in one piece makes possible its small design. **807M**

LIGHTING REFLECTOR FOR BINS, SHELVES, ETC.

A special design reflector providing uniform lighting for bins, shelves and stacks in stock rooms, tool cribs, and libraries has been announced by Benjamin Electric Manufacturing Co., Des Plaines, Illinois. The trough-shaped reflector directs maximum light downward to the bins near the floor, while the V-shaped deflector bar suspended below the reflector directs light upward above the cutoff of the reflector to light the topmost bins. The apertures in the ends of the reflector allow light to pass which assists in building up illumination at points between units. Reflectors are porcelain enameled steel, white inside and out. Four types of hoods are available: pendent, angle, feed-through and outlet box to provide for any mounting arrangement. Three sizes of reflectors are manufactured for 60-watt, 75-100 watt and 150-watt lamps. **808M**

MACHINE FOR BLACK-LINE PRINTS

A compact, continuous printer designed for producing

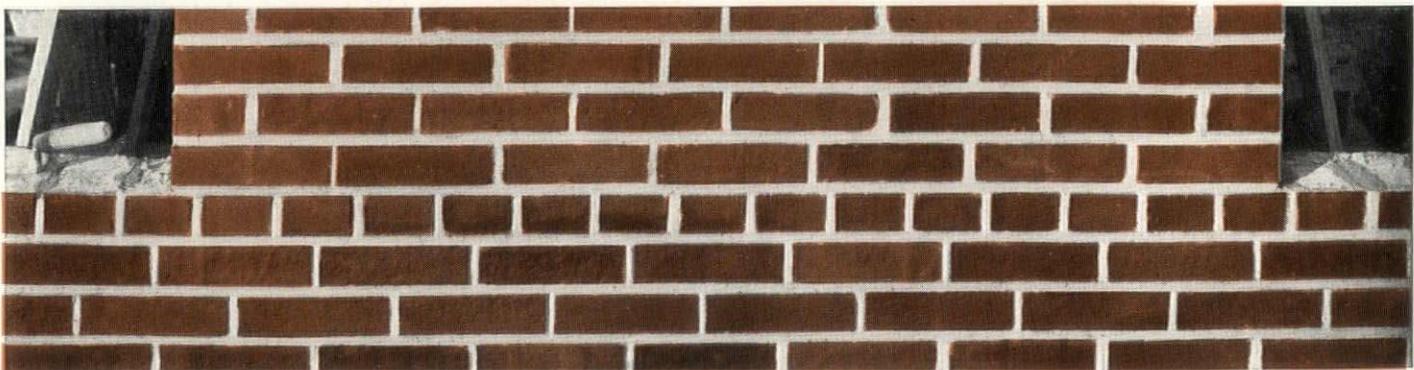


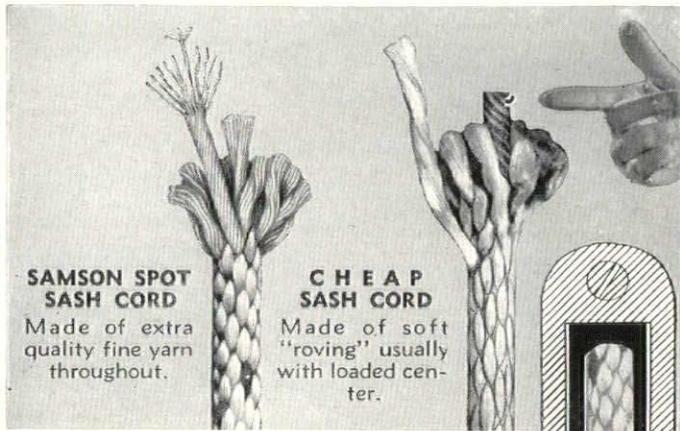
BRIXMENT has **Extremely High WATER-RETAINING CAPACITY**

THE rate at which moisture is removed from the mortar by the brick has a marked effect on the bond strength and water-tightness of the wall. Unless a mortar has high water-retaining capacity, it is too quickly sucked dry when spread out on porous brick. This prevents a good bond, and encourages shrinkage cracks between the brick and the mortar. Brixment mortar has

extremely high water-retaining capacity. This keeps the brick from sucking the water out of Brixment mortar too fast, and prevents the mortar from losing its fine plasticity when spread out on the wall. This, in turn, permits a more complete bedding of the brick and an increased area of contact between the brick and the mortar. The result is a better bond, and a more water-tight wall.

LOUISVILLE CEMENT COMPANY, *Incorporated*, LOUISVILLE, KENTUCKY





SAMSON SPOT SASH CORD

Made of extra quality fine yarn throughout.

CHEAP SASH CORD

Made of soft "roving" usually with loaded center.

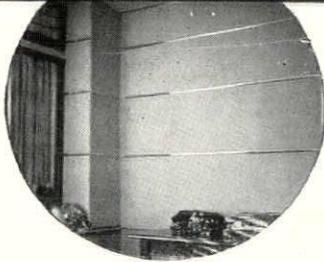
● The most convincing argument for the use of Samson Spot Sash Cord is the cord itself. Examine its construction. Compare it with others. Then you will understand why leading architects and builders always specify it when they want the most durable material for hanging windows. They know that it is made in only **one grade** which can be quickly distinguished by the Colored Spots—our trade-mark. Insist upon Samson Spot Sash Cord and be **sure** of the best. *Samples gladly sent upon request.*

**SAMSON CORDAGE WORKS
BOSTON, MASS.**

SAMSON SPOT SASH CORD



METAL MOULDINGS



... available in 80 stock designs, in chromium, stainless steel, copper, brass and aluminum. Special designs made to your specifications.

COSALCO

Metal Mouldings

... lend modern zest and brilliance to wall surfaces, fixtures, and exhibits. There is a design for every purpose and a metal finish to harmonize with any scheme of decorative treatment. Attachment is made easy with special fasteners provided free of charge with each order.

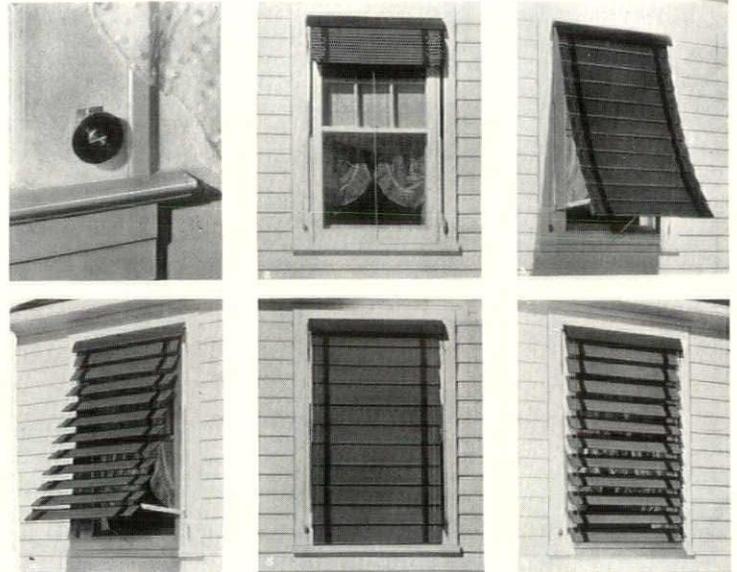
Use Cosalco Mouldings with the assurance that the moulding is bright... flawless... lasting... precision-made with the finest materials. Detailed use of Cosalco Metal Mouldings is explained elsewhere in this issue.

Write for our latest catalog.

**COLONIAL SALES CORPORATION
480 LEXINGTON AVENUE • NEW YORK CITY**

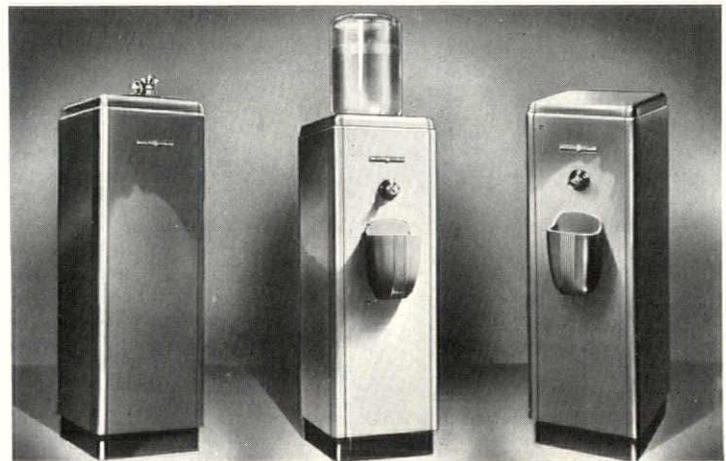
black-line prints from tracings or drawings is announced by Charles Bruning Company, Inc., New York. The machine, which is built for 100 a.c. and 110 d.c. and which can be plugged into any light socket, exposes paper of any width up to and including 42 inches. After the paper has been exposed, the print is developed instantaneously in any regular BW developing machine and is immediately ready for use. The prints need no washing or drying. **809M**

METAL AWNINGS



Many features are claimed for the Sunvent Metal Awnings manufactured by Sunvent Metal Awning Company, New York. These awnings are operated by remote control located inside of the window so that they can be regulated conveniently without opening window or screen. In the up position the awning nests compactly beneath a metal canopy. It deflects gusts of wind, rain and sleet when the window is lowered. The venting of the awning permits free circulation of air, direct penetration of light, and full vision. A turn of remote control device closes the vents and forms a complete enclosure. An interlocking feature is said to prevent clattering or metallic flapping. These awnings are available in aluminum, bronze or stainless steel and may be finished in various color schemes obtainable from the standard colors—green, blue, tan, orange and terra-cotta. **810M**

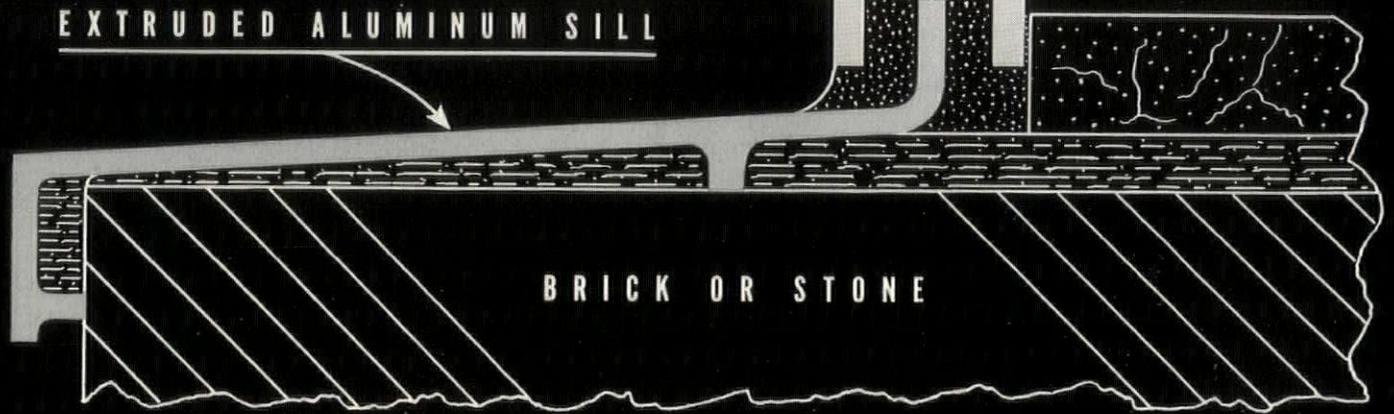
WATER COOLERS



Three new low-priced models have been added to the line of water coolers manufactured by Commercial Refrigeration

THE MOST SENSIBLE
SILL FOR ANY WINDOW!

