

DEPARTMENT OF ARCHITECTURE
SCHOOL OF THE FINE ARTS
YALE UNIVERSITY



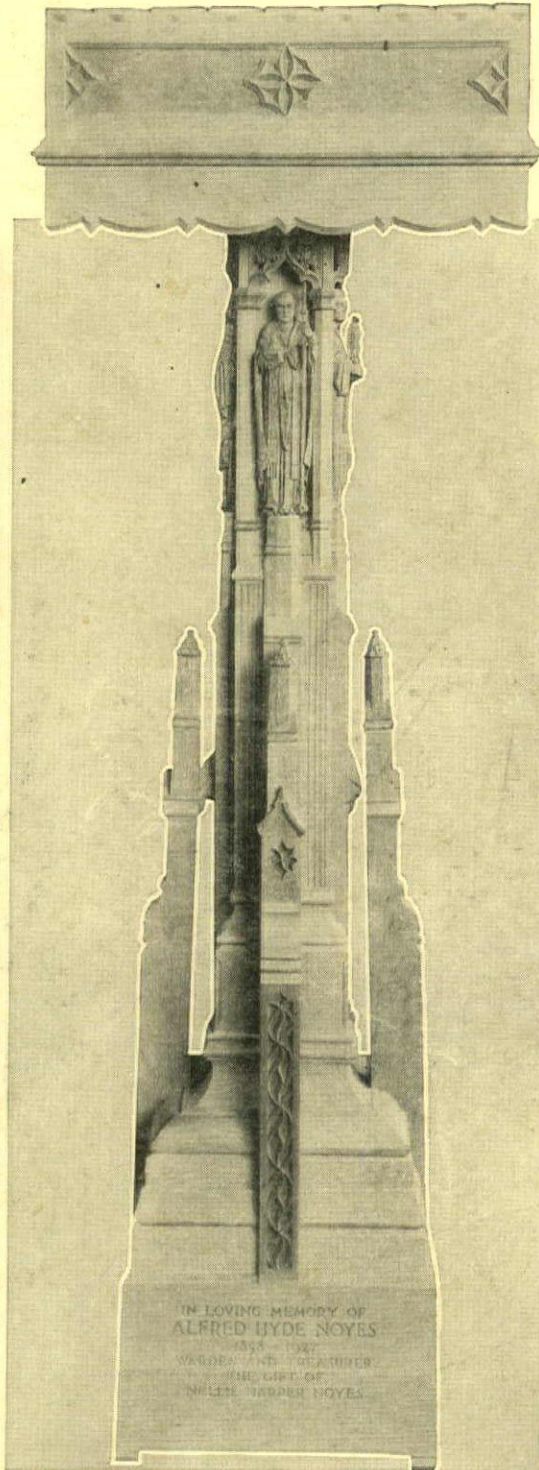
THE AMERICAN ARCHITECT

OCTOBER 1929

Enlarged detail of the
Statue of the
Rt. Rev. C. P. Anderson,
Bishop of Chicago,
one of the
figures on the pedestal



Enlarged detail
of the
Statue of Moses,
one of the figures on
the pedestal



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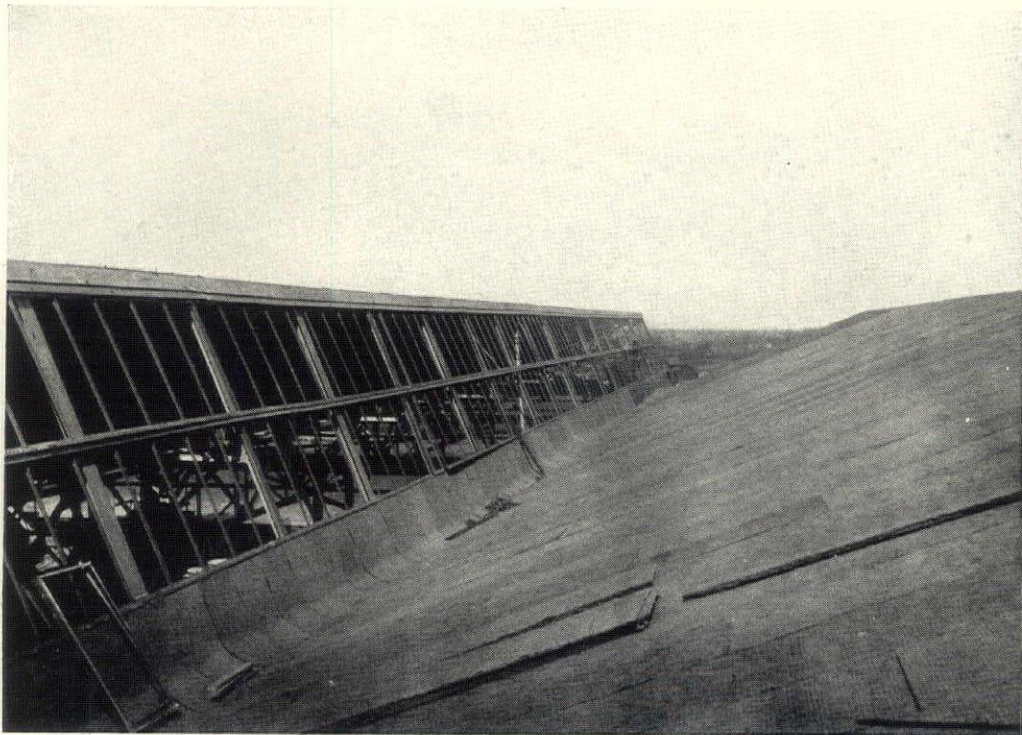
Made by AMERICAN SEATING COMPANY

This shop photograph shows the beautiful joinery and material. The architectural character of the figures, obtained despite their small size, is especially interesting.

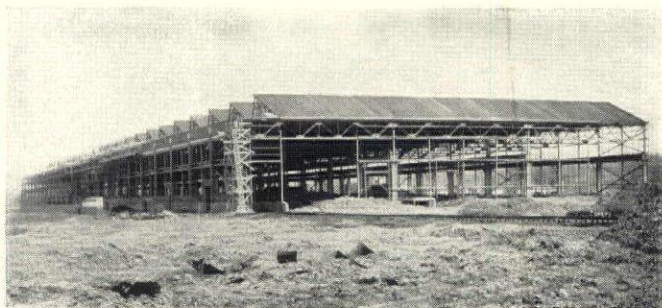


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One of the Middle West's foremost industrial structures—the new plant of The Chase Brass and Copper Company, Euclid, Ohio, protected with a 5,000-square Carey Built-up Roof. The Austin Company, Engineers and Contractors.



IT is not surprising that the fine new plant of The Chase Brass and Copper Company, Euclid, Ohio, was given the dependable overhead protection of a Carey Built-up Roof. For, since 1873, architects have been specifying this trouble-free roofing for the country's foremost buildings.

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THE PHILIP CAREY COMPANY, Lockland, CINCINNATI, OHIO

Send for Architects' Specification Book

Carey

BUILT-UP ROOFS

"A ROOF FOR EVERY BUILDING"



Gary State Bank, Gary, Ind. For all face-stone requirements on this modern bank and office building, concrete art-stone made with Universal cement was furnished by Benedict Stone, Inc. Ivar Viehe-Naess, architect; R. C. Wieboldt, Chicago, contractor. In addition to the art-stone, 40,000 sacks of Universal cement were supplied by Calumet Supply Co., Gary, for general construction purposes.

The AMERICAN ARCHITECT

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1929

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Ernest Born

THE illustration on the cover is a reproduction of a drawing by Ernest Born. This unusual view of the Ponte Vecchio at Florence was captured from a boat anchored in the Arno during the late Spring season when the river was low. The original drawing was more or less accurately blocked out as an outline composition in charcoal. A brush and India ink was used to make the drawing, over which washes of Sepia Liquide pour Aquarelle were applied.

Mr. Born, a native of San Francisco, studied and worked with John Galen Howard. Several years spent in Ateliers libre in France permitted him to develop an individual style of drawing and rendering. Mr. Born is at present connected with the office of Gehron and Ross, New York City.

Next Month

DOORWAYS of old Tunis are seen by an artist who likes the far away places of the world. Pictures and an interesting story.

The Better Handling of Ornament with illustrations of the work of sculptors.

Terra Cotta Details. A section of selected photographs.

BENJAMIN FRANKLIN BETTS, A.I.A.
Editor

ERNEST EBERHARD
Managing Editor

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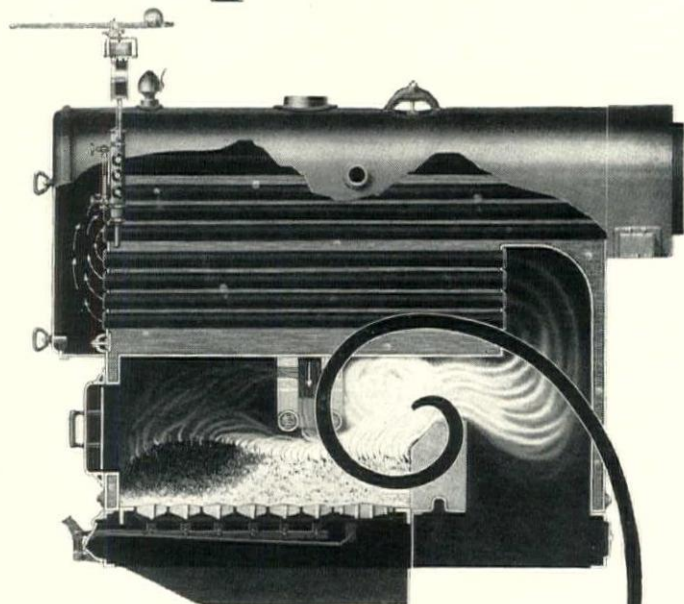
No Smoke Passes

This Whirlpool!

Like dry tinder — the soot laden gases of soft coal ignite the instant they strike this turbulent whirling mass of incandescent flame!

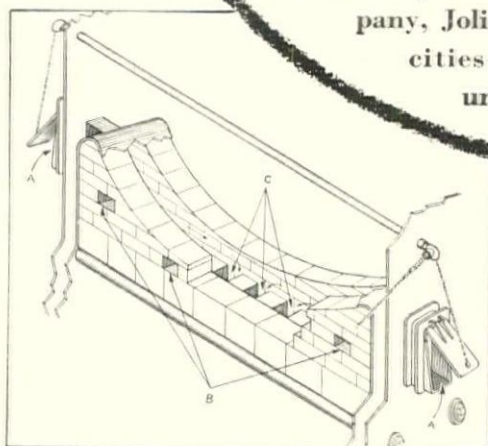
They burn and their usable heat units are utilized—because in this new Heggie-Simplex Smokeless Boiler there is always the right amount of oxygen to effect complete combustion. The additional oxygen necessary to burn bituminous coal smokelessly, but which can not be drawn through the fuel bed alone, is introduced through a special “carbureting chamber” over the fire.

Built of refractories, this chamber not only introduces the necessary



additional oxygen but thoroughly heats it before passing it down onto the fire. A refractory bridge wall to the rear of this chamber baffles the fire, creating a whirlpool of flame which consumes all of the smoke and combustibles.

For complete facts, write Heggie-Simplex Boiler Company, Joliet, Ill.; representatives in principal cities—telephone and address listed under “Heggie-Simplex Boilers.”



The “Carbureting Chamber” of the Heggie-Simplex Smokeless Boiler

Air is drawn in through intake doors (A) on both sides of the boiler. Volatiles arising from the fresh fuel are admitted through ports (B) in the forward wall. This inflammable mixture is thoroughly heated by the hot refractory walls of the chamber. It is ready for instant combustion when it passes through the jets (C) to mix with the gas stream flowing under the chamber.

Note there are no bothersome ceiling pulleys, long chains, etc. The operating device is “built in” the boiler.

HEGGIE-SIMPLEX

STEEL HEATING BOILERS



The "Stock Plan" House

CAN NEVER HAVE A SOUL

By Benjamin F. Betts

RECENT issues of several magazines contain an advertisement inserted by a well established manufacturer of materials used in buildings. It is stated that the plans and specifications of the house illustrated in the advertisement may be obtained for fifteen dollars. This manufacturer is not alone in the field for there are many magazines, newspapers, "plan factory" catalogs, building supply dealers and manufacturers who have entered into this movement to supply the public with plans and specifications. It is barely possible that they believe they are rendering a public service.

The purchasers of stock plans rarely obtain the house as designed, for changes are usually made by the owner. Relatives, well meaning friends and even the carpenter and mason offer many suggestions that are thoughtlessly accepted without realizing their effect on the design. Architectural supervision that would safeguard the owner against the pitfalls of building, is not included in the price of stock plans, a fact overlooked by the purchaser.

EXPERIENCE has shown that no two families require exactly the same type of house. Individuals and personalities do not admit of standardization in a matter that affects their welfare and environment. Standardization can be carried to the point that all houses in a community are exactly alike with the well known result of a monotonous, uninteresting, soulless place in which no one would willingly want to live.

Architects perform a public service to the individual and the community that it is impossible for the sellers of mass production plans to give. It is fact and not theory that environment has an important bearing on individuals and their personalities. The house is the foundation of American home life, American independence, happiness and liberty. Environment conducive to this, must be kept intact for the individual and the community at large. The architectural profession can and is contributing to this public service.

UNDER the direction of capable architects, houses are designed in correct relation to their place and importance in the community. Due consideration is given to the immediate surroundings of the neighborhood and site. Rooms are so placed that they receive adequate sunlight and pleasant views are preserved for the most important rooms. The house designed to express the owner's personality, often arouses within him through the right environment, the desire for the better things in life. Children are reared in an atmosphere, in which the house plays no small part, to become good citizens and to prize the integrity of honest living. The architect, after studying the owner's family, designs a house in which it is convenient to live and one that furthers American ideals.

It is only through personal contact and study of the individual family that a house suited to its needs can be built to serve it. This is a function of the architect. Its importance cannot be disputed. It can never be sold as a part of a "stock plan."

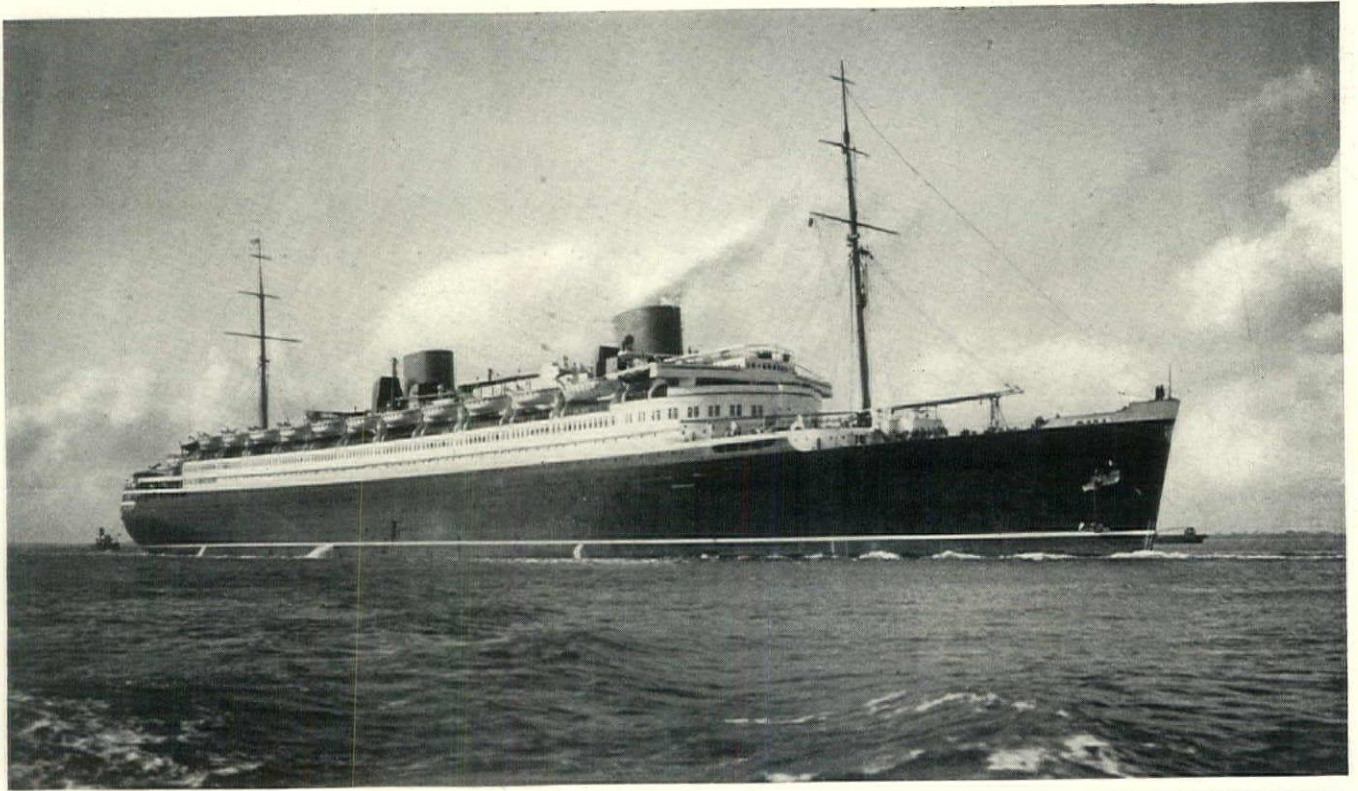


PHOTO BY HEINRICH ENGELKE
PHOTOS COURTESY CONTEMPORA, INC.

The BREMEN Advances the Cause

WHEN seventy-five thousand people voluntarily suffer all the inconveniences of summer heat, metropolitan crowds and long subway trips back and forth, to go aboard and inspect an ocean liner during four short days, one may reasonably ask the question: What is the big attraction?

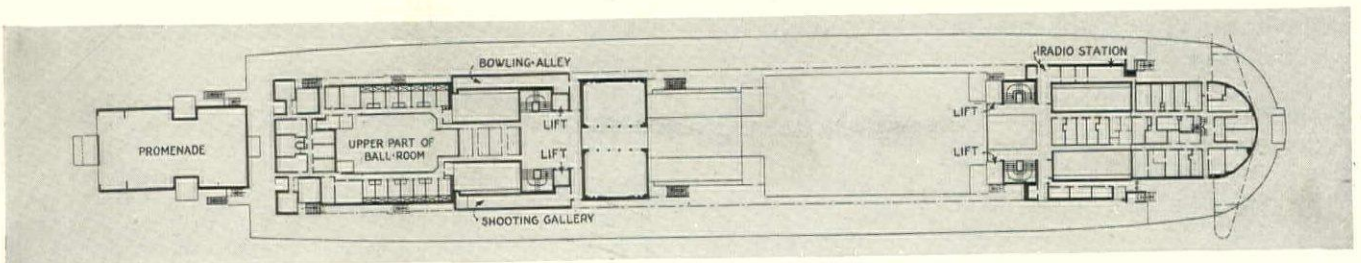
Some will answer that Americans will crowd to see anything or anybody that sets a new record. Others will claim it is not every day that the average non-travelling citizen is afforded an opportunity of strolling majestically from one deck to another unmolested on a giant liner that has just completed her maiden crossing. I think, however, that by far the majority of these seventy-five thousand curious New Yorkers went aboard the Bremen because of their interest in the modern movement in architectural and decorative

Rational Though Radical, Its Effect
Speculation. 75,000 People Went

art which now has so firmly grasped the entire world.

For the Bremen is a modern ship. She is modern outside and inside. Her bulbous bow—a feature which has never before been embodied in a passenger ship—the semi-circular plan of her forward structure, and her low funnels, shaped in plan like a falling rain drop, all bear evidence to the fact that German naval architects, along with their confreres whose architectural problems have their roots in dry land, have “gone modern,” though in a sane and practical manner.

And yet there is nothing incongruous about the Bremen. She is just modern, that is all, and the modern-



Plan of upper promenade deck



PHOTO BY WORSINGER

The smoking room, which was designed by Dr. Rudolph Schroeder, follows the semi-circular lines of the forward part of the ship

of the Modernists

By R. W. SEXTON

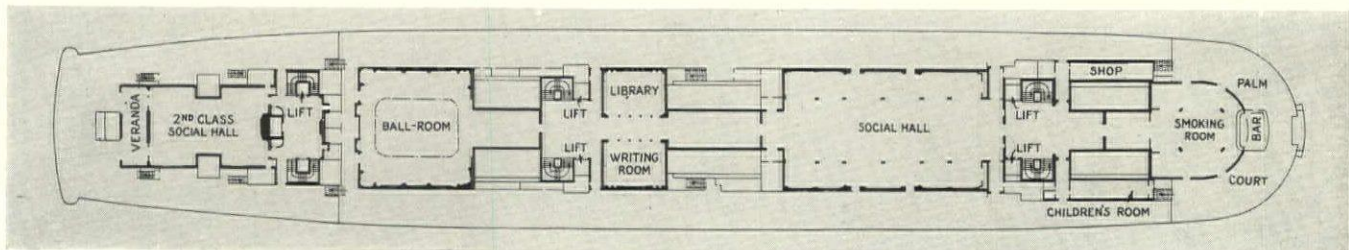
on Architecture is An Interesting
to Look and Were Impressed

ists throughout the world will point to her with pride. It is easy to believe that many of those who have looked at the modern movement with a skeptical eye, after viewing this latest product of modern German creation, will become modern enthusiasts. Undoubtedly the Bremen has boosted the cause of the modernists in the world tremendously.

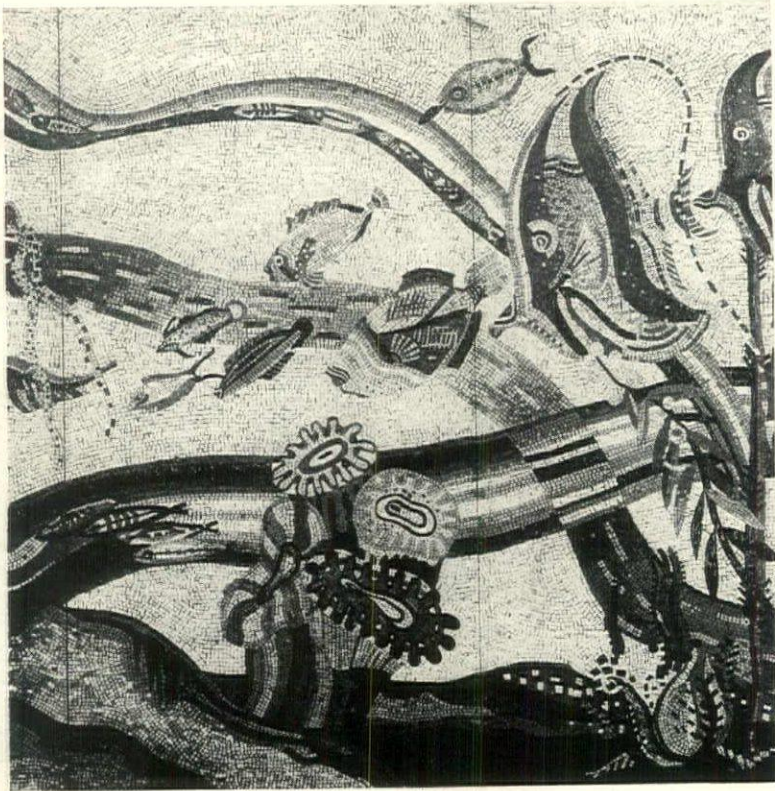
Here is a boat in the plan and design of which every thing has been done to make the passengers feel at home. By "at home," I mean that their customary routine may still be adhered to, although they may be on board ship. The staterooms are not merely "bunks"

to sleep in; they are more like living rooms than the conventional stateroom. Then there is a lounge, and a comfortable lounge it is, too; a ballroom, a library, a cafe, all of modern design, offering their peculiar services to a vast array of passengers whose tastes and interests are as diversified as are the languages which they speak. Yet these rooms have all been so designed that one never forgets one is on board ship. The character of a ship has been ever adhered to without the customary use of ship's rope and electrified ship's lanterns.

To my mind a great deal of the credit for the success of the architectural and decorative treatment of the various rooms is due to the fact that tradition and precedent have been put aside, the periods have been forgotten, and the architects have been allowed to give expression to their (Continued on page 128)

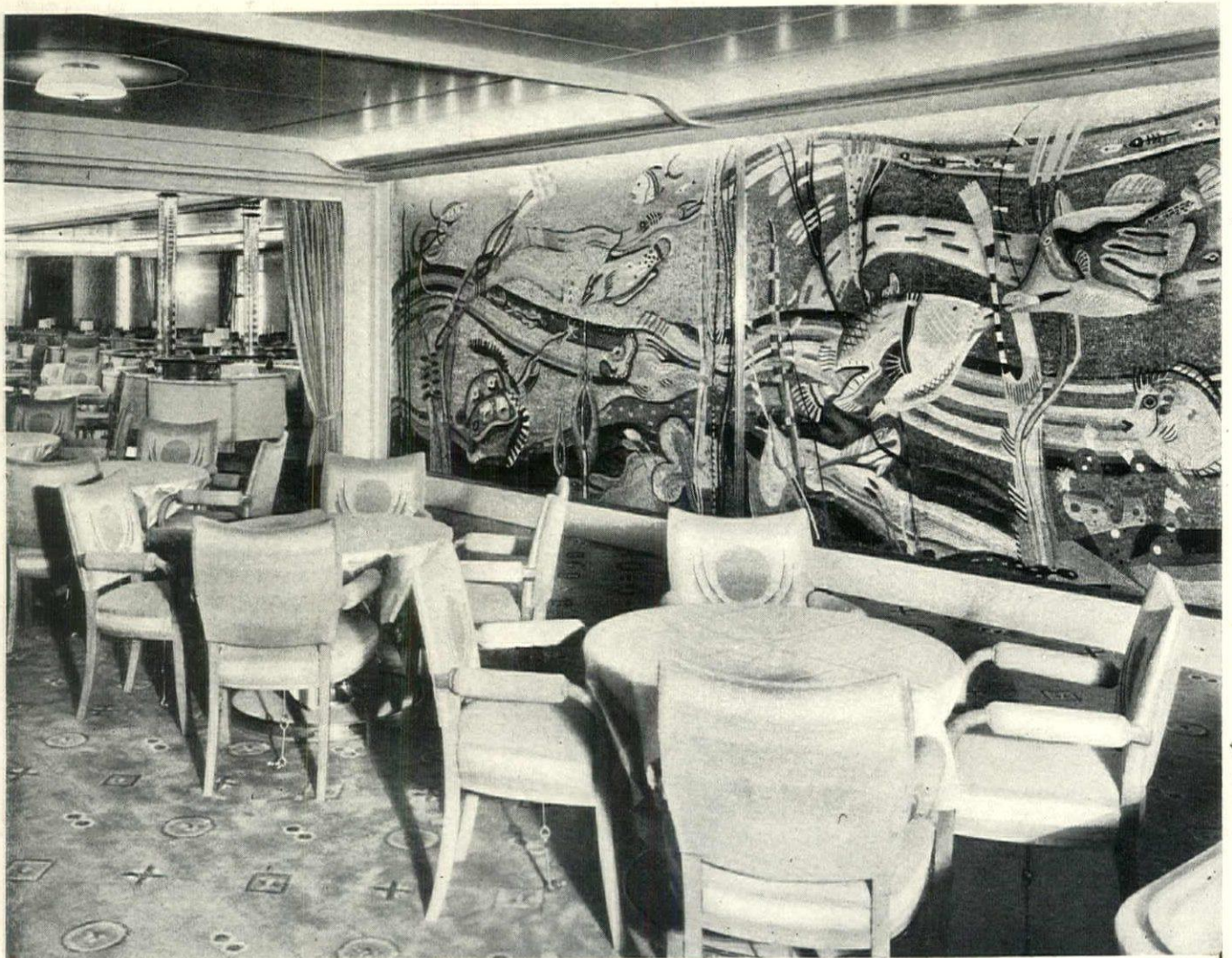


Plan of main promenade deck



SEA FISH and plants, fanciful in their conception and brilliant in color, against a background of silver, decorate the foyer walls between the library and ballroom. The panels are executed in glass mosaic and were designed by a Berlin artist, Maria May, and executed by Ravenna Mosaics, Inc. Tapestry of modern design covers the furniture, which was designed by Prof. Fritz August Breuhaus of Duesseldorf

THE Ballroom can be seen at the left of the foyer. The fantastic marine wall panels are appropriate for use on a modern liner. The modern school is reflected in the mechanical character of the ceiling, as shown below



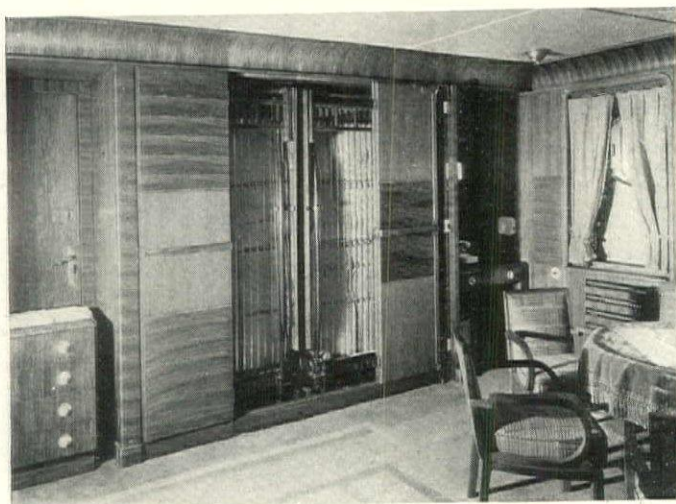
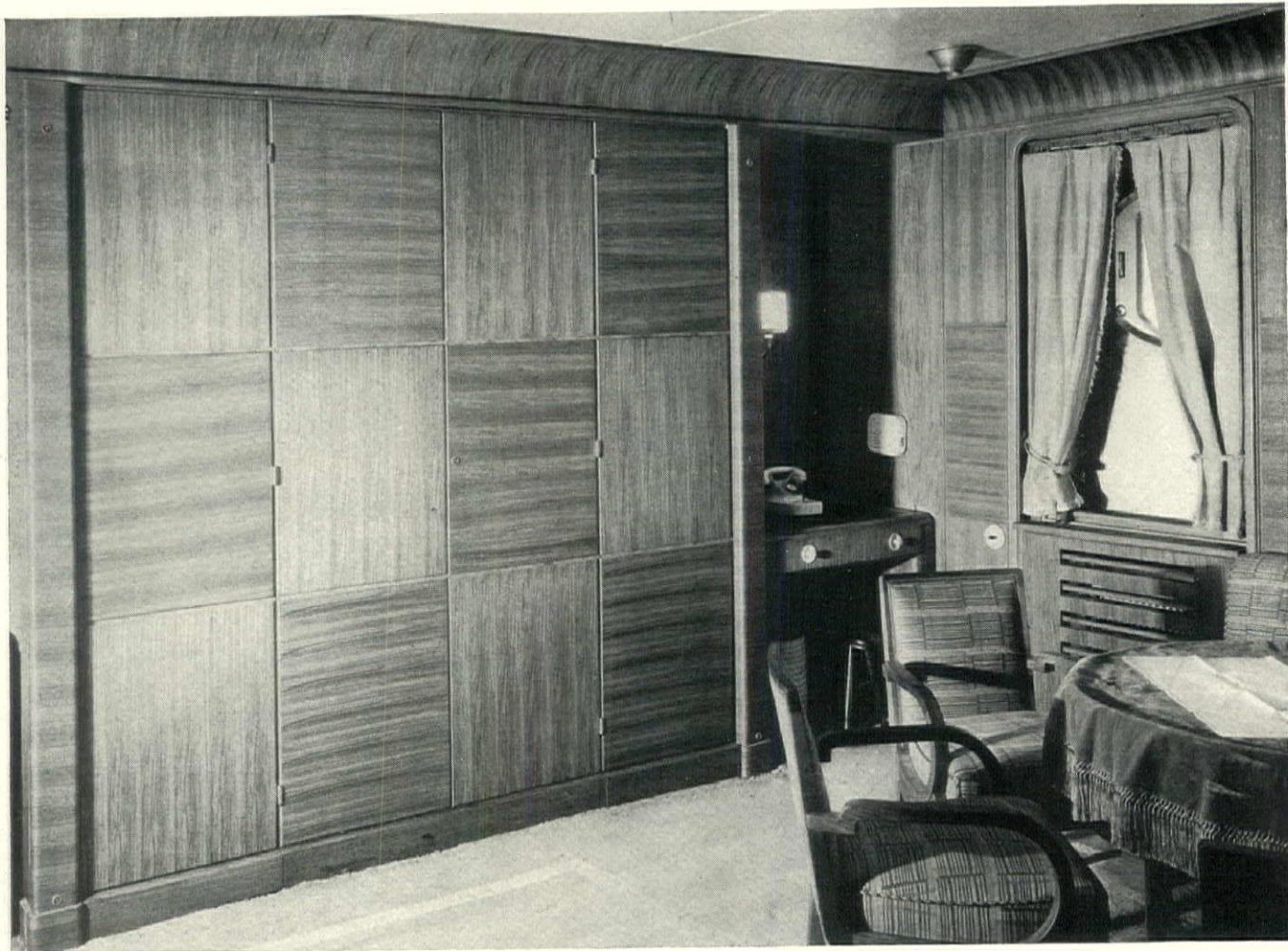


PHOTOS BY WORSINGER
COURTESY CONTEMPORA, INC.

