THE AMERICAN ARCHITECT AND THE ARCHITECTURAL REVIEW

AN ARTICLE BY IRVING K. POND, PAST PRESIDENT, A. I. A. ❦ AN ARCHITECTURAL PILGRIMAGE TO MEXICO, BY ALFRED C. BOSSOM, F. R. I. B. A. CONTINUATION OF A SERIES BY H. VAN BUREN MAGONIGLE, F. A. I. A. A MODERN ICE MAKING BUILDING ❦ DEVELOPING AN AMERICAN STYLE IN INTERIOR DESIGN ❦ AWARDS, BEAUX-ARTS INSTITUTE OF DESIGN

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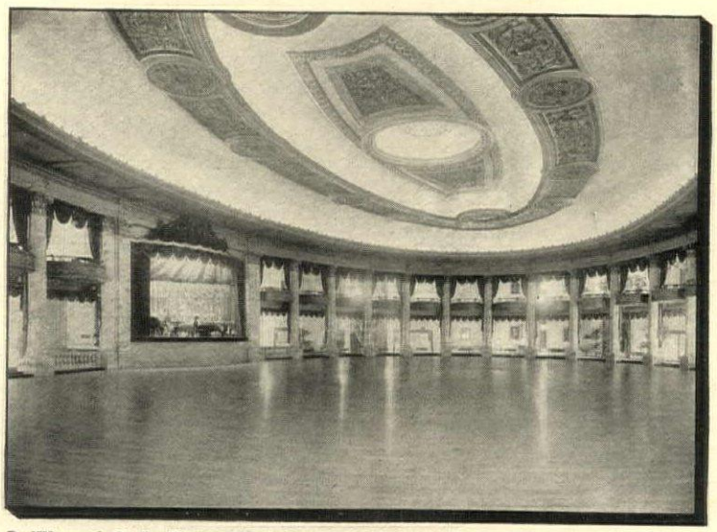

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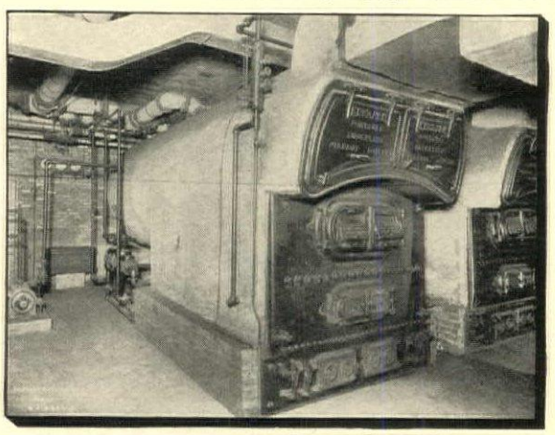

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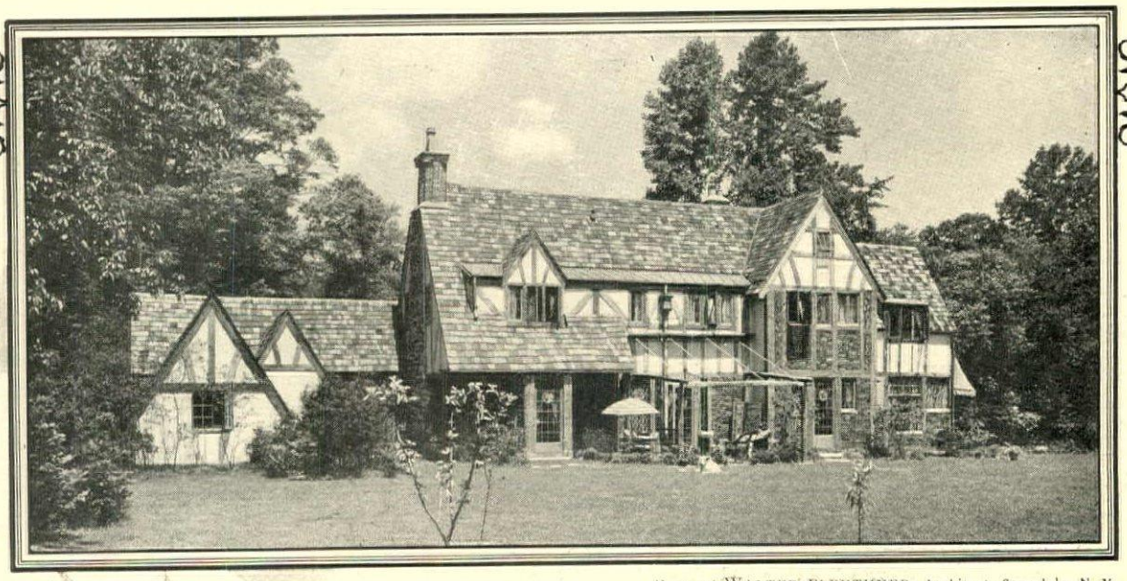

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THE ARCHITECTURAL REVIEW

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STREET SCENE, ZACATECAS, MEXICO

(From "An Architectural Pilgrimage in Old Mexico")

THE AMERICAN ARCHITECT
The ARCHITECTURAL REVIEW

VOL. CXXV WEDNESDAY, APRIL 9, 1924 NUMBER 2443

THE ARCHITECT

BY IRVING K. POND, F. A. I. A.

THIS essay deals with the genesis and professional unfolding of the architect as distinct from the other specimen of the *genus homo* who devotes himself to building and construction as a means of furthering the cause of civilization, of ameliorating physical conditions, and making living easier and safer; as distinct, also, from those pleasing though less vigorous beings who devote themselves to making pretty the structures which others have been at pains to erect. The architect—the subject of this essay—is not an evolution from either of these two types; he is not the offspring of a marriage between them; between the practical and the aesthetic. He is a distinct entity having his own genesis and his own development.

IRVING K. POND, F.A.I.A.
PAST PRESIDENT OF THE AMERICAN INSTITUTE OF ARCHITECTS

In order to appreciate just how distinct and *sui-generis* he is, it is well to go away back into the past, away back to "the dear dead days that are gone beyond recall," and view mankind in the primitive period before a social order had evolved out of the necessities of individuals who were battling individually and at awful odds against fear and dread and the awesome forces of nature, seen and unseen; against the inclement elements and the rapacious beasts of earth, air, and the slimy ooze, including those of their own race and kind.

It is not invidious to draw a distinction between classes of mankind. They exist naturally in the order of things, just as male and female exist, and are necessary to the perfect whole. So the architect appears in this essay, and in the order of nature, not as *better* than others who function in another manner but simply as different. There is nothing derogatory to the engineer or to the decorator in this exposition of the genesis and development of the architect. To which class an individual might care to belong is altogether a matter of personal preference; while it is competent for the individual alone to determine as to whether he considers his choice the best.

It will be needless, for the purposes of this exposition, to go back more than some twenty to forty thousand years in the span of human development—needless to go further back than to the earlier times of the cave dwellers. What a life! The cave man, a powerful, animalistic,

primitive creature, sallied forth from his cave, and with his gnarled stick struck down the ferocious Ichthyosaurus, or Plesiosaurus, or Hypothenuse, and dragged it to his cave where he gnawed in isolation and at leisure the raw flesh from the broken bones. But in order to be unmolested during the progress of this delectable function our cave man must needs close the entrance to his cavernous retreat with huge stones. Thus he provided against intrusion upon his meal by relatives or friends of his own or of the provender. It was enough for this particular—or, more properly, this especial—cave man that the barricade be strong and capable of withstanding assault from without. The stones must be large and heavy and were selected without regard to form or appearance. Function was the main thing with this type of cave man; form mattered little. You see "form followed function" even in those days; that is, function was primary—form was secondary, with this especial cave man, who represented the great majority. This was so with regard to his habitation—it was so even with regard to his wife.

Our cave man, tired, with his strenuous hunting, killing and dragging in of food, not to say the irksome removal and replacing of the stony barricade, needed some other of his kind to tear the carcass asunder and lay it before him on the rocky floor of his cave. So he sought a wife, as no male would slavishly serve him. Again he sallied (quite appropriate this time—to sally) forth and pounced upon the first female of the species who happened in sight, knocked her down with his gnarled stick, and dragged her to his cave by the hair of her head. Thence on she was his dutiful wife. The man never regarded her form; he took, regardless of "form," the first female who appeared, and made her to "function" as his wife. So this particular man was not over-particular as regards form and the amenities. He was only particular to follow customs. In fact he set that custom of mob movement. He was first in establishing mob psychology.

Now this man stands as quite representative of the non-aesthetic type.

But in a nearby cave dwelt a man of the type from which architects are made. He, too, sought safety in a barricaded enclosure. He, too, walled up the mouth of his cave. He, however, selected the stones not only to function as a barricade but also to give him pleasure as he viewed the wall from without and within. He also dispatched his game with a bludgeon, but it was a rather pleasingly formed bludgeon more in the nature of a club. He carried the carcass to a cave, on the walls of which he had carven likenesses of the animals he went forth to hunt—the Ichthyosaurus, the Plesiosaurus, the Hypothenuse, and others. (You see geometry early got into the aesthetic as well as into the engineering game.) He daintily severed the parts and spitted them over a fire, which, though it took such expenditure of time and energy to make, was in itself a beautiful as well as a useful thing. He, too, sought a wife—and he, too, sallied forth. But he did not knock down with his club the first fat female he met; he sized them all up from the dainty French heel to the becoming coiffure crowning a winsome head with a face which was not besmudged with powder and rouge; and having made his inspection and selection he encircled the lithe figure of his choice with his powerful arms and carried her easily to his cave and set her up as queen of his realm. He helped her to prepare the feast.

Now there you behold the beginnings of the architect. He did not belittle the utility and the necessity of his barricade, his house wall, but he was not content to have it just a wall, it must be seemly. He recognized the necessity for a suitable weapon, but he was not content with one which was not at the same time a beautiful implement. He was not content to gorge himself and snore the resting time away; he carved emblems and symbols of the chase upon the walls of his cave—and spread rugs of skins over the floors. He was not satisfied just to gnaw the flesh from broken bones—he cooked the flesh and together the man and his wife served it and partook of it in dainty fashion—that is—dainty for a cave architect. Here was a particular man—an individualist—the type from which artists are made, men who produce real architecture—men who were selective in their tastes and not led astray by the mob spirit nor by self-imposed custom, nor by stale tradition.

Now this man was representative of the type of a rather small minority.

There was a larger number but still much in the general minority who appreciated in a way the efforts of our aesthetic cave men and looked upon them with favoring eye. Many of the smallest coterie gave pleasing form to their "safety first" walls, selecting and placing the stones according to their individual tastes and predilections. Several of this group became quite expert in designing and constructing their walls which had to be removed and reconstructed so many times before the barred doorway was invented; so that others with aesthetic and cultural leanings, but whose technical skill was more effective in the chase than in wall building, called upon those who had become proficient in the latter art to build or to assist in building their walls, exchanging for this service flesh or hides according to the needs or wants of the artist.

Up to this point it is quite apparent that the expert wall builder, the embryo architect of that far day, who gave his protecting walls character and individuality, and the stony units propor-

tion and pleasing arrangement, was a useful member of such society as existed; in fact it is easy to imagine that he was instrumental in the establishment of that early social order. When our cave architect was assisting the neighbor to build a pleasing and individual characteristic protection, that is, one embodying and interpreting the neighbor's individual characteristics, he was on the safe and sane ground of an advancing art. But when he lost, as he came to, his individualistic sympathies in a formulating of stale traditions his art was rudderless on a receding tide.

What with improved weapons, and the banding together of hunters and of warriors in groups, times became less stressful for the individual who wished to devote more of himself or all of himself to the arts, and our craftsman architect, in natural course, came frequently to be called upon to assist his less accomplished or more externally involved neighbor. With that he began to delegate the task of construction to his assistants, while he selected the stones, giving oral directions as to the setting and arrangement. Sometimes he scratched a sketch of an arrangement, with a charred stick, on a stone, or with a point on the sand—and with this he struck a new idea—a something, (shall we say?) easy. Now, no longer was it for him a selection and harmonious arrangement of the stones he found ready to hand; he made shapes up out of his own head (or some of them did) and had his assistants fashion the various units of the wall to meet the exigencies of his design (here the seeds of modern architecture were sown and here began the downfall of an art). This was apparently so easy that it presented a delightful field of occupation to certain ones possessed with an "artistic" temperament and certain others whose fond parents imagined them so possessed. All that was needed was a sharp stick and a level stretch of sand. (Analogous to the pencil point and the gum rubber of our modern drafting board.) At first a few really did invent new and conventional forms after they had tired of reproducing *ad nauseum* the old natural forms. Others took these newer conventions and played upon them and varied them in sweet and pretty manner imagining all the while that they were originating, that they were creating, that they were making forms up out of their own heads. (And perhaps they were—the forms certainly were commonplace and conventional enough to warrant the assumption.)

As the warriors had banded together and had become a class with a class consciousness—marching in ranks and files and obeying commands from above; and as the hunters had become a distinct and recognized group; and as the right hand of the earlier architect—the builders and masons—had organized and asserted their rights, (and loudly mouthed their supposed wrongs,) our cave architects, impelled to do the commonplace and conventional thing, banded together, formed a guild, and became class conscious. As the establishment of convention was the beginning, so was this creation of a class conscious group an end of architectural cave art (as it is likely to be the end of architectural art today); for art depends upon individual freedom and initiative and these are not acceptable in a convention ridden community. For a class cannot minister to the individual—a class must needs minister to a class; and to give that class something to minister to the class conscious architects established meretricious conventions and bade the building class to conform their individual ideas to these superimposed conventions. And the more firmly to impose these altogether extraneous conventions, the technically class conscious established schools of art and design where the patterns of architecture could be taught to striplings who thenceforth were in bonds. In order that the victim might swallow the more easily the pseudo-architectural dose, the schools based their design on details of various well known cave walls of an earlier day and applied these forms to the walls of compounds and buildings which, because of improved physical conditions, could be built in the open. Some symbol or semblance of the mouth of a cave always appeared even on walls out on the open plain. The architectural schools in cave dwelling times never kept pace with the advancing civilization; they lagged far—in fact, centuries—behind. With the authority of the schools in the ascendant there was no chance for the individual to contribute his share to the public or social advancement, or add any vital increment to artistic growth. In fact the class conscious guild of architects who had washed their hands of the contaminating soil of craftsmanship, proclaimed, and had made into the law of the land, that no person who had not succumbed to their ideas, manners, and modes of operation and design, should be permitted to design or to assist as an architectural principal in the erection of any sort of structure which had foundations, walls and a roof. Thus the cave architects had the *business* of architecture "sewed up" tight and the *art* of architecture strangled to the Queen's taste.

In his initial stage our cave architect had within him the embryo of a real architect; and in some of his descendants that embryo was developed. The real thing is easily recognized; it is easy to trace. It does not consist in "building beautifully." If it did, certain builders could claim to be architects. Any wall with uniform courses perfectly laid would come under the category of architecture. But it is not. In order to be architecture it must be imbued with rhythm, with variety, with unity, with harmony. A simple wall may hold these elements, which are spiritual,

and when it does the designer is an architect, a real architect, whether he has engaged in the physical process of construction or not. But if the wall out in the open bears upon its face a representation of the mouth of a cave, the semblance of a structure which is not intrinsic in the wall, the designer is a decorator merely and not an architect. (These principles are as valid today as they were twenty to forty thousand years ago.)

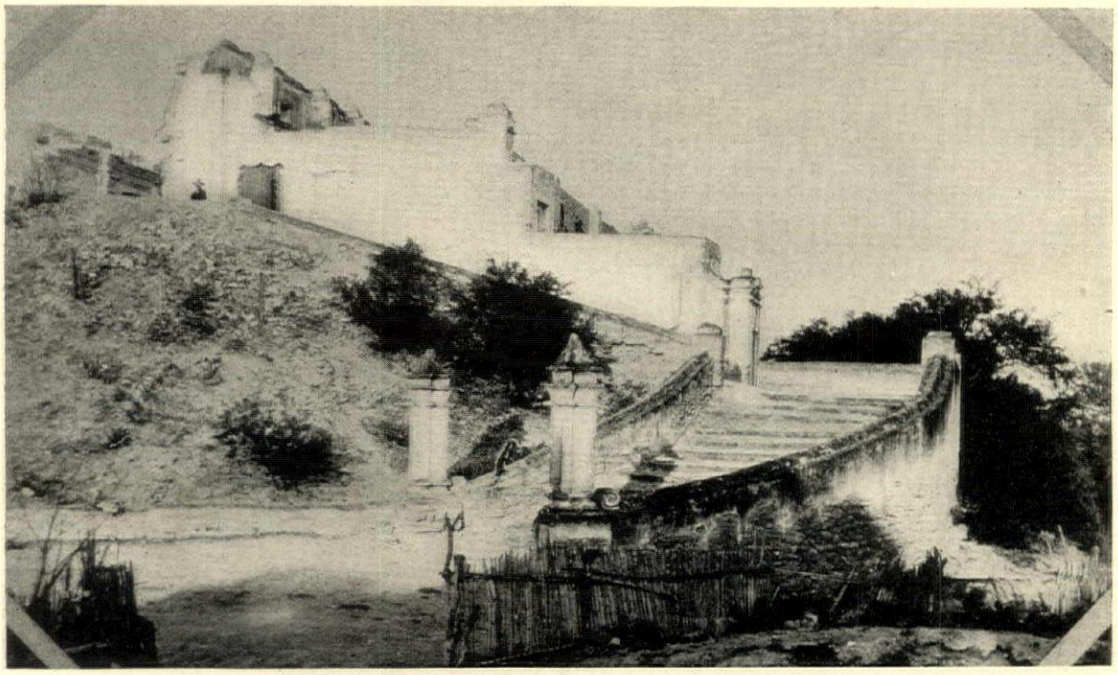
The architect, that is the real architect, may be pardoned for taking an exalted view of his profession as compared with the other two which have been mentioned herein. He feels that he has imbued the practicability of the engineering structure with a spirit of beauty, a thing which in general the engineer holds in slight esteem. He, the real architect, feels that he gives decoration a permanent spiritual body rather than conjures up an evanescent image as does the mere decorator. The real architect relates engineering and architecture through the structural principle; and architecture and decoration through the aesthetic principle. The cave architect let the architectural design of his interior slip from his fingers when he gave his entire time to sketching on the sands with a stick and left the sculptor-decorator to scratch figures on the walls of his cave. His successors of today are trying to regain lost prestige and once more make the interiors as thoroughly architectural as the exteriors; once more are they seeking to make the architectural character of interior and exterior harmonious and intrinsic in the structure. The tendency toward mere decoration, to over-elaboration is apparent in the modern architect, as it is apparent in the modern age, in which the tendency away from the natural, in the sense of the simple, toward the intricate and sophisticated is well marked.

We have become very sophisticated today; everything is pitched in a high key. We are in a state of tension physically and spiritually, and just to the extent and only to the extent that this is so, do we in any way differ from our forebears, the cave men of from twenty to forty thousand years ago.

DOOR OF SAN JOSÉ, SAN ANTONIO, TEXAS

THE APPROACH TO THE DOORWAY MAY ADD LARGELY TO ITS IMPORTANCE

(From "An Architectural Pilgrimage in Old Mexico")



EL CALVARIO, TEHUACAN, MEXICO, WITH ITS LOW STAIRWAY. A DELIGHTFUL ENTRANCE TO A FORMAL GARDEN

AN ARCHITECTURAL PILGRIMAGE *in* OLD MEXICO*

THERE are but few main traveled roads in American architectural literature. These have been so constantly used that the bordering lands are deeply encrusted with dust. The periodic additions to this literature have made very few departures from these roads and they may be considered merely as maintenance or repair undertakings. There must be some reason for following these clearly defined and well beaten paths. Perhaps it is that architecture lacks that spirit of adventure that does so much to improve the arts of painting, sculpture and literature and the professions of medicine, surgery, engineering and scientific research. If this is the real condition, it must arise from some restraining influence which has held its sway over American architecture throughout the three hundred years of its existence.

Our forefathers did not find a native architecture in the greater part of the United States because the aborigines had no permanent places of abode, commerce or accumulated property. More than two centuries passed before the architecture of the Southwestern natives of New Mexico and Arizona was made known to us and their structures possessed nothing but the element of shelter. It was then incumbent upon the first settlers to reproduce in some manner the precedents of the lands of their origin. It does not appear that any serious effort has been made in later days to deviate from this early American architecture except to go back to its sources in Greece, Rome and their renaissance.

How close this adherence has been to certain types and forms is well illustrated by the words of a recently published review of a book which reproduced illustrations of these ancient forms. It reads:

> Notwithstanding the sweeping changes which are being wrought in modern architecture in the spheres of construction and planning, it is doubtful if at any time in the history of the modern world more attention has been given to the following of precedent in the sphere of ornament. For century after century architectural students have continued to use ornament bequeathed to modern times by the ancient world, and the occasional use of motifs derived from other sources is generally sufficiently short-lived to prove its lack of power permanently to please, leaving the dependence upon classic design.

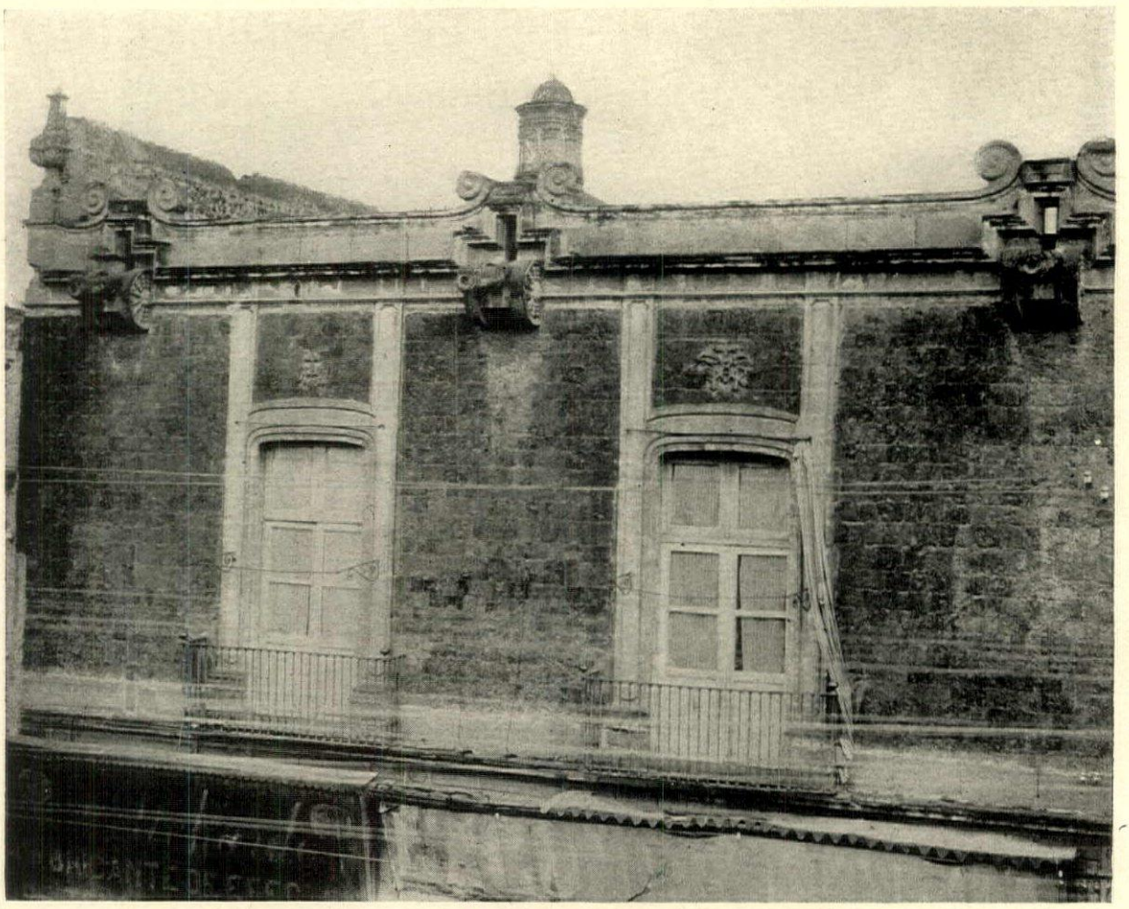
This is a general attitude toward architecture held by architects, teachers, students and those artistic mountebanks who assume that to us the essence of art is incomprehensible, hence there is no necessity for their attempting intelligibly to disclose the mystery—an assumption of understanding without right. If the above quotation truly represents an existing condition, it then follows that we of this age have no creative power whatever, no sense of beauty, proportion and fit-

**An Architectural Pilgrimage in Old Mexico, by Alfred C. Bossom. With Foreword, text and 110 plates, indexed. 10½ x 13½ inches, cloth. Charles Scribner's Sons, New York. Price $20.00.*

ness. The practice of architecture is reduced to the mere routine of confining oneself to the juggling of ancient forms, in which occupation there is no chance to lose or win. Such a condition does obtain in a large measure, evidencing our ineptness to devise appropriate architectural habiliments for the necessities of the society and commerce of these times. It does not seem reasonable that architecture will always continue to depend on the past rather than to bestir itself into a state of creative activity.

A publisher's announcement that a new architectural book is on its way to the reviewer often is received with indifference, caused by the anticipated usual inspection of the same old main traveled roads. "An Architectural Pilgrimage in Old Mexico" is, however, a delightful surprise. It is like a most refreshing breeze from those prairies whose limits are indistinguishable from those of the boundless sky. It opens up great vistas of, and possibilities for, architectural adventure. Legitimate adventure is consonant with architecture. Why not? Without the spirit of adventure coupled with self-confidence, Columbus could not have made these United States possible. Are we so wanting in architectural vision, self-confidence and the spirit of creativeness and adventure that we should refrain from drinking deeply of the architectural refreshment thus offered to us?

The book, "An Architectural Pilgrimage in Old Mexico," is Mr. Bossom's pictorial presentation, reproduced from photographs of his own making,



DELICATE BALCONIES AND GRACEFUL WATERSPOUTS ARE AN EASY METHOD OF ADDING CHARM TO THE PLAINEST BUILDINGS

of the Mexican architecture. These illustrations are selected with rare discrimination and are accompanied by suitable and pertinent captions which serve to accentuate an element of the building design and often to suggest a use by ourselves in our own problems. They disclose that rare and essential faculty possessed by some architects—double sight, the ability to observe a building and simultaneously construct another structure, thousands of miles distant, for different uses, different skies, climate, materials and for a different people and social conditions.

From the foreword is quoted:

> All that an age signifies is written on the open book of its architecture. The architect is, at best, the conscious recorder of the culture of a race; the thrall of his times. Chief builder he may be, but even though he direct a thousand pairs of skillful hands, he is but

JOCKEY CLUB, MEXICO CITY, MEXICO

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the interpreter of the progress and aspirations of his fellow men. A nation without buildings can leave no vivid transcript of the ideals and temperament of its people. * * * Surely the soul of America is not truly to be found in its Colonial architecture, which is modified Georgian, in turn founded on Greek and Roman models, through the Italian Renaissance. * * * The art of Aztec and Toltec blended by the free audacious spirit of those old-time cultivated world wanderers with the ideals of Madrid and Seville, and made sentient by new requirements, still lives in many a stately pile in the republic below the Rio Grande. A reflection of that mighty influence which came with the Spanish conquistadores may be seen, I grant, in the Missions of California and at points in the Southwest, but the true image of the American spirit is revealed best in the country from which Coronado, adventuring, came.

WHERE PORTALS FACE THE ALAMEDA

From the text:

Painters make portraits of individuals, but architects construct portraits of whole nations. Precedent, of course, is useful, but not vital, and tradition in the home of the skyscraper is in the making, and in practically all forms of art the American is an eclectic. In this we have much in common with the Spaniards who originally settled in Mexico. * * * The Spaniards with all their ideas of beauty inherited from tradition-bound Spain found upon their arrival a complete architecture with craftsmanship of a very high standard flourishing in Mexico. * * *

The Spaniards destroyed all they came across with ruthless hands, but they could not remain unaffected by the existing work they found, and the influence of the early Mexican art is easily seen in the Spaniards' first efforts in construction on a new soil. * * *

But the buildings in Mexico, with the slightest adaptation to fit them for twentieth century requirements, do comply with American needs in a manner rarely equalled by any other style of architecture.

Freedom is apparent in their construction. Rules with the old Spaniard were made only for the use of those who could not dare for themselves without exterior guidance, so they paid little heed to them, but bent their knowledge of these to their own advantage. * * * If the spacing between the columns on the arcade or the precise regularity of the windows upon the façade did not produce a desirable treatment on the interior arrangement of the building, the columns or windows were frankly moved, usually by a master hand, and the result was an interesting composition. Hard regularity was supplanted by charming irregularity in most instances.

Again, should the main entrance not logically develop in the center of the building, it wasn't put there. The interior of the structure was seldom arbitrarily distorted to enable some theoretical architectural principle to be maintained.

As compared with the hamstrung, hopeless attitude quoted from the review first mentioned, Mr. Bossom's appreciation of the Mexicans' charming and logical departures from rules "made only for the use of those who could not dare," is indicative of an intelligent attitude toward architectural design—a promise of great things architectural in the making, resulting from a realization that we must house ourselves in buildings that are aesthetically and structurally fit for our needs. To this most desirable and unavoidable end, Mr. Bossom's exposition of Mexican architecture will be found to be an inspiring and valued aid.

THINGS MISSED *and* OTHER THINGS—II

BY H. VAN BUREN MAGONIGLE, F. A. I. A.

Illustrated by water color drawings, sketches and photographs by the Author

Adventure in London

YEARS ago, discussing with a delightful Roman the possible dangers of walking in the Campagna he advised a friend and me to "tek a large steek, and eef anny one spik tc you, swing the steek carelesslee and tal heem you *pref*-air not to be molested; he weel go *a*-way." The doctrine "Speak softly but carry a big stick" anticipated by a dozen years.

Accordingly we divest ourselves of such gewgaws as might reward the footpad for the trouble of knocking us on the head, hide all but a very little of our fluid assets where neither chambermaid nor garroter can profit by them, take a firm grip on a large stick and sally out into the misty London night in search of such adventure as luck may send our way. One of us demands to be taken to the most dangerous places; but the West End is a long way from Whitechapel where it is to be supposed one would go in greatest peril, and this consideration joined to a prudence acquired at considerable cost and pains leads to a compromise on the Thames Embankment and its tributaries.

IN THE FOG, LONDON

We prowl. We poke into dark corners. We make excursions into darksome byways. Wherever we see a Bobby we know we are not in jeopardy and go elsewhere. In short we expose ourselves to adventure. We walk for uncounted miles and minutes. It begins to look as though in our eagerness to affront the Dangers of London by Night we had come out too soon after dinner. But as we draw near Waterloo Bridge there begin to be hopeful indications; from the dark place under a lamp post two beings, modern versions of Bill Sykes and Nancy, watch us with what seems, to one of us at least, like sinister intent. Now for it! we say. We linger in elab-

THE LANDING AT TREMEZZO, LAGO DI COMO

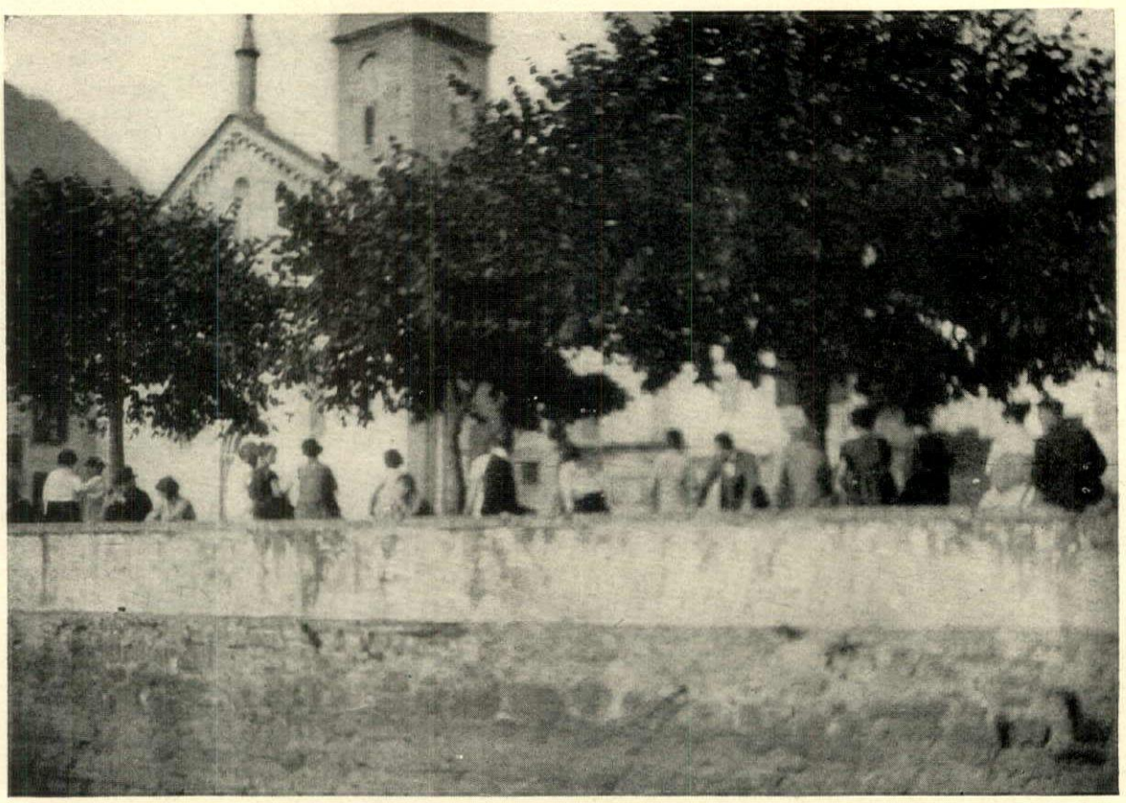
orate unconcern, invite approach and accost, alas, in vain. Bill and Nancy mount a bus and leave us, presumably to crack a crib in the West End.

Disappointed, we proceed. Here are steps, dark, dank steps leading down to the river. One keeps watch while the other descends. So far as the darkness permits one to determine, there is nothing but darkness there. We try the next steps we come to and both go down, the powers of discovery and observation of the former scout being held in low esteem. And, to prove the justice of that opinion, here is Adventure at last, crouched on one of the lower steps, face buried in hands, waiting for the tide to rise that should bear him to the peace life has denied him. Of the haggard face that was upturned when a hand was laid on a drooping shoulder, of the tale we heard quietly told, fittingly punctuated by the recurrent sob of the river, I cannot tell here. . . .

We leave the river and its sorrows and strike back across the Strand and west again, and come into a quarter of business streets, immense and empty, where not a soul is to be seen down the melancholy and deserted vistas. Our fatigues and emotions are beginning to tell upon us, it is getting later and time for dangerous things or home. At last we find ourselves near St. James; and in a queer backwater, where a small tall house is islanded by little narrow streets, we meet a cat—evidently, like us, in search of adventure. After an exchange of the usual compliments we leave him or her waving a hopeful tail, catch the red gleam of the King's coat as a Tommy on sentry-go strides under a lamp on the Palace wall, and so home and to bed.

The Student of Life

We have just passed the *Moulin de la Galette* when he appears before us. He wears no hat upon the blonde hair that waves back from an ingenuous forehead, carries two slender volumes bound in calf tooled in gold under his arm, and holds out his young hand with a wide, glad smile. "Good morning," he says, "you are Americans."



TORNO, ON LAGO DI COMO

"Good morning," say we, "what makes you think so?" "Ah! I have been in America—at one of your Universities; I am a Czech." "And what then are you doing on Montmartre?" "I am a student." "A student of art?" "A student of life. Just now I work for a baker." "We felicitate you upon the choice of a subject of a certain scope." Two wide black hats, two long black ties, two narrow black coats, two voluminous pairs of blue corduroys are approaching. "If you are a student of life you doubtless know two artists when you see them." He glances from us to the nearing costumes and back again, mystified, as it is intended he shall be. "May your

studies prosper, Sir." *"Au r'voir, Madame. Au r'voir, M'sieu'."* The student of life looks after us with a somewhat puzzled air as we turn and go on down the hill into *Pantin.*

Lago di Como

Shall it be confessed? Como, dreamed of for years, longed for and looked forward to and now seen for the first time, is too picturesque, too cloying in its loveliness. There is a point at which the quaint, the *imprevu,* reaches saturation, where a place may be too beautiful to have that which we call character, too theatrical to be possible; and here on Como the point is more than reached. Town after little town huddled about its cleft in the mountainside, the soaring arch of the bridge leaping the torrent; washing of unimaginable hues waving here and there in the breeze; a crowd dangling its feet over the parapet of a tiny *piazza* shaded by plane trees as the *vapore* lands or goes by; boats of strange rig and type draped with wonderful, colored nets; and then as the steamer draws in, a picturesque ruin, stucco crumbling from rosy brick, a pointed window of Venetian design with a curtain half drawn aside from whence surely some fair daughter of Como will greet us with a shy smile. We swing farther in and see that of all that antiquity the only thing real is the stucco! Rosy brick, Gothic window, the curtain, even the cracks in the stucco —last and crowning insult—all, all painted! And if the artist had but thought of the lady he would

THE PONTE VECCHIO

have painted her in too.

How is it possible after this gratuitous and wholly unnecessary piece of deception to believe in the truth of anything! Everything becomes suspect. The bridge leaping the torrent with that splendid *élan* is probably cardboard, set up when it is time for the boat to go by. The varicolored washing is kept on hand and hung out at the proper moment to amaze the tourist. The crowd is probably hired by the hour to give local color; the boats are probably not boats at all but merely the effect of boats, a mere scenic simulacrum.

ON THE PONTE VECCHIO

In this disillusioned mood one resents the stucco balustrade at the *Punta Balbienello,* that enchanting spot, long known afar, and which we had decided to purchase—there to spend our declining years reposing on the terrace or lolling in that upper loggia which commands the incomparable view up and down the lake—only to find that we had been forestalled. There is no reason why the balustrade should not be stucco if it wants to be, but we had always thought it was stone and the blow was severe. And besides, the grapes that hang over the wall are high up and probably sour.

But all about, serene above all cheap pretense, stand the quiet mountains, gray and brown nearby, passing into distant hues of amethyst laced with a tracery of snow on their summits, and washed at their base by waters of a milky turquoise, opaque and opalescent.

It seems captious and ungracious not to care for the swooning sweetness of the color, the stuccoed and painted picturesquenesses of the Italian lakes—until we reach Venice and sense the value of real stone and brick and marble weathered into incredible harmonies by sun and wind and rain, the sea fog and the lapping tides and the unhurried mellowing years.

A Trap *alla Milanese*

The *Piazza* is none too brightly lighted but as we cross it we can see a huddled heap in one of

LAGO DI COMO

the doorways of the great bank closely shuttered for the night. On nearer approach, a woman's pale face thrown back, the upper lip drawn back from the teeth, no rise and fall of breathing; near one hand a tin cup, a heap of rags over the rest. So many people must have been passing here that the thought of death does not occur to us, but that strange, excessive, almost persistent immobility intrigues us. We place some money in the fold of the arms and retire to watch, to become conscious that we ourselves are under surveillance from a furtive little fat man who is loitering at a point where there seems to be no good reason for loitering. We wait patiently for a long time. The creature in the doorway does not stir so much as an eyelash. We decide to go on, and cross over; the money is still where we left it, the head in exactly the same posture, the teeth exposed in the same rictus, the body in the same breathless excess of immobility. We are aware that the little fat man watches us from his shadowy angle as we turn the corner into our street. After a few paces we run back. The woman lies as before, as still as death. The money is gone. So also the little fat man.

EARLY MORNING, PONTE VECCHIO

The Ponte Vecchio

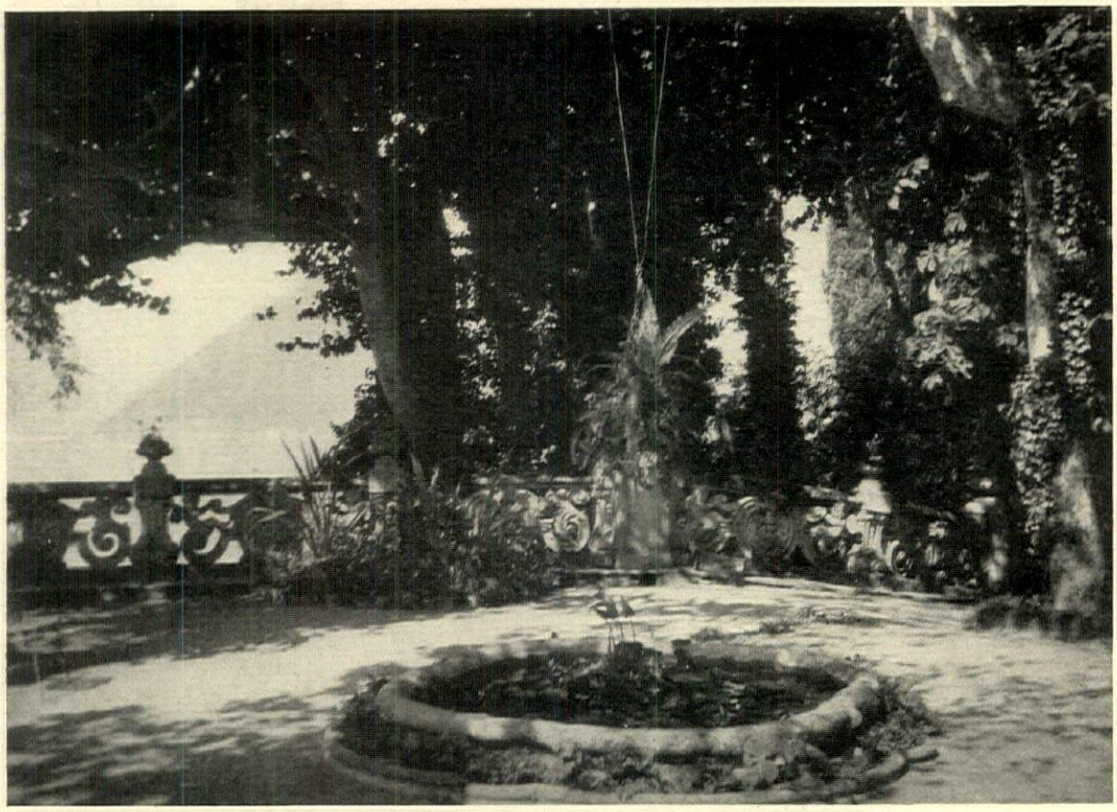
"He lives hard by the Bridge of the Goldsmiths" quoth the young man at the Consulate, and though the use of the ancient name sounded just then a trifle precious and affected yet it did bring up pictures and memories, new and old, true and fictitious; of the fiery Benvenuto; of the visit of *Oderigo Fifanti* and *Mosca de' Lamberti* to the shop of *Lapo di Lucca* to identify the crown he had made for *Buondelmonte* to grace his *Piccarda's* lovely head withal, and which brought death to her lover that bright Easter morning, dry-eyed despair to her sitting dumb beside his bier, wild tolling of the bells to Florence and the clash of swords in the narrow packed streets as the *Buondelmonti* grimly drove the *Uberti* into the river; of the *fanfare* of the Pitti guard as they tramped across night and morning, muffled as they swung on to the Bridge, ringing out again as they passed the open arcade at the middle span, and *pian' piano pianissimo* as they marched briskly away through the streets that lead down to Arno; of chestnuts bought there as the nights grew cold and the wind made the gas lamps flicker

and throw weird shadows across the shuttered fronts of the tiny shops one lingers at by day; of ripe olives, the ripe olives of Italy, firm and nutty, found there in their season; of the girl who threw herself into the river not far away one night of white moonlight and whom I rescued and lugged up the ramp to *Lung' Arno* to be whisked out of my grasp and into a cab by officious strangers to her and to me, who seemed to spring out of the very pavement and squeezed into the cab with her, leaving me in an unthanked and very moist condition to seek consolation for a frustrated romance in the flask my friend presently arrived with, just too late for the lady.

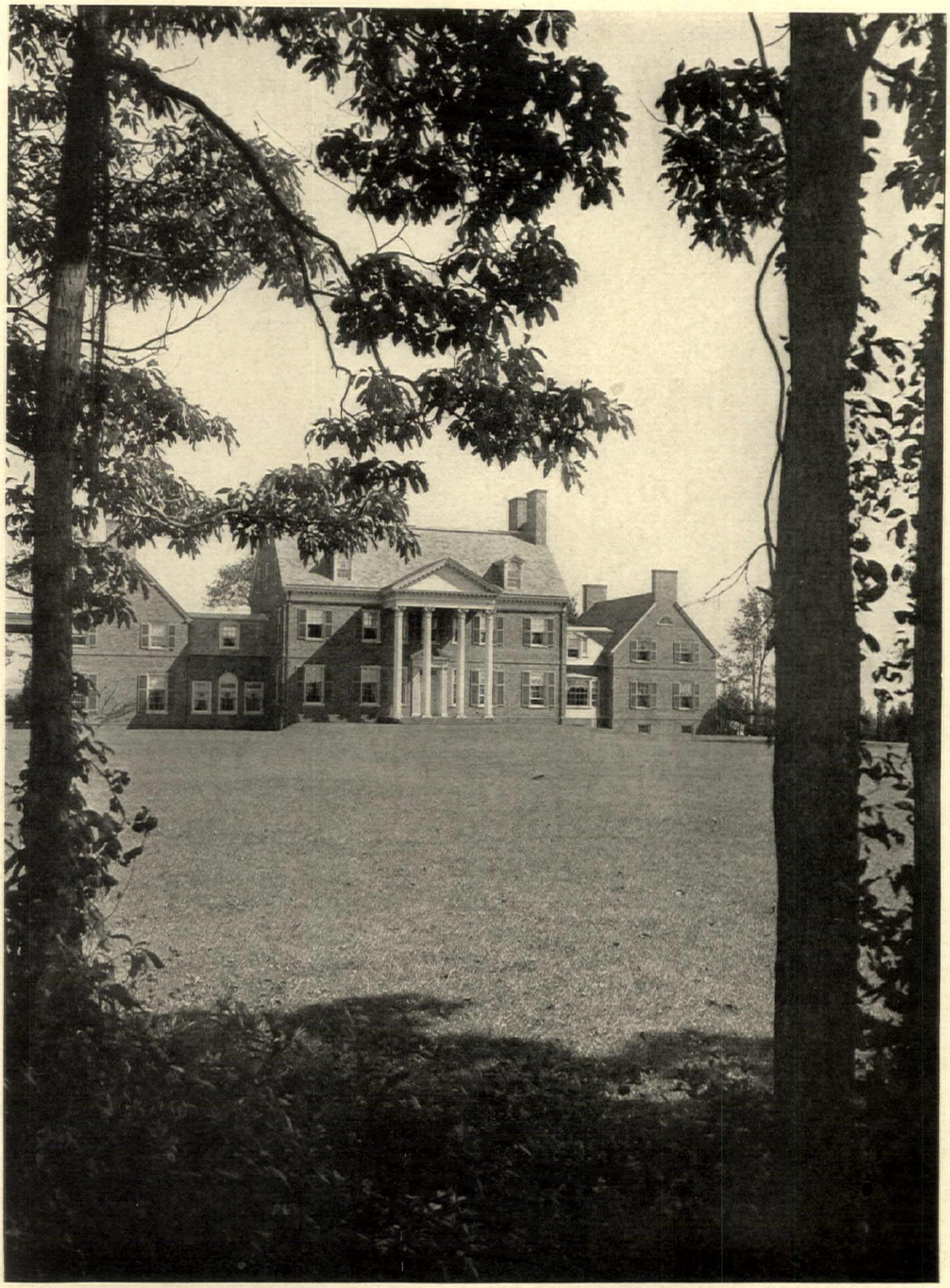
These are vignettes of another day and time. This morning, when the random phrase evokes them, is altogther another sort of thing, a morning of silver mist drawn over the dull gold of the Old Bridge and the old houses Over Arno; and I lean on the parapet and look my fill of it. Of all places in Florence the *Ponte Vecchio* seems to me the very heart of her, far more than even the *Piazza della Signoria* or the *Piazza del' Duomo.* For centuries it has echoed to the tramp or patter of myriad feet and like the Rialto Bridge in Venice, it links the city the river divides.