WT. PER FOOT
THIS SIZE SILL
APPROX. 1 LB.



METHOD OF INSTALLATION OF EXTRUDED ALCOA ALUMINUM SILL

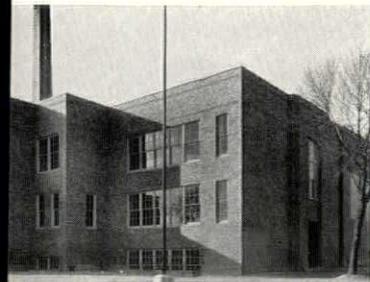
One piece of metal that cannot rust; formed by extrusion to a contour that meets the specifications of what a sill should really do. That gives you a picture of Alcoa Aluminum Window Sills.

First cost is low. Painting is unnecessary because Aluminum cannot rust, never streaks or stains adjoining surfaces. Aluminum Sills are good looking, and stay that way.

Thinness possible with Aluminum Sills allows

sealing of the ends into mortar joints to make them weather-tight. Setting is simple. Light weight makes them easy to handle.

That Aluminum Sills are truly economical is high-lighted by their extensive use in many low-rent projects.* What is good economy there, is likewise good economy on any type of building. Aluminum Company of America, 2195 Gulf Building, Pittsburgh, Pennsylvania.



Opecanoe School, Milwaukee



*Cleveland's Cedar Central Housing Project. Other slum clearance projects on which window sills of Alcoa Aluminum were used are: Atlantic City, N. J., Stanley Holmes Village; Atlanta, Ga., University Housing Project; Camden, N. J., Westfield Acres; Boston, Mass., Old Harbor Village; Chicago, Ill., Julia C. Lathrop; Cleveland, O., West Side and Outhwaite Projects; Enid, Okla., Cherokee Terrace; Memphis, Tenn., Dixie Homes; Miami, Fla., 62d Street; Milwaukee, Wisc., Parklawn; New York, N. Y., Ten Eyck Houses and Harlem River Homes; Oklahoma City, Okla., Will Rogers Housing Project; Omaha, Nebr., Logan-Fontelle; Stamford, Conn., Fairfield Court; Washington, D. C., Langston Terrace; Wayne, Pa., Highland Homes.

ALUMINUM SILLS ARE ECONOMICAL ON ALL TYPES OF BUILDINGS



Cities Service Building, New York



Residence E. W. Romberger, Atlanta

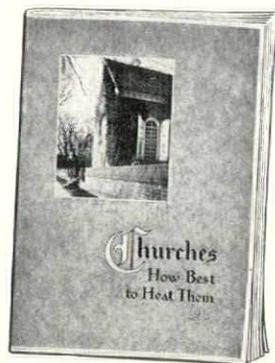
ALCOA  ALUMINUM

You Architects Asked For It —Now Here It Is—

SO MANY of you complained of how little the members of the average church building committee, and the clergy, knew about heating, that you wanted us to do something about it.

You said, that what you wanted, was an easy-to-understand piece of printed matter devoted solely to church heating. One that you could pass on—or have us send—to the building committee, to help overcome some of the endless discussion and needless waste of time.

So we made this Church Heating Book after having found out from numbers of

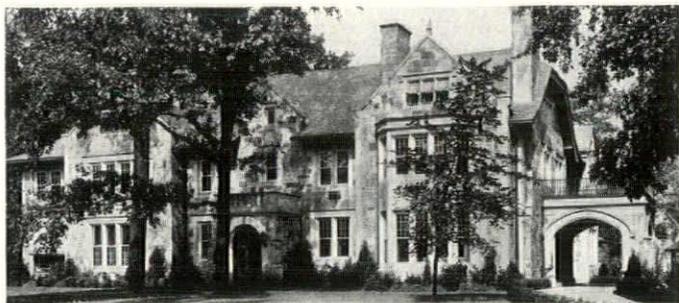


you, just what it should contain.

Here's the book, ready and waiting for you. Glad at any time to send as many copies as you want. Also to mail them to any names you send us. The many who have done this, are free to say it has short-cut their church heating problems.

BURNHAM BOILER CORPORATION
Irvington, New York - Zanesville, Ohio

Burnham Boiler



Fine Homes Need Burrowes Rustless Screens

Sound judgment is shown by architects who specify Burrowes Rustless Screens. Custom made for every use, these better screens assure lasting protection. In addition, they actually improve the appearance of the house. Whether your next job is a cottage or a castle, specify Burrowes Rustless Screens.

THE **Burrowes Corporation**

72 FREE STREET, PORTLAND, MAINE

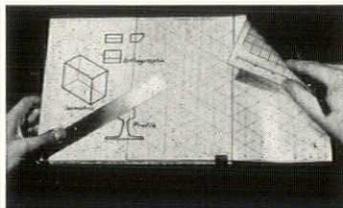


126

Division, General Electric Co., Nela Park, Cleveland. Model BM-11 for cup service takes a 2½-gallon or 5-gallon water bottle. Model RM-11 is the faucet type for connection to local water supply. It is the same as Model BM-11 with the exception of a flat top panel and water intake. Model RM-12 is the bubbler type for connection to local water supply. The new units cool a full 3½ gallons of water per hour from 80 degrees down to 50 degrees. They have a 1-gallon reserve storage capacity. Finish is Sudan bronze Glyptal enamel. Features include: twin cylinder refrigerating unit especially designed for water cooler service; rubber cushion unit support; capacitor motor; heat interchanger to cool refrigerant; F-12 refrigerant; available for either A.C. or D.C. service; provision for remote connection; anchored water line connections; recessed toe space; accessible temperature control, and others.

811M

SKETCH PAD SET



Intended for making any type of sketch to any scale a new sketch pad set consists of a pad of tracing paper; a cellulose covered buff guide plate that slides under the top sheet of the pad and which is printed in blue ink showing ⅛" squares, every ½" line heavy and every 1" line numbered and on the other side an isometric design with all three axes divided 1", ½" and ¼" so that drawings showing all six sides and interior may be made to any scale. A steel straight edge is also provided. The pad has a stiff back and is sealed at top with padding cement and at bottom with strips of re-usable drafting tape which prevents shifting. Wade Instrument Company, Cleveland, is the manufacturer.

812M

PROPOSED CHICAGO BUILDING CODE

CHICAGO'S LEADING ARCHITECTS, REAL ESTATE MEN, AND BUILDERS, have united in an effort to speed action on the proposed new building code for their city. The latest move has been to appoint a committee of three to act as observers for Chicago's business interests.

Failure to enact the new code, it is asserted, is not only creating a building emergency, but is causing industries to move to new locations outside of the city.

The proposed code, drafted by more than seventy prominent architects, engineers, and builders, would permit builders to take immediate advantage of new materials, and principles of design and construction. The results, according to its advocates, would be to reduce building costs to a point where owners could again make a profit.

In framing the code, a definite separation of subjects into six main divisions has been accomplished:

- Administrative Provisions
- Occupancy Provisions
- General Provisions
- Structural Provisions
- Mechanical Provisions
- Fire Prevention

The code provides for future developments in materials and methods of construction, by creating a Bureau of Standards and Tests which will pass upon materials not covered in the regulations. For materials in present day (*Continued on page 132*)