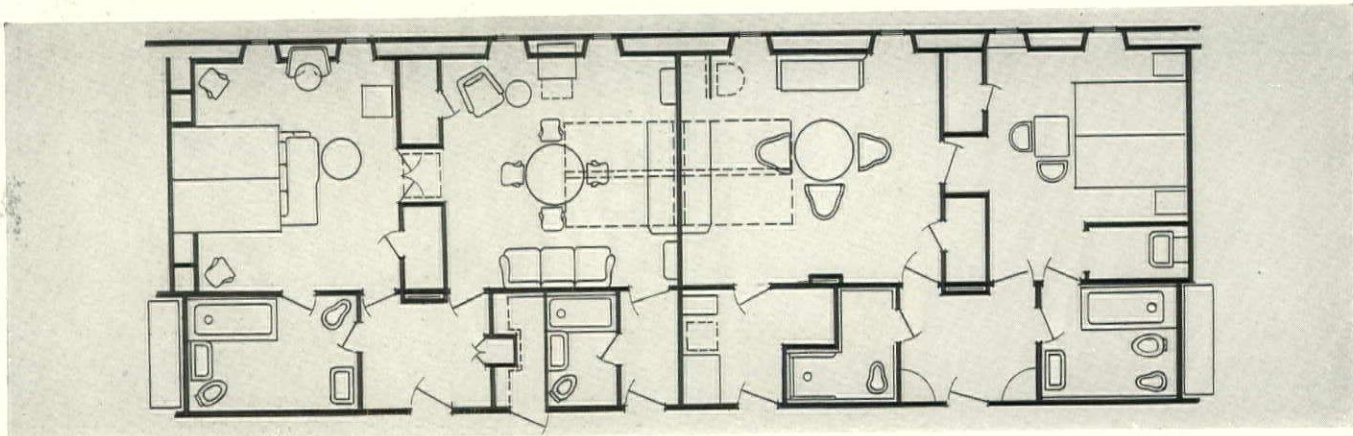
THE MODERN night club furnished the inspiration for the ballroom, which has a bar and brocade lined boxes. Mauve, gold and silver have been effectively used. The mosaic parquetry floor is inlaid with rare woods. Columns are of bronze

TABLES around columns feature the vestibule to the ballroom, designed by Prof. Breuhaus. On either side of the ballroom itself, between windows, is the picturization of women's sports, designed by Tommy Parzinger, in porcelain niches. The central feature of the ballroom is an illuminated fountain with a glass mosaic bottom. Ornaments of gold and silver in the center area are by Prof. Karl Knappe





CIRCISSIAN WALNUT PANELS not only give richness to the cabins de luxe but also conceal beds that fold into recesses when not in use. In the daytime the state-room becomes a living room, with attractiveness added through furniture, suitable but simple in design and good in proportion. These cabins are designed with such flexibility as to use as to make them suitable either as single rooms or as suites with private baths. A typical plan of the de luxe cabins is shown below. Prof. Bruno Paul of Berlin was the designer





PHOTOS BY WORSINGER
COURTESY CONTEMPORA, INC.

SWEDISH CRYSTAL vases set in onyx niches, shown above, are surrounded by hothouse plants and constitute a feature of the promenade deck hall. A standing lamp, at the right above, is made of wood and bronze. Rosewood and macassar lend decorative interest to the salon walls

POLISHED LACQUER and bronze was selected as a finish for the flower and cigar vending stand, which is located between the front main staircase and the smoking salon. Prof. Fritz August Breuhaus was the designer





MACASSAR and rosewood panel the walls of the main salon. The ceiling is partly of rosewood and sparingly applied gilt decoration. Rosewood and bronze incase the structural columns. The "modern" design of the main salon sets the keynote of the interior of the ship. This salon was designed by Prof. Breuhaus



BUBINGA WOOD and Intarsia decorated panels, containing poems and quotations in many languages, line the walls of the writing room. This room, finished in the same style and materials as the library, was designed by Prof. Breuhaus of Duesseldorf

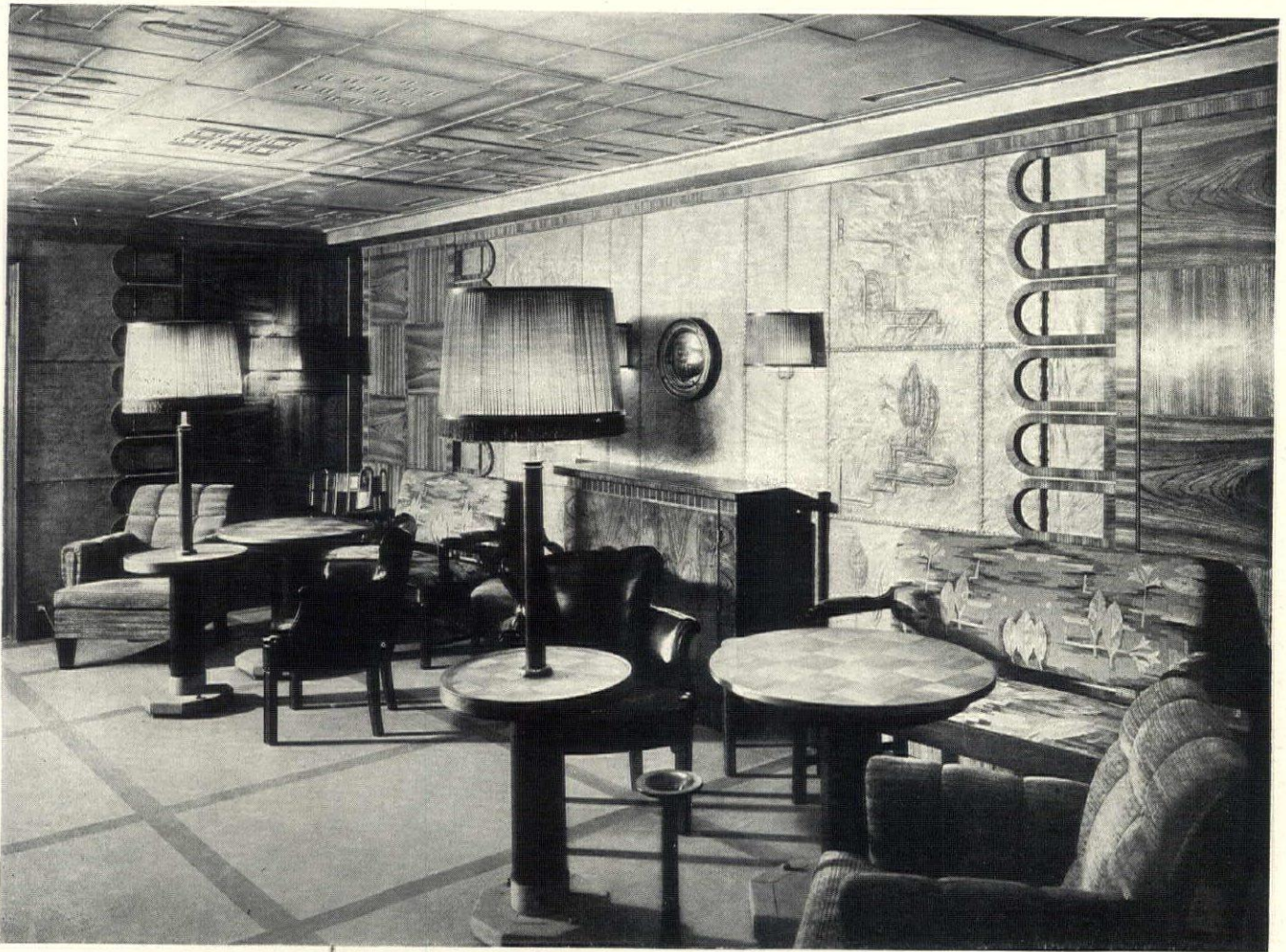


PHOTO BY WORSINGER
COURTESY CONTEMPORA, INC.

TOBACCO LEAVES in intarsia design of precious woods, depicting the evolution of tobacco, are used as appropriate and effective decoration for the walls of the smoking room. Doors, window frames, and passages are of wood, red-glazed, varnished, and carved. Designed by Dr. Rudolph Alexander Schroeder

MEXICAN ONYX, rich in grain and color, frames two fireplaces in the smoking room. Cast bronze ornaments have been used as accents. This room, which is located toward the bow of the ship, is as unusual in shape as in architectural treatment



Fifty Years Ago...Architects and Owners Built Well but they did not
Foresee the Needs of the Industrial and Commercial Era...



Architects Must STUDY BUILDING ECONOMICS

By Arthur T. North, A.I.A.

FIFTY years ago architects and owners were unprepared for the coming industrial and commercial era and did not realize its nature or foresee its needs. They built well, intending their buildings to endure indefinitely and with no realization of such a thing as building obsolescence which in fact was inexistent up to the beginning of the present century.

As the volume and profits of business increased, stores, hotels, office buildings, and factories increased to great and unfamiliar sizes and architects were obsessed with the idea that large buildings should be monumental in design regardless of their use. The result was that they incorporated the features of European monumental buildings which were intended to impress the ignorant people with the magnificence and dominion of the autocratic ruler, the aristocrat and the church. Our older buildings are distinguished by the excessive elaboration of ornamental features both exterior and interior, vast rotundas, spacious corridors and imposing stairways—all of which are now recognized as utterly unadapted to the requirements of commercial usage.

Within the last decade it has become increasingly evident that owners and architects are realizing that the primary purpose of commercial buildings is maximum usability and financial income. This new, unavoidable and rational conception of commercial buildings gives rise to the emergence of a new science which might well be termed *building economics*.

Building economics includes several elements that require the services of several professions, in which the architect should participate from the inception of the project until the building begins to operate. For the architect to be qualified to participate in the application of building economics, it is necessary for him to have a certain specific knowledge and a wide range of general knowledge pertaining to the subject.

THE evolution of unanticipated, almost incredible, demands for buildings to serve the new economic and social state causes existing buildings to become obsolete rapidly, necessitating their extensive remodeling or replacement with more suitable buildings. We are confronted today with the necessity of providing buildings that are adequate not only for current but also for probable future demands. The objective is to prevent unnecessary obsolescence and avoid its economic waste.

The elements of building economics are recognized as:

1. Demand and site.
2. Plan arrangement and construction.
3. Financing.
4. Renting
5. Operation and maintenance.

An existing or prospective immediate demand for space is the only justifiable economic basis for a new building project. Demand is measured by a survey of the rental conditions of existing buildings. The per-

BUILDING ECONOMICS' FIVE MAIN POINTS:

- 1 What kind of building will fit the site?
- 2 What should be its plan and construction?
- 3 How should its financing be handled?
- 4 What revenue will it bring?
- 5 How shall it be operated and maintained?

centage of vacant space in the type of buildings under consideration indicates the demand. Consideration should be given to a possible or actual desire of tenants in old, well occupied buildings to secure more modern, convenient, better managed and located space.

In many cities rental surveys are made periodically of office, hotel and apartment buildings by local organizations of owners, managers or realtors. If such surveys are not available they must be made. General appearances or opinions are not dependable and are apt to be mere assumptions or opinions biased by personal interests. The unbiased survey is the only valid indication of the actual condition.

Consideration must be given to the drawing power of the new and better building and its location. Well rented old buildings will not readily lose their tenants if they are well managed and maintained. The prestige of an old established location is often a valuable asset in many kinds of business and it must be measured in determining the prospective drawing power of a new building.

SITE is a function of demand. A city-wide survey may or many not indicate a large demand for space. A special survey of the neighborhood of the proposed project may indicate a large local demand. This should be made in all events before the final location of the site. The indication of the shifting of a business center has a direct relation to a prospective demand.

The substantialness of a movement to locate a new business center must be appraised and the influence of the factors that constitute a prosperous business center measured. These factors are numerous and varied in their character and consideration must be given to all of them in order to safeguard the selection of site. The determination of demand and selection of site is the function primarily of realtors and business organizations.

The plan arrangement of a building determines its usefulness and to some extent the cost of construction and operation. In commercial buildings, office, hotel and apartment buildings, the principal objective is to secure

the maximum of rentable area. Analyses of a large number of profitable buildings has resulted in finding the percentage of the floor areas and cubical contents used for various purposes. Any radical departure from these percentages should be the subject of the closest scrutiny and analysis.

PLAN efficiency in office buildings is measured in terms of rentable floor area and the ratio of one square foot of such area to the total cubical contents. Plan efficiency of hotels and apartments is measured in terms of the number of rentable rooms and the ratio of this number to the total cubical contents. Proper analysis also allocates the correct percentages or ratios to the spaces used for corridors, elevators, stairways, utility ducts and service rooms.

Economical planning also comprehends a definite relation between the floor area and cubical contents and the girth and area of the exterior walls. It has been demonstrated frequently that a reduction in exterior wall area has resulted in an increased rental floor area and income. Every feature of the structure including the number, location and arrangement of the elevators, type of heating apparatus, plumbing and electrical equipment has a bearing on the most effective plan arrangement.

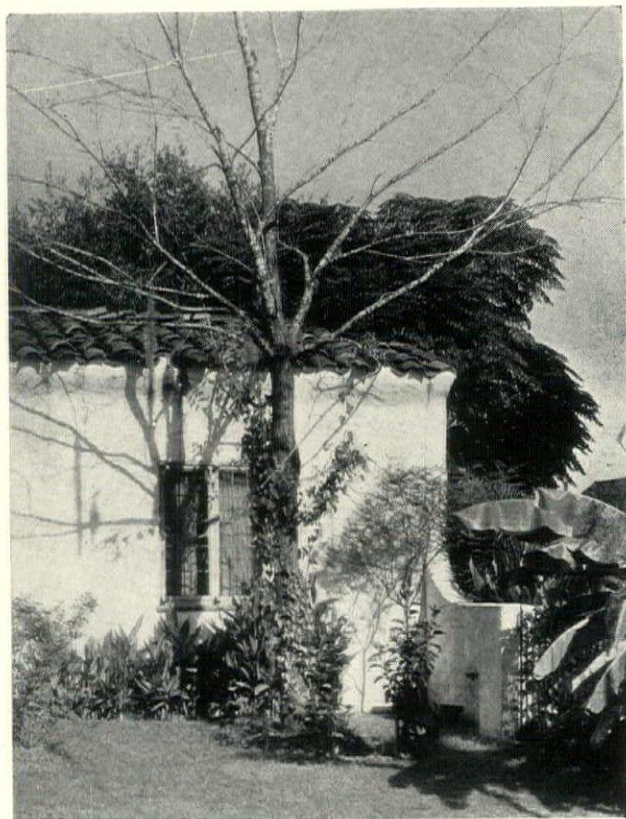
AS long as the materials of construction are of a suitable kind and properly installed the durability of the structure and the minimum cost of maintenance is secured. Consideration must be given to the probability of future alterations, the possibility of and the cost being determined by the structural materials used.

Plan and construction are necessarily the work of the architect in collaboration with structural and mechanical engineers, building managers and operators, and realtors.

The financial set-up must be entirely adequate to avoid the necessity of refinancing, with all of the entailed heavy losses, delays and loss of prestige. The investment banker must be selected for his integrity and experience and the capability of his staff

(Continued on page 92)

AN ARCHITECT'S OWN HOUSE



The House of MRS. CHARLES W. OLIVER, Houston, Texas
CHARLES W. OLIVER, Architect



ROULANDE



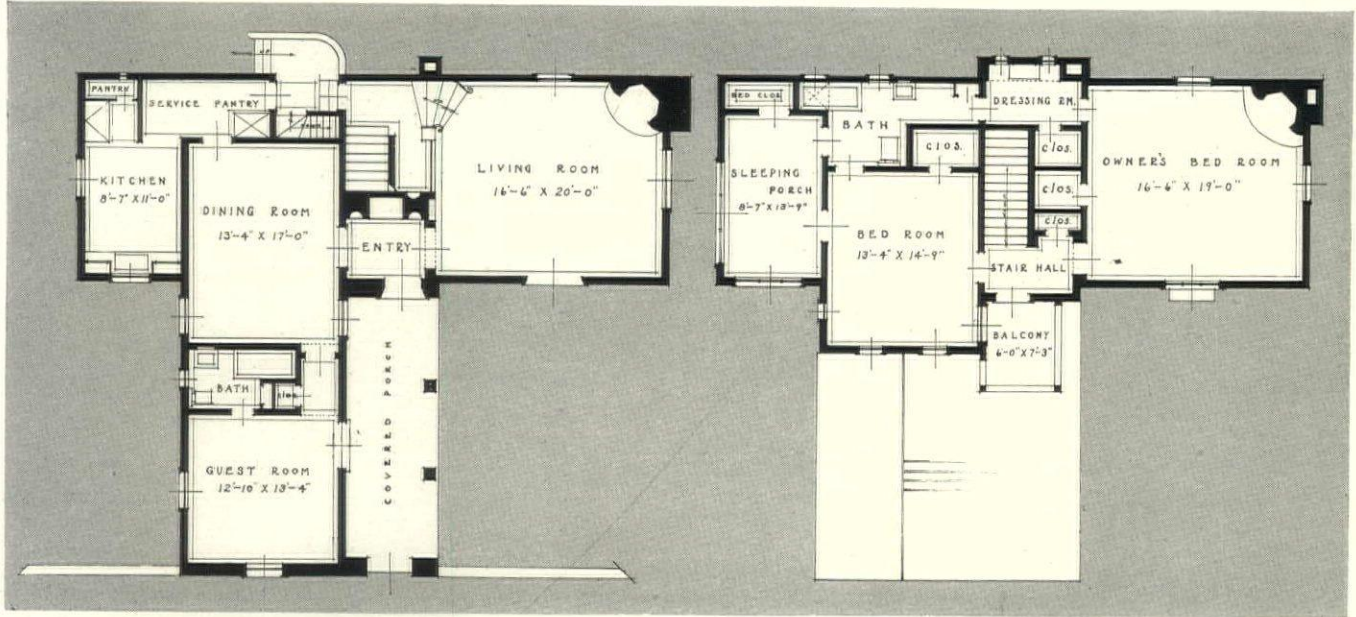
EIDSON

THE TILES of the fireplace in the master bed room of the house of Mrs. Charles Oliver at River Oaks, Houston, Texas, recall the salmon pink and weathered brown antique mission tile of the roof. The design of the fireplace is reminiscent of Mexico, and presents an unusual solution of the corner fireplace problem. The wall plaster, slightly rough in texture, recalls the milk-white, hand-worked stucco of the exterior. Interiors treated in complete harmony with the exterior, one supplementing the other, distinguish the well-designed house



EIDSON

ROPE, STONE, TILE, WOOD AND WROUGHT IRON have been combined logically and to good purpose in the living room of the house of Mrs. Charles Oliver at Houston, Texas. The floor tiles are 8"x8", chestnut brown in color. The walls are of caen stone. The picture mold is of 1 $\frac{1}{4}$ " hemp rope. Houses of Spanish or Mexican precedent are well adapted to the climate and traditions of Texas

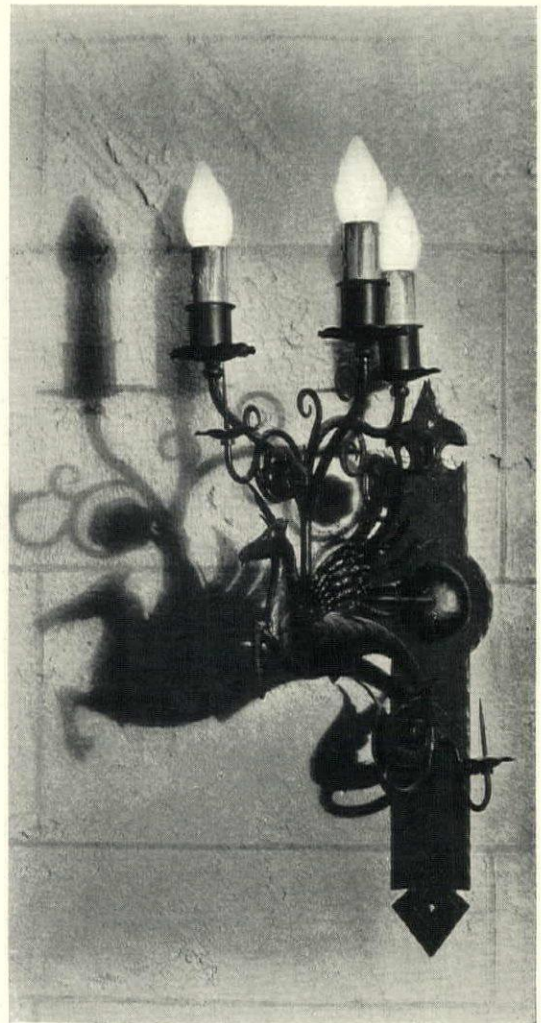


The plans indicate that careful attention has been given to orientation, outlook, and adequate cross-ventilation. The stairway has been located for convenience and economy in space

Mission tile, wrought iron, stucco of undulating surface, and colorful pots make the entrance to the patio the focal point of the exterior. And through informality of composition, the wall and gateway has an inviting and hospitable quality



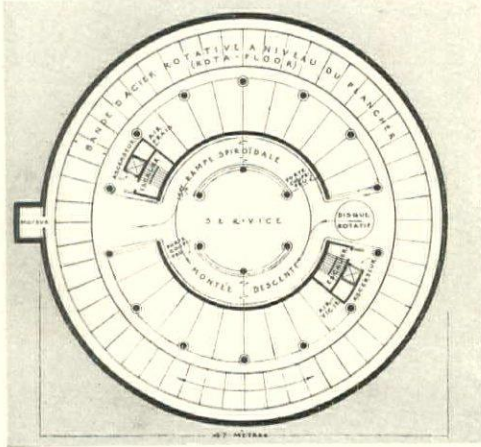
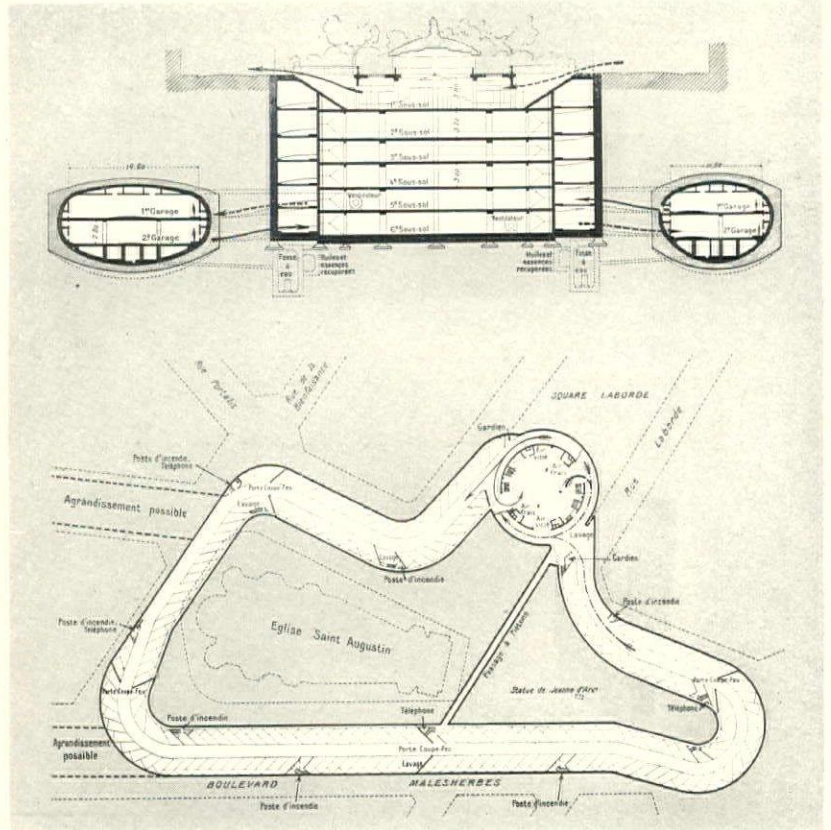
ROULANDE



EIDSON

This hand wrought lighting fixture is in harmony with its surroundings in the living room. The design is such that it serves not only a practical purpose but a decorative one as well. Hand wrought iron, rough stucco, and burned clay enjoy a natural relationship

At right, plan and section of proposed underground garage for Paris, France. L. Plousey, architect **** Below, use of Rota-floor type garage permitting storage of the same number of cars in approximately the same volume as required for the central shaft, eliminating tunnels under the streets outside of the central shaft



GOOD DESIGN MUST PROVIDE

- 1 Maximum number of spaces for cars
- 2 Attractive appearance of the garage itself
- 3 Provisions against overcrowding
- 4 High speed vertical transportation
- 5 Against the chances of early depreciation
- 6 For possible conversion to other uses
- 7 Low cost of construction per car stored

THE ARCHITECT MUST FIRST KNOW

- 1 Potential number of car owners in operating zone
- 2 Transient parking demand
- 3 Present garage facilities
- 4 Point of concentration
- 5 Accessibility for tenants
- 6 Cost of land
- 7 Hours of peak loads
- 8 Rates of storage
- 9 Type of storage
- 10 Zone area to be served
- 11 Nature of community
- 12 Type of cars prevailing
- 13 Future of locality

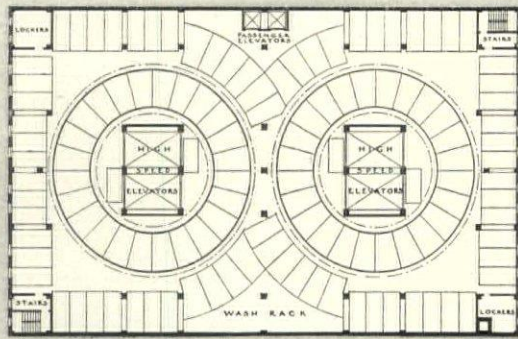
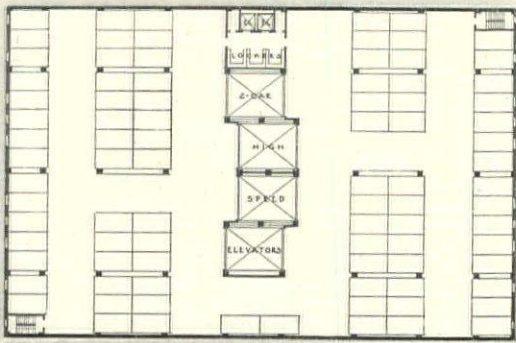
DESIGNING For Service

By Harry E.

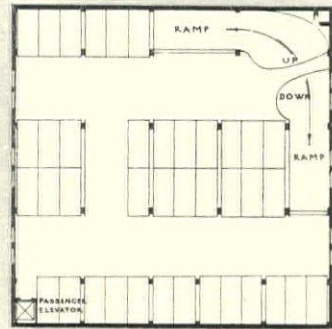
WITH the advent of the automobile a huge industry within a large industry came into being, whose interest is the housing of large numbers of passenger motor cars. Statistics given in the National Automobile Chamber of Commerce 1929 Year Book indicate that there are at the present time 51,600 separate properties, representing a capital investment of approximately \$3,000,000,000, devoted to garage purposes. This necessary adjunct to the automobile business has not, from the viewpoint of improvement, kept pace with the rest of the automotive industry.

Throughout the country are to be seen examples of what were once deemed the "last word" in garage design, but which within a short time were proven unsatisfactory for the purpose for which they were constructed. The unfortunate side of the picture is that most of the mistakes made in the planning of such structures could have been prevented by able architectural and engineering talent. The causes of early obsolescence, inadequate facilities for service, lack of revenue, or profit sufficient to justify their existence, are numerous and varied and should provide a fair index for the guidance of those contemplating such developments in the future.

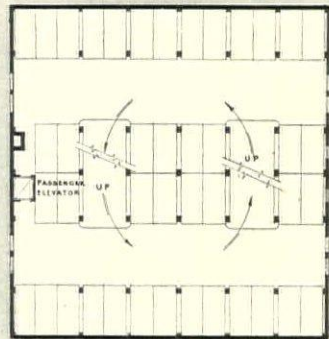
Most failures in this field can be traced to three factors of inefficiency. First: Unfortunate designing of the structures themselves causing undue loss of storage areas or net rentable areas, unattractive-



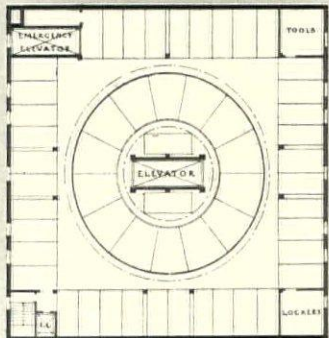
At left, aisle and elevator method, 1500-car garage, plot 100 x 120 ft., 272 sq. ft., 2856 cu. ft. per car. Seventeen stories required. **** Rota-floor method for same size garage. 193 sq. ft., 2028 cu. ft. per car. Twelve stories are required



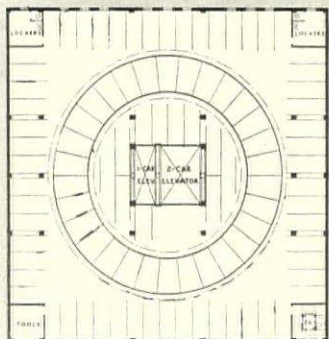
1



2



3



4

GARAGES

and Income

Warren, A. I. A.

ness of the buildings themselves and their early depreciation in values.

Second: The effort of the operator or owner to remedy this condition by overcrowding and warehousing methods in an attempt to increase the storage capacity to the number necessary to derive a profit on his investment, at the expense of the tenant convenience, resulting in protracted periods of vacancies that more than offset in the long run any advantage thus gained.

Third: The inefficient vertical transportation mediums employed, which in the majority of cases were intended to save the operating cost of proper mechanical equipment, but which proved a boomerang, as their encroachment upon rentable areas so reduced tenant capacity that proper vertical transportation facilities would have proved by far the most economical means to employ, the increased tenancy more than paying for the improvement, not to mention the greater popularity of the garage in the public mind. (Continued on page 156)

At right, four floor plans of a 275-car garage, plot 100 ft. square

1. straight ramp, 258 sq. ft., 2580 cu. ft. per car—7 stories
2. staggered ramp, 239 sq. ft., 2390 cu. ft. per car—6½ stories
3. rota-floor, 182 sq. ft., 1911 cu. ft. per car—5 stories
4. rota-floor type garage, housing six hundred to seven hundred cars, on a plot 120 ft. square. 171 sq. ft., 1793 cu. ft. per car

IMPRESSIONS OF OLD PROVINCETOWN

AND CAPE COD

By

William H. Schuchardt, F. A. I. A.