You turn out at dawn to paint there when the few early passengers stop and watch you work at any cost of inconvenience to you, block your view in the hope of somehow getting put in your sketch, confusing in their simple way the artist's eye with the lens of a camera; their numbers increase and the bakers' boys give way to shop boys who should be taking down their masters' shutters, and you tell them so and get grinned at; huge men go by drawn in infantile wagons by infinitesimal donkeys, or carts with perhaps a mare in the shafts bedecked with red tasseled headstall and harness, sheeted from the flies, with her colt trotting daintily beside her. The full tide of the day's traffic has set in and the light has changed so that you pack up and go home to breakfast.

But whether these things befall, or you go down to the river bed of a still Sunday morning and pass from gravelly shoal to shoal to get a new view of this most human of all bridges, and the fishermen dip their huge square nets to catch the little fish they cry later through the streets *"Pesci, pesci, pesci d' Ar-r-no-o!"* or whether you go back at the close of day and watch the quiet river and the lights of *Lung' Arno* while the bats wheel through the soft and glamorous Florentine dusk; or whether you waken, long before the light comes, to hear the dyers rinsing and slapping their cloth on the stones; whether at dawn, noon, nightfall or cock crow, *Ponte Vecchio* contrives to create memories for you that will bring you back to him, in the body or in the spirit, some time, somehow.

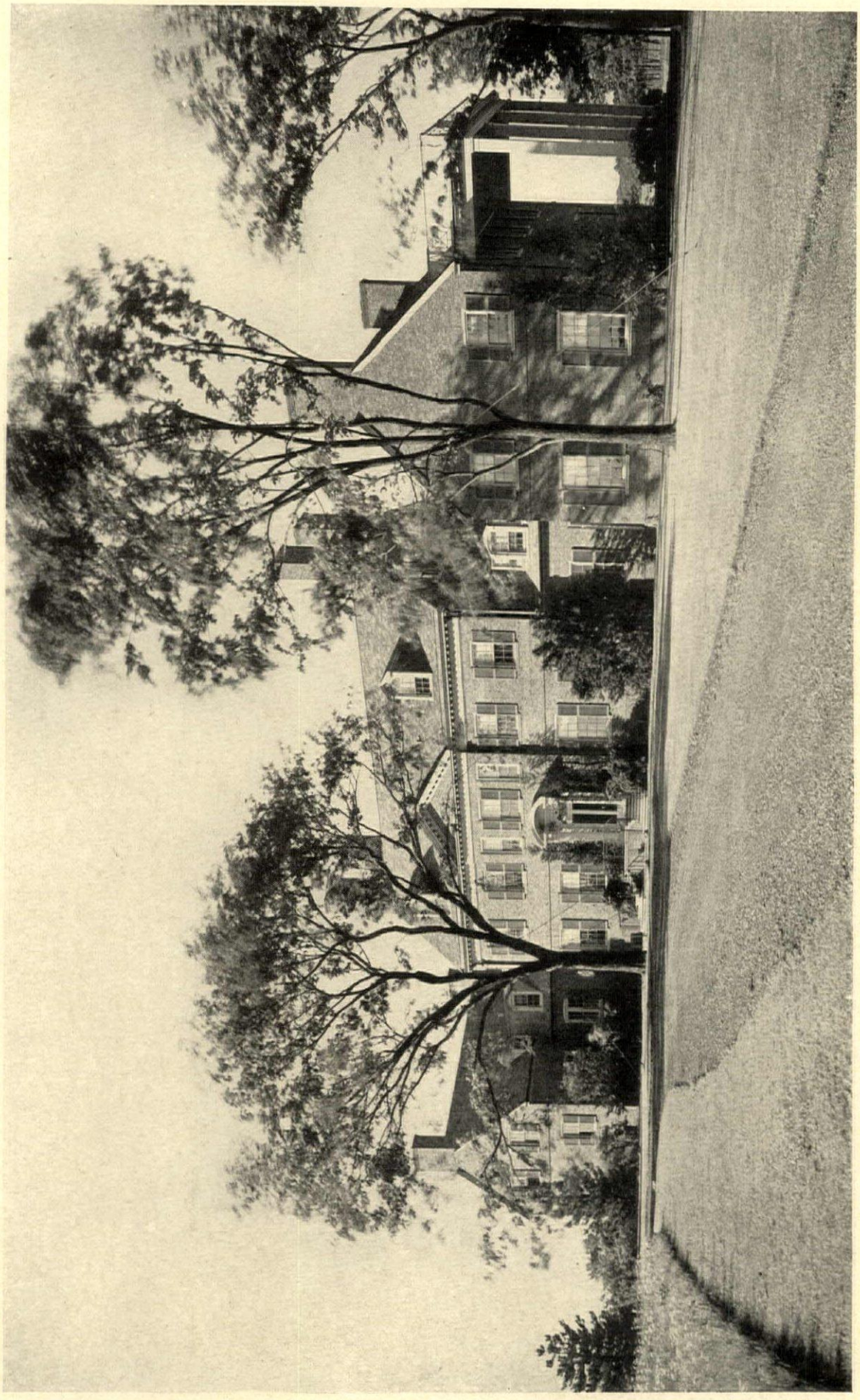


THE LOWER TERRACE, PUNTA BALBIENELLO, LAGO DI COMO



HOUSE OF THOMAS H. FROTHINGHAM, FAR HILLS, N. J.

JOHN RUSSELL POPE, ARCHITECT



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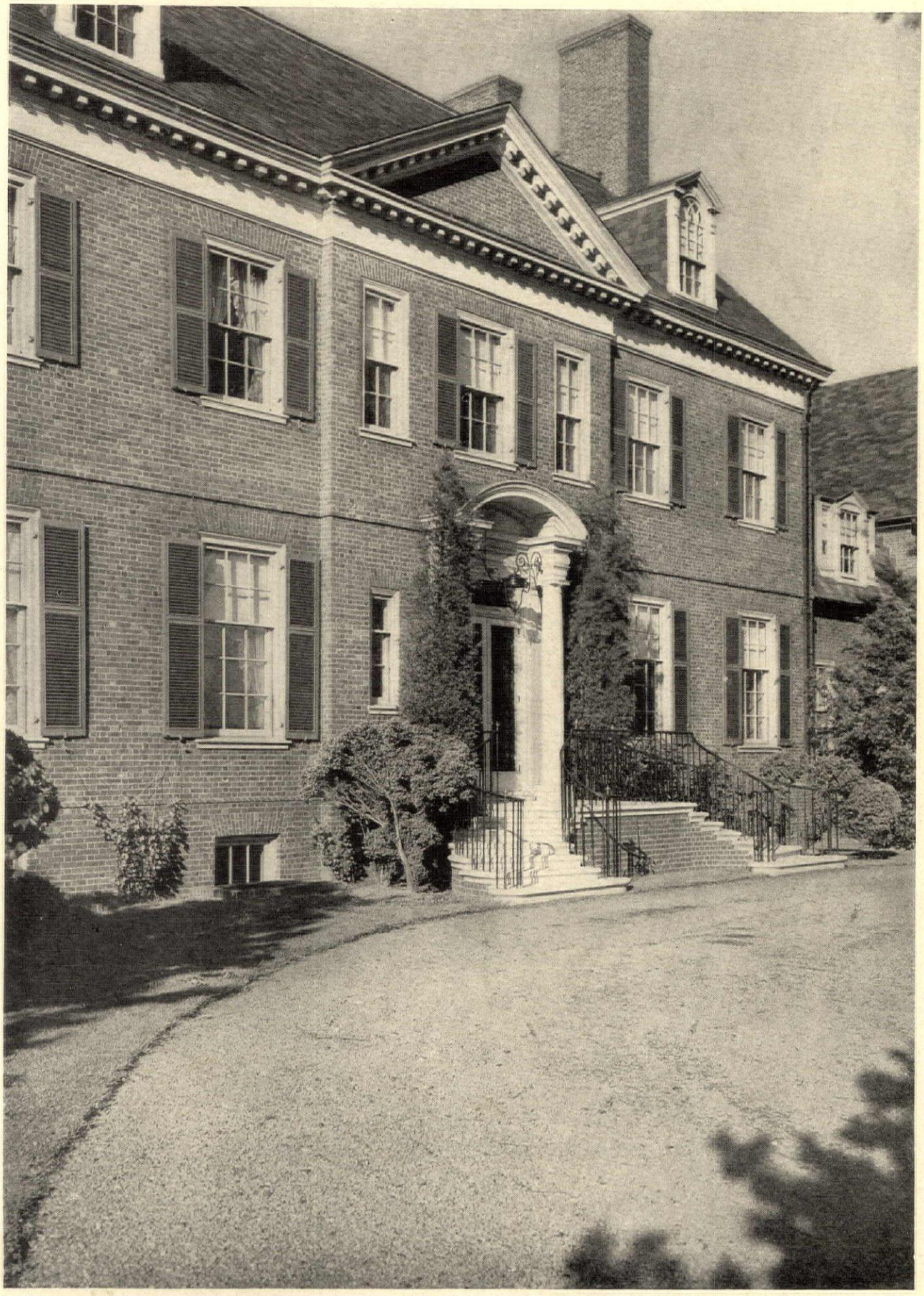

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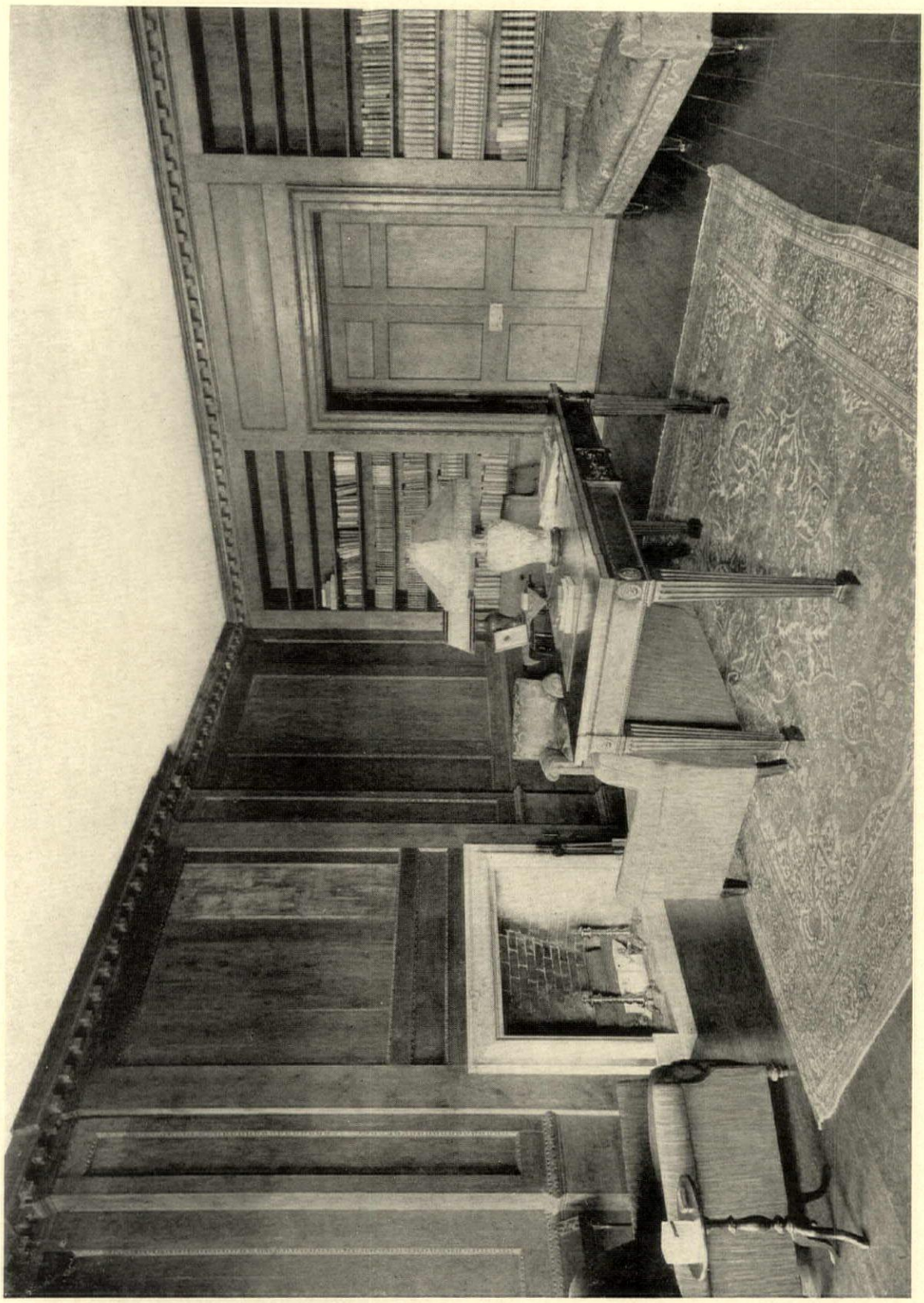
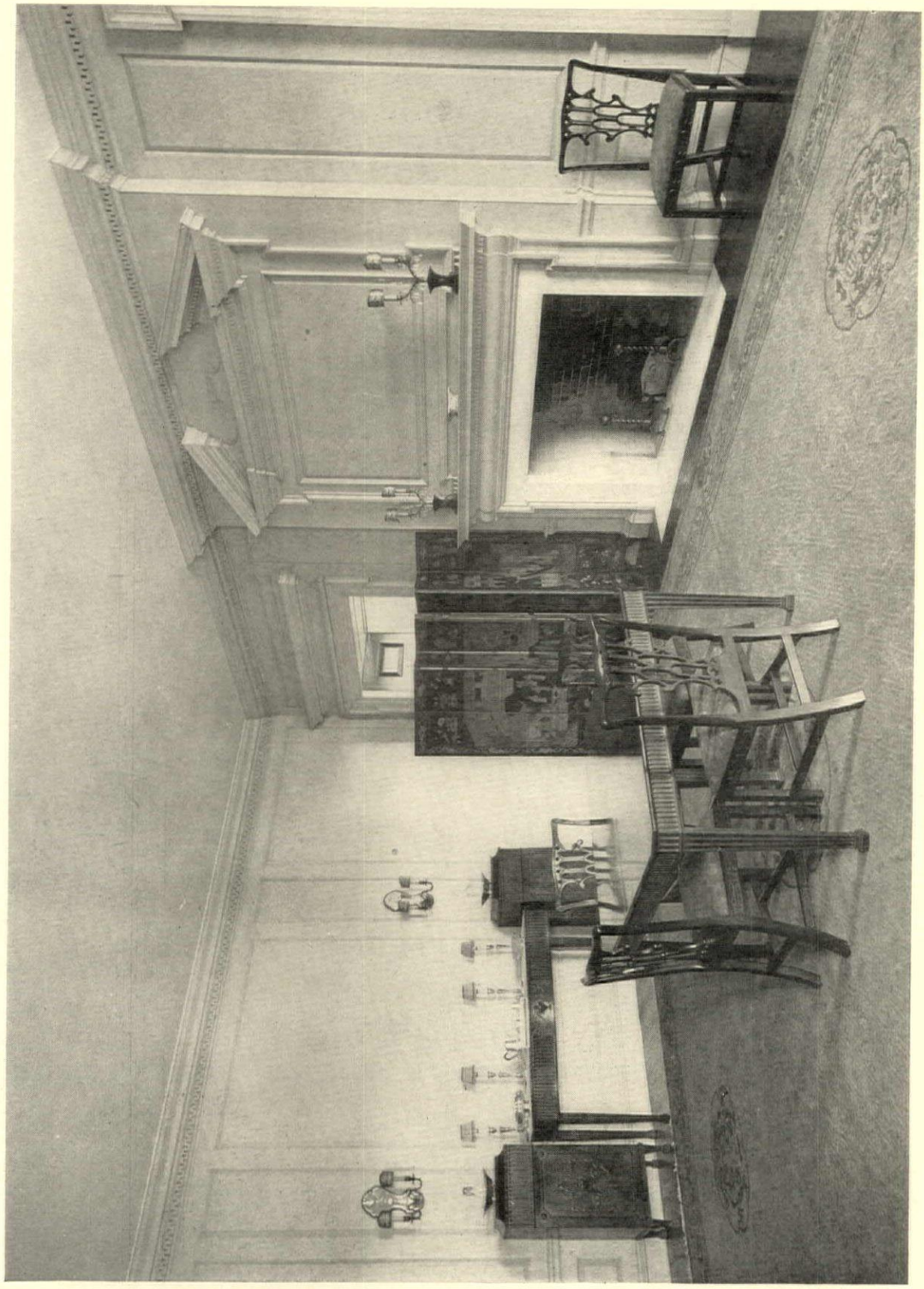
The spiral staircase adds a note of interest to the hall, which cannot be overlooked



HOUSE OF THOMAS H. FROTHINGHAM, FAR HILLS, N. J.

JOHN RUSSELL POPE, ARCHITECT

The book shelves, built into the panelled walls, allow of abundance of color from the book covers and thereby relieve any monotony of the wall panelling



HOUSE OF THOMAS H. FROTHINGHAM, FAR HILLS, N. J.

JOHN RUSSELL POPE, ARCHITECT

The chairs and screen of Chinese influence harmonize thoroughly with the Chinese rug, and are contrasted well by the sideboard and center table of Adam motives

HOUSE OF THOMAS H. FROTHINGHAM, FAR HILLS, N. J.

JOHN RUSSELL POPE, ARCHITECT

A marble mantel is the feature of this room. Its details are carefully worked out and its whiteness is broken by carved motives and occasional lines of a dark marble

The light colored woodwork is contrasted by rich mahogany doors, of well selected figure

The stair landing is enriched by a cove of good proportions in which an ornamental panel and a clock play important parts

HOUSE OF THOMAS H. FROTHINGHAM, FAR HILLS, N. J.

JOHN RUSSELL POPE, ARCHITECT

The long lines of the hall are broken by pilasters, beams and archways, all carefully worked out in line and detail

A detail of one of the hall doors. It acts as a fine frame for the picture of the dining room beyond

HOUSE OF THOMAS H. FROTHINGHAM, FAR HILLS, N. J.

JOHN RUSSELL POPE, ARCHITECT

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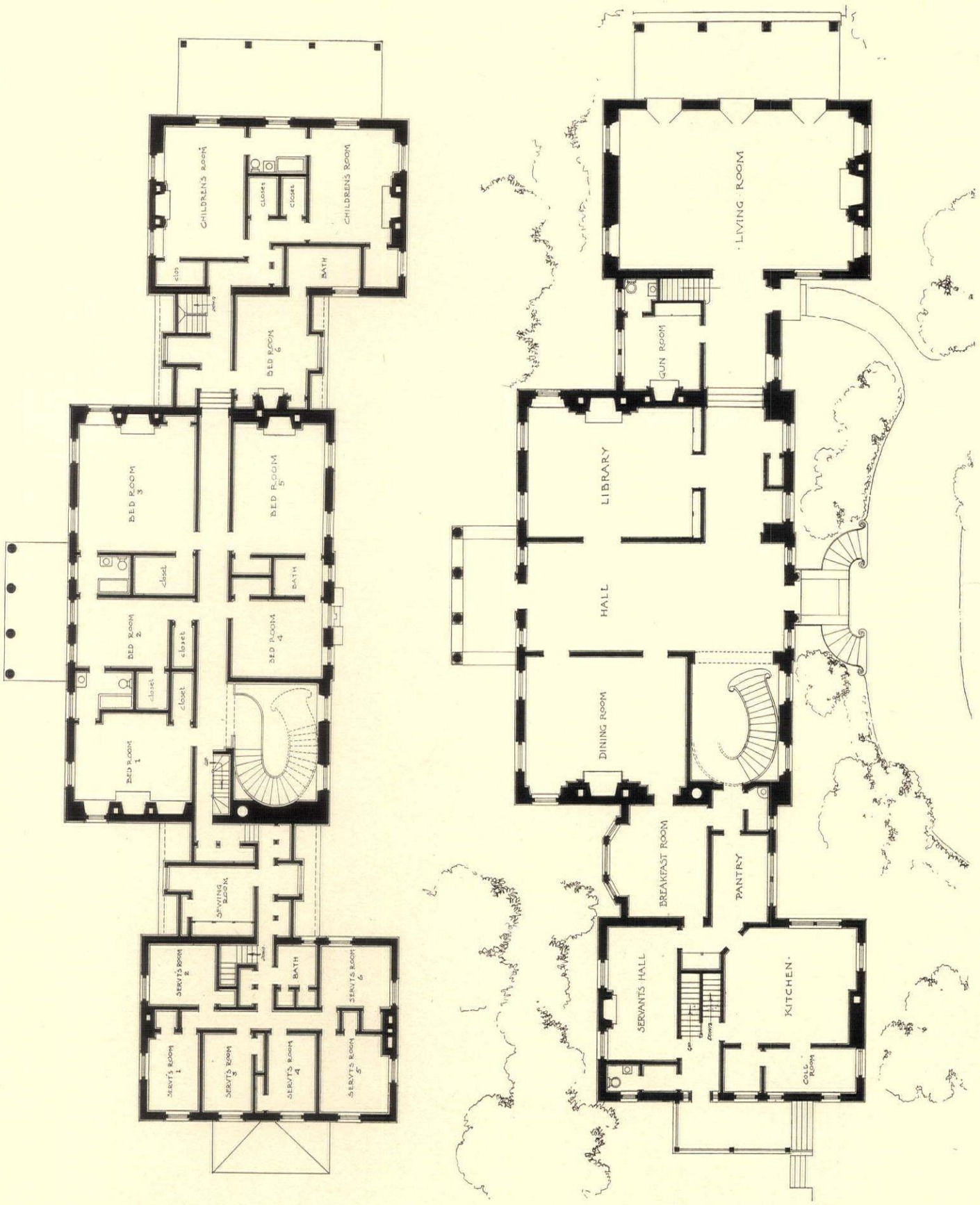


HOUSE OF THOMAS H. FROTHINGHAM, FAR HILLS, N. J.

JOHN RUSSELL POPE, ARCHITECT

EDITORIAL COMMENT

LESS THAN A YEAR AGO, a group of women in Northern New York organized an intensive campaign against the rapidly increasing number of billboards that disfigure the roadsides and particularly in that picturesque locality along the borders of Lake George and Lake Champlain. The method of protest took the form of a pledge on the part of a majority of the year around inhabitants of that section to refrain from purchasing any of the various commodities advertised on these billboards. These pledges were brought to the attention of the advertisers who, with business acumen, were quick to sense the result of such reaction. The roads were quickly cleared of billboards and that picturesque route between Caldwell and Glens Falls, historically famous and scenically beautiful, was rid of a nuisance.

The practical results that have been obtained by these sensible methods having become widely known, many associations have been at work and much good in the right direction accomplished. The Standard Oil Company and a number of other large advertisers have undertaken to cooperate to abate the nuisance of the billboard. Hereafter these companies will confine their advertising to such locations where the surroundings may not be obscured or the scenic beauties marred. Advertisers are beginning to learn that billboard advertising may defeat its own purpose and create in the minds of the great majority an irritation that retards, instead of enhancing, sales. In addition to exercising a better control of the location of their advertising signs, the Standard Oil Company and affiliated companies announce that as fast as possible the disfiguring and dilapidated filling stations all over the country will be replaced by a standardized "station" and their locations selected to avoid their becoming a disfiguring feature of the surroundings.

The example set by these large corporations will undoubtedly have a good effect and while it may not be possible to hope for an early abatement of what has become a nationwide nuisance, the location of billboards will no doubt be better controlled and less of an irritation.

* * *

THE ANNOUNCEMENT that seventeen members of the Royal Academy have been commissioned to design posters for the London Midland and Scottish Railway Company moves *The Builder,* of London, to regard this fact as the opening of a new chapter in the history of British art. Undoubtedly, it is, as claimed, a distinct advance in the progress of public taste, and an example that might with the most excellent results be followed not only by railroad companies in this country, but that increasingly large group of advertisers who are striving to increase the artistic value of their appeal.

"We need not humbug ourselves," comments *The Builder,* "about the dual role of the poster primarily designed to advertise and at the same time inculcate a love for the beautiful; nor need we waste any time discussing the philosophy of public taste in relation to an art which has been thrust upon it. So far as we are aware the public has had small choice in the matter, but apart from any question of motive we think nothing but good can come from this new development."

It is the bridging of the gap, so long existing, between commerce and art, and the general approval with which this desirable end is regarded, that are significant.

"In our opinion," continues *The Builder,* "the two important points which should be of interest to all architects are these: that the art of painting has not only given a definite lead in the relaions between art and commerce, but it has indirectly encouraged advertising by assisting to raise the artistic level of the poster. As we have indicated, we are not impressed with the poetic ideals which would convert railway stations into picture galleries and provide opportunities for educating public taste."

Undoubtedly, the artist painter has solved the major difficulties of composition and color harmony, but it does not follow that these abilities fit him to design a better advertisement than men who have spent years of specialized and intensive effort in preparing advertising. But it is also true that many men who would find it difficult to reach success as painters, have very successfully designed the best advertising art to be found in this country.

Every man intimately associated with the preparation of advertising copy knows how great has been the artistic advance during the past five years. We might, to good advantage, enlist the services of our own Academicians in an advisory capacity as paid jurors, but we are not sure if it would add to the dignification of art or increase its appreciation by the people, to have our billboards and lesser forms of advertising done and signed by Academicians.

There is a large amount of artistic effort available in this country and a larger number of ad-

vertisers appreciate this fact. The billboard is slowly but surely becoming less objectionable by reason of poorly selected location and the generally attractive and artistic merit of advertising increasing. Loudly to announce the artistic authorship of much of this advertising would undoubtedly deter many well known painters who are now giving very serious effort in this direction, from further participation. We are making progress, slowly perhaps, but surely, and it will not increase the speed to bring into the "limelight" of publicity the names of many artists who now find a remunerative occupation in this work.

* * *

AS A GREAT PATRON of architecture in England, and as *The Architect,* London, designates him, "the last of the great patrician patrons," Lord Curzon holds the respect of English architects and whatever he may say on architecture is received with much satisfaction. On the occasion of the opening of the Architecture Club's exhibition at Grosvenor House, in London, Lord Curzon delivered the principal address. As the owner of two of England's finest historical mansions, his Lordship holds very definite views on domestic architecture. Quite naturally, he deplores the passing of the great country house. He sees in present tendencies a desire, not for beauty, but for luxury, for the relaxations afforded by country life, and not for the austerities that are a part of life in old houses. He regards it as incredible that people should believe squash and racquet courts and swimming pools as necessary adjuncts to domestic comfort, but adds with some inconsistency that his famous mansion Kedleston is a somewhat difficult place to live in.

There can be no reconcilement to the widely divergent points of view of two classes. One with all the traditions of birth, a long ancestry and associations of a lifetime—the history of his house is the history of his family. The other, the *nouveau riche,* who either on his own part or through the educational influence of his architect, regards all the aesthetic beauty of the old English houses and their fine surroundings with respect, but lacks the intimate association with the land. Having amassed his own fortune and acquired a somewhat "hard-headed" and practical view he sees only the desirable in those things which he calls "up-to-date." To eliminate the swimming pool and the squash court, to reduce the number of bath rooms or to follow the inconveniences of the early plan of country houses, are some things he will not consent to.

We have a number of architects in this country who have been successful in the planning of country houses in the Elizabethan style and imparting to them a fine air of present domesticity. If there are inconsistencies we in this country do not see them, or if we do, regard them as improvements. Lord Curzon, with a long ancestry and well grounded ideas as to just what a pretentious country house should be, probably would at first fail to appreciate what our architects in this country have done. It is believed, however, that were he to live as guest in one of our stately country houses, he would feel that to adhere to all the traditions of earlier types would rob one of many and unusual comforts.

* * *

A LETTER, RECEIVED from a subscriber, asks, "What is your opinion regarding the tendency of the prices of building materials? Is it upward or downward at this time?" In reply, our subscriber was referred to our usual monthly review of Economics as Relating to Architecture, in which with much detail, the very subject in which he is interested is each month thoroughly discussed. The object of these monthly reviews of Economics and Law, together with the other departments which constitute every issue of this journal, is, in a timely and reliable manner, to keep our readers thoroughly posted on every field of practice.

It is constantly brought home to the editors of this journal that architects do not take the time to read their architectural magazines carefully, and by this omission they fail to avail of a mass of reliable and valuable information that at a considerable expenditure of time and money has been prepared for their use and assistance.

The various departments of this journal, each conducted by a man trained in the field to which it relates, have the greatest suggestive value. We believe that if they were more carefully read, they would repay the time spent, by imparting a clearer idea of all the various phases of practice and that many doubts would be resolved into certainties.

Lawyers must read their law journals and those who would keep informed, do so. It is equally necessary that architects should pursue a similar habit.

HOUSE OF ROBERT LAW, JR., PORT CHESTER, N. Y.

DWIGHT JAMES BAUM, ARCHITECT

The details of the Tudor period are carried out accurately in this hall, and prepare one naturally for the Elizabethan room beyond

HOUSE OF ROBERT LAW, JR., PORT CHESTER, N. Y.

DWIGHT JAMES BAUM, ARCHITECT

The somewhat radical treatment of the breakfast room never fails to interest one while there, for it is not based on conventional repeating patterns. The colorings of the wall decoration are taken from the tints of the rising sun

HOUSE OF ROBERT LAW, JR., PORT CHESTER, N. Y.

DWIGHT JAMES BAUM, ARCHITECT

Furniture and woodwork are carried out in similar detail, relieved by the rough plaster wall treatment

HOUSE OF ROBERT LAW, JR., PORT CHESTER, N. Y.

DWIGHT JAMES BAUM, ARCHITECT

Furniture for this house was carefully selected, in perfect keeping with the scheme of decoration. Here is shown a beautiful Queen Anne walnut cabinet, with intricate and well executed inlay work. The beams of the ceiling are original work, constructed in the XVIIth century

HOUSE OF ROBERT LAW, JR., PORT CHESTER, N. Y.

DWIGHT JAMES BAUM, ARCHITECT

The bold character of the window drapes is in accord with the coarse detail of the woodwork and the rough plaster walls. The mantel on the right is an old stone Norman one of the XVIth century

HOUSE OF ROBERT LAW, JR., PORT CHESTER, N. Y.

DWIGHT JAMES BAUM, ARCHITECT

The transition from one room to another is not marked by sharp contrasts, thus giving an effect of spaciousness in the various vistas

HOUSE OF ROBERT LAW, JR., PORT CHESTER, N. Y.

DWIGHT JAMES BAUM, ARCHITECT

The details of lighting fixtures were given as much consideration as a large piece of furniture, and unity of design thus resulted

HOUSE OF ROBERT LAW, JR., PORT CHESTER, N. Y.

DWIGHT JAMES BAUM, ARCHITECT

Although marked by richness and dignity, the whole house portrays an air of real homelikeness

PIERRE L. LeBRUN, F. A. I. A.

1846—1924

IN the death of Pierre L. LeBrun, the profession of architecture has sustained a very great loss. In his every attitude toward the profession he practiced and to which he brought a fine ability and a rare personal charm, LeBrun was able to command the respect and affectionate regard of those about him. Following LeBrun's death, which occurred on February 14, the New York Chapter of The American Institute of Architects passed the following resolutions:

The New York Chapter of The American Institute of Architects records with sorrow the death of our fellow member, Pierre L. LeBrun. The following brief tribute to his memory prepared by Julian Clarence Levi in accordance with the wish of the Chapter will be forwarded to Mrs. LeBrun, and copies will be sent to the Octagon House in Washington, D. C., and to the architectural press.

Pierre L. LeBrun born December 27, 1846, died February 14, 1924

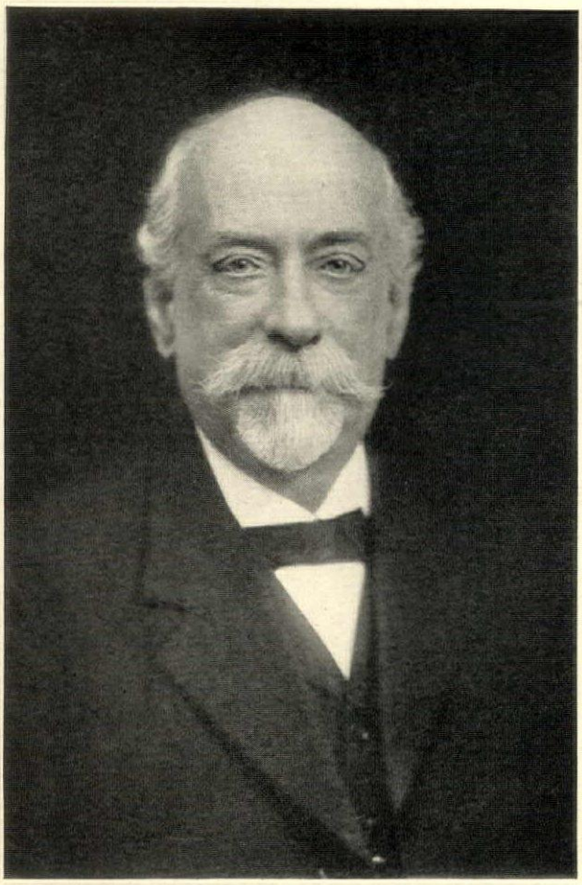
Member of The American Institute of Architects since 1874

Fellow of The American Institute of Architects since 1883

Medal of Honor of the New York Chapter, A.I.A., 1910

Founder of the LeBrun Traveling Scholarship 1910

Such are the simple facts recorded in the archives of the New York Chapter, A.I.A. To his friends and associates they epitomize his sterling qualities. Son and brother of an architect, his entire manhood was given to the practice of that profession and to its advancement as an art. In partnership with his father, Napoleon, and his brother Michel, he contributed many notable buildings to the growth of New York City. The completion of the Metropolitan Life Tower in 1910, marking the close of a long and honorable career, became the occasion of the award of the New York Chapter, A.I.A., Medal of Honor to the brothers Pierre and Michel.



PIERRE L. LeBRUN, F.A.I.A.

Mr. LeBrun's interests, however, were not limited to his practice. He was alive to the necessity of enabling the American architect to obtain a proper education. His extensive travels abroad aroused his sympathy for those, less fortunate than he, who were unable to see the monuments of European civilization. To mitigate this condition he formed the Willard Collection of Architectural Casts in the Metropolitan Museum of Art, and later followed it by the gift of the Pierre L. LeBrun Library to that Museum. A similar gift to the Montclair Art Association established an Art Library in its Museum.

So did he labor to enable young America to learn of the beauties of the past, but still he remained unsatisfied for the inspiration of direct contact was lacking. After mature deliberation and careful study he achieved this in the establishment of the Traveling Scholarship. The wisdom of his decision and its real value to the profession of architecture have been amply proved by the distinguished records of the LeBrun scholars.

His earthly labors are ended, but yet his work will go on. The kindly gentle spirit has flown, but its influence remains to help mould future generations. His fellows in the New York Chapter, A.I.A., wish to record their respect for him as an architect, their affection for him as a man and their gratitude to him for the honor he bestowed upon their profession.

NATHAN CLIFFORD RICKER

NATHAN CLIFFORD RICKER, Professor of Architecture Emeritus, University of Illinois, died at Urbana, Ill., March 19, 1924. He was born at Acton, Maine, July 24, 1843, son of General Ebenezer and Mary Stacy Ricker. His academic training was secured at the University of Illinois where he was later professor of architecture until 1917, at which time he became professor emeritus. He served as Dean of the College of Engineering from 1878 until 1905. When the first architects' license law was enacted in Illinois in 1897 he was appointed chairman of the Board of Examiners and served as such until 1917. He

NATHAN CLIFFORD RICKER

was a member of the Unitarian Church and the Masonic fraternity. Aside from his regular duties, he wrote many important books on building construction, and translated several books on the same subject from the German. He was also a frequent contributor to THE AMERICAN ARCHITECT in the early days of its publication.

Dr. Ricker was one of the first professors of architecture in America. During his service as such, the entire scheme of academic architectural education, in which he played an important part, has been developed to its present state. It was no mean task that confronted Dr. Ricker nearly a half century ago, in upbuilding a school of architecture in the Central States. It is due to his energy, wisdom, consistent and enthusiastic attention to his work that the University of Illinois has maintained its enviable position among the architectural schools of this country.

Without in any way overlooking the importance of architectural design, Professor Ricker always insisted that his students be qualified in those essentials of architecture—correct planning, safe and durable construction and honorable business relations. As a teacher he gave his time and strength unreservedly to the individual needs of his pupils; as a member of the faculty he always commanded the entire respect and confidence of the student body; as a great hearted, generous man he was greatly admired and beloved—serving as a sincere friend or as, in effect, an elder brother or father as best satisfied the student's need.

LEWIS COLT ALBRO

LEWIS COLT ALBRO was born in Paris, France, February 4, 1876, and died in New York March 1, 1924.

He attended public and private schools in Pittsfield, Mass., and the Metropolitan Art School conducted at the Metropolitan Art Museum under the auspices of Columbia University. He entered the office of McKim, Mead & White and remained for thirteen years, after which he formed an association with Harrie T. Lindeberg and practiced under the firm name of Albro & Lindeberg. This partnership was dissolved about ten years ago, since which time Mr. Albro had practiced alone.

The following resolutions were passed by the New York Chapter of The American Institute of Architects, of which Mr. Albro was a member:

Whereas Mr. Albro has been a member in good standing of the New York Chapter since 1912 and became a member of the Institute in 1921, and whereas through his untimely death the profession has suffered the loss of an able practitioner, who through the influence and character of his work has contributed a worthy example, therefore be it resolved that the New York Chapter of The American Institute of Architects hereby expresses our tribute and our sympathy to his family.

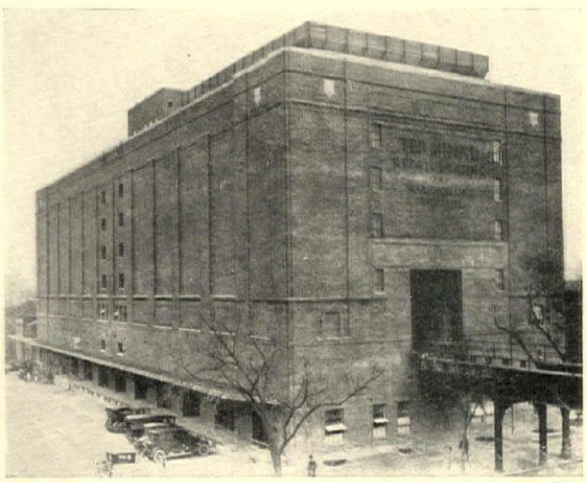
Resolved further, that these resolutions be spread upon the records of the Chapter and that copies be sent to the Octagon House, Washington, D. C., and to the architectural press.

ARCHITECTURAL ENGINEERING

A MODERN ICE MAKING, COLD, DRY *and* ICE STORAGE BUILDING

BY STEWART T. SMITH, *Architect**

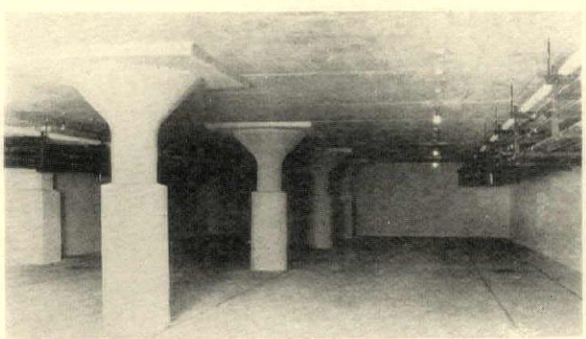
UNTIL within a comparatively few years, a cold storage warehouse was designed purely from the utilitarian standpoint and no regard was given to its exterior appearance. Such a building gave as forlorn and gloomy an impression as it was possible to accomplish. A great change has taken place in the designing of these buildings and a creditable and successful effort has been made to place them on the same basis as buildings devoted to other purposes. The modern cold storage warehouse very properly indicates its purpose. At the same time the great areas of blank walls are so treated and constructed of such materials that they are entirely pleasing in appearance. To do this successfully the architect makes use of the elements of proportion, division, color and texture. Ornamentation is, quite properly, reduced to a very limited degree.



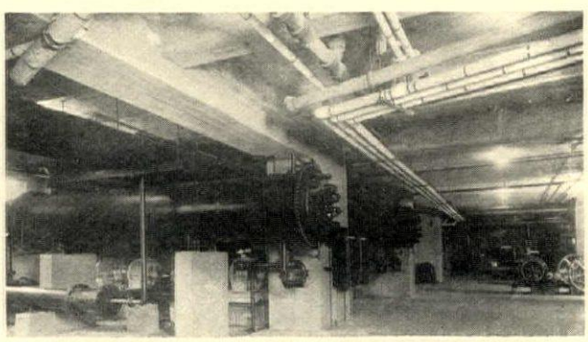
TERMINAL REFRIGERATING AND WAREHOUSING COMPANY, WASHINGTON, D. C.

All of these things influenced the designing of the new cold and dry storage warehouse of the Terminal Refrigerating and Warehousing Company, located at Fourth and D Streets, S.W., Washington, D. C. This structure does comport with the beauty and dignity of that city.

This warehouse is advantageously located adjacent to the tracks of the Pennsylvania Railroad and near the center of the city, two factors which reduce to a minimum the expense of handling its contents. The zoning restrictions of the city permitted, in this locality, a total height of 85′-0″ from grade to the top of the parapet walls. The story heights were so proportioned as to provide eight stories and a basement. The building covers the entire area of an irregular plot containing 29,000 square feet. Space is provided for the following: a 150 ton ice making plant; an ice storage room, capacity 900 tons of ice; dry storage rooms, 101,189 square feet; cold storage rooms, 49,750 square feet, temperature from 32° to 40° Fahr.; freezer rooms, 24,766 square feet, temperatures from 14° to 32° Fahr.; offices, engine room, shipping rooms, and other places.



FREEZER ROOM, COLUMN INSULATION 4′-0″ HIGH PREVENTING TEMPERATURE TRANSMISSION TO FLOOR BELOW

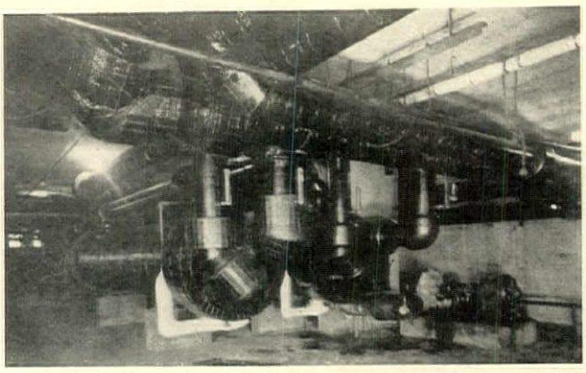


AMMONIA CONDENSERS IN WHICH GASEOUS AMMONIA IS CONVERTED TO LIQUID FORM BY COLD WATER

The exterior walls are faced with hard burned,

*Of Van R. H. Greene, refrigerating engineers, New York City.

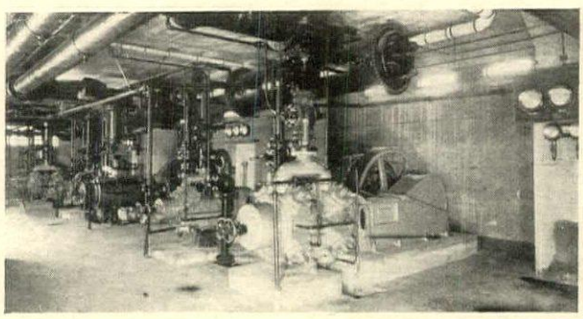
red brick backed up with unplastered hollow tile. The only exposed plastered walls are those of the offices and toilets. Factory type of steel sash is used in all windows except in the cold rooms where special cold storage windows are used for ventilation. The spur railroad track enters the



BRINE COOLERS, HIGH AND LOW TEMPERATURES. ALL OF THE AMMONIA USED IS KEPT WITHIN THE ENGINE ROOM

building at the third floor level and will accommodate six cars. The structural frame is so designed that the floors South of the present track can be removed and an additional track installed.

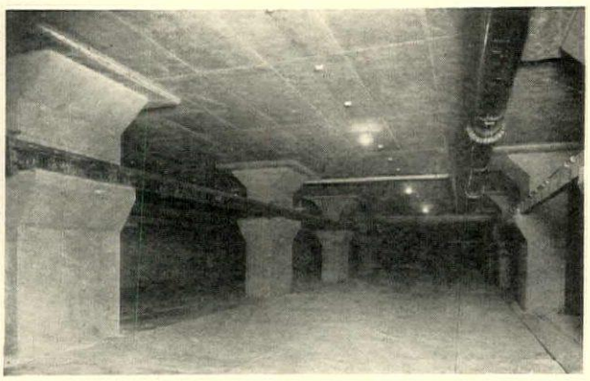
There are some unusual features in this building that should be explained. The location of the ice making plant is important. An economical plan is to have the freezing tank 20 to 24 cans wide, requiring a crane span of 26′-0″ to 31′-0″. The ideal place for the freezing tank is, therefore,



ENGINE ROOM. COMPOUND AMMONIA COMPRESSORS WITH INTER-COOLERS HUNG FROM CEILING

on the top floor with columns under the center of the tank and skylights or windows admitting sufficient light. When so arranged the ice is conveyed by gravity to the storage room, thence to the shipping platforms. There is a possibility of the leakage of the brine from the freezing tank and when this occurs, damage results. While a tight tank is secured by simple waterproofing methods, the owner of this building urged the placing of the tanks in the basement. This location made necessary tanks 12 and 15 cans wide with columns as narrow as possible in one direction.

Both dry and cold storage goods are brought to the building in carload lots and unloaded on the third floor. Those which are intended for local use are conveyed to the first floor where ample shipping space is provided. Sharp freezer rooms are located on the second, third and fourth floors along the D Street front. They have overhead track systems for the handling of meats which run into the elevators and out to the ship-



ICE TANK ROOM IN WHICH TANKS CONTAINING FREEZING CANS AND BRINE ARE COVERED WITH REMOVABLE WOODEN FLOOR PANELS. THE TRAVELING CRANE LIFTS THE FLOOR PANELS AND ALSO LIFTS THREE ICE CANS AT ONCE, IMMERSES THEM IN WARM WATER AND DUMPS THE ICE ON THE CONVEYOR

ping spaces on the third and first floors. A sharp freezer room is also located on the eighth floor.

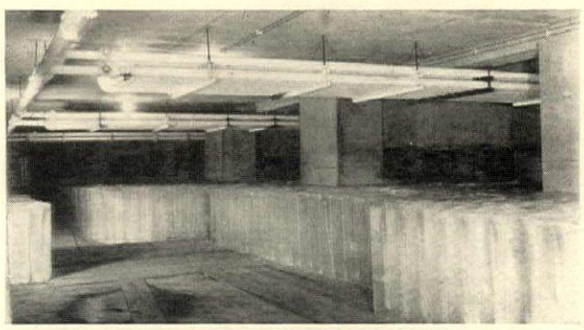
Insulation was another important factor which influenced the final design by reason of its cost. Four and six inch insulation in place on the wall costs about fifty-four and sixty-seven cents per square foot, respectively. A low initial cost is an

GOODS IN COLD STORAGE

important element in the operation of a storage business. With this in mind, a study was made of various designs for the purpose of determining that design which would require the least amount of insulation. The result of this study is the

design adopted with the cold storage space placed in the North half of the building with insulation about the entire group of rooms. With this arrangement, long straight runs of refrigerating piping are used with a minimum amount of refrigeration needed to maintain the required temperatures.

To be effective, insulation must be continuous. To accomplish this, the building is split into two parts above the fifth floor with a slot 7″ wide in which was placed the insulation. Beginning at the fifth floor there is a similar slot 7″ wide between the exterior wall and the structural frame



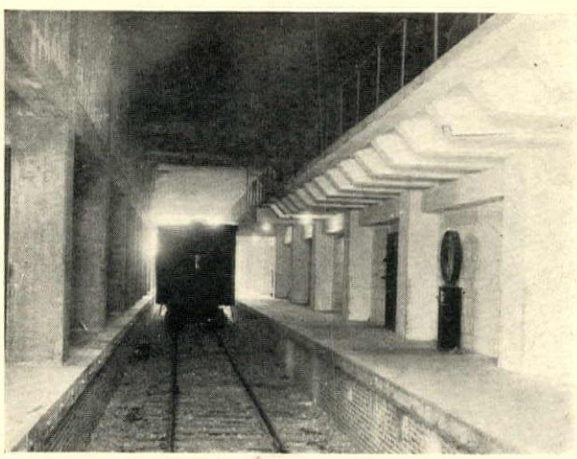
ICE STORAGE ROOM ON FIRST FLOOR FOR 300 POUND CAKES OF ICE

which supports the floors. In this slot was placed the insulation of the exterior walls. The wall above this level is supported by a separate structural frame which is anchored to the interior structural frame at each floor level.