Here's a "Cocktail" in Color and Charm

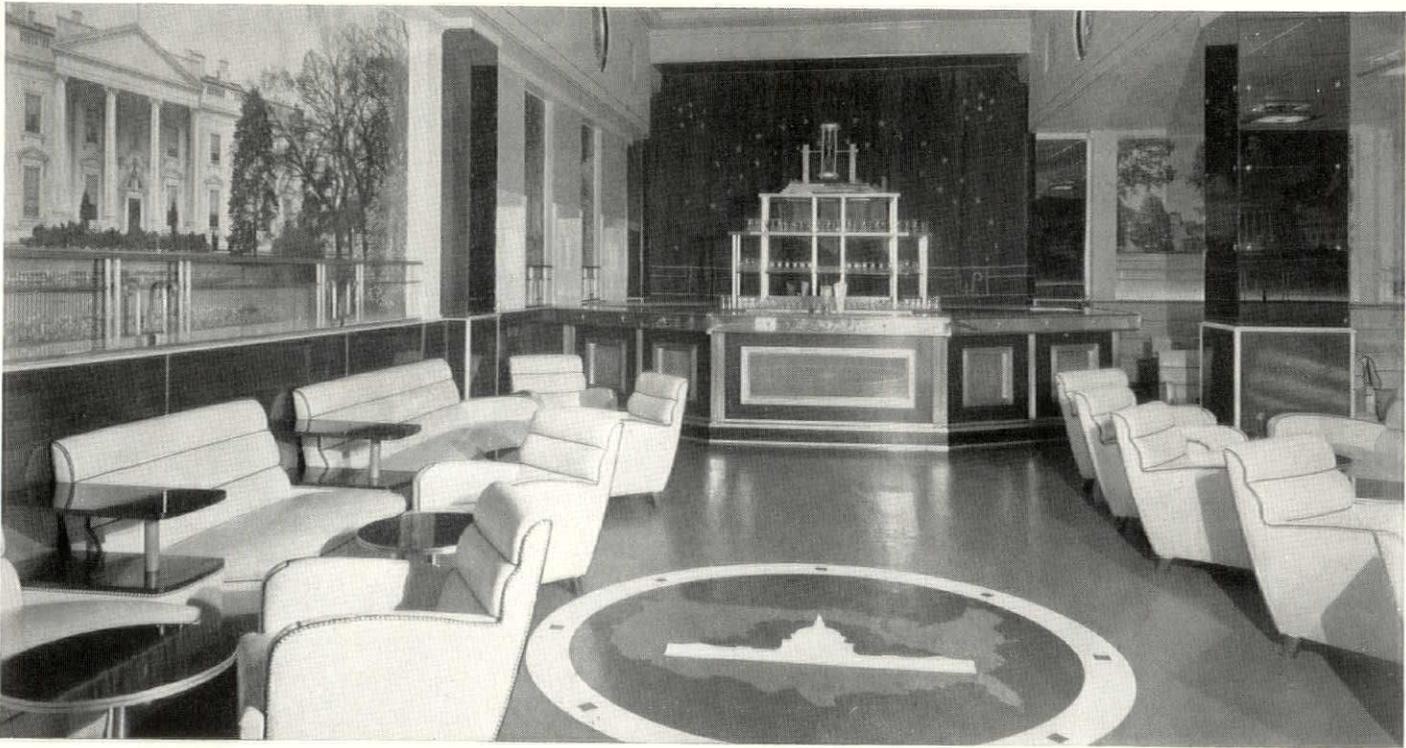
ALL INGREDIENTS IN THIS HAND-LAID FLOOR ARE DESIGNED TO PLEASE PLAY-TIME PATRONS

Truly intoxicating in its beauty is this hand-laid floor of Sloane-Blabon Linoleum. It graces the cocktail lounge of the Wardman Park Hotel in Washington, D. C., and attracts patrons who enjoy color and charm in their leisure moments.

Surpassing even a "pousse cafe" in vivid coloring, this floor harmonizes with walls, furnishings, and furniture. The field is bright Terra Cotta, individualized by a special linoleum inset figure. Here you find a linoleum cut-out of the Capitol Building in Clear White with a cloud effect in Azure Blue and a United

States outline map in Burgundy Red. The background features Azure Blue, circled by a border strip of Clear White dotted with Azure Blue squares.

Just as custom-made floors of Sloane-Blabon Linoleum can contribute individual beauty to any cocktail lounge, smart retail store, or tavern room, so they can help you enhance the charm and harmony of any type of residential or commercial decorative design. Equally important, they provide comfort, convenience and economy. They are warm and resilient—easy to clean and keep clean—last almost a lifetime.



A hand-laid floor of Terra Cotta linoleum with a colorful inset figure features the Wardman Park Hotel cocktail lounge in Washington, D. C.

Sloane-Blabon

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FLOOR COVERINGS

STRAIGHTLINE AND MARBLETONE INLAID LINOLEUMS

GENUINE INLAID LINOFLOR RUGS AND YARD GOODS

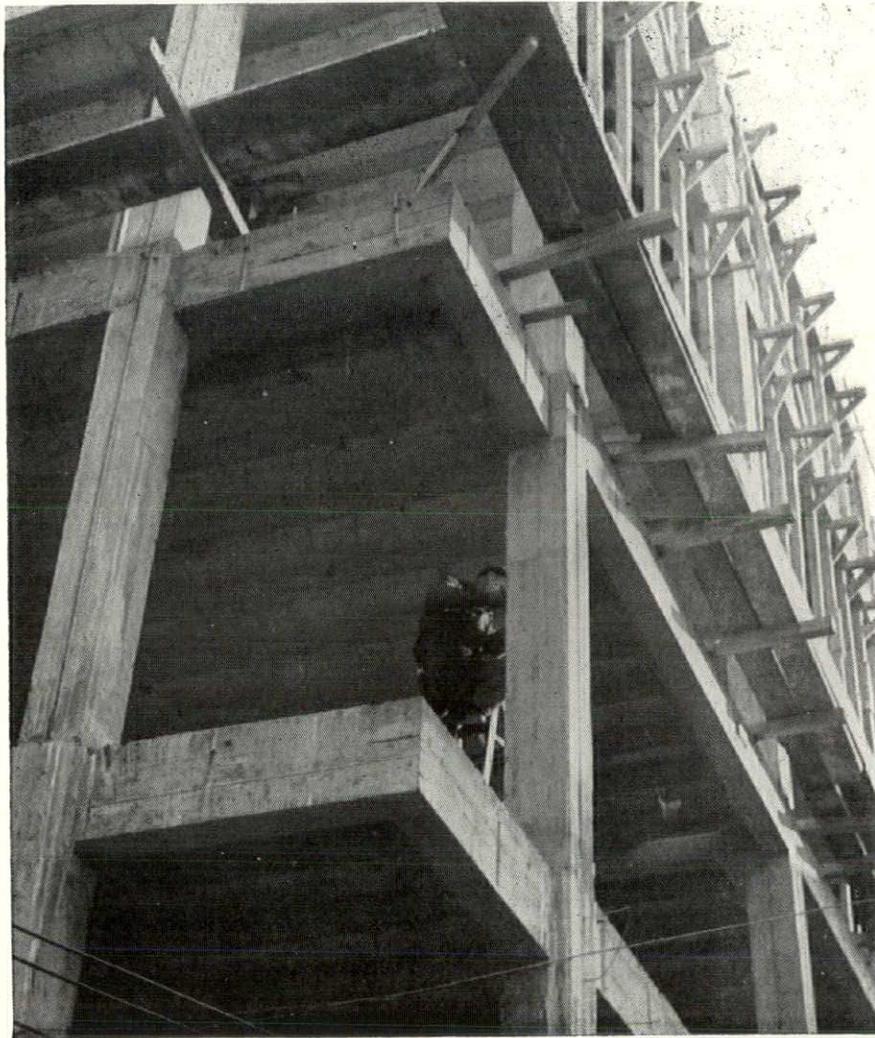
BATTLESHIP, PLAIN AND JASPÉ LINOLEUMS

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W. & J. SLOANE SELLING AGENTS DIVISION • 295 FIFTH AVENUE, NEW YORK

AMERICAN ARCHITECT AND ARCHITECTURE, JUNE 1937



FASTER SCHEDULES AT LOWER COST

Think back over your experience with concrete buildings. Forms are built, set, filled with concrete. Then the job stands still—for 7 days or longer, until concrete is self-supporting—before forms can be stripped, re-assembled, and re-used for next floor. Hence, if it takes 100 days to erect the frame of a 6-story building, 42 of them are non-productive—dead days when contractor's fixed overhead runs on, adding to the structure's cost.

This costly non-productive time is saved by using 'Incor', the improved Portland cement, which is self-supporting in 24 hours—permitting continuous construction progress. Thus, the job which takes 100 days with 7-day form-stripping, can be completed in 58 days, with 'Incor' and one-day form removal, without extra forms. If job overhead is as low as \$50 a day, 'Incor'* shows a saving of \$2100.

And labor works more efficiently, with fewer layoffs; plumbers, steamfitters, electricians all go to work sooner and work to better advantage, because concreting is ahead of them and out of the way; and the owner has earlier use of his property, without costly extras. Same principles apply to steel-frame and wall-bearing projects, too—as new book, titled "Typical Job Analyses," shows. Write for copy—address Lone Star Cement Corporation, Room 2243, 342 Madison Avenue, New York.

*Reg. U. S. Pat. Off.

LONE STAR CEMENT CORPORATION
MAKERS OF LONE STAR CEMENT... 'INCOR' 24-HOUR CEMENT

NEW CATALOGS...

Readers of AMERICAN ARCHITECT and ARCHITECTURE may secure without cost any or all of the manufacturers' catalogs described on this and the following page by mailing the prepaid post card printed below after writing the numbers of the catalogs wanted. Distribution of catalogs to draftsmen and students is optional with the manufacturers

Copper Water Tube

212 . . . Revere Copper Water Tube for underground service use for water and gas from main to meter, for oil from tank to burner, for underground lawn irrigation systems, etc., is described and illustrated in a 12-page booklet released by Revere Copper and Brass Inc., New York. Specifications for underground piping, tables of sizes, weights and properties are included.

Water Heater Thermostats

213 . . . Robertshaw Throttling Type Water Heater Thermostats for the automatic temperature control of side arm water heaters and automatic storage water heaters are featured in circular Form R-4 recently published by Robertshaw Thermostat Co., Youngwood, Pa. Complete instructions on methods of installation are incorporated.

Hoists

214 . . . The Harnischfeger Corp., Milwaukee, Wis., has issued a new bulletin (H-5) called "P & H Hoists." Profusely illustrated with more than 25 industrial application photographs, the bulletin contains the treatment of both general and specific problems in the industrial handling field as well as many diagrams which explain simplified construction and operation. Ratings and operating ranges, as well as specifications and electrical accessories, are included.

Antenna System

215 . . . Taco All-Wave Master Antenna System for multiple set operation in apartment houses, hospitals, hotels and private dwellings is described and illustrated in a 12-page brochure issued by Technical Appliance Corp., New York.

Trap Seal Valve

216 . . . A booklet, "How to Keep Sewer Gas and Vermin out of the Home," has been published by The Phillips Corp., Portland, Oregon. It explains the necessity of maintaining a constant fresh water seal in drain traps and gives details on Phillips Automatic Trap Seal Valve.

Oil Boiler

217 . . . A new four-page folder released by Pierce Butler Radiator Corp., Syracuse, N. Y. pertains to Pierce-Eastwood Oil Boilers. A dimensions table is included.

Automatic Coal Fired Boiler

218 . . . The "blue coal" Corporation, Newark, N. J., has prepared a sixteen-page booklet which gives essential facts about its "blue coal" automatic boiler-burner unit. It describes how the unit works, illustrates typical installations, and gives necessary technical data.