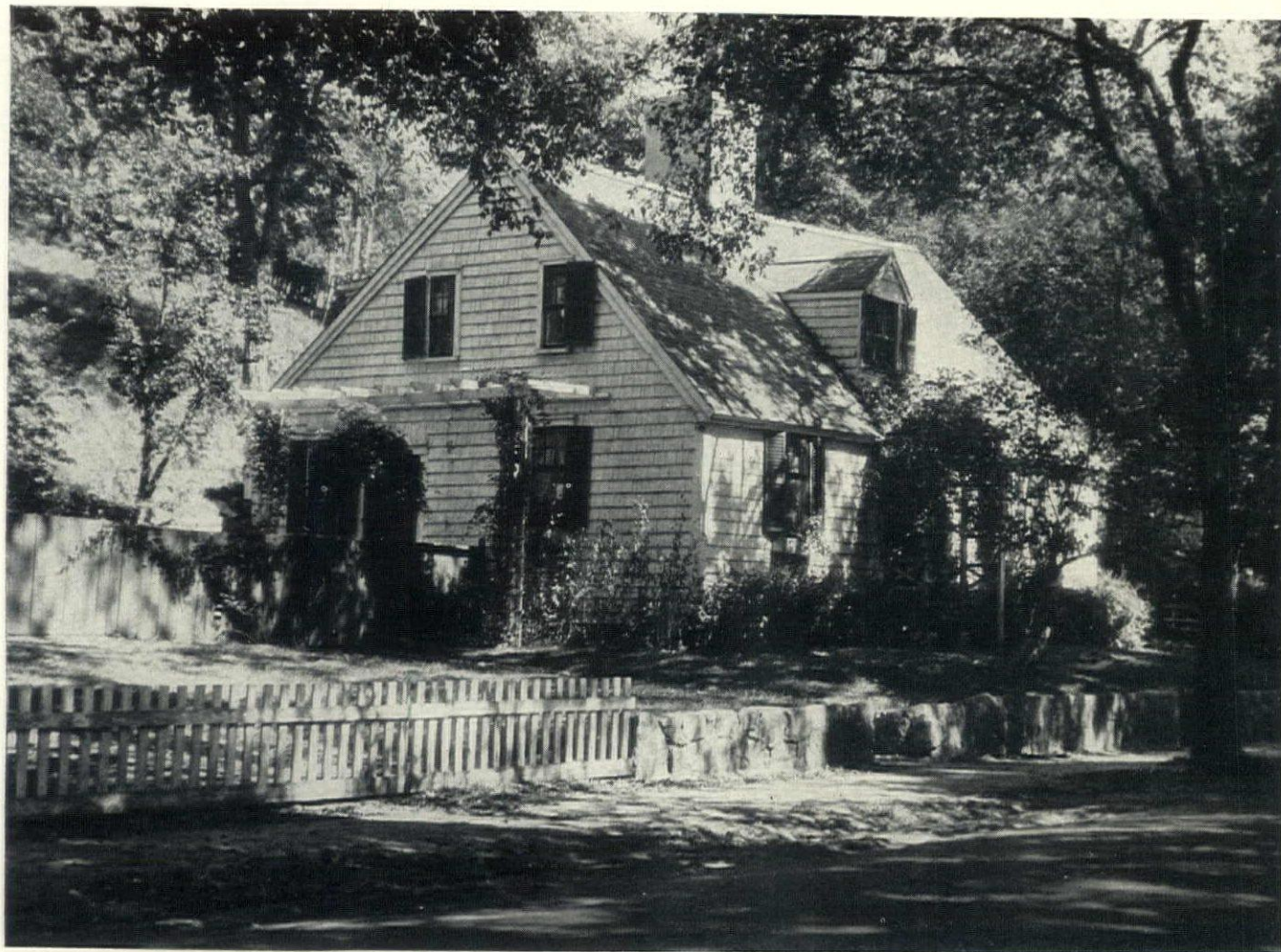
A loved old man was the town crier

NO, I don't mean to glorify Provincetown for the benefit of the lusty barkers on Commercial Street who megaphonically inform the world about marvelous shore dinners, unsurpassed on this side of the Atlantic. Heaven knows, there are enough tourists now coming in with every boat from Boston and in countless autos with license plates from every State.

Rather, I would whisper to that tired architect, who would escape from sophisticated exemplars of his art in his travels and who yet desires contact with architectural charm in its simplest elements, that in this elongated fishing village at the end of Massachusetts' hooked finger there is an astounding wealth of sketchable material—delightful vistas in every direction, crooked and narrow streets, great elms and willows and simple white cottages of pleasing proportion upon which the blue shadows of the trees lay fascinating designs as of ancient lace. Here and there a tone of quality marks a house unmistakably as the background of an eighteenth century gentleman. A nice attention to the setting of dormers, an interesting bit of door detail that a fisherman is not likely to have demanded, a satisfying relation of voids and solids, often attract one's attention but never sufficiently so as to prompt the hasty bringing forth of the sketch book. The beauty of Provincetown is all more elemental. It appeals to the sense of



"The village houses lie like herds asleep, the tide, black-burnished, spreads out, flat and deep"

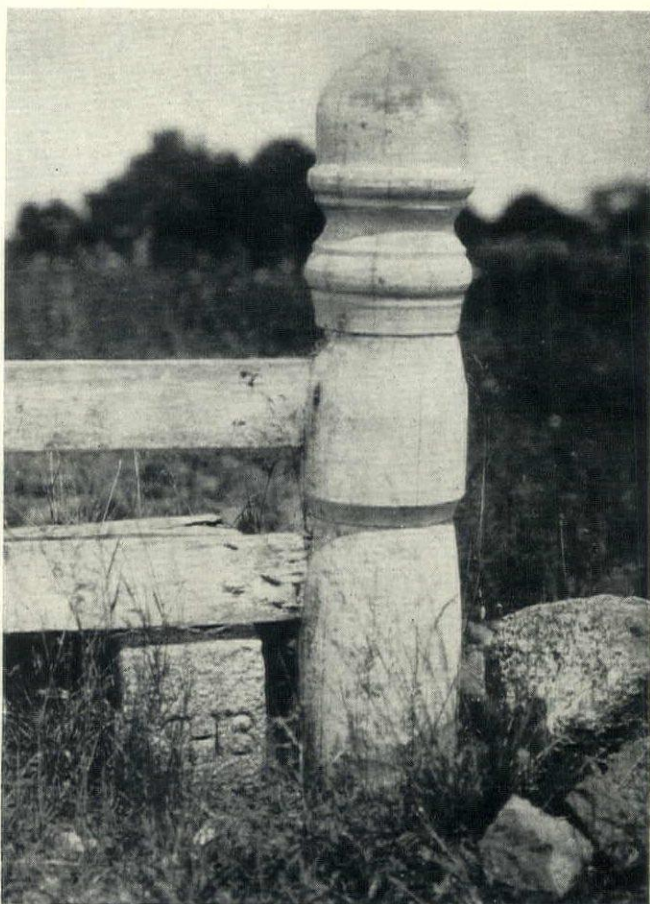


Fences that start and end as they will, the happy inspiration of a friendly thought wherein lies no need of excluding the world

mass and of contrasts, and is compounded of sea and sky, tall trees and low houses, of glorious rambler roses and privet hedges, sand dunes and beach and wharves and swarthy faced, Portugese speaking fisher folks, and their dark eyed kin. It is atmosphere, that indefinable something that grips the imagination and that has made this part of the world so favored a camping ground for artists these many years.

FOR some ten or more years, Provincetown has had a line in history's Who's Who. For the log of the Mayflower, found not many more years ago, has taken glory and fame from the rock at Plymouth as the landing place of the Pilgrim fathers and placed it on the sand-bar known as Cape Cod. To the architect it is of no great moment whether the Pilgrims landed on rock or sand and he would give this disclosure of Governor Bradford's record no second thought were it not that, because of the happy find, two architectural performances arrest his attention.

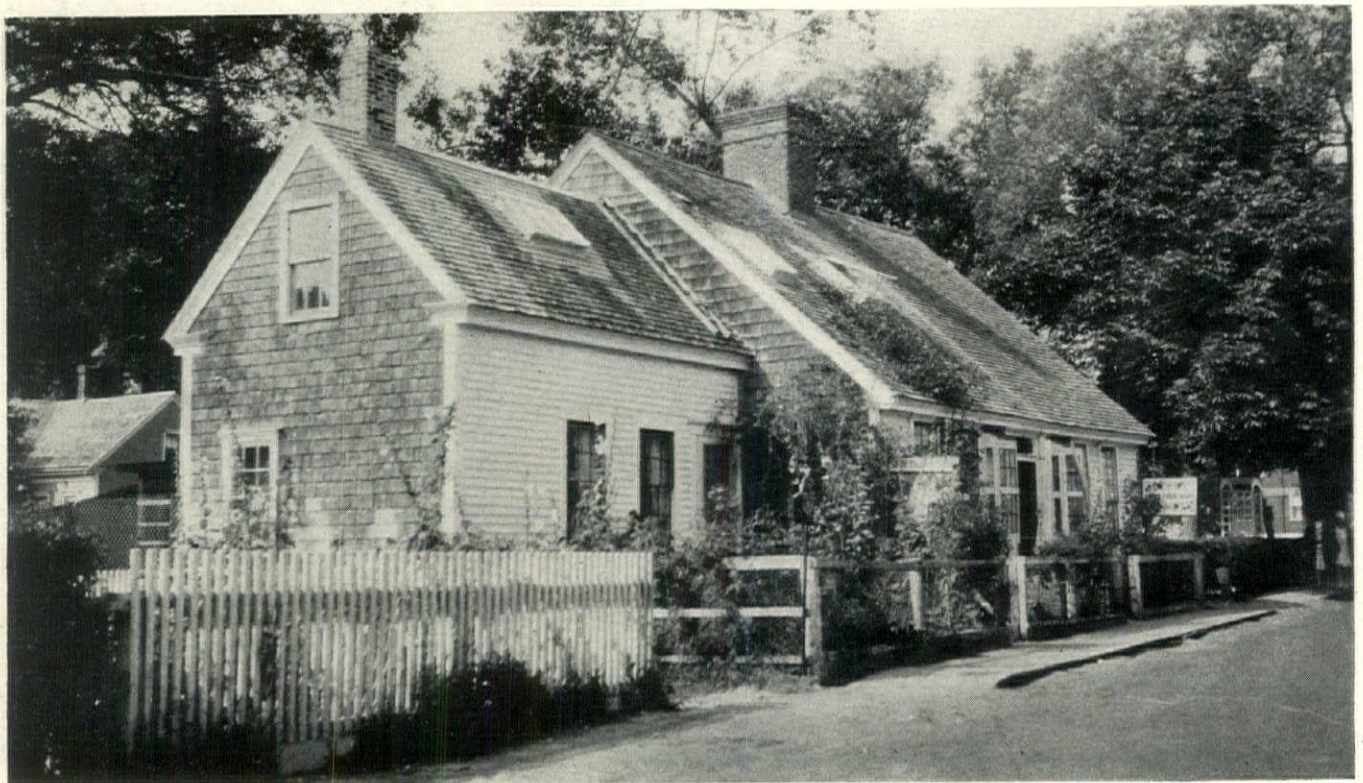
To fittingly commemorate the great adventure of these stout hearted Englishmen in 1620, there was erected in 1910, on the top of one of the sand heaps, a tower two hundred and fifty-two feet high. A Chicagoan might think it the Provincetown water tower for it has a certain family resemblance, perhaps distant, to the water tower on Michigan Boulevard. Certainly no stranger would for a moment associate this copy of the



Straight, perhaps, from some master's sturdy bridge



*W*HARVES jut out on every hand, for Provincetown drew its life blood from the sea. Each marked the start of a tortuous highway crooked as the path of an ocean schooner. The tranquility of a sea at rest extended itself to the simple doorway of the mariner's home, where he found a haven that, though sturdy against storms, yet carried into its very being much of the home-like beauty of a simple people more concerned with the active problems of life than with the artificial charm of cultured art





Perhaps the one-time home of an old whaler's captain, perhaps even of an ancient banker with the sea brine in his veins



While picturesque wharves and rambling streets, like Topsy, just grew



Sienna campanili executed in cold gray granite with the doings of the early English settlers. But let us say no more. The thing was designed or rather drawn up by U. S. army engineers. And, perhaps you remember that during the war many an amateur explained precisely how battles might have been won with half the loss. Should not the army also be allowed an amateur's fling in fields it is not altogether familiar with? The foundation, it is said, is admirably designed.

AND then there is that poor old rock in Plymouth now reduced to ranks, completely demoted by the new found log. Over it still guards the pompous canopy of granite—great Roman Doric columns and entablature in McKim, Mead and White's best manner. It is all very impressive, save for the rock itself. As though chagrined by its loss of prestige it seems to dig deeper and deeper into the sand below and to pray to the Heavens above for a decent bit of oblivion—"Sic transit gloria mundi."

But to come back to Provincetown—the Bay of Cape Cod prevents expansion of the village in one direction and the sand dunes, a quarter of a mile inland, have put a crimp in the real estate business in the opposite direction. But for a stretch of three miles along two more or less parallel streets and in cross streets irregularly spaced and of varying widths and casual direction, there have been no restrictions whatsoever imposed on self expression in brick and (Continued on page 66)

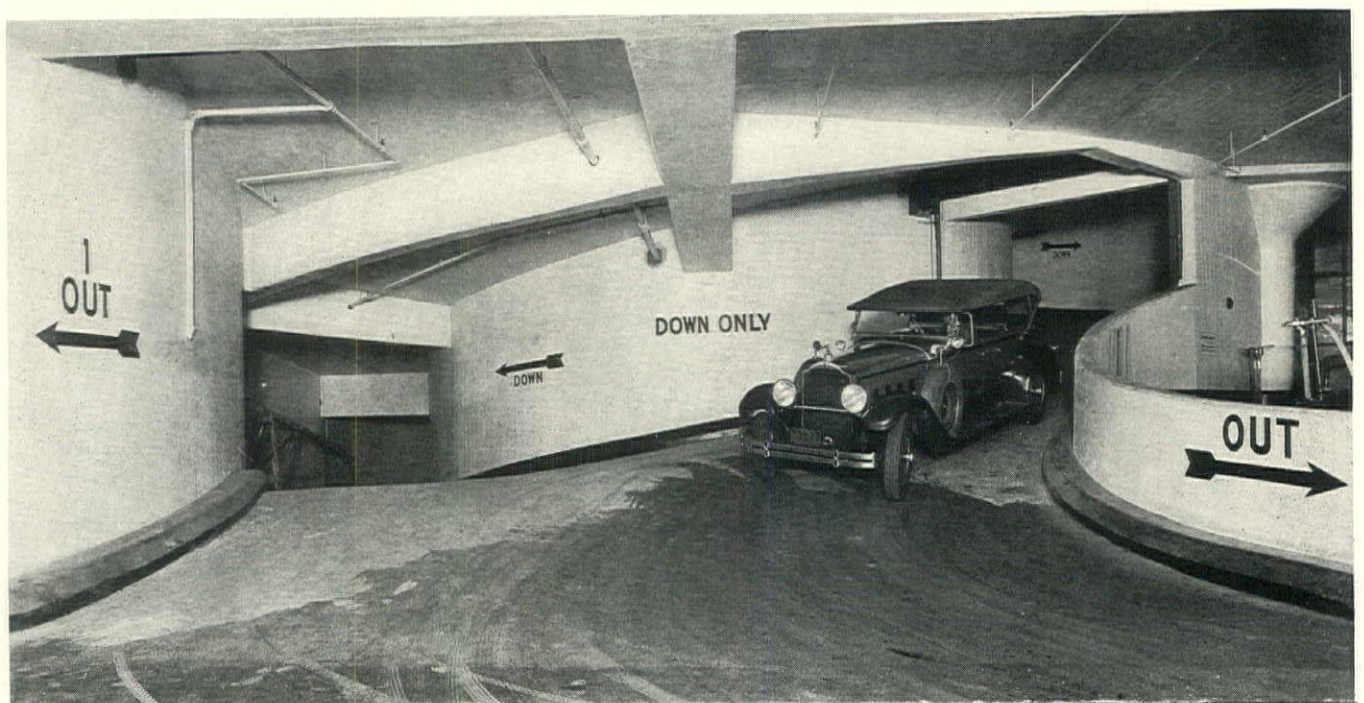
Packard Motor Car Company SERVICE BUILDING, NEW YORK CITY

ALBERT KAHN, INC., Architects
FRANK S. PARKER, Associate Architect



VAN ANDA

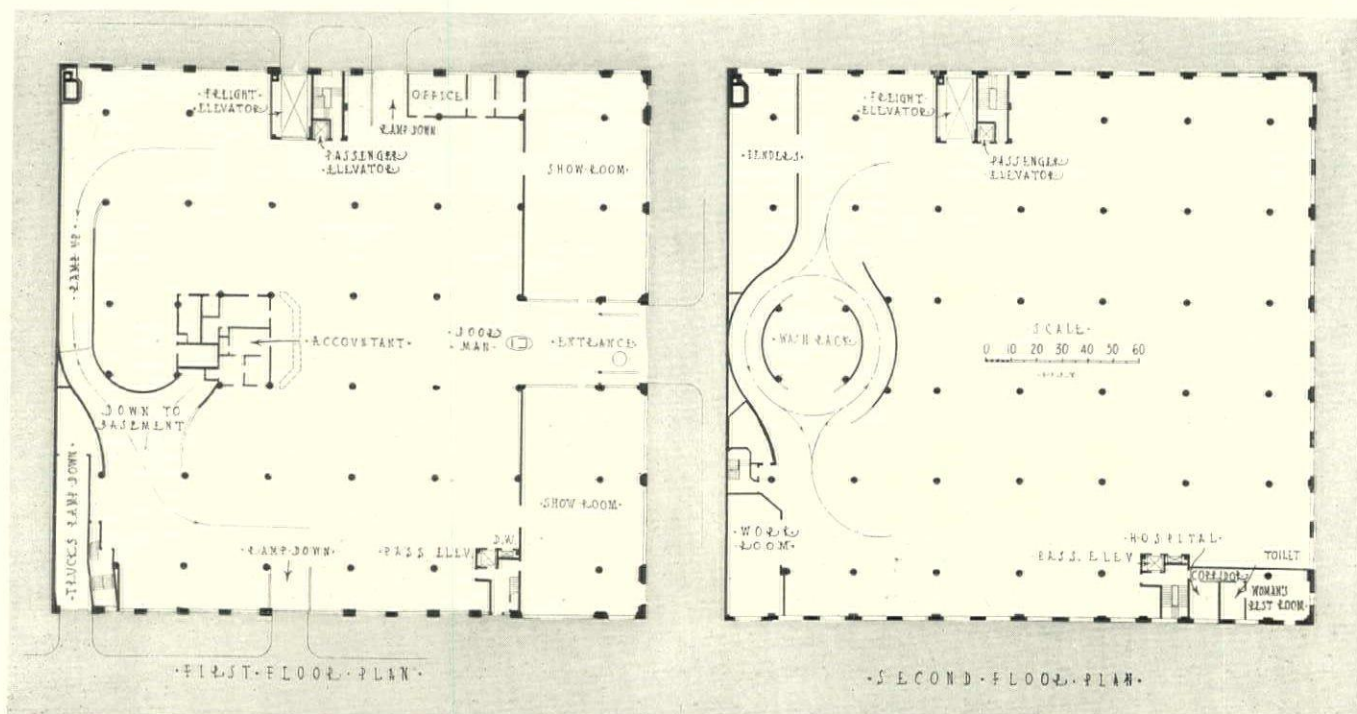
The exterior is a simple, straightforward handling of a loft building that reflects its strictly utilitarian purpose without loss of character or dignity. Spiral ramps, approximately twelve feet wide and thirty-eight feet inside diameter, provide ample space for vertical traffic





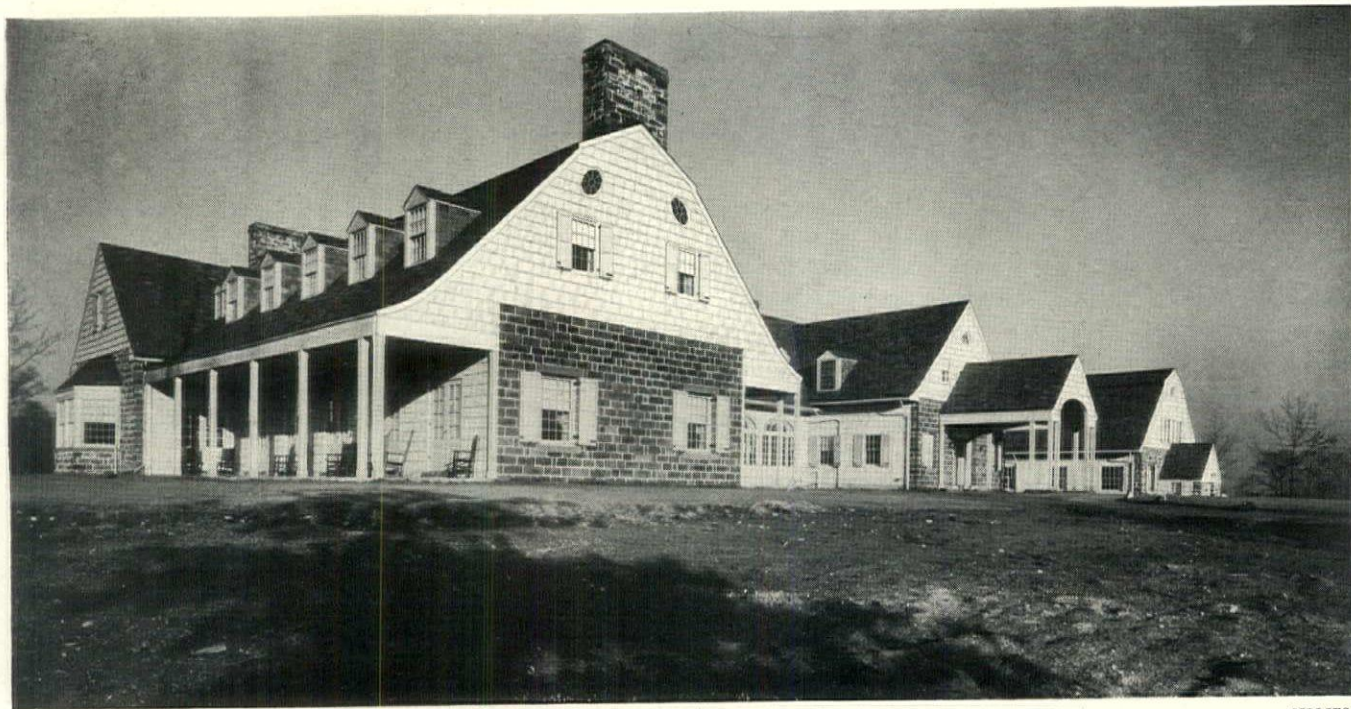
VAN ANDA

*Detail of upper story and parapet, showing terra cotta details and metal spandrels which carry out the simple, dignified design so suitable to the general character of the Service Building of the Packard Motor Car Co. *** Plans of the first and second floors shown below*



A Country Club IN THE DUTCH COLONIAL of Northern New Jersey

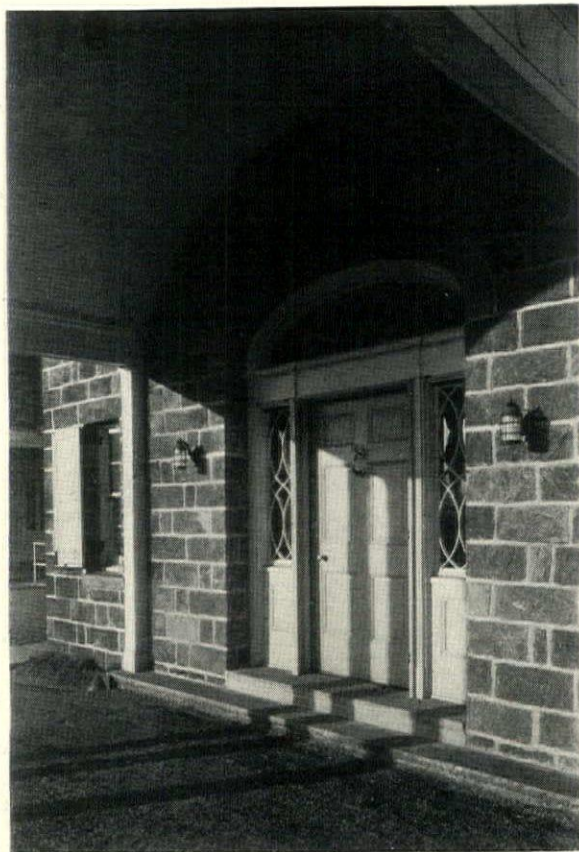
Hackensack Country Club, Oradell, N. J.
CLIFFORD C. WENDEHACK, Architect



GILLIES

JOHN BERRY and a Frenchman named Demarest in 1670 were granted land now known as Hackensack, N. J. Dutch settlers made this a prosperous farming section. Cheap labor, an abundance of brownstone, timber and brick—clay, and Dutch tradition evolved a type of architecture indigenous to New Jersey. These traditions became the inspiration for the Hackensack Country Club House.

Brownstone from an old Jersey house has been incorporated in the exterior walls and laid in the characteristic manner of three types of bonds—straight ashlar, random ashlar with horizontal joints, and all random. The joints are $\frac{1}{2}$ inch wide and pointed with white lime mortar. The stone arch over the entrance door of the old house became the arch of the club's main entrance. The door and frame are new. Green, grey and black slates of uniform exposure cover the roof. The gutters are of wood, the leaders of lead, and the terraces of flagstone

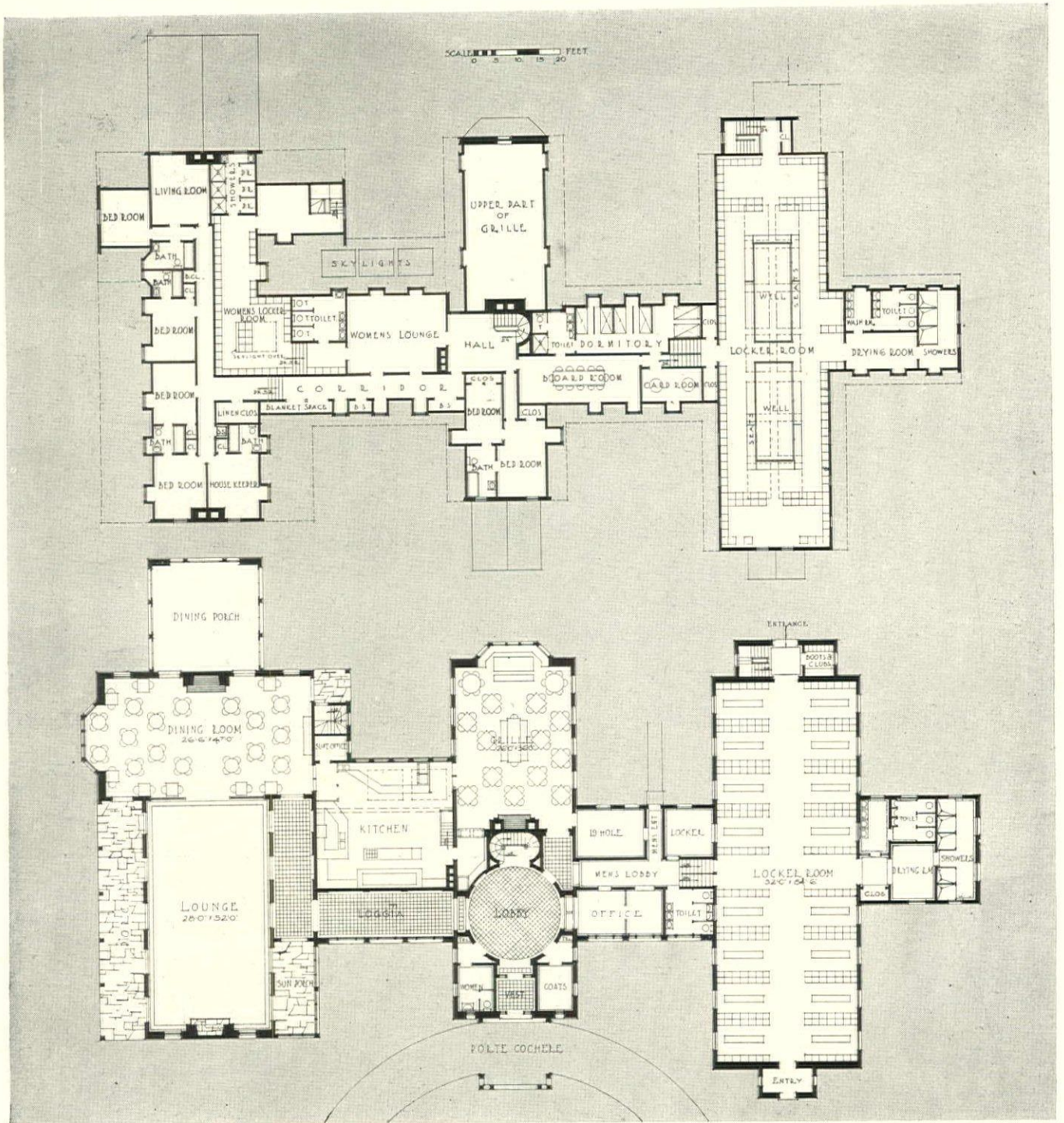




The gable ends and frame walls of the club house are covered with characteristic hand-split and white-washed cypress shingles. The window sash are painted cream in color



Plaster of uneven texture, and cream in color, covers the walls of the lobby of the Hackensack Country Club House. The stairway is of yellow pine, stained and waxed to harmonize with the old Dutch traditions of Jersey



Good circulation based upon a simple plan is an important factor in any country club. Clifford C. Wendehack's plans of the Hackensack Country Club House are worth careful study

GILLIES



GILLIES

The fireplace and chimney in the grill room of the Hackensack Country Club is of local brownstone and reused brick. Walls are panelled with yellow pine boards with moulded edges and stained brown

Is the ARCHITECT



IN A DISTORTED MIRROR

*....the architect
has been so reflect-
ed in the minds of
many people....*

HUNDREDS of men in this country of ours today are consuming thousands of dollars worth of time in trying to analyze our architects. If our architects were actually conscious of the observations that are being made of them, they would undoubtedly become utterly self-conscious and be thoroughly convinced that they were definitely queer.

If you have ever been at an amusement park and stood before those peculiar mirrors that make part of your body look fat and the other part thin, you can get some idea of how accurately the architect has been reflected in the minds of many people.

There are two angles from which architects have been judged. From one angle they have been judged by the clients who have retained them, and from another angle they have been judged by that vast army of men who produce the materials which architects use in designing buildings. This latter class is, I have become convinced,

responsible for most of the erroneous impressions that some people have of architects. Then, too, comparatively few people have had personal contact with architects, particularly in the smaller towns.

Let us stand our architects before a true mirror and see what they are really like.

How capable are they of solving the increasingly complicated problems that are being put before them?

Is the profession of architecture to hold a sufficiently dominating place in our national life to influence our growth in the right direction?

Will it stimulate in the youth of our nation a burning desire to become a part of the profession?

Just how big is this job of architecture and how big are our architects who are trying to fill it?

Are they different from other business men?

Ten years of close, critical observation have convinced me that our really big architects are well able to solve the biggest problems that our age is



BUT REALLY—

*the architect is a man much
like the rest of us—sincere—
interested in doing good work*

So Very "QUEER"?

Observations of Ten Years

By
FOSTER

GUNNISON

likely to produce. These men are big architects because they are big men. Any one of them might direct a bank or a railroad with the same facility that they direct large construction projects. They think straight and clearly. They know how to analyze the minds of men and to interpret their requirements. They have a keen appreciation of balance in money as well as in art. They are great psychologists and, like our industrial giants of today, are capable of making their personalities drive right through an entire organization and stimulate every type and caliber of mind to work harmoniously toward the goal that is sought.

It is a comparatively simple matter to lay down the rules which have brought success to the "nearly great" men in history. With academic precision we can trace the influence of heredity and environment upon their lives. But when it comes to the "really great" men all attempts to analyze "why" and "wherefore" seem futile. Innate ability, experience, education, personality and opportunity have carried many men to great heights, but the few, however, who reach the very top have a subtle something, perhaps a sixth sense, which enables them to tower over their fellow men. It is this indefinable characteristic that makes such men successful in any field of endeavor in which they may serve.

MORE and more each day we find large architectural firms coming into existence. It is no longer possible for the average architects to possess all of the skill and knowledge that is required to meet the more complex situations. The large architectural firms grow in much the same manner as the great banks and corporations, wherein a group of men, who are experts in each of the various phases of their work, are brought together.

In architecture one man may be particularly skilled in design and yet be quite unable to analyze the minds of the owners for whom he is designing. Another may be qualified in the actual construction, while another may be particularly skilled in planning. The directing architect may not be definitely skilled in any or all of these phases, but he is able to judge the relative importance and value of each.

Big business is developing keenly trained, high-minded, thoroughly honest men. Architecture, which is rapidly becoming a big business, is developing the same kind of men. Their training and contacts have made them intelligent, gentlemanly and conscientious.