The insulation consists of two layers of compressed cork in the form of 12″ x 36″ slabs of 2″ or 3″ thickness. The walls were plastered with a floated coat of Portland cement plaster for the purpose of providing a true surface. Two coats of liquid asphalt paint, to provide the dampproofing, were shot on the wall with a gun. The

SPRAY POND ON ROOF WHERE WARM WATER FROM AMMONIA CONDENSERS IS COOLED BY BEING SPRAYED INTO THE AIR. LOUVRE FENCE AROUND POND PREVENTS WASTE OF WATER BY WIND

first layer of cork was then dipped in asphalt and stuck upon the wall and the second layer applied in the same manner and additionally secured in place with wooden skewers. The exposed cork surfaces were then plastered with ½″ of two coat Portland cement plaster finished with a float. The ceilings were insulated by placing the first layer of cork upon the concrete floor forms on which was poured the concrete. After the forms were removed the second layer was stuck to the first layer with asphalt and skewers and plastered. Partitions were made of two layers of cork set together in Portland cement mortar and both exposed surfaces plastered. Both layers of cork on floors and roof were set in asphalt. The insulation on the floors was then covered with a concrete finished floor. The roofing was applied directly to the cork in pitch. Where it was impossible to install the cork insulation continuously, it was arranged that the heat will have to be transmitted through at least 4′-0″ of solid masonry, thus providing a similar resistance to heat transmission.



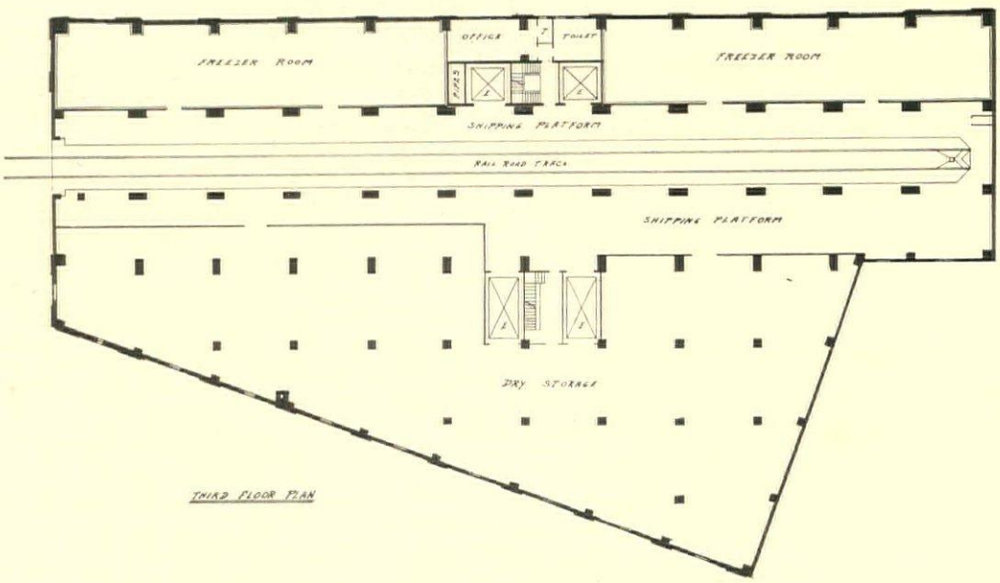
THIRD FLOOR SHIPPING, RECEIVING AND CAR ICING BALCONY

The ice is conveyed to the platform from the tanks where it is dumped from the cans, and then delivered to the ice storage room on the first floor by two inclined slat conveyors. Ice used for icing refrigerator cars is delivered by a tray conveyor to the car icing balcony on the fourth floor from the first floor ice storage room.

The two cold storage elevator cars are insulated and have rubber flaps provided around the openings. These flaps slide along greased wooden strips set in the hatchway and are so arranged that any flow of cold air out of the rooms is prevented when the cold storage doors to the elevators are open. The cold storage elevators have platforms 9′-0″ x 9′-0″ and a capacity of 5,000 pounds at a speed of 125′-0″ per minute. The dry storage elevators have 9′-0″ x 17′-0″ platforms, 8,000 pounds capacity at the same speed.

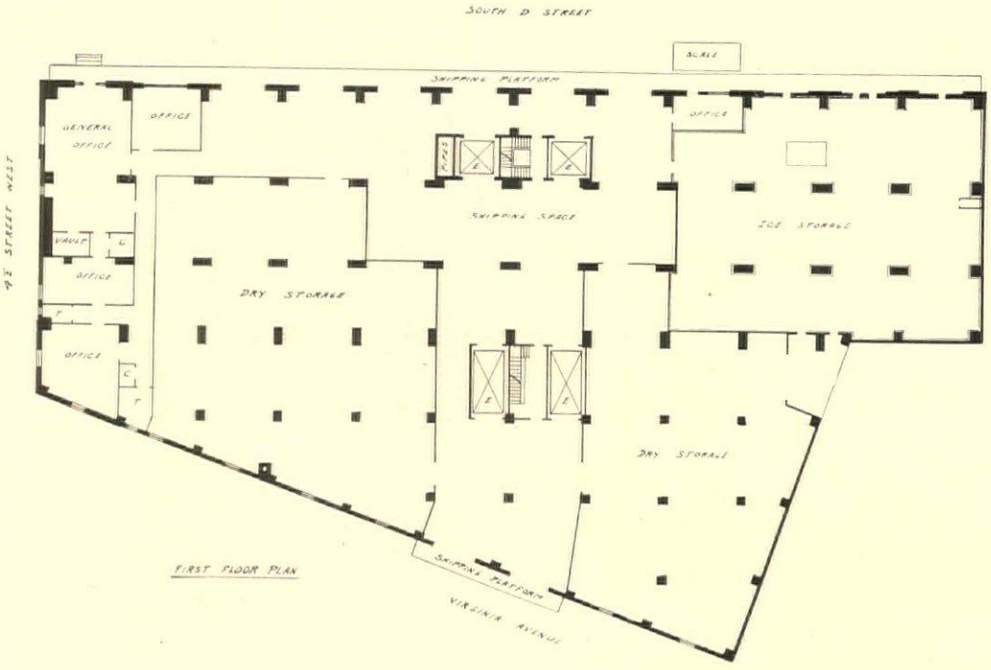
The first four floors of dry storage rooms in the South half of the building are designed for a live load of 300 pounds per square foot. All other floors are designed for a live load of 200 pounds per square foot. Beam and girder construction is used throughout the entire South half of the building and in the second, third and fourth

floors of the North half of the building. The first, fifth, sixth, seventh and eighth floors and roof of the North half are of flat slab construc-



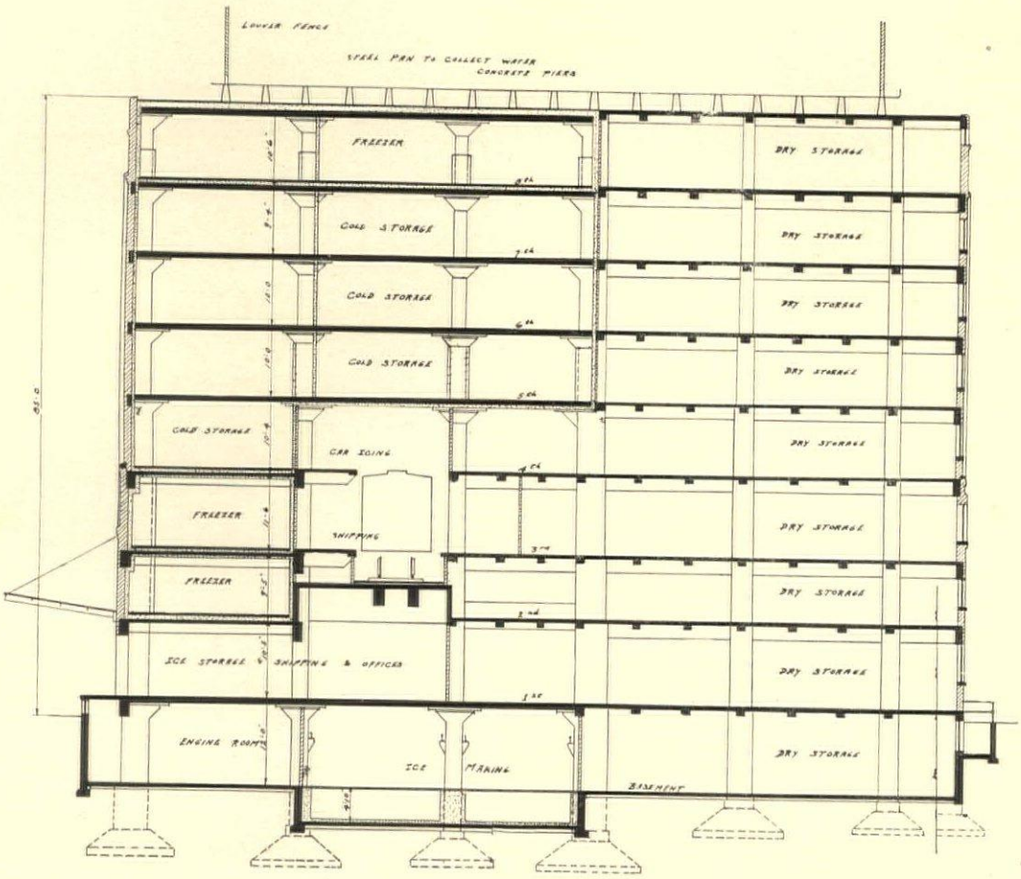
tion with drop panels. The flat slab design is in accordance with the Chicago code with the exception that a stress of 16,000 pounds per square inch for steel was used.

tons each and in addition 50 per cent for impact. The columns between the present and future tracks were considered as having an unsupported length of 25′-0″ from the second to the fourth floors. The usual wall spandrel girder for flat slab design was omitted and no increase in slab thickness was provided at the wall line. This was made possible

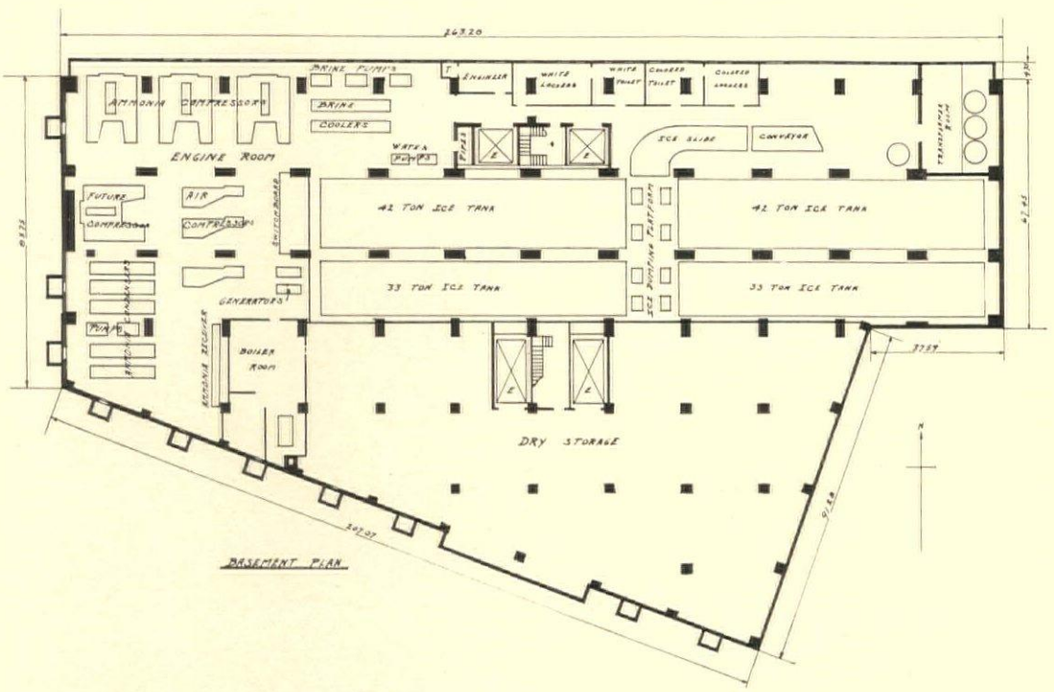


The columns are made of a 1:1:2 mix and some of the long narrow columns have two sets of spirals. The supports for the railroad track are designed to carry a locomotive weighing 88 tons, a tender weighing 72 tons and cars weighing 126

by the elimination of the usual wall load on the edge of the slab. Retaining walls were designed as slabs from column to column with the exception of those on D Street where the wall is designed as a slab from floor to floor. All retaining walls



LONGITUDINAL SECTION

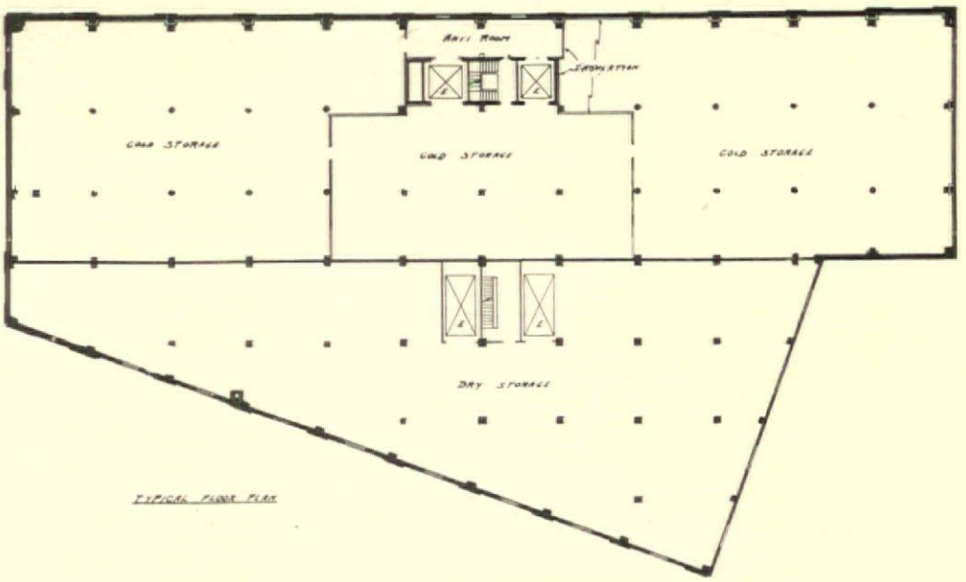


TERMINAL REFRIGERATING AND WAREHOUSING COMPANY,
WASHINGTON, D. C.

and the basement floor were waterproofed by the integral method.

All machinery is electric driven and when operated at full capacity about 1100 H.P. will be used. Current is brought in underground to the transformer room at 6600 volts where it is transformed to 440 volts for power, and to 110 volts for lighting. Four compound ammonia compressors provide 475 tons of refrigeration. Ammonia is used as the refrigerating medium. Rooms are cooled by a circulation of cold brine in pipes located in the rooms. The brine is cooled in brine coolers from which it is circulated by pumps.

On the roof is a large area enclosed by a louvre fence 12′-0″ high. Within this fence is an elaborate spray pond in which the condenser water is cooled. The spray pond consists of a steel pan supported on concrete piers 2′-6″ high. Within the pan are arranged the spray nozzles through which the water is forced into the air.



The architectural features of the building were designed by Appleton P. Clark, Jr., A.I.A., Washington, D. C. The structural design, the insulation details and the design of all refrigerating and mechanical apparatus were provided by Van R. H. Greene, refrigerating engineer, New York City.

TERMINAL REFRIGERATING AND WAREHOUSING COMPANY, WASHINGTON, D. C.

PROTECTION AGAINST EXPOSURE FIRES*

THE problem of providing adequate protection against exposure fires is a difficult one and one that has never been satisfactorily solved. The fire record data on this subject has been found so meagre that it has usually been difficult to reach any satisfactory conclusions. Every exposure fire is different from the next. So many factors are involved that generalizations are next to impossible; one type of window protection will perform splendidly in one fire and utterly fail in another. There may be important differences in both the character of the exposure fire and building protected. In one fire the window protection may be supplemented by excellent fire department or private fire brigade work and in other cases, particularly in conflagrations, the protection may be called upon to withstand an unusually severe fire without outside assistance. Varying wind conditions may also be an important factor.

In the hope that some helpful data might be contributed to this problem the Executive Office of the National Fire Protection Association has made a study of 544 exposure fires recorded in the files of the Department of Fire Record. In analyzing the data, it should be borne in mind that the record is not complete, including but a small proportion of the total number of exposure fires. Presumably the majority of fires where the protection of the exposed building proved satisfactory are not reported to the Department of Fire Record; no report is made because there is no fire damage. On this account the data probably indicates for all types of protection an efficiency considerably less than that which would be shown if *all* exposure fires could be included in the record.

TABLE I.

PROTECTION	EFFECT OF FIRE			
	No or Slight Loss	Partial Loss	Heavy Loss	Total No. of Fires
Unprotected	12	61	64	137
Sprinklers Alone	35	143	31	209
Open Sprinklers	37	40	10	87
Wired Glass	14	40	5	59
Tin Clad Shutters	10	38	9	57
Iron Shutters	0	10	3	13
	108	332	122	562

As to be expected, only 12 out of 137 unprotected buildings escaped without loss. The saving of these 12 buildings was due in most cases to the effective work of the fire department. The showing of automatic sprinklers is interesting. In most cases fire entered the building but was controlled inside by the sprinklers. A serious exposure fire is necessarily a severe tax on a sprinkler system as fire may enter on all floors and open a large number of heads. Ten of the 31 failures were in conflagrations where a large number of heads were opened and where the water supply was in most cases deficient. Sprinklers should not be expected to control exposure fires and the fact that they were more or less successful in 178 out of 209 cases is a tribute to their efficiency.

Table I would indicate that open sprinklers are the most effective window protection, followed respectively by wired glass, tin clad shutters, and iron shutters.

Within certain limits, the distance of the exposed building from the exposing fire apparently has little effect on the amount of damage. The proportion of no loss fires and heavy loss fires reported remains approximately the same regardless of the distance. It seems reasonable to suppose, however, that many fires when the distance from the exposing fire is great have not been reported in cases where the protection has been successful and there has been no loss. If *all* exposure fires were included in the tabulation the showing of distance as a protection would accordingly be much more favorable.

It should be noted that every type of protection has some inherent weakness. All of these forms of protection, except shutters and wired glass windows which are kept permanently closed, depend upon the human element which is a very important factor. In this particular respect wired glass windows show a decided superiority, for windows in buildings of the average occupancy are normally closed and may be expected to be found closed in time of fire.

Shutters must be closed and open sprinklers turned on when the fire comes. If shutters are normally closed, except when the building is occupied, they may be on a par with other types of protection as regards the human element. When the building is not occupied and shutters are left open, it is often practically impossible for the one or two watchmen or others who may be in the building to close them in time to prevent entrance of fire or before the exposing fire becomes so hot as to prevent access to the shutters.

The open sprinkler system also depends upon the human element. It must be turned on when needed, but it has the advantage that it is usually so arranged that all the sprinklers may be turned on by one man at some point remote from the exposed wall.

Assuming that the several types of protection are properly used, there still remain certain physical deficiencies inherent in each type. The open sprinkler requires large water supplies which

* *Abstracted from The Quarterly of the National Fire Protection Association, January, 1924.*

are often not available; the wired glass window transmits radiated heat and melts under the influence of unusually high temperatures; the iron shutter prevents the direct transmission of flame and radiated heat, but has itself no insulating value. The wooden tin clad shutter, if properly installed, maintained and closed, has perhaps the least inherent deficiencies of any of the several types mentioned, but is so often not properly used that the records show its performance to be inferior to that of open sprinklers and wired glass windows.

This record unfortunately does not include data on some of the protection arrangements which have recently come into general favor. There are, for example, no fires in the record which throw any light on the efficiency of rolling steel shutters.

It is now generally agreed that for protection against severe exposure a combination of two or more types of protection is necessary. Combinations of open sprinklers and wired glass windows, wired glass windows and shutters, shutters and open sprinklers, are each undoubtedly superior to any single type of protection alone. In cases where there has been more than one type of protection, the fire has been classified according to the type of protection which seemed to be the predominating factor in the particular fire under consideration. The record does show very conclusively the value of interior automatic sprinklers as a reinforcement for outside sprinklers, wired glass windows or shutters. There are a large number of cases where inside sprinklers prevented the spread of fire which had penetrated the window protection.

Open Sprinklers—There are 87 fires recorded where the exposed building was equipped with an open sprinkler system. In 48 cases the system functioned satisfactorily; in 15 cases the system failed to protect the building; and in 24 cases the system was not a factor. All things considered, this is an excellent showing. In most of the cases reported the exposing fire was severe, and of the 15 failures, not all of these can be blamed directly on the inadequacy of the open sprinkler system.

If the open sprinkler system is well arranged and maintained, backed up at all times by plenty of water under good pressure, and if someone who knows how to turn it on is at hand, it is of unquestionable value even under the most severe exposure conditions. The record shows that where the open sprinkler system has fulfilled its designed function, that is, where it has continuously *wet* all windows and exposed combustible surfaces, it has been practically universally successful; failures have occurred only where for some reason the open sprinklers have not wet all exposed surfaces.

Wired Glass—Of the 57 exposure fires where the exposed buildings were equipped with wired glass windows, this protection was satisfactory in 24 cases, failed in 15 cases, and was not a factor in 18 cases. The record clearly shows that wired glass is an effective protection against exposure, particularly if backed up by automatic sprinklers. In severe fires, even if the wired glass stands up, sufficient heat may be radiated through the glass to ignite combustible material, and unless the sprinkler is there to put out small blazes of this sort the value of the wired glass protection is greatly reduced. An analysis of the 15 failures shows that the wired glass melted in 11 cases, radiated heat ignited inside combustible material in three cases, and a falling wall broke the glass in one case.

Tin Clad Shutters—There are in the fire record 46 exposure fires involving tin clad shutters. In 18 of these the shutters successfully withstood the fire and in 14 the shutters did not protect the building. In 14 the shutters were not a factor. It is clearly shown that standard shutters, *if closed,* give excellent protection against severe exposure. Heat does not readily pass through the shutters and in only one or two cases sufficient heat came through to ignite combustible material close against the shutter inside.

Nine of the 14 failures were due to the fact that shutters were not closed. It seems reasonable to class these 9 fires as tin clad shutter failures. The chief weakness of this form of protection against exposure is the fact that the human element enters strongly into their usefulness. An open shutter that cannot be closed because of rusted hardware is no better than a plain glass window. The fact that shutters have been placed on a building does not mean that the building has been protected against exposure unless the shutters are kept permanently closed, or arrangements are made which will insure their closing when needed.

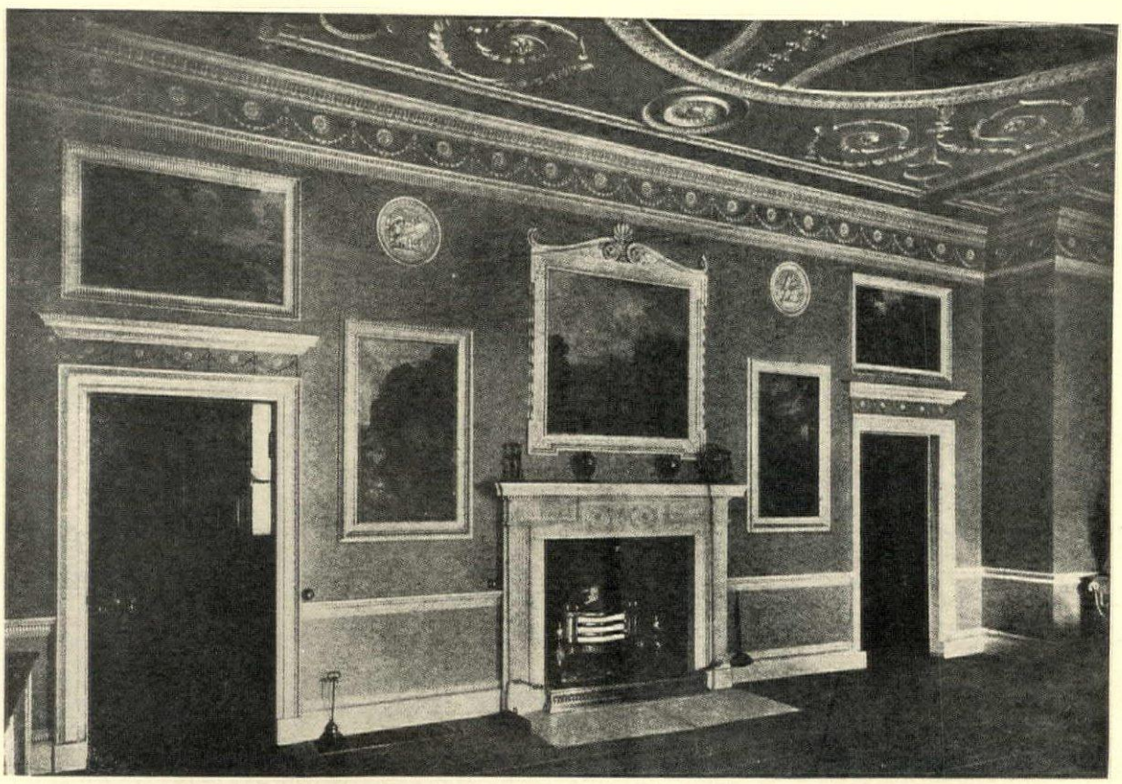
Iron Shutters—Reports on only 13 fires involving iron shutters as protection against exposure are available for this record so that no general conclusions may be drawn as to the efficiency of this type of protection. In one case flat framed iron shutters furnished good protection against a severe exposure. In another case thin iron shutters kept a hot fire out of a factory building until the fire department arrived. In 6 cases thin iron shutters furnished little or no protection against the exposing fire, and in 2 cases the shutters were not closed. The iron shutter is obviously of little value if combustible material is piled against it, as it heats up rapidly and in a hot fire reaches a sufficient temperature to ignite combustible materials in contact with it in a comparatively short period of time. Like the tin clad shutter, the iron shutter depends upon the human element; it is of no value when not closed.

INTERIOR ARCHITECTURE

Developing *an* American Style *in* Interior Design

IT is not worthy of America nor of her long list of distinguished architects to admit that there can be no such thing as a distinctive American style of architecture, but it is a fact that, after a century and a half of existence, we cannot claim such a thing. Creative art throughout the world, during the last three hundred years, has been more or less conspicuous by its absence, and designers have fallen into the rut of adapting and reproducing, thus failing of originality. Originality should not necessarily die with adaptation, as was so positively proved by the architects of the time of the Renaissance, and if we could show anything as original in our adaptations as they did, we might well be proud of it. Reproduction, however, does not leave much opportunity for originality and this slavish copying seems to be the cause of our downfall in these matters. Reproduction, as emphasized in a previous article, is good in its place, provided it is strictly carried out and admitted, but half-hearted reproduction, under the guise of originality, scents of ignorance.

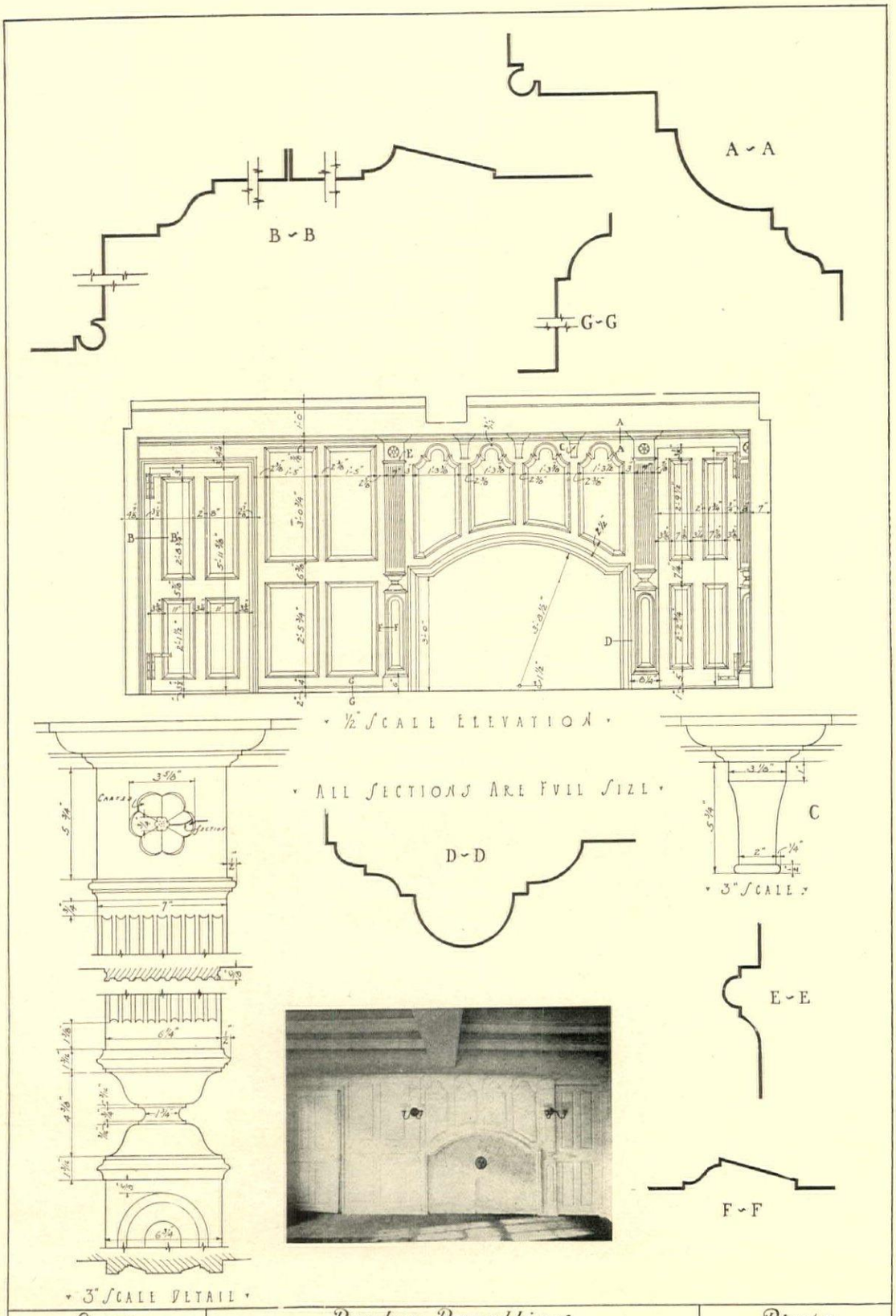
A style in architectural design is brought about by a distinctive mode of construction in building. The heart of originality lies in that word "construction." In the days of the Egyptians or the Grecians, the plan of the building, together with the use to which it was to be put, was the foundation out of which arose all building tradition and design. Climate played a part in allowing or demanding certain forms, and materials dictated certain methods, but the construction thus realized was the real element from which form was developed. The structural nature of the building gave it new ideas and added architectural interest and importance to the finished work. It cannot be said that we are lacking in



DINING ROOM AT SALTRAM, ENGLAND

The perfect balance in the design is carried to a point of monotony. On each side of the center of interest, or the focal point, each form is repeated in accurate detail. No doubt, in reality it was desirable to express severe formality, and, therefore, it is not in a critical aspect that these remarks are made. Besides, the different paintings in the various panels very likely relieve the monotony. As an illustration of the extreme use of balance in architectural design, it serves a purpose

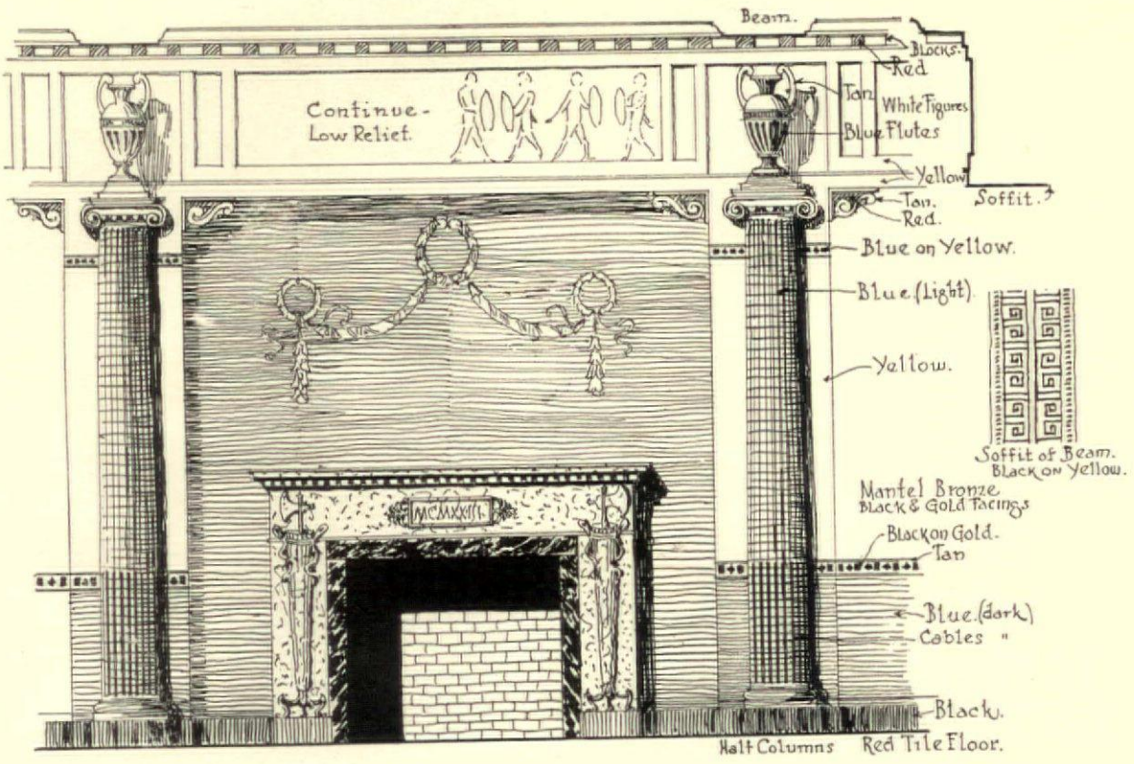
(From "The Architectural Review," London)



Early Connecticut Architecture	Parlor Panelling Mac Curdy House Lyme	Plate Number 20.

Details of a room in Early American style, which showed possibilities of developing into a real American style of architectural design, but which, unfortunately, was cut off by the so-called Colonial Period, and its various influences

(From "Early Connecticut Architecture")



GRILL ROOM OF THE SHELTON HOTEL, NEW YORK

ARTHUR LOOMIS HARMON, ARCHITECT

Here is originality with a fine use of line and color in decoration. The half columns in blue are repeated in front of the heavy square piers in other parts of the room, and the effect is of extraordinary interest in that it seems to give some real reason for these generally awkward piers. The cornice of the room, or rather the place where the cornice is always run, consists only of a series of blocks

originality in plan or structural elements from which to build or mould our designs, but it must be admitted that by failing to tie up the form of a building with its structure, we do miss the chance for originality.

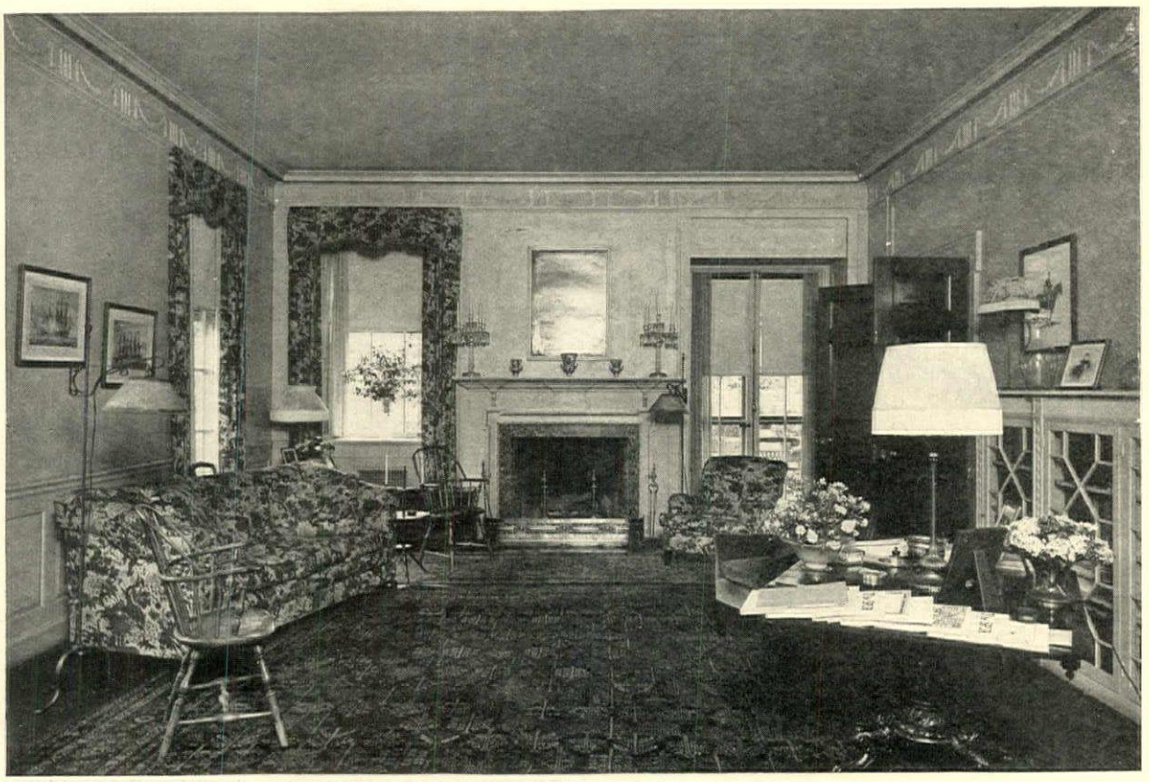
A period in art, on the other hand, is a recurrence of the motives of a style, adapted to new conditions, as the Louis XVI and the Georgian are periods of the classic style. American architecture, with its many adaptations and reproductions, cannot possibly be classed as a period of any one style. Our designing has become a process of assembling of interesting

Modern silk damask design, inspired from an old Chinese embroidery found among the relics of Great Han Emperor Wu-ti, dating back to the second century, B. C. It shows an allover pattern designed on two planes, a double cloud meander joined by two pilasters, and through this shows the allover ogre, with griffons paired joined to upper arch

motives of various styles and adapting them, if need be, to form a harmonious blending, without regard to plan or structure. Such a practice is void of all originality and secured at a minimum of effort, and should be suppressed. Occasionally, there occurs a semblance of true originality in design, but too soon it is downed in its tracks by pernicious criticism, and fear of further assault prevents its return.

Our greatest fault, it would seem, lies in our method of studying old styles. We study their details and proportions wholly with the idea of adap-

tation, while we should study them for their psychology of design. It is not enough to find out or to observe what was done and then do the same thing, but why it was done. The Adam brothers went into the ruins of Rome, analyzed the old designs, and came back to England and created a new period of classic decorative art by applying their knowledge to modern methods of structure and usage. Napoleon's architects went to Pompeii in the same spirit, and the originality of the Empire period shows how they succeeded. We, in this country, do not go back far enough in our studies to get at the fundamentals. It

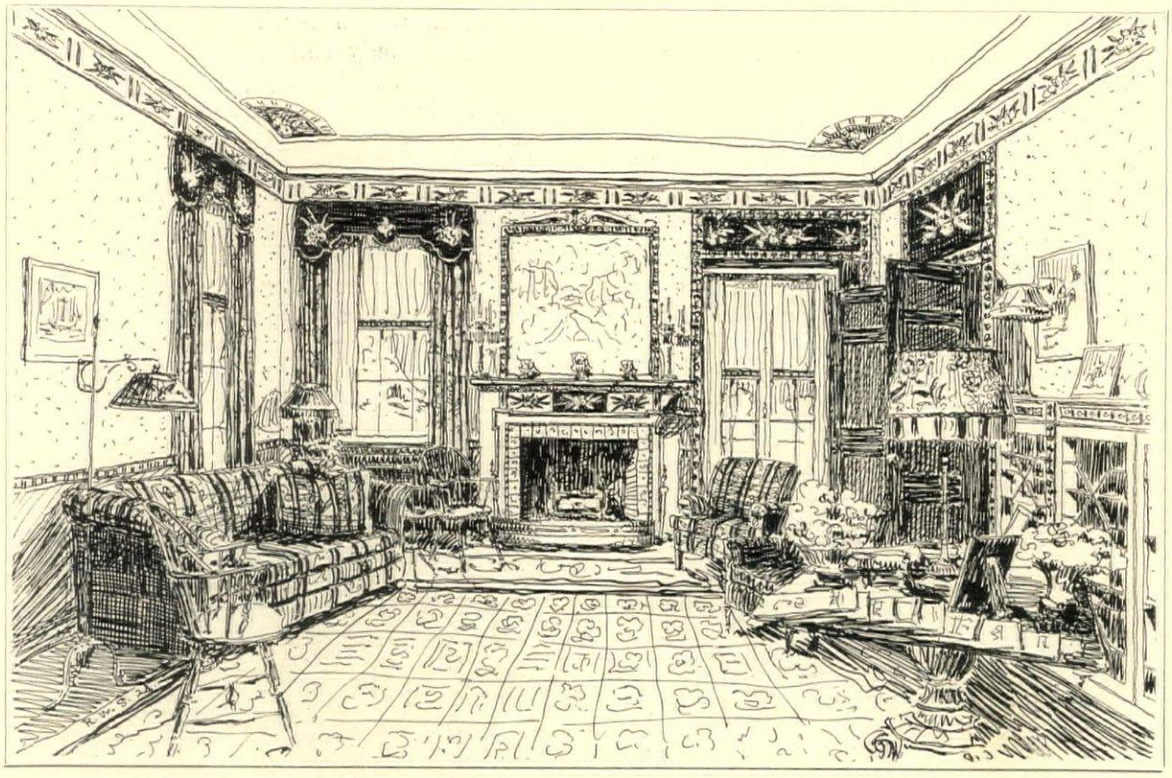


Typical modern American living room of good lines and color scheme, illustrating the accepted practice of interior design. This method does not allow more than ordinary originality in its execution. The feature of the decorative scheme is the stock upholstery material, used for the draperies and furniture covering. In contrast to it, the plain walls and woodwork fade into an insignificant background

is not sufficient for us to study Adam or Empire designs, as good as they are, for they themselves are only adaptations of earlier motives. Their value to us lies in seeing how they adapted those motives and it is evident that we have learned our lesson in adaptation. But it is in the study of the original motives of some style that we get original ideas for modern design. The present generation can hardly expect to see much change in our methods, but new ideas in education of our future architects will accomplish wonders. It is encouraging to find evidence of this in our universities even now. We quote Professor Rudolph Weaver, of the University of Idaho: "My students interpret the reasons why the masters did certain things. They make studies in solids and voids, horizontal and vertical compositions, without reference to stylistic characteristics. I analyze for them the orders for their proportion and psychological effect, and attempt to teach the student to use them as he feels they should be used for his composition, and not necessarily as they are." That is education of the artist and not of the artificer. Our students of painting have long studied the old masters in that way. They learn much of the technique of the brush, and values and combinations of colors, but, in adapting the new knowledge gained, they either make literal copies, or design their own original compositions. The musician studies his Beethoven and Grieg for style and technique, but there is no sign of reproduction in his original composition, which he is thus inspired to create. Originality is not translating a word from one language into another, but in creating new letters to the alphabet from which new words may be evolved. Architectural design will soon cease to be a fine art if the architect himself does not consider it as such.

Another serious fault is the disregard, resulting in a positive lack of tradition in design. The

trouble is that we confuse tradition with fashion. For a hundred and fifty years it has been the fashion to have a projecting cornice on every structure with a flat roof line. It is the fashion now, for instance, to have panelled walls (often only an effect of such) no matter what their relation to plan and structure. It has long been the fashion to use classic mouldings for cornices, trims, etc., just as it is the fashion to use one of the five orders wherever a column is needed. But, while admitting that panelled walls are often correct, that classic details are of fine line, and that the orders are wonderful examples of



The same room as shown on the opposite page decorated around the feature of the scheme,—a modern American upholstery fabric,—used for the side curtains and furniture covering. Motives taken from the design of the material are used as patterns for the decoration of the walls and woodwork. The walls—always in the background—have been thus brought forward, and the furniture—stock designs covered in stock goods—has been pushed somewhat into the background. The result is complete unity in design and originality in interpretation, thereby concealing the stock designs

good proportion, where is the tradition of any of these elements to American building and design? The set-back system, recently inaugurated in New York City, has done and will continue to do more to establish a tradition in American building, especially of the skyscraper type, than anything that has been seen or heard of in these parts for generations. Yet this has come about only by law. One may say what are the traditions of this country? The great Southwest is awaking to the right idea. Their Indian and Spanish traditions, which have been kept alive in other fields, are being vividly brought into architectural designs in that section of the country, adapted to modern methods of construction and usage. There are plenty of traditions associated with New York alone to form the basis of ornamental design. A trip to one of our museums will furnish one with enough to last for some time.

The first architectural designs in this country, in the seventeenth and eighteenth centuries, known now as Early American architecture, showed more signs of maintaining tradition in design than anything since. Had it been developed along the lines of its first inclinations, it is safe to say that there would today be a real American style of architecture. But its natural tendencies to revert to the style of the country of its origin, (prevailing English, French, Dutch, and Spanish, according to the designer's nationality), overshadowed its Colonialism or Americanism, and it was never properly developed, and died. The rapid increase in mechanism and materials as well as in social conditions, in the years following has made such distinct changes in plan and construction that it is impossible for us to link architecture today with the Early American that was so abruptly broken off years ago. We must begin anew. The question might easily arise, on account

of the streak of European blood and the traditions of European culture with which we are endowed, are not our ideals largely the ideals of Europe? To a certain extent that is so. But here again, we must go back farther than the days of the Colonies, if needs be, and find the traditions which were associated with the life of this country, and build our designs on them.

A standardization of details, brought about somewhat by reducing costs by quantity buying, has had a bad effect on originality in design. Quantity production of assorted designs is not in evidence enough, or, at least, not taken advantage of. For instance, a stock window that is used on the wall of a room thirty feet long and twelve feet high also graces the wall of another room ten feet long and nine feet high. Some one may say this is necessary for proper balance in the exterior design. Yet that is a mistake. We have come to use the word balance as repetition. Balance actually means weight, quite independent of type, shape or size. A window three by seven could be properly balanced by a window or pair of windows six by four, and interest in the design would be added by the variation in shapes. The Adam designs, in their use of balance as repetition, have an air of formality and even monotony which we in these times wish to avoid. In the same manner, a stock trim seven inches wide is used at a double door five feet wide by eight feet six high and the same trim for a single door two feet six wide by seven feet high. There is no thought of scale in such an arrangement, or else scale is a very intangible thing. A cast ornamental ceiling is used in a room fourteen feet high and the same design with same details is used in another room nine feet high. Design that is standardized like that is not a fine art.

Still again, we are backward today in the best applied use of color in interior design. Flat painted walls, in panels or plain surfaces, conceal what little originality and individuality there is in the architectural design. Furniture and upholstery and drapery fabrics must be stocked and standardized to a great extent to be accessible to all, or even within reach of the average home owner. This only emphasizes the fact that the wall decoration is the only place for showing originality in interior design. Too often are walls looked upon as a background for the furniture and hangings, and treated monotonously, with no especial interest. What is the result? With standardized furniture, upholstery and drapery materials, and walls lacking in any character or individuality either in color or design, our interiors are practically duplicated in ninety-nine houses out of a hundred, and very often are designed by the yard. Our wall paper and textile designers are turning out goods of sparkling originality in line and color, and our furniture designers are supplying us with stock patterns suitable for the finest rooms. But it cannot be said that the architects are keeping pace with them.