Metal Trim

219 . . . A guide book (Catalog 100-B) for the specification and selection of interior metal trim and other metal products has been published by Milcor Steel Company, Milwaukee, Wis. Included are data on window trim and stools, flush and removable bases, mouldings, door and window casings, chair rails, expansion cornice lath, basement windows, etc. Filing sizes; 40 pages; A. I. A. File 16-E-2.

Movable Steel Partitions

220 . . . In a 68-page catalog issued by E. F. Hauserman Co., Cleveland, Ohio, are found descriptions, illustrations and engineering data covering the complete line of Masterwalls, the movable steel partition.

Stained Shingles and Shingle Stains

221 . . . A new 20-page catalog issued by Weatherbest Corporation, North Tonawanda, New York, is entitled "Homes of Enduring Beauty" and illustrates, in natural reproduction, several typical homes which have used Weatherbest Stained Shingles or Shingle Stains for roofs and side walls. It illustrates and describes Red Cedar Shingles from the time the log is cut through to the finished job and the ultimate restaining.

Wrought Copper Fittings

222 . . . A manual on Arco full flow wrought copper fittings and Arco copper pipe is available from American Radiator Company, New York. Information given includes installation procedure, history, uses, test data, roughing-in dimensions, typical layouts, etc. A short form specification is also outlined. Filing size; 36 pages; A. I. A. File 29-B-4.

Folding Door

223 . . . The Modernfold Door, a product of Newcastle Products, Inc., Newcastle, Indiana, is described and illustrated in a four-page broadside recently published.

Rolling Doors

224 . . . Bulletin No. 16 issued by the Kinnear Mfg. Company, Columbus, Ohio, illustrates and describes its line of steel rolling doors, labeled fire doors, fire shutters, metal rolling grilles, Roll-Top doors, door operating equipment and wood rolling partitions. Complete specification data is included. Filing size; A. I. A. File 16-D-13.

Heating and Air Conditioning

225 . . . A loose-leaf portfolio containing bulletins describing its line of heating and air conditioning equipment has been issued by The Lennox Furnace Co., Inc., Marshalltown, Iowa. Included are furnaces for coal-firing, heavy duty furnaces for churches and schools, wood-burning furnaces, semi-pipe furnaces, gas and oil burning furnaces, and air conditioning units. Ratings, dimensions and specifications are given.

NO POSTAGE REQUIRED ON THIS CARD

AMERICAN ARCHITECT and ARCHITECTURE
New York, N. Y.

June, 1937

Please have the following catalogs reviewed in this issue sent to me.
Numbers

• I also desire further information about the new products described in this month's "Techniques." . . .

Numbers

• I would like to have catalogs and information concerning the following products advertised in this issue. (Write name of manufacturer.)

Check here for FREE copy of "WHEN YOU BUILD" booklet.

Name

Firm name

Address

City

Occupation

These NEW Catalogs may be obtained through

AMERICAN ARCHITECT and ARCHITECTURE

Maintenance Products

226 . . . A catalog devoted to the maintenance of metal, concrete, wood, glass and composition surfaces has been issued by The Skybryte Co., Cleveland, Ohio. The various products are fully described and use data are given. Handy application index showing products to use under various conditions is included.

Rock Wool Insulation

227 . . . "Better Living" is the title of a new booklet by General Insulating & Mfg. Co., Alexandria, Indiana, which tells the story of Gimco Rock Wool House Insulation. It explains the benefits of using rock wool insulation, describes how it is made, and briefly outlines installation procedure.

Motor Driven Welders

228 . . . Westinghouse Flexarc motor driven welders and bare generators are described in a recent publication issued by Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa. Application, construction, specifications and performance curves are included.

Pumps

229 . . . Use and selection data on Yeomans Pumps for drainage, sewage, water supply, circulation, boiler feed, condensation and air conditioning are contained in an illustrated 16-page booklet issued by Yeomans Brothers Company, Chicago.

Oil Heating and Air Conditioning

230 . . . Factual information on Gilbarco oil heating warm air conditioners, gravity furnaces, boiler-burner units for steam, vapor and hot water systems, oil burners, hot water heater, and heavy oil burners is contained in a 12-page catalog issued by Gilbert & Barker Mfg. Co., Springfield, Mass.

Bent-Tube Boilers

231 . . . Combustion Engineering Co., Inc., New York, has issued Catalog BT-5 covering its line of CE bent-tube boilers. Many pages are devoted to cross-sections of typical installations of various types, in addition to descriptive matter, photographs and shop views of fabrication.

Insulation Facts

232 . . . An address entitled "A Balloon, the Devil and a Drop" given by G. D. Andrews representing the Insulation Board Institute at various conventions has been reprinted by The Celotex Corp., Chicago, Ill. It tells the story of insulation in simple terms.

Fire Protection Specialties

233 . . . Valves, valve accessories, fire department connections and fittings, fire hydrants, fire hose, pipes and racks, signal devices and other fire protection specialties are reviewed in Catalog 1 recently published by Grinnell Company, Inc., Providence, R. I. List prices are also given.

Waterproofing

234 . . . Samuel Cabot, Inc., Boston, Mass. offers a new edition of its catalog on Cabot's Brick Waterproofing and Clear Cement Waterproofing. Many new illustrations are included. Specifications for application are given. Filing size; A. I. A. File 7-B.

Plywood

235 . . . Specifications and suggestions for interior paint decoration on Douglas fir plywood are contained in a four-page catalog recently published by Douglas Fir Plywood Association, Tacoma, Wash. A few of the painted finishes possible on plywood are shown in natural reproduction.

Circuit Breakers

236 . . . Type AL-2 Circuit Breakers for office buildings, industrials and power stations are illustrated and described in a 12-page booklet (GEA-2539) recently issued by General Electric Co., Schenectady, N. Y.

Electric CO₂ Meters

237 . . . A new catalog (No. 3005) issued by The Brown Instrument Co., Philadelphia, covers the complete line of Brown Indicating and Recording CO₂ Meters as well as the combined CO₂ and flue gas temperature recorders. A schematic diagram illustrates operation.

Cement

238 . . . The service record of Incor 24-hour Cement is told in a new 40-page booklet entitled "After Ten Years" recently published by Lone Star Cement Corporation, New York. It illustrates and describes many projects which have used this product and the performance results achieved.

Wiring Devices

239 . . . The Bryant Electric Company, Bridgeport, Conn., has issued a six-page broadside which catalogs its line of wiring devices especially adapted to the small home market. List prices are given.

Insulation

240 . . . Methods of installing Flintkote Mineral Wool insulation in new and old construction, together with short form specifications and installation details, are contained in an eight-page booklet released by Flintkote Co., New York.

Fire Station Equipment

241 . . . Registers, take-up reels, fire alarm tappers, recording sets, gongs, electric light switches, terminal cabinets and other fire station equipment are cataloged in an 8-page booklet (Cat. L2027), issued by The Gamewell Company, Newton Upper Falls, Mass.

Built-In Heater

242 . . . Bulletin No. 12 issued by Commodore Heaters Corp., New York, illustrates and describes Waterflo Convectofin, the individual room heater for service in mechanical circulation hot water heating. Filing size; A. I. A. File 30-C-4.

Power Pumps

243 . . . Characteristics and applications of duplex power pumps are discussed in detail in Bulletin 6160 issued by Fairbanks, Morse & Co., Chicago. Details of construction, sizes and capacities, dimensions, etc. are given.

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with



NEARLY 50 YEARS OLD, but you'd never know it. The skill of Architect Leo A. Daly combined with Carrier year 'round Air Conditioning has lifted the years from this famous building.

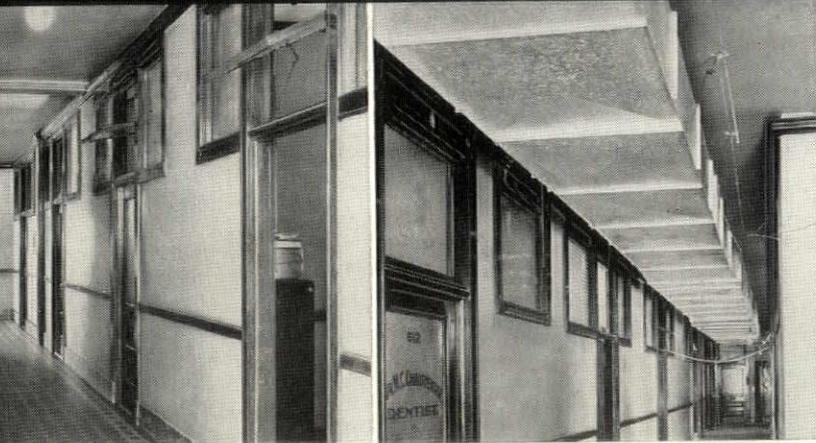
From Basement to Roof, Occupants of Insurance Building, Omaha, Nebraska, Enjoy Latest Conveniences and Comfort

IMPRESSIVE? What visitor to the offices of the Woodmen of the World wouldn't be impressed with the beauty of this reception room—and by the clean, fresh, quiet comfort provided by the Carrier Air Conditioning?

OFFICES—both for the Woodmen of the World and for private companies, are light, clean, attractive. *Always* comfortable—the Carrier System keeps them cool and properly dehumidified in summer; warm and properly humidified in winter.



How The Carrier Air Conditioning Was Installed —



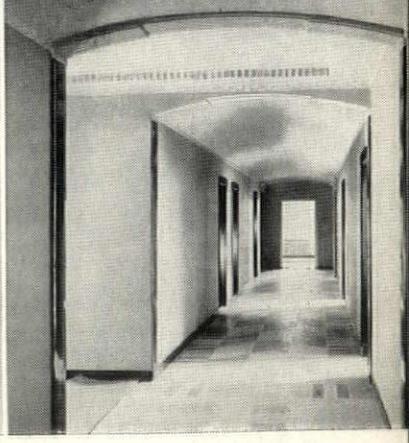
... in the old-fashioned, high corridors like this ...



... ductwork was suspended to carry the conditioned air ...



... the ductwork was "furred in", a new ceiling built ...



... finished. All ductwork concealed, the corridors modern.

For Building or Modernizing - Call Carrier!