The bigness of an architect must not be judged, however, by the mere size of his organization or the extent of his practice. There are plenty of young architects who

whose years of close contact with owners and architects inspired this article as to what people think of architects. Mr. Gunnison, who is of the firm of Cox, Nostrand & Gunnison, and chairman of the Committee on Artistic Lighting of the Illuminating Engineers Society, is a leading authority on illumination.



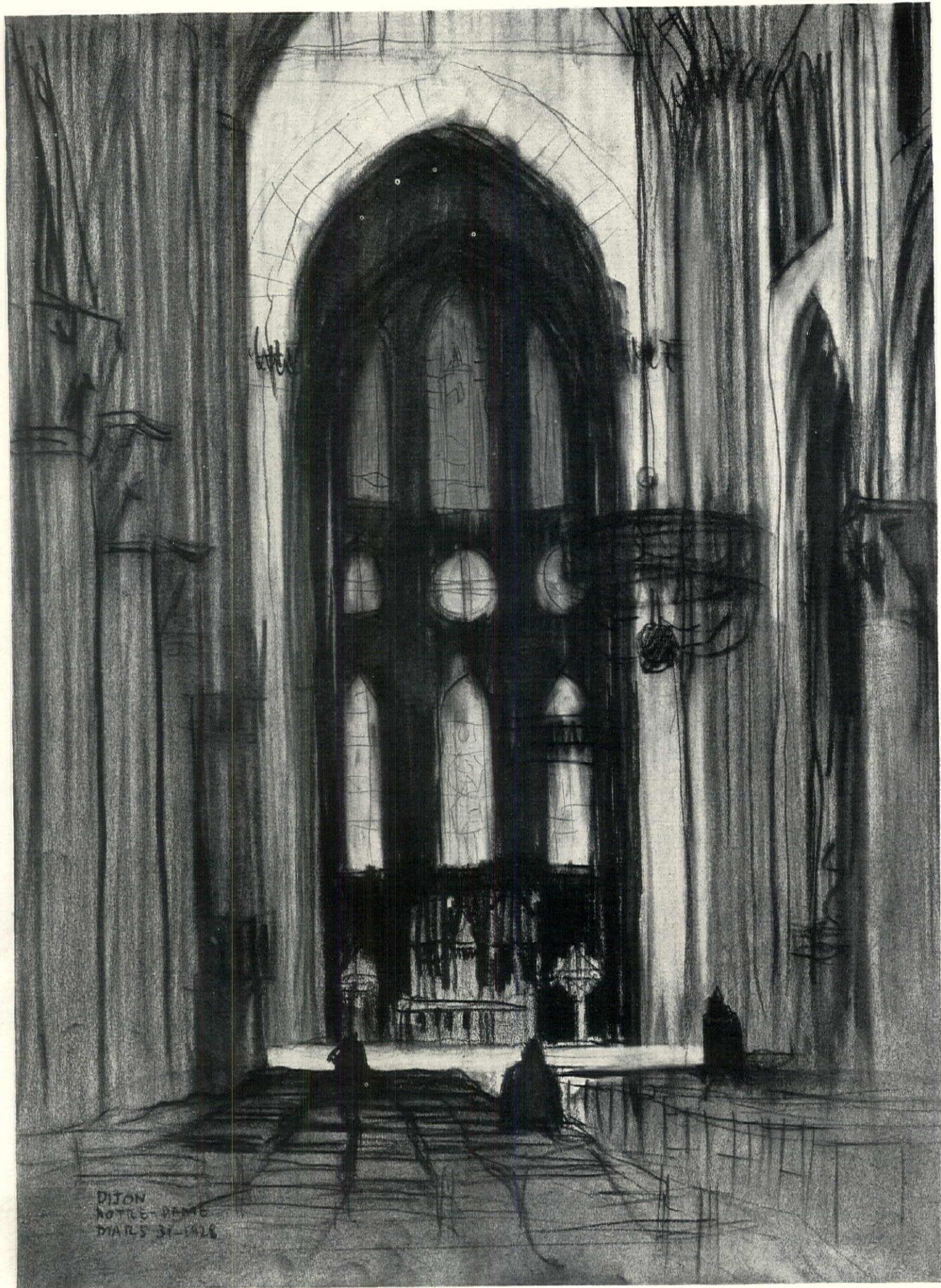
are struggling for existence by designing small houses. Whatever they do, they conscientiously endeavor to do well. They are big men in the making and to a very large degree will influence the cultural advancement of the next twenty years.

Thousands of dollars have been wasted by building material companies in trying to prove to themselves that architects are queer; that they are "different"; that they are unreliable, and they may be ignored.

Once it was customary—it still is to some degree—for materials firms to send uneducated, under-paid, inexperienced and unintelligent salesmen to call upon architects. They were wholly incapable of grasping what the architect was seeking to accomplish. It was they who really were "unintelligent" and "different." And because the architect did not choose to waste time talking to them and refused to buy their material the salesmen would report to their company that the architect was arrogant or high-hat, or perhaps that the only way in which he could be reached was by graft. The leading materials firms today are replacing the old type with experts who, being educated, well trained and courteous, are able to meet the architect on his own level.

THE old methods of trying to fill an architect with liquor or lunches and keeping him supplied with cigars—which he never did like—are being replaced by the more intelligent methods of first learning the architect's point of view and then supplying him with the information he really needs, when he needs it. Architects are quick to respond to this more enlightened method.

Many large corporations manufacturing building materials have learned the wisdom of being guided by architects in improving their products and a fair percentage of our people have learned the value of consulting architects when build- (Continued on page 116)



CHARCOAL and black carbon pencil as a medium seem particularly suitable to the broad, free handling of architectural subjects by Ernest Born. The atmosphere of Notre Dame in Dijon prevailing when the original was made was largely secured by "smearing." Highlights were retouched



EXECUTED in a technique of tones more suitable to an atelier than to outdoor sketching, this lithograph of Saint Nicholas du Chardonnet, Paris, by Ernest Born, assumes new interest. The lithograph was made direct from the subject, transferred to stone and then retouched

As It Looks

Good Construction Gains in Favor

THE manager of a real estate developing company is quoted as having stated: "The dominating influence in home building may once again be summed up in one word—permanence . . . we are convinced after a survey of building and development conditions throughout the country that the substantial and farsighted builder . . . has definitely turned toward . . . houses that have something besides appearance to commend them to the public." It is encouraging to learn that building developers and the public are appreciating the value of good construction as well as contraptions intended to attract the eye of the housewife.

Skimpy Plumbing

"ARCHITECTS must recognize that the female population of office buildings has increased from fifteen per cent to forty per cent in the last twenty years. A tremendous loss of time results in buildings which have toilets for women only on every third or fourth floor, as is too often the case." This is a strong point made by Hugh L. Wood, advertising manager of the Plumbing and Heating Industries Bureau, in an address before the Illinois Society of Architects.

Better Heating Jobs

THE Heating and Piping Contractors' Association of New York City has recently inaugurated the quantity survey system of bidding on contracts, since it has been shown that any wide variation on bids is largely due to errors in taking off quantities.

The quantity survey bureau operates as follows:

On any particular job, the blueprints and specifications are secured from the architect, general contractor, owner, or a member of the Association. The only requirement is that the heating plan shall have been competently prepared so that an accurate estimate may be made. Each bidder on the contract secures the quantity survey from the Association. The successful bidder is charged the cost of the quantity survey; the others are charged nothing. Incidentally, it is understood, this charge, is less than it would be if made by an individual contracting organization. The survey covers quantity of materials only, and the contractor must make his estimate of the labor involved.

No contractor requesting an estimate is permitted to know whether or not anybody else is bidding. So far as he is concerned, the estimate is prepared for him alone.

If a member of the Association is the successful bidder, and has not requested the quantity survey as several others may have done, then he will be charged for it just the same, regardless of what work his own estimating department may have done.

This quantity survey charge is the first item placed on the estimate of each contractor and for that reason is regarded as a fixed item.

The result has been a far more accurate estimate, with bids frequently within a few dollars of each other.

Unprofitable contracts are consequently being eliminated and lower fair prices are secured. The reason for the latter is that unsuccessful estimates are not charged in the overhead on jobs actually secured.

Plan for Better Sites

BETTER settings for buildings should be the result of the nation-wide mosaic of master city, county and regional plans urged by Charles H. Cheney, chairman of the City and Regional Planning Committee of the American Institute of Architects.

California already has in effect a Planning Act which compels each city, county and regional planning commission to make and adopt a master plan whose major object is to provide more breathing space in American cities and larger and more elaborate playground facilities for both children and adults.

Much of the success of such plans depends upon zoning ordinances so that the future population trend of the individual cities may be accurately forecast. For instance, the location of schools is primarily governed by the trend in child population. Obviously expensive schools would be out of place in a section rapidly becoming industrial.

Careful planning, including parks and boulevards, has a direct effect on property values. Residential property facing a well kept public park, for instance, within a few years usually gains up to twenty per cent more than similarly desirable property not near a park.

Beauty and space pay dividends. We need more of it.

Fire Prevention Week

FIRE Prevention Week, October 6 to 12, is intended to reduce to a minimum, fire hazards through proper knowledge and precautions on the part of the public.

Although the greater part of that hazard is due to carelessness, yet it is worth noting the structural causes of a seventy six million dollar loss—some sixteen per cent of the total for 1928.

Defective chimneys and flues, stoves, furnaces, boilers and their pipes caused a loss of about ten per cent of the total yearly loss, more than half of this ten per cent being due to defective chimneys and flues.

Carelessness in handling electricity and appliances caused a loss of about three per cent of the total. Of this three per cent, more than a third of the loss was due to lack of care in using electric flatirons. Much of the remaining percentage was due to improper wiring and overloading of circuits. Only four per cent of the

to the Editors

electrical losses occurred in buildings properly wired according to the National Electrical Code.

Sparks on roofs caused about three per cent of the losses.

Obviously proper construction under competent supervision could reduce our annual fire losses at least thirteen to sixteen per cent.

A Suggestion to the A. I. A.

THE Royal Institute of British Architects maintains two registers. One contains the names of advanced students of recognized schools. The other contains the names of architects willing to take such students. While these registers are intended to assist advanced students to complete their qualifications for exemption from a final examination, the idea is one that might well be adopted in this country by the American Institute of Architects to assist students or recent graduates of architectural schools to secure positions more easily than is now possible. Students, today, find it more difficult to associate themselves with good offices than was possible twenty years ago when competition was less keen.

What Are Your Five Books?

HOW many books are necessary for an architect's working library? One architect states that he has reduced his to five. There are: Kidder's *Architects' and Builders' Pocketbook*—try to get it in your pocket; *U. S. A. Engineers' Field Manual*; *U. S. A. Military Railway*; Pence and Ketchum's *Surveying Manual*; and Battey Langley's *Builders' Jewel*. Of these the one that puzzled us most was that on *Military Railways*. He stated that his early education had been in engineering and that he always has a feeling that at some time he might be called upon to lay out a railroad curve. The *Builders' Jewel*, he confessed, is there because, while of pocket size, it contains excellent details of the architectural orders and an interesting discussion of the fundamentals of architectural design. He admitted that there is not much demand for the orders today, but that he found the little volume helpful and an inspiration. If you had to reduce your library to five books, which would YOU retain?

It All Depends On . . . What?

THERE is a man whose opinion is valued by his friends. Good taste is his by inheritance and through study of the arts. He possesses good judgment to a marked degree. Where a definite opinion is expressed to him, too hastily perhaps, he, after a moment's thought, usually replies: "Well, it all depends . . . shall the surface of the stone be rough or smooth . . . what do you desire to express . . . what texture is demanded by the de-

sign . . . shall the panel be full of brilliant color or a gray monotone? It all depends upon whether the panel is intended to secure variety and emphasize form or whether it is used as a focal point to attract the eye and at the same time afford a bit of decorative interest."

There are but few things in architecture the choice of which is not influenced by an aesthetic or practical factor of other things incorporated in the same design. Even in the heating equipment of buildings the choice of a certain type of valve depends upon whether the system is hot water, steam or vapor. But this case of "it all depends" seems to be particularly true and all-important in the selection of materials and the method of handling them. Certainly, no matter what the case, "it all depends," which after all is the real reason for the architect.

Make the Owner Happy

RUNNING a household used to be a comparatively simple job, with stoves, pumps, washtubs, spring houses, wells and a few other mechanical affairs. Today's family may have to operate and care for an individual heating plant, a complete plumbing system, an electric light installation, a gas service, a mechanical refrigerator, a washing machine, a vacuum cleaner, a radio, an oil heating system and numerous other things. But why recount them all, except to recall to architects the necessity of such design and supervision in construction as will assure minimum maintenance and make the home owner forever think kindly of the man who created his house. Human nature is such that the family automobile is bound to receive more attention to keep it in good running order than is given the leaky faucet in the kitchen

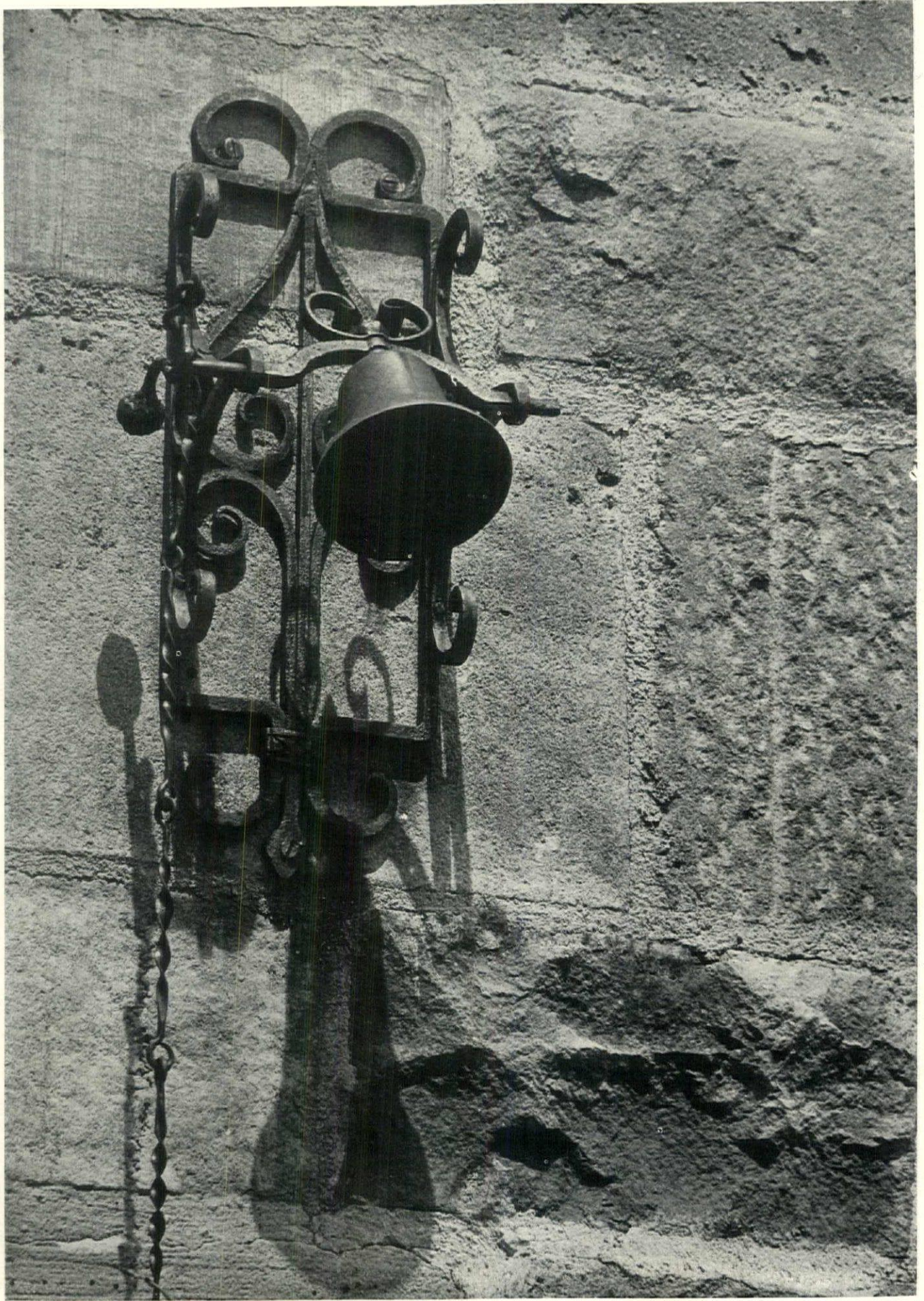
Irresponsible Contractors

A DECIDED step forward has been made by the cooperation of surety companies and organized contractors in the formation of the Bureau of Contract Information, which is independently organized as a fact gathering and investigating agency.

The way in which each general contractor has cared for his contractual obligations will be ascertained by the organization and utilized to eliminate conditions that have fostered irresponsibility in the construction industry. The business histories of some 26,000 construction companies will be compiled as the first step in this movement.

Highway departments of forty-six states have pledged assistance by contributing their own data on the performance records of those construction companies with whom they have done business. Thus a vast amount of information based on past records of performance will be made available.

A movement like this could only be dared by an industry fundamentally honest and sincerely desirous of ridding itself permanently of the kind of individuals who tend constantly to bring it into disrepute.



VAN ANDA

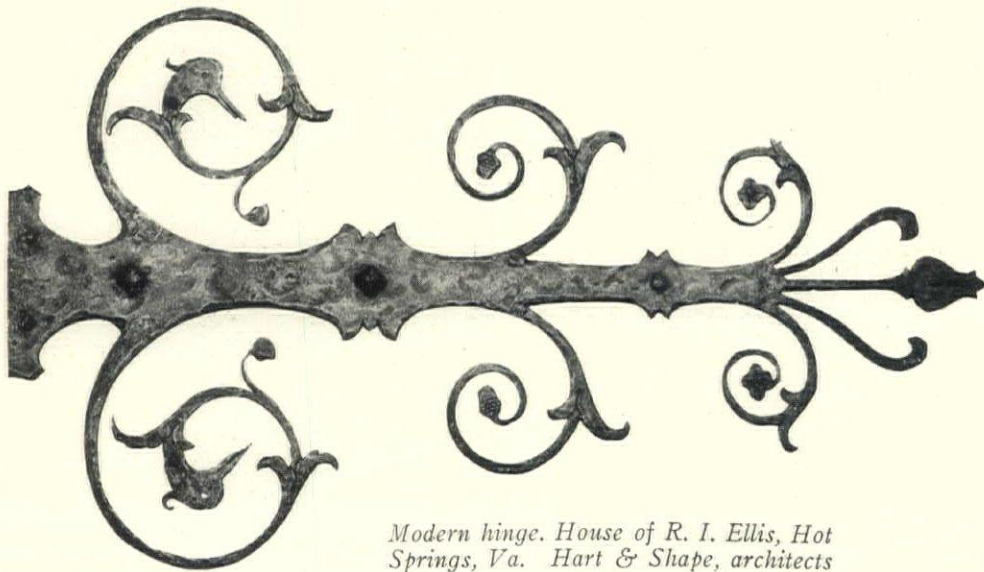
An antique bell, probably of English origin, complements the quarry faced buff limestone of the gate lodge at the entrance to the Estate of Samuel Salvage at Glen Head, L. I. Roger Bullard, architect



Lantern on the Samuel Salvage House. Roger Bullard, architect. Executed by Samuel Yellin VAN ANDA

WROUGHT IRONWORK

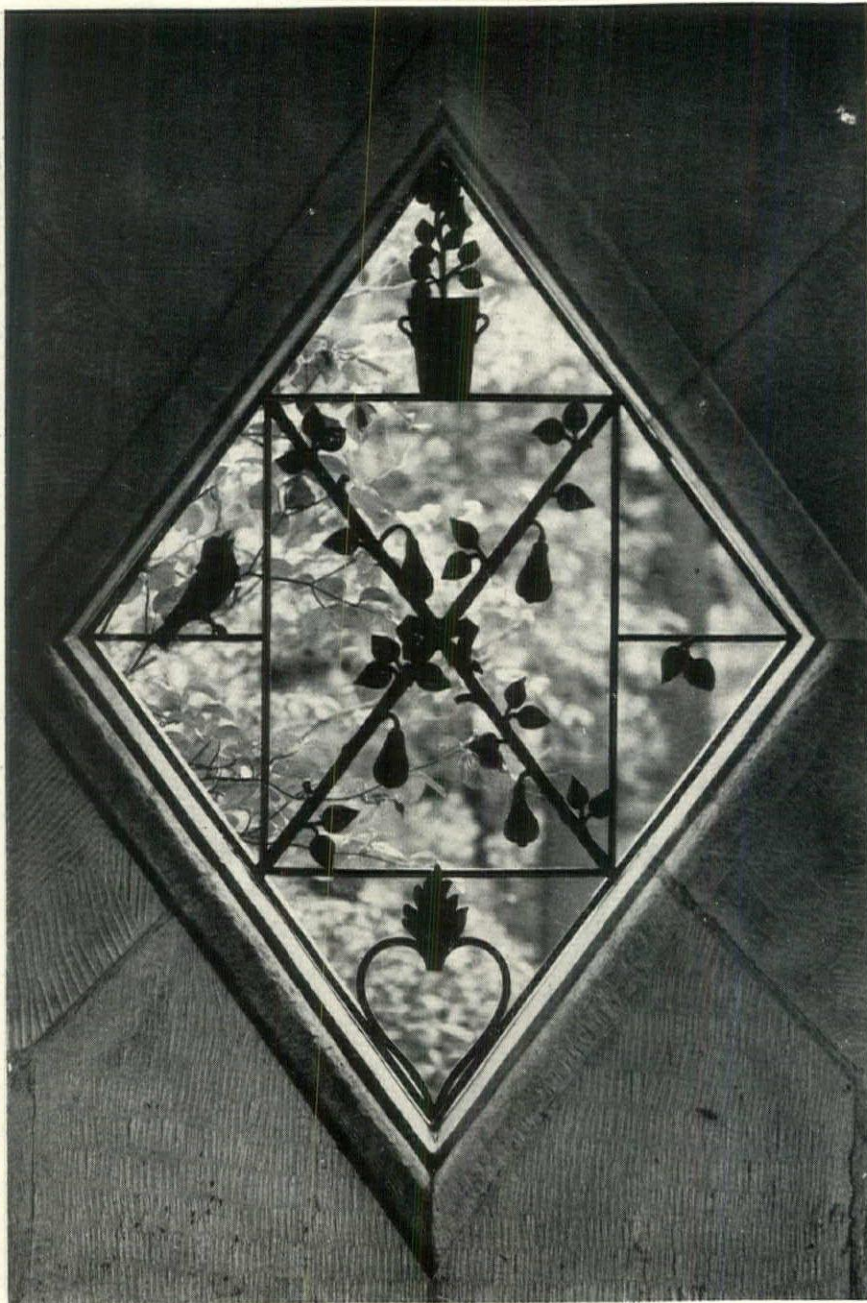
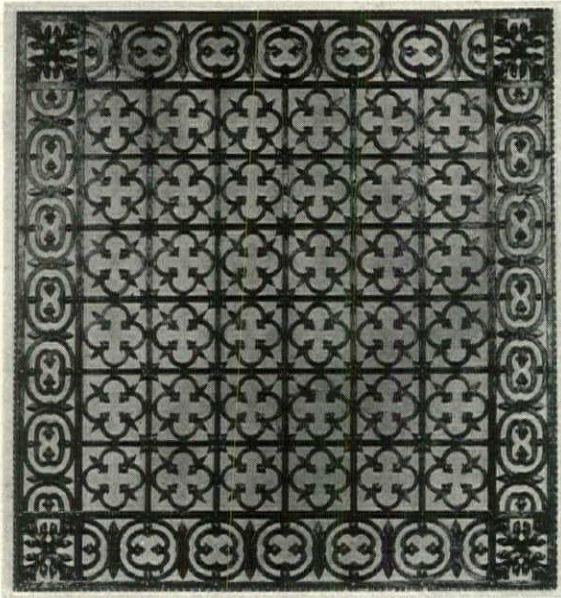
An Eight Page Section



Modern hinge. House of R. I. Ellis, Hot Springs, Va. Hart & Shape, architects

RADIATOR GRILLE

FLORENTINE ironwork inspired this radiator grille, which is approximately three feet square. *** The lantern shown below, which is Italian in character, was designed and executed by Hasselman & Salterini for an apartment house at 440 West 34th Street, New York City. Emilio Levy, architect. *** Wrought iron, susceptible of many variations in the hands of the craftsman, is most effective when simple in design. The designer in detailing wrought iron should bear in mind that the material is worked on an anvil by hammering while the metal is hot, cooling or cold



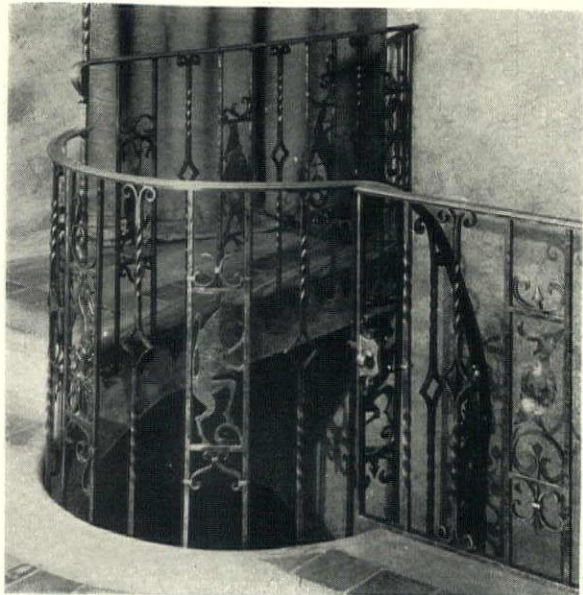
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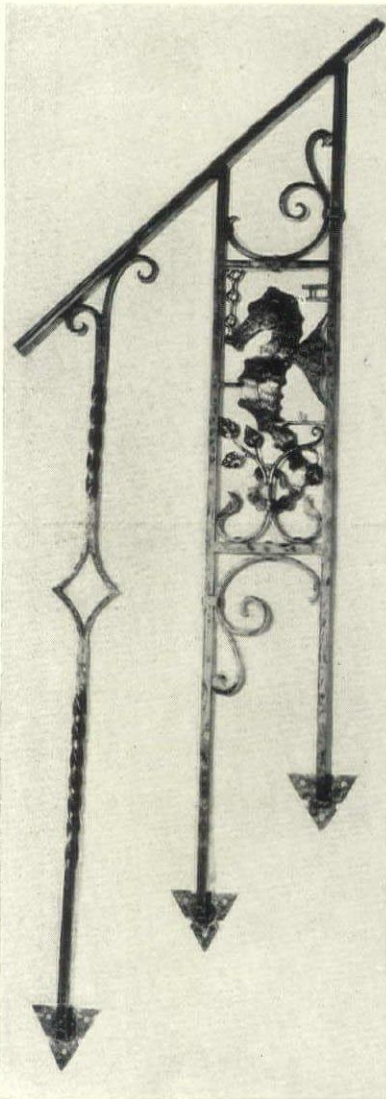
THIS amusing window grille is in keeping with the outdoor character of the Tea House on the Salvage Estate, L. I. Roger Bullard, architect. Executed by John Jacobs

CIRCULAR STAIRWAY

STAIRWAY in a Park Avenue duplex apartment, New York City. The stair rail indicates Spanish influence handled in a modern manner. Sea horses, Spanish bulls and other animal forms have been cleverly combined in the decorative panels. The simple handling of the intermediate balusters is effective as offering variety to the more elaborate members. Added interest is lent to the composition by the torchere termination of the stair newel, also by the vase on the wrought iron stand. This stairway of wrought iron was designed and executed by Hasselman & Salterini



GUILD PHOTO SERVICE

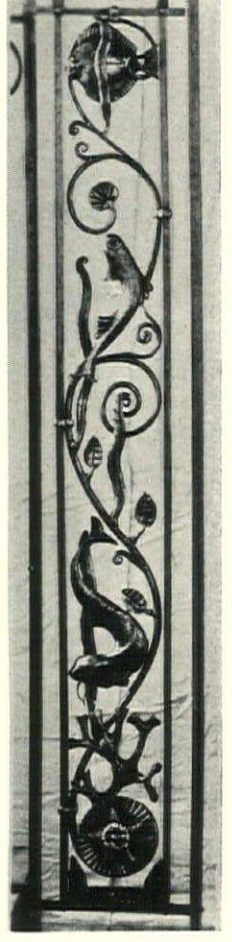
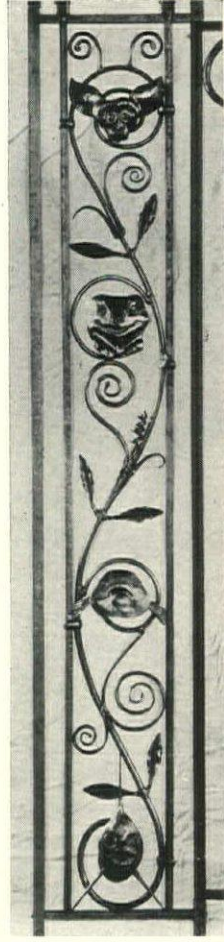
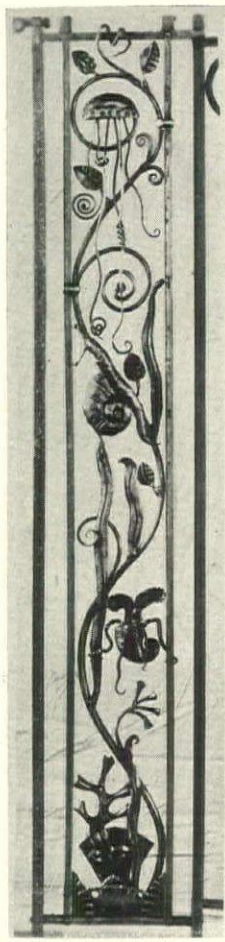
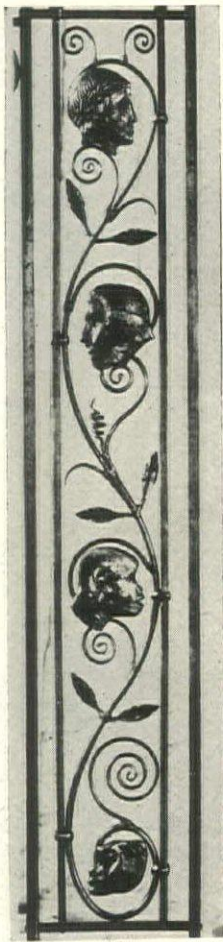


GUILD PHOTO SERVICE

ABOVE is a detail of the stair rail shown at the right, illustrating the ingenuity and craftsmanship called for in properly designing and executing the details in wrought iron



GUILD PHOTO SERVICE



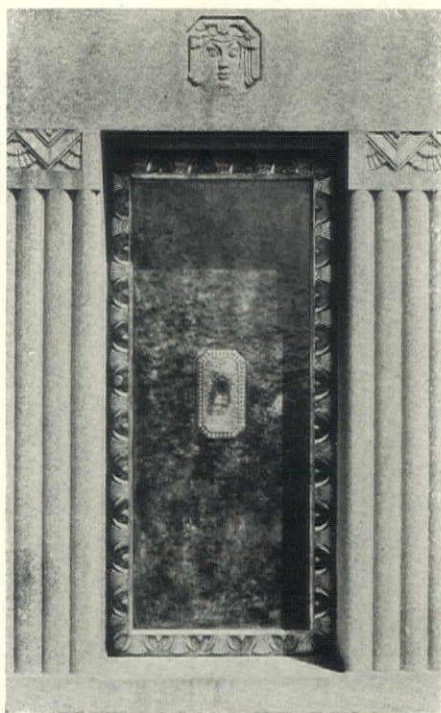
KORWIN

The evolution of man, insects and reptiles, marine life, mammalogy and ornithology, botany and anthropology, are symbolized in the end panels of gates in the Museums Building of the University of Michigan, Ann Arbor, according to the departments of which the gates are the entrance. Designed and executed by Ardmore Gardens Forge