Modern American upholstery fabric, used as the feature of the decorative scheme suggested by the sketch on the preceding page. The motives applied to the valances and overdoor panels, as also the mantel decoration and several running patterns in the scheme are all inspired by some part of this design. The two dark narrow stripes are of dark blue, separated by a yellow line. The broad stripes alternate in dull green and red. The allover pattern is brought out in neutral color, as are the two very narrow lines on each side of the broad stripes

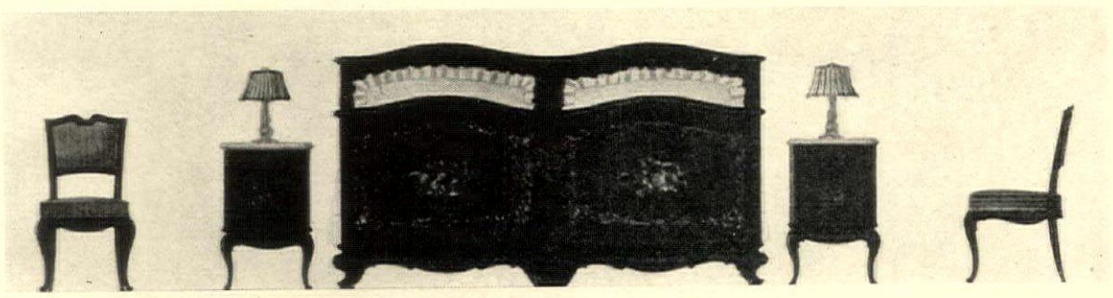
They use this furniture and these materials to portray their originality and individuality and let the walls, their one chance for originality, go by with a coat of paint, which even conceals an occasional pilaster or panel. What is needed, and needed badly, is color to tie up the walls with the furnishings. Paper the walls with a design that bears some direct relation to the furniture covering, and stripe certain mouldings of the trim and cornice to make them part of the wall; paint panels on the walls with colored lines or bands of ornament, if one must have panels; stencil door surrounds directly on the wall; paint an all-over pattern on the wall in colors, or run a chair rail of colored lines on the plaster, always choosing the colors from the furniture covering, or even using a design from some motive of the material. Walls and furniture will then be in unity. Odd pieces of furniture will form sufficient contrast. Bring the walls, already a background, more into the foreground, and put the furniture more in the background, and harmony and unity are sure to result. Furniture and draperies will then take their proper place in the scheme of decoration. Conventional stock patterns in both furniture and fabrics, duplicated now in so many houses, will never be recognized in their new surroundings, and, each room will sparkle with individuality and originality. Do something original that is good, and stand by it, in spite of spontaneous criticism!

At first glance, this idea may seem expensive. Here is what an English publication recently remarked, speaking of the new type of small house which had sprung up since the war: "The fact that effects had to be obtained without extra expense has led to a sudden and astounding discovery of color. The nineteen-twenties in England have discovered paint and light, and are beginning —tentatively, experimentally—to use them." Let us try them, too. Unity is the secret of this method. After the floor plan is made and the furniture placed, we have been in the habit of next designing the wall treatment. This is the mistake that disrupts unity. The furniture covering, actually often more important than the furniture itself, should be determined before designing the walls. Wall treatment, of necessity of special design, can be made to harmonize with any covering, but stock design furniture covering cannot be counted on to bear any direct relation in design, at least, to specially treated walls. Try making your scheme in this order:

1—Floor Plan
2—Construction
3—Placing Furniture
4—Furniture Selection (for scale, etc.)
5—Furniture Covering and Drapery Fabrics
6—Wall Decorations
7—Floor Treatment

This whole idea of tieing up the decoration with the furniture covering and draperies was the secret of the success of the old period rooms, although their method of procedure was somewhat different. Look at any original Louis XVI room, for instance, and notice how the painted ornament of the wall panels harmonizes so perfectly with the design of the drapery and furniture coverings. To be sure, tapestries, used so largely in those times for upholstery material, were generally made up specially and were designed with the wall decoration. In these modern days, however, it is necessary slightly to alter the method, but the result can be just the same. Unity in design throughout, that is the whole story.

Architects are invited to correspond with the editor of this department regarding any problems of interior design or the availability of materials. Acknowledgment is made to the following firms for their courtesy in supplying illustrative material: Cheney Brothers, Orinoka Mills.



ELEVATION OF A BEDROOM FURNITURE SET, SHOWING MODERN GERMAN TENDENCY

(From "Moderne Bauformen")

An INTERVIEW WITH M. PAUL ALBERT BESNARD of the ECOLE DES BEAUX-ARTS, PARIS

M. PAUL ALBERT BESNARD of the Ecole des Beaux-Arts, Paris, is this year the member from France on the jury of the Carnegie Institute's International Exhibition of Art, to be held in Pittsburgh this month. Desiring to make the acquaintance of an artist most distinguished, and of a man whose activities in the Ecole des Beaux-Arts have been so very constructive, a representative of THE AMERICAN ARCHITECT was permitted a short interview. We found M. Besnard typically French, with the exception of the monocle he wore. When he learned that we represented this journal, he at once showed a spontaneity that made questioning unnecessary. "You will want to know how I like your city, your architecture," he said, and then he launched on an expression of an opinion that should gratify architects in this country. "Your architecture, it is wonderful; the proportions of your buildings impress the stranger as most unusual. Your architects have courage and with it knowledge. Their designs are interesting and decorative. It is one grand picture, the effects of light and shade that your tall buildings set up. The picture is wonderful."

PAUL ALBERT BESNARD

Looking from the window of his room on the tenth floor of the Biltmore, where this interview was held, M. Besnard adjusted his monocle and critically surveyed the towering height of the Shelton Hotel. "For example, that tower, is it not delightful?" There was a sincerity in all his remarks that gave assurance that his admiration was not feigned.

"Do you," we asked, "trace in the design of any of our buildings an influence of that Beaux-Arts training that so many of our architects have enjoyed?" "Your men come to Paris," said M. Besnard, "to learn technique and how to design. When they have mastered these essential things, then they are free. They return to America to design to suit conditions here. They have their own visions. All your buildings I have seen tell me that your architects are grounded in these principles." When we asked him if many buildings here had not much in common with those in France, M. Besnard replied: "Possibly, but such details disappear in the very great difference in form which your buildings take."

M. Besnard is accompanied on his visit to this country by Madam Besnard, who was present during this short interview and who enthusiastically confirmed in perfect English the good impressions of American architecture voiced by her distinguished husband.

BOOK NOTE

THE ART OF LETTERING

MORE than a mere series of different styles of alphabets, this book describes the methods and tools used in forming the letters. This is a very valuable and practical feature. There are illustrations of the assembling of letters into composition which teaches some phases of good lettering not apparent from a study of alphabets as ordinarily printed. Beyond the technique is the very important study of use, illustrated by a great number of examples of lettering. These are the work of different artists, which gives them an added value, particularly as they have been used for the purposes indicated. The range of these samples should be sufficient to meet the requirements of those in need of a reference collection of applied lettering. It is a valuable addition to an architect's working library.

The Art of Lettering, by Carl Lars Svensen. 136 pages (96 full page plates), 8 x 10½ inches, cloth. D. Van Nostrand Company, 8 Warren Street, New York City. Price $3.50 net.

SPECIFICATIONS

Brick Masonry Specifications (*Continued*)

SPECIFICATIONS for brick masonry must of necessity cover a multitude of minor items that must be installed by the contractor, some of which may be shown on the drawings while others may be left entirely to the specifications. The specification writer should list these items in full and should determine whether the drawings should be depended upon for indications only, but most certainly they should be mentioned in the specifications as being included in the brick masonry contract.

One of these numerous items is the matter of raggle blocks, the use of which has developed to a great extent during the past fifteen years. These blocks are used to receive roof flashings and the very nature of their use requires that they be set in a particular fashion. The prime consideration is that they be level or parallel with the roof, and that they should provide a continuous raggle around the roof surfaces to receive the flashing uninterruptedly. There are times, however, when the continuity must be broken and this is especially so where the blocks are laid level and not paralleling the roof surfaces. In this case it is customary to extend the blocks to overlap one another at least 12″ to provide a correct flashing connection. It is rather expensive to lay flashing block paralleling roof surfaces as this requires much clipping of brick where the roof surfaces themselves are not level. The clipping of brick not only is expensive, but it is not liked by the masons nor is it proper that a parapet wall should have row after row of clipped brick, thus introducing many more points for the seepage of moisture.

The raggle block ordinarily is furnished with the salt glazed surface and they are so designed that there is a right and a wrong way to set them. There is usually a protecting lip which is to be set uppermost to provide a little further protection to the caulking of the raggle. The bottom edge of the raggle should be not less than 6″ above the roof and yet it should not be so high above the roof as to cause expensive flashing methods unless due account is taken of such probable costs. There are cases where raggle blocks may be furnished by the manufacturer of the roofing materials being used, in which case they must be set in exact accordance with instructions of the manufacturer. The specifications should stipulate the supervision of this installation work by the roofing contractor, since where they are used they form an integral part of the roof flashing scheme, coming under such guarantee as the roofer may give under his contract. In this case, since the roofing guarantee is more important as regards the flashings and the main roof surfaces, the necessity for such supervision and co-operation by and with the roofing contractor should be clearly presented to the brick masonry contractor. The raggle block of whatever kind used should be furnished with all internal and external angles and other special pieces made by the manufacturer of the block chosen. All raggle blocks should be laid in the same order that are used for the laying up of the parapet walls and they should be laid with full bed and end joints and carefully pointed up, especially for the joints above the flashing. Unless it is absolutely necessary to do otherwise, the specification writer should insist that the raggle block be laid level, or at least parallel with the brick masonry courses, in order that the clipping of brick may be avoided.

Another important miscellaneous item is that of wall copings. Wall copings must be made of vitrified clay tile burned to thorough vitrification and free from cracks that extend through the tiles. Such tile copings are usually of the hub and spigot type and are finished with a salt glaze. The width of tile between the projecting flanges on the undersides should be at least ½″ greater than the total wall thickness. If nominal sizes of tile are used, the construction of the parapet wall requires that its thickness be set at a maximum that will provide ¼″ clearance on each side. This is an especially important feature of the preservation of parapet walls, for if the tile copings fit snugly over the brick they will undoubtedly be chipped and heaved from the wall, thus opening the wall to the ravages of weather, when one might feel confident that the wall is in perfect condition. The copings should be provided with manufactured special fittings as required for ends and angles. The use of straight tile cut on the job for these purposes should not be allowed. The same mortar used for parapet wall construction should be used for the setting of tile copings, and they should be set on full beds of mortar with at least ¾″ back from the face of the joints left for caulking with elastic cement. The specifications should require that each piece of coping be examined as to through cracks and that any pieces having such cracks be condemned for use on that operation. As will be discussed more fully, the matter of waterproofing of parapet walls is quite important and it is necessary that the material be specified as to manufacture and installation so that the good construction of the wall is not harmed. There have been attempts by contrac-

tors to disregard the tile coping as far as its important factor in good work is concerned, but if the roofing contractor is to be required to guarantee the flashings as well as the general roof surfaces, the architect shall see to it that the parapet walls will not provide an excuse for the roofer to avoid responsibility for imperfect flashing in cases where responsibility rightly is his.

Brick floors, walks, steps and pavements while not exactly miscellaneous in character are not the usual thing for the average architect, but since they are in most cases given extreme exposure, their specifications should be just as explicit as for the remainder of the brick masonry work. Floors and steps for interior work are not so difficult to lay—they should of course be placed on concrete sub-base laid in mortar which is used as much for purposes of leveling as for bonding and then the joints should be filled with a cement grout. If the design of the floor is intricate, the specifications should cover the design as to the shapes of bricks and if any special shapes are required attention should be directed to them. The architect is expected, of course, to ascertain what special shapes he may desire will be available from the manufacturer of the brick selected.

Such brick require perfectly level surfaces, thus entailing extreme care in the setting of the brick in a mortar bed. The laying of brick for steps for interior use should be done in accordance with the same specifications as for the floors.

Brick that is to be used for exterior surfaces in paving work must be laid on a concrete bed not less than 4″ thick. In some localities it is the custom to lay the brick on a sand bed of about 2″ thickness, after which the joints are grouted with Portland cement. Much difficulty has come from such construction and it is hard to say just where the fault lies. It is believed that the proper method of laying paving for exterior use, while expensive, is as follows:

The sub-base of earth should be prepared by rolling and tamping to provide a substantial, compact surface. If part of the material is fill and part original ground, the original ground surface should be spaded or otherwise loosened, to insure a practically uniform, compact mass—in other words, good workmanship cannot be expected where the sub-base possesses different degrees of hardness throughout its area. On this sub-base which has been leveled or brought to correct grades, a 5″ concrete base made of one-three-five proportions, should be laid and screeded to a level top surface the proper distance down from the finished face. This base should be laid so that whatever is laid in the morning can be covered with a finished brick surface in the afternoon, or the specifications should require that the laying of brick should be continued beyond the usual quitting hour. On top of the concrete base, within an hour after it has been placed, a screeding and leveling coat of one to three cement mortar should be spread to a thickness of about ½″. This mortar coat should be mixed fairly dry so that the brick can be laid on it within one-half hour. After the brick have been laid, taking care that joints are not less than ⅜″ thick, a Portland cement grout quite wet, should be poured into the joints. The rather dry leveling coat of mortar, will absorb some of the water from the grout, and it is believed that this form of construction will insure a pavement that is practically integral from bottom to top. One known instance where this method has been used has gone through ten years of use without the slightest damage. If the paving is not to be laid between masonry walls, that is if the edges are exposed, forms must be erected to hold the concrete and the brick in its grouted joints, and of course the forms must be lined up correctly and braced substantially. This method should be followed for steps and walks having exterior exposure and it is especially in the construction of steps that so often are built in such a manner that they begin to disintegrate after the first Winter. Some argument has been made in road construction against the custom of removing the top soil in virgin ground down to clay on which the road foundation is placed, the theory of the objection being that the heaving of the clay bed in Winter is restrained to some extent by the compressibility of the top soil, the top soil thus acting as a cushion between the dead weight of the paving and the force of the freezing sub-base material. It is not known whether this theory has a great amount of value but it seems logical for the usual walks.

Many brick walks are so designed as to allow the use of grass joints. For such construction the sidewalk construction specified above should be used with the exception of the last operation, that of grouting the joints. Since some of the charm of grass jointed sidewalks comes from the uneven surfaces and irregular bounding lines, it may be that the architect would prefer to use a 2″ sand base instead of the mortar leveling bed. In this case, however, the walk must be laid level with the ground, otherwise the brick will gradually spall away if restrained by earth for only half of their depth. In any event, the construction of a walk to meet such requirements is rather haphazard unless a particular method has proved successful in the past. It is so hard to judge how time and weather conditions will affect a walk to produce ridges and hollows that give some charm, that the architect must study his question quite thoroughly before plunging into difficulties.

Historiography

The following extracts from "Composition Roofing—Its Materials and Uses," which is being

written by C. C. Figge, are very interesting and it is believed that some of the information given has not heretofore been made available to architects and to specification writers:

THE ORIGIN OF COMPOSITION ROOFING—The first composition roof covering of which we have any record was built in Sweden. While flat roof decks were constructed by the Samarians 2500 B.C. they were waterproofed with an asphalt mastic consisting of clay, natural asphalt and twigs or straw to reinforce the mixture. Asphalt mastic is seldom used as a roof covering today and is always applied over a composition roof covering when so used.

Realizing the economy of flat roof construction, Admiral Faxe built a building in Sweden with a flat roof deck which he waterproofed in the following manner: Unsaturated felts were secured to the roof decks with nails. These felts were so laid that each felt overlapped a part of the preceding one, the water flowing over the laps. The entire surface was then coated with hot pine tar.

This roof covering was not permanently satisfactory, as the sun soon volitalized the pine tar, leaving the felts in a condition to absorb water. In a water-soaked condition, the felts could not resist the action of the wind, and were blown from the roof deck.

The small amount of waterproofing material contained in this roof covering accounted for its short life. However, this type of roof covering was used for a number of years until a method was discovered whereby additional waterproofing material could be added.

EVOLUTION OF COMPOSITION ROOFING—The first step in the development of composition roofing was made in Germany by Busscher, who had taken the idea of the pine tar roof covering from Sweden into Germany. He realized that the short life of the pine tar roof covering was due to the small amount of waterproofing it contained.

Busscher conceived the idea of adding life to the roof covering by saturating the dry felt before applying it, rather than applying the dry felt and then coating it with pine tar. His construction and method of application did not differ from that employed by Admiral Faxe of Sweden.

By saturating the felts the waterproofing contained in the finished roof covering was increased approximately 500%. As one of the factors determining the life of the roof covering is the quantity of the waterproofing materials contained, obviously an increased life was obtained by saturating the felts.

Roof coverings were built with felts saturated with pine tar until economic conditions necessitated the use of other waterproofing materials.

In the early use of composition roof covering, pine tar was used to saturate and thereby waterproof the felts used. The cost of pine tar steadily rose as new demands were made for its use and the supply available for roofing purposes diminished. This condition made it necessary to look for a substitute.

At this time coke and gas were being produced in Germany with a resultant undesirable by-product—coal tar. There were no uses at that time for coal tar. Laws had been passed prohibiting the throwing of it into the streets or streams, making it necessary to haul it long distances into the country to dispose of it. An economic condition brought about the use of coal tar. This material was better suited for the purpose than the pine tar for which it was substituted.

Although coal tar with the water content and light oils removed added life to the composition roof covering, it was not until a means of "sealing the saturant in the felt" was devised that permanent roof coverings were constructed.

Composition roof coverings in which pine tar and later, coal tar, were used, provided a means of waterproofing roof decks, but not permanently. This was due to the escaping of the saturant, resulting in a rapid disintegration of the felts. To retard this rapid drying out of the felt, the idea of "sealing the saturant in the felt" suggested itself.

A sealing agent was formed by adding rosin to the distilled coal tar. The rosin raised the melting point of the coal tar, hardened it, and retarded its volatilization. This sealing agent was spread between the saturated felts and was used to coat the top surface. The top surface was stabilized through the use of a surfacing of sand, gravel, slag, or crushed stone.

Modern composition roof coverings are constructed in a like manner, although the use of different materials is employed.

PRINCIPLES OF COMPOSITION ROOF COVERING CONSTRUCTION—One of the principles underlying proper construction of roof coverings, is that of "permanently securing the roof covering to the deck." There are three methods of securing employed—nailing, cementing, and anchoring with heavy mineral surfacings. These methods are used singly or in combination, depending upon type of roof covering, kind of roof deck, and conditions to be encountered.

Nailing is employed in applying smooth surfaced roof coverings upon wood roof decks. This method is also used as additional security in the application of mineral surfaced roof coverings on wood or gypsum roof decks where strong winds prevail and when these decks are steep. The method of cementing is used in the application of smooth surfaced roof coverings over concrete, tile or gypsum roof decks. It is good practice to nail, in addition to cementing, when applying smooth surfaced roofings on gypsum roof decks. Where strong winds prevail it is well to cement mineral

surfaced roof coverings when applied on concrete, tile or gypsum roof decks.

Anchoring the roof covering to a roof deck by means of the weight of mineral surfacing can be employed on any type of roof deck.

Principles of Composition Roof Covering Construction—Another of the principles underlying proper construction of composition roof coverings is that of "properly positioning the roof covering to the contour of the roof deck." Under this principle comes the correct laying of the layers of felt or fabric of which the roof covering is constructed.

The felts or fabrics should be so applied that the water will flow over the laps or joints and not against them. The position of the felts or fabrics should be such that the water crosses the laps or joints as near to a right angle as the roof deck construction will permit.

This principle is violated when roof coverings are constructed on "dead level" roof decks.

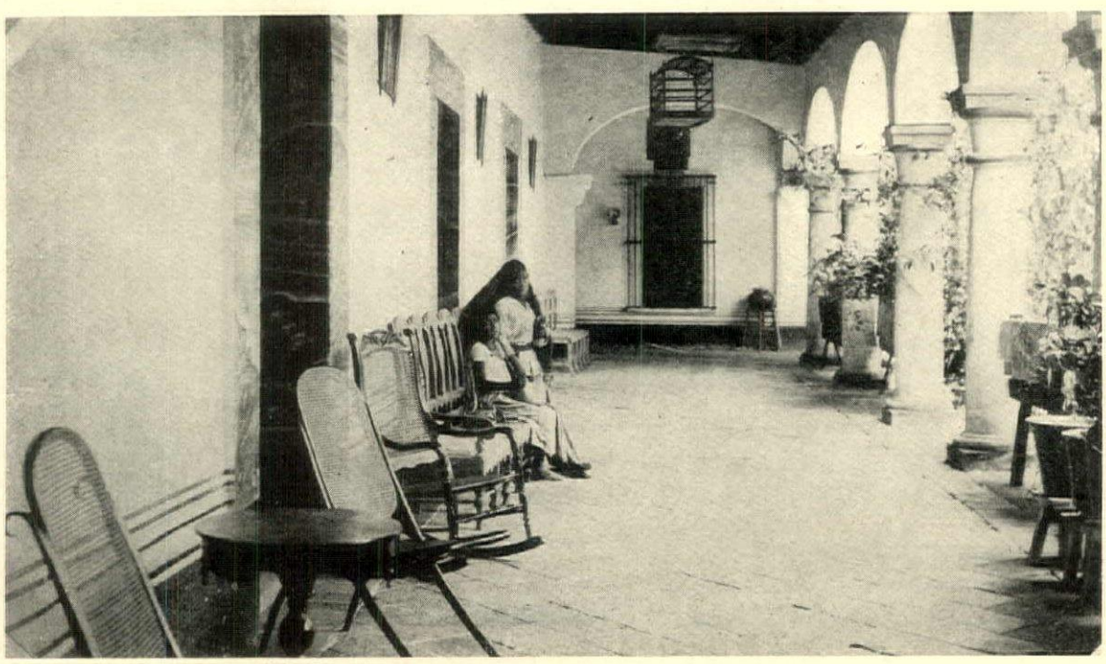
While it is essential to adhere to this principle on flat decks, a violation is permissible on steep decks of concrete, gypsum or tile. On these decks the roof covering is "secured to the deck" by cementing. To prevent the roof covering from gravitating in hot weather the felts or fabrics are anchored at the peak of the deck. This necessitates applying the roof covering in a position where laps or joints run parallel to the flow of water. However, if roof covering is properly applied little difficulty is encountered as the water is shed rapidly.

Principles of Composition Roof Covering Construction—"Sealing the saturant in the felt or fabric" is another of the principles involved in proper composition roof covering construction. It is only when this principle is applied that permanence is possible in composition roof coverings.

In built up roof covering construction the saturation is sealed in the felt through the use of coal tar pitch or asphalt spread over the felts or fabrics as applied. If this bituminous coating is not spread over the entire surface of the felts or fabrics the saturation volatilizes and a rapid disintegration of the roof covering takes place. This illustrates the necessity of mopping the felts or fabrics the full width of the lap.

In the manufacture of prepared roofings and asphalt shingles the saturant is sealed in the felt by a coating of asphalt applied in the process of manufacture.

When the composition roof covering construction is better known, the character of the materials employed and their relation to one another understood, the principle of "sealing the saturant in the felt or fabric" will not be violated.



CORRIDOR OF A HOUSE AT MITLA, MEXICO

THE COUNTRY HOUSE PORCH, THE LINK BETWEEN THE HOUSE AND THE GARDEN

(From "An Architectural Pilgrimage in Old Mexico")

The LAW *as to* ARCHITECTURE

BY CLINTON H. BLAKE, *Jr., of the New York Bar*

AN interesting question is oftimes presented, where the owner or architect feels that, for some reason, the work should be held up temporarily, and the contractor is not inclined to agree. If the contract is so drawn as to give the right to the owner to suspend the work, he may, of course, do so. Where a contract, however, contains no such provision, and simply specifies the work to be done, the contractor may be disposed, in some cases, to assert a right to continue with the work, without interruption, to completion. Certainly, in many cases, he will assert a right for damages occasioned him by delay in the work.

In a recent case which was brought to my attention, a contractor entered into a cost plus contract in the ordinary form. The contract contained no upset price clause and no penalty clause. Also, as I understand it, it contained no clause giving the owner the right to suspend the work. The work was undertaken and, after it was well under way, the architect and owner decided that it would be advisable to make various changes in the job as originally planned. The architect thereupon notified the contractor to stop work on the items involved in the changes, pending further instructions. It appears, however, that a suspension on these items by the contractor would not have prevented him from proceeding with the rest of the work, without interruption. The contractor disregarded the instructions of the architect and continued with the construction of the building, as a whole, including the items upon which he had been instructed to suspend. The result was that, when the owner finally decided to have the proposed changes made, it was necessary, in order that they might be carried into effect, to tear down work done by the contractor, contrary to the instructions to suspend work, and after he had received these instructions. The owner claimed that the contractor should be responsible for the expense incident to tearing down the work which he had done contrary to the architect's instructions. The contractor, on the other hand, claimed that he was, in reality, under the cost plus contract, acting as the agent of the owner, and that the contract, in effect, gave him the right to go ahead as representing the owner and carry out, without change or suspension of work, the job as outlined in the contract. He further claimed that, in such a case, a penalty clause, if one had been included, should be applied in favor of the contractor, and that the contractor should be reimbursed under it for the delay in the whole job caused by his having to tear down the work which he had done.

In the first place, it is quite clear that a contractor, acting under a cost plus contract, cannot avoid liability for any improper proceedings on his part, by claiming that he has acted as the agent of the owner. He is not the agent of the owner, but is a contractor acting under the terms of his contract. He is entitled to all the rights and subject to all of the obligations and liabilities of any ordinary contractor. His relationship with the owner is not an agency relationship, but the ordinary relationship of one who has contracted to do certain work on specified terms. An agent, under the law, is one to whom definite authority to act for another is delegated. In the case of a construction contract, the owner does not delegate his authority to act to the contractor. On the contrary, he deals as principal with the contractor, without the interposition of any agent other than the architect, so far as the latter may act under his agency powers.

In the case referred to, the notification of the architect to the contractor put the latter on notice with regard to the changes which were under consideration. A contractor, if delayed in the work without his fault, by orders of the owner or architect, is entitled to compensation for the damage caused him by the delay. On the other hand, the courts will not allow him, by obstinately refusing to suspend work, when requested to do so, to cause unnecessary damage to the owner. His right to claim damage caused him by a suspension of the work is an entirely different proposition from the right which, in this case, the contractor claims, to continue with the work, despite the order of suspension. The contractor, having proceeded with the work, notwithstanding the notice from the architect, and thereby caused the owner additional expense, resulting from the necessity of tearing down the work again, in defiance of the architect's orders, should reimburse the owner for that expense.

Any question of this character comes back, in the last analysis, to a question of common sense and of fair dealing. In this case, the contractor, instead of heeding the warning given to him and relying on his right to recover from the owner any damage caused by his heeding it, has attempted to follow an entirely different course and to proceed with the work, whether the owner desires it to be proceeded with or not. The courts will not encourage an attitude of this character.

They will protect the contractor from damage caused him by the owner, but they will not allow him to cause damage to the owner and not be held responsible for it. The case, of course, emphasizes the importance of inserting in the contract a proper suspension and abandonment clause. Where such a clause is included, there can be no doubt of the rights of the parties. Where it is not included, a situation such as that here outlined may quite easily arise, either as a result of bad faith on the part of the contractor, or of an honest misunderstanding by him of his rights. In many a case, where such an issue is raised, the owner is unnecessarily damaged and in all likelihood forced into expensive litigation. The contractor, of course, cannot sustain his claim that a provision for liquidated damages for the benefit of the owner, unless by its terms it also is to apply for the benefit of the contractor, can be taken advantage of by the latter.

LEGAL DECISION

THE contractor entered into a contract with the City of Cleveland for the construction of a City reservoir in accordance with plans and specifications submitted by the City. Under the process of payment followed by the City authorities, the funds from which the contractor was paid were certified by the Director of Finance on a unit basis. It appeared that the funds available as certified by the Director were insufficient to cover the completion of the contract. It appeared also that the contractor had deviated in some instances from the plans, which were defective, in view of the character of the soil on the site which the City selected. There was some defective work by the contractor, but it appeared that the work done by him, which was not as called for, could have been replaced with small expenditure, if the plans had been proper, and that the contractor had acted throughout in good faith and without any intentional violation of his contract. The contract contained a provision for liquidated damages of $50 per day for each day's delay in the completion of the work. In a suit by the contractor against the City of Cleveland, the City claimed that the contract was invalidated, because the funds available were insufficient, and that the contractor could not recover, also, because of his deviation from the plans and because the engineer in charge had not accepted the work, although the contract contained the provision that the acceptance of the work by the engineer should be a condition precedent to the contractor's right to recover. The City also defended on the ground that the contractor had done various defective work and set up a claim for the liquidated damages provided for in the contract. The court held that:

> "A contract, if valid at all, is valid when made and does not become invalid as a result of contingencies arising during the performance * * *. It is either valid at that time, or it is invalid; if valid when made it binds both parties until fully performed; it does not become invalid because of the failure to estimate correctly in advance the amount necessary to be certified."

The court also held that a contractor constructing work in accordance with the plans and specifications prepared is not liable for the insufficiency of the work for the purposes intended, due to defects in the plans, and that, even though there are certain deviations from the plans, if they are not intentional and substantial, the contractor may recover on the theory of substantial performance; that, where it is necessary to reconstruct work on different plans, as a result of defects in the original plans, pursuant to which the contractor acted, the contractor cannot be forced to pay the cost of the reconstruction; that defective work which could have been replaced by the contractor, with little expenditure, if the plans had been proper, would not enable the City to hold the contractor for the reconstruction cost; that the contractor, having substantially performed his contract, was entitled to recover the amount of the contract price, less the difference between the value of the building to the owner in its defective condition and its value, if perfectly constructed, in the event that it is not fair or reasonably practicable to remedy the defects, or if that is practicable, then less the reasonable cost of remedying the defects; that in the case in point, the contractor had substantially performed with slight defects, but, because of the defective plans, the work, if completed in accordance with them, or the defective work, if prepared in accordance with them, would have been worthless; under these conditions, the City having elected to rebuild on a different plan, cannot recover from the contractor the amount it would have cost to repair the defective work; that in any case, the City could recover from the contractor for the defective work incorporated in the reservoir as originally constructed, only the amount paid for such of the work as was defective on the basis of the contract price. The court further held that the refusal of the engineer to accept the work was unreasonable and arbitrary under the conditions, and that it would not, therefore, bar a recovery by the contractor, despite the provisions of the contract. It was further held that in a contract for a City work of large size, a provision for liquidated damages is proper, and that a stipulation of $50 per day as liquidated damages for each day's delay in the work is not unreasonable and will not, therefore, be held to be void as constituting a penalty.

Walsh Construction Company v. City of Cleveland, 271 *Federal* 701.

BEAUX-ARTS INSTITUTE *of* DESIGN

ACTING DIRECTOR OF THE INSTITUTE—WHITNEY WARREN

ARCHITECTURE—RAYMOND M. HOOD, DIRECTOR

SCULPTURE—EDWARD FIELD SANFORD, JR., DIRECTOR INTERIOR DECORATION—FRANCIS H. LENYGON, DIRECTOR

MURAL PAINTING—ERNEST C. PEIXOTTO, DIRECTOR

OFFICIAL NOTIFICATION OF AWARDS

JUDGMENT OF FEBRUARY 19, 1924

CLASS "A"—III PROJET

"A SHOPPING CENTER"

On a city block 200 feet by 300 feet with the more important streets on the narrow sides, a syndicate proposes to erect a building for the accommodation of a great many stores and shops of various size and importance. In order to provide the necessary display space on all floors there are to be one or more great arcades the height of the building and passing through from street to street. These arcades are to be 50 feet wide, with galleries on each side on the upper floor projecting 10 feet into them, from which access will be had to the various stores. The arcades should be covered with roofs of glass and may be open entirely or in part to the streets to provide air and ventilation.

It is important to the success of the enterprise that adequate access to the various galleries be provided by stairs and elevators and that the stores themselves should be able to attract customers from the main floor of the arcade.

There will be besides the ground floor, which is 20 feet high, 6 other floors, all 17 feet high (to allow for mezzanines), all measured from floor to floor. The roof, pent houses and so forth, may project above this limit.

JURY OF AWARDS:—R. M. Hood, H. O. Milliken, J. M. Howells, E. S. Hewitt, W. E. Shepherd, Jr., W. Warren, H. R. Sedgwick, J. C. Levi, W. D. Blair, D. Barber, F. C. Farley, D. H. Cowl, P. P. Cret, F. C. Hirons, H. W. Corbett, W. Van Alen, H. Sternfeld, G. M. Simon, O. Faelton, and C. Grapin.

NUMBER OF DRAWINGS SUBMITTED:—90.

AWARDS:—

FIRST MEDAL:—W. R. Amon, Atelier Licht, N.Y.C.; J. F. Lauck, University of Pennsylvania, Phila.

SECOND MEDAL:—W. W. Wurster and E. Sheppard, Atelier Licht, N. Y. C.; R. Ruhnka, B. Riaboff, E. R. Duckering, L. I. Kahn and T. P. Yang and T. E. Cooper, University of Pennsylvania, Phila.; W. Faulkner, Yale University, New Haven.

FIRST MENTION:—C. A. Stiehl, A. R. Hauser, H. E. Anderson, J. R. Koberling, Jr., N. L. Flint, R. V. Faro, R. L. Brandt and H. F. Reynolds, Armour Institute of Technology—Dept. of Architecture, Chicago; J. B. Walther, A. E. Kleuppelberg, A. M. Dick, C. L. Cummings, G. R. Tyler, and E. C. Morris, Columbia University, N. Y. C.; H. Lynch, W. C. Pyle, J. Franklin, H. C. Douden, P. F. McLean, H. L. Carter, W. Z. Bane, and E. M. Gearhart, Carnegie Institute of Technology, Pittsburgh; J. H. Lapish, George Washington University, Wash., D. C.; J. Gambaro and P. Simonson, Atelier Hirons, N. Y. C.; V. M. Reynal, Atelier Licht, N. Y. C.; R. Switzer, Jr., Ohio State University, Columbus; J. S. Shanley, F. W. Roudebush R. I. Powell and A. P. Davis, Princeton University, Princeton; E. Malczewski, Syracuse University, Syracuse; F. Raudenbush and G. P. Turner, "T" Square Club, Philadelphia; D. K. Frohwerk, University of Kansas, Lawrence; E. F. Anderson, H. Silverman, D. M. Blum, A. M. Butts, E. F. Tucker, Jr., F. T. King, J. W. Everhard, and E. Snyder, University of Pennsylvania, Phila.; O. Stephan, University of Illinois, Urbana; A. H. Goddard, Atelier Wynkoop-Seymour, N. Y. C.; D. Douglas. C. F. Ferrari, H. P. Staats, W. Ferrari, H. O. Williams, and I. Horton, 3rd, Yale University, New Haven.

SECOND MENTION:—R. F. Houlihan, E. Lynch, and I. Alexander, Armour Institute of Technology, Dept. of Archt., Chicago; J. H. Delo, M. A. Brace, H. A. Page, and A. Thormin, Carnegie Institute of Technology, Pittsburgh; G. Matsuda, Columbia University, N. Y. C.; A. S. Phillips, R. L. Linder, and C. F. Bieler, Atelier Denver, Denver; Mary A. Walker, R. M. Kreb, Ruth E. Morris and T. Rayburn, Ohio State University, Columbus; C. I. Cromwell and H. A. King, Syracuse University, Syracuse; J. Radotinsky, University of Kansas, Lawrence; E. I. Harrison, University of Illinois, Urbana

H. C.:—E. Mittelbusher, University of Illinois, Urbana.

CLASS "A"—III ESQUISSE-ESQUISSE

"A MONUMENTAL FOUNTAIN"

A reservoir is located in a city park and against its wall it is proposed to erect a monumental fountain. Before the fountain will be an open plaza, whence the play of the fountain's waters may be seen to advantage. Balustrades, seats and statues adorn the plaza. The height of the reservoir wall is 50'-0" and the greatest width of the fountain proper shall not exceed 50'-0".

JURY OF AWARDS:—H. O. Milliken, J. H. Freedlander, E. S. Hewitt, W. E. Shepherd, Jr., W. Warren, F. A. Godley, W. D. Blair, F. C. Farley, and C. Grapin.

NUMBER OF DRAWINGS SUBMITTED:—84.

AWARDS:—

FIRST MENTION:—H. K. Bieg, Armour Institute of Technology, Dept. of Archt., Chicago; G. D. Connor, Chicago Atelier, Chicago; A. F. Euston, Atelier Hirons N. Y. C.; W. Ferrari, Yale University, New Haven.

SECOND MENTION:—C. A. Stiehl and R. V. Faro, Armour Institute of Technology—Dept. of Archt., Chicago; O. F. Cerny, Chicago Atelier, Chicago; C. E. Landefeld, Carnegie Institute of Technology, Pittsburgh; C. M Williams, Ohio State University, Columbus; E. Snyder, L. I. Kahn, J. F. Lauck, J. L. Evans and R. Ruhnka University of Pennsylvania, Phila.; W. E. Armantrout, University of Illinois, Urbana; C. F. Ferrari and D. Douglas, Yale University, New Haven.

CLASS "B"—III ESQUISSE-ESQUISSE

"A FRONTISPIECE FOR A BOOK ON ARCHITECTURE"

Early editions of Vignola had frontispieces very beautifully designed and engraved. An American publisher who is preparing a fine modern edition will reproduce his title page in photogravure. It will have the following lettering on it:

"The Five Orders of Architecture by G. Barozzi da Vignola. Adam Banks Sons, New York, London, 1923."

That the sheet should be beautifully composed is essential. The drawing should be designed for reproduction at the same scale.

JURY OF AWARDS:—H. O. Milliken, J. H. Freedlander, E. S. Hewitt, W. E. Shepherd, Jr., W. D. Blair, F. C. Farley, and C. Grapin.

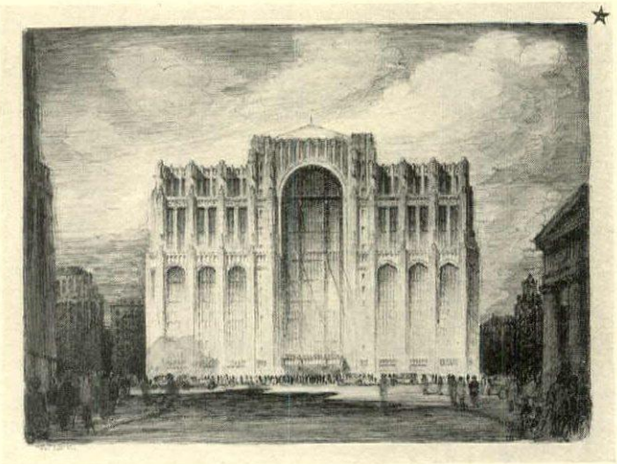
NUMBER OF DRAWINGS SUBMITTED:—74.

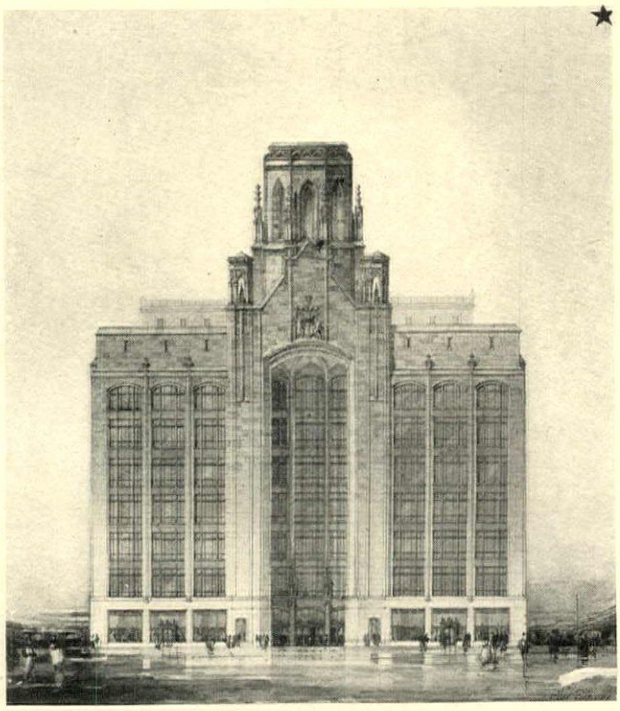
AWARDS:—

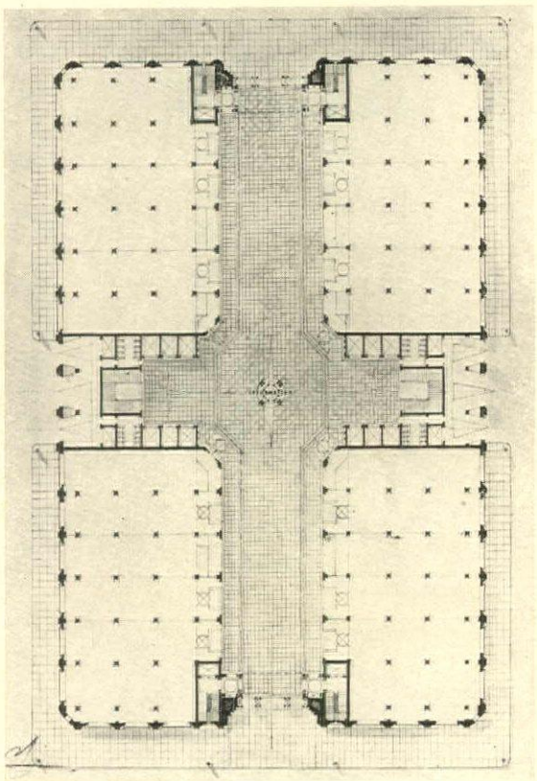
FIRST MENTION:—G. V. D. Cortelyou, French Curve Atelier, Trenton; T. Ross, Jr., Patron—J. G. Rogers, N. Y. C.; J. C. Ehrlich, Atelier Sibley, Palisade, N. J.; J. E. Jackson, "T" Square Club, Phila.; M. B. Ives and S. C. Haight, Yale University, New Haven.

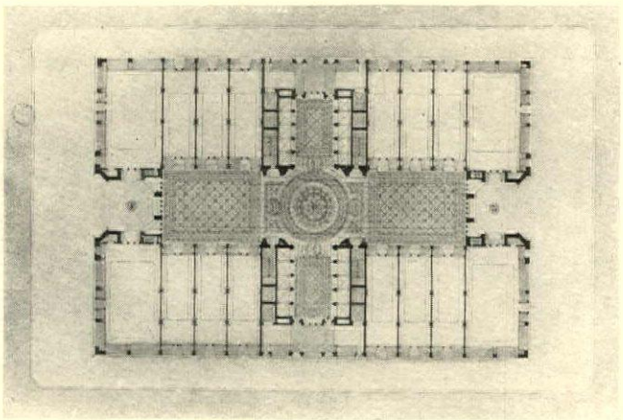
SECOND MENTION:—V. Pribil, Atelier Corbett-Koyl, N. Y. C.; Dorothy M. Sigman, George Washington University, Wash., D. C.; W. R. Harer, "T" Square Club, Phila.; E. Studds and H. P. Staats, Yale University, New Haven.

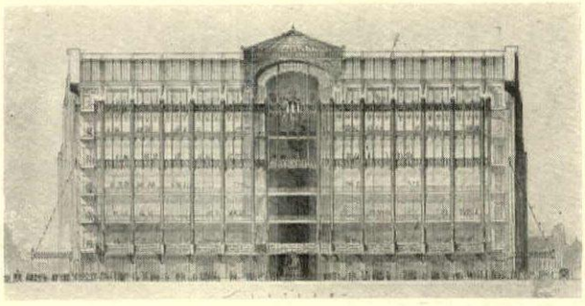
NOTE:—The award received by J. A. Brown of Armour Institute of Tech., Dept. of Archt., Chicago, on his Class "B"—1 Analytique, was erroneously printed as "Second Medal," in the March 12 issue of THE AMERICAN ARCHITECT whereas it should have appeared as "Second Mention."

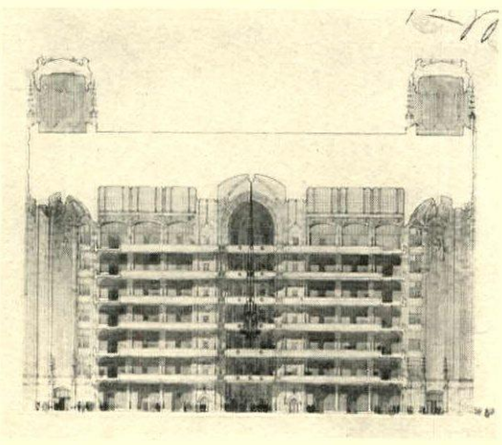








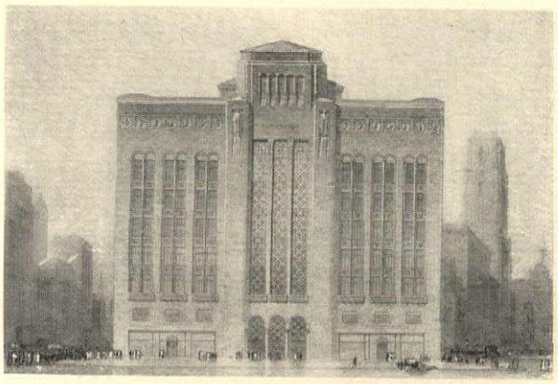


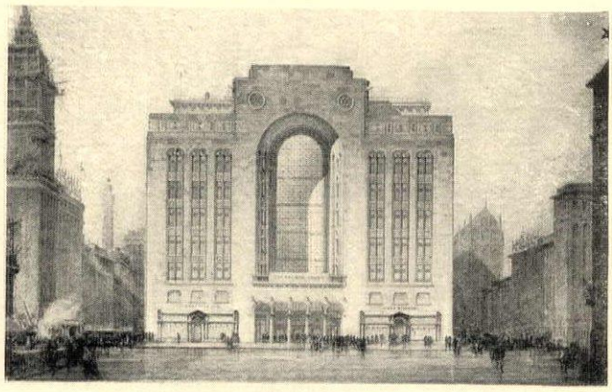


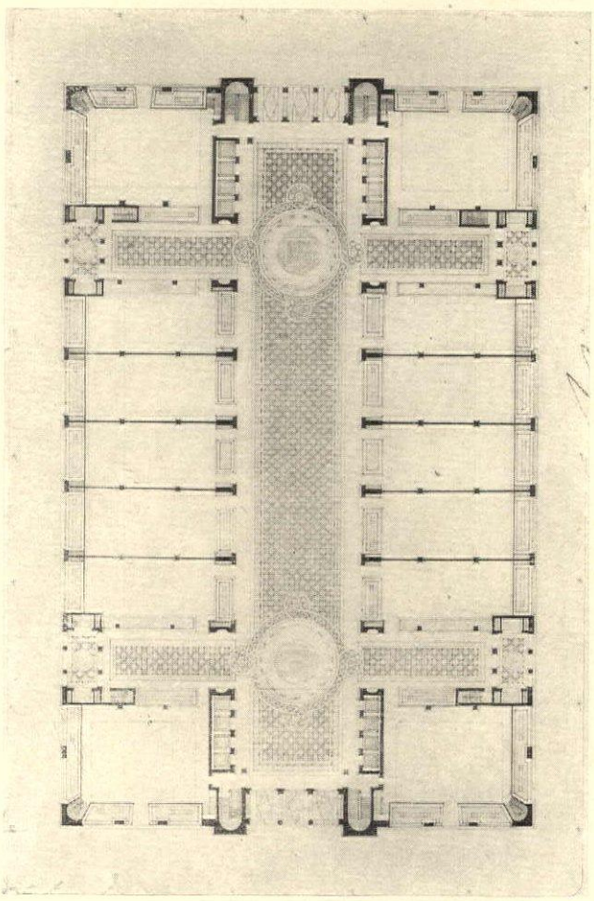
W. R. AMON — FIRST MEDAL — ATELIER LICHT — J. F. LAUCK — FIRST MEDAL — UNIV. OF PA.