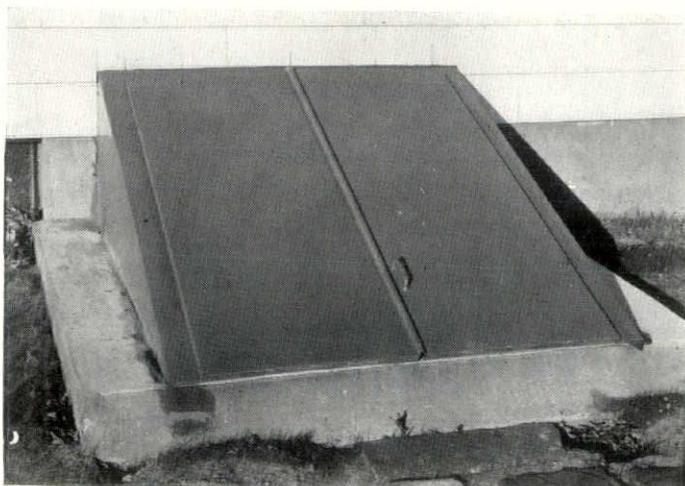
• Go down the list of the great air conditioning installations of the world ... the U. S. Capitol and Supreme Court Building ... Macy's ... Radio City Music Hall ... the R. C. A. Building ... the London County Council Chambers ... the Robinson Deep Gold Mine in South Africa ... the "Normandie," the "Queen Mary," and soon, the "Nieuw Amsterdam." Who made these installations? Carrier! Now consider the most important developments in air conditioning—Dew Point Control ... Centrifugal Refrigeration ... Evaporative Condensers ... Cold Diffusers ... Safe Refrigerants. Who's responsible? Carrier!

• Whether your problem is the air conditioning of old buildings or new, large or small, the experience of the Carrier engineers who made these installations and caused these developments is at your service—without obligation. Shall we send you the name and address of the nearest Carrier representative, and copy of the Carrier Catalog in Sweet's?

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850 Frelinghuysen Avenue, Newark, N. J.

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BURGLAR-PROOF — WATER-PROOF

Bilco HATCHWAYS

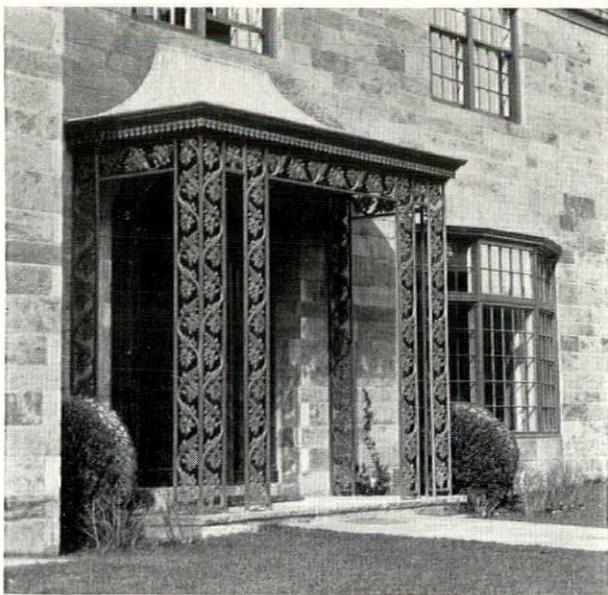
Besides ending the troubles commonly associated with wooden hatchways, Bilco Hatchways are beautiful in appearance—a real addition to any home. Made of heavy copper-steel, these hatchways are furnished in gray; any other color can be supplied at no extra cost.

Bilcos come in 3 types, each in 3 stock sizes. If these do not fit your requirements, we can make them up to your order.



Write for complete literature

Bilco Mfg. Co., New Haven, Conn.



Veranda Design No. 72 as used on residence of J. Stanley Reeve, Esq., Haverford, Pa. Shepard and Stearns, Architects.

CAST IRON VERANDAS

Smyser-Royer Cast Iron Verandas always add a note of distinction. Each design is adaptable to a variety of uses. A new catalogue will gladly be furnished on request. Smyser-Royer Company, York, Pa., Philadelphia Office, Architects' Building, 17th and Sansom Streets.

SMYSER-ROYER COMPANY

use, the proposed code adopts the specifications of the American Society for Testing Materials. Wherever possible, they have avoided the use of "closed specifications" by stating requirements in terms of performance based on results of tests or service conditions, rather than detailed specifications of methods or materials.

Mr. F. J. Thielbar, Chicago architect, has been chairman of the Commission for Revising the Building Code of the City of Chicago and Charles G. Brookes, Editor.

SCHOOLS & SCHOLARSHIPS

The Department of Architecture of Syracuse University announces the inauguration of a five-year curriculum leading to the degree of Bachelor of Landscape Architecture.

In consideration of the close relationship of this subject to Architecture this curriculum maintains the basic work of that subject. Students admitted to the Department are allowed to make option in Landscape Architecture at the termination of the second year of the regular prescribed curriculum in Architecture.

In the fifth year experts from other departments of the University staff, practicing architects, landscape architects, and engineers, as well as others from the professional and business field who are particularly qualified in special problems, will be brought to the classroom for advice, criticism, and direction.

CREATION OF A DIVISION OF CITY PLANNING AND HOUSING, and establishment of a new six-year course in City Planning Practice combining the realities of field experience with professional training was recently announced by the School of

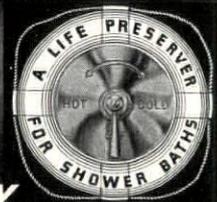
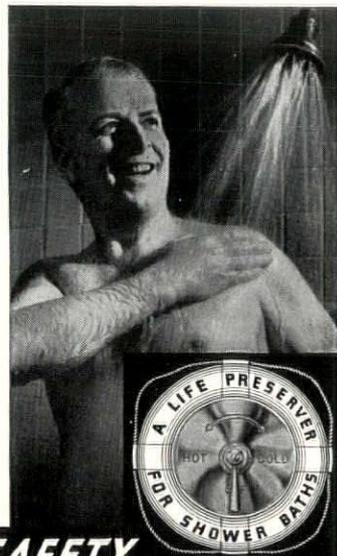
Want to eliminate the danger of scalding in your shower baths and stop unexpected changes in the water temperature?



● **No more slipping in a soapy tub or on a wet tile floor while trying to dodge a "shot" of icy cold or scalding water**—When you use a shower bath regulated by a Powers safety shower mixer the temperature remains right where you want it. You can really enjoy the thrill of a comfortable shower in absolute safety.

Why they're more economical—There's no loss of time or waste of hot or cold water while waiting for a shower at the right temperature — Powers mixers cost more — They're worth more.

Write for circular describing this remarkable shower mixer. The Powers Regulator Company, 2751 Greenview Avenue, Chicago. Offices in 45 Cities — see your phone directory.



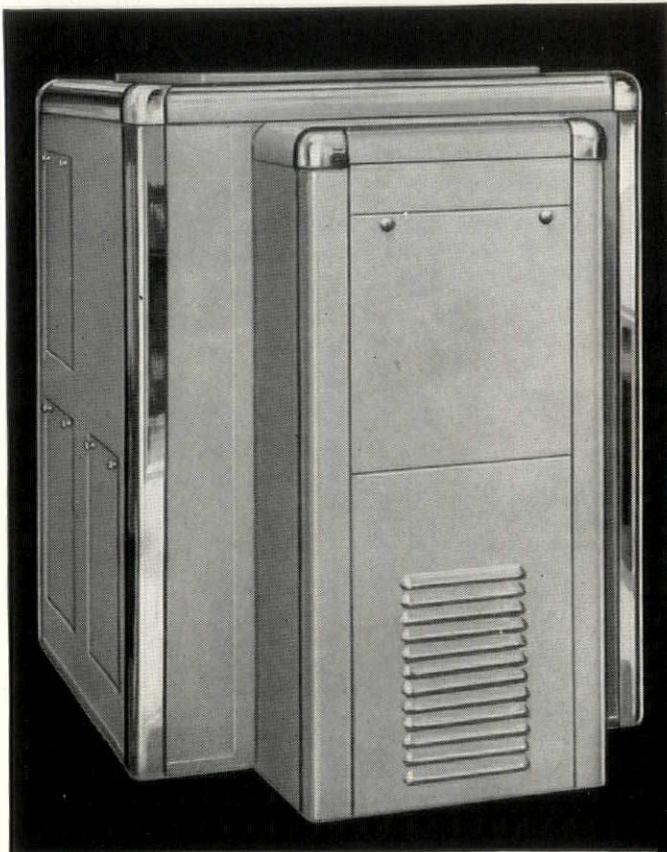
POWERS SAFETY SHOWER MIXERS

COSTS HIT ROCK-BOTTOM

In Revolutionary New-Type..

OIL-FURNACE AIR CONDITIONER

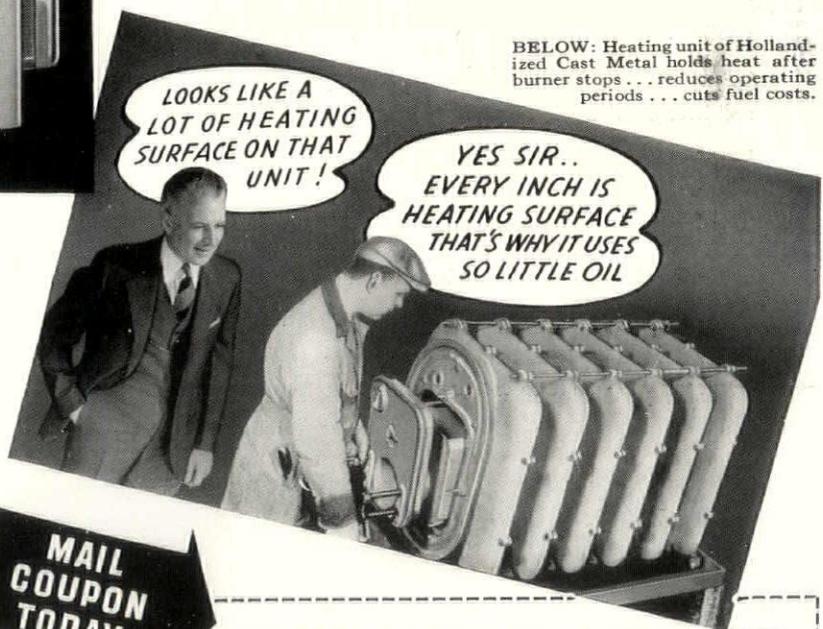
COMPLETE IN ONE UNIT



Greatly Broadens Architects' Field for Specifying Home Air Conditioning

NOW, owners of homes in every price range can have complete winter air conditioning with added relief from discomfort in hot summer months. First cost has been incredibly reduced in the new Holland Oil-Furnace Air Conditioner. It is actually installed for about the average price of the better type system for heating alone. Nevertheless, capable engineering has produced oil burning efficiency above 80%, as against the usual 30% to 50%. Fuel consumption is, therefore, extremely low. Along with prohibitive cost, objectionable noisiness has also been eliminated. Especially noteworthy is the new heat-storing furnace unit with special safety heat retaining sections that make dangerous "backfiring" impossible. Outstanding, too, is the patented method of circulating the air, so that it is preheated before reaching the heating unit and leakage of warm air is prevented. Many other advanced features merit careful study by every architect, so why not mail the coupon now for complete information?