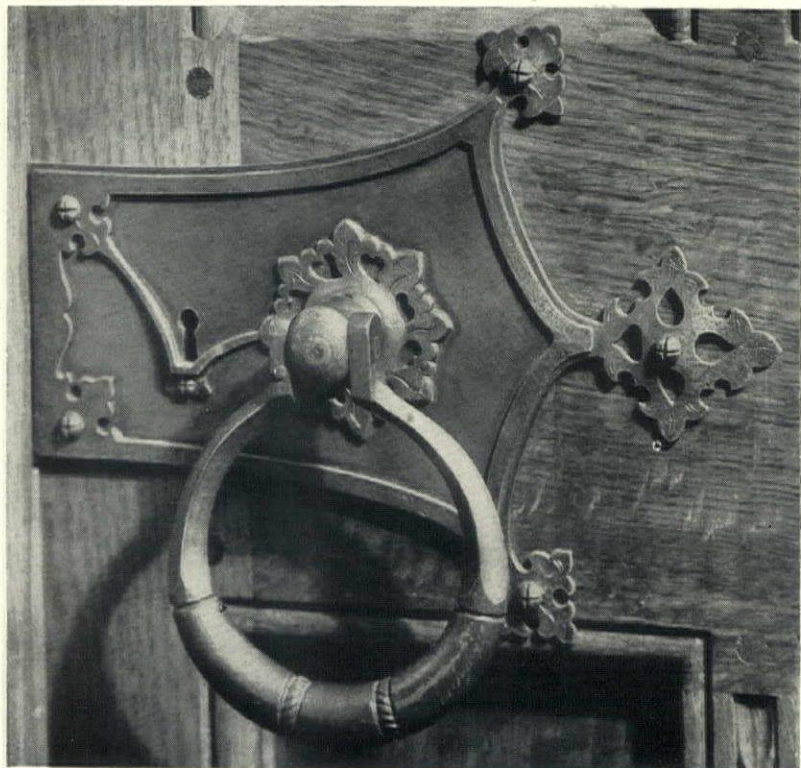
Lock by Samuel Yellin, New York Telephone Co. Bldg., McKenzie, Voorhees & Gmelin, architects

VAN ANDA



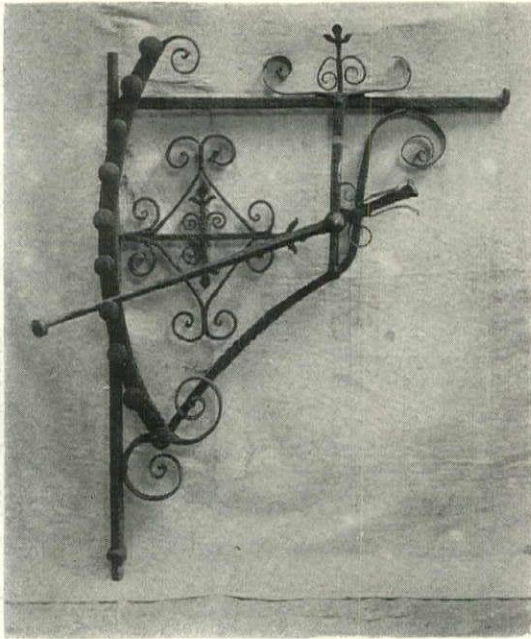
Mausoleum door of iron and bronze. E. F. Allodi, architect

WEBER



Lock escutcheon, St. John's Church, Laddington, L. I. Henry W. Rowe and W. H. Ritter, associate architects

VAN ANDA



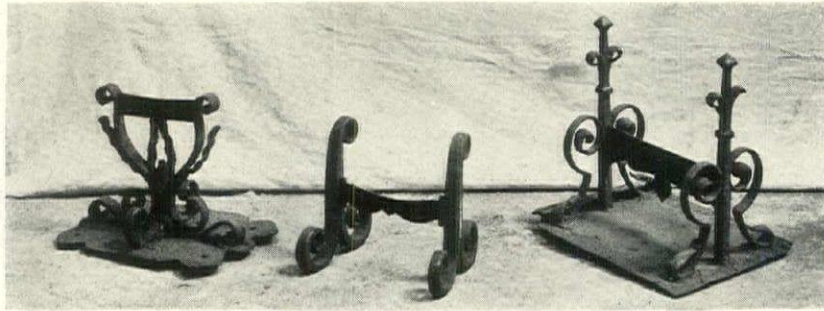
COOPER & HUMPHREYS

17TH CENTURY
WROUGHT IRON

THE peculiar personality of wrought iron, handled in a manner typical of the material, may easily be recognized in the English fireplace crane, weather vane and foot scrapers of the late seventeenth century, selected from the collection of Todhunter, Inc., and shown here. Due to square and round bars, flat sheets and plate, the task of the smith today begins where that of the older craftsman left off



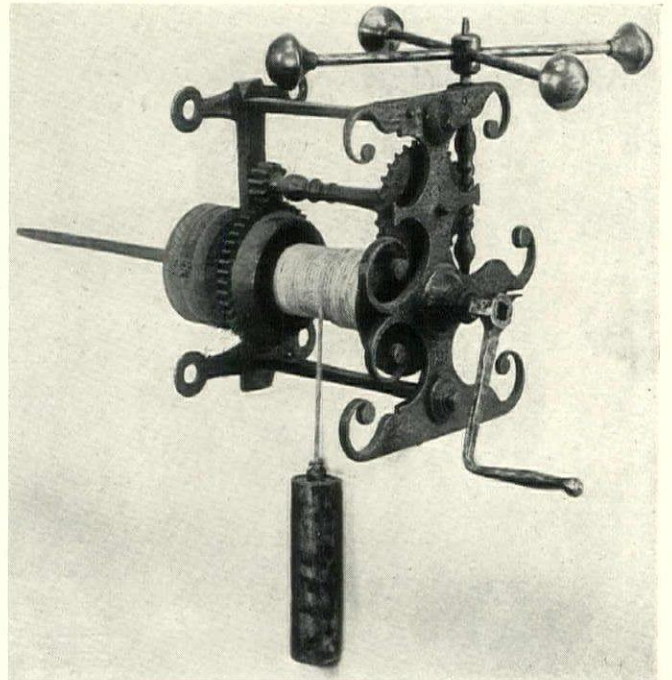
COOPER & HUMPHREYS



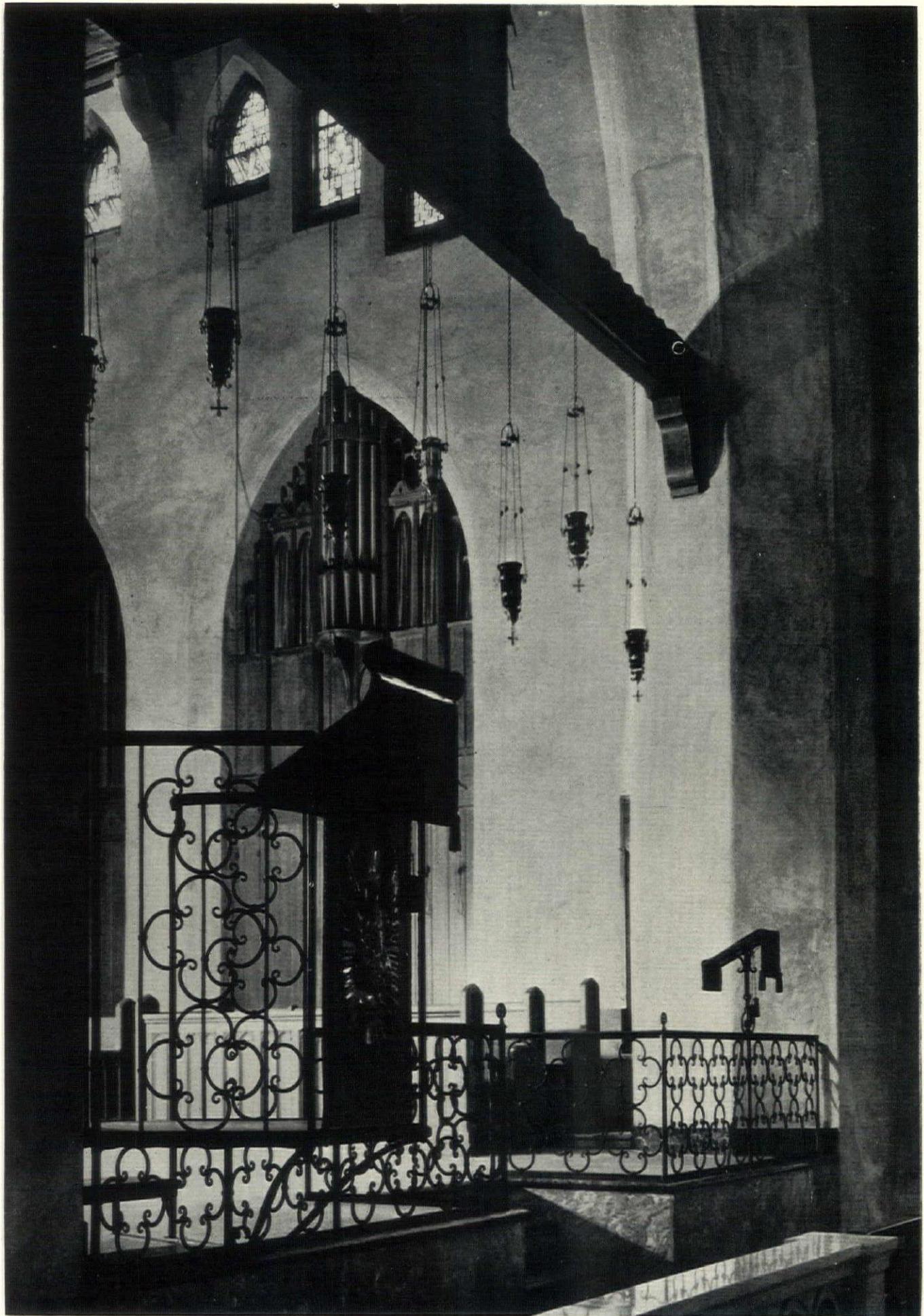
COOPER & HUMPHREYS



Garden chair made of wrought iron and wood. Designed and executed by Hasselman & Salterini

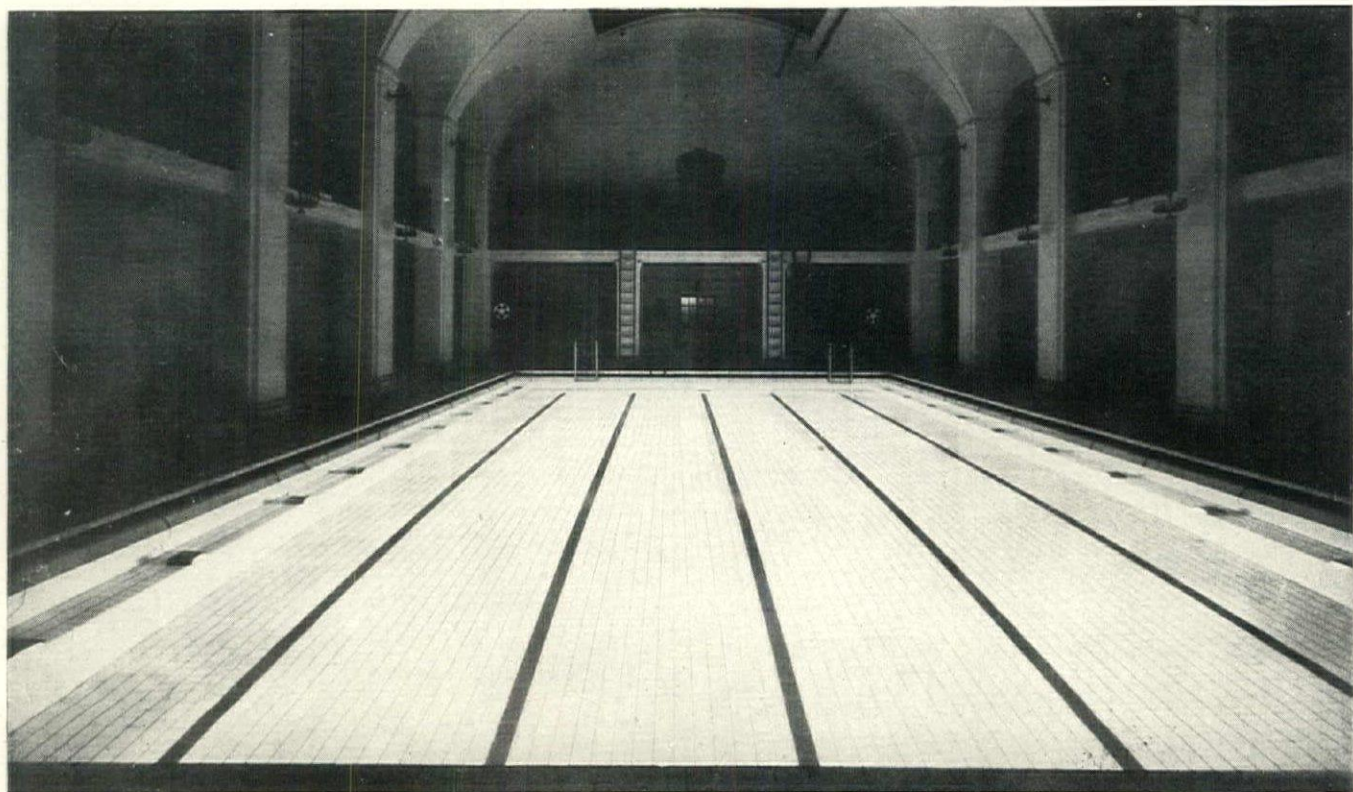


English spit jack of the seventeenth century from the collection of Todhunter, Inc. Note the similarity in design with the ironwork shown above



Interior of St. John's the Evangelist, Brooklyn, New York. Brass, copper and white metal are combined with wrought iron. McGill & Hamilton, architects

GUILD SERVICE



Underwater lighting of pool gives uniform illumination

The Underwater Lighting

THE trend today in swimming pool lighting is toward the concealed under-water fixture. These are mounted in the pool walls, directing their light flux outwardly into the water itself. This is a radical departure from past practice and represents a revolutionary change in this phase of illuminating engineering. The new system not only produces a more appropriate and effective light but promises to have a surprisingly far reaching influence on the popularity of the swimming pool.

Due to the high reflecting characteristics of the surface of water, it is impracticable to project light satisfactorily from sources located above it. Only a part of the light from overhead lighting fixtures penetrates below

General Design of Fixtures and Placing for Swimmer and Spectator

the surface so that although the room is illuminated the pool itself is not properly lighted and the surface reflects brilliant images of the lamps and blinds the would-be observer of the pool and swimmer.

When the light is thrown directly into the water from submerged sources, however, the pool itself becomes brighter than its setting. This is as it should be, with the result that swimming, diving, and other aquatic sports become more interesting and satisfactory to the participant as well as to the observer.

Some of the light in underwater illumination is trapped and held in the water itself by reflection from the under surface, but a large part passes out into the room. This eliminates the need for other lighting fixtures excepting for emergencies and for the illumination of passageways which could not receive sufficient light from the pool. For this reason, a well conceived and executed installation of under-water lights will, and should, ordinarily operate without other major sources of illumination in the immediate vicinity.

In addition to the beauty and interest added to pools and to swimming, the new lighting system offers marked improvement in hygiene and safety. Light rays directed through the water show at a glance any material in suspension or any deposit of dirt on the walls and floor.

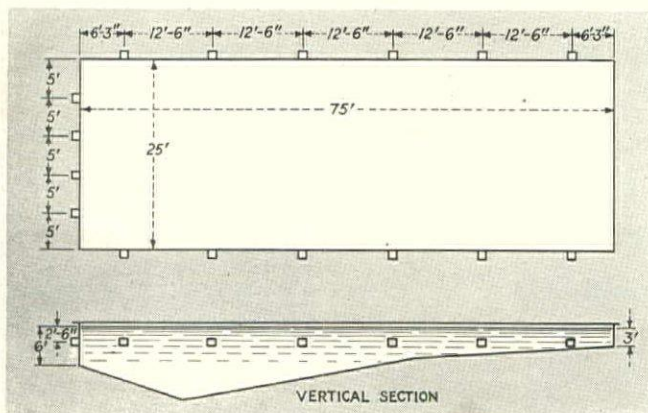
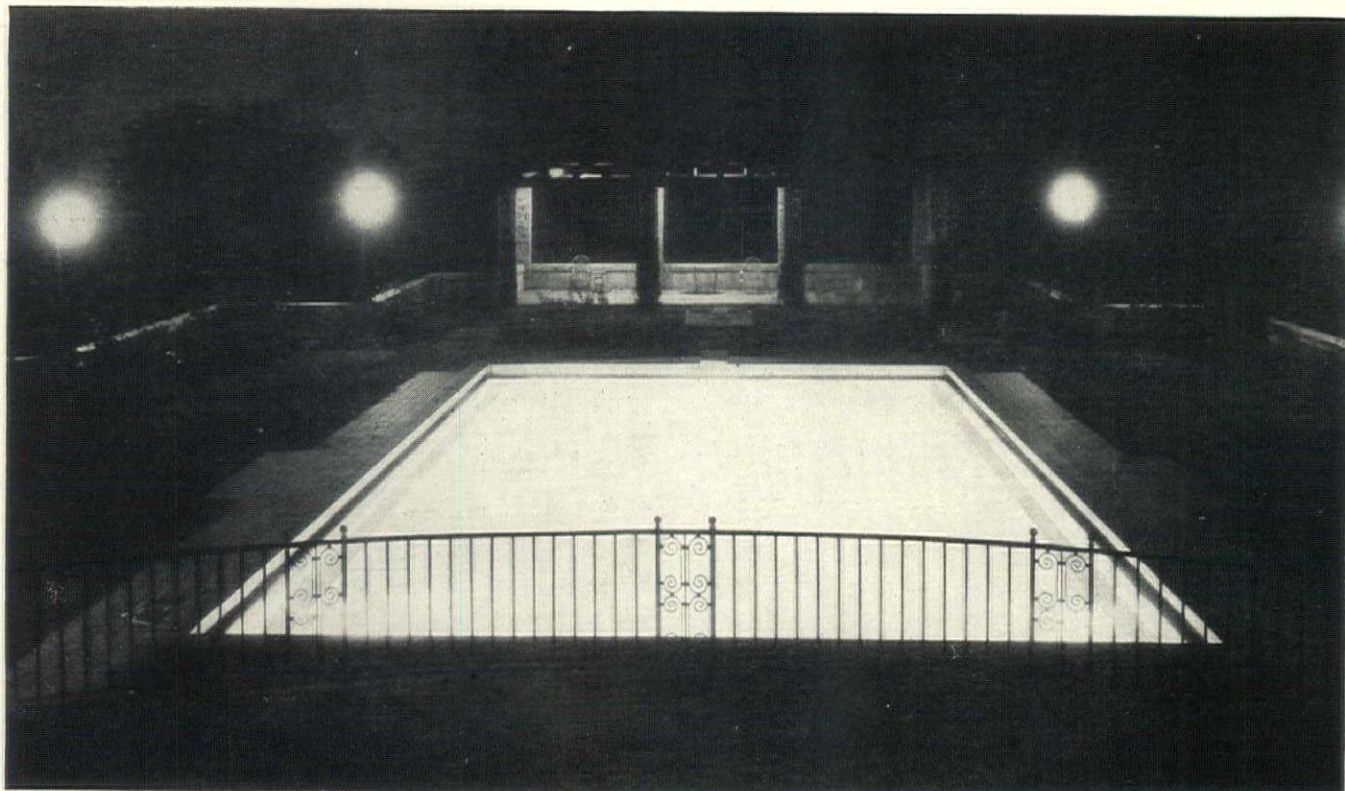


Diagram No. 1—"Squares" indicate location of underwater lighting units



An outdoor pool on the Omwake Estate, Cincinnati, Ohio

of Swimming Pools

By E. W. BEGGS

Illuminating Engineer

The Westinghouse Lamp Co.

The performance of the filters is, therefore, instantly perceived because of this characteristic so that they may be maintained in perfect condition without need of elaborate tests. The lives of swimmers are protected because their movements, whether on the surface or beneath it, may be followed readily by life guards on duty. Light is directed to those points where it is most required for the guarding of swimmers' safety.

THIS new lighting equipment has been brought to a high point of development by several manufacturers. Practically all the apparatus built today functions similarly, although, differences in design and in manner of application exist between all those on the market. The fixtures are all designed to be installed in the pool walls below the surface of the water. All of them use standard types of Mazda lamps and most of them are arranged to meet the requirements of swimming pool construction and apparatus as well as the standard electric code.

There are a few fundamental principles which have been quite definitely established and which determine the proper method of installing an underwater lighting system that shall give entire satisfaction.

The first of these is that the light shall emanate from a large number of small units, resulting in the least glare and uniformity of illumination. (Continued on page 84)

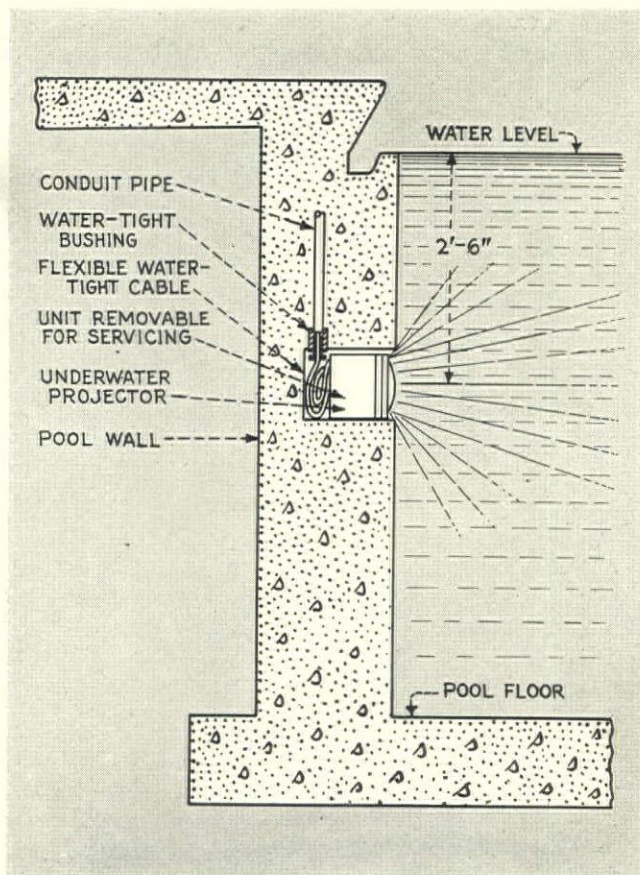


Diagram No. 2—Typical detail of recess type underwater lighting unit

WHAT ARCHITECTS

A MUSEUM devoted entirely to modern art is to be started in New York City by Mrs. John D. Rockefeller, Jr., Frank Crowninshield, A. Conger Goodyear, and several others. Temporarily, the museum will be located in the Heckscher Building. Alfred H. Barr, Jr., the director, is planning the opening exhibit to be held within the next few weeks.

THE building code committee of the Department of Commerce is to be directed by Dr. William K. Hatt, head of the school of civil engineering at Purdue University. The committee's principal function is to prepare and recommend building code requirements suitable for the use of local city governments throughout the country. Over 200 cities have so far made use of the committee's recommendations.

Combination of requirements previously issued into a framework of minimum requirements for a complete building code is one of the major parts of the program, thus encouraging a uniform treatment for major items.

PRIZES of \$1,000, \$300 and \$100 for Protestant churches already built and seating from 150 to 600 people are announced in the second annual church building competition of The Christian Herald, New York City. The awards will be divided equally between architect and church.

ALTHOUGH industrial building has been at high levels this year, the cost of a new factory structure is 6 per cent below the average for the last 10 years, according to a survey of building costs throughout the country just made by the Austin Co., engineers and builders.

The cost of industrial construction is now 40 per cent under the peak reached in 1920 and it is at the lowest point since late in 1922. The computation is based on a standard building 100 by 200 feet, and it includes prices of material and wages of labor.

BRAZIL has abandoned its low structural idea in the twenty-six story building in San Paulo, which is to be a combination hotel, theatre, apartment and business

Factory Costs Six per cent Under Ten Year Average

Hatt Heads Government Building Code Committee

Advisory Service for Centralized Radio

Modern Art Museum for New York

First Aerial Lighthouse

building. Agitated local residents predicted disaster for so high a structure, so the owner installed his family on the ninth floor during construction, then moved them to a roof top bungalow upon completion in order to instill confidence among the citizens of San Paulo.

THE first School of Public Planning to be founded in the United States will be established this fall by Harvard University with the aid of the Rockefeller Foundation. The new school will be a graduate professional school for the training of city and regional planners. The organization will be similar to that of the schools of architecture and landscape architecture, with which it will be coordinated.

AN architectural advisory service which treats centralized radio equipment as a necessity for the thoroughly modern school building has been organized by the Radio-Victor Corporation of America. The object of the advisory service is to aid architects in planning for centralized equipment and to give them help on specific problems.

Centralized radio takes the form of units mounted in standard switchboard fashion, it being possible to give listeners a choice of four programs. Nine schools have already installed such a system, fifty-nine have it under consideration, and the list of school authorities who have expressed interest runs up into the hundreds.

Hotels, hospitals, apartment houses, etc. are also installing centralized radio equipment on which the advisory service is prepared to function.

HARMONY between advertising signs and architecture is one of the aims of German architects, particularly since signs are generally intended to be visible both day and night. Not only are the grouping and design of signs on individual buildings to be studied, but an effort made to introduce more harmony in the advertising display of an entire street.

Many new buildings are being designed with long uninterrupted strips of facade between the windows for the accommodation of advertising lettering. In several business thoroughfares the facades of old buildings have been smoothed down for this purpose.

Letters for the signs are either of stone, metal, wood, glass or glass tubes. Solid letters of glass or wood either

A Prize Contest

A WAR memorial in Chicago has been announced. The first prize will be \$20,000 and the second prize \$5,000. Location is to be on the lake front off Congress Street. All qualified architects residing in the United States are eligible. The jury of award will include as laymen Colonel Robert R. McCormick, who is chairman of the committee conducting the competition, W. Rufus Abbott, Howard P. Savage, James Simpson and Albert A. Sprague; and as architects Harvey W. Corbett, Ernest R. Graham, John Mead Howells, and Dean Everett V. Meeks. Programs may be obtained up to October 1 from Earl H. Reed, Jr., Professional Advisor, War Memorial Competition, 435 North Michigan Ave., Chicago, Ill. Competition closes Nov. 25.

ARE TALKING ABOUT

Harvard Establishes School of Public Planning

German Architects Harmonize Signs and Architecture

Christian Herald Church Competition

Columbia Starts Course on Modern Architecture

William Burnett Tuthill Dies

have small glass tubes running along their rim or down their center so as to illuminate the signs at night. Much of the sign lighting is indirect. For instance, solid letters are frequently placed a few inches away from the wall, with bulbs attached to their backs so as to throw the letters out black against a light background. The same effect is obtained by using metal letters on a background of ground glass.

FIFTEEN counties in Illinois, Indiana and Wisconsin are included in a Regional Planning Association providing for a population of seven and a half million with emphasis on sanitation, water supply and drainage.

Construction of public improvements and the intelligent direction of private improvements are being handled by viewing the undertaking not as a regional but rather as a local one.

AN aerial lighthouse has been placed on the building at 958 University Avenue, New York City. It is said to be the first of its kind, and is intended to help airplanes flying about the city at night.

CERTIFIED heating has been adopted by the Heating and Piping Contractors New York City Association.

A COURSE on the modern movement in architecture has been announced by Columbia University, New York, to third and fourth year students. The course will cover the history and development of the modern movement, be illustrated by slides, and show the use of new methods of construction as they influence the new forms of design. Professor Joseph Hudnut will conduct the lectures, he having spent the summer in Europe securing photographs and information concerning French, German and Scandinavian architecture.

A ZONING petition to make a residential colony in New York City between York Avenue and the East River has been addressed to the Board of Estimate. The First Avenue Association, which filed the petition, states that they later intend to ask that the zone be extended down to Sixty-third street.

J. J. Hackett, Jr. secretary of the Association, pointed out what has happened on East End Avenue, which was zoned for residential purposes in January, 1928. Since then, apartment buildings representing an investment of

about thirteen and a half million dollars have been erected, in spite of the fact that no new building had been erected on that street for a number of years.

THE mayor of Detroit, Mich., has appointed five men to study the proposed new building code for the city. This code will contain many of the rules of the building department, enabling inspectors to institute proceedings against builders who use inferior materials and do poor work. The architect on the committee is Henry J. Brennan of Donaldson & Meier, with four engineers; Henry J. Brennan of the W. E. Wood Construction Co., Luther D. Hoffman of J. B. Book, Jr., Corp., F. Gardner Legg, of the Department of Health, William F. Zabriskie of the Gabriel Steel Co. and member of the Public Lighting Commission and Board of Review.

STEEL bar joists in the floors, eliminating formwork, constitute an important feature in a recently erected ten-story apartment hotel in Cleveland, Ohio, and also in a three story ramp garage located in Ashville, N. C. The slab was poured directly on rib floor lath placed on the steel bar joists.

WILLIAM BURNETT TUTHILL died at his home in New York on August 25. He had been one of New York's leading architects. (Continued on page 108)

Conventions and Expositions

October 21—26	<i>Indiana Building Congress and Trade Show, State Fair Grounds, Indianapolis.</i>
October 7—12	<i>National Electric Exposition, Grand Central Palace, New York.</i>
October 19—29	<i>Exhibition of Modern Offices, Brussels, Belgium.</i>
October 24—27	<i>Congres Internationale d'Architecture Modern, Frankfurt am Main.</i>
October 29— November 27	<i>World Engineering Congress of Tokio, Japan. Excursion and inspection tours, November 7—22.</i>
November 1—15	<i>Architectural Exhibition of the Philadelphia Chapter of the A. I. A. and the T-Square Club, John Wanamaker Store, Philadelphia.</i>
November 9—16 1930	<i>Architectural and Industrial Arts Exposition, Memphis, Tennessee.</i>
January 18—30	<i>International Exhibition of Building Trades and Allied Industries, Brussels, Belgium.</i>
January 27—31	<i>International Heating and Ventilating Exposition, Commercial Museum, Philadelphia.</i>
March—April	<i>International Exhibition of Housing and Modern Industrial Applied Arts, Nice, France.</i>
May 20—October 1	<i>Exhibition of Modern Industrial and Decorative Arts, Stockholm, Sweden.</i>
June	<i>Pan-American Congress of Architects, Rio de Janeiro, Brazil.</i>
September	<i>International Architects' Congress, Budapest, Hungary.</i>



The Lawyer Said:

"No! No! I Can't Do That"

Lawyers Won't Do It . . . Why Should Architects?

WANTED

By

The AMERICAN ARCHITECT

An Article On

"Speculative Sketches"

SOMEWHERE is an architect who has had experience with speculative sketches and who has decided views on the subject, some of which would be helpful to other architects. The American Architect would like to have that man write an article on the subject, pointing out the unjust and unbusinesslike character of the practice and arguments that architects may use when such situations develop.

- 1—The article should be about 2,000 words, not over 2,500.
- 2—It should cite examples or experiences where possible.
- 3—It should be in the office of The American Architect at 57th Street and 8th avenue, New York, by November 2.
- 4—For the best acceptable article **\$50**
The American Architect will pay

THE LAWYER dropped into the architect's office, as many other lawyers have been dropping into many other architect's offices for many years. The lawyer was the chairman of the building committee of The Bank . . . and The Bank proposed to erect a new building.

The lawyer explained his mission. The Bank wanted to "spend not more than \$500,000" and wanted an ideal bank building for the price. Wherefore, the Lawyer explained, The Bank had thought up a big idea . . . big but NOT new. It was — Guess what? To ask several architects to submit sketches and from those The Bank would select the one it liked best and choose an architect.

"Fine!" agreed the Architect. "And I'm glad you came in, for our firm has found itself up against a legal problem and we need some legal advice and service. The problem is very important . . . to us, at least.