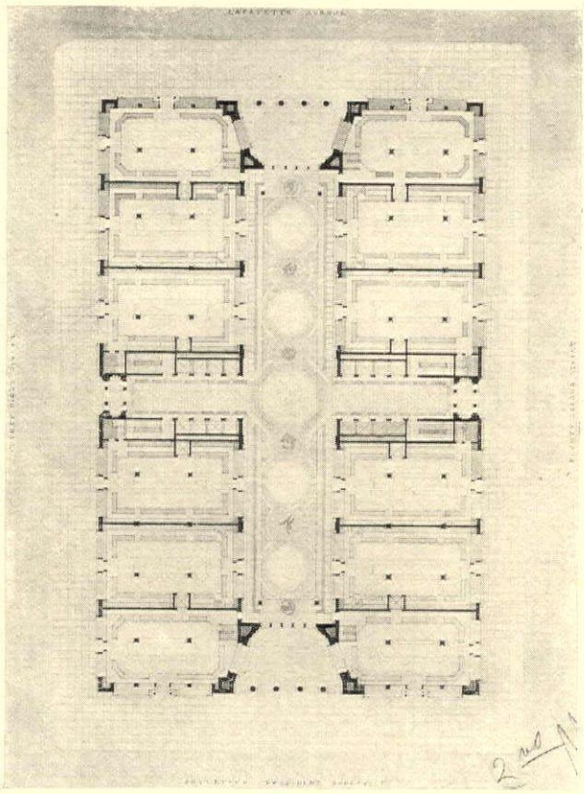
CLASS "A"–III PROJET—A SHOPPING CENTER

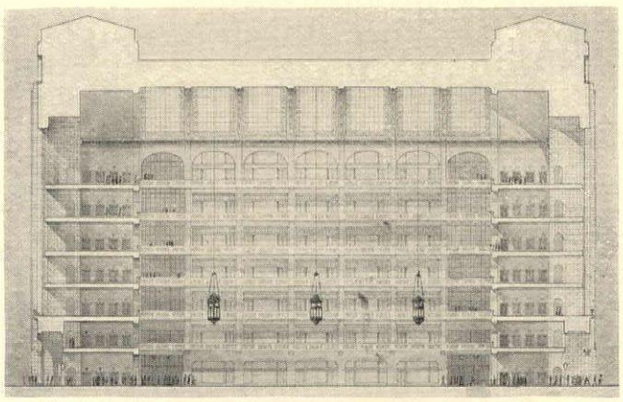
STUDENT WORK, BEAUX-ARTS INSTITUTE OF DESIGN

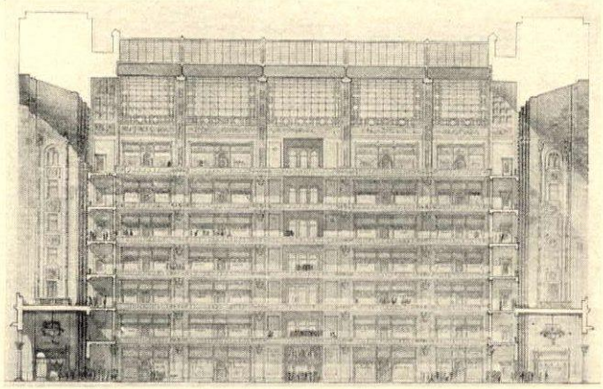










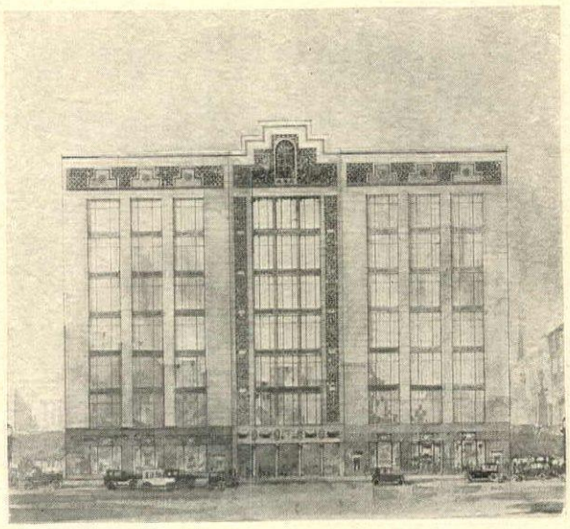


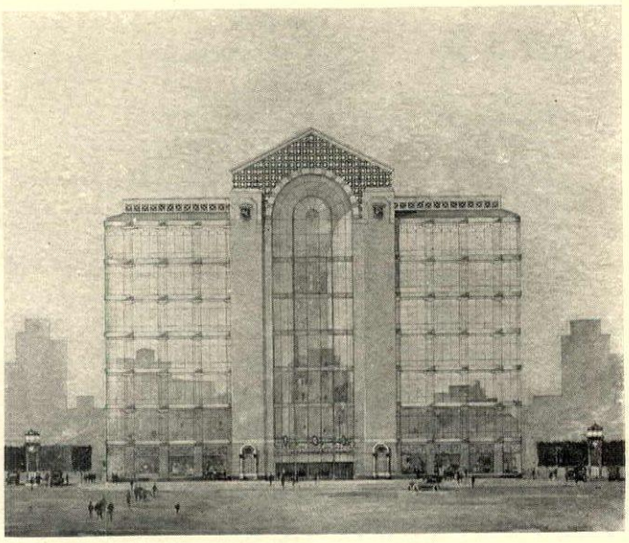
E. R. DUCKERING — SECOND MEDAL — UNIV. OF PA.

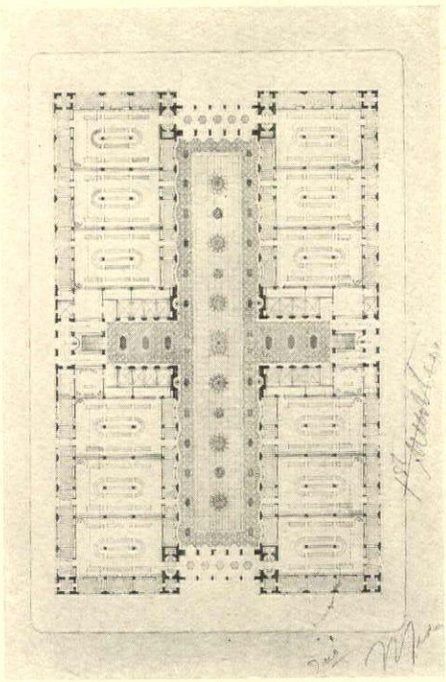
R. RUHNKA — SECOND MEDAL — UNIV. OF PA.

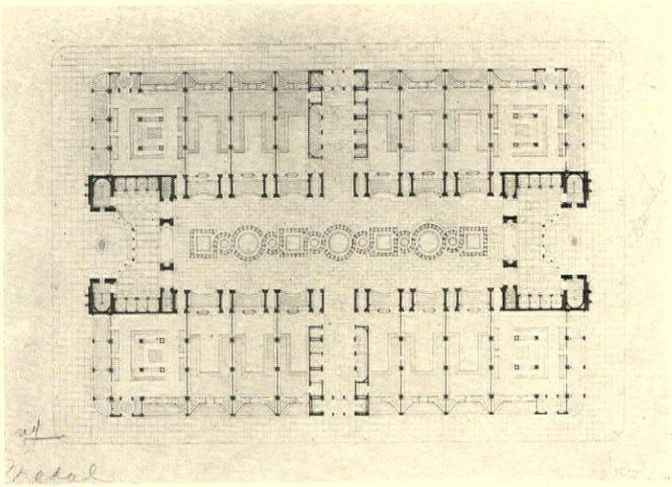
CLASS "A"–III PROJET—A SHOPPING CENTER

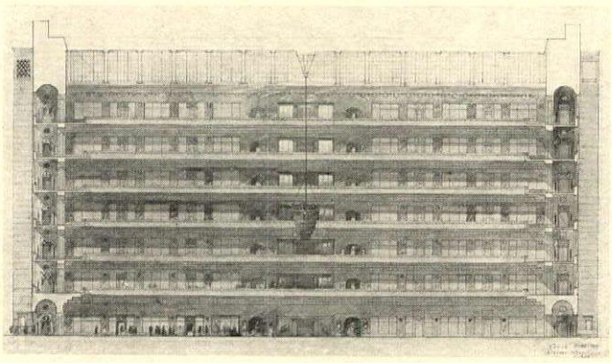
STUDENT WORK, BEAUX-ARTS INSTITUTE OF DESIGN

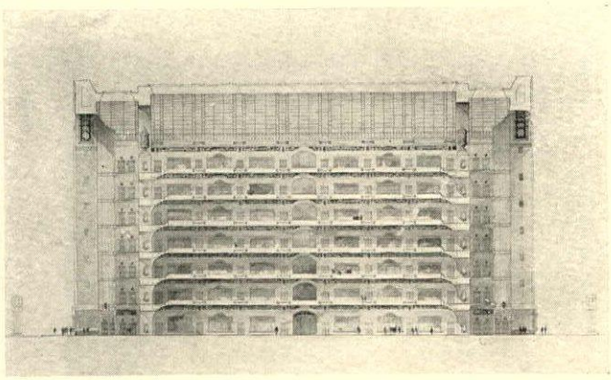








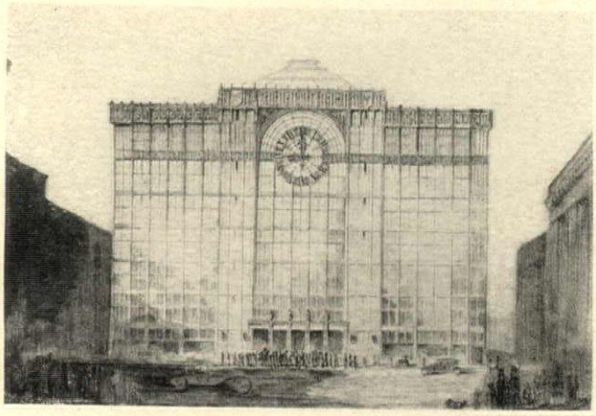


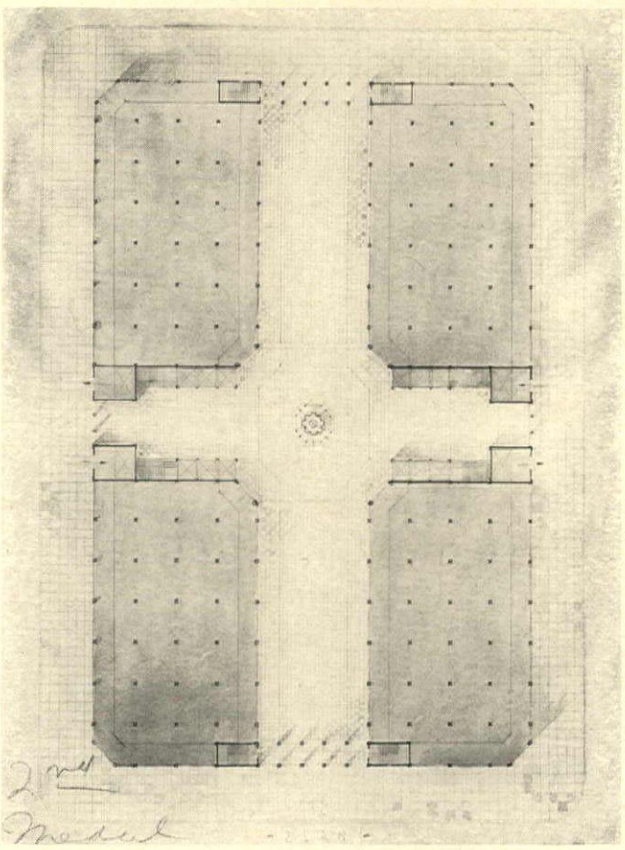


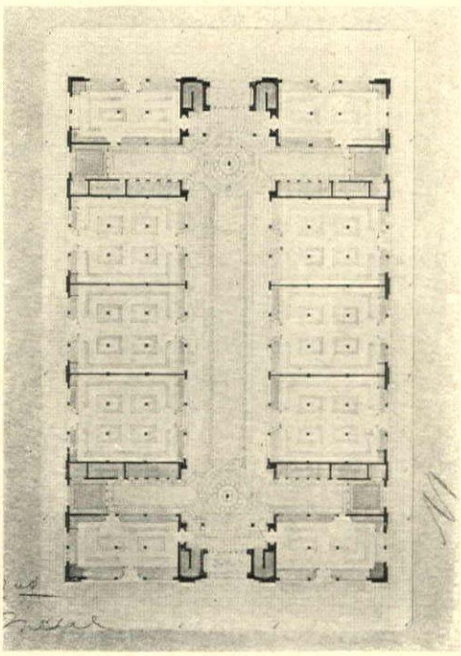
L. I. KAHN
UNIV. OF PA.
SECOND MEDAL

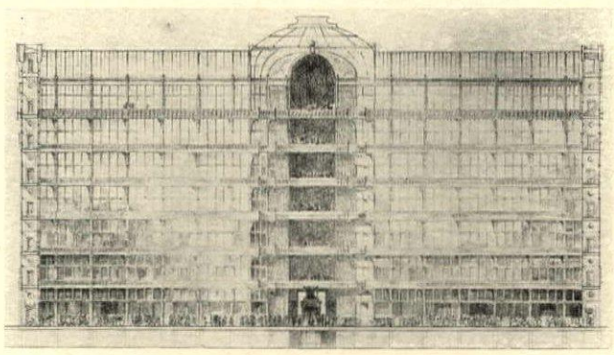
T. P. YANG
UNIV. OF PA.
SECOND MEDAL

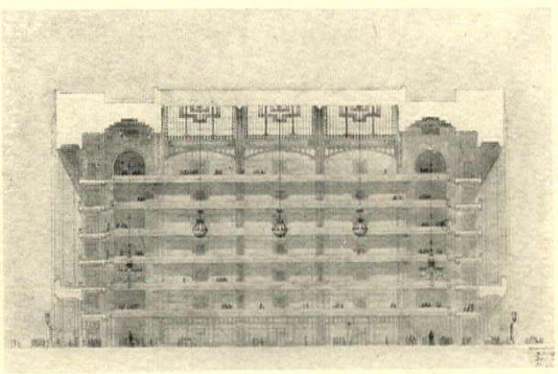
CLASS "A"–III PROJET—A SHOPPING CENTER
STUDENT WORK, BEAUX-ARTS INSTITUTE OF DESIGN









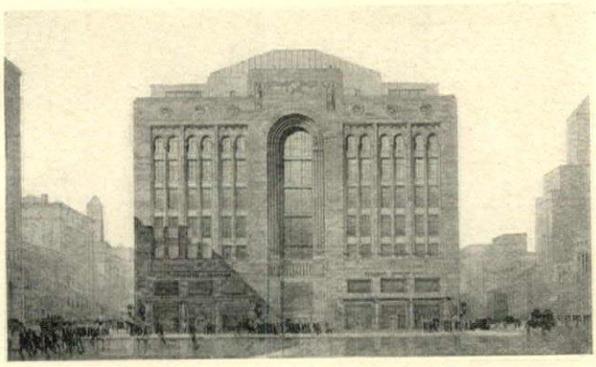


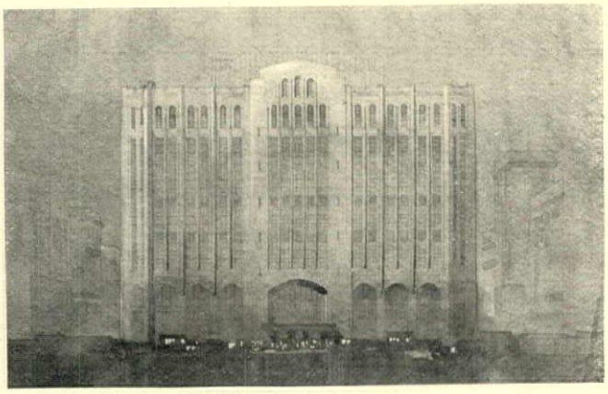
W. W. WURSTER — SECOND MEDAL — ATELIER LICHT

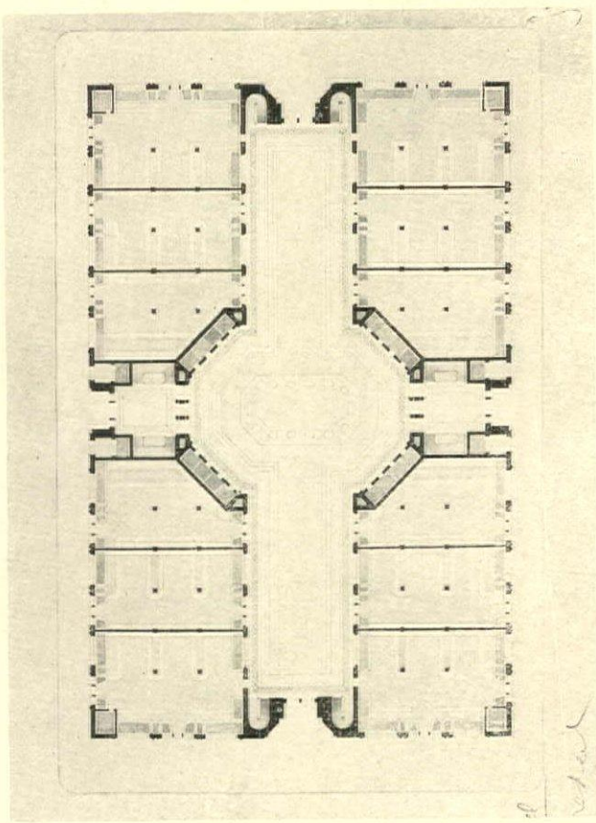
B. RIABOFF — SECOND MEDAL — UNIV. OF PA.

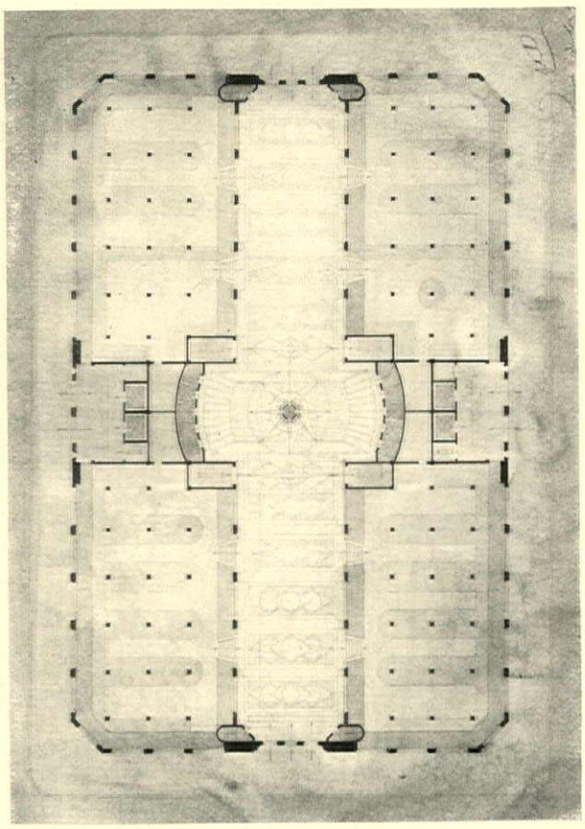
CLASS "A"–III PROJET—A SHOPPING CENTER

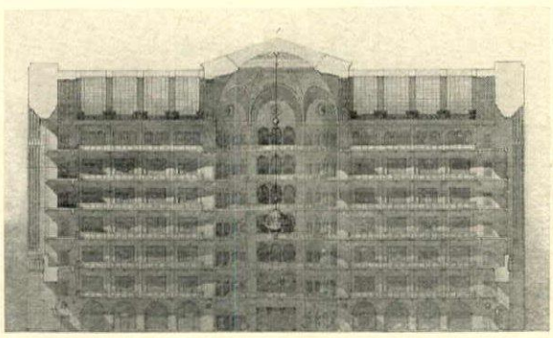
STUDENT WORK, BEAUX-ARTS INSTITUTE OF DESIGN

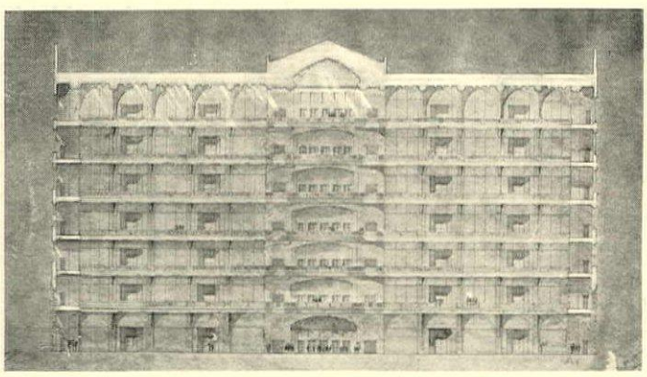












T. E. COOPER — SECOND MEDAL — UNIV. OF PA. — E. SHEPPARD — SECOND MEDAL — ATELIER LICHT

CLASS "A"–III PROJET—A SHOPPING CENTER

STUDENT WORK, BEAUX-ARTS INSTITUTE OF DESIGN

The AMERICAN SPECIFICATION INSTITUTE

Member of The American Society for Testing Materials

19 South LaSalle Street, Chicago, Illinois

THE Board of Governors represent memberships in the following national societies: American Institute of Architects; American Society of Civil Engineers; American Society of Mechanical Engineers; American Institute of Electrical Engineers; American Society for Testing Materials; American Concrete Institute; American Iron and Steel Electrical Engineers; indicating the scope and activities of The American Specification Institute.

THE American Architect and the Architectural Review *has gratuitously set apart this section for use by The American Specification Institute. The Editors and Publishers assume no responsibility for any statements made, or opinions expressed.*

The purpose, simply stated, is to afford an organization which, it is believed, will become a most important element in architectural practice and building operations, a medium through which it may, without expense to itself, reach a class of readers that are most intimately identified with the field of the activities of The American Specification Institute.

Publishers, The American Architect and The Architectural Review.

OUTLINE OF TENTATIVE SPECIFICATIONS FOR STRUCTURAL CARPENTRY

A.S.I. Bulletin No. 40

Serial No. 24.10

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4. Terms of Payment
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ERRATUM

We wish to direct the attention of the users of the *Specification Record* to the article "Formula for Drawing up Specifications Based on the Principles of Painting" by Frank G. Breyer. This consists of extracts from an address given by Mr. Breyer in his capacity as Chief of the Research Division of the New Jersey Zinc Company, before the Building Managers Association of New York City, and the complete discussion from which these extracts were taken can be obtained from the New Jersey Zinc Company of New York City. This is one of the most interesting and constructive discussions of painting specifications that has ever been made available to architects, and the complete address deserves careful study.

A PROPOSED REARRANGEMENT IN FANEUIL HALL

RALPH ADAMS CRAM, states the New Bedford, Mass., *Mercury,* has asked the permission of Mayor Curley of Boston to remove the big painting of Webster's Reply to Hayne, which hangs over the rostrum of Faneuil Hall. He terms it "enormous" and "not much of a picture anyway."

"It is so big," he wrote to the mayor, "that it is quite out of scale with the room and it hides a very excellent piece of architectural design. Personally I think nothing would be lost through the removal of this picture to some other place at present undesignated."

The painting was done by G. P. A. Healey, a noted artist of his time. The work was completed in 1850, and cost $40,000. It was hung in 1870.

Mayor Curley at first thought the proposal entirely out of the question because of the historical significance of the painting and its long association with Faneuil Hall, where every object has a certain sanctity in the opinion of Bostonians. He nevertheless complied with Mr. Cram's suggestion that he refer the question to the Boston art commission.

Mr. Cram would dispense with the "huge canvas" altogether and "so leave the hall more nearly in its original state." He said he believed public opinion would support such action.

Members of the art commission, speaking unofficially, and without indicating what action their body might take, agreed there was merit in Mr. Cram's proposal, but believed sentiment would not permit removal of the painting from the hall. They suggested a way might be found to move it from its present position, displaying to better advantage the architecture of which Mr. Cram spoke and yet retaining the painting for its historical associations.

Only a few weeks ago Mrs. Lysander Hill of Chicago, a granddaughter of the artist, had F. W. Bailey of Boston place a small tablet on the painting with the art commission's consent. It reads: "Painted by G. P. A. Healey, born in Boston, July 15, 1813, died in Chicago June 24, 1894."

In 1911 Mr. Bailey replaced the frame, which was then 18 inches wide, with a narrower border in order that the pillars behind it might not be obscured. It was suggested at the time that the painting itself, which is 16 by 30 feet, be cut down in size. A nephew of Henry Wadsworth Longfellow, however, protested that to do so would cut his uncle out of the picture and the step was not taken. Longfellow at the time of the famous debate depicted on the canvas was a boy of 19 years and was in the senate gallery. He appears in the upper right hand corner of the picture.

ST. PAUL CHAPTER TO HOLD EXHIBITION

THE St. Paul Chapter of The American Institute of Architects will hold an exhibition of architecture and the allied arts from April 7 to April 26, inclusive, in the St. Paul Public Library under the auspices of the Chapter and the St. Paul Institute.

Thomas G. Holyoke, 649 Endicott Building, St. Paul, Minn., is chairman of the Exhibition Committee.

LEBRUN TRAVELLING SCHOLARSHIP AWARDS

THE 1924 LeBrun Travelling Scholarship has been awarded to Otto F. Cerny of Cicero, Ill. The mentions were as follows:

1. Robbins L. Conn, New York
2. Charles H. Dornbusch, New York
3. Victor Pribil, New York

HENRY BACON

THE following letters of condolence have been received by the New York Chapter of The American Institute of Architects and indicate a nationwide respect for the memory of Henry Bacon:

Secretary, New York Chapter, A.I.A.

At the regular monthly meeting of the Central Illinois Chapter, A.I.A., held at Peoria, Illinois, March 17, 1924, the following resolution, presented by George H. Davis, was adopted:

It is with profound sorrow and regret that the Central Illinois Chapter learns of the recent death of Henry Bacon and desires to express to the New York Chapter most sincere sympathy in the irreparable loss which its members have sustained.

L. EUGENE ROBINSON, *Secretary-Treasurer*
WARREN W. DAY, *President*

President, New York Chapter, A.I.A.

The Cincinnati Chapter, A.I.A., at its last meeting took due notice of the death of Henry Bacon, and has asked me to send you a suitable expression of condolence. I scarcely know what to say that would adequately express the profound feeling of the great loss which the profession has suffered in the death of Mr. Bacon.

Everything has apparently been said by others and especially by your own beautifully worded obituary that it seems futile to endeavor to add anything further. I am sure you will quite as fully appreciate our sympathy if we content ourselves with the heartfelt endorsement of the already expressed sentiments.

It is a fine thing to realize that our profession has been honored by such men as Henry Bacon, and because of this, it is difficult to apprehend the tragedy of their departure under such sad circumstances.

In behalf of the Cincinnati Chapter, A.I.A.
A. O. ELZNER, *President*

JOINT COMMITTEE ON STRUCTURAL SAFETY

A JOINT committee has been constituted with representatives of the New York, Brooklyn and New Jersey Chapters of The American Institute of Architects, the New York Society of Architects and the American Society of Civil Engineers. The architectural organizations are represented by Robert D. Kohn, William P. Bannister, C. B. Meyers of New York City, Joseph A. McCarroll of Brooklyn and George S. Drew of Metuchen, N. J. The American Society of Civil Engineers is represented by J. B. French, O. H. Landreth, Aubrey Weymouth, I. W. McConnell, F. A. Burdett, E. E. Schmitt, W. C. Morris and Herbert C. Keith.

The following is a resolution which outlines the scope of the work of the Joint Committee:

"RESOLVED, That it is the intention of this Joint Committee to conduct an inquiry into matters of public safety so far as they are concerned with the design and erection of buildings and other structures."

"RESOLVED FURTHER, that it is the purpose of the Committee to follow its investigation with the formulation of such recommendations as may seem wise for the Societies represented in the Committee to endorse with respect to the procedure by architects, engineers and builders, and to recommend also, such legislation, if any, as may seem expedient to bring about improved conditions."

Structural safety and the responsibility therefor is not definitely established in this country. Buildings collapse, often attended with fatalities, and no person is adjudged to be guilty of negligence or incompetency. There are many elements which enter into structural safety, among which are the architect and engineer and their supervision of the construction, the contractors and their supervision of the construction, their use of specified materials and the adequacy of the construction equipment.

One of the principal aims of the Committee will be to consider and correlate the relationship of all these elements and to formulate such legislation as will definitely fix the responsibility for structural safety. The recommendations of this Joint Committee will be submitted to the organizations which they represent. The ultimate intention is to secure legislation conforming to these recommendations. This is an important matter which affects everyone connected with the building industry and the Committee should receive all possible assistance in its work.

ARCHITECTURAL HISTORY CONFOUNDED

ART and science may not have much in common, states *The Architects' Journal*, London, but they are alike to the extent that the possibilities of discovery are at opposite poles; the one reaches back into the mist of the centuries, while the other reaches forward into the haze of the future. Thus, while the wonders of wireless are, as it were, being plucked out of the living present, the wonders of architecture are

being excavated from the dead past. No sooner have we lapsed into lethargy after the shock of Tutankhamen than we are again startled into excitement by the shock of Ur. A report on the excavations in Mesopotamia by the leader of the joint expedition of the British Museum and the museum of the University of Pennsylvania, cancels at a stroke what has long been regarded as a firmly established fact of architectural history. The report refers to the discovery of "a low sleeper wall, in the top of which were shallow circular depressions, the sockets for wooden columns standing free; in short, one side of the court was a colonnade, such as we are accustomed to see in Greek or Roman architecture, but absolutely without precedent in Babylonia, where it was supposed that columns were never employed until after the Persian conquest of the country in the sixth century B. C. But this building at Ur was put up in its present form, by Kuri-Galzu, a thousand years before the Persians came." Truly, as the report declares, it is a long time since a discovery was made affecting so radically our ideas of architectural history.

ROTCH TRAVELLING SCHOLARSHIP EXAMINATIONS

THE preliminary examinations for the Rotch Travelling Scholarship will be held at the office of the Secretary, C. H. Blackall, 20 Beacon Street, Boston, on Monday and Tuesday, April 14 and 15, 1924, at 9 A. M., to be followed by the Sketch for Competition in Design on Saturday, April 19. The successful candidate will receive annually for two years an amount which it is hoped will be not less than $1,400 per year, and may be more, depending upon the funds, this amount to be expended in foreign travel and study during two years.

Candidates must be citizens of the United States, be under thirty years of age and must have been engaged in professional work during two years in the employ of a practicing architect resident in Massachusetts. Holders of a degree from a recognized architectural school may present their certificates in lieu of the preliminary examinations.

Candidates are requested to register at the office of the Secretary as long before the examinations as practicable.

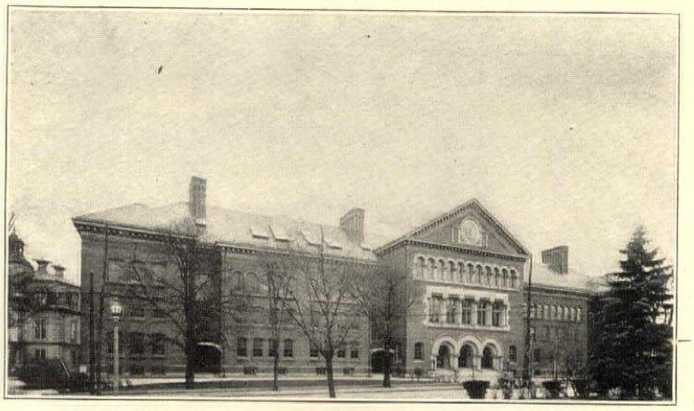
BEAUX-ARTS PARIS PRIZE MEMORIAL FUND

THE Society of Beaux-Arts Architects is endeavoring to secure a permanent fund of $40,000, the income of which will defray the expense of the annual Paris Prize award. This fund, when secured, will be known as a memorial to the late Lloyd Warren, who as Director of the Beaux-Arts Institute of Design, was prominently identified with the Institute's work and generously supported this annual scholarship fund. An amount approximating $25,000 has already been secured. This sum has been realized through the donations of architects all over the country and without regard to affiliation with Beaux-Arts work. In order that the work of the Institute may not be halted, and to prevent any lapse in the annual Paris Prize scholarship award, it is urgently necessary that this Warren Memorial Fund be brought up to the full $40,000. Contributions are solicited. Fuller information may be obtained by addressing Philip L. Goodwin, Trustee, and Chairman of Finance Committee, 4 East Fifty-third Street, New York, or contributions may be sent to Henry R. Sedgwick, Treasurer, 522 Fifth Avenue, New York.

TO REVITALIZE ARCHITECTURE

THE Architects' Journal, of London, commenting editorially on a paper read by Professor Richardson before a meeting of the Architectural Association, states:

Professor Richardson's paper crystallized the intellectual revolt which is steadily growing against the tyranny of the architectural past. So far the revolt is little more than intellectual, as a glance around any center of modern building development will speedily show. But since intellectual revolt is the normal precedent to active revolt, the auguries are distinctly favorable. The revolution in architecture will not, however, be easily brought about. Ingrained habits of mind are not quickly eradicated. Change, if it is to be of permanent benefit, must be a slow process. A violent revolution, be it political, economic, social, or architectural, has little chance of real success. Revolutions of any sort whatsoever, if they are to be lasting, must be progressive in character and of slow development. That is why sudden changes, such as the reactionary Gothic Revival, are inevitably doomed to failure. Revivals are too ephemeral, too easily exhausted, too subject to the vicissitudes of fashion to offer any hope or prospect of success. Nor is it desirable to look for our salvation abroad. "Deriving inspiration from foreign sources" means at worst mere copyism, and at best little more than the incorporation in our own work of elements of uncertain value. To lisp haltingly in a foreign tongue is not necessarily the best way to gain a fluent command of English. This does not mean, of course, that we should shut ourselves up in our island and ignore what is being done in the outside world. But let us produce our own answer to the problem before we look over the shoulder



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25 year old Installation of Powers Temperature Control giving perfect satisfaction

Malden, Mass., October 11, 1922.

Powers Heat Regulation Co.,
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Gentlemen: I am sending you the information you requested concerning the length of time your thermostats and diaphragm motor valves have been in service in the Malden High School.

The system was installed in 1897 or 1898 and has been in operation constantly since that time and the cost of maintaining it has been practically nothing to the City.

At the time of installation there were 22 rooms in the building, all equipped with thermostats and diaphragm motor valves and in 1906 when the addition was made to the building 34 thermostats, 37 damper valves were added and 9 motor valves in connection with the tempering coils, and 12 motor valves in the main vent dampers.

I have had ten years' experience in this building with your system and I am very glad to recommend it at every opportunity. The cost of operation is very small.

Very truly yours,
JOSEPH T. TUPPER,
Engineer.

Is service like this worth a premium?

Cited here is an example typical of many Powers installations giving accurate control for more than a quarter of a century.

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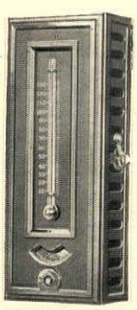

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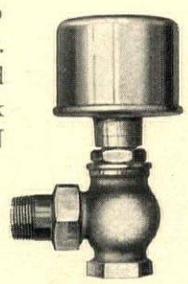

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MONTREAL CALGARY
HALIFAX VANCOUVER

of the other fellow. And to produce our own answer means, as Professor Richardson urged with so much force and eloquence, that we must get back to the essentials—structure and color. The austerities of this post-war period provide an environment entirely favorable to the experiment.

MODERN DECORATIVE ART

A CORRESPONDENT to *The Architects' Journal,* of London, expresses strong dissatisfaction over the material submitted in a recent competition of decorative art. Referring to what he believes are modern tendencies, he states:

The characteristics of modern decoration are nervousness and unrest. There is a lack of dignity and sweep about it, and a tendency to disguise the manner of yesterday with the tricks and shams of today rather than to attempt to reveal fresh ideas founded on newly discovered truths. Sleight of hand has been substituted for breadth of vision, and the highest achievement that modern decoration can lay claim to is ingenuity.

What is the explanation of this mediocre result? Personally I think the explanation is this:

In the eighteenth century interior decoration was designed by the architect of the house as a recognized part of his work. During the last hundred years, however, the architect gradually deserted interior decoration, and it is only in the last ten years that he has begun once again to regard it as within his province. Modern interior decoration, however, demands more than architectural treatment to make it successful—it wants color, and color is as much a question of taste, training, and experience as architecture. What is wanted today, then, is a combination of the two, the experienced architect and the trained colorist. Is it too much to hope that in future the art of decoration will be treated with the seriousness that its position as an integral part of the art of architecture demands?

ENGINEER OF EIFFEL TOWER DEAD

ALEXANDER GUSTAVE EIFFEL, famed constructor of the tower which bears his name, died recently in Paris. He was 91 years of age.

Although Eiffel was known to America principally for the tower which, despite the progress in engineering during the last twenty-five years, remains the highest structure in the world, he was renowned in Europe for the last sixty years as one of the most brilliant engineers of the century. Some of the biggest bridges and viaducts in France owe their existence to his engineering genius, and the great railway bridge of Porto with its 160 meter span, was his work.

The history of the construction of the Eiffel Tower is perhaps the greatest engineering romance. When Eiffel proposed the construction of the tower 300 meters high for the Paris Exposition of 1889, he called down on his head almost universal ridicule. He persisted, however, and finally obtained a subsidy of 1,500,000 francs for the task. Three years later he was able to hoist the French flag on this highest of all structures. In recent years Eiffel had been interested in meteorological study and aviation.

"INTELLECTUAL IMMIGRATION"

INTELLECTUAL immigration is the program that Italy will inaugurate as the result of an arrangement with the American Government, made by Count Gelasio Caetani, the Italian Ambassador, it is learned.

The plan, disclosed a short while ago by the American Engineering Council of the Federated American Engineering Societies, is to have fifty young Italian engineers, recent graduates of technical schools, sent to industrial centers of the United States to become simple laborers in large manufacturing plants. The idea was initiated by Ambassador Caetani, himself an engineer, who, after his graduation from the Columbia University School of Mines, spent many years working in the mines of the American West.

The vanguard of fifty will be followed this year by at least 100 more, annual migrations being planned.

Twenty-five will work in the Ford plant in Detroit, seven will go to the Westinghouse Manufacturing Company at Pittsburgh and three to the General Electric Company at Schenectady, N. Y. The others will be distributed in large plants in the East and Middle West.

FOREST FIRES AND BUILDING COSTS

A REPORT by the Forester of the United States Department of Agriculture gives one reason for the high cost of all kinds of construction in which lumber is used, by stating that fires within the boundaries of the national forests swept 373,214 acres during 1922, and destroyed timber and other property valued at $494,965, exclusive of the intangible and indirect damage to young growth. It is pointed out that this destruction of wooded areas owned by the public, which are carefully watched and protected, is probably greatly exceeded in areas of equal size owned privately.

Urgent requests are contained in the report to all who own large acreage to plant trees, and attention is called to the fact that the annual

drain on the country's forests amounts to 25,000,000,000 feet, while growth replaces amounts to only 6,000,000,000 feet. Part of the report reads:

"More timber was cut from the national forests during the fiscal year ended June 30, 1922, than ever before in a similar period of time, and the receipts paid into the United States Treasury were greater than for any previous year, according to the report. The amount of timber cut totaled 991,982,000 board feet, the amount sold was over two billion feet and the receipts from sales totaled $2,641,244. Sales of timber on the national forests are made only with care to cut no more timber than the growth in order to insure a perpetual supply."

In reference to the timber destroyed by fire the report says that of the total acreage burned over man-made fires were responsible for 60 per cent of the damage. Then the report says:

"Public opinion must be aroused to the criminal destruction of the country's forest lands, whether owned by the Government or owned privately. For one thing reforestation of non-producing timber lands, upon which so much depends, cannot take place unless fire is kept out. The fire menace cannot be overemphasized."

DEVELOPMENT OF LIGHTING

PRIMITIVE man, living in caves, built fires of wood, which was the earliest form of lighting. Following is an outline of the progress of lighting from the days of the caveman up to the present time:

5000 B. C.—Torches or lighted splinters placed in holders of stone or clay.

1450 B. C.—First artificial lighting by "fire pans."

300 B. C.—Lamps made of brass or bronze became highly artistic.

50 B. C.—Romans used rushes soaked in grease—forerunner of the candle.

300 A. D.—Phoenicians introduced candles in Constantinople.

400 to 1700 A. D.—The candle, tallow or wax, vies with lamps or lanterns.

1700—Grease, vegetable or fish oil lamps with wicks begin to be used.

1780—Whale grease or fish oil lamps equipped with round wicks and glass chimneys.

1800—Gas lighting perfected.

1850—Discovery of petroleum revolutionizes oil lamp lighting.

1879—Edison, apostle of light, invents incandescent electric lamp.

1885—Auer von Welsbach produces incandescent gas mantle.

1895—Incandescent electric lights made with carbon filament in growing use.

1923—Incandescent electric light, using tungsten filament, in high state of perfection.

NEED FOR A NATIONAL ARCHIVES BUILDING

THE following is taken from the annual report of the Secretary of the Treasury on the state of the finances of the government of the United States for the fiscal year ended June 30, 1923:

The need has been recognized for many years for a building in which to house the archives of the government. Records of great interest from a historical standpoint, as well as records of inestimable value from a business standpoint, are now stored in insecure, and, in many instances inaccessible, quarters, or occupy space in departmental buildings which, if an archives building were constructed, could be utilized, and is urgently needed for clerical work amounting to approximately 450,000 square feet.

Heads of departments have repeatedly urged on Congress the need for a national archives building, and the subject has from time to time been discussed on the floors of both Houses of Congress, and while this need has been generally conceded, the only measures so far enacted into law have been an authorization for the acquisition of a site for a "Hall of Records," upon which Congress subsequently authorized the construction of a departmental building, and the authorization of the preparation of tentative plans for a modern national archives building, which plans were duly prepared.

It is hoped that legislation will be promptly enacted which will permit of the construction of a suitable building in which the archives of the government may be protected from the hazard of fire and the ravages of time.

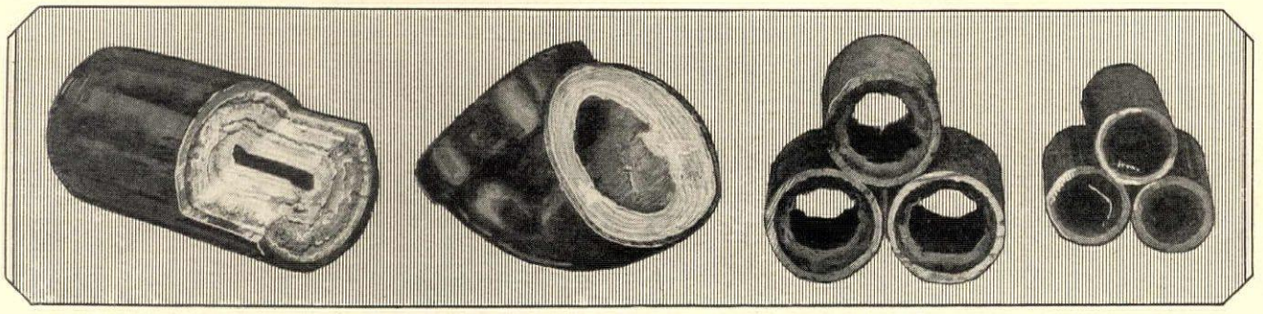
THIRTEENTH CENTURY GOTHIC ARCHITECTURE

WE learn from a recent issue of *The Architect,* of London, that Aymer Vallance recently read a paper before the Royal Archæological Institute of Burlington House, entitled "A Criticism of Thirteenth Century Architecture."

Mr. Vallance contended that the difficulties which confronted the builders of this period were so great and so absorbing that they had little to devote to attempts at design. The mental efforts required from them in solving the constructional problems must have left them thoroughly worn out. The decoration that they achieved, according to Mr. Vallance, was neither logical nor coherent; it had no part in the initial scheme. The West front of Salisbury Cathedral was an illustration in point, a mere blind to mask and belie the form and structure of the body behind it; while the West door of Lincoln Cathedral was simply an ineptitude.

It had been stated that architects in the best period of Gothic could not do anything in bad taste, but Mr. Vallance was far from convinced. The builders of the thirteenth century period had a great deal to learn which their successors in the fourteenth and fifteenth centuries had happily supplied, at any rate in the way of æsthetics.

Hard Water is the Hidden But Prolific Source of Waste In Public Buildings



Steam and Water Pipes Clogged by Hard Water Scale

Hard water is the most vicious enemy to operating economy in buildings.

It wastes coal by clogging up steam pipes and boiler tubes—and reducing heating efficiency.

This item in itself is very serious and very costly—for even so little as 1-16 of an inch of boiler scale wastes one whole car of coal out of every eight.

Hard water clogs water pipes, water pumps and heaters.

Water pipes in many buildings need replacing every 5 to 10 years simply because of hard water scale.

Hard water thus brings a costly round of repair replacement expenses.

How the Wayne Softener Stops Hard Water Losses

The one and only function of the Wayne rapid-rate Water Softener is to take lime and magnesia out of the hard water as it flows through the softener at the regular pressure of your supply.

It uses no chemicals to do this. The softening action is entirely automatic.

When the lime and magnesia are taken out, the water is soft. Soft water cannot clog pipes, cr t' 's —because it contains nothing can form scale.

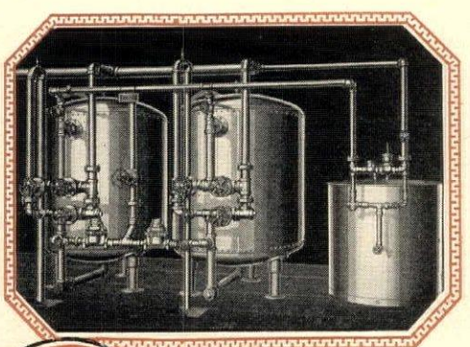
Thus the Wayne Softener brings you permanent relief from all th hard water troubles and expenses. The installation cost is only $600 up, depending on size, and operating expenses are very low.

The Wayne Softener needs simply to be connected to your present plumbing pipes—only 3 connections necessary.

Write for special booklet—which gives important facts you ought to have in your library.

Wayne Softeners for Homes

Wayne Softeners for homes cost as little as $215 up, according to size. Wayne Softened Water is ideal for cooking, drinking, bathing, shaving, shampooing, dish washing and clothes washing. Write for book which will be sent free.



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Water Softeners for Household and Industrial Purposes

Specifications of most products advertised in THE AMERICAN ARCHITECT appear in the Specification Manual

PERSONALS

J. W. Morrison, architect, has established an office at 702 East Orange Grove, Glendale, Cal., for the general practice of architecture.

W. H. Spaulding, architect, has moved his office from 375 Fulton Street to Room 163, 18 Jamaica Avenue, Jamaica, N. Y.

Raymond W. Hatch, architect, has moved his office from Pendleton, Ore., to the Henry Building, Portland, Ore.

James R. Tyler, architect, has moved his office from 714 Union Traction Building to 413 National Bank of Commerce Building, Rochester, N. Y.

Childs & Smith, architects, are now located at 720 North Michigan Avenue, Chicago, Ill., having moved from 64 East Van Buren Street, that city.

Smithey & Tardy, architects and engineers, announce that they have moved their offices from 730-732 Anchor Building to 112 Kirk Avenue, S. W., Roanoke, Va.

Leonard Anthony Gliatto, architect, announces the removal of his office from 64 East Van Buren Street, to 343 South Dearborn Street, Chicago, Ill.

Walfred Erickson, architect, announces the establishment of his office at 344 East 149th Street, New York City, where he would appreciate receiving manufacturers' catalogs and samples.

Walter Kough, architect, announces the removal of his offices from the Brien Building to Room 29, Shoemaker Building, 217 South Main Street, Greensburg, Pa.

Pond & Pond, architects, have moved their offices from 64 East Van Buren Street to Suite 1700, Tower Building, 6 North Michigan Avenue at Madison Street, Chicago, Ill.

Chatten & Hammond, architects, have moved their offices from 64 East Van Buren Street to Room 1829 in the Burnham Building, 160 North LaSalle Street, Chicago, Ill.

Frank E. Wallis & Son, architects and engineers, announce the removal of their office from 56 West Forty-fifth Street to 3840 Grand Central Terminal Building, New York City.

S. M. Richards, architect, has established an office for the general practice of architecture in Freeport, Pa. Manufacturers are requested to send catalogs and samples.

Benjamin E. Irby, A.I.A., announces the establishment of his office for the general practice of architecture at 324 Deutser Building, Port Arthur, Texas. Manufacturers' catalogs and samples are desired.

Golden-Stohrs & Company, architects and engineers, have moved from 1127 to 983 Main Street, Hartford, Conn., where they would be pleased to receive manufacturers' catalogs and samples.

George F. Townsend, formerly with The John W. Cowper Company, and Daniel G. McNeil, formerly with Miller & McNeil, have opened an office for the practice of architecture at 91 Dun Building, Buffalo, N. Y. Manufacturers are requested to send catalogs and samples.

Felix A. Burton, Richard Arnold Fisher, Charles Lewis Pitkin, Dana Somes and Frederick W. Wead announce the removal of their offices to the Thorndike Building, 234-240 Boylston Street, Boston, Mass., where they will continue to conduct their respective practices of architecture.