BELOW: Heating unit of Holland-ized Cast Metal holds heat after burner stops . . . reduces operating periods . . . cuts fuel costs.



LOOKS LIKE A LOT OF HEATING SURFACE ON THAT UNIT!

YES SIR.. EVERY INCH IS HEATING SURFACE THAT'S WHY IT USES SO LITTLE OIL

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HOLLAND ENGINEERS Offer Full Cooperation

Holland engineers are located at all our 450 factory branches throughout the country. Please feel free to call on the one in your locality at any time for information or any other assistance, in planning home heating and air conditioning systems. You will find him capable and eager to cooperate, without putting you under the slightest obligation. You will find our nearest factory branch listed under "Holland Furnace Company" in your local telephone directory.

HOLLAND FURNACE COMPANY
HOLLAND, MICHIGAN *World's Largest Installers of Home Heating and Air Conditioning Systems*

HOLLAND FURNACE CO.—Dept. AA-6—HOLLAND, MICH.

Please mail information on subject checked below

- New Oil-Furnace Air Conditioner
- Holland Coal Burning Heating and Air Conditioning Systems
- Holland Automatic Coal Burner Have Engineer Call

Name.....

Address.....

City..... State.....

Architecture of the Massachusetts Institute of Technology.

Supplementing the Institute's existing undergraduate and graduate courses in city planning, the new course will bring to its students the benefits of field practice by including in its curriculum a year of varied experience in the offices of local, state, and regional planning boards.

The course will lead to the degree of Master in City Planning, together with the degree of Bachelor of Architecture in City Planning as of the preceding year.

THE SCHOOL OF ARCHITECTURE OF COLUMBIA UNIVERSITY will inaugurate a program of training for art in industry at the thirty-eighth Summer Session, which begins on July 12th and continues six weeks, announced Director John J. Coss.

"Architects who are interested in interior design have realized for years the importance of constant study of our furniture, our hangings, rugs, and the whole range of objects used in homes and offices," Director Coss said. "To meet this need, the Summer Session will offer work in furniture design for contemporary living and in the application of printed patterns to textiles and to paper."

Summer studies at Columbia will include instruction in architecture and realty problems. Among the lecturers will be Harvey Wiley Corbett and William Lescaze.

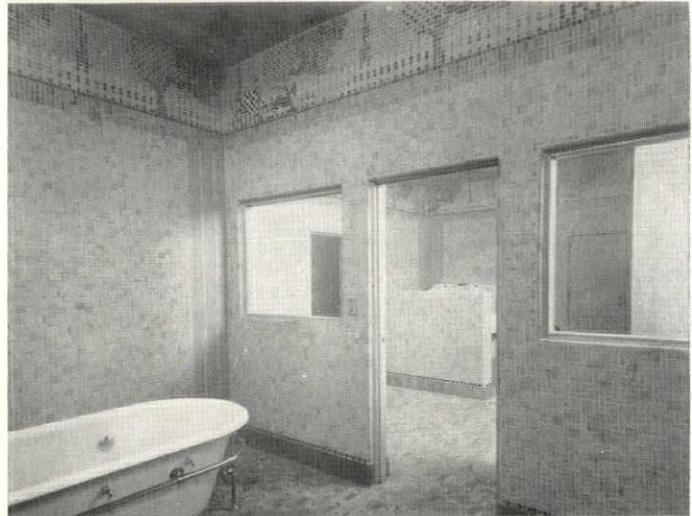
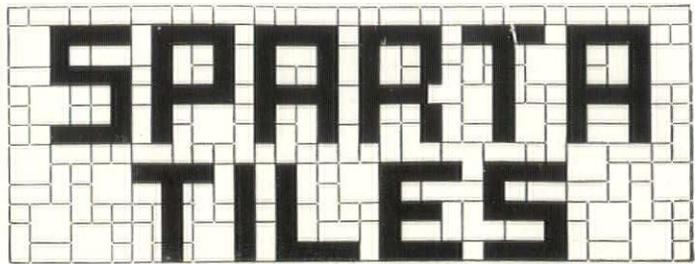
NEW YORK UNIVERSITY SCHOOL OF ARCHITECTURE AND ALLIED ARTS announces a summer session in Housing, Community Planning, and Low-Rental Housing Management, from July 14th to 28th, 1937.

THE UNIVERSITY OF PENNSYLVANIA takes pleasure in announcing the establishment of the Joseph V. Horn Fellowship, carrying a stipend of \$1,000. The holder of this Fellowship will be selected by competition from candidates qualified for graduate study in architecture. Competition will be conducted from June 10th to June 14th by local supervisors who will issue the program and receive the problems at the appointed hours. Applications should be accompanied by statements from those agreeing to act as supervisors.

ON THE WEEK END OF JUNE 11, 12, 13, there will be held at Princeton University, the First Annual Architectural Round Table, which it is felt will fill a definite need as expressed by many practicing architects. Its purpose is to provide an ideal atmosphere and opportunity for both young and old to discuss informally problems and openings in the teaching and practice of contemporary architecture.

THE SCHOOL OF ARCHITECTURE AND ALLIED ARTS OF THE UNIVERSITY OF OREGON has announced two awards from the Ion Lewis Endowment. The first, the Ion Lewis Special Scholarship in Architecture, has been given to Harold Onstad, a former student. The second, the Ion Lewis Traveling Scholarship, was awarded to Arthur Riehl, a graduate of the school in 1934. Both awards are for \$1,000. The endowment was established by Ion Lewis, a well-known Portland, Ore., architect and member of the firm of Whidden & Lewis.

THE DESIGN LABORATORY OF THE WORKS PROGRESS ADMINISTRATION offers a course in experimental studies of industrial materials, projected for the eight weeks beginning July 6th, 1937. Information concerning this and other courses offered by the WPA may be obtained from the Department of Information, Federal Art Projects, WPA, 235 East 42nd Street, New York City.



One of the several hydro-therapy rooms in Neuro Psychiatric Institute of The Hartford Retreat, Hartford, Conn., where Sparta Tiles comprise floor and wall surfaces. Donald Hiscox, Architect.

for HOSPITALS

The floors in this Hartford hospital are of random shades of Sparta Grey Tile, set up to arrive at non-slip surfaces. The walls are in a Golden Pheasant range with pilaster treatments in Sparta Fluted Stri-Lief. The decorated friezes at top are a combination of glazed and unglazed Sparta Ceramics in purposely vague designs commanding close attention and of accepted therapeutic value.

SPARTA TILES offer many advantages for hospital use. They are low in cost, possess maximum wearing qualities, and are stain-proof, non-slip and fire-resistant. Sparta Tiles also reduce installation costs, for they are supplied mounted, in sizes including 4"x4", and are set permanently and inexpensively by the floating method. Unexcelled for use in hospital corridors, kitchens, baths and toilets, operating rooms and laboratories.

We are ready to serve you in any locality with specifications, sketches, samples and suggestions.

NEW!
Now you can specify and use
**SPARTA
FAIENCETTES**
(Plastic Glazed Tiles)
in 10 attractive colors: 1" x 1", 2" x 1" and 2" x 2" sizes.
Moderate Cost

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TRENDS

(Continued from page 24)

than show merely a collection of photographs, the Exhibition is designed to demonstrate the real character of modern design. It will explain the service that the architect has to perform, the elaborate technique which is at his command to-day, how modern architecture uses this technique, and finally the esthetic possibilities modern architecture offers. Human qualities in modern building will be emphasized, since lack of feeling is what

the moderns are most often (though mistakenly) accused of.

The Exhibition is organized voluntarily by the M A R S Group, and will be supplemented with a series of lectures on various aspects of modern architecture. Patrons are: The Earl of Derby, The Viscount Wakefield, The Lord Horder, Sir Michael Sadler, and George Bernard Shaw.

THE BUILDING ARTS EXHIBIT Boston's permanent exhibition of building materials, will complete its tenth year of service to

architects and home builders on the twenty-third of June.

Recently they inaugurated a series of exhibitions of residential work by ten of Boston's leading architects. The purpose of this showing was to allow the public an opportunity to view the work of local architects, with two things in view; to better the home owner-architect relationship, and to aid in proving that for an attractive well-designed home, architectural service is indispensable.

The series started on April 10th and will extend through June. Each week the Boston Evening Transcript publishes an illustrated article, and the Exhibit itself has been made comprehensive enough to include photographs, plans, models and renderings. As a result the public has shown unusual enthusiasm for the current series.