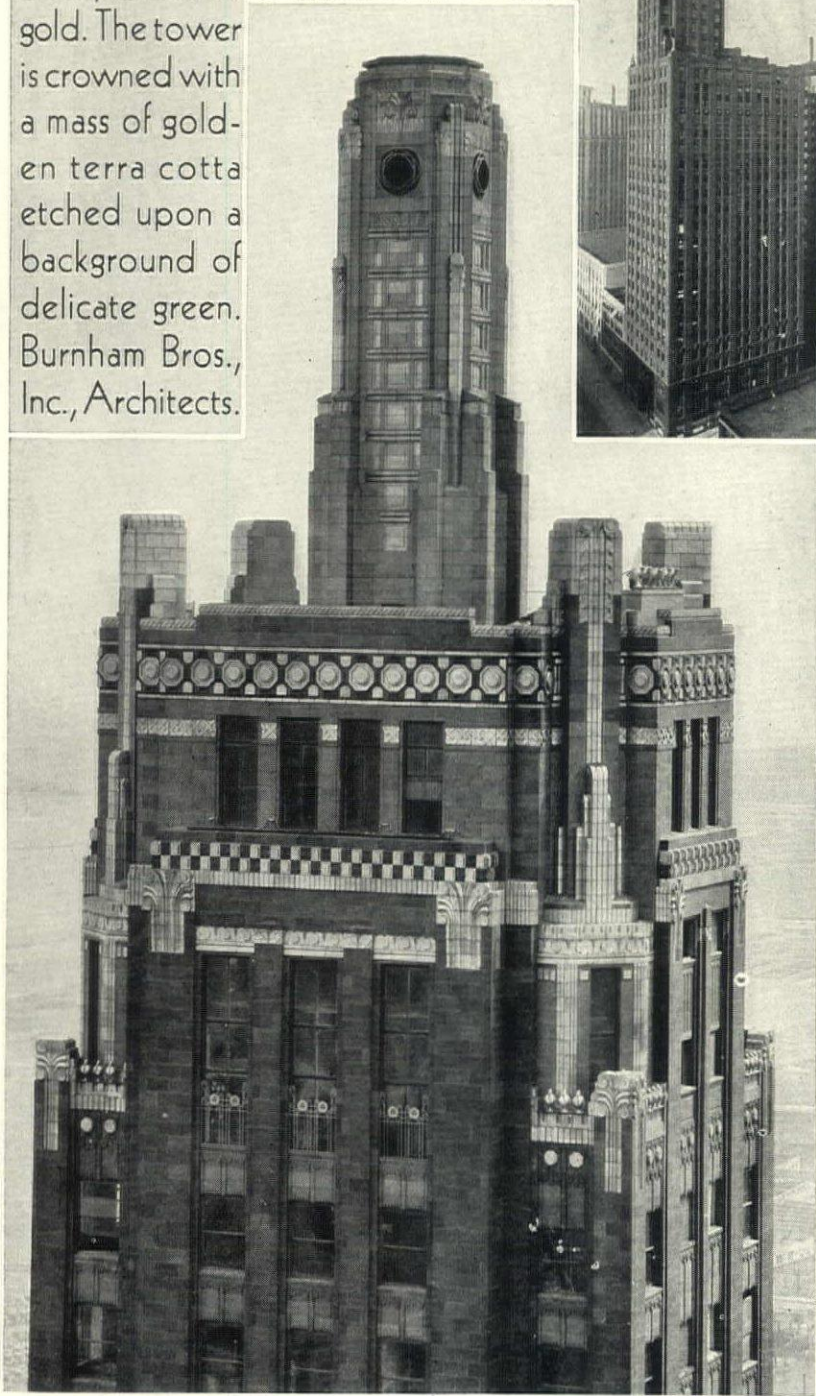
"We want to make sure we get the best possible handling of the case and so we have decided to submit the facts to several attorneys and ask them to give us their suggestions as to how to proceed. We will then go over the suggestions and out of them will select what seems to be the best plan and engage an attorney.

"We would very much like to have your firm submit its suggestions."

"NO! NO! the Lawyer said, "I can't do that!"
The Architect smiled, and said ?

NORTHWESTERN TERRA COTTA

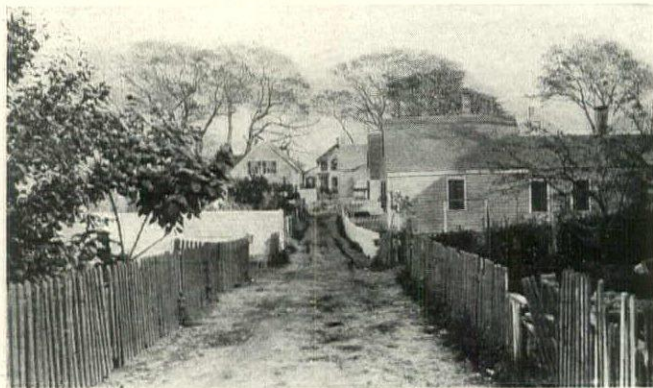
The Carbide and Carbon Building, Chicago, is the first all-terra cotta skyscraper in color. Facades are faced with rich dark green, rugged texture terra cotta; decorative features in ceramic gold. The tower is crowned with a mass of golden terra cotta etched upon a background of delicate green. Burnham Bros., Inc., Architects.



THE NORTHWESTERN TERRA COTTA COMPANY
DENVER. S. LOUIS. CHICAGO CHICAGO HEIGHTS

Impressions of Old Provincetown

(Continued from page 39)



Streets that never echoed to the noisy rumble of a shrill voiced steam-roller

wood—neither in warranty deeds, zoning ordinances nor by natural barriers. Commercial Street meanders complacently along the shore, sometimes thirty feet wide and sometimes barely twenty. There is no building line determined by a city engineer, which buildings *must* observe. Nothing quite so commonplace. And there certainly is no provision limiting the number of houses per lot. Studios and dwellings, public garages and shops, fish ware houses and restaurants are all huddled together in a friendly sort of abandon. And then, as a piquant sauce, there is spread over and among this collection of man-made picturesqueness, the green of the thickly grown privet, and of the almost gigantic willows, to which, in July, are added rambler roses covering every doorway, hanging over fences and crawling over many a roof. In bright sunlight one might almost fancy oneself in Florida or Southern California, barring, of course, botanical and architectural peculiarities of those far-off states.

Diagrammatically, Cape Cod is rather like an Ionic volute with Provincetown in the eye. Architects familiar with the spiral since draughtsman days are not surprised therefore to see the sun rise and set in the same spot and never to find the compass checking up with their intuitive sense of direction.

EVEN though one did get lost, however, the experience could hardly be rated as a hardship. One would stumble on to so many delights. For instance, one might chance into George Elmer Browne's studio, high up on a sand hill and see him working on a large canvas or helping a student over a rough spot. Or it might be Charles Hawthorne's studio or Pauline Palmer's or Garrit Beneker's or Richard Miller's. It might be a rather stately house, set far back from the street line. An interesting doorway and old fashioned garden would at once proclaim the place to be the habitation of a person of distinction and on inquiry it would be learned that here Frederick Waugh, the marine painter, lives and works. And pursuing one's *pas perdu*, there would heave in sight the Universalist's Church and one would read of the welcome extended to him who doesn't run but reads and also that the interior is very interesting.

Perhaps it is so to the lost one determined to be saved, but again there is no urge to make measured drawings or even a sketch. The 1850 carpenter's version of Greek revival, in which even a naïve feeling for architectural fitness is not visible, does not enthrall the architect.

But we did not come to Provincetown for architectural masterpieces and so we wander about making mental, if not pencil sketches of the old wharves and of gable and ridge groupings, and in passing the Art Association Building and the Beach-Combers Club opposite almost wish that we were painters instead of architects. The blue water, the warm ochre sands, the white houses and green foliage and the great sky above make one feel quite ashamed to be merely a T-square and triangle artist, so alluring in their siren like invitation to leave one's job are these delights of Provincetown.

WHEN the mind works like that it is time to seek a lunch place and Cesco's is not far away. If you wish for atmosphere, low ceilings, walls hung with splendid black and white drawings a satisfying repast and a genial host, go to Francesco's. To be more explicit would be to violate all the canons of art. And there you may meet an artist or two of your acquaintance and perhaps, by adroit strategy, manage to receive an invitation to dine at the Beach-Comber's Club with that merry group of artist would-be buccaneers who like nothing so much as to see a trembling candidate crawl under the big table and walk a mentally hazardous plank. And later you will follow the crowds and eventually arrive at the wharf players at the other end of the town. Architecture there is none, but cleverness in acting and in the effective use of the simplest materials make that old shed of theirs one not soon to be forgotten.

But Provincetown is not all there is to Cape Cod. From Buzzard's Bay and Falmouth eastward there are delights in form and color without end and Provincetown is but the culmination of a fascinating experience.



Quaint cottages whose lowered rear eaves seem to make them sweep out of the ground

KEWANEE

STEEL RIVETED BOILERS

A boiler is bought *only once*. Its fuel must be bought *every year*. So, a low yearly fuel cost is far more important than the original price paid for the boiler.

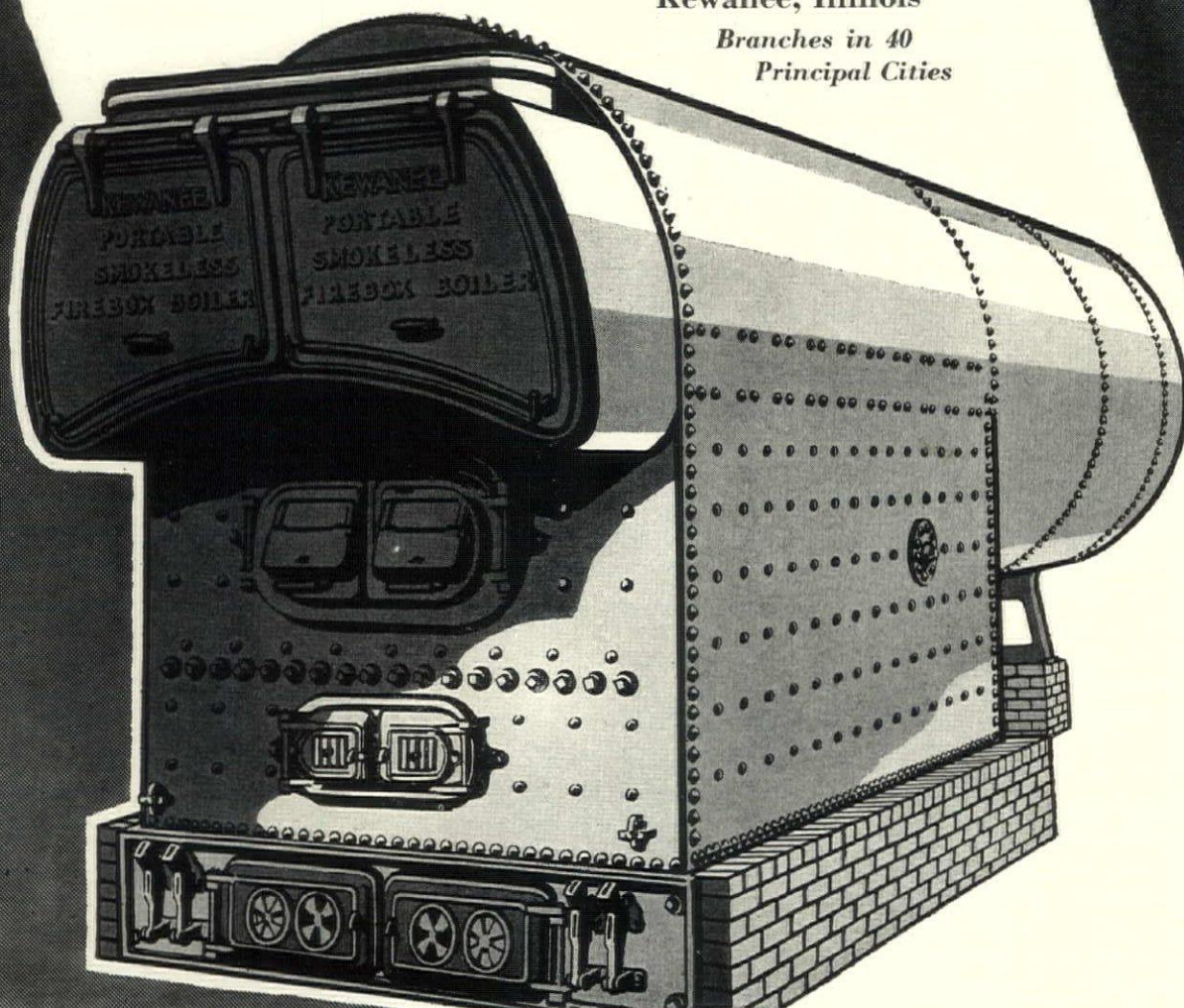
Kewanee makes no claims for "Bargain Basement" price. But it does claim—and these claims are backed by performance in the finest buildings—that in the long run Kewanee is the *best boiler investment any owner can make*.

KEWANEE BOILER CORPORATION

division of American Radiator and Standard Sanitary Corporation

Kewanee, Illinois

*Branches in 40
Principal Cities*





National City Christian Church, Washington, D. C. Office of John Russell Pope, architects. From "American Church Building of Today"

American Church Building of Today

American Church Building of Today, edited by Ralph Adams Cram, F.A.I.A.; published by Architectural Book Publishing Company, Incorporated, New York City; 283 pages; illustrated; size 9¼x13; price \$16.50.

RALPH ADAMS CRAM states in the introduction to "American Church Building of Today"—"fifty years ago a book on recent church building could not have been published . . . twenty-five years ago the available material would have increased a hundred fold, and today it is not a question of finding available material . . . the problem is where to draw the line." For an authority on the design of churches to make this statement speaks well for the great advancement that has been made in the design of churches in America. This advancement as Mr. Cram says, is not confined to any one denomination. Nor is it (Continued on page 124)

Ancient Carpenter Tools

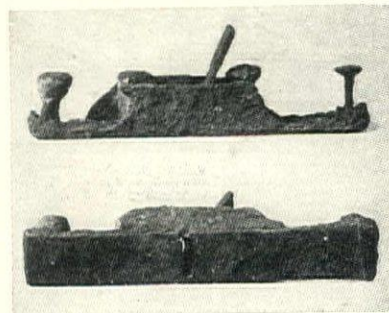
Ancient Carpenter Tools, by Henry C. Mercer, D. Sc., published by the Bucks County Historical Society, Doylestown, Pa.; 328 pages illustrated; size 6½x9¾; price \$5.00.

MUCH of the romance of the building industry lies in the ordinary tools used by the craftsmen and few are of greater interest than those of the workers in wood. The story of the lumber industry, full of human interest, requires only the sight of a "peavey", log chain, two man saw, or double bitted axe to conjure up memories of the perils, hardships, and adventurous life of the lumber jack.

Occasionally a chest of eighteenth century carpenter tools is uncovered, with numerous moulding planes of

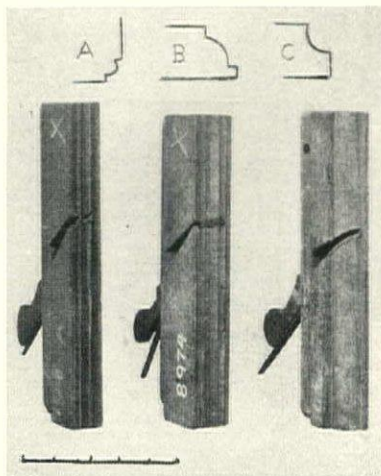
varying shapes and sizes, sash planes, banding plans, ploughs, tongues, and draw knives and more likely than not, a broad axe and carpenter's adze. Only those who lack imagination can fail to vision the days of the colonists and the building of their shelters from the simple cabin to the mansion or town hall.

Because shelter has been one of the most important and universal of human needs and wood one of the most plentiful and easiest worked materials for this purpose, it is no surprise to learn that wood working tools date back



Roman carpenter's plane. From "Ancient Carpenter Tools"

to the earliest days of the history of all countries and peoples. Due to the perishable nature of many of the



The moulding plane, 19th century. From "Ancient Carpenter Tools"

tools used by carpenters, comparatively few tools used by ancient peoples remain in tangible form and as a result are often the subject of speculation of historians as to their exact form.

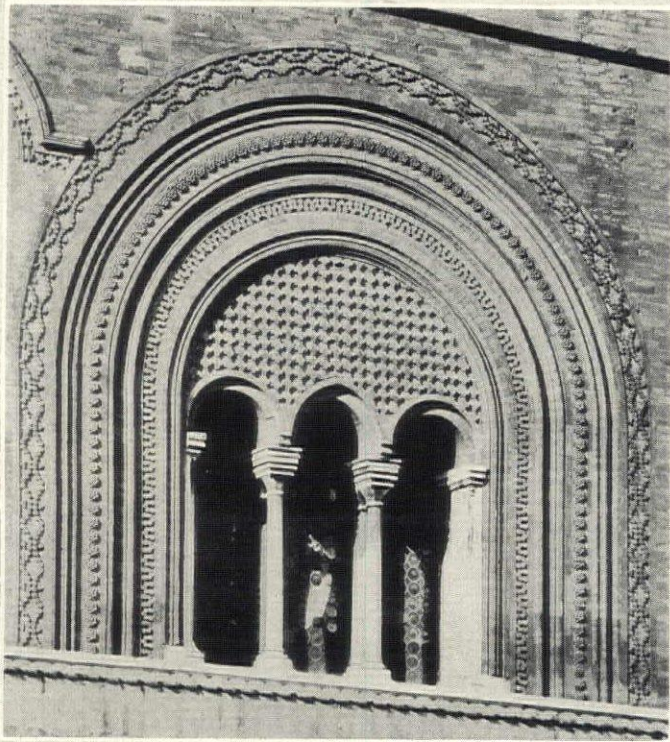
Mr. Mercer states in his volume "Ancient Carpenter Tools" that because of the application of mechanical power to carpenter's tools in the nine-

teenth century, many older tools have been superseded, so he set the artificial limit to his investigation on tools up until the eighteenth century. Except for those included for the purpose of (Continued on page 128)

Wrought Iron in Architecture

"Wrought Iron in Architecture" by Gerald K. Geerlings, Charles Scribner's Sons, New York City; 202 pages; illustrated; size 9 x 12; price \$7.50.

NO one can read and study "Wrought Iron in Architecture" by Gerald Geerlings without realizing the vast amount of research, and hard work that was required of the author to prepare so comprehensive a book. Drawings and details made (Continued on page 124)



Terra Cotta of the Italian Renaissance

A valuable addition to the architect's working library.

The 200 full page photographs, which include hitherto unpublished material, were personally taken by a well known member of the American Institute of Architects, in many instances by special permission of the Italian authorities.

While much current work has but little historical background, the book is none the less important to the designer in the modern mode.

Not only can this material be used as the basis for developing new elements of design, but it illustrates at the same time the inherent decorative possibilities of modeled clay which so perfectly fit terra cotta for modern architecture. Much of the work shows a logical and straightforward handling which may well serve as an inspiration today.

Copies gladly sent on approval to architects, and those identifying themselves as draftsmen or students. The price, \$3.00, only partly covers the cost of assembling and printing.

NATIONAL TERRA COTTA SOCIETY
230 PARK AVENUE NEW YORK, N. Y.

(On behalf of the Terra Cotta Manufacturers throughout the United States)



Master Building, New York. Sugarman & Berger; Helmle, Corbett & Harrison, architects. From "The Logic of Modern Architecture"

The Logic of Modern Architecture

The Logic of Modern Architecture, by R. W. Sexton, published by the Architectural Book Publishing Company, Incorporated, New York City; 133 pages; illustrated; size 9 x 12; price \$8.00.

THE correct definition of modern is: Characteristic of today Actually modern architecture is not a mere fancy or passing fad Modern architecture has been actually forced upon us, whether we like it or not The movement is the result of an effort to give expression to modern impulses and desires modern architecture is not a style it is merely a tendency to design buildings that will thoroughly meet our demands, satisfy our desires, and conform to our ideas of beauty.

"The interest of all progressive architects is not solely in developing a distinctive American style our interests are focused, rather, on a more logical architecture we are fundamentalists in that our creed is based on a greater regard for the fundamentals of architectural design we are progressive in that we appreciate the beauty of the old historical designs, but we do not believe that they can be logically applied to satisfactorily meet the needs and requirements of the architecture of today To be a progressive does not mean the discarding of the principles of architectural design any more than it means casting aside precedent and tradition. This is the theory of the radicals. The periods are valuable to the progressive as rare examples of the application of architectural principles to reap real benefit from them, we must get back of them and learn how and why these old master-designers did the things they did, under what conditions they lived, and with what materials and by what method of production their ideas took form and were given expression.

"A certain group of designers in this country calling themselves modernists are still carrying on the methods of copybook architecture. They are

watching modernists in France, Germany and Holland and incorporating such ideas and motives as appeal to them as their contribution to modern American art this is the one time that we need not 'copy' Europe. This is our chance to be the leader The chances of developing a distinctive American style of Architecture seem very slim when one consider this country of vast proportion where climate, topographical, social, religious and economic conditions are so vastly different in different localities, it is inconceivable that there can be developed one peculiar style of design that will be appropriate to every section of the country.

"In the modern skyscraper we see American architecture unified to a great extent and consequently the almost complete disappearance of regional types The skyscraper was evolved to cope with modern economic conditions; its design presented to architects a modern problem; precedent offered nothing to assist in the solution Those skyscrapers of more recent design suggest a greater regard for the fundamental principles on which architecture is founded. Our interests are centered on a logical solution of our modern architectural problems Let us build logically with materials at hand our style will grow—our modern art."

So writes R. W. Sexton in the first chapter of "The Logic of Modern Architecture," which has just been published. The chapters that follow treat of the psychology of architecture, the fundamentals of architectural design, our architecture today, and furnishing the modern interior. This volume is profusely illustrated from photographs and drawings of contemporary American buildings, exteriors, interiors and details. It presents an interesting and comprehensive survey of American architecture of today.

Wood Construction

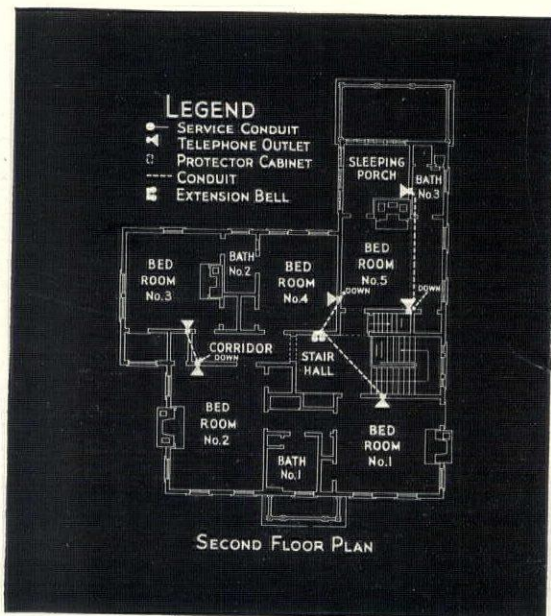
Wood Construction, by Dudley F. Holtman, published by McGraw-Hill Book Company, Inc., New York City; 711 pages; illustrated; size 6x9; price \$6.00.

THE National Committee on Wood Utilization was initiated by Herbert Hoover as part of the National Movement for the elimination of waste, to increase efficiency, and conserve the country's resources. The control committee to further this movement recognized the importance of placing in the hands of architects, engineers and builders reliable information on the use of wood in construction. This need has grown through changes in the wood-using arts and in the lumber industry which supplies these arts. Under the direction of Dudley F. Holtman, the committee has issued a volume entitled "Wood Construction." (Continued on page 124)



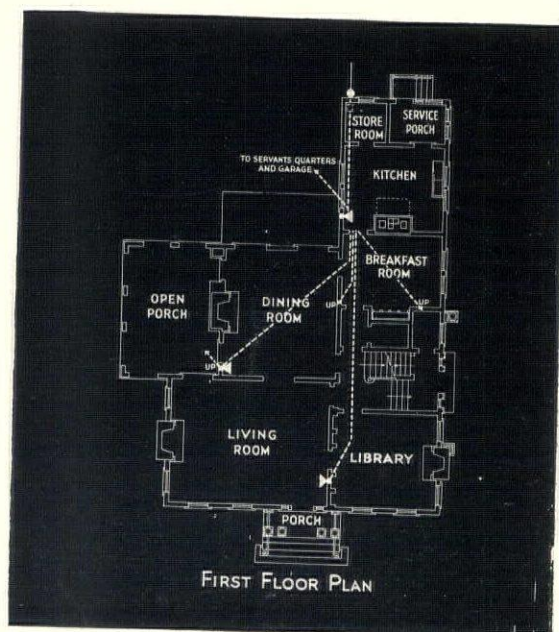
Stone ornament, 332 North Michigan Avenue Building, Chicago, Ill. Holabird & Root, architects. From "Logic of Modern Architecture"

Your local Bell Company will be glad to help you Plan the Telephone Arrangements for your Houses



IN PLANNING for telephone convenience in new and re-modeled homes, there are many things which must be given consideration: the number and arrangement of telephones to provide greatest ease and comfort in use of the service . . . the location of the telephone service entrance . . . the conduit layout . . . protection to the apparatus from water and extreme heat . . . and many other details.

It is highly desirable, of course, that these matters be discussed with representatives of the telephone company prior to or during the preparation of the building plans. Your local Bell Company will be glad to arrange for conferences with architects, builders and home owners, to discuss telephone facilities for specific building projects. There is no charge for this consulting service. Just call the Business Office.



In the residence of Mr. J. W. Goldsmith, of Atlanta, three telephone outlets downstairs and six upstairs provide facilities for installing telephones at convenient locations. There is an additional outlet in the servants' quarters over the garage. Exposed wiring is made unnecessary by the conduit layout. FRINGLE AND SMITH, Architects.





IN THIS CASE THE ARCHITECT WAS RIGHT

WHAT HE DID. The first serious trouble Savage had with a client was when Geldner became a client. Sent by a mutual acquaintance, Geldner ordered plans and specifications drawn for an apartment house to cost "about \$100,000.00." Savage drew the plans and specifications and turned them over to Geldner. After holding them for some time Geldner came in to see Savage and announced that he was not going ahead with the building. Savage rendered his bill and Geldner refused to pay on the ground that plans and specifications had been ordered for a building whose cost was not to exceed \$100,000.00. "But we agreed it was to cost about \$100,000.00," said Savage. "That's right," answered Geldner, "About \$100,000.00—that means \$100,000 or \$99,000 or anything less than \$100,000, but your plans will cost over \$100,000 so I'm not going ahead, and won't pay."

WHY HE DID IT. Like many others Geldner lost interest when he found he couldn't go ahead with his building and he sought for some way to escape paying Savage's bill. Geldner thought the additional \$2000.00 cost would enable him to escape liability.

WHY HE SHOULDN'T HAVE DONE IT. An architect who engages to draw plans and specifications for a building to cost not exceeding some definite specified amount may be precluded from recovery for his services, if he does not keep to his agreement in the matter of cost. The courts, however, have decided in numerous cases that where an architect is engaged to prepare plans and specifications for a building to cost "about \$100,000.00" or "about" some other specified sum,

How Much IS "ABOUT \$100,000?"

by
George F. Kaiser

such an agreement is not substantially varied from if the building will cost a sum reasonably near the estimated amount. In such cases the architect is entitled to be paid for his services even though the owner does not proceed.

THIS ARCHITECT LOST

WHAT HE DID. Cummings had a good reputation as an architect—perhaps too good a reputation—for it brought so much business that he grew careless. He was employed by a man named Dawson to draw plans and specifications, to let contracts for, and to superintend to completion the erection of a residence for Dawson. When the building was completed, the owner refused to pay Cummings for anything except for drawing the plans and specifications. "Why, the house has defective chimneys, rain comes through the windows, there are nail holes through the plumbing pipes, and the window weights are of iron instead of lead as specified in the contract," he indignantly told Cummings. "That's all right, you were about the house while it was being constructed and knew what was going on," said Cummings. "If you don't pay, I'll sue you." "Go to it," Dawson dared him—so Cummings sued.

WHY HE DID IT. Perhaps Cummings really thought he was entitled to be paid for superintending the job, or perhaps he thought Dawson would not know that he wasn't entitled to it, and wouldn't defend a suit.

WHY HE SHOULDN'T HAVE DONE IT. But in a case similar to this the Court said, "An architect is not entitled to be paid in such a case, as if he had superintended the job so as to give a house in accordance with the contract he undertook to see fulfilled." As to the architect's claim that the owner was about the house during its construction, and saw what was going on, the Court said, "if he did see this (Continued on page 132)



*Stuart Building, Lincoln, Nebraska. Davis & Wilson, Architects. Olson Construction Co., Builder.
Built of Old Gothic Indiana Limestone.*

Profitable Because Lastingly Beautiful

THERE is no trend more noticeable today in modern commercial building than the trend toward the use of an all-stone facing of Indiana Limestone. Knowing that the public, whose verdict is of the utmost importance to the owner, has put the seal of its approval upon Indiana Limestone building exteriors, the experienced architect selects this beautiful natural stone for all of his more important projects.

Buildings faced with Indiana Limestone pay steady

dividends by continuously full occupancy, low upkeep cost, and all-round investment value. Surveys made in leading cities show the percentage of continuously occupied space to be higher in Indiana Limestone structures than in other types of buildings. The attractiveness and recognized desirability of their substantial looking beautiful stone exteriors must be given some of the credit for this remarkable situation! Why not specify Indiana Limestone for the new buildings which you are planning?

INDIANA LIMESTONE COMPANY

General Offices: Bedford, Indiana

Executive Offices: Tribune Tower, Chicago

NEW MATERIALS & EQUIPMENT

BRIEF REVIEWS THAT MAKE IT EASY
TO KEEP IN TOUCH WITH THE
PROGRESS MADE BY PRODUCERS

Celotex as Core in Plywood Panels

Plywood panels with cane fiber as the core stock, in place of wood, have been developed by the Celotex Company, Chicago. This Celotex core may be of any thickness from 1/4 inch up, making possible any desired coefficient of insulation. Suggested uses for the material include paneled walls for houses, offices, steamships and airplane cabins.

Acid-proof Cement

A cement stated to be proof against acid, alkalies, chemicals and gases, hot or cold, has been announced by the U. S. Stoneware Company, New York City. The only acid against which the manufacturers do not claim the cement to be proof is hydrofluoric acid.

The principal uses suggested for this new cement are acid-proof tank linings, fan casings, galvanizing and plating tank construction, stacks, linings for acid gases and fumes, Gay-Lussas and Glover towers.

Automatic Circuit Breaker

An automatic circuit breaker, called the WK-50 Meter service breaker, is announced by the Westinghouse Electric and Manufacturing Company, East Pittsburgh, Pa. The device is designed to withstand temporary overloads, such as excessive starting currents of motor driven household appliances, but to open the line before any damage can be done to the equipment or to the insulation of the conductors.

An important advantage of this automatic circuit breaker is that it protects the operator from the hazards encountered when replacing blown fuses, and also reduces service calls to the central station as the customer can reset the breaker himself without the necessity for any delay.

Colored Floor and Wall Tiles

The Rossman Corporation, New York, has completed a line of colored tiles which have a semi-matt finish and yet apparently have all the advantages of a hard surface glaze. The tiles are made in eight colors and a wide variety of sizes with corresponding trim shapes.

Friction Rollers to Hold Doors

A new principle in door holders is incorporated in a friction door holder that has been developed by the Stanley Works, New Britain, Conn. The device consists of a rubber holder kept in contact with the floor by a spring. The door is held against slamming in any position, and the soft rubber of the roller does not damage the floor.

Hot Water Heating Valve

Packing is stated to be unnecessary in the new valve announced by the American Radiator Company, New York City. Combined with the packless feature is a swinging plate and equalizing feature. The swinging plate has a sharp edge that cuts away all corrosion and sediment and keeps the valve clean. The equalizing feature equalizes the flow regardless of radiator or pipe sizes, making possible a more

perfect balancing of the installation; it is also easier to install than the usual hot water system that depends only upon various pipe sizes to control water circulation.

New Wood Preservation That Is Paintable and Odorless

A new method of wood preservation which is claimed to leave the lumber natural in color, odorless, paintable and definitely preserved against decay and termites or white ants has resulted from research carried on in the laboratories of the Western Union Telegraph Company and made available by the Eppinger and Russell Co., New York.

Moulded Synthetic Lumber

Synthetic lumber that can be moulded to any desired shape will shortly be placed upon the market by the Halizite Products Corporation, New York City. The material consists of a chemical binder which when sprayed over wood chips, shredded cornstalks, sugar cane, or other waste products, and subjected to pressure, will produce what the inventors call synthetic lumber.

Preservative Paint

A combination of pitch paint and aluminum powder, declared to have an efficiency rating of 98% against atmospheric moisture, has been announced by the Asphalt Products Company, Syracuse, N. Y. The paint may be applied either with a brush or with a spray. Uses suggested include hospital interior surfaces; roofs or walls of cold storage, ice cream and dairy plants; factory interiors and exteriors; tanks and standpipes, and refrigerator cars.