Herbert L. Cain, church architect, Richmond, Va., announces the opening of an office at 1709 Arch Street, Philadelphia, Pa., with Albert N. Dobbins as architect in charge. Mr. Dobbins has for five years been in charge of the Philadelphia office of the Bureau of Architecture, Methodist Episcopal Church.

Announcement is made that H. J. Brumenshenkel, architect, has opened an office at 105 Mohican Building, Mansfield, Ohio, for the general practice of architecture. Mr. Brumenshenkel has for the past eight years been connected with the office of Vernon Redding, A.I.A., Mansfield, Ohio. Manufacturers are requested to send catalogs and samples.

THE REBIRTH OF FRANCE

HOUSING BETTERMENT, issued quarterly by the National Housing Association, reviews the present conditions in the rebuilding of France.

There is probably no part of the devastated regions, not even Verdun itself, states *Housing Betterment,* which has a greater interest for Americans than the district around Rheims. It is delightful to learn, therefore, that that much harassed city which was the scene of such utter desolation until a few months ago, has like the Phoenix, risen from the ashes and that a charming and delightful Garden Village is now nearing completion on the outskirts of that city.

Originally conceived before the War by a group of philanthropists who determined to fight the falling birthrate by better living environment, at the time of the War 36 houses had been built and 80 were in course of construction. Two-thirds of the former and all of the latter were destroyed in the bombardment of Rheims.

Notwithstanding this experience, the projectors of the scheme after the War proceeded to carry out the scheme but on an enlarged and more complete scale. A plan for the construction of two Garden Villages, one of 600 houses, the other of 400 houses, to be situated on the outskirts of the town in healthy districts, was drawn up. Notwithstanding the many difficulties that were encountered, including the modification of the existing housing laws, the negotiation of a loan, the obtaining of the land for the development and the necessary permits by the municipality, success has crowned the scheme and toward the close of the year 1920 the building of the first Garden Village known as the *Cité Jardin du Chemin-Vert* was begun and was completed in less than a year.

This Garden Village is now inhabited by 3,500 people, of whom 2,200 are children. It covers an area of about 75 acres, each house occupying about 60 square yards, each garden about 360 square yards and the remaining space being taken up by playgrounds, squares and open spaces. There are 15 different types of houses but the majority contain 4 rooms, a wash house, water closet, attic, cellar and an outhouse in the garden for poultry and rabbits.

The gardens are enclosed by white cement railings imitating the wooden fences around the fields in Normandy. Ivy, clematis and climbing roses are planted under the walls of the houses and trees along the main avenue, while a plot of grass separates each house from the road.

Some of the houses in addition contain a large well lighted studio with electrical fittings, where crafts, such as mechanical engineering, woodwork, spinning and millinery, can be carried on at home. The necessary shops for the conveniences of living in such a community have been opened including a large steam bakery which provides bread for the entire community.

In addition to the houses, there are a number of important community enterprises. One of these is called the *Maison de l'Enfante,* or Children's House. This building contains prenatal and baby welfare clinics and milk stations, a crèche and day nursery, all equipped according to the latest ideas of child welfare. Children up to the age of 10 years are looked after by the Society free of charge during the fortnight following another birth in the family. The first floor of the Children's House is reserved for courses in housekeeping, cookery, sewing, laundry, knitting and all sorts of housecrafts.

Another important building which stands at the head of the public square, around which are grouped a number of attractive cottages, is the *Maison pour Tous,* or Everyman's House. While this building is still unfinished, it is rapidly nearing completion and when finished will contain a library, a club room, a dispensary, a recreation hall, meeting rooms, gymnasium and shower baths. A Catholic church is now in course of construction and will soon be completed and a site has been reserved for a Protestant church if there should be a sufficient number of people of that faith requiring one. School buildings and an open air school for 1,250 children are soon to be commenced.

One of the interesting features of this attractive Garden Village lies in the fact that the rents charged are to be proportionately reduced according to the number of children in the family. But even these rents are expected to be sufficient for the proper maintenance of the buildings and the roads. The social welfare work is naturally to be supported from other sources. The Society projecting this attractive Garden Village has limited its dividends to 4%. The Garden Village is attractively situated on high ground. From their windows the inhabitants can look out to the South over vine covered hills and to the North over the forts of Brimont, Berru and Nogent from which the Germans bombarded their city for four long years.

Today this is a Garden Village of children; they flower everywhere and the streets overflow with their rosy faces and re-echo to their merry voices. Each month on an average there are 10 births as compared with 3 deaths.

If France is seeking a solution of its decreasing birthrate, a problem which has given those responsible for the government of France much concern for many years past, let them consider this effort at Rheims. Similar experiments repeated all over France will eliminate the falling birthrate as a problem of the French Republic.

REFERENCE LIST OF BUSINESS LITERATURE

A service arranged for the use of the Architect, Specification Writer and Architectural Engineer

This list of the more important business literature of Manufacturers of building material and equipment is published each issue. Any of these publications may be had without charge, unless otherwise noted, by applying to The American Architect and The Architectural Review, 243 West 39th Street, New York, or obtained directly from the manufacturers. Either the titles or the numbers may be used in ordering.

ACOUSTICS

Johns-Manville, Inc., 294 Madison Ave., New York, N. Y.

710. *Architectural Acoustics.* A treatise on the correction of architectural acoustics in churches, schools, hospitals, office buildings and other places. 24 pp. Ill. 6 x 9 in.

AIR CONDITIONING—See also Heating and Ventilation

The Bayley Manufacturing Company, 732-760 Greenbush St., Milwaukee, Wis.

486. *Bulletin No. 23.* This bulletin is descriptive of the Bayley Turbo-Atomizer, the Bayley Turbo Air-Washer and Air Conditioner, for cleaning, cooling, tempering, humidifying and dehumidifying air. It contains an interesting treatise on air conditioning methods together with useful tables and a set of specifications. 32 pp. Ill. 7¾ x 10½ in.

ANCHORAGE EQUIPMENT

Midwest Steel & Supply Co., Inc., 100 East 45th St., New York City

643. *Data Book for Architects & Engineers.* A well illustrated data book showing methods of using Midwest Box Rails, L Rails, Stringers and Inserts in the solution of anchorage problems for transmission, electrical, mechanical, material handling equipment, piping, trackage, cables, etc. Practical working data for the architect is plentifully supplied. 54 pp. Ill. 8½ x 11 in.

ARCHITECTURAL IRON WORK—See also Ornamental Metal Work

ASBESTOS—See also Lumber, Roofing

Johns-Manville, Inc., 294 Madison Ave., New York, N. Y

709. *Johns-Manville Service to Power Users* A catalog containing valuable data on all forms of asbestos insulation, asbestos packings, steam traps, high temperature cements, asbestos brake blocks and linings, asbestos building materials and general technical data. 260 pp. Ill. 8½ x 11 in.

ASBESTOS ROOFING—See also Roofing

The Philip Carey Co., Lockland, Cincinnati, Ohio.

380. *Asbestos versus Fire.* Booklet in colors. Contains information about asbestos; data on Carey Prepared and Built-up Asbestos Roofing; pictures of buildings on which they have been used. 15 pp. Ill. 6 x 9 in.

ASH HOISTS—See also Hoists

Gillis & Geoghegan, 545 West Broadway, New York, N. Y.

329. *General Catalogue.* Contains specifications in two forms, (1) using manufacturer's name, and (2) without using manufacturer's name. Detail in ¼ in. scale for each telsecopic model and special material handling section. Fully illustrated with photographs of actual installations and descriptive matter of same. 20 pp. 2 colors. 8½ x 11 in.

BRICK

American Face Brick Association, 1754 People's Life Bldg., Chicago, Ill.

103. *The Story of Brick.* Contains the history of, and basic requirements of building brick, artistic, sanitary and economic reasons, comparative costs, and fire safety with photographs and drawings, and illustrates ancient and modern architectural works of note in brick. Size 7 x 9¼ in. 56 pp.

137. *A Manual of Face Brick Construction.* The history of brick making, types of face brick, showing details of construction for walls, chimneys and arches. Details of use of tile and brick construction and different types of bonds are given. A series of plans and elevations of small brick houses, descriptions, useful tables and suggestions are illustrated and described. Size 8½ x 11 in. 116 pp. Price $1.00.

155. *The Home of Beauty.* A booklet containing fifty prize designs for small brick houses submitted in national competition by architects. Texts by Aymar Embury II, Architect. Size 8 x 10 in. 72 pp. Price 50 cents.

371. *Architectural Details in Brickwork. Series One, Two and Three.* Each series consists of an indexed folder case to fit standard vertical letter file, containing between 30 and 40 half-tones in brown ink on fine quality paper. These collections are inspiring aids to all designers. Sent free to architects who apply on their office stationery; to others, 50 cents for each series.

454. *Bungalow and Small House Plans.* Four booklets containing plans for attractive small brick houses, containing 3-4, 5, 6, and 7-8 rooms. 50 pp. Ill. 8½ x 11 in. 25 cents each, $1.00 for the set.

BRICK AND TILE—See also Brick

BUILDING CONSTRUCTION

Cement-Gun Company, Allentown, Pa.

563. *Report on Gunite Walls.* A report of fire tests made by Underwriters' Laboratories on Gunite walls, resulting in giving them a three-hour fire resistance classification. 90 pp. Ill. 6 x 9 in.

Concrete Engineering Co., Omaha, Neb.

347. *Handbook of Fireproof Construction.* An illustrated treatise on the design and construction of reinforced concrete floors with, and without suspended ceilings. The Meyer Steel-form Construction is emphasized and tables are given of safe loads for ribbed concrete floors. 40 pp. Ill. 8½ x 11 in.

Curtis Companies Service Bureau, Clinton, Iowa.

662. *Better Built Houses.* Vol. XIII. This volume contains floor plans and perspectives of 21 two family houses. The designs were made by Trowbridge and Ackerman, Architects, New York, and illustrations rendered by Schell Lewis. Printed in sepia on heavy cream paper. Sent free to architects, east of the Rockies, requesting it on business stationery, otherwise price $1.00. 24 pp. Ill. 9 x 12 in.

McKeown Bros. Co., 21 East 40th St., New York, N. Y.

434. *Clear Floor Space.* A folder showing uses and advantages of McKeown "Lattis" and "Bowstring" long span wood roof trusses. 4 pp. Ill. 8½ x 11 in.

Portland Cement Association, 347 Madison Ave., New York City.

505. *Concrete Floors.—Proposed Standard Specifications of the American Concrete Institute.* Specification with explanatory notes covering materials, proportions, mixing and curing. Plain and reinforced slabs are covered as well as one and two course floors and wearing courses. 18 pp. 6 x 9 in.

Truscon Steel Company, Youngstown, Ohio.

317. *Truscon Floortyle Construction. Form D-352.* Contains complete data and illustrations of Floortyle installations. 16 pp. Ill. 8½ x 11 in.

318. *Truscon Standard Buildings. Form D-398.* Describes Truscon Standard Steel Buildings, with diagrams, illustrations of installations, descriptive matter and list of users. 48 pp. Ill. 8½ x 11 in.

319. *Truscon Building Products. Form D-376.* Contains a brief description of each of the Truscon Products. 112 pp. Ill. 8½ x 11 in.

320. *Modern School Construction. Form D-396.* Contains illustrations of schools, with typical elevations, showing advantages of Truscon Products for this construction. 16 pp. Ill. 8½ x 11 in.

BUILDING DIRECTORIES

The Tablet & Ticket Co., 1015 West Adams St., Chicago, Ill.

517. *Office Building Directory.* Bulletin illustrating and describing directories made by this company providing for any required number of names. Frames of wood or metal with glass cover or doors. Name strips with one quarter inch white letters furnished. Size 7 x 10 in. 4 pp.

BUILDING HARDWARE—See Hardware

BULLETIN BOARDS

R. W. Clark Mfg. Co., 1774 Wilson Ave., Chicago, Ill.

588. *Clark Directories and Clark Changeable Bulletin Boards.* Two pamphlets describing the Clark Changeable Bulletin Board and Directories for Office Buildings, Hotels, Business Buildings, etc. 8 pp. and 4 pp. Ill. 6¼ x 9 in.

The Tablet & Ticket Co., 1015-1021 West Adams Street, Chicago, Ill.

516. *T. & T. Changeable Bulletin Display Boards.* Describes bulletin boards with changeable type which has a self-spacing device so the lettering always looks neat and regular. 24 pp. Ill. 6 x 9 in.

CABINETS

Hess Warming & Ventilating Co., 1204-7 Tacoma Building, Chicago, Ill.

386. *The Hess Sanitary Medicine Cabinet Lockers and Mirrors.* Description with details of an enamelled steel medicine cabinet for bathrooms. 20 pp. Ill. 4 x 6.

CASEMENTS—See Doors and Windows

CEDAR LINING—See Lumber

CEILINGS, METAL

The Edwards Manufacturing Company, Cincinnati, O.

193. *Pamphlet* of 32 pages describing metal ceilings and wainscoting. Well illustrated, with list prices and rules for estimating. 7 x 10 in.

CELLAR SASH—See Doors and Windows

REFERENCE LIST OF BUSINESS LITERATURE—Continued

CEMENT

The Carney Co., Mankato, Minn.

448. *The Bond That Guarantees the Wall.* Attractive catalog for architects, engineers, contractors, and dealers. Describes fully the characteristics, durability and economy of this nature-mixed cement that requires no lime. Contains simple formula for mixing and illustrations of Carney-laid buildings. 24 pp. Ill. 8½ x 11 in.

599. A circular describing improvements in manufacturing the material, cost comparisons, physical tests and specifications for use. 4 pp. Ill. 8½ x 11 in.

711. *A Perfected Cement.* An attractive circular describing late improvements in manufacturing Carney, cost comparisons, physical tests, specifications and testimonials. List of Carney-built buildings with architect's and contractor's names. 8 pp. Ill. 8½ x 11 in.

Durastone Co., 422 East 3rd St., New York, N. Y.

418. *Durastone Brand Cement.* A description of a cement which matches any stone or marble, any color or texture. Can be cast in molds and also used for walls or plain surfaces. Illustrations are given of beautiful work executed with this material. 12 pp 8½ x 11 in.

Louisville Cement Co., Inc., Louisville, Ky.

694. *Brixment for Perfect Mortar.* A description of the chemical and physical properties of Brixment, advantages of its use in mortars for brick and stone masonry, tests of strength and directions for use. In cover for filing. 16 pp. Ill. 8½ x 11 in.

Portland Cement Association, 111 West Washington St., Chicago, Ill.

636. *Concrete Data for Engineers and Architects.* A valuable booklet containing the reports of the Structural Materials Research Laboratories at Lewis Institute, Chicago, in abbreviated form. It is of great value to writers of specifications. 18 pp. Ill. 8½ x 11 in.

650. *Concrete Floors.* Contains the tentative specifications of the American Concrete Institute for concrete floors of all kinds, with notes on floor finishes, coverings, typical construction designs and computing data. 16 pp. Ill. 8½ x 11 in.

CHAIRS—See Furniture

The B. L. Marble Chair Co., Bedford, Ohio.

587. *Office Chairs, Catalog No. 31.* Describes a complete line of seating fixtures, for offices, directors' rooms and other places consisting of stationary and swivel chairs, settees and couches, both plain and leather upholstered. Also stenographer's chairs, stools, waste baskets, coat trees and accessories. 75 pp. Ill. 9 x 12 in.

CHUTES—See also Laundry Equipment

Edwin A. Jackson & Bro., Inc., 50 Beekman St., New York.

171. Booklet showing general construction and size of chutes to receive coal. Two types are built into the foundation wall with glass panel in place of cellar window; another type is placed flush with the ground, and is placed adjacent to wall, or can be placed near the street curb. Size 3½ x 6¼ in. 16 pp.

CLOCKS

Landis Engineering and Manufacturing Co., Waynesboro, Penna.

469. *Landis Electric Time and Program System.* A collection of bulletins No. 100, 110, 120, 130, 150 and 160, dealing with master and secondary clocks, equipment, time stamps, etc. Bound in expansible filing cover of tough paper. 48 pp. Ill. 8½ x 11 in.

COLUMNS

Lally Column Co. of New York, 334 Calyer Street, Brooklyn, N. Y.

122. *Lally Columns. Handbook.* Detailed construction diagrams for various types of steel construction. The text describes advantages of endurance and economy of the column. Various tests, tables of sizes, dimensions, weight, carrying capacities, and data on other structural materials are given. Size 4⅝ x 6⅜ in. 81 pages.

CONCRETE, REINFORCED—See also Reinforcing Steel

CONDUITS—See Pipe

Enameled Metals Co., Pittsburgh, Pa.

584. *Pittsburgh Standard Rigid Conduit.* A catalog describing patented thread protected enameled conduit and galvanized conduit with specifications and useful wiring data. 31 pp. Ill. 6¼ x 9½ in.

DAMPPROOFING—See also Waterproofing

DOORS AND WINDOWS

Andersen Lumber Company, Bayport, Minn., (formerly South Stillwater).

559. *Complete Catalog for Architects and Builders.* Describes Andersen Standard Window Frames and Cellar Sash Frames, which are in 7 units instead of 57 and may be assembled and nailed in 10 minutes. Shows uses in special construction for it comes in 121 sizes and styles. 24 pp. Ill. 7¾ x 10¾ in.

Crittall Casement Window Co., Detroit, Mich.

672. *Crittall Universal Casements, Catalog No. 22.* Contains complete description, photographs, specifications and details of steel casement windows for banks, schools, residences, churches hospitals, set directly into masonry and with auxiliary frames. 76 pp. Ill. 9 x 12 in.

Crittall Casement Window Co., Detroit, Mich.

695. *Crittall Solid Steel Reversible Windows, Catalog No. 1-24.* A catalog explaining the advantages of reversible metal windows for office buildings, schools, hospitals and other substantial buildings. Details of construction and specifications. 20 pp. Ill. 8½ x 11½ in.

Dahlstrom Metallic Door Co., Jamestown, N. Y.

674. *Architectural Catalog.* Illustrated catalog showing styles and types of Dahlstrom Standard Construction Hollow Metal Doors and Trim, Condue-Base, etc. Also various types of frames, jamb construction and architectural shapes. 178 pp. Ill. 8½ x 11 in., in loose leaf.

Henry Hope & Sons, 103 Park Ave., New York.

65. *Hope's Casements and Leaded Glass.* Portfolio. Gives specifications, description and photo-engraving, of Hope Casements in English and American Architecture, full size details of outward and inward opening and pivoted casements, of residential and office types. Size 12¼ x 18½ in. 32 pp.

The Mills-Penfield Corporation, 154 Nassau St., New York City.

F808. *Twindolox.* Description of window locking and operating device for double hung windows by which the upper sash is operated by moving the lower sash and both sash can be locked in any position. 4 pp. Ill. 8½ x 11 in.

S. H. Pomeroy Company, 282 East 134th St., New York, N. Y.

614. *Solid Metal Double Hung Window. Type "A." Bulletin A.* Complete specifications and details of sash, frame, stools and stool and apron. 4 pp. Ill. 8½ x 11 in.

Truscon Steel Co., Youngstown, Ohio.

315. *Truscon Steel Sash.* A catalog containing designing data, tables and views of Stock Sash installations. 6 pp. Ill. 8½ x 11 in.

348. *Truscon Steel Sash.* This handbook has been prepared for detailers and specification writers. The descriptions are clear and the details are complete. 80 pp. Ill. 8½ x 11 in.

638. *Daylighting Schools.* A treatise on the daylighting and window ventilation of school buildings quoting eminent authorities, illustrated with diagrams of lighting data and details of suitable windows. 28 pp. Ill. 8½ x 11 in.

The Wheeler Osgood Co., Tacoma, Wash.

713. *Laminex Doors, Catalog No. 31.* Doors made of Douglas Fir employing a special laminated and doweled construction. Twenty designs in vertical and flat grain veneers. Sizes and details. 44 pp. Ill. 3⅞ x 9¼ in.

714. *Laminex Doors. A Book for Architects and the Building Trade.* This book fully describes the special features of Douglas Fir Laminex and Woco Doors; strength, water and heat tests; properties of Fir; Woco garage doors and window sash. 24 pp. Ill. 8 x 11 in.

Van Zile Ventilating Corporation, 280 Madison Ave., New York City.

697. *The Ventadoor.* A catalog describing a metal ventilating panel installed in wood and metal doors, always sight-proof and can be closed sound-proof and serves the purposes of a transom. 14 pp. Ill. 3½ x 6 in.

DRAFTING MATERIALS

American Lead Pencil Co., 220 Fifth Ave., New York, N. Y.

268. *Booklet C-20. Venus Pencil in Mechanical Drafting.* An interesting illustrated booklet showing the possibilities of the Venus Drawing Pencil for drafting. 6 x 9 in.

Joseph Dixon Crucible Company, Pencil Department, Jersey City, N. J.

325. *Finding Your Pencil.* A book explaining the various degrees of hardness of the Eldorado pencil and the grade most suitable for every man who uses a pencil be he business or professional man, clerk or draftsman. Accompanied by a color chart of Dixon colored crayons. 16 pp. and 4 pp. in color chart. Ill. in colors. 3¼ x 6 in.

DRAINS—See also Plumbing Equipment

Crampton Farley Brass Co., 221 Main St., Kansas City, Mo.

194. Several pamphlets describing various types of floor and area-way drains. 3½ x 6¼ in.

DUMB-WAITERS—See also Elevators

Kaestner & Hecht Co., 1500 No. Branch St., Chicago, Ill.

598. *Electric Dumb-waiters. Bulletin No. 520.* Illustrated catalog, 8 pp. 8½ x 11 in.

Sedgwick Machine Works, 144 West 15th Street, New York.

60. *Hand Power Elevators and Dumb-waiters in Modern Architectural Construction.* Illustrated catalogue. 4¼ x 8¼ in. 80 pp.

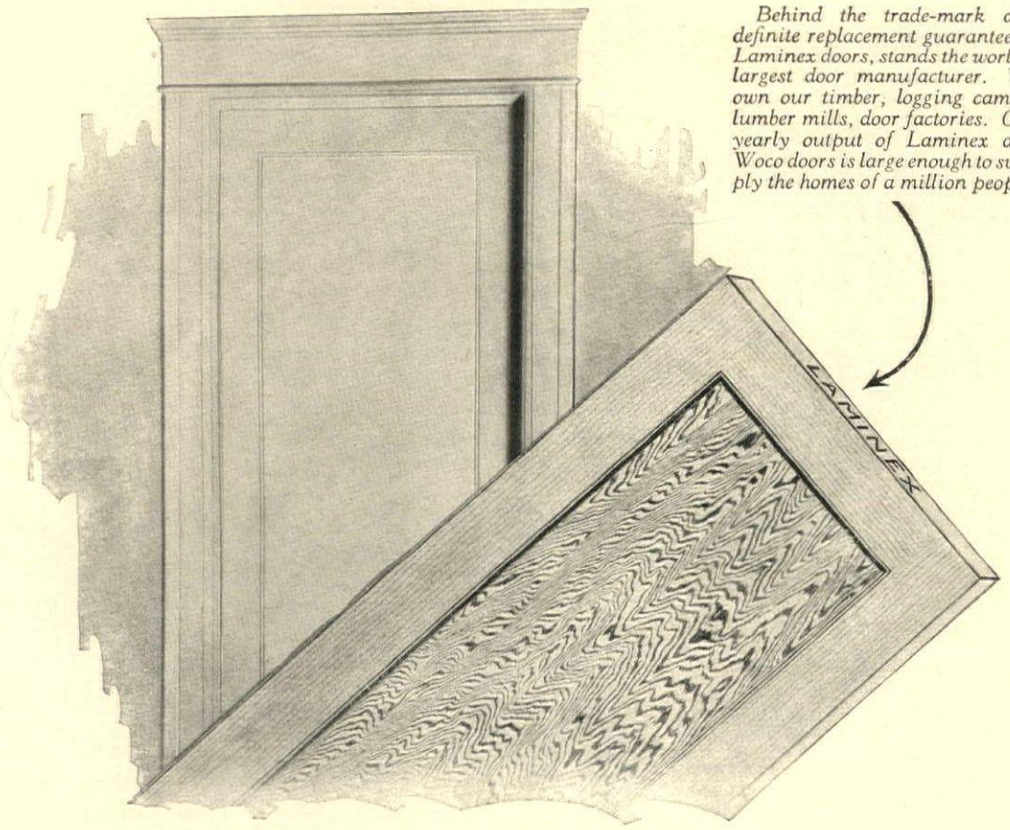
ELECTRICAL EQUIPMENT—See also Lighting

Frank Adam Electric Co., St. Louis, Mo.

296. *Catalog No. 25.* A catalog and price list of knife switches switchboards, panel boards, steel cabinets, switchboard material. 83 pp. Ill. 3 x 10¼ in.

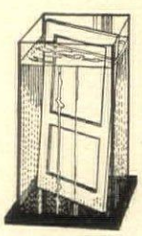
Burke Electric Company, Erie, Pa.

562. *Bulletin 126, Direct Current Motors and Generators.* A bulletin describing motors and generators developed especially to meet the most severe requirements and conditions encountered in mills, factories, small power plants, office buildings, etc. 8 pp. Ill. 8 x 10½ in.

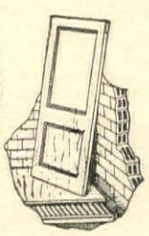


Behind the trade-mark and definite replacement guarantee of Laminex doors, stands the world's largest door manufacturer. We own our timber, logging camps, lumber mills, door factories. Our yearly output of Laminex and Woco doors is large enough to supply the homes of a million people.

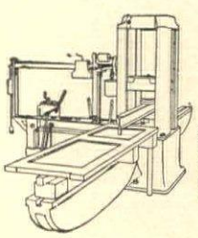
This Laminex door will not wind!



Water test—24 hours' soaking showed complete absence of warping in Laminex doors. All parts of the doors remained rigid and strong. Tests made by the Forest Products Laboratories, University of Washington, School of Forestry.



Heat test in commercial dry kiln—No shrinking, warping or checking in Laminex doors resulted from 24 hours in heat of 185° F. with humidity of 30 per cent.



Strength test—Laminex panels in a 200,000 pound Olsen testing machine, stood an average load of 912 pounds without warping.

We only make such a claim after subjecting Laminex doors to tests that not one door in a million in *actual usage* would ever receive!

This perfected, built-up door is the result of thirty-five years' research by the largest door manufacturer in the world. By the Laminex process we *overcome* the common faults in doors. These are due to the *tracheids* or cells of wood as it grows in the tree, which when cut into lumber, cause shrinking, swelling and warping.

In Laminex doors we build up the parts, using a special Laminex water-proof cement and squeezing the whole together by tremendous pressure into one solid piece.

Scientific tests of Laminex doors were made by the Forest Products Laboratories, University of Washington. *Not a Laminex door warped!* There was almost a total absence of shrinking or swelling.

On the night of October 13, 1923, a great fire visited the warehouse of the Davis Sash & Door Company, Nashville. Hundreds of Laminex doors went through water and blistering heat *without showing the slightest sign of giving way, blistering or buckling,* where many other doors failed.

We build Laminex doors of old growth Douglas fir in standard designs, with vertical grain stiles and rails, as well as all-flat grain. Ask your millwork dealer for them. Look for the trade-mark and gold label replacement guarantee. *Special Laminex monograph sent upon request.*

The Wheeler, Osgood Company

Tacoma, Washington, *"The Lumber Capital of America"*

Sales Offices: Chicago, Memphis, Los Angeles, San Francisco, Spokane

A WOCO PRODUCT

Manufacturers of "Woco" Douglas Fir Doors and Fir Sash

LAMINEX DOORS

WILL NOT SHRINK, SWELL OR WARP

Specifications of most products advertised in THE AMERICAN ARCHITECT appear in the Specification Manual

REFERENCE LIST OF BUSINESS LITERATURE—Continued

ELECTRICAL EQUIPMENT

The Hart & Hegeman Mfg. Co., 342 Capitol Ave., Hartford, Conn

699. *H. & H. Electrical Wiring Devices, Catalog "R."* Catalog of a complete line of switches, sockets, plugs, receptacles, plates, rosettes, cut-outs, elexits and accessories. Two identical catalogs in two sizes. 152 pp. Ill. 5 x 6¼ and 8 x 10½ in.

700. *Gold and Silver Star Switches.* A new type of switch with composition base having a gold star or a silver luminous star in on the button. 4 pp. Ill. 3½ x 6 in.

Harvey Hubbell, Inc., Bridgeport, Conn.

297. *Electrical Specialties. Catalog No. 17, 1921.* This catalog contains descriptions with prices of the thousand and one items connected with electric light, electric alarm and small electric appliance installations in modern buildings. 104 pp. Ill. 8 x 10½ in.

Minneapolis Heat Regulator Co., Minneapolis, Minn.

570. *The Minneapolis Thermostatic Relay Switch.* Used in connection with any Minneapolis Thermostat, provides a means of temperature control for automatic oil burners, electric refrigerating apparatus, electric heating units and any similar equipment where it is necessary to operate an electric switch in accordance with temperature changes. 4 pp. Ill. 8½ x 11 in.

National Metal Molding Co., Pittsburgh, Pa.

481. *Liberty Rubber Insulated Wires, Cables and Cords.* A descriptive catalog of insulated wires, cables and cords for electric wiring. Contains much special information together with useful tables. 20 pp. Ill. 6 x 9 in.

ELEVATORS—See also Dumb-waiters and Hoists

A. B. See Electric Elevator Co., 52 Vesey St., New York

169. Photographs and description in detail of elevator equipment manufactured by the A. B. See Electric Elevator Co. Size 6 x 8 in.

American Elevator & Machine Co., Louisville, Ky.

196. *Illustrated Catalogue* showing elevator equipment for various uses. 32 pp. 2½ x 9½ in.

Kaestner & Hecht Co., 1500 No. Branch St., Chicago, Ill.

597. *Electric Traction Elevators, Bulletin No. 500.* Illustrated catalog describing gearless traction elevators and worm-geared traction elevators. 31 pp. 8¼ x 11 in.

Kimball Brothers Company, Council Bluffs, Iowa.

330. *Kimball Elevators.* An illustrated catalog of hand power, sidewalk, and garage elevators and dumb-waiters and electric passenger, freight and push button elevators. 32 pp. Ill. 7¾ x 10½ in.

Otis Elevator Co., 260 Eleventh Ave., N. Y. C.

651. *Otis Geared and Gearless Traction Elevators.* Leaflets describing all types of geared and gearless traction elevators with details of machines, motors and controllers for these types. Illustrated. 8½ x 11 in.

Richards-Wilcox Mfg. Co., Aurora, Ill.

335. *"Ideal" Elevator Door Equipment.* Catalog showing elevator door hangers for one, two and three speed doors, also doors in pairs and combination swing and slide doors. Door closers and checks. 24 pp. Ill. 8½ x 11 in.

ESCALATORS

Otis Elevator Co., 260 Eleventh Ave., N. Y. C.

652. *Elevators and Inclined Elevators.* A comprehensive catalog illustrating the use of escalators for transporting people in stores, subways, railroad stations, theatres and mills; also inclined freight elevators for stores, factories, warehouses and docks adjustable to tide levels. 22 pp. Ill. 8½ in.

FILTERS—See Air Filters

FINANCING OF ENTERPRISES

S. W. Straus & Co., 565 Fifth Ave., New York, N. Y.

183R. *Forty Years Without Loss to Any Investor.* A book describing the Straus Plan of investments. This firm underwrites and sells only first mortgage serial bonds secured by newly improved income producing properties, or high grade industrial properties. 37 pp. Ill. 5 x 8 in.

FIRE DOORS AND SHUTTERS—See Doors and Windows

FIREPLACES AND MANTELS

Colonial Fireplace Co., 4619 Roosevelt Road, Chicago, Ill.

676. *Blue Print Details.* A valuable set of scale details of correct fireplace construction and examples of details to avoid. Instructions for setting the Colonial head throat and damper. Explanations of necessity for summer use of damper. Folder equivalent to 8 pp. Ill. 8¼ x 10½ in.

H. W. Covert Co., 137 East 46th St., New York.

79. *Hints on Fireplace Construction.* Diagrams of construction and installation of Covert "Improved" and "Old Style" dampers and smoke-chambers, and other fireplace accessories. Size 5⅝ x 8½ in. 12 pp.

Edwin A. Jackson & Bro., Inc., 50 Beekman St., New York.

92. *Dampers, Chutes, Doors and Dumps.* Illustrated catalog. Equipment and appurtenances of various types, construction and installation, data, dimensions and prices.

Peerless Manufacturing Company, Inc., Louisville, Ky.

513. *The Lure of the Fireplace.* This booklet contains information and diagrams for the design and building of fireplaces, together with descriptions of modern domes and dampers so that a fireplace will work effectively at all times. Contains many illustrations of tasteful mantel designs. 24 pp. Ill. 5 x 7 in.

FLOOR COVERING—See Flooring

FLOORING, SUB—See also Stucco Base

FLOORING

Armstrong Cork Co., Linoleum Department, Lancaster, Pa.

222. *Business Floors.* A handy reference on floors for public and semi-public buildings, containing specimen specifications, directions for laying and other helpful data. Illustrated in color. 6 x 9 in.

223. *Armstrong's Linoleum Floors.* A handbook for architects, published in the file form (8½ x 11 in.) recommended by the American Institute of Architects. A technical treatise on Linoleum containing general information, tables of grades, gauges and weights, specimen specifications, and detailed directions for laying linoleum. Profusely illustrated in colors.

The Barber Asphalt Co., Philadelphia, Pa.

659. *Genasco Trinidad Lake Asphalt Mastic.* A book describing its manufacture, uses and methods of application, including application over old floors. Separate specifications for flooring, waterproofing and roofing uses. 34 pp. Ill. 6 x 9 in.

Bonded Floors Co., Inc., 1421 Chestnut St., Philadelphia, Pa.

716. *Distinctive Floors.* A publication describing Gold-Seal Rubber Tile, its composition, manufacturing and method of installation. Illustrations in full color of twelve different finishes. 8 pp. Ill. 7¾ x 10¾ in.

717. *Hospital Floors.* Descriptions and advantages of using Gold-Seal Battleship Linoleum, Gold-Seal Treadlite Tile and Gold-Seal Rubber Tile in hospital construction, insuring durable, noiseless, sanitary and attractive floors. Illustrated part in color. 8 pp. Ill. 8 x 10¾ in.

718. *Gold-Seal Treadlite Tile.* This tile, a scientific compound of cork, various gums and pigments, is described and illustrated in colors. Detail drawings and specifications for installation are included. 32 pp. Ill. 7¾ x 10¾ in.

The Long-Bell Lumber Co., R. A. Long Building, Kansas City, Mo.

204. *The Perfect Floor.* Tells how to lay finish and care for Oak Flooring. 16 pp. 14 illus. 5⅛ x 7⅝ in.

The Marbleloid Co., 461 Eighth Ave., New York.

61. *The Universal Flooring for Modern Buildings.* Illustrated booklet. Describes uses and contains specifications for Marbleloid flooring, base, wainscoting, etc. Size 6¾ x 9¾ in. 32 pp.

523. *Marbleloid for Schools.* A bulletin showing schools in which Marbleloid flooring is used. It is a composition flooring applied in a plastic state. Other bulletins show where it has been used in various classes of buildings. 4 pp. Ill. 3½ x 11 in.

Franklyn R. Muller Co., Waukegan, Ill.

242. *Asbestone Flooring Composition.* A book describing uses of and giving specifications and directions for Composition Flooring. Base, Wainscoting, etc. 8½ x 11 in. Ill.

Oak Flooring Bureau, 1014 Ashland Block, Chicago, Ill.

493. *Modern Oak Floors.* A book that tells the complete story of Oak Flooring 24 pp. Ill. 6⅛ x 9¼ in.

The Rodd Co., Century Bldg., Pittsburgh, Pa.

688. *Redwood Block Floor Booklet.* A treatise on the advantages of Redwood Block Floors in factories, warehouses, hotels, office buildings, department stores, hospitals, etc. Details, dimensions and specifications for installing. 14 pp. Ill. 4 x 9 in.

FLOORING

Stedman Products Co., South Braintree, Mass.

585. *Stedman Naturized Reinforced Flooring.* A circular describing a product formulated from rubber reinforced with cotton fibre, made in various colors and used for floors, wainscoting, sanitary base, stair treads, interior decorative units, wall coverings, table and desk tops and drain mats. 6 pp. Ill. 8½ x 11 in.

FLOORS—See Building Construction

FRAMES—See Doors and Windows

FURNACES—See Heating

FURNITURE—See Chairs

GARAGE CONSTRUCTION—See also Building Construction

GARAGE INCLINES AND RAMPS

American Abrasive Metals Co., 50 Church St., N. Y. C.

677. *Feralun Anti-Slip Treads for Garage Inclines and Ramps. F170.* A folder explaining the advantages of and illustrating the actual use of Feralun Anti-Slip Treads on ramps and inclines in public garages. 2 pp. Ill. 8½ x 11 in.

Science Hall

Indiana State Normal School, Terre Haute, Indiana, protected by Genasco Standard Trinidad Built-up Roof Materials.

Architect—C. Martindale
Contractor—A. W. Stoolman

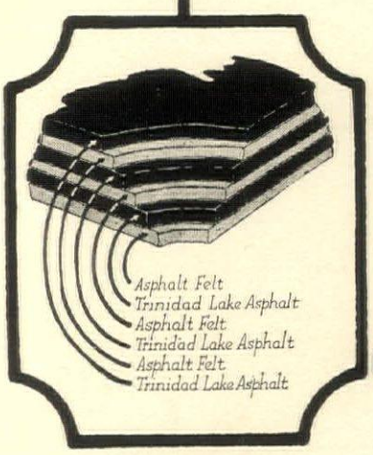
Nature-made weatherproofing

Genasco Standard Trinidad Built-up Roofing—as its name implies—is made of Trinidad Native-Lake Asphalt, *not an unseasoned artificially produced compound.*

Exposure to the rigors of tropic weather have given Trinidad Lake Asphalt the durability and waterproofing qualities possessed by no other bituminous material. Used in street paving, it has withstood the wear and tear of traffic for over 40 years without visible signs of wear.

Being immune to damage by weather, Genasco Standard Trinidad Built-up Roofing is *smooth-surfaced.* It does not require any gravel, slag or other mineral surfacing.

Complete specifications for applying Genasco Standard Trinidad Built-up Roofing will be furnished architects and builders on request. Also interesting data regarding this remarkable roofing.



The Barber Asphalt Company

PHILADELPHIA

New York, Chicago, Pittsburgh, St. Louis, Kansas City, San Francisco

Genasco
STANDARD TRINIDAD Built-up Roofing

Specifications of most products advertised in THE AMERICAN ARCHITECT appear in the Specification Manual

REFERENCE LIST OF BUSINESS LITERATURE—Continued

GARBAGE DESTROYERS

Kerner Incinerator Company, 1029 Chestnut St., Milwaukee, Wis.

384. *The Sanitary Elimination of Household Waste, M-3 Folder.* Description of construction, installation and operation of the Kernerator for residences. Illustrated by views of residences in which the Kernerator is installed, with cuts showing all details. 15 pp. Ill. 4 x 9 in.

Kewanee Boiler Co., Kewanee, Ill.

573. *Water Heating Garbage Burners, Tabasco Water Heaters and Tanks, Catalog No. 75.* A descriptive catalog of steel water heating garbage burners, water heaters, hot water storage tanks, pneumatic tanks, gravel basins, blow-off receivers and air receivers. Tables of sizes, dimensions, capacities and pressures. 30 pp. Ill. 6 x 9 in.

GARBAGE RECEIVERS

Edwin A. Jackson & Bro., Inc., 50 Beekman St., New York.

170. Booklet showing general construction and sizes of garbage receivers to be placed underground for suburban use; also types to be built into the wall of city homes and apartments; also types for suburban wall with opening on inside for the maid and outside for the garbage man. Size 3½ x 6¼ in. 16 pp.

GARDENS

Julius Roehrs Company, Rutherford, N. J.

406. The Ten-Ten books issued three times a year—covering nursery stock in general, such things as fruit trees, roses and perennials. Also one general greenhouse catalog, listing orchids and greenhouse plants.

GLASS

Plate Glass Manufacturers of America, First National Bank Bldg., Pittsburgh, Pa.

484. *The Part that Plate Glass Plays in the Life of Every Man.* An illustrated folder describing the many uses of plate glass. Ask also for special circular for work in hand. 6 pp. Ill. in color. 3½ x 6¼ in.

GRANITE—See Stone

GUNITE

Cement Gun Company, Allentown, Pa.

564. *The Cement Gun, Its Application and Uses.* Reprint of a paper by Byran C. Collier, M. Am. Soc. C. E. A description of what the cement gun is and how it works, together with reports on tests. 21 pp. Ill. 6x9 in. Ask also for companion pamphlet "Gunite Slabs" containing working tablets for designers and reports on slab tests. 30 pp. Ill. 6 x 9 in.

GUTTERS AND DOWNSPOUTS—See also Roofing

The New Jersey Zinc Co., 160 Front Street, New York, N. Y.

226. *Zinc Spouting.* Describes leaders, gutters, etc. "Made from Horse Head Zinc," giving information concerning their economy and durability. 8 pp. Ill. 6 x 9 in.

HARDWARE

Allith-Prouty Co., Danville, Illinois.

596. *General Catalog No. 90.* This catalog embraces a description of a complete line of door hangers and tracks, garage door hardware, spring hinges, rolling ladders, fire door hardware, overhead carriers, light hardware and hardware specialties. 144 pp. Ill. 7¾ x 10½ in.

The Casement Hardware Co., 227 Pelouze Bldg., Chicago, Ill.

627. *Win-Dor Casement Hardware.* A booklet describing the general use of casement windows and description, specifications and details of the casement window and the operating devices suitable for all uses. 22 pp. Ill. 5½ x 8½ in.

P. & F. Corbin, New Britain, Conn.

540. *Automatic Exit Fixtures.* A catalog of fixtures that provide a ready exit at all times, as a child can operate them with ease. Doors to which they are applied can always be opened from the inside, even when locked against entrance. 4 pp. Ill. 8¾ x 11¾ in.

Monarch Metal Products Co., 5060 Penrose St., St. Louis, Mo.

438. *Monarch Casement Hardware.* A book describing hardware for casement windows. This Manual and folder comply with all suggestions made by the Structural Service Committee of the A. I. A. 18 pp. Ill. 7½ x 10½ in., in heavy folder for vertical file properly indexed.

Richards-Wilcox Mfg. Co., Aurora, Ill.

336. *Modern Hardware for Your Home.* Catalog of hangers for vanishing French doors; "Air-Way" multifold hardware for sun parlors and sleeping porches; "Slidtite" garage door hardware. 24 pp. Ill. 8½ x 11 in.

435. *Distinctive Garage Door Hardware. Catalog No. A-22.* This is more than a catalog. It is a treatise for architects and builders on the door equipment of garages, covering sliding, folding and combination sliding and folding doors, with their hardware. 94 pp. Ill. 8½ x 11 in.

436. *Sliding Door Hardware. Catalog No. A-17.* A catalog of sliding door hardware of Parallel, Accordion and Flush Door partitions. 32 pp. Ill. 7 x 10 in.

632. *Distinctive Garage Door Hardware. Catalog A No. 20.* A complete treatise on garage doors of every kind both hand and mechanically operated with description of standard and special hardware and accessories. 66 pp. Ill. 8½ x 11 in.

Russell & Erwin Mfg. Co., New Britain, Conn.

609. *Russwin Period Hardware.* A brochure illustrating hardware trim in twelve architectural styles or periods. 71 pp. Ill. 5 x 8 in.

610. *Catalog of Hardware, Volume Fourteen.* A complete catalog of building hardware, trim, locks, butts and accessories. 359 pp. Ill. 8 x 11 in.

Sargent & Company, New Haven, Conn.

560. *Sargent Locks and Hardware for Architects.* The latest complete catalog of locks and hardware. 762 pp. Ill. 9 x 12 in.

The Stanley Works, New Britain, Conn.

11. *Wrought Hardware. New 1921 Catalog.* This new catalog describes additions to the Stanley line of Wrought Hardware, as well as the older well known specialties and various styles of butts, hinges, bolts, etc. 376 pp. Ill. 6½ x 9½ in.

12. *Garage Hardware. Booklet, illustrated.* Garages and their equipment, such as hinges, hasps, door holders, latch sets, chain and hand bolts, showing illustrations and text with dimensions of garages, describing the Stanley Works product. Size 6 x 9 in. 24 pp.

13. *Eight Garages and Their Stanley Hardware.* Booklet Plans, drawings and complete hardware specifications. Size 5 x 7 in. 32 pp.

127. *The Stanley Works Ball Bearing Butts.* Booklet, illustrated. Description with full size illustrations of many typed butts and their parts, dimensions and finish. Size 5 x 7½ in. 32 pp.

495. *Stanley Detail Manual.* A catalog in loose leaf binder, consisting of five sections on Butts, Bolts, Blind and Shutter Hardware, Stanley Garage Hardware, Screen and Sash Hardware. Detail drawings are given, showing clearances and other data needed by detailers. 116 pp. Ill. 7½ x 10½ in.

Vonnegut Hardware Co., Indianapolis, Ind.

309. *Von Duprin Self-Releasing Fire Exit Devices.* A catalog and educational work on panic-proof, burglar-proof self releasing exit devices for doors and windows of buildings of any kind of occupancy. 41 pp. Ill. 8 x 11 in.

310. *Prince Self-releasing Fire Exit Devices. Supplement to Von Duprin Catalog No. 12.* Contains valuable information for architects on the selection, detailing, etc., of Prince devices for doors and windows to insure safety against fire panic. 32 pp. Ill. 8 x 11 in.

HEATERS—See Water Heaters

HEATING

American Radiator Company, 104-108 W. 42nd St., New York, N. Y.

427. *Ideal-Arcola Heating Outfits.* A book describing a system of hot water heating for small and medium size houses. The boiler is placed in a room and resembles a stove. No cellar required. The ash carrying reduced to a minimum. 24 pp. Ill. 6 x 8½ in.

Crane Company, 836 So. Michigan Ave., Chicago, Ill.

241. *Steam Catalogue.* A book containing full descriptions of the complete line of Crane valves, fittings, etc. 800 pp. Ill. 6 x 9 in.

The Duriron Co., Inc., Dayton, Ohio.

720. *Acid Fume Exhaust Fans.* A specification for exhaust fans where corrosive fumes or vapors are to be removed from chemical hoods, laboratories, etc. 4 pp. Ill. 8½ x 11 in.

The Farquhar Furnace Company, Wilmington, Ohio.

355. *Healthful Helpful Hints.* A discussion of furnace and chimney design and capacity for hot air heating and ventilation 16 pp. Ill. 4¾ x 9¼ in.

356. *A Plain Presentation to Dealers.* A book of selling talk for dealers in Farquhar Furnaces. Four model heating layouts are shown and there is a page of useful "Do and Don't" advice. 24 pp. Ill. 8½ x 11 in.

General Boilers Company, Waukegan, Ill.

444. *Catalog No. 7.* A catalog completely describing the construction and operation of Pacific Steel Boilers. Contains also specifications and price lists. 32 pp. Ill. 6 x 9 in.

The Hart & Cooley Co., New Britain, Conn.

703. *H & C Wrought Steel Grilles.* A new type of ventilating grille permitting passage of air but not sight, also plain square mesh grilles, made of steel, bronze and brass. Details and specifications. 4 pp. Ill. 8½ x 11 in.

712. *Wrought Steel Registers and Grilles, Catalog No. 24.* A catalog of wrought steel floor, baseboard and wall registers, cold air intakes, lock registers, ventilators, furnace regulators and accessories. Dimensions, details and price lists. 80 pp Ill. 7¾ x 10 in.

Hess Warming & Ventilating Co., 1209 Tacoma Bldg., Chicago, Ill.

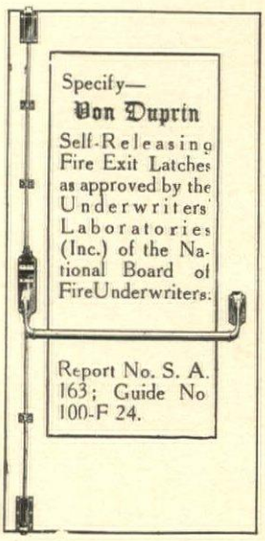
178. *Modern Furnace Heating.* An illustrated book on the Hess Welded Steel Furnaces. Pipe and Pipeless, notes for installation, sectional views, showing parts and operation, dimensions, register designs, pipes and fittings. Size 6 x 9½ in. 48 pp.

Illinois Engineering Co., Racine Ave., at 21st St., Chicago, Ill.