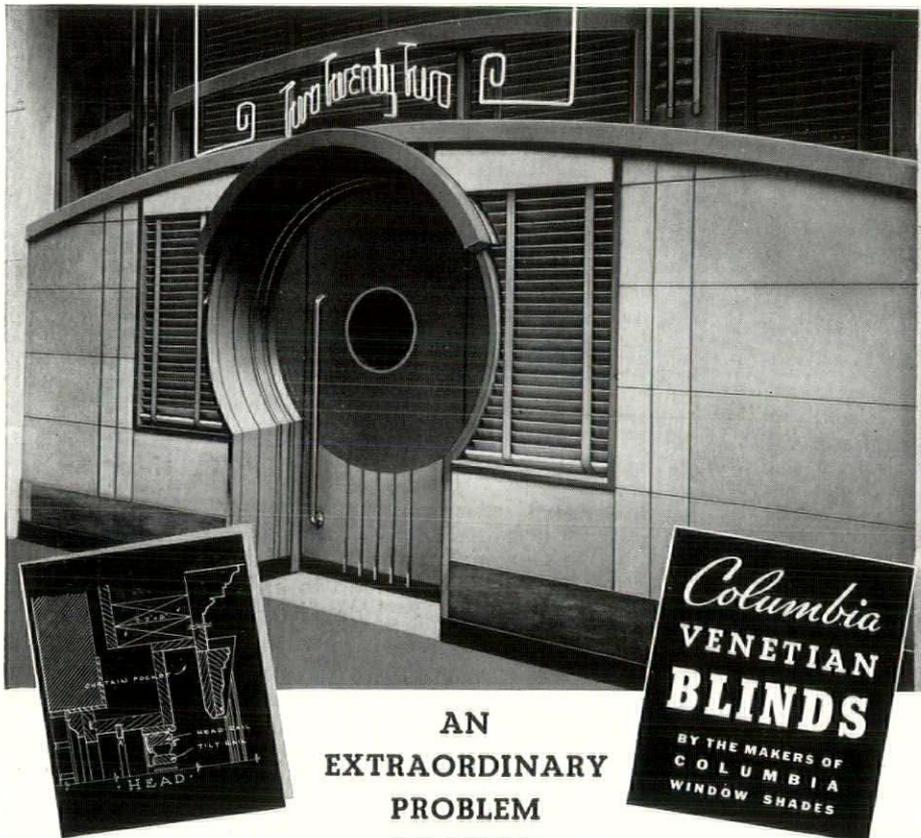
ART

"LIGHT AS DECORATION" WAS THE SUBJECT OF A LECTURE given by professor Albert Charles Schweiser of the New York University School of Architecture. In Professor Schweiser's opinion, decoration and emotional qualities of light are not any recent revelation. They have existed in architecture as long as there have been shadows playing on walls. However, until recently, designers have overlooked the powerful aid of light in their work. Theaters, taking their cue from the footlights, applied the same technique to auditoriums; and from this beginning, the use of light has spread into many other fields. For example, the modern architect can stress the shapes and direction of rooms, he can mark out on the walls the vertical division of his scheme, or, on the ceiling, the subdivision of his plan. He can impressively emphasize the structural ideas and designs of his building.

According to Professor Schweiser, the greatest and most modern possibilities of light as decoration constitute a vital form of abstract art. It has the emotional quality inherent in great abstract music, and it can be strikingly used to obtain contrast. While actually the full effectiveness of light is felt in a combination of many separate appeals, the designer must start to create his schemes from the very beginning of his architectural conception, if he is to realize the full possibilities of his work.

AIR CONDITIONING

INSTALLED AIR CONDITIONING EQUIPMENT sold by the members of the Air Conditioning Manufacturers' Association broke all records in the first four months of 1937 and showed an increase of 180 per cent over the sales in the same months a year ago, and a total not reached in 1936 until October.



AN EXTRAORDINARY PROBLEM SOLVED

UNUSUAL problems of window treatment are constantly being presented to the Architect. The illustration above shows how well one such problem was solved by Columbia Venetian Blinds. Successful blind installations depend upon the quality of materials and the expertness of artisans who make the blinds. Columbia Venetian Blinds have stood the acid test of years and are the accepted standard blind for Architects who specify the best. A series of details have been prepared which will greatly assist Architects in designing windows for correct blind installation.

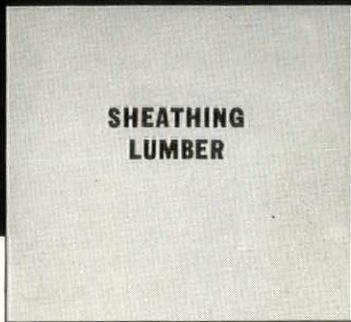
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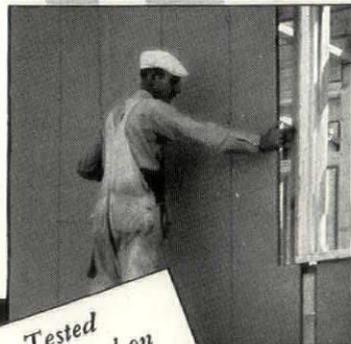
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INDUSTRIAL BUILDINGS

INDUSTRIAL BUILDING CONTRACTS during May kept near the high level set in this field during the first four months of the year, and with no decrease in inquiries evident for new plant, factory and research facilities, the high rate of construction probably will continue through the Summer and Autumn, in the opinion of George E. Bryant, Jr., executive vice president of the Austin Company.

The wide range of new building work is the "soundest evidence of basic recovery," according to Mr. Bryant, operating

head of the industrial engineering and construction firm.

"For more than eight months we have witnessed a continuous flow of business from those industries which reflect fundamental growth," he reports. "The consumer goods industries, such as foods and textiles, have been expanding and modernizing plant facilities. In the past few weeks we have added two large canneries, two can factories of good size, three food product plants and an apple butter cook house to the group of structures already nearing completion for the food industry.

"The aviation industry is engaged in

more extensive construction activity than at any other time in its history. While the work today is largely confined to aircraft plants, it is likely to prove the forerunner of an even greater volume of terminal construction, made necessary by larger planes and mounting traffic.

"Notwithstanding curtailment of automotive activity due to labor difficulties during the Winter and early Spring, the volume of new construction for tool and die shops and allied industries in the Detroit area continued its steady climb.

"The growing complexity of steel distribution, which has been brought about to some extent by the special steels available for special purposes, has brought about a revival of steel warehouse construction, particularly in the Detroit and Chicago districts.

"Plant construction for the air conditioning and kindred industries is only now beginning to hit its stride.

"One of the most significant trends has been in the paper and printing industries. I doubt if any one realized the extent to which new and increased uses of paper would figure in recovery. Between the geographical shift in paper production to the South and West and the necessity for improved facilities and greatly increased capacity, the American paper industry today probably ranks second only to steel in its importance as a factor in industrial construction."

BUILDING LIFE INSURANCE

Governor Lehman of New York signed a bill recently which permitted the application of the life insurance principles to buildings. Although this is a new idea in this country it has been used with success in both England and Germany. According to the theory mortality tables are established for buildings, machinery and equipment, similar to those used in insuring human life. Premiums are based on the age of the building. At the present time experts agree that forty years is about the average life of an average city property. Building insurance policies will have both loan and cash surrender values. According to the terms of the law companies may insure "against total loss or damage, including total loss of use by reason of the total depreciation existing at the expiration of the insurance." The law requires that all companies formed to write this kind of insurance must be capitalized at not less than \$1,000,000 and that the paid-in surplus be at least half of the authorized capital. Although no companies have yet entered this field, it is understood that at least one is in process of formation. With this type of insurance available owners who insured their buildings in this fashion could afford to tear old buildings down, collect the insurance policy and replace with new structures.



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John L. Volk, Architect

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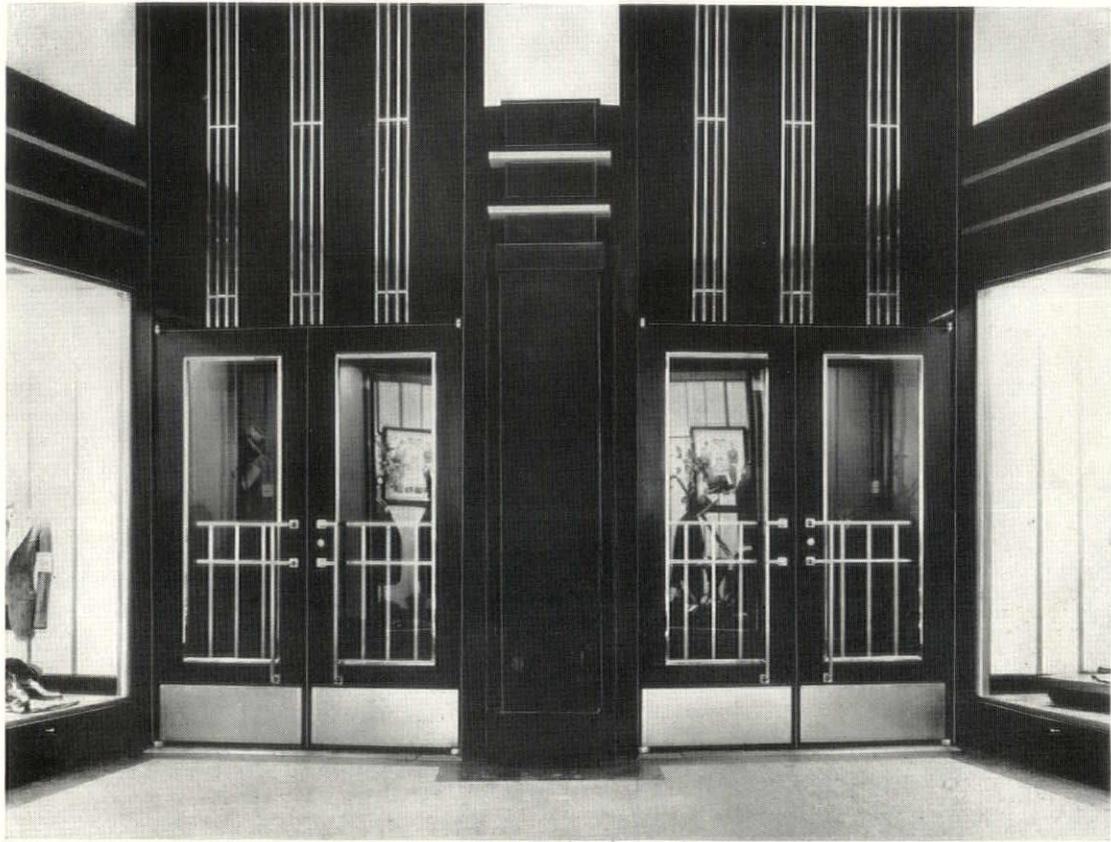
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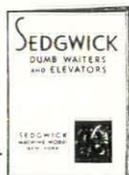
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COMPETITIONS

THE AMERICAN ACADEMY IN ROME HAS announced its award of the Katherine Edwards Gordon fellowship in architecture to Richard Gardner Hartshorne, Jr.