New Roof Colors For Ruberoid

A new line of color combinations in Ruberoid shingles has been announced by the Ruberoid Company, New York. These scientifically blended roofing colors are intended to permit harmonizing with any style or color scheme.

Underground Garbage Container

Underground storage of garbage is provided for in a new container made in five sizes by the Witt Cornice Company, Cincinnati, Ohio. The usual garbage can is contained in a heavy gauge receptacle fitted with a semi-steel top, hot dipped in zinc to prevent rust and corrosion when placed underground. The outside receptacle is placed in a hole dug in the ground, sunk in a porch floor or any other convenient spot. Diameters are from 13 to 19 inches, with capacities of 5, 8, 12, 15 and 20 gallons as conditions may require.

Illuminated Numbers in Mail Box

A combination house number plate and built-in mail box is being marketed under the trade name "Luminair" by the Air Mail Chute Manufacturing Company, Cleveland, Ohio. The mail door has fitted into it a cast bronze frame into which the numerals are fitted and backed up with rigid, translucent celluloid.

(Continued on page 92)

STRUCTURAL STEEL CREATED THE SKYSCRAPER

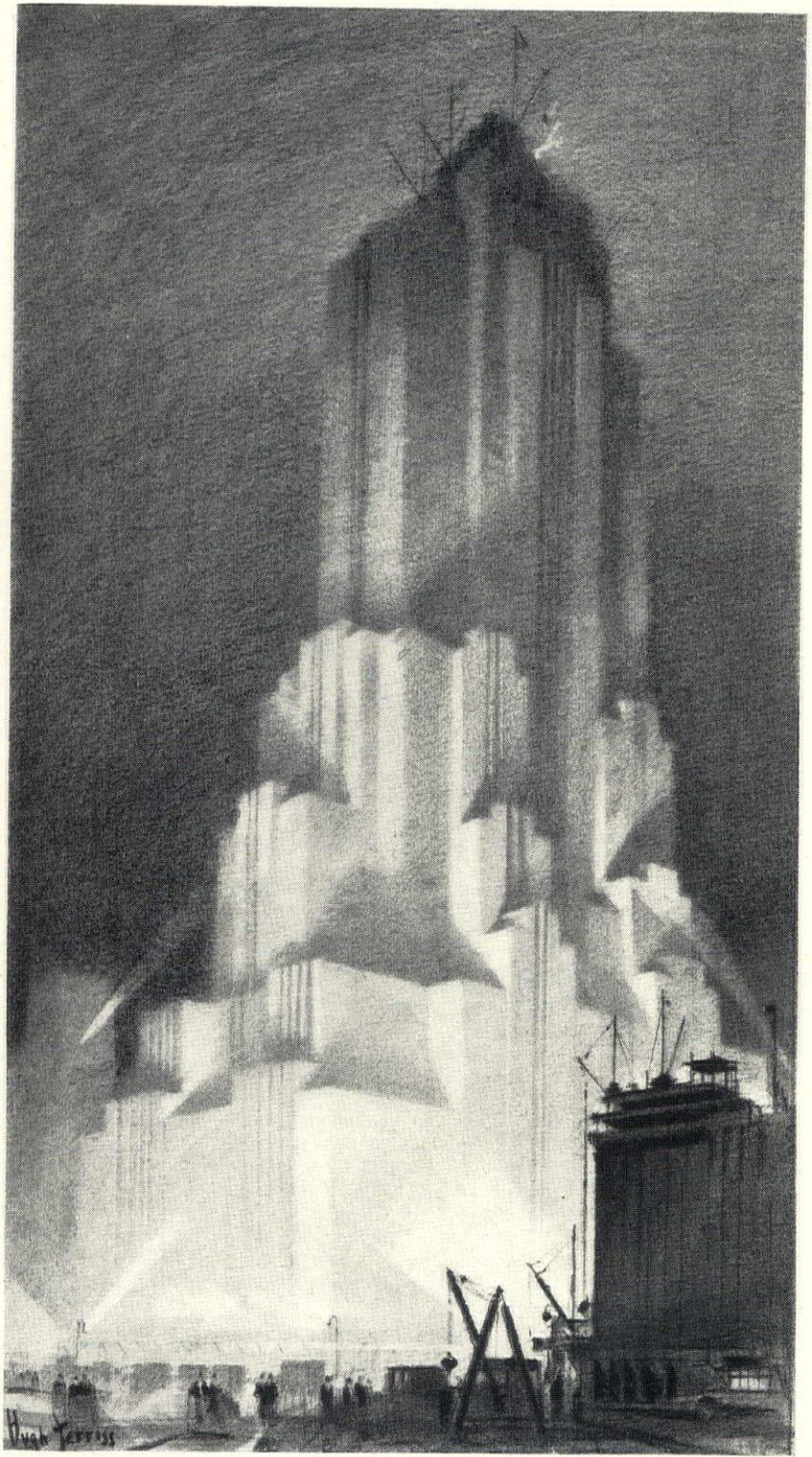


ACRES IN THE AIR

Who hasn't marveled at the progress of a skyscraper? Planted on precious ground, it must grow quickly . . . swiftly bear the fruit of profits. Floor on floor it climbs, spreading acres from street to street. How can it rise so fast . . . reach up so high . . . *safely?* . . . with *Steel!*

Structural steel comes to a building site ready to go into place . . . ready for immediate action . . . ready to speed the building process with perfect adaptability and efficient fitness. Freezing . . . intense heat . . . rain cannot impair the strength of steel or hinder its erection. Here is the one building material that *always* can be depended upon to do its duty any time, anywhere . . . in small apartment houses and dwellings as well as in huge skyscrapers and bridges.

A Technical Service Bureau is at the disposal of architects, engineers, owners and others who have need of any information which can be supplied through the American Institute of Steel Construction, Inc.



A reproduction of this rendering by Hugh Ferriss, suitable for framing, will be mailed free of cost to any architect

AMERICAN INSTITUTE OF STEEL CONSTRUCTION, INC.

The co-operative non-profit service organization of the structural steel industry of the United States and Canada. Correspondence is invited. 200 Madison Avenue, New York City. District offices in New York, Worcester, Philadelphia, Birmingham, Cleveland, Chicago, Milwaukee, St. Louis, Topeka, Dallas and San Francisco.

The Institute publishes twelve booklets,

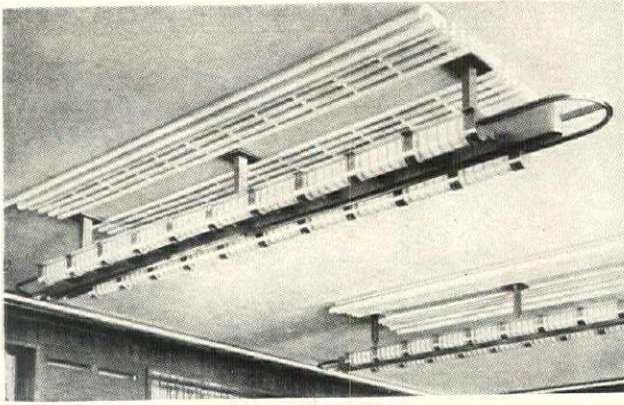
STEEL

INSURES STRENGTH

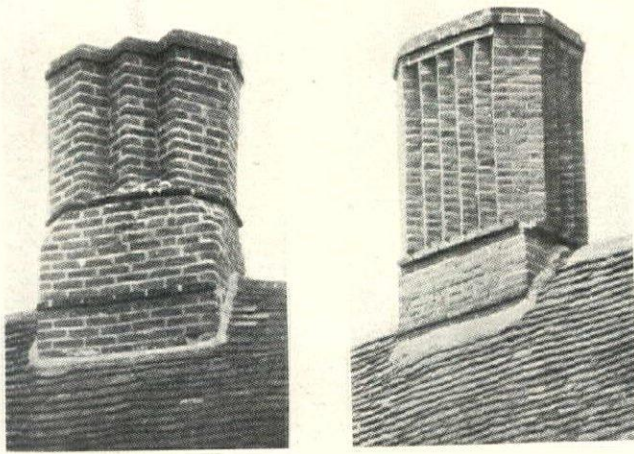
AND SECURITY

one on practically every type of steel structure, and provides also in one volume, "The Standard Specification for Structural Steel for Buildings," "The Standard Specification for Fire-proofing Structural Steel Buildings," and "The Code of Standard Practice." Any or all of these may be had without charge, simply by addressing the Institute at any of its offices.

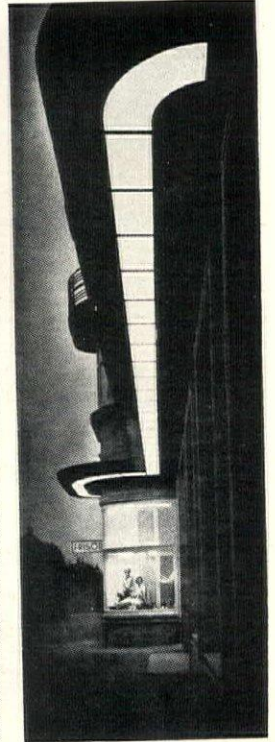
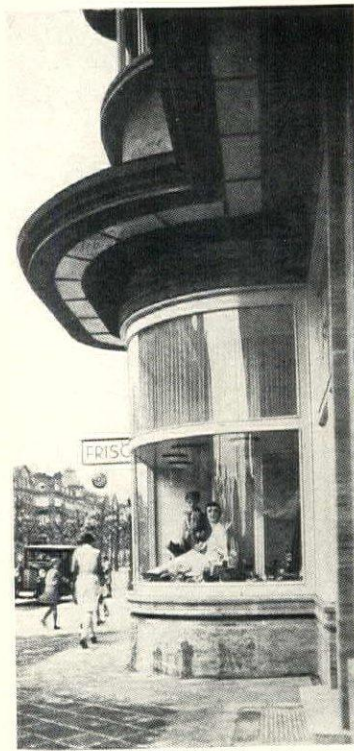
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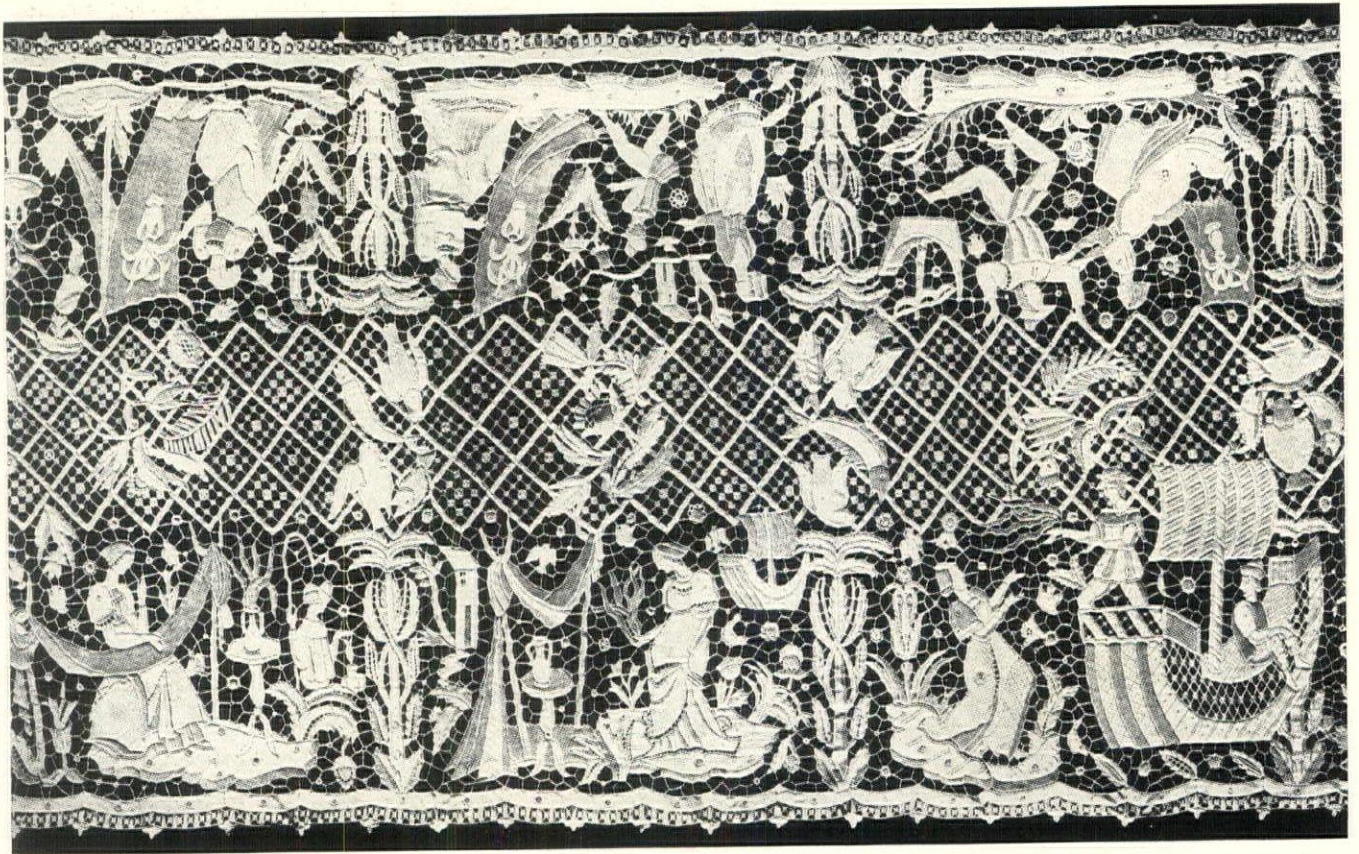
Detail of lighting fixture in dining room of the Nussbaumholz. Designed by Artur Helbig. From "Moderne Bauformen," September, 1929



Chimneys from the Stour Valley. From "The Architect & Building News," London, August 30, 1929



Detail of show window and exterior lighting, Palasthotel, "Mannheimer Hof," Mannheim. Designed by Professor Fritz Becker and Dr. E. Kutzner. From September "Modern Bauformen"

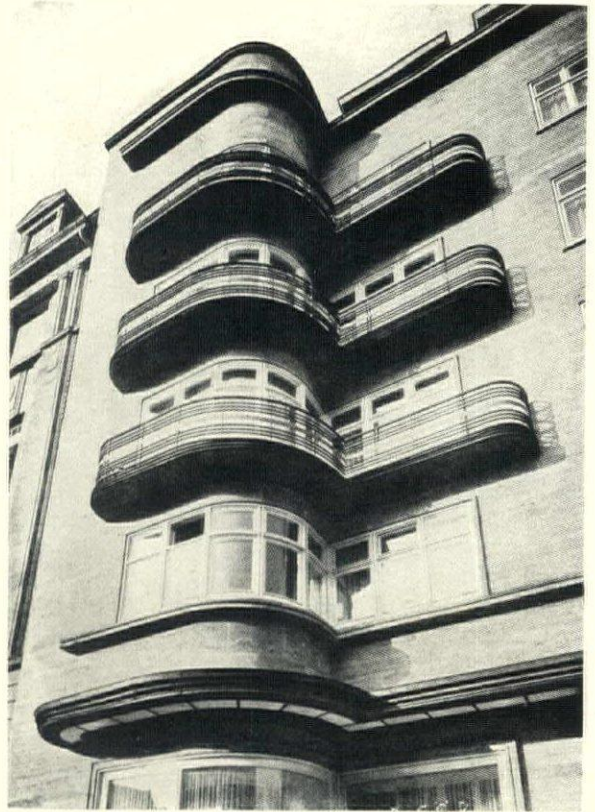


The Legend of Lace, a beautiful picturization, which was designed by Giulio Rosso, "one of the most brilliant of the younger Italian painters, and made by girls at the workshop of Jesurum & Company, Venice." From "The Architectural Review," London, August, 1929

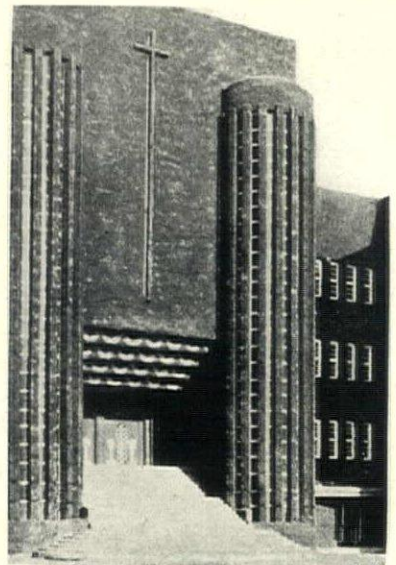
ABROAD



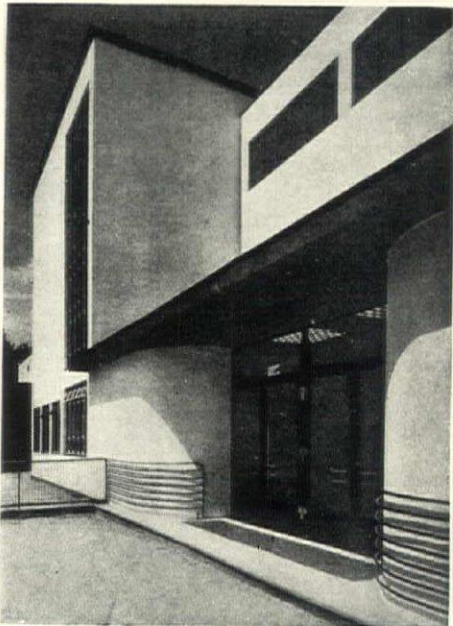
Tandridge Golf Club, designed by Stanley Hamp. From "The Architects' Journal" August 30, 1929



Above, detail of exterior of Palasthotel, Mannheim, showing corner windows and balconies. Designed by Professor Fritz Becker and Dr. E. Kutzner. From "Moderne Bauformen," September, 1929



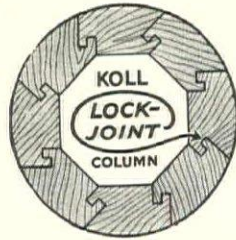
Detail from model of Great Brick Church at Wilmersdorf, Berlin, to be built of "klinker brick." Fritz Hoyer, architect. From "The Architect & Building News," August 30



Entrance detail, National School at Celle, Germany, designed by Herr Haesler. From "The Architects' Journal," London, September 4, 1929



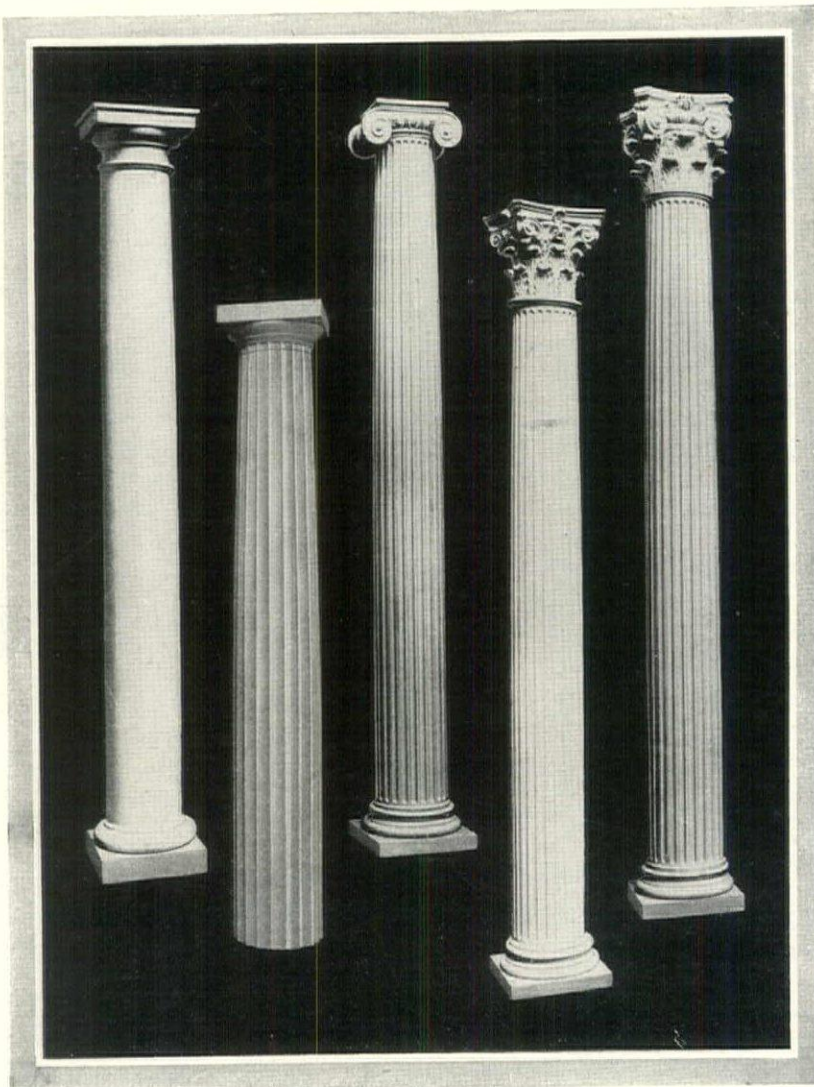
Rest House, Heston Aerodrome, Middlesex, designed by L. Magnus Austin. Flat roofs provide terraces from which flying can be viewed. From "The Architects' Journal," London, August 7, 1929



The enduring charm of Koll Lock-Joint Columns

Many buildings are given a touch of classic elegance by the happy use of a few stately columns. You have seen columns, how-

ever, that just missed giving this pleasing effect. Hartmann-Sanders craftsmen, long schooled in the art of creating fine columns, lend not only correctness and artistry to every detail, but also outstanding superiority in these eight important features:



1. Koll lock-joint columns *cannot* come apart.
2. Not a knot in ten thousand Koll columns.
3. Correctly proportioned, according to the five orders of architecture.
4. Also made to architect's detail.
5. Asphaltum paint water-proofing inside all large columns.
6. Ventilated plinths, wood or cast iron, the latter recommended.
7. Staves same thickness full length of shaft, for maximum carrying strength.
8. Workmanship and lasting qualities fully guaranteed.

These Booklets Gladly Sent

Hartmann-Sanders has just published two interesting booklets, illustrating a notable group of columns and entrances. Architects and builders are invited to write for the booklets numbers 53 and 48. No charge. Hartmann-Sanders Co., Factory and Showroom: 2154 Elston Ave., Chicago. Eastern Office and Showroom: Dept. W, 6 East 39th St., New York City.



HARTMANN - SANDERS

KOLL COLUMNS - COLONIAL ENTRANCES - PERGOLAS
ROSE ARBORS - GARDEN EQUIPMENT



*A*MONG the many buildings in whose completion we have cooperated, we are proud to include the distinguished Fidelity Philadelphia Trust Company, Simon & Simon, Architects, for which we produced the lighting fixtures and check desks . . . In the execution of the beautiful in metal, marble and glass, we offer the architectural and decorative professions the benefit of our wide experience.



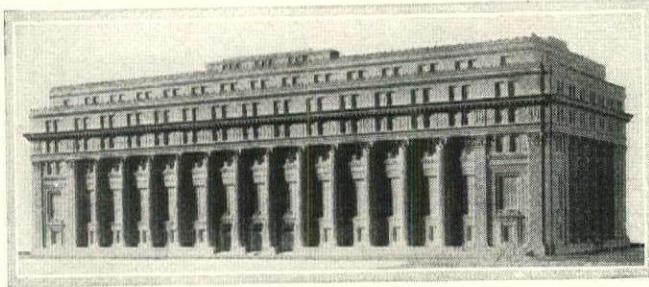
STERLING BRONZE
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18 East 40th Street, New York, N. Y.

JAPAN

Comes to America

for 3 Point Protection

in Bank Vault Construction . .



Mitsu Bank, Tokio, Japan Trowbridge & Livingston, Architects, New York, N. Y.
James Stewart Company, Inc., Contractors, New York, N. Y.

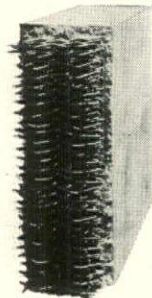
SINCE 1921—when Consulting Architects of the Federal Reserve Board specified Steelcrete construction for the world's largest vault—the eyes of the banking interests have looked favorably on 3 Point Protection. It was chosen by Reserve Banks and Branches throughout the country—then by commercial institutions both large and small—and now by foreign capital! For Steelcrete Vaults are being built into the magnificent new Mitsu Bank, Tokio, Japan.

Thorough and impartial investigation invariably leads to Steelcrete. Let us send you Certified Endorsements from Bankers and their Consulting Architects.



THE CONSOLIDATED EXPANDED METAL COMPANIES
Steelcrete Building, Wheeling, West Virginia
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OTHER STEELCRETE PRODUCTS FOR SAFETY—FRAME BAR and Industrial Mesh for Window Guards . . . Industrial Mesh for Safety Guards and Partitions . . . Metal Lath . . . Expanded Metal Concrete Reinforcement



Protected

Around this dense skeleton of interlocking, Steelcrete expanded strands, Concrete is embedded. There are no weak points—the corners of walls meeting floor and roof are as impenetrable as the vault door itself!

AGAINST



DRILL



CUTTING FLAME



EXPLOSIVES

Underwater Lighting

(Continued from page 61)

The second is that they shall be mounted so as to produce the most intense illumination in the upper strata of the water where most of the swimming takes place. This utilizes the light most efficiently, produces the most beautiful effect and is generally considered the best by

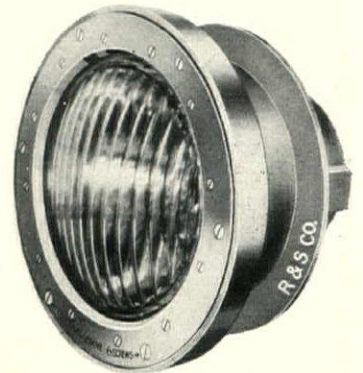


Removable type for use when the unit is recessed in a metal box

both the swimmer and the gallery. Sufficient light penetrates by diffusion and reflection to the deepest water.

The third is that most of the lighting units shall be placed in the walls on each side. A few also at the deep end are desirable if carefully placed under engineering supervision. The side wall units should be mounted directly opposite one another to produce the most uniform distribution of light. In this way, the illumination from each fixture complements that from the one opposite, thus eliminating streakiness.

The fourth is that approximately 30 lumens of light flux should be generated for each square foot of pool area involved. This produces an intensity of light which gives good effect in pool water of average clarity. Greater intensities increase the effectiveness of the system, enhancing each of its characteristics. With the ordinary types of incandescent lamps advocated for this service, approximately two watts per square foot will be required.



Type of projector that is used when cast in concrete wall of pool

A standard scheme of lighting has been developed and with it excellent results are assured in all cases where the water is clear. Deviations from this so-called standard lighting plan may be made in some instances

without greatly reducing the effectiveness of the system. On the other hand, practices other than standard should be followed with care as there is some danger that the desired effect may not be obtained. While the art is young, the need for capable and experienced engineering in making installations is paramount.

A swimming pool 75 ft. long by 25 ft. wide has been used as an example. Such a pool is ordinarily constructed with a 3 ft. depth of water in the shallow end, 6 ft. at the deep end and a maximum depth of 9 ft. at a point about 15 ft. from the deep end wall. Diagram No. 1 illustrates the application of these fundamental principles.

Each of the lighting units is indicated by a square. The number of units and location of each is based upon the use of standard 250 watt Mazda flood-lighting lamps in each and it is assumed (Continued on page 88)

INSTALLATIONS

OTIS SIGNAL CONTROL ELEVATORS

THE following is a list of Otis Signal Control Elevators as noted below.* Most of these installations are now completed.

- | | | |
|---|--|---|
| R. J. Reynolds Tobacco Co.,
Winston-Salem, N. C. | Merchants Nat'l Trust &
Savings Bank,
Los Angeles, Cal. | State Mutual Life Assurance Co.,
Worcester, Mass. |
| Stone & Webster Bldg.,
Boston, Mass. | Four-Fifty Sutter Bldg.,
San Francisco, Cal. | Baker Building,
Minneapolis, Minn. |
| R. I. Hospital Trust Building,
Providence, R. I. | Confederation Building,
Ottawa, Ont., Canada | Roanoke Building,
Minneapolis, Minn. |
| Allegheny County Office Bldg.,
Pittsburgh, Pa. | Canada Permanent
Mortgage Corp.,
Toronto, Ont., Canada | Foshay Tower,
Minneapolis, Minn. |
| Starks Building,
Louisville, Ky. | Mercantile Library Building,
Cincinnati, Ohio | Pittsfield Building,
Chicago |
| Daily News Building,
Chicago | Post-Dispatch Building,
Houston, Texas | Mayo Clinic,
Rochester, Minn. |
| Borland Building,
Chicago | Second Nat'l Bank Bldg.,
Houston, Texas | MacChesney-Rubens-Wolbach
Building,
Chicago |
| Rand Building,
Minneapolis, Minn. | Southwestern Bell Tel. Co.,
Dallas, Texas | Medical Arts Building,
Houston, Texas |
| Cincinnati Enquirer,
Cincinnati, Ohio | Eaton Tower,
Detroit, Mich. | Petroleum Building,
Houston, Texas |
| Niels Esperson Building,
Houston, Texas | Continental Life Ins. Co.,
St. Louis, Mo. | Nix Building,
San Antonio, Tex. |
| Exchange National Bank,
Tulsa, Okla. | New Amsterdam Casualty Co.,
New York | Manhattan Life Ins. Bldg.,
New York |
| Smith-Young-Tower Bldg.,
San Antonio, Texas | Mountain States Telephone
& Telegraph Co.,
Denver, Colo. | Ohrstrom Building,
New York |
| American Bank Building,
New Orleans, La. | First National Bank,
Philadelphia, Pa. | Medical Arts Building,
Omaha, Nebr. |
| Alamo National Bank,
San Antonio, Texas | Barnett National Bank,
Jacksonville, Fla. | Continental Oil Building,
Denver, Colo. |
| Book Tower Building,
Detroit, Mich. | Merchants Nat'l. Bank Bldg.,
Mobile, Ala. | E. I. du Pont Building,
Wilmington, Del. |
| Maccabees' Building,
Detroit, Mich. | Calvert Building,
Baltimore, Md. | E. I. du Pont Corp.,
Wilmington, Del. |
| Standard Oil Building,
New York | Equitable Building,
Baltimore, Md. | J. J. Greenberg,
(Office and Garage Bldg.)
Philadelphia, Pa. |
| 10 East 40th Street Bldg.,
New York | Continental Trust Co.,
Baltimore, Md. | Board of Trade Building,
Los Angeles, Cal. |
| Central Union Trust Co.,
New York | Mutual Building,
Richmond, Va. | Public Utilities Building,
Portland, Oregon |
| Public Ledger Building,
Philadelphia, Pa. | First National Bank,
Charlotte, N. C. | 1411 Fourth Ave. Building,
Seattle, Wash. |
| Public Ledger Addition,
Philadelphia, Pa. | Franklin Square Building,
Washington, D. C. | Star Building,
Toronto, Ont., Canada |
| Lewis Building,
Philadelphia, Pa. | Onondaga Office Building,
Syracuse, N. Y. | Medical-Dental Building,
Vancouver, B. C. |
| Camden County Court House,
Camden, N. J. | | Gran Via Building,
Compania Telefonica
Nacional de Espana,
Madrid, Spain |
| Haddon Hall,
Atlantic City, N. J. | | |
| Hunter-Dulin Building,
San Francisco, Cal. | | |

**This list contains only installations having four, five or six Otis Signal Control Elevators. Fifty-six buildings having more than six of this type elevator were listed in a previous advertisement. There are forty-three additional buildings containing less than four Otis Signal Control Elevators each.*



OTIS ELEVATOR COMPANY
OFFICES IN ALL PRINCIPAL CITIES OF THE WORLD

Wall-Tex users enthusiastically recommend this fabric to their friends—Wall-Tex durable wall covering



HERE'S beauty that will please your clients and make you proud of your work. Here's durability and economy that mean more contracts for you. Here's a range of patterns and colors that meet every wall requirement. These qualities protect your reputation because Wall-Tex users enthusiastically recommend this fabric to their friends.