501. *Illinois Heating Systems. Vapor Details Bulletin 20.* This bulletin contains typical plans and elevations of heating systems, with description of details and "Standards for Computing Radiation and Boiler Sizes" of the Chicago Master Steam Fitters' Association. 18 pp. Ill. 8 x 10¾ in.

Von Duprin

Self-Releasing Fire Exit Latches



Being Sure

The owner of a large building *may* get along all right without **Von Duprin** latches, if fortune favors him, and he never has a fire or a panic in his building.

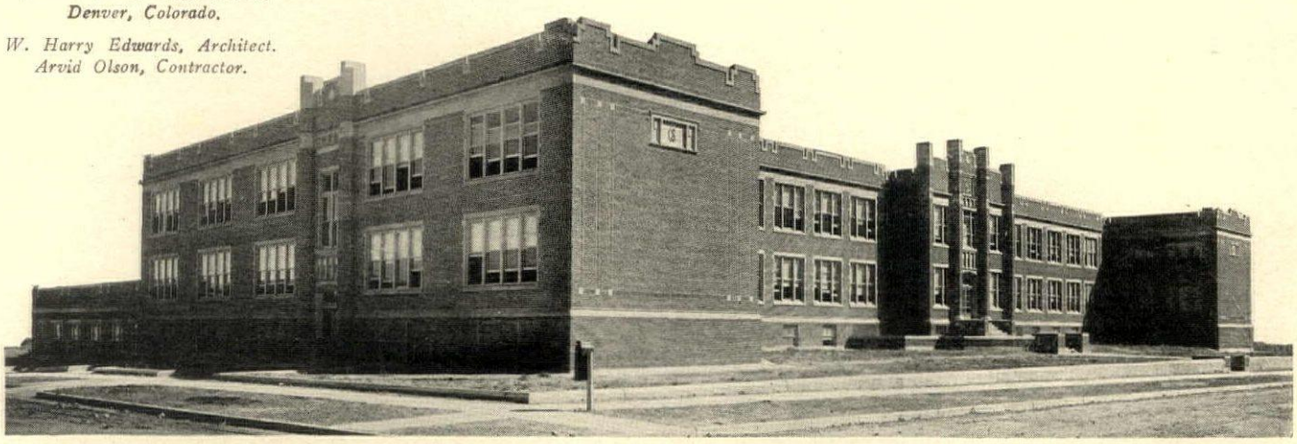
But—if he *does* have a fire or a panic in the building, the presence of **Von Duprins** on the exit doors will be a priceless asset, perhaps saving the lives of a number of the inmates.

There is only one way to be absolutely sure that the building housing large numbers of people is safe—and that way is to equip all exit doors with **Von Duprin** latches.

Complete details in "Sweet's," or ask us for the new **Von Duprin** *Reference Book,* No. 24-Q.

VONNEGUT HARDWARE CO.
Indianapolis, Ind.

Skinner Junior High School,
Denver, Colorado.
W. Harry Edwards, Architect.
Arvid Olson, Contractor.



Specifications of most products advertised in THE AMERICAN ARCHITECT appear in the Specification Manual

REFERENCE LIST OF BUSINESS LITERATURE—Continued

HEATING

Illinois Engineering Co., Racine Ave., at 21st St., Chicago, Ill.

502. *Illinois Bulletins.* No. 102 contains detailed description with capacities and dimensions of Eclipse Pressure Reducing Valves. 20 pp. Ill. Nos. 202, 302, 452, 502 and 703 describe, with illustrations, Steam Specialties, Back Pressure Valves, Stop and Check Valves, Exhaust Heads, Balanced Valves, Separators. Steam Traps.

Jenkins Bros., 30 White St., New York, N. Y.

235. *Catalog No. 12.* This catalog contains descriptions of all the valves, packing, etc., manufactured by Jenkins Bros. Includes also dimensions and price lists of valves and parts. 271 pp. Ill. 4 x 6¾ in. Stiff paper cover.

237. *The Valve Behind a Good Heating System.* This booklet describes Jenkins Radiator Valves, Automatic Air Valves and other valves used in connection with steam and hot water heating. 16 pp. 4½ x 7¾ in. Stiff paper cover.

Johnson Service Company, 149 Michigan St., Milwaukee, Wis.

391. *The Regulation of Temperature and Humidity.* A description of the Johnson System of temperature regulation and humidity control for buildings; showing many kinds of thermostatic appliances for automatically maintaining uniform temperatures. 63 pp. Ill. 8½ x 11 in.

392. *Johnson Electric Thermostat, Valves and Controllers.* A catalog of devices mentioned in the title. 24 pp. Ill. 3½ x 6 in.

Kewanee Boiler Co., Kewanee, Illinois.

572. *Kewanee Radiators, Catalog No. 72.* A descriptive catalog of the standard types of cast iron radiation including wall radiation, wall boxes, radiator brackets and accessories. Tables of capacities, roughink in dimensions and other data. 23 pp. and supplement. Ill. 6 x 9 in.

Minneapolis Heat Regulator Co., Minneapolis, Minn.

660. *Minneapolis Dual Control.* This circular describes in detail the No. 65 Hydrostat and No. 70 Pressurestat and their application for the automatic heat control of hot water, steam or vapor systems. 12 pp. Ill. 3¼ x 6 in.

The Powers Regulator Co., 2720 Greenview Ave., Chicago, Ill.

722. *Powers Temperature Regulation.* A catalog explaining the principles of thermostatic control of temperature and its application to heating plants. Details of apparatus and applications, installations in important buildings and engineering data. 40 pp. Ill. 8 x 11 in.

723. *Thermostatic Water Controller, Bulletin No. 124.* Describing water temperature control apparatus adapted to shower and tub baths, lavatories and other places where predetermined water temperature is desired. Details of installation, capacities, dimensions and prices. 4 pp. Ill. 6⅜ x 9¼ in.

724. *The No. 11 Regulator, Bulletin No. 129.* Describing a self contained, accurate regulator of liquid temperature in hot water service tanks, steam cookers, pasteurizers, etc. Details, dimensions and prices. 2 pp. Ill. 6¾ x 9¼ in.

Richardson & Boynton Co., New York, N. Y., Chicago, Ill., Philadelphia, Pa., Providence, R. I., Boston, Mass.

290. *The Richardson Vapor Vacuum-Pressure Heating System.* An interesting book which presents in clear non-technical language the principles of Vapor-Vacuum-Pressure heating; the economy over ordinary steam heating, steam and hot-water systems may be altered to use this principle with views of buildings where the V-V-P system is installed. 14 pp. Ill. 8 x 11 in.

291. *Perfect Warm Air Furnaces.* No. 203. Contains a full description of various types of warm air furnaces and parts, with dimensions and necessary data. 24 pp. Ill. 8 x 10½ in.

292. *Perfect Cooking Ranges.* Description and dimensions of the complete line of the new high enamel finish Richardson Perfect ranges, with charts and information regarding combination coal and gas cooking ranges. 40 pp. Ill. 8½ x 11 in.

Tuttle & Bailey Mfg. Co., 2 West 45th St., New York, N. Y.

395. *About Radiator Enclosures.* A booklet showing how easily and effectively unsightly radiators may be concealed by enclosures which adorn a room. 15 pp. Ill. 6¾ x 9¾ in.

396. *Special Designs. Catalog 66A.* A book of designs for grilles, screens, registers and ventilators to be used in connection with heating installations. Made of bronze, brass, iron and steel. 40 pp. Ill. 6¾ x ¾ in.

Utica Heater Company, Utica, N. Y.

557. *Utica Imperial Super-Smokeless Boilers.* These boilers burn all fuels and consume soft coal without smoke. The illustrated catalog contains complete technical data with lists of illustrations. 76 pp. Ill. 8½ x 11 in. (Separate bulletins may be had featuring the following buildings: Schools, Churches, Public Buildings, Apartments, Hotels, Residences, Industrial Buildings, Office and Theatres.)

558. *Warm Air Heating.* A folder featuring warm air heating equipment including *New Idea* pipeless furnaces. Superior pipe furnaces and *Super-Smokeless* furnaces for burning soft coal.

HEATING AND VENTILATION

American Blower Co., Detroit, Mich.

361. *Sirocco Service.* A quarterly publication containing descriptions of heating and ventilating systems installed by the American Blower Company, together with useful data for architects and engineers. 16 pp. Ill. 8½ x 11 in.

362. *General Catalog "ABC" Products.* A book full of useful data for all men who have to deal with heating and ventilating problems. 132 pp. Ill. 8½ x 11 in.

645. Special bulletins describing in detail all of the apparatus in their general catalog. Sent on request. Ill. 8½ x 11 in.

Buffalo Forge Co., 490 Broadway, Buffalo, N. Y.

215. *Buffalo Fan System of Heating, Ventilating and Humidifying.* Catalog 700. This contains a general discussion of heating and ventilating under four heads. Part 1, Public Buildings. Part 2, Industrial Plants. Part 3, Buffalo Apparatus. Part 4, Fan Engineering.

Garden City Fan Co., McCormick Bldg., Chicago, Ill.

673. *New Sectional Catalog No. 200.* Describing the latest improved cycloidal multivane fans for heating, ventilating and drying also standard steel plate fans and pipe coil heaters. Details, capacity tables and specifications, 24 pp. Ill. 7½ x 10½ in.

The H. W. Nelson Corporation (formerly Moline Heat), Moline, Ill.

411. *Univent Ventilation. Architects' and Engineers' Edition.* A scientific treatise on ventilation for schools, offices and similar buildings; with 40 pages of engineering data on ventilation for architects and engineers. 72 pp. Also "Supplement A" on Air Conditioning. 12 pp. Ill. with half-tones, line drawings and designing charts. 8½ x 11 in.

HOISTS—See Elevators and Ash Hoists

INCINERATORS—See Garbage Destroyers

INSULATION—See also Stucco Base

The Celotex Co., 111 W. Washington St., Chicago, Ill.

701. *Celotex Insulating Lumber.* An insulating material made from cane fibre in form of boards of various lengths and thicknesses. Specifications, physical properties and tests. Several catalogs, booklets and leaflets.

Insulite Division, Minnesota & Ontario Paper Company, International Falls, Minn.

487. *Universal Insulite in Building Construction.* Describes a clean, sanitary, odorless and vermin proof board made from selected waterproofed wood fibres, felted into light, strong, uniform sheets. Examples are given for use indoors and outdoors together with details and useful data. 37 pp. Ill. 8½ x 11 in.

United States Mineral Wool Co., 280 Madison Ave., New York.

83. *The Uses of Mineral Wool in Architecture.* Illustrated booklet. Properties of insulation against heat, frost, sound, and as a fire-proofing, with section drawings and specifications for use. It gives rule for estimate and cost. Size 5¼ x 6⅝ in. 24 pp.

IRON AND STEEL—See also Metals

The American Rolling Mill Co., Middletown, Ohio.

658. *The Story of Commercially Pure Iron.* A most interesting booklet recounting the historical development of iron and its present day manufacture in commercially pure, durable form. 48 pp. Ill. 6 x 9 in.

682. *What's Under the Galvanized Coating?* A booklet describing the process of galvanizing, its protective service and also the necessity for pure iron as a basis for galvanizing. 16 pp. Ill. 3¼ x 6¼ in.

Mitchell-Tappen Company, 15 John St., New York, N. Y.

257. *Booklet 14 on Standardized Metal Caging.* Description of various ways of reinforcing the concrete fireproofing on structural steel work, with particular reference to Standardized Metal Caging.

KITCHEN EQUIPMENT—See also Stoves

Bramhall, Deane Co., 261-A West 36th St., New York.

59. *The Heart of the Home.* Booklet, illustrated. Deane's French Ranges (all fuels), cook's tables and plate warmers. Size 6 x 9 in. 32 pp.

The Prometheus Electric Co., 352 West 13th St., New York.

145. *Promethus Electric Plate Warmers.* Leaflets illustrating the plate warmer, describing its construction, utility and types, adaptable for residences and hotels, according to specifications. Sizes and dimensions. Size 5⅝ x 9 in.

LATH, EXPANDED WOOD

Expanded Wood Lath Corporation, 818-155 N. Clark St., Chicago, Ill.

605. *Ex-Wo Expanded Wood Lath.* An expanded wood lath made in sheets and attached to a sheathing paper. Description, directions for installation, specifications and tests. 2 and 4 pp. Ill. 9 x 11½ and 7½ x 11 in.

LATH, METAL

American Steel & Wire Co., Chicago, Ill.

228. *Stucco Houses Reinforced With Triangle Mesh Fabric.* A pamphlet containing valuable data on stucco work with tables of qualtities of material and many illustrations of houses covered with stucco applied on Triangle Mesh Fabric. 24 pp. Ill. 6 x 9 in.

Concrete Engineering Co., Omaha, Neb.

346. *How to Use Ceco Lathing Materials.* An illustrated treatise on the use of expanded metal lath. Contains construction details and complete specifications, with sample piece of lath in pocket on cover of book. 16 pp. Ill. 8½ x 11 in.

The General Fireproofing Co., Youngstown, Ohio.

592. *Building for Permanence and Beauty.* A booklet containing illustrations and plans of residences with stucco exteriors and describing proper stucco construction on Herringbone Metal Lath. 36 pp. Ill. 5½ x 7¾ in.

685. *The Right Angle.* A monthly magazine devoted to fireproof construction involving the use of metal lath, expanded metal and steel lumber. Specifications and details. Circulation free to architects and contractors. 16 pp. Ill. 8½ x 11 in.

What is Hoffman "Controlled Heat"

HOFFMAN "Controlled Heat" is the modern and most satisfactory type of vapor heat. It is just as efficient in small residences as in large office buildings, apartment houses or hotels. It requires no pumps or other moving parts.

Hoffman "Controlled Heat" can be used with any standard type of boiler, piping and radiators. The same estimated radiation should be used for Hoffman "Controlled Heat" as for an ordinary steam job.

Its Advantages

HOFFMAN "Controlled Heat" gives the advantages of both steam and hot water heat with none of their defects.

Every room will be just the right temperature.

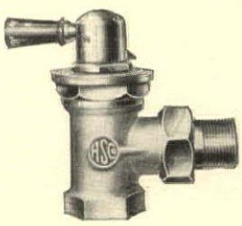
There will be no air-bound stubborn radiators.

Heat comfort can be made sure in exposed or remote rooms.

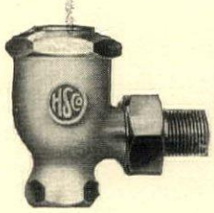
There will be a great saving in coal or other fuel.

It is flexible heat quickly adaptable to outside changes.

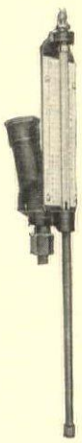
The six Hoffman Devices that change an ordinary steam heating system into "Controlled Heat" are:



The Hoffman Modulating Valve. The chief feature of this valve is the easy and accurate setting of the valve port to fit radiators of various sizes. By means of the precise port adjustment coupled with the sensitive damper regulation the amount of steam admitted to the radiator may be accurately controlled and the amount of heat given off by each radiator regulated. There is no valve of its type on the market that possesses these exclusive Hoffman features.



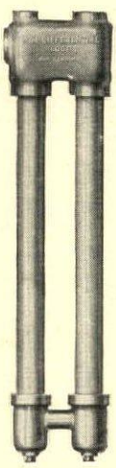
The Hoffman Return Line Valve. This valve is automatic, non-adjustable, thermostatic and relieves all air and condensation without loss of steam. In service, it is efficient in operation with the same degree of sensitiveness under either high or low pressure. The valve operates under a pressure range from 13 inches of vacuum to 50 lbs. steam pressure.

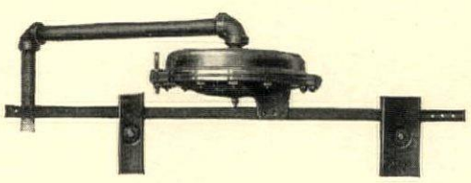


Hoffman Mercury Pressure Gauge. This gauge shows an exact reading in ounces of the pressure conditions at the boiler.

Hoffman Vapor Vacuum Valve. This valve not only freely vents all air in the system but also prevents its return.

Hoffman Differential Loop. This device maintains a constant water level in the boiler and thus prevents the danger of a burned out or cracked section. It also instantly enables steam to enter a radiator when the modulating valve is opened by maintaining a constant pressure differential between the feed and return ends of radiators.





Hoffman Damper Regulator. This damper control is entirely automatic and when once set at desired pressure, requires no further attention. It accelerates or retards the amount of fire and conserves fuel.

HOFFMAN "Controlled Heat" is an improved type of heating but it is in no sense experimental. It is in successful operation in such big jobs as The Textile Building, where total radiation is approximately 75,000 feet, and in many small dwellings where only a few hundred feet were required.

Hoffman "Controlled Heat" is a type of heating that gives universal satisfaction and the first cost is not excessive.

We shall be glad to place at the disposal of architects or heating engineers any data or other information that our long experience with heating problems has accumulated.

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CONTROLLED HEAT

MADE BY THE MAKERS OF THE NO. 1 HOFFMAN VALVE "WATCHMAN OF THE COAL PILE"

REFERENCE LIST OF BUSINESS LITERATURE—Continued

LATH, METAL

Truscon Steel Company, Youngstown, Ohio.

316. *Hy-Rib and Metal Lath.* Tables, general data and illustrations of Hy-rib and metal lath construction. 6 pp. Ill. 8½ x 11 in.

LAUNDRY EQUIPMENT

Chicago Dryer Co., 2210 N. Crawford Ave., Chicago, Ill.

66. *Laundry Appliances.* Illustrated catalog. Descriptions of Laundry Dryers, Electric Washing Machines and Ironing Machines, especially adapted for use in residences, apartment buildings and small institutions. Size 8½ x 11 in. 48 pp.

The Pfaudler Company, Rochester, N. Y.

581. *Glass Lined Steel Laundry Chute.* Catalog describing a glass lined steel laundry chute with flushing ring at top and drain connection at bottom, specifications, dimensions and details adapted to hospitals and hotels. 14 pp. Ill. 5⅛ x 7⅝ in.

LIGHTING—See also Electrical Equipment

Frank Adam Electric Co., 3649 Bell Ave., St. Louis, Mo.

629. *The Control of Lighting in Theatres.* A book describing means for complete control of lighting the stage, auditorium and other parts of theatres with distribution schedules and specifications. Also applications of control to Masonic buildings, schools and colleges. 32 pp. Ill. 8 x 11 in.

E. Erikson Electric Co., 6 Portland St., Boston, Mass.

613. *Erikson Reflectors, Catalog No. 90.* Description of and details for installing reflectors in show windows, display cases, art galleries, rug racks, banks, churches, and other buildings. 32 pp. Ill. 6¼ x 9½ in.

I. P. Frink, Inc., 24th St. and 10th Ave., New York.

150. *Light Service for Hospitals. Catalogue 421.* A booklet illustrated with photographs and drawings, showing the types of light for use in hospitals, as operating table reflectors, linolite and multilite concentrators, ward reflectors, bed lights and microscopic reflectors, giving sizes and dimensions, explaining their particular fitness for special uses. Size 7 x 10 in. 12 pp.

218. *Picture Lighting. Booklet 422.* A pamphlet describing Frink Reflectors for lighting pictures, art galleries, decorated ceilings, cove lighting, the lighting of stained glass, etc., and containing a list of private and public galleries using Frink Reflectors. 24 pp. Ill. 5¼ x 7 in.

219. *Frink Reflectors and Lighting Specialties for Stores. Catalog No. 424.* A catalog containing a description of the Frink Lighting System for Stores; the Synthetic System of Window Illumination; and a number of appliances to produce the most effective lighting of displayed objects. 20 pp. Ill. 8 x 11 in.

220. *Frink Lighting Service for Banks and Insurance Companies. Reflectors. Catalog No. 425.* A very interesting treatise on the lighting of offices; with details of illustrations and description of lamps and reflectors. Contains a list, covering several pages, of banks using Frink Desk and Screen Fixtures. 36 pp. Ill. 8¼ x 11 in.

Harvey Hubbell, Inc., Bridgeport, Conn.

401. *Hubbell Flush Door Receptacles.* Description of a safe, convenient and practical wall outlet de luxe for fine residences, clubs, hotels, public buildings and offices. 4 pp. Ill. 8 x 10 in.

LIME

The Ohio Hydrate & Supply Co., Woodville, Ohio.

494. *A Job that Took a Million Years.* A description of how limestone is formed and how it is later converted into lime. All the processes are shown in detail and the uses of lime are illustrated. 16 pp. Ill. 8½ x 11 in.

LINCRUSTA-WALTON—See also Wall Covering

The Lincrusta-Walton Company, Hackensack, N. J.

519. *Lincrusta-Walton.* This book gives directions for buying, caring for and applying Lincrusta-Walton; together with color chart and many pages showing patterns. 67 pp. 8½ x 11 in. Ill. Bound in boards.

LINOLEUM

Bonded Floors Co., Inc., 1421 Chestnut St., Philadelphia, Pa.

719. *Linoleum.* A standard specification of the material, workmanship and guarantee, with valuable comments and suggestions. Also additional clauses for insertion in specifications for Masonry, Heating, etc., Navy Department specification for battleship linoleum and details of installation. 8 pp. Ill. 8½ x 11 in.

LOCKERS, STEEL—See Factory Equipment

LUMBER

Arkansas Soft Pine Bureau, Little Rock, Ark.

649. *Arkansas Soft Pine Handbook.* An exceptionally well prepared book containing technical descriptions, grading rules, standard molding designs including those by the American Institute of Architects and the National Lumber Manufacturers' Association. Price 50 cents. 82 pp. Ill. 8½ x 11 in.

E. L. Bruce Co., Memphis, Tenn.

533. *Now the Cedar Clothes Closet.* A book illustrated in colors describing "Bruce Cedaline," for lining clothes closets as a complete protection against moths. 12 pp. Ill. 4¼ x 6 in.

The Long-Bell Lumber Co., R. A. Long Building, Kansas City, Mo.

203. *From Tree to Trade.* This book tells the story of the manufacture of lumber. Gives an idea of the scope of the business and the care and attention given to the manufacture and grading of Long-Bell trade-marked products. 100 illustrations. 48 pp. 8½ x 11 in.

The Pacific Lumber Company of Illinois, 2060 McCormick Bldg., Chicago, Ill.

363. *Construction Digest*—The use of California Redwood in residential and industrial construction. Contains illustrations, grading rules, specifications and other technical data for architects and builders. 16 pp. Ill. 8½ x 11 in.

364. *Engineering Digest*—The use of California Redwood in industrial construction and equipment for factories, railroads, mines and engineering projects. 16 pp. Ill. 8½ x 11 in.

LUMBER, ASBESTOS

Asbestos Shingle, Slate & Sheathing Co., Ambler, Pa.

54. *Ambler Asbestos Building Lumber.* Catalog illustrated. Describes uses of this fireproof product for both exteriors and interiors. Tables of sizes and illustrations of various types of buildings in which it has been used. Size 8½ x 11 in. 32 pp.

MAIL BOXES

The Chism Mail Box Co., 2511 Union Central Building, Cincinnati, Ohio.

704. *The Chism Mail Box.* A folder describing a mail box to prevent the theft of mail in apartment houses, which is approved by and complies with the regulations of the U. S. Post Office Department. 4 pp. Ill. 8½ x 11 in.

MANTELS

Edwin A. Jackson & Bro., Inc., 50 Beekman St., New York.

90. *Wood Mantels. Portfolio.* Wood mantel designs of various types and openings, giving dimensions, projections and showing fireplace grate designs. Size 9 x 6¼ in. 32 pp.

MARBLE—See Stone

Appalachian Marble Co., Knoxville, Tenn.

715. *Appalachian Tennessee Marble.* A series of six colored plates, description of physical properties, standard sizes of floor tile, specifications for laying floor tiles and for erecting base, wainscoting, bank screens and other standing work. Standard filing folder. 23 pp. Ill. 8½ x 11¼ in.

The Georgia Marble Co., Tate, Pickens Co., Ga., New York Office, 1226 Broadway.

634. *Why Georgia Marble is Better.* Booklet 3⅜ x 6 in. Gives analysis, physical qualities, comparison of absorption with granites, opinions of authorities, etc.

635. *Convincing Proof.* Booklet 3⅜ x 6 in. 8 pp. Classified list of buildings and memorials in which Georgia Marble has been used, with names of architects and sculptors.

METAL MOLDINGS

National Metal Molding Co., Pittsburgh, Pa.

152. *Hand-book for the Man on the Job.* An illustrated book of fittings and methods with description and instructions for installing National Metal Molding under all conditions; a book meant to be conveniently carried and used on the job. Size 4⅜ x 6 in. 102 pp.

METALS—See also Iron and Steel—Roofing

American Brass Co., Main Office, Waterbury, Conn.

138. *Price List and Data Book.* Illustrated. Loose-leaf Catalog. Covers entire line of Sheets, Wire Rods, Tubes, etc., in various metals. Useful tables. Size 3⅞ x 7 in. 168 pp.

American Sheet & Tin Plate Co., Frick Building, Pittsburgh, Pa.

452. *Reference Book. Pocket Edition.* Covers the complete line of Sheet and Tin Mill Products. 168 pp. Ill. 2½ x 4½ in.

Bridgeport Brass Co., Bridgeport, Conn.

483. *Seven Centuries of Brass Making.* A brief history of the ancient art of brass making and its early (and even recent) method of production—contrasted with that of the Electric Furnace Process—covering tubular, rod and ornamental shapes. 80 pp. Ill. 8 x 10½ in.

Copper & Brass Research Association, 25 Broadway, New York, N. Y.

466. *How to Build a Better Home.* A book on building written for the prospective builder. It contains keyed illustrations of houses and details of houses and should be of value to architects in explaining technical terms to clients. 30 pp. Ill. 7¾ x 10½ in.

Rome Brass & Copper Company, Rome, N. Y.

473. *Price List No. 70.* A loose-leaf binder containing full price list of Rome Quality products, together with useful tables. 5⅛ x 7¼ in.

MILLWORK—See also Lumber—Building Construction—Doors and Windows

MORTAR—See also Cement

Louisville Cement Company, Inc., Louisville, Ky.

311. *Brixment, the Perfect Mortar.* The reading of this little book gives one a feeling that definite valuable information has been acquired about one of the oldest building materials. Modern science has given the mason a strong water-resisting mortar with the desirable "feel" of the best rich lime mortar. 16 pp. Ill. in colors. 5½ x 7¾ in.

Saving on Labor Cost and Waste

An advertisement based on the personal experience of

★GLEN PIERCE, *Contractor*, IONIA, MICHIGAN

(As stated in an audited Gould Report)

LUMBER is put into construction piece by piece. Very often the carpenter finds it necessary to sort over the lumber, square the ends—re-work it with saw and plane to make it ready for construction.

That work takes time. Every hour saved is money saved. Saving one hour in ten means a 10 per cent saving in carpenter labor cost.

Mr. Glen Pierce, an experienced contractor of Ionia, Michigan, has found that Long-Bell trade-marked lumber comes on the job so nearly ready for construction that he makes a definite saving from its use.

"For over ten years I have used Long-Bell long leaf dimension in general contracting work," Mr. Pierce points out, "and have found that it effected savings in carpenter labor and waste as compared to ordinary grades of lumber. The use of this high grade lumber also prolongs the life of the building.

"Because Long-Bell lumber is thoroughly seasoned by either air or kiln drying, structures built with it do not depreciate nearly as rapidly as those built with ordinary lumber. This fact is not often recognized by the owner. The lasting quality of Long-Bell lumber is well illustrated in the large open-air pavilion which I built in the Ionia fairgrounds over eight years ago. This building has been constantly exposed to the weather, both winter and summer; it is practically as good today as when it was put up.

"There is a saving in carpenter's time with high grade lumber because a minimum of cutting and sorting is required. Carpenter's time is also noticeably saved with good flooring, which, being accurately machined and carefully seasoned, can be fitted together with a minimum of effort. Ordinary flooring requires considerable effort to drive the joints together and even then is likely to spread because not thoroughly seasoned.

"On an average, 10 per cent of the carpenter labor cost can be saved with Long-Bell lumber. Since a carpenter handles an average of five hundred feet per day at a saving of 75 cents (★), the saving in labor is $1.50 per thousand.

"The saving in waste is easily 7 per cent as compared to ordinary lumber. At an average cost of $45.00 per thousand feet, this amounts to $3.15 per thousand.

"The savings in carpenter labor and waste give a gross saving of $4.65 per thousand.

"I use Long-Bell lumber because is is a dependable, high grade product which effects important savings for my clients and me."

★How Mr. Pierce Estimates His Savings

Mr. Pierce estimates that Long-Bell trade-marked lumber saves him in carpenter labor as follows:

Cost of carpenter labor on ordinary lumber, per M ft.	$15.00
Cost of carpenter labor on Long-Bell lumber, per M ft.	13.50
A saving of per M ft.	$ 1.50

His estimate of the saving in waste lumber:

Waste in ordinary lumber, 7% of $45.00 (an average price) per M ft.	$ 3.15
Waste in Long-Bell lumber per M ft.	0.00
A saving of per M ft.	$ 3.15

—a total saving of $4.65 per M feet.

Retail lumber dealers will co-operate in providing Long-Bell lumber products.

LONG-BELL

KNOW THE LUMBER YOU BUY

Read Mr. Pierce's entire statement:

*Name*_____

*Address*_____

*City*_____ *State*_____

LONG-BELL LUMBER IS TRADE-MARKED ON THE END OF THE PIECE.

THE LONG-BELL LUMBER COMPANY

Lumbermen Since 1875

607 R. A. LONG BLDG. KANSAS CITY, MO.

Specifications of most products advertised in THE AMERICAN ARCHITECT appear in the Specification Manual

REFERENCE LIST OF BUSINESS LITERATURE—Continued

OFFICE EQUIPMENT

The General Fireproofing Co., Youngstown, Ohio.

686. *Allsteel Office Furniture.* A descriptive catalog of steel office furniture, filing cabinets, desks, tables, counterheights, steel shelving, fireproof safes. 96 pp. Ill. 5½ x 7¾ in.

ORNAMENTAL IRON AND BRASS

The American Brass Co., Waterbury, Conn.

139. *Illustrated Pamphlets.* Describes the use and adaptability of Extruded Architectural Shapes, Benedict Nickel, Brass and Copper Pipe in Iron Pipe sizes for plumbing installations. 8½ x 11 in.

PAINTS, STAINS, VARNISHES—See also Waterproofing

Joseph Dixon Crucible Co., Jersey City, N. J.

324. *Dixon's Silica-Graphite Paint.* A pamphlet describing the physical properties of silica-graphite paint and especially the wide difference between it and other protective paints. Contains also sample color card with specifications. 20 pp. and 6 pp. in color card. Ill. 3¾ x 6¼ in.

Samuel H. French & Co., Philadelphia, Pa.

312. *French's Paints and Varnishes.* A catalog and price list of paints, stains, varnishe , mortar, mortar colors, cement colors and materials for plasterers, with instructions for selection of colors, etc. 44 pp. Ill. 4 x 8 in.

National Lead Company, 111 Broadway, New York, N. Y.

389. *Color Harmony.* Color card for glass finish and flat finish together with useful notes on painting and a collection of approximate formulas for obtaining the colors shown on the color card. 8 pp. Ill. 3⅜ x 8½ in.

708. *Early American Architecture.* An attractive portfolio of selected sketches and measured drawings showing Colonial and Georgian design containing 34 plates, 8¼ x 10¾ in. Suggested color schemes are included.

The New Jersey Zinc Co., 160 Front St., New York, N. Y.

227. *Painting Specifications.* A booklet full of useful information concerning paint mixtures for application on various surfaces.

727. *Mapaz No. 1 Painting Handbook.* A combination note book and handbook describing the characteristics of zinc oxide and its use in painting. Also use of lace for stencils and tables for various color mixtures. 22 pp. text. 112 blank pp. 2 x 4½ in.

Parker, Preston & Co., Inc., Norwich, Conn.

357. *Art in Shingle Stains.* Description of waterproof, odorless shingle stains and waterproof coating for walls and floors with covering capacities and directions for use. 27 pp. 3 x 4½ in.

Ripolin Co., The, Cleveland, Ohio.

419. *Ripolin Specification Book.* 8 x 10¼ in., 12 pp. Complete architectural specifications and general instructions for the application of Ripolin, the original Holland Enamel Paint. Directions for the proper finishing of wood, metal, plaster, concrete, brick and other surfaces, both interior and exterior, are included in this Specification Book.

Standard Varnish Works, 443 Fourth Ave., New York, N. Y.

565. *Immaculate Distinction.* A book describing Satinette Enamel, and enduring white enamel for interior and exterior use. Specifications are given for use on new and old work, metal, plaster, etc. 22 pp. Ill. 5 x 7 in.

Standard Varnish Works, 443 Fourth Ave., New York,

566. *Architectural Reference Book, Third Edition.* A readily accessible and concise compilation of practical finishing information from which specifications readily can be written on varnishes, stains, fillers and enamels. 24 pp. Ill. in colors with samples on wood, etc. 8½ x 11 in.

PARTITIONS

J. G. Wilson Corp., 2 East 36th St., New York.

618. *Folding Partitions and Sectionfold Partitions.* Two catalogs describing folding partitions operated on pivoted castors working in narrow flush floor track with overhead guide track, all doors equal width. 16 and 14 pp. Ill. 8½ x 11 in.

PILES, CONCRETE

Raymond Concrete Pile Co., 140 Cedar St., New York.

156. *Raymond Concrete Piles—Special Concrete Work.* A booklet with data concerning the scope of the Raymond Concrete Pile Co., for special concrete work. It classifies piles, showing by illustration, text and drawings, the relative value of special shape and manufacture of piles. It gives formulæ for working loads, and relative economy. Size 8½ x 11⅛ in. 60 pp.

PIPE—See also Metals

Bridgeport Brass Company, Bridgeport, Conn.

556. *Brass Pipe and Piping; When and How it Should be Used. Bulletin No. 15.* This book contains valuable tables, charts and examples for the design of hot water installations, with illustrations of details and connections. It also discusses the use of pipe of different materials; various processes for preventing rust and corrosion in iron and steel pipes. It is a valuable treatise for all architects and engineers. 47 pp. Ill. 8 x 10½ in.

A. M. Byers Company, Pittsburgh, Pa.

679. *What is Wrought Iron?* Bulletin 26 A. Contains the definition of wrought iron, methods of manufacture, chemical and physical characteristics; advantages of wrought iron as a pipe material; service records from old buildings equipped with Byers Genuine Wrought Iron Pipe. How to tell the difference between iron and steel pipe. 40 pp. Ill. 8 x 10¾ in.

680. *The Installation Cost of Pipe,* Bulletin 38. Contains cost analysis of a variety of plumbing, heating, power and industrial systems, with notes on corrosive effects in different kinds of service. 32 pp. Ill. 8 x 10¾ in.

The Duriron Company, Dayton, Ohio.

548. *Duriron Acid-Proof Drain Pipe.* This is a handbook for the architect and engineer on Duriron drain pipe fittings, exhaust fans, sinks, etc. Contains specifications for installations, detail dimensioned drawings, reports on corrosive tests, long partial list of successful installations, etc. 20 pp. Ill. 8 x 10½ in.

National Tube Co., Frick Bldg., Pittsburgh, Pa.

670. *National Bulletin No. 25B. 3rd Edition.* Devoted to the installation of steel pipe in large buildings, architectural anti-corrosion engineering, gas piping, specifications and tables of strength and properties. 74 pp. Ill. 8½ x 10¾ in.

Rome Brass and Copper Company, Rome, N. Y.

509. *Bulletin No. 1. Seamless Brass Pipe.* This bulletin illustrates in colors nine installations of hot water heaters between range boiler, basement furnace, tank and instantaneous heaters for one and two-family houses and larger buildings. Contains also a number of estimating and designing tables, rules and formulas. 22 pp. Ill. 7½ x 11¾ in.

A. Wyckoff & Son Co., Elmira, N. Y.

397. *Wyckoff Wood Pipe. Catalog No. 42.* A description of machine-made woodstave pipe and Wyckoff's express steam pipe casing. Contains also a number of pages of useful formulas and tables for hydraulic computations. 92 pp. Ill. 6 x 9 in.

PIPE COVERING

The Philip Carey Co., Lockland, Cincinnati, Ohio.

379. *Pipe and Boiler Coverings. Catalog 1362.* A catalog and manual pipe and boiler coverings, cements, etc. Contains a number of valuable diagrams and tables. 71 pp. Ill. 6 x 9 in.

PLUMBING EQUIPMENT—See also Drains

Bridgeport Brass Co., Bridgeport, Conn.

461. *Plumbing Supplies.* Catalog of adjustable swivel traps; basin and bath supplies and waste; basin and sink plugs; low tank bends; iron pipe sizes of brass pipe. 20 pp. Ill. 8 x 10½ in.

Crane Company, 836 So. Michigan Ave., Chicago, Ill.

240. *General Plumbing Catalogue.* A very complete and well illustrated booklet describing the complete line of Crane plumbing goods. 80 pp. 8½ x 11 in.

Philip Haas Company, Dayton, Ohio.

524. *Catalog B.* This catalog contains a complete description of the full line of waterclosets made by this company, together with illustrations of combinations for every type or class of service. Wall hanging closets are an innovation here fully described. A feature of interest to designers is the series of roughing in plates with dimensions. 91 pp. Ill. 6⅛ x 9¼ in.

Jenkins Bros., 80 White St., New York, N. Y.

236. *Jenkins Valves for Plumbing Service.* This booklet contains all necessary information about Jenkins Valves commonly used in plumbing work. 16 pp. Ill. 4¾ x 7¼ in. Stiff paper cover.

Kohler Company, Kohler, Wisconsin.

209. *"Kohler of Kohler."* A booklet on enameled plumbing ware describing processes of manufacture and cataloging staple baths, lavatories, kitchen sinks, slop sinks, laundry trays, closet combinations. 48 pp. Ill. 5⅛ x 8 in. Roughing-in Measurement Sheets 5 x 8 in.

531. *Catalog F.* This is a complete catalog of Kohler enamelled ware for plumbing installations, together with high grade fittings. There is also a brief and interesting description of the manufacture of high grade enamelled ware and a statement of the facts about Kohler village one of the discussed experiments in modern industrial town building. 215 pp. cloth bound. Ill. 7½ x 10⅜ in.

Thomas Maddock's Sons Company, Trenton, N. J.

696. *Vitreous China Plumbing Fixtures.* A valuable and complete catalog of vitreous china lavatories, drinking fountains, bidets, water closets, urinals, slop sinks, bathtubs, kitchen sinks and laundry trays, also seats, faucets, bathroom fixtures and accessories. Completely illustrated with roughing in diagrams. 242 pp. Ill. 8 x 11 in.

Speakman Company, Wilmington, Del.

691. *Speakman Showers and Fixtures, Catalog H.* A complete catalog treating of everything pertaining to the mixing and control of water used in all kinds of shower and tub baths, lavatories and sinks, also strainers, drains and traps. Complete roughing-in measurements are included. A valuable catalog. 20 pp. Ill. 4½ x 7½ in.

The Powers Regulator Co., 2720 Greenview Ave., Chicago, Ill.

725. *The Powers Shower Mixer, Bulletin No. 154.* Description and details of a shower bath mixer that insures uniform water temperature regardless of disturbance of initial water pressure. 4 pp. Ill. 6⅜ x 9¼ in.

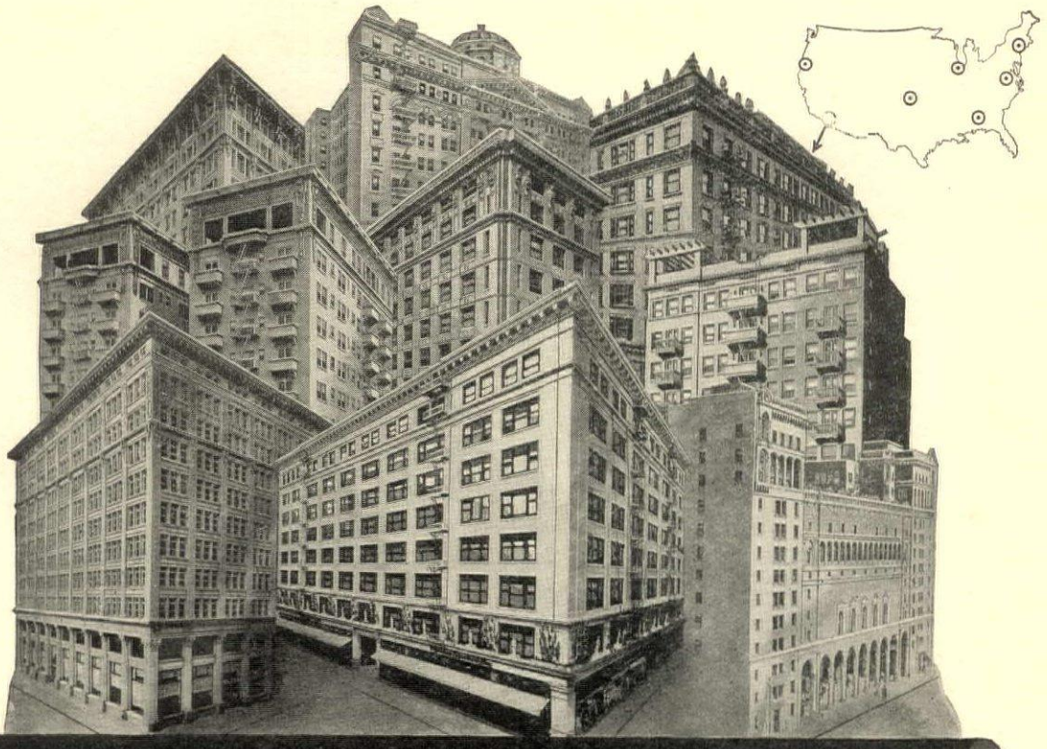
The Vulcan Brass Manufacturing Co., Cleveland, Ohio.

678. *Paragon Brass Goods, Catalog C.* New catalog showing sectional drawings, illustrations and text describing exclusive feature of "Paragon" self closing basin and sink faucets and stops; high pressure ball cocks, vitreous china bubblers, compression and quick-compression work. 60 pp. Ill. 7½ x 10½ in.

PUMPS

The Dayton Pump and Manufacturing Company, Dayton, Ohio.

475. *Electric House Pumps and Water Supply Systems.* A heavy paper binder containing illustrated bulletins 8½ x 11 in. These bulletins describe pumps as well as complete automatic electric and gasoline water supply systems and all accessories, together with specifications, detail drawings and tables of dimensions. 48 pp.



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REFERENCE LIST OF BUSINESS LITERATURE—Continued

REFRIGERATION

The Automatic Refrigerating Co., Hartford, Conn.

298. *The Mechanics of Automatic Refrigeration and Automatic Refrigeration for Hospitals and Sanatoriums.* Two essential booklets for the library of designers and specification writers. 24 and 28 pp. Ill. 8½ x 11 in.

370. *Automatic Refrigeration for Retail Markets.* A valuable treatise on the subject matter mentioned in the title. 30 pp. Ill. 8½ x 11 in.

Baker Ice Machine Co., Inc., Omaha, Nebraska.

661. *Baker System Refrigeration.* A catalog explaining the application of refrigeration for hotels, hospitals, institutions and restaurants requiring up to 50 ton daily capacity including mechanical details and specifications. 20 pp. Ill. 9 x 12 in.

Jamison Cold Storage Door Co., Hagerstown, Md.

569. *Heavy Duty Cold Storage Doors. Catalog No. 10.* Complete description of both hinged and sliding cold storage doors for every equipment. Also description of cold storage windows and ice chutes. 79 pp. Ill. 5¾ x 9 in.

REFRIGERATORS

The Jewett Refrigerator Company, 27 Chandler Street, Buffalo, N. Y.

655. *Manual of Refrigerators.* This manual completely describes the construction of refrigerators for use in hotels, clubs, hospitals, institutions and residences, with specifications. Numerous plans showing size and arrangement of refrigerators in kitchens, service and lunch rooms are included. 30 pp. Ill. 8½ x 11 in.

698. *Jewett Solid Porcelain Refrigerators.* This improved refrigerator has an interior finish of one-piece solid porcelain ware for both food and ice compartments. Complete line with dimensions, types and prices. 22 pp. Ill. 8¼ x 11 in.

McCray Refrigerator Co., Kendallville, Ind.

472. *Refrigerators and Cooling Rooms. Cat. 53.* A catalog of cooling equipment for hotels, restaurants, hospitals, institutions, colleges and clubs. Catalog No. 96 deals with refrigerators for residences. 52 pp. each. Ill. in colors. 7½ x 10 in.

REINFORCING STEEL—See also Concrete, Reinforced

Rail Steel Products Association, Reinforcing Bar Division, Arcade Bldg., St. Louis, Mo.

582. *Rail Steel for Concrete Reinforcing.* A book describing the manufacturing, fabrication and physical properties of re-rolled, billet and rail steel bars with specifications for their use. 84 pp. Ill. 8½ x 11 in.

RESTAURANT EQUIPMENT—See Kitchen Equipment

ROOFING—See also Slate—Metals—Shingles

American Brass Company, Main Office, Waterbury, Conn.

515. *Copper Roofing. Service Sheet.* This service sheet contains details for laying copper roofing together with standard specifications. 17 x 22 in. folding to 8½ x 11 in. printed both sides.

American Sheet & Tin Plate Co., Frick Building, Pittsburgh, Pa.

463. *Copper—its Effect Upon Steel for Roofing Tin.* Describes the merits of high grade roofing tin plates and the advantages of the copper-steel alloy. 28 pp. Ill. 8½ x 11 in.

The Barber Asphalt Company, Land Title Bldg., Philadelphia, Pa.

422. *Standard Trinidad Built-Up Roofing Specifications.* Contains two specifications for applying a built-up roof over boards and two for applying over concrete. Gives quantities of materials and useful data. 8 pp. 8 x 10½ in. Ask at same time for Good Roof Guide Book. 32 pp. Ill. 6 x 9 in.

702. *Specifications.* A pamphlet containing standard specifications for Genasco Standard Trinidad Lake Asphalt Built-up Roofing, Genasco Economy Trinidad Lake Asphalt Built-up Roofing, Genasco Membrane Waterproofing and Genasco Asphalt Flooring. Illustrated with sketches showing construction. 16 pp. Ill. 8 x 11¼ in.

John Boyle & Co., Inc., 112-114 Duane St., New York, N. Y.

212. *Boyle's Bayonne Roof and Deck Cloth.* List B 93. A prepared roofing canvas guaranteed waterproof for decks and the roofs and floors of piazzas, sun-parlors, sleeping porches, etc.

The Philip Carey Co., Lockland, Cincinnati, Ohio.

378. *Architects' Specification Book on Built-Up Roofing.* A manual for detailers and specification writers. Contains complete details and specifications for each type of Carey Asphalt Built-Up Roof. 20 pp. Ill. 8½ x 11 in.

The Copper and Brass Research Association, 25 Broadway, New York, N. Y.

468. *Copper Roofing.* Weights of various roofing materials. Up-to-date practice in the laying of copper roofs—Batten or wood rib method. Standing seam method, flat copper roofs. Copper shingles. Suggestions for avoiding error and obtaining the full value of copper. Decorative effects and how to obtain them. Flashings, reglets, gutters and leaders. Cornices. Copper-covered walls. Specifications. 32 pp. Ill. 8½ x 11 in.

The Edwards Manufacturing Company, Cincinnati, Ohio.

535. *Shingles and Spanish Tile of Copper.* This book, illustrated in colors, describes the forms, sizes, weights and methods of application of roof coverings, gutters, downspouts, etc., of copper. 16 pp. Ill. in special indexed folder for letter size vertical files.

Ludowici-Celadon Co., Chicago, Ill.

120. *Roofing Tile.* A detailed Reference for Architects' Use. Sheets of detailed construction drawings to scale of tile sections of various types and dimensions, giving notes of their uses and positions for various conditions of architectural necessity. Size 9½ x 13½ in. 106 plates.

154. *The Roof Beautiful.* Booklet. Well illustrated with photographs and drawings, giving history and origin of roofing tile, and advantages over other forms of roofing. Types shown by detailed illustrations. Size 8 x 10¼ in. 32 pp.

The Richardson Company, Lockland, Cincinnati, Ohio.

492. *Viskalt Membrane Roofs.* Contains specifications for applying Membrane roof over boards and also for applying over concrete. Illustrated with line drawings of several approved methods of flashings. 3 pp. 8½ x 11 in.

Rising and Nelson Slate Company, 101 Park Ave., New York, N. Y.

496. *Tudor Stone Roofs.* This leaflet discusses colors and sizes of Tudor hand-wrought slates; deals with the service given to architects and tells how the material is quarried for each product after careful drawings and specifications are prepared in co-operation with architects. Special grades are described in detail and illustrations are given of buildings with Tudor slate roofs. Contains also specifications of laying slate. 4 pp. Ill. 8½ x 11 in.

571. *Tudor Stone Roofs.* A brochure describing the 7 special grades of Tudor Stone and the 7 grades of commercial slate produced by this company with illustrations of many structures on which it has been used. 28 pp. Ill. 6 x 9½ in.

Vendor Slate Co., Easton, Pa.

333. Occasional brochures on architecturally pertinent phases of roofing slate sent on request. See also listing under Slate.

ROOF-LIGHTS—See Glass Construction

SANDSTONE—See Stone

SASH—See Doors and Windows

SCREENS

American Wire Fabrics Company, 208 So. La Salle St., Chicago, Illinois.

305. *Catalog of Screen Wire Cloth.* A catalog and price list of screen wire cloth, black enamelled, galvanized, aluminoid, copper, bronze. 30 pp. Ill. 3½ x 6¼ in.

The Higgin Manufacturing Co., 5th and Washington Ave., Newport, Ky.

353. *Screen your Home in the Higgin Way.* A description of Higgin door and window screens with practical data. 16 pp. Ill. 8½ x 11½ in.

New Jersey Wire Cloth Company, 614 South Broad St., Trenton, N. J.

409. *A Matter of Health and Comfort. Booklet No. 2331.* A booklet telling all about screens, the durability of copper and its superiority over all other metals for screen purposes. 16 pp. Ill. 5 x 7¾ in.

SHEATHING—See also Stucco Base

The Hydrex Asphalt Products Corp., 120 Liberty Street, New York.

63. *Sheathing and Insulating Paper—Waterproof.* Illustrated pamphlet. Describes Hydrex "Novento" and gives specifications for use under floors, in walls, and under roofs.

SHINGLES—See also Roofing

The Philip Carey Co., Lockland, Cincinnati, Ohio.

381. *Carey Asfaltslate Shingles.* Folder containing illustrations of attractive buildings and residences on which Carey Asfaltslate Shingles have been used. Describes this type of shingle, showing its special claims and advantages.

SIDEWALK LIGHTS—See also Vault Lights

SLATE—See also Roofing

Vendor Slate Co., Inc., Easton, Pa.

332. *The Vendor Book of Roofing Slate for Architects.* Contains original information on slate in various architectural uses; history, geology, sundry practical matters; complete descriptive classification; extended treatise on architectural roof design and specifications. 24 pp. Ill. 8½ x 11 in.

STAINS—See also Paints, Stains, Varnishes

STEEL JOIST CONSTRUCTION

Truscon Steel Co., Youngstown, Ohio.

641. *Truscon Steel Joist Data Book.* Complete data of steel joists giving properties, dimensions, safe loads, coefficients of deflection, details of connections, specifications, directions for installations. 32 pp. Ill. 8½ x 11 in.

REFERENCE LIST OF BUSINESS LITERATURE—Continued

STONE

The Appalachian Marble Company, Knoxville, Tenn.

503. *Appalachian Tennessee Marble.* A new booklet on the qualities to be demanded in marble and a treatise on Tennessee marble by T. Nelson Dale (Retired Geologist, U.S.G.S.). Contains also illustrations of the plant of the company, buildings in which Appalachian Tennessee Marble has been used and four-color process plates of the six major Appalachian marbles. In tough paper indexed cover. 12 pp. Ill. 8½ x 11 in.

Indiana Limestone Quarrymen's Assn., P. O. Box 503, Bedford, Ind.

265. *Folders, Series D.* Structural detail and data sheets showing methods of detailing cut stone work in connection with modern building construction. 4 pp. each. 8½ x 11 in.

366. *Standard Specifications for Cut Stone Work.* This is Vol. III, Series "A-3," Service publications on Indiana Limestone, containing Specifications and Supplementary Data, relating to best methods of specifying and using this stone for all building purposes. This valuable work is not for general distribution. It can be obtained only from a Field Representative of the Association or through direct request from architect written on his letterhead. 56 pp. Ill. 8½ x 11 in.

693. *Indiana Limestone Homes, Series B, Vol. 5.* A portfolio containing sixteen designs for small and moderate-sized dwellings of different styles of architecture and sizes of lots. Plot plan, floor plans, perspective and description. Free to architects and draftsmen requesting same on employer's business stationery. 84 pp. Ill. 8½ x 11 in.

National Building Granite Quarries Asso., Inc., 31 State Street, Boston, Mass.

416. *Architectural Granite No. 1 of the Granite Series.* This booklet contains descriptions of various granites used for building purposes; surface finishes and how obtained; profiles of moldings and how to estimate cost, typical details; complete specifications and 19 plates in colors of granite from various quarries. 16 pp. Ill: 8½ x in.

STORE FRONTS

Brasco Mfg. Co., Chicago, Ill.

56. *Brasco System of Hollow Metal Store Front Design.* Folio of Detail Sheets. Full size detail sheets 1, 2, 3 and 4. Corner bar, division bar, reverse bar and three-way bar, head transom sill and jamb sections. Sheets 18 x 22½ in.

57. *Hester System Store Front Construction and Design.* Folio of Detail Sheets. Full size detail sheets, a, b, c and d, of hollow metal store front construction, giving full size sections of head transoms, sill and jamb with moulding profiles and bar cover to house awning construction. Sheets 18 x 22½ in.

Detroit Show Case Co., Detroit, Mich.

77. *Designs.* A booklet. Store fronts and display window designs, giving plans and elevations, and descriptions. Size 9¼ x 12 in. 16 pp.

78. *Details.* Sheets of full size details of "Desco" awning transom bar covers, sill covers, side, head and jamb covers, ventilated hollow metal sash and profile of members. Size 16 x 21½ in. 3 sheets.

The Kawneer Company, Niles, Mich.

467. *A Collection of Successful Store Front Designs.* Illustrations of recently erected modern store fronts with all framing covered with solid copper. Maximum show window surface secured by these designs. Many classes of occupancy shown. 64 pp. Ill. 6¾ x 9¼ in.

530. *Catalog L, 1922-1923 Edition.* Details of solid copper store fronts construction. This is a treatise on the installation of copper store fronts and contains sectional and detail views of Kawneer sash, corner and division bars, jambs, sill and transom bar coverings and other members. Intended for the detailer. 32 pp. Ill. 8½ x 11 in.

STOVES

George M. Clark & Co., Division of American Stove Co., 179 No. Michigan Ave., Chicago, Ill.

458. *Gas Stove Catalog No. 114.* A complete catalog of Clark Jewell gas stoves; water heaters; room heaters; ovens; waffle irons; cake bakers; hot plates; etc. 76 pp. Ill. 6 x 9 in.

Danglar Stove Co., Division of American Stove Co., Cleveland, Ohio.

459. *Measured Heat Cookery, Catalog No. 161.* A catalog of gas cooking stoves, ranges and water heaters; featuring the Lorain Oven Heat Regulator, a device for obtaining uniform heat without constant supervision. 72 pp. Ill. 7½ x 10¾ in.

STUCCO—See also Cement

Portland Cement Association, 347 Madison Ave., N. Y. C.

594. *Portland Cement Stucco.* Illustrated leaflet of recommended practice for Portland Cement Stucco. Contains data on materials, proportions, application and curing. Table of colors for various tints, photographs of surface textures and drawings of construction details also given. 15 pp. Ill. 8½ x 11 in.

STUCCO BASE

The Bishopric Manufacturing Company, Cincinnati, Ohio.

451. *Bishopric for All Time and Clime.* A booklet describing Bishopric materials; giving building data, detailed drawings and specifications. Illustrated with half tones from photographs of houses built of Bishopric materials. 52 pp. Ill. 8 x 10½ in.

TELEPHONES

Automatic Electric Co., 945 W. Van Buren St., Chicago, Ill.

683. *Architect's Specifications for Interior Telephone System.* A complete and short specification for the installation of interior telephone systems adapted to all kinds of buildings and uses. 4 pp. 8½ x 11 in.

684. *The Straight Line.* A booklet devoted to interior communication by use of private automatic exchanges and the P-A-X Code Calls. Description of switchboards, instruments and accessories. 38 pp. Ill. 5 x 8 in.

Stromberg-Carlson Telephone Mfg. Co., Rochester, New York.

304. *Inter-Communicating Telephone Systems. Bulletin No. 1017.* A pamphlet giving just the information required for the installation of intercommunicating systems from 2 to 32 stations capacity. 15 pp. Ill. 7¾ x 10 in.

TERRA COTTA

Atlantic Terra Cotta Company, 350 Madison Avenue, New York, N. Y.

425. *Questions Answered.* A brief but full description of Atlantic Terra Cotta and its use in buildings. 32 pp. Ill. 5¼ x 7 in.

551. *Monthly Magazine, Atlantic Terra Cotta.* March issue contains illustrations of B.C. and A.D. Terra Cotta and construction details of a cornice and parapet balustrade. 16 pp. Ill. 8½ x 11 in.

National Terra Cotta Society, 19 West 44th St., New York City.

664. *Standard Specifications.* Contains complete detailed specifications for the manufacture, furnishing and setting of terra cotta, a glossary of terms relating to terra cotta and a short form specification for incorporating in architect's specification. 12 pp. 8½ x 11 in.

666. *Color in Architecture.* An illustrated treatise upon the principles of color design and appropriate technique. 38 pages. Ill. 8½ x 11 in.

667. *Present Day Schools.* Illustrating 42 examples of school building architecture with an article on school house design by James O. Betelle, A. I. A. 32 pp. Ill. 8½ x 11 in.

668. *Better Banks.* Illustrating many banking buildings in terra cotta with an article on its use in bank design by Alfred C. Bossom, architect. 32 pp. Ill. 8½ x 11 in.

The Northwestern Terra Cotta Co., 2525 Clybourn Ave., Chicago, Ill.

96. *Architectural Terra Cotta.* A collected set of advertisements in a book, giving examples of architectural terra cotta, ornamental designs and illustrations of examples of façades, of moving-picture houses, office buildings, shops, vestibules and corridors in which Northwestern Terra Cotta was used. Size 8½ x 11 in. 78 pp.

TILE—ORNAMENTAL

The Associated Tile Manufacturers, Beaver Falls, Pa.

358. *Home Suggestions.* A new book in colors describing and illustrating the use of tiles in floors, walls, ceilings, fireplaces, garages, for exterior embellishment, etc. Full of suggestions. Sent to architects on request. 7½ x 10⅝ in.

359. *Basic Information on Tiles.* Book giving practical information on ingredients, processes, gradings, sizes, shapes, colors, finishes and nomenclature. Sent to architects on request. 7½ x 10⅝ in.

374. *Basic Specifications for Tilework and Related Documents. No. K-300.* This specification is prepared in a very systematic manner for the use of architects and builders. It is printed on one side of a sheet with facing page blank to receive memoranda. Various colored sheets make reference easy and simplify greatly the work of a specification writer in specifying tilework. 38 pp. 7½ x 10⅝ in.

375. *"Work Sheets" for Specification Writers.* To be used in connection with "Basic Specification for Tilework and Related Documents." 16 sheets 7½ x 10⅝ in.

706. *Glazed Tiles and Trimmers, Publication K-400.* An invaluable book for use in laying out glazed tile work. Details of standard tiles, mouldings, curbs, sills and other trimmers with illustrations of assembling for many uses. Free to architects and members of their staff only. 86 pp. Ill. 7¾ x 10¾ in.

TIME CLOCKS—See Clocks

TOILET PARTITIONS—See Wainscoting

TRIM—See also Doors and Windows

TRUSSES—See Building Construction

VARNISH—See Paints

VAULT LIGHTS

American Three Way Luxfer Prism Co., 13th Street and 55th Court, Chicago, Ill.

424. *Daylighting. Catalog 21.* A complete catalog on glass prisms for use in transoms, sidewalk and floor lights, skylights, etc., for lighting places inaccessible to direct daylight. Contains also measurements, specifications and other data required by designers. 42 pp. Ill. 8½ x 11 in.

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REFERENCE LIST OF BUSINESS LITERATURE Continued

VENTILATION—See Heating and Ventilation

VENTILATORS

The Burt Manufacturing Co., Akron, Ohio.

207. *General Catalogue* covering entire line of Ventilators, Exhaust Heads and Filters. Separate leaflets on each type of ventilator, vent and damper.

525. *The Great Outdoors Brought Inside.* In this book is a description of the new rectangular combination skylight and ventilator; the Burt fan ventilator for removing odors, fumes, etc., when atmospheric conditions interfere with the gravity process; and a table giving prices, dimensions, weights and gauges of iron of the Burt Ventilator. Some good general information about ventilators is included. 16 pp. Ill. 3⅜ x 6¼ in.

WAINSCOTING

The Vitrolite Company, Chamber of Commerce Building, Chicago, Ill.

648. *Toilet Partitions and Wainscoting. Architects Tile Bulletin No. 7.* Describing the uses of Vitrolite, its physical properties, details of installation and specifications. 32 pp. Ill. 8½ x 11 in.

WALL COVERING—See also Lincrusta-Walton

Standard Textile Products Co., 320 Broadway, New York, N. Y.

111. *Sanitas, Modern Wall Covering.* Folio. Plates of color renderings of various interiors, with suggestions for the library, living room, dining room, boudoir, kitchen and church wall covering, using Sanitas. Size 11½ x 6 in. 15 plates.

112. *Sanitas, and Its Uses.* Booklet. Text and color illustrations of Sanitas as a wall covering, with tables for wall and ceiling measurements. Notes on sanitary character, cleanliness and durability of Sanitas. Size 5 x 7 in. 28 pp. 6 color plates and 2 sample sheets.

113. *Sanalining Sanitas Linmg and Prepared Lining.* Folder. Notes on durability and cleanly character of the above three products. Size 3¾ x 6 in.

114. *Hints to Decorators.* Booklet. Instructions and specifications for the application of Sanitas, with notes on finishes and material. Size 5 x 6¾ in. 20 pp.

WATER HEATERS

Ruud Manufacturing Co., Pittsburgh, Pa.

567. *Ruud Gas Water Heaters.* Bulletins in filing folder describing instantaneous automatic water heaters for small homes and special uses, multi-coil automatic storage systems, automatic storage systems and tank water heaters. Details for connections, hot water service and specifications. 19 pp. Ill. 8½ x 11 in.

589. *Ruud Automatic Storage Systems.* Catalog of automatic hot water storage systems for domestic, industrial and commercial uses. Details, capacities, dimensions and other data. 24 pp. Ill. 6 x 9 in.

590. *Ruud Multi-Copper-Coil Automatic Storage Systems.* Catalog describing automatic hot water storage systems of large capacity for large residences, apartment buildings, hotels, hospitals, gymnasiums and factories. Details, capacities and dimensions for complete line. 32 pp. Ill. 6 x 9 in.

WATERPROOFING—See also Dampproofing

Samuel Cabot, Inc., 141 Milk St., Boston, Mass.

340. *Cabot's Waterproofing Specialties.* Describes Dampproofing, Clear Brick Waterproofing and Clear Cement Waterproofing with specifications and covering data. 12 pp. Ill. 4 x 9 in.

The General Fireproofing Co., Youngstown, Ohio.

646. *The Waterproofing Handbook* (Sixth Edition). A revised edition of this valuable book treating of sub-structure and super-structure waterproofing, cement and wood floor preservatives, technical paints and coatings and GF waterproofings, preservatives and their uses. 72 pp. Ill. 8½ x 11 in.

Security Cement & Lime Co., Hagerstown, Md.

726. *Waterproofing with CAL.* A circular treating of the integral method of waterproofing concrete by the use of Cal. Also specifications for use. 4 pp. 8½ x 11 in.

WATER PURIFICATION

The R. U. V. Company, Inc., 165 Broadway, New York.

606. *Ultra Violet Ray Sterilization.* Bulletins treating of water sterilization for homes, hotels, office buildings, hospitals, schools, industrial plants, breweries, ice plants, swimming pools, water works and other places. Ill.

WATER SOFTENERS

The Permutit Company, 440 Fourth Ave., New York.

105. *Permutit (Water Rectification Systems.)* Illustrated booklet. Describes all methods of softening water, including the original Zeolite process. For homes, hotels, apartment houses, swimming pools, laundries and industrial plants. Size 8½ x 11 in. 32 pp.

482. *Bulletin No. 1600.* This bulletin treats of the value of soft water in the house and describes the Wayne Domestic Water Softening System. 6 pp. Ill. 8¼ x 10½ in.

Wayne Tank and Pump Co., Fort Wayne, Ind.

687. *Water Softening and Filtration.* A valuable treatise on the subject of slow-acting and quick-acting types of water softeners and their application to commercial, industrial and domestic uses. The construction of and uses for Wayne Pressure Filters are also adequately described. 32 pp. Ill. 8¼ x 10½ in.

WATER SUPPLY—See Pumps

WEATHER STRIPS

The Diamond Metal Weather Strip Co., Columbus, Ohio.

616. *The Diamond Way.* A catalog of full size details showing the application of Diamond metal weather strips to double hung and casement windows and doors with complete specifications. 34 pp. Ill. 8½ x 11 in.

The Higgin Manufacturing Co., 5th and Washington Ave., Newport, Ky.

354. *Higgin Metal Weather Strips.* A booklet of considerable value to architects and builders on the use of weather strips. Ask also for the companion book on "The Reason Why." Each booklet 12 pp. Ill. 6 x 9 in.

Monarch Metal Products Co., 5020 Penrose Street, St. Louis, Mo.

512. *Monarch Metal Weather Strips.* The publication embodies all the suggestions for advertising literature made by the Committee on Structural Service of the American Institute of Architects. It contains a treatise on inleakage around windows together with description of Monarch Metal Weather Strips. Contains many detail working drawings. 48 pp. Ill. 7⅛ x 10½ in.

WINDOWS—See Doors and Windows

WIRE AND CABLE—See Electric Wire and Cable

WOODWORK—See also Doors and Windows—Lumber

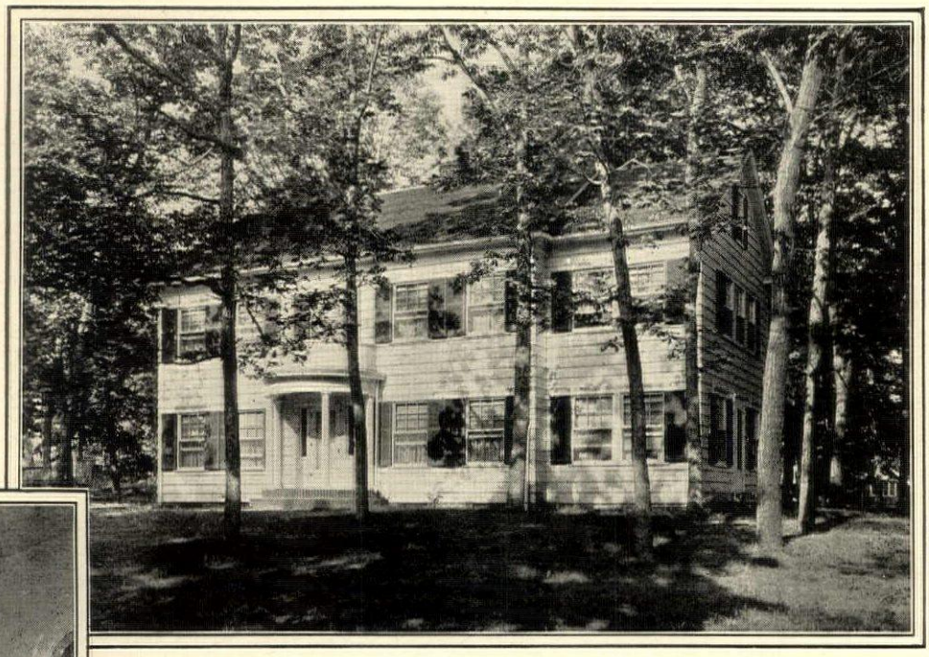
Curtis Companies Service Bureau, Clinton, Iowa.

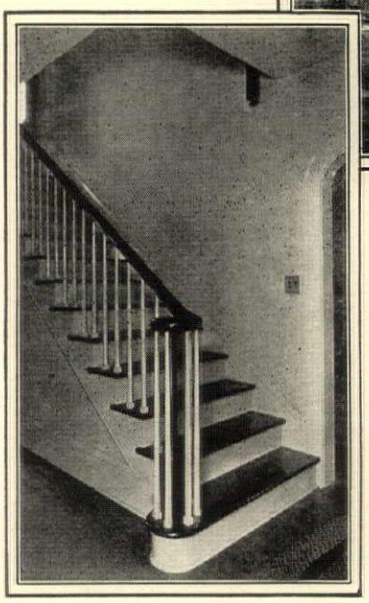
663. *Keeping Down the Cost of Your Woodwork.* A book illustrating Curtis interior woodwork and built-in cabinets and fixtures designed by Trowbridge and Ackerman, Architects, New York. Colored illustrations and details. 16 pp. Ill. 7 x 9¼ in.

Hartmann-Sanders Company, 6 East 39th St., New York, N. Y.

334. *Catalog No. 47.* Illustrating Kell's Patent Lock Joint wood stave columns for exterior and interior use. 48 pp. Ill. 7½ x 10 in.

CURTIS WOODWORK





When a Builder's in a Hurry for His Home

EVERY chance for delay that is eliminated in advance by the thoughtfulness of architect and contractor is just one more assurance of the builder's satisfaction. Consider this. Curtis Woodwork is ready for delivery in complete units. Special woodwork must be made to order.

Curtis Woodwork is available in so wide a variety of designs that less thought is required to adapt it to a plan than would be given to the creation of special designs.

That's Just What You Have in Curtis

English, Colonial, Southern, Bungalow or practically any other style of house can be equipped throughout with woodwork in perfect harmony with the type of architecture. The example shown on this page is the residence of Mr. C. F. Claiborne, Des Moines, Iowa, by Architect Le Roy Kranert. Curtis products embodied in this home are Stairway C-900, Mantel C-617, Trim C-1640, Entrance Columns C-1427, Shutters C-1168, Windows C-1024, and the Exterior Moldings and Frames.

Any Curtis dealer—and they are nearly everywhere east of the Rockies—can get a set of Curtis detail sheets for you without cost. Or we will welcome your inquiry direct.

Curtis Woodwork is sold by retail lumbermen east of the Rockies. Make sure the woodwork you buy bears this trademark—

1866 CURTIS

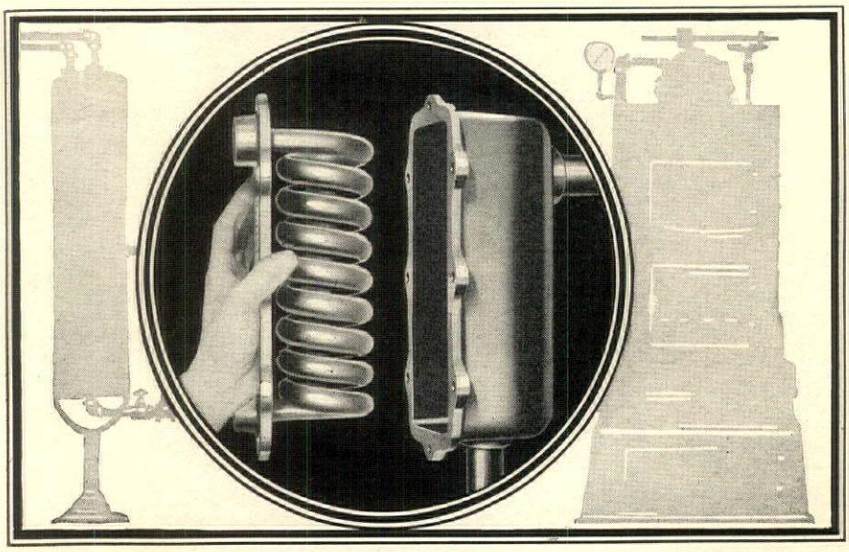
The makers of Curtis Woodwork are proud to identify their products by this mark.

The Curtis Companies Service Bureau
143-A Curtis Building, Clinton, Iowa

Curtis Companies, Inc., Clinton, Iowa

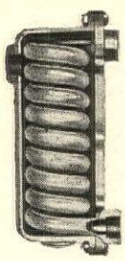
Curtis Detroit Co., Detroit, Mich.
Curtis Bros. & Co., Clinton, Iowa
Curtis & Yale Co., Wausau, Wis.
Curtis Sash & Door Co., Sioux City, Iowa
Curtis, Towle & Paine Co., Lincoln, Nebr.
Curtis, Towle & Paine Co., Topeka, Kans.
Curtis-Yale-Holland Co., Minneapolis, Minn.
Curtis Door & Sash Co., Chicago, Ill.

Sales Offices in: Pittsburgh - New York - Baltimore



Hot Water

by the TACO method



DOMESTIC TACO

For use with steam boiler, connected below water line; the permanent coil connection on the cover is tested to 1200 pounds pressure.

UNIVERSAL TACO

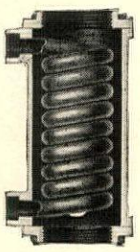
For use with hot-water boiler or hot air furnace; made of malleable iron and brass; inserted in the fire pot; easy to install without interference with the fire.

TACO method of heating water is being used and recommended by Architects and Engineers on all types of buildings, from small homes with one bath to large apartments, schools, hospitals and office buildings.

The reason is apparent:

For heating water during the winter months, while the heating plant is operating, TACO furnishes a steady flow of hot water day and night, requires no attention, using the boiling water of the heating plant to which it is attached, and saves practically the entire cost of a separate fire.

For every size and kind of building there is a TACO specifically designed. Booklets, installation diagrams and full details will be sent at once upon request. TACO is listed in the catalogues of all leading boiler and radiator manufacturers and in Sweet's Catalogue.

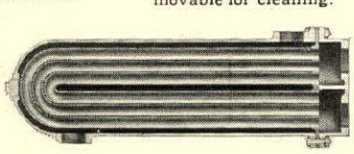


FLO-LINE TACO

For use with steam or hot-water boilers; connected in the main; specially recommended where oil burners are used.

APARTMENT TACO

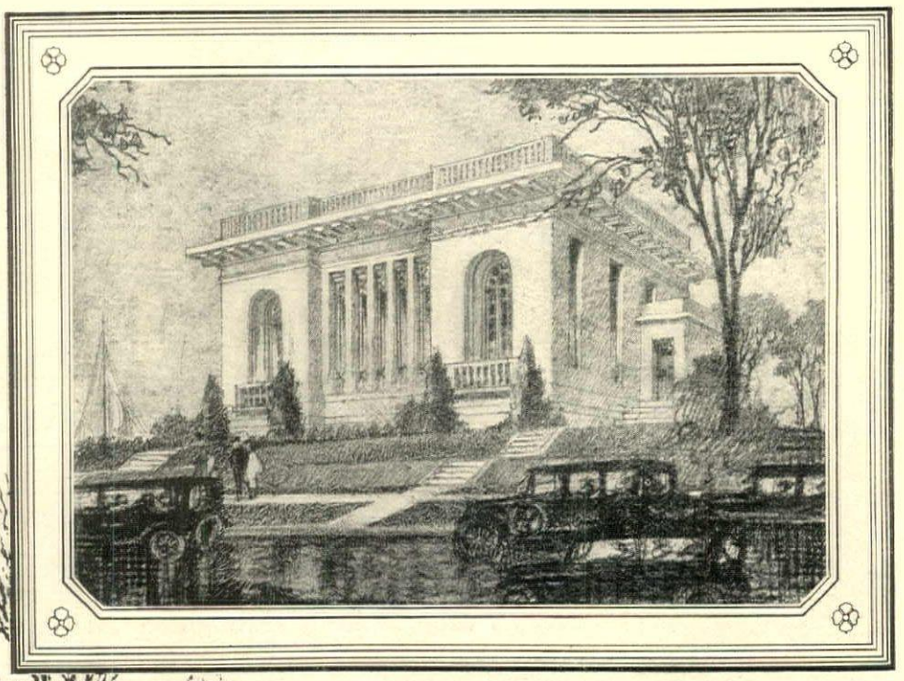
For larger buildings, connected with steam heating boilers. Tubes in header tested to 400 pounds pressure and quickly and easily removable for cleaning.



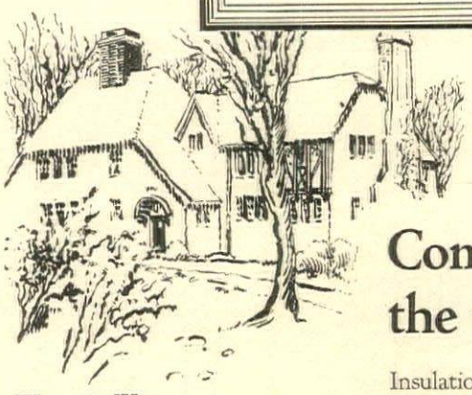
Thermal Appliance Company

Incorporated

342 Madison Avenue, New York



Studio and home of Louis Bourgeois, Wilmette, Ill. Celotex used as stucco base and as plaster base. Mr. Bourgeois was the architect who presented the winning design for Bahai Temple, Wilmette. Rendering by Chas. L. Morgan.



Warm in Winter

Comfort, economy, beauty—the triple gift of Celotex

Insulation is an essential in modern homes. It is necessary for comfort. Celotex has the insulating value of cork. It turns winter's cold, sheds summer's heat.

Architects the country over are using Celotex as sheathing because of its structural strength and its insulating value. Also as roof insulation and as plaster base.

Celotex construction is economical. That is because it generally replaces one or more other materials wherever used. It replaces lath, wood sheathing, other insulating and weatherproofed material.

The saving of fuel in a Celotex house is one-fourth to one-third annually.

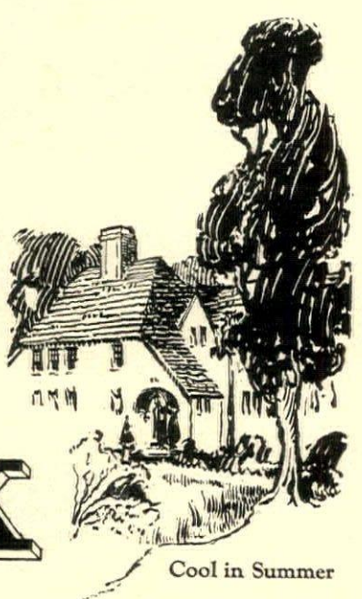
In any type or any grade of home Celotex affects a saving in construction, insures comfort, brings economy in fuel as long as the building stands.

Write for architect's sample and specification portfolio. Please address Dept. P-4, The Celotex Company, 645 N. Michigan Avenue, Chicago, Ill.; Canadian Representatives—B. & S. H. Thompson & Co., Ltd., Montreal and Toronto.

Celotex is a strong, rugged, weather-proof, durable building lumber made from the long, tough fibers of cane. It is better than wood sheathing—equals cork for insulation.

Celotex is used for sheathing instead of wood; for plaster base, roof insulation, sound deadener and exterior finish.

Stock sizes: Thickness 7/16 in.; width 4 ft.; lengths 8 ft. to 12 ft. Weight about 60 lbs. per 100 sq. ft.



Cool in Summer

CELOTEX
INSULATING LUMBER

There is a use for Celotex in every building

Specifications of most products advertised in THE AMERICAN ARCHITECT appear in the Specification Manual

"Yes—*good* enamels. That's just the point!"

RICHMOND punched his cigarette out. "It's a splendid piece of work, Philips. I'm *more* than satisfied with it. You see I've had the rough idea for years, but even after you showed me the plans and sketches I couldn't believe that it would actually come out *just* as I wanted it!"

Philips smiled, "It's not that that pleases *me*, Mr. Richmond. Anyone can get the effects you wanted—pearl grays and ivory and delicate faience tints. They can get them even when a client wants the enamelling carried to the plaster, walls and ceilings. The point is to make them permanent—to get long-wearing, washable, china-like surfaces and at the same time to get lasting tints. *I've* done that for you."

Richmond leaned forward. "But all good enamels—"

Again Philips smiled. "Yes—*good* enamels. That's just the point! For your specifications I went after good enamels hot-foot. To get long-wearing surfaces requires the most careful and scientific treatment of linseed oil. I found *that*. To get fast color it is necessary that the soluble coloring matter in the linseed oil must be removed without in any way destroying the essential properties of the oil —otherwise it stays and discoloration results. I found *that*."

"Oh, I see. You used *two* enamels."

"No just one. Satinette. It's an old standby for reliable work. The use of Satinette on your interiors means satisfaction in point of durability and beauty of finish."

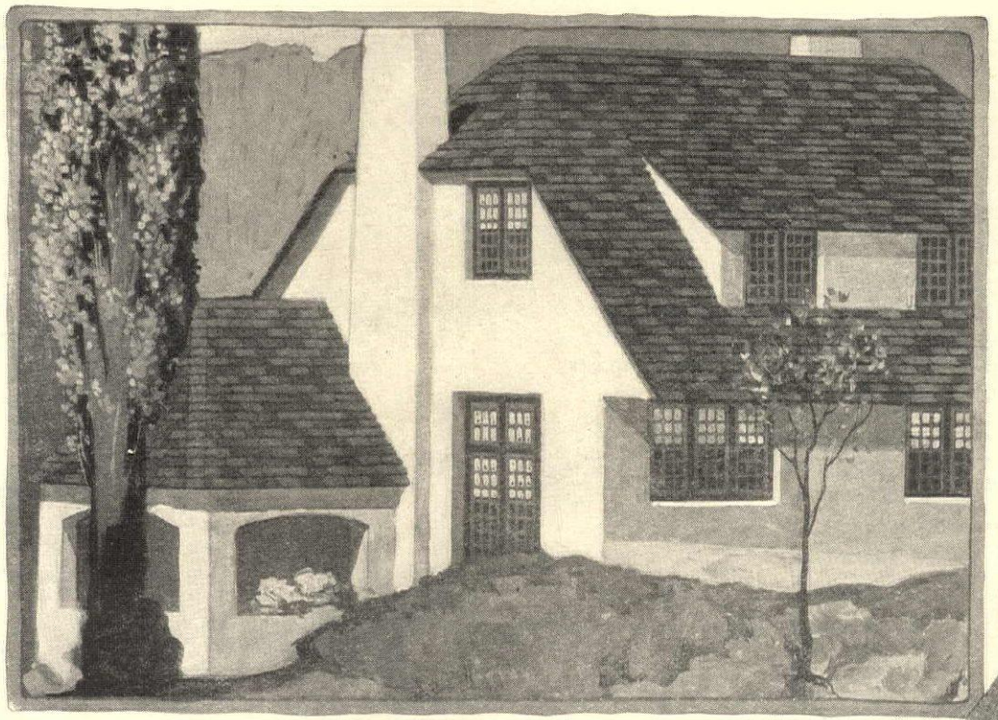
Satinette ENAMEL

The "china-like" Enamel

STANDARD VARNISH WORKS, New York, San Francisco, Grand Rapids, London, Paris, Gothenberg
Chicago STANDARD VARNISH CO. *of Illinois*, Licensee and Western Manufacturer

MANUFACTURERS OF THE FOLLOWING WORLD-ACCEPTED STANDARDS
Koverflor, the liquid floor covering. Satinette, the china-like Enamel.
The Elastica Family of Varnish Specifics. Kleartone Oil and Acid Stains.

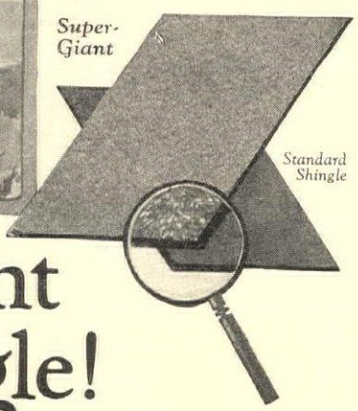
If you have not received a copy of our Architectural Reference Book, it will be a pleasure to send one to you. It contains finishing specifications, etc.



RICHARDSON Product

From the makers of Flex-a-tile Housetops, Viskalt Membrane Roofs, Vis-kote, and similar products

The Super-Giant Shingle —50% thicker, 100% more rigid and 35% more economical in cost of laying



A remarkable improvement in the slate surfaced shingle!

50% thicker—100% stiffer—with absolutely exclusive color effects

Here's a chance to give your client a roof of exceptional endurance and of beauty hitherto unknown!

A new slate-surfaced shingle has been created—the Richardson Super-Giant which is a remarkable improvement over the ordinary shingle.

Its 50% greater thickness makes it last much longer and cast a deeper shadow line on the roof. Thus it is suitable for the more expensive homes as well as for those of moderate cost. And its 100% greater stiffness keeps it rigid and firm in all kinds of weather.

Moreover, its inner material, felt and Viskalt, give conclusive evidence of its endurance. Richardson felt, as you know, has for the last fifty years been recognized as the best. And the waterproofing which goes into it is Viskalt—unusually durable because vacuum-processed and 99.8% pure bitumen.

Beauty hitherto unknown

On this super shingle exclusively is used a color in slate hitherto unknown —a rich *weathered brown* found only in the Richardson quarries of Georgia.

It is as beautiful as the frosty tan of autumn fields, and it mellows richly with age. Architects are enthusiastic at the rare color effects made possible by the weathered brown, especially when it is blended with other Richardson Super-Giant Shingles of *jade green*, *tile red*, or *black pearl*.

Write for our new booklet

If you have not already discovered the *lastingly* beautiful effects made possible by the new weathered brown, write us. We will send you our beautiful new booklet, *Roofs of Distinction*, together with samples of Richardson Super-Giant Shingles in weathered brown and other colors. And, remember—for every roofing use there is a Richardson product. Just use the coupon below.

The RICHARDSON COMPANY

Lockland (Cincinnati), Ohio

Chicago New Orleans New York City
Atlanta Dallas

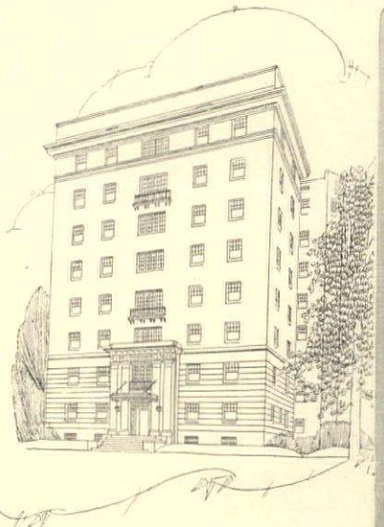
RICHARDSON ROOFING

Clip and mail this coupon

THE RICHARDSON COMPANY
Dept. 30-D Lockland, Ohio
Gentlemen:
Please send me samples of Richardson Super-Giant Shingles, your new booklet, and further facts about Richardson Roofing.

Name.....

Address.....



Kernerator-equipped Lake Drive Apartments, Druid Hill Park, Baltimore, Md.; Mr. A. T. Caresca, owner. E. L. Palmer, Jr., Architect.

Drop all waste here— then FORGET IT!

Kernerator-equipped residence of George F. Rand, 1180 Delaware Avenue, Buffalo, N. Y. F. J. & W. A. Kidd, Architects.

Over $150,000,000 in 1923 Residence and Apartment Construction Kernerator-Equipped!

IN more than one hundred and fifty million dollars' worth of homes and apartments constructed during 1923, *there will never be a garbage problem.*

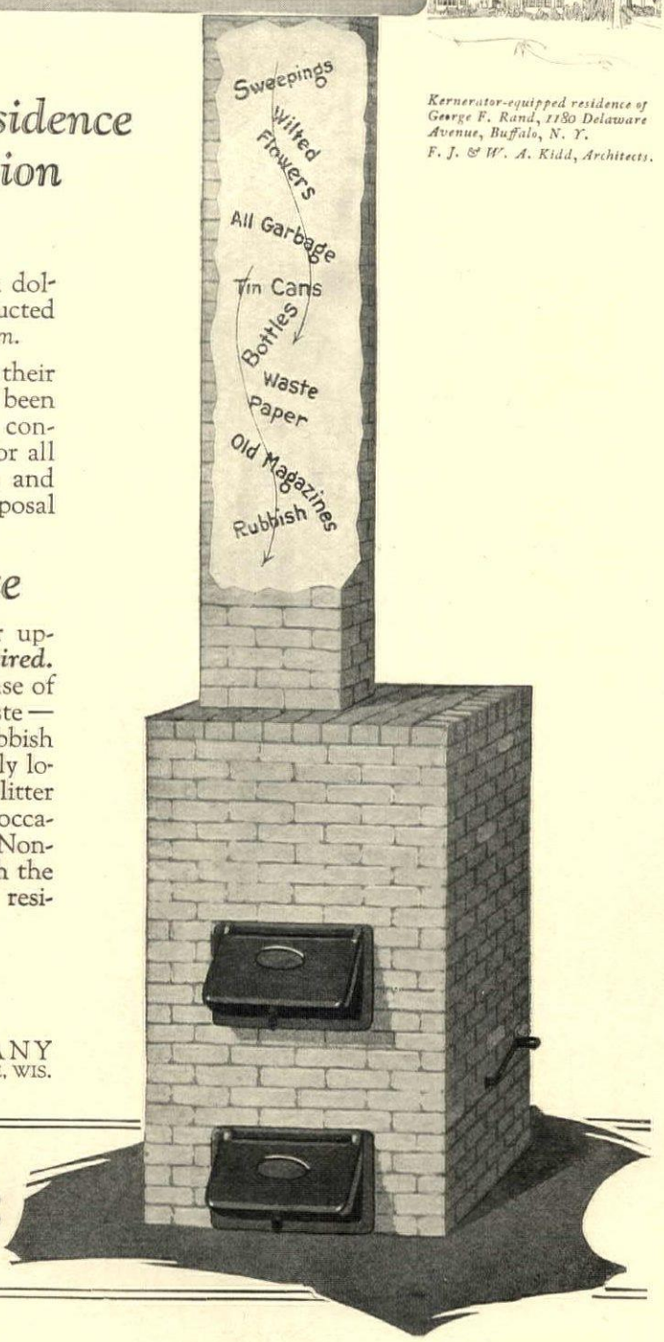
Architect and contractor and owner, realizing their inter-dependence upon one another, have been unanimous in endorsement of this modern convenience. For the KERNERATOR banishes for all time the expense and nuisance of garbage can and rubbish pile, and in doing so, makes waste disposal the easiest task in the kitchen.

Costs Nothing to Operate

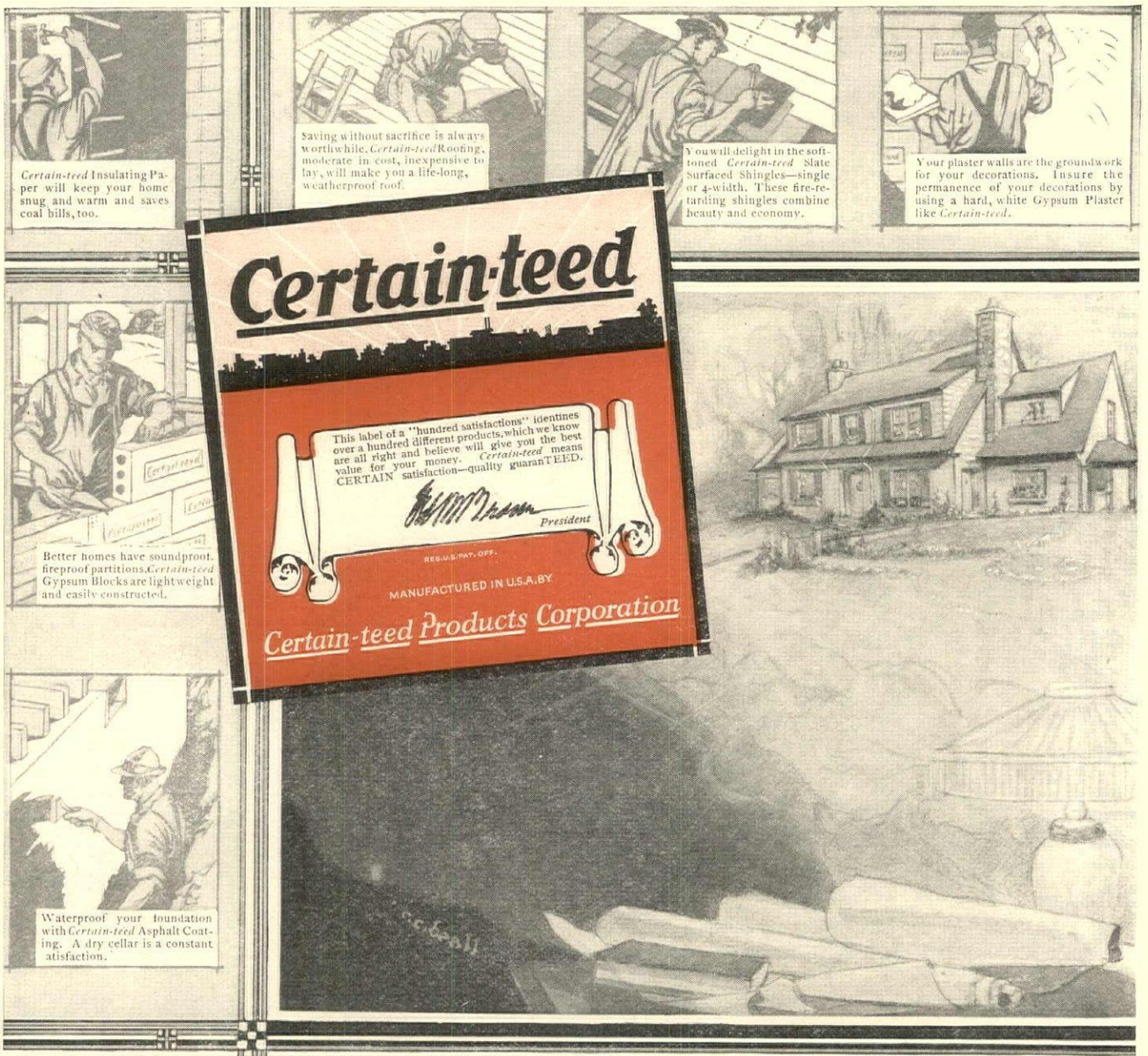
The KERNERATOR imposes no burden for upkeep. ***The waste itself is all the fuel required.*** A brick combustion chamber, built at the base of the chimney in the basement, accepts *all* waste — garbage, sweepings, tin cans, bottles, paper, rubbish — which is dropped through the conveniently located hopper doors on the floors above. This litter falls to the combustion chamber, where an occasional lighting consumes everything burnable. Noncombustibles, flame-sterilized, are removed with the ashes. Thousands in use — in apartments, residences and institutions.

Full details appear on pages 2340-41, Sweets (1923). Additional information, such as references of installations near you, gladly sent.

KERNER INCINERATOR COMPANY
1019 CHESTNUT STREET MILWAUKEE, WIS.



KERNERATOR
Built-in-the-Chimney
Reg. U. S. Patent Office



Certain-teed Plants

Each a complete manufacturing unit producing a group of allied products

Philadelphia, Pa.
St. Louis, Mo.
Richmond, Calif.
Niagara Falls, N. Y.
East St. Louis, Ill.
Acme, N. Mex.
Grand Rapids, Mich.
York, Pa.
Acme, Texas
Marseilles, Ill.
Gypsum, Oregon
Laramie, Wyo.
Acme, Okla.
Cement, Okla.
Trenton, N. J.

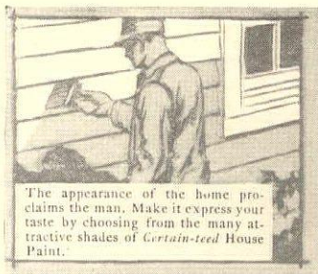
When they Build their Dream Home

MANY such families in your community will seek your services in the construction of a home. They will look to you not only for plans, but also for the selection of materials which will give lasting service.

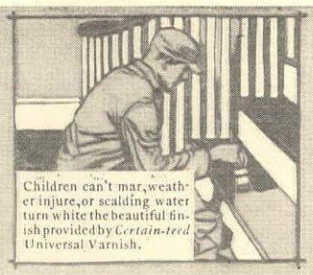
You may specify *Certain-teed* products with the knowledge that you are securing for your clients a quality that endures, at prices that are reasonable. You will also find that your clients know *Certain-teed* and will approve of your selection. For the public everywhere has been made acquainted with the quality of products bearing the *Certain-teed* Label, through years of extensive advertising, and because of

BUILD