Mr. Hartshorne was born in Wakefield, Massachusetts, August 12th, 1912, and is at present a resident of Melrose, Mass. After two years at Bowdoin College, he matriculated to Yale University from which he will graduate as a Bachelor of Architecture this June.

There were 9 final competitors chosen from 97 entrants. The problem which ran for four weeks and formed the basis for the award was, "A Museum of Art."

The jury consisted of John Russell Pope, William Mitchell Kendall, Louis Ayres, James Kellum Smith and Edgar I. Williams.

Honorable mentions were given to Joseph Frank Balis of Pennsylvania State College, and John J. Brady of Manhattan College, now a student at Catholic University of America.

John Finley Kirkpatrick of Cincinnati, Ohio, received the Academy's award in Landscape architecture. Honorable mention was given to Ray Oliver Kusche of Los Angeles, California.

Mr. Kirkpatrick, who is now 25 years old, was graduated in 1936 from Cornell University with the degree of Bachelor of Architecture. He is expected to get the degree of Bachelor of Laws in Architecture this month. The award, which Mr. Kirkpatrick won in competition with 20 original entrants and three finalists, was based on a four weeks problem calling for the development of a large tract of land as a high class residential district.

The jury of award consisted of Gilmore D. Clarke, chairman, Charles Downing Lay, Henry V. Hubbard, Charles N. Lowrie and Richard C. Murdock.

Each fellowship carries an allowance of \$1400 a year for a term of two years beginning October 31st, 1937, with free residence and studio at the Academy; also \$100 to \$150 a year for materials and incidentals. The estimated value of each fellowship is about \$2000 a year.

IN THE NINTH CONSECUTIVE COMPETITION FOR BRIDGE DESIGN, held by the American Institute of Steel Construction, the six best designs have been selected for prize awards. The winners are: A. Herbert Mathes of New York University, First Prize, \$150; Walter G. De Witt, Jr. of Rensselaer Polytechnic Institute, Second Prize, \$100; J. Boyd Pestotnik of Iowa State College, Third Prize, \$50. Honorable mention was given to Mansel Kersey, University of Oklahoma, Robert H. Strasmyer, Pennsylvania State College, H. Max Wiese, Iowa State College.

The jury making these selections consisted of Dr. D. B. Steinman, Consulting Engineer; Mr. Jay Downer, Consulting Engineer; Mr. Alfred Fellheimer,

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Street

City

State

Architect; Mr. Kenneth M. Murchison, Architect; and Mr. F. E. Schmitt, Editor of Engineering News-Record.

The problem for the competition was to design a highway bridge to carry a roadway in a straight line over a stream 300 feet wide, bank to bank, connecting a parkway on the high land to the south with a boulevard on the plateau to the north. The bridge was supposed to have four lanes forty feet between curbs, with one five foot sidewalk. Eighty entries were submitted by engineering and architectural students from 16 colleges in the United States.

THE ILLUMINATING ENGINEERS SOCIETY has just announced the award of a \$300 first prize to C. Preston Andrade, Jr., an architectural student at the University of Pennsylvania. Second prize of \$200 went to Raleigh T. Daniel, student at the Catholic University of America, Washington, D. C.; third prize of \$100 was awarded to Robert B. Little of the University of Illinois; and four \$50 prizes were given to Lester Cohen, and E. Frank Zipp, both of the University of Pennsylvania, W. R. Richardson, University of Illinois, and M. O. Urbahn of Yale.

This was the sixth annual competition sponsored by the I. E. S., and the Beaux Arts Institute of Design of New York City. A jury of thirty-eight prominent architects and illuminating engineers made the awards.

The problem this year called for the creation of a hotel interior that would serve with equal facility for three distinct purposes: (1) as a convention type room where special assemblies and lectures can be held; (2) as a ballroom for relatively small and private social gatherings; (3) as a banquet hall where lunches and dinners can be served. The problem assumed that the room, which was to be located on one of the floors having no outside light, would be air-conditioned, and employ artificial light exclusively.

OBITUARIES

WILLIAM ALCIPHON BORING, dean emeritus of the Columbia University School of Architecture, died on May 5th at St. Luke's Hospital, in his 77th year.

Dean Boring was a successful practicing architect, with numerous public buildings to his credit in many parts of the United States, before he became director of the Columbia School of Architecture in 1915. He was later appointed Ware professor of architecture and dean of the school.

Mr. Boring was born September 9, 1859 in Carlinville, Ill., and was educated at Blackburn College in Carlinville. He studied architecture first at the University of Illinois, then at Columbia, and from 1887 to 1890 at the Ecole des Beaux Arts in Paris.

After his return to the United States, he worked for the firm of McKim, Mead & White, and then established his own firm with E. L. Tilton. One of Mr. Boring's first buildings was for "The Los Angeles Times." He designed most of the buildings for the United States Immigration Station on Ellis Island; the University of California; the Institute for the Blind, at West Hartford, Conn., and was one of the first to recognize the possibilities of Park Avenue in New York for residential development.

Mr. Boring was one of the founders as well as the first president of the Beaux Arts Institute of Design, a member and officer of many other societies, and the recipient of numerous honors.

CHARLES ALLING GIFFORD, retired New York architect, died at his home in Atlantic City, N. J., on May 3rd, after a long illness. He was 76 years old.

Born in Newark, N. J., Mr. Gifford was graduated from Stevens Institute of Technology, and practiced for years independently as an architect in New York.

Among the architectural works of Mr. Gifford were several State armories in New Jersey, several churches and private homes, the New Jersey buildings at the Chicago Fair of 1893 and the St. Louis Exposition of 1904 and the Clifton Hotel at Niagara Falls. He retired to Atlantic City in 1920.



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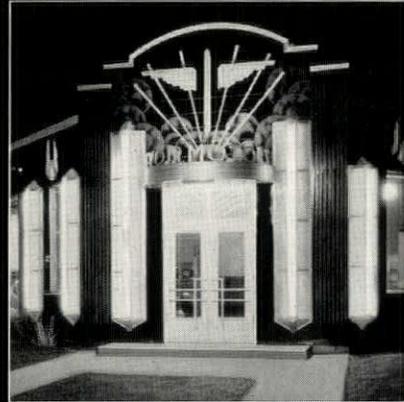
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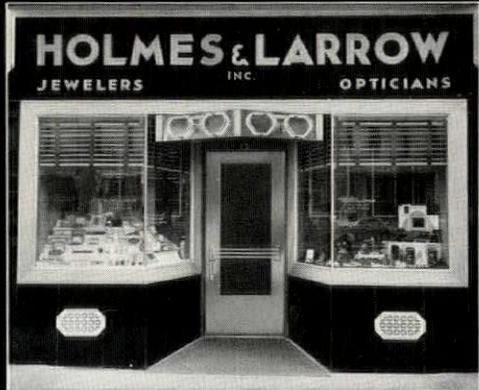


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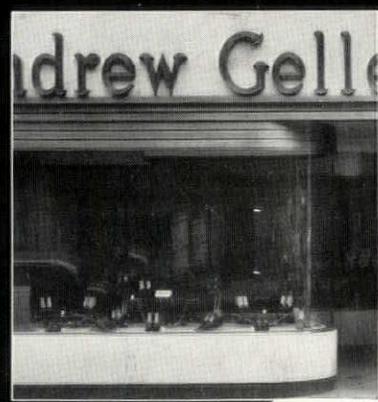


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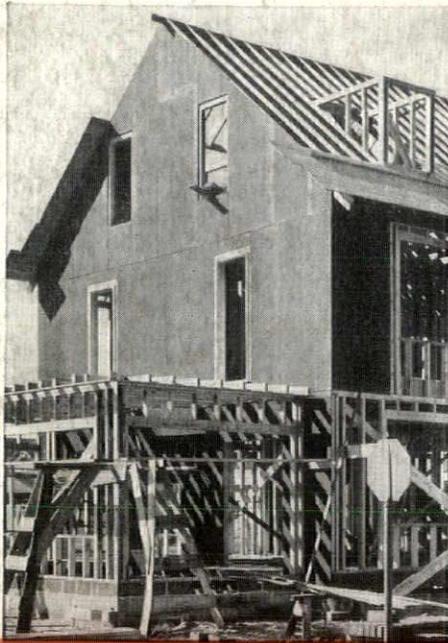
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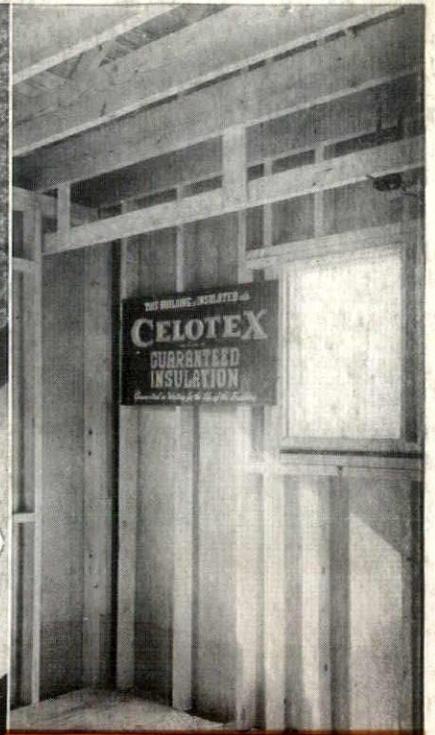
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- 1** It is integrally waterproofed—then further protected against moisture by a continuous surface coating of special asphalt—and additionally sealed against vapor on the framework side by a special aluminum compound!
- 2** Original Celotex insulating value is maintained because the seals are all on the surface!
- 3** Strong and stiff—provides great bracing strength—has the same thickness as wood sheathing—25/32"!
- 4** Marked for nailing to assure proper application and fast installation—fits tight and stops wind infiltration!
- 5** Protected against termites and dry rot by the patented Ferox Process!
- 6** It is backed by the Celotex Written Guarantee*!
- 7** It is extensively advertised in the leading national magazines.

*The Celotex Written Life-of-Building Guarantee, when issued, applies only within the boundaries of Continental United States.

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