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Dept. C-10-29, Columbus, Ohio

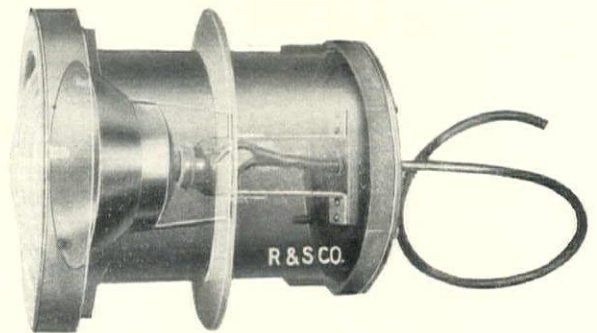


Underwater Lighting

(Continued from page 84)

that the unit will be so designed that the light beam produced will be the shape of a fan of light with a horizontal spread of approximately 45 degrees and with fairly narrow vertical divergence of about 15 degrees. It is ordinarily suggested that the units located in the deep end wall be arranged on a separate electrical circuit so that they may be controlled independently. This introduces a desirable flexibility in the system.

The maintenance of any lighting system is of great importance. Renewal of burned out lamps must be simple. Cleaning and repair of units must require a minimum of



A projector unit designed for servicing from back of wall

labor and inconvenience. It is in this respect that the various lighting fixtures and methods of installing them differ the most.

The design of the pool and the arrangements for operating it will largely determine which is the most practicable type of installation. The mounting of the units in recesses in the walls is suitable for all types of pools now in use and this arrangement is therefore the most highly recommended.

The simplest type of installation involves the use of a water tight metal box type unit moulded in the concrete of the wall when it is poured. These are arranged with removable front doors; to be serviced, the pool is drained to a level below the bottom of the fixtures.

Next in order of simplicity is the unit arranged with an opening at the back of the pool wall so that relamping and servicing is readily carried out without lowering the water level. Such units require the pool walls to be of the free standing type. With them, cleaning of lenses is generally done while the pool is drained.

THE third and perhaps most universal system involves fixtures located in niches or recesses in the wall and equipped with a length of water-tight flexible cable so that the unit may be drawn forward out of its niche and up above the surface of the water for servicing. Such an installation is suitable for all pools regardless of their design or system of operation. The walls may be of the free standing type or may be built in the ground and the problem of waterproofing flushglass plates or metal boxes piercing the wall is not involved. Also, of course, the pool need not be drained for renewal of lamps, for cleaning of fixtures or for changing of lenses. This method is illustrated in Diagram No. 2.

With the niche type of installation in a tile pool, it is generally best to line (Continued on page 92)



ILLINOIS HEATING SYSTEMS



(AT RIGHT)

STEBUEN CLUB

K. M. Vitzthum & Co. Inc.

Architects

E. B. Kaiser

Heating Contractors

(AT LEFT)

WILLOUGHBY TOWER

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“—in America’s finest buildings” is further evinced by these two majestic structures recently erected in Chicago—both equipped with ILLINOIS HEATING SYSTEMS.

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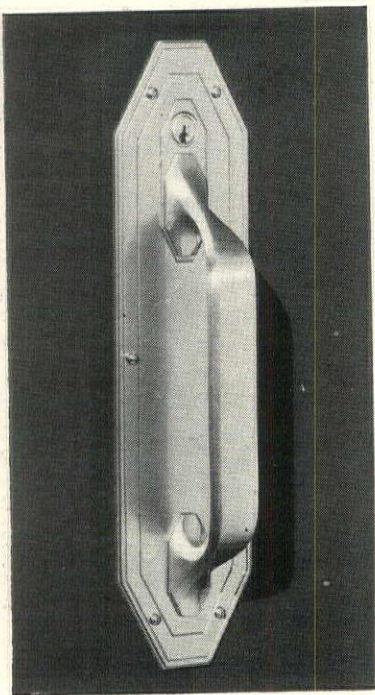
BRANCHES AND REPRESENTATIVES IN 40 CITIES

CHICAGO



*The Union Trust Building,
Detroit; Smith, Hinchman &
Grylls; Donaldson & Meier,
Architects*

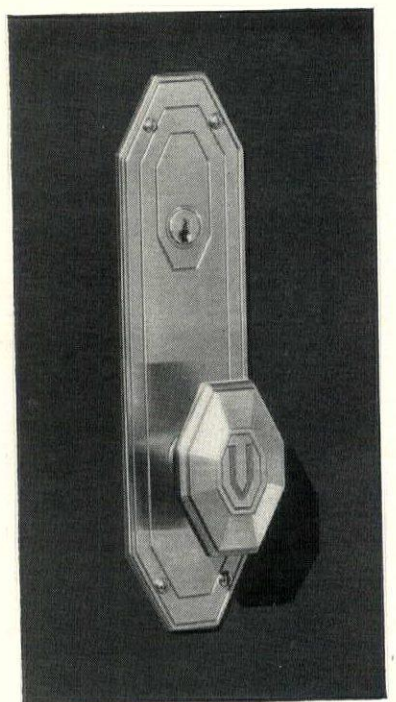
SARGENT CRAFTSMANSHIP



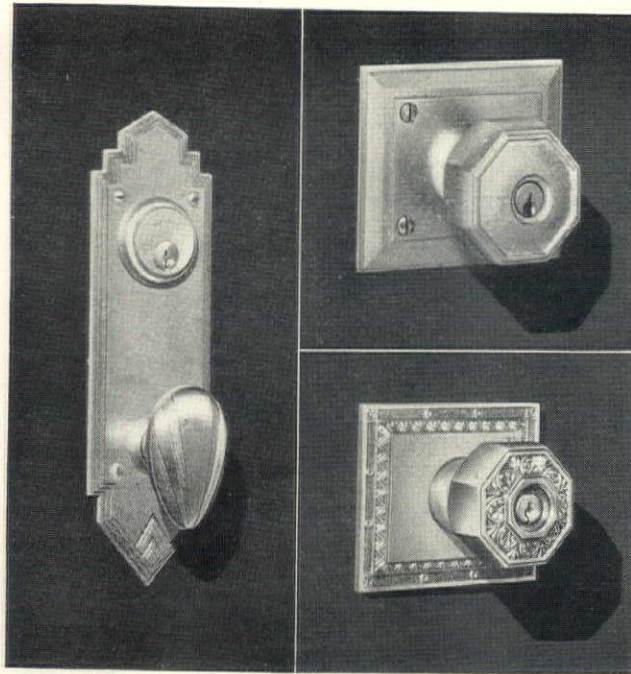
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Sargent produces hardware designs
characteristic of today's major
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SARGENT HARDWARE adds distinction to every building in which it is installed. Many of the most notable of recently completed commercial structures are thus equipped, either in specially constructed, proprietary designs, or in appropriate standard designs.

*Door Handle, at left, and Door Knob with
Escutcheon, at right, created in a proprietary
design to meet the exacting needs of the Union
Trust Building*



*Door Knob No. 1822ME
Escutcheon 7876ME*



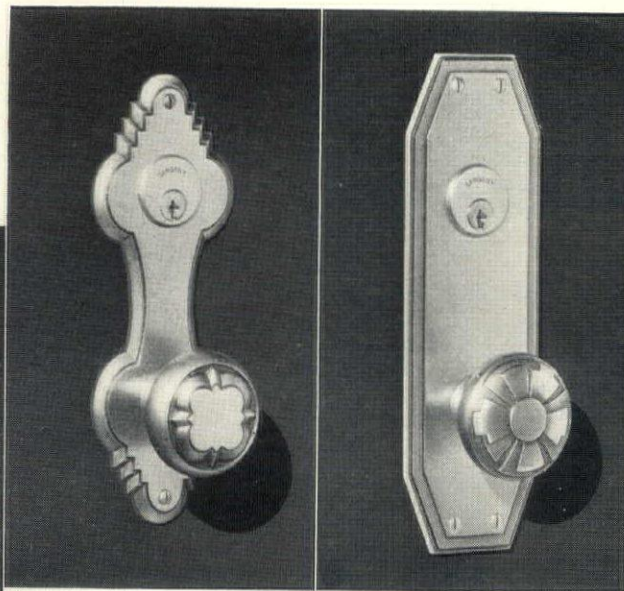
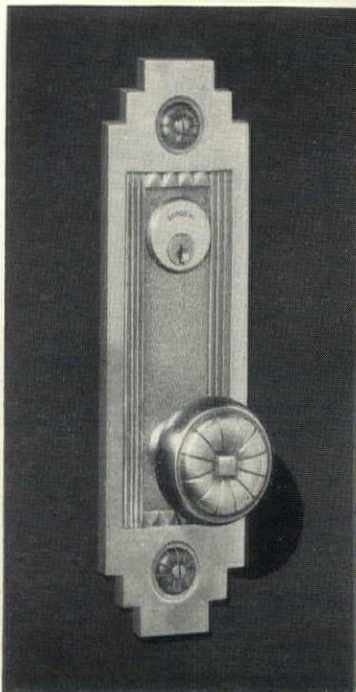
Union Lockset — Knob No. 9805½MP, without demountable feature; No. 19805½MP, with demountable knob and exchangeable cylinder.

Union Lockset — Knob No. 9805½MT, without demountable feature; No. 19805½MT, with demountable knob and exchangeable cylinder.

SOME of the newest Sargent offerings are illustrated on this page. They express the modern trend in building decoration. White bronze with a silvery tone. The cool sheen of chromium plating. The rich beauty of antique bronze. Each piece maintains the Sargent traditions of fine machining and durability. Each is an example of the highest form of hardware craftsmanship.

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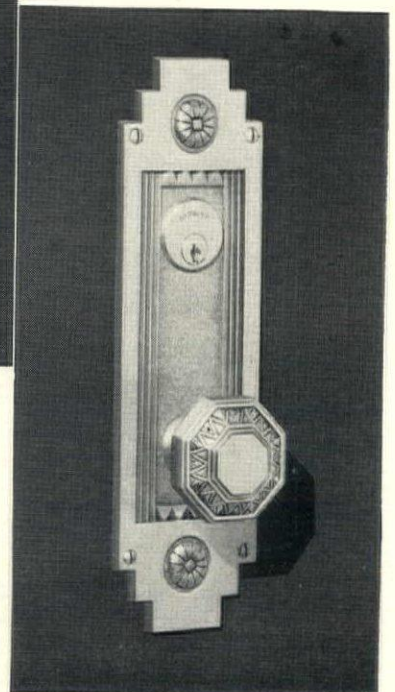
*Door Knob No. 1822MD
Escutcheon 7876MD*



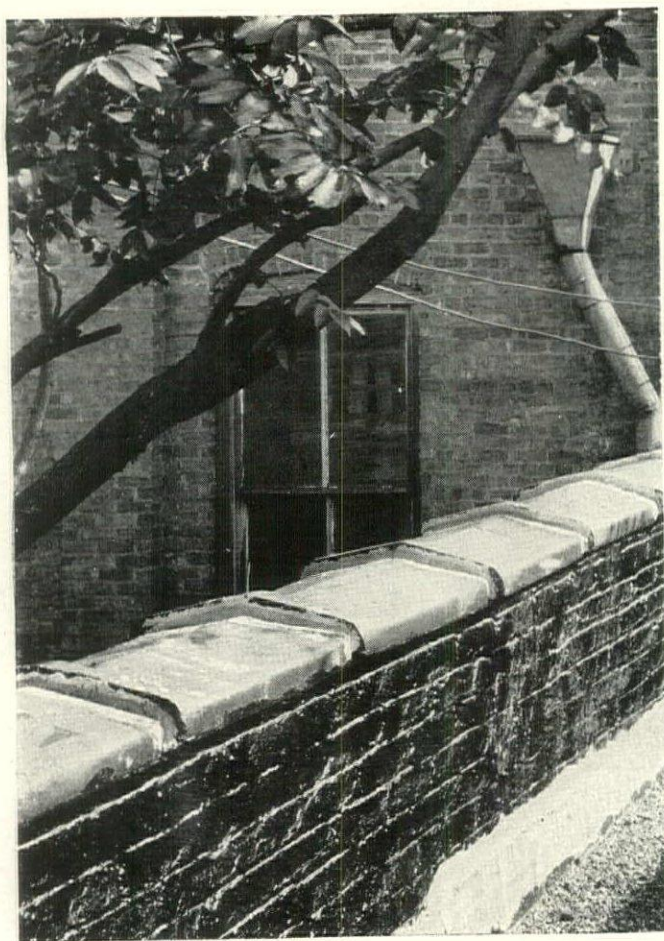
*Door Knob No. 1822MS
Escutcheon 7876MS*

*Door Knob No. 1822MH
Escutcheon 7876MH*

*Door Knob No. 1882MD
Escutcheon 7876MD*



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CLAY PRODUCTS ASSOCIATION
CONWAY BUILDING
Chicago

VITRIFIED *Salt Glazed* CLAY
Wall Coping

AA-10-Gray

Underwater Lighting

(Continued from page 88)

the recess with a metal or tile box large enough to receive the unit and designed with suitable flanges around the front opening to facilitate the cementing of the tile. In a concrete pool such a box is not required and the units may be arranged to rest on the concrete of the niche itself or on metal runners prepared to receive them. Either arrangement is permissible at the discretion of the designer or builder.

COLOR in pool lighting is a critical science and should be used only after the most careful study lest it be inadequate and of little value. Several colors may be obtained, however, in standard lenses for the fixtures available. A variety of diffusing and diffracting lenses are similarly procurable so that the light may be thrown down, up or dispersed as the special conditions of the pool require. The Aqualux type of unit, for instance, accommodates the regular 8 $\frac{3}{8}$ in. railway and traffic signal glasses which are supplied in several colors and optical designs. The application of such special devices, however, has not yet been adequately studied and, consequently, has not been thoroughly discussed here.

The new lighting system, being a tremendous advance over the old, promises to develop renewed interest in the wholesome sport of swimming. It is particularly fitting that lighting engineers should present this product of their research now when most of the other adjuncts of the modern swimming pool have been brought to the present high state of perfection.

Study Building Economics

(Continued from page 29)

of architects, engineers, lawyers and economists to formulate a sound and successful building program.

Provision must be made, along with satisfactory conditions pertaining to the ground title, for paying for the construction of the building, the architects' and engineers' fees, insurance, tenant changes, extras and contingencies, renting campaign and the carrying charges and operating expenses for at least one year after the completion of the building.

A MORTIZATION should not be provided for at least four or five years after completion, so as to afford an opportunity for the building to become normally productive. It should be based on a low rate, to be increased if possible by a sinking fund arrangement.

The financial budget is one of the most important elements of building economics and, if correctly made, will prove a potent factor in attaining a successful conclusion of the project.

The renting campaign is the factor which actuates the production of rental income. It is important to make the proper selection of the renting organization which, like the investment bankers' organization, consists of a competent personnel. The campaign is based on a correct schedule of rates which is formulated with a due consideration for the type of the building, its location, class of tenancy and the contingencies of competition by other buildings.

(Continued on page 96)

STORE FRONTS

BY

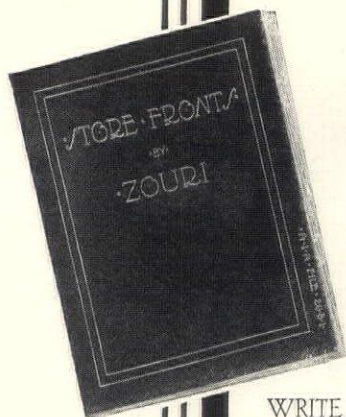
ZOURI

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Electrolytic Finishes
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CATALOG

Zouri Drawn Metals Company

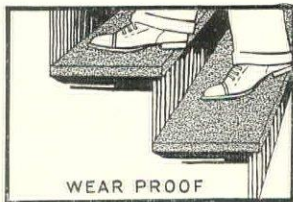
AND ASSOCIATED COMPANIES:

INTERNATIONAL

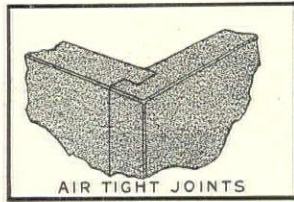
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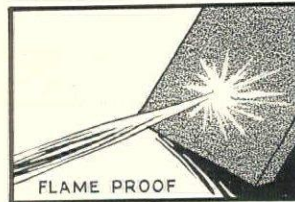
Factory and General Offices: Chicago Heights, Illinois



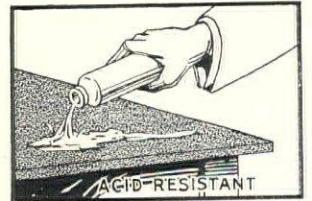
WEAR PROOF



AIR TIGHT JOINTS



FLAME PROOF



ACID-RESISTANT

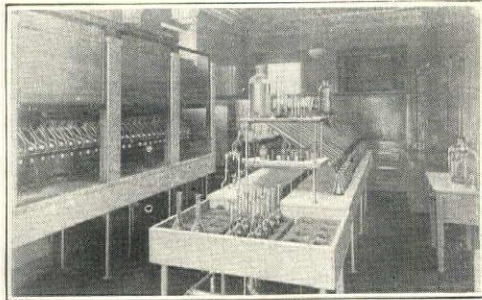
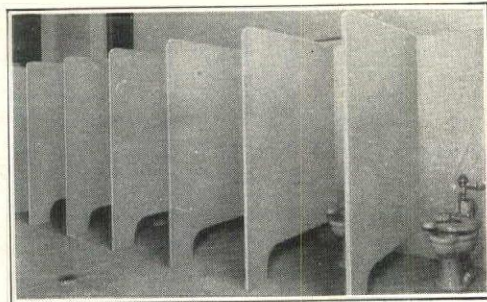


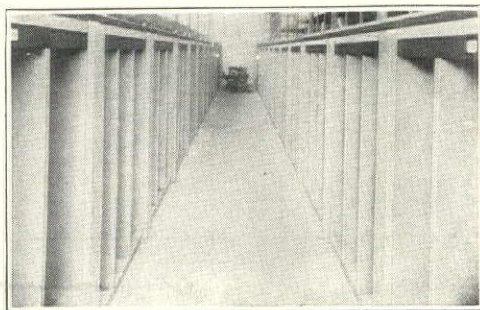
Table-Tops, Sinks and Hoods of Alberene Stone



Toilet Partitions of Alberene Stone



Treads and Landings of Alberene Stone



Electrical Compartments of Alberene Stone

Serving Industry Efficiently in *Many* Different Ways

INDUSTRY has found many uses for quarried Alberene Stone because of its inherent diversified properties. Where sanitation, acid resistance, durability and compactness are required, Alberene is chosen on its record of performance.

Technicians consider Alberene the standard material for laboratory table tops, sinks and fume hoods, and it has been used in practically every important laboratory built in the past 20 years.

Architects specify Alberene for sanitary work, such as toilet partitions and shower compartments, with absolute assurance that their clients will have installations that will give perfect satisfaction and be free from upkeep-costs.

The high dielectric strength of Alberene, its economy, and the flexibility of construction its use makes possible, has brought about a change in the design and erection of compartments in sub-stations and the use of Alberene is increasing tremendously.

Stair treads and landings of Alberene Stone are safe whether wet or dry because of the natural abrasiveness of the stone, and this same quality assures durability.

Tanks, vats and other fixtures that must resist acid, moisture and heat, such as those used in dyeing and bleaching processes are constructed of Alberene because it enables them to stand up under 24 hour service, where a less durable material would fail and interfere with production schedules.

Bulletins are available covering these and other major industrial uses of Alberene Stone and the Company thru its Service Department will gladly supply detailed information covering any application of the material.

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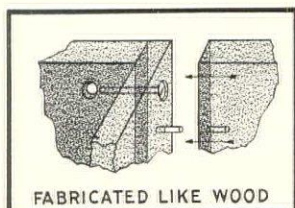
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Chicago Boston Cleveland Pittsburgh Newark, N. J.
Philadelphia Richmond Rochester Washington, D. C.

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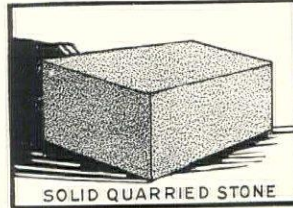
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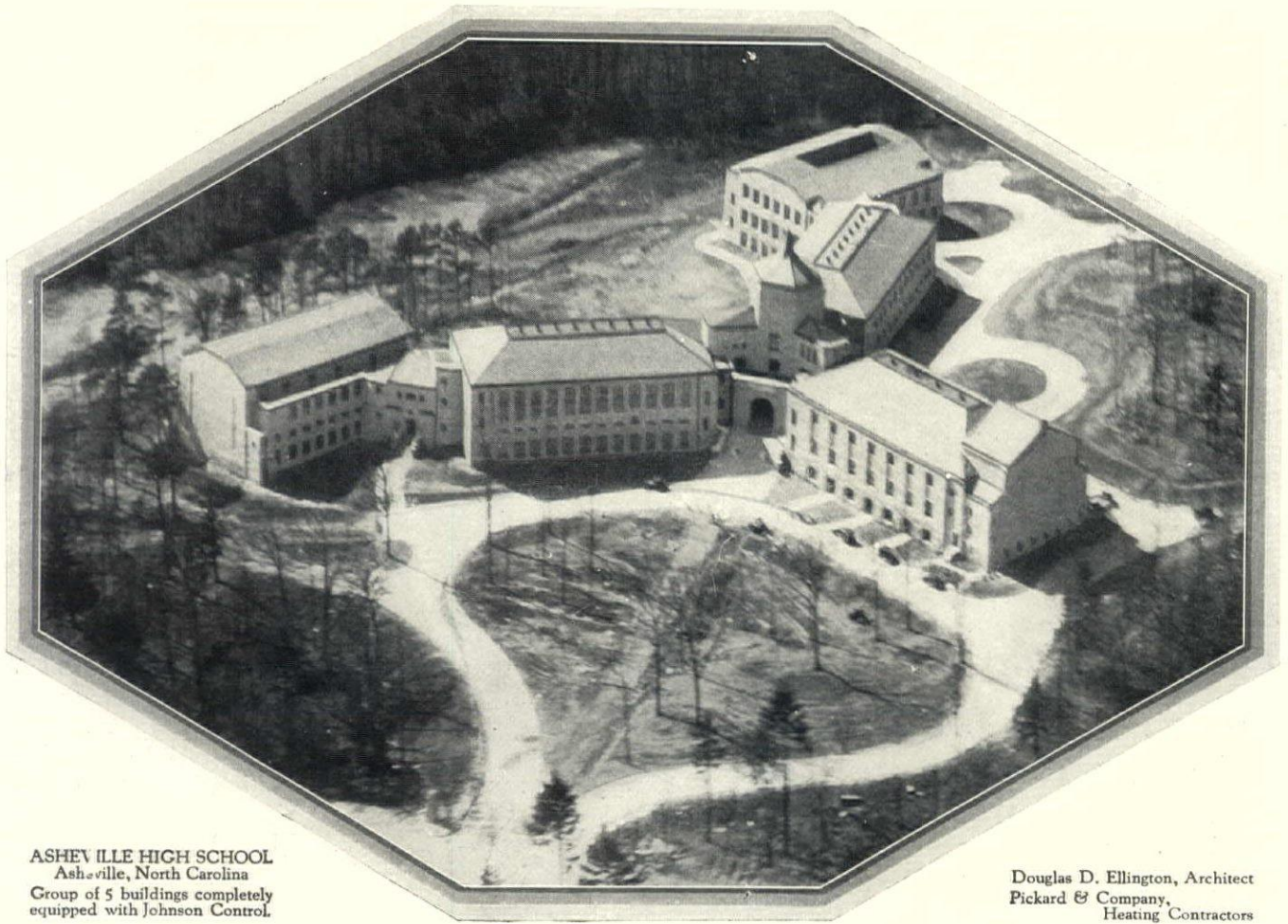
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 Group of 5 buildings completely
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ASHEVILLE HIGH SCHOOL ANOTHER JOHNSON EXAMPLE

The group of five buildings of Asheville High School are completely equipped with Johnson Temperature Control. Remote Electro-Pneumatic control of steam shut-off valves and vent dampers from the school's Power Plant is also used.

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The Johnson System applies to every form, plan and system of heating and ventilating. Write now for the interesting Johnson literature.

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The All Metal System: The All Perfect Graduated Control Of Valves & Dampers. The Dual Thermostat (Night and Day) Regulation: Fuel Saving 25 to 40 Per Cent.

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Looking down Park Avenue, New York City.
The tower of the Grand Central Building
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Leading Soundproofing On Park Avenue

It is estimated that 60 percent, at least, of all soundproofing in the magnificent buildings built during the last 8 years on Park Avenue, New York, is Cabot's Quilt. This means, of course, that Quilt is the leading soundproofing insulation there, and that Quilt has been used more often than all other competitive materials combined.

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Gentlemen: Please send me your QUILT BOOK.
(Write your name and address in the margin below)

Study Building Economics

(Continued from page 92)

The grading of the schedule is a highly technical matter for which, however, certain standards have been evolved. The forms of leases, tax increase participation, discounts for large areas, ground floor and concession rentals, spreading the location of tenants, staggering the dates of lease expirations and many other conditions are controlled by the renting organization and affect the earning capacity of the building.

BUILDING management and operation is that element of building economics which is purely personal in its nature. It is the direct contact with the sources of revenue—the tenant—and of operation. The best investment bankers today give careful consideration to the management of the property, realizing that competent management is essential to the success of the project. Upon management not only depends the initiation of profitable existence but also the preservation and maintenance of costly structures. Building management is a profession which in its diversity of activities and technical knowledge is comparable with specialized technical professions.

In many instances the building manager rents the space and attends to the details of tenants' leases. Usually he attends to matters of taxation, insurance, operation and maintenance. He is the responsible custodian of the property in its financial and physical aspects. Management and operation are quite different in that management is related to the sources of income, taxation and insurance while operation embraces the various details of heat, light, water, sanitation, elevator transportation and cleaning services which involve the purchasing of supplies and fuel and also the employment of the operating personnel.

THE building manager should be in contact with the building project from its inception and his inclusion along with the other factors integrates building economics.

Building economics is the insurance of a profitable building project and is the antithesis of blind, egotistical assumptions or ignorance. Like every other science it is capable of analyzation and demonstration with no dependence upon luck or intuition. It embraces five component elements, each and all essential in their influence and disregarding one may endanger the success of the undertaking. It is not a question of the relative importance of the elements but the essentialness of each one of them to building economics.

New Materials and Equipment

(Continued from page 74)


Electric Cooking Range


A high speed cooking range for household use has been announced by the Detroit Edison Company, Detroit, Mich., which it is stated will sell for about one-half the present price of equipment of comparable size and finish. There will be no exterior bolts or nuts and no protruding front legs. Oven is insulated and comes to cooking temperature in five minutes. Both reflected and convected heat are utilized, with thermostatic control.


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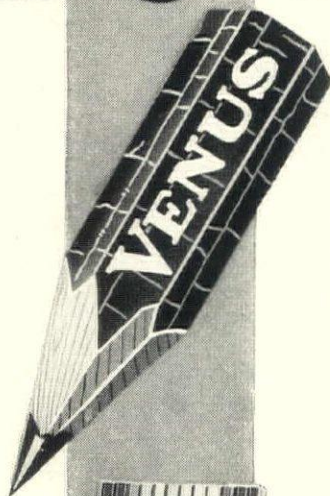
Send \$1.00 for sample box of a dozen assorted styles

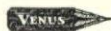



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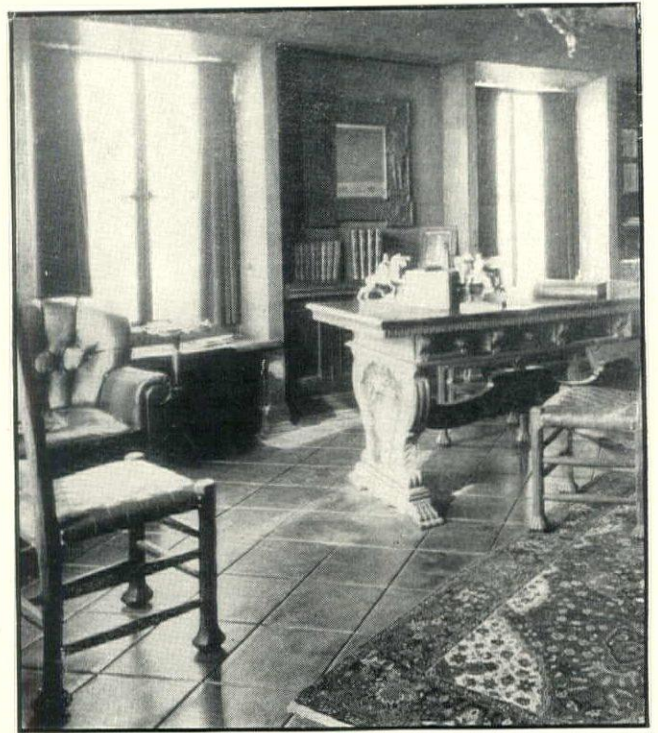
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The SELLING VALUE

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In this bedroom, the concrete floor is overlaid with cork floor tile. There will never be any creaking floor here!

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IMMEDIATE interest is displayed by the prospective home buyer when you show him a house with a concrete floor. He feels that such a house *must* be well built. He likes the idea of greater safety from fire. He will, undoubtedly, be willing to pay more for a good house with trouble-proof concrete floors.

The finest apartment houses, hotels, and large homes have concrete floors.

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Concrete floors are rigid and strong, reducing vibration caused by heavy traffic on streets nearby, or by the romping of children within the

house. They will help to prevent settlement of interior partitions, sagging doors, and plaster cracking. Concrete floors retain the warmth of daylight hours during cold nights, and remain cool on a hot summer day.

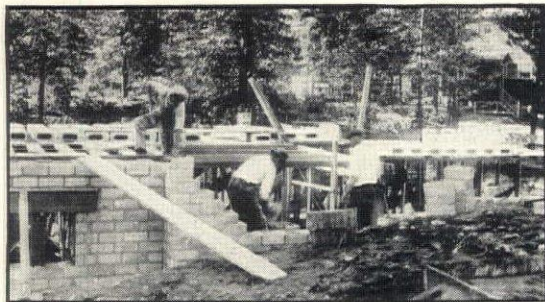
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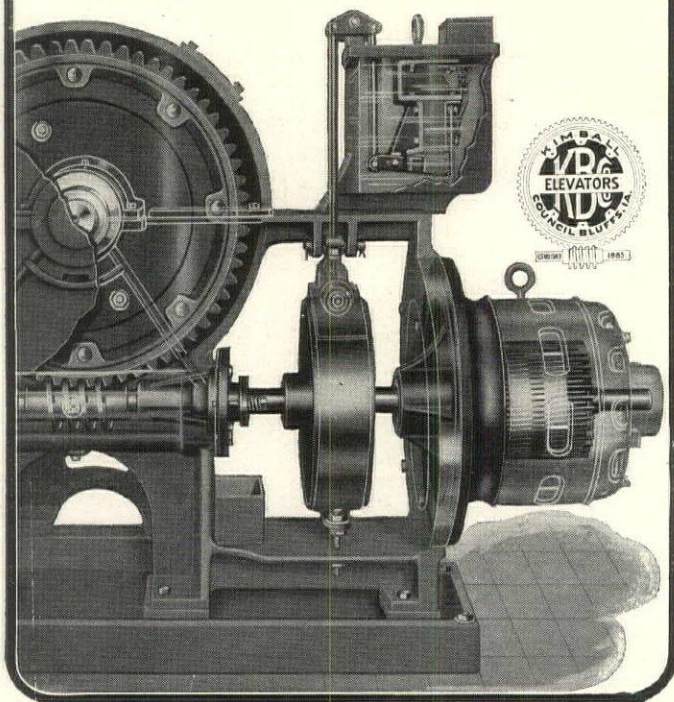
*Write for literature on the
Kimball Straight Line Drive Machine.*

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7-29



World's Largest Hotel for New York

THE new Waldorf Astoria, forty-six stories high, will be the world's largest hotel structure. It will be located at Park Avenue and Forty-ninth Street, occupying the entire block. The estimated cost, including land and furnishings, is placed at \$40,000,000.

The architects are Schultze and Weaver, the builders the Thompson, Starrett Company. Owners are the Hotel Waldorf Astoria Corporation, of which Lucius Boomer is president. He was also president of the old Waldorf.

The illustration above shows, in addition to the architect's drawing of the new Waldorf, the many set-back buildings which have been erected recently. Contrasted with the older structures, they indicate how the zoning laws have brought into existence an entirely new type of design made necessary by that legislation. Architects have been forced out of old ways of thinking into new mental processes that have enriched the city's architecture and marked the beginning of a new type of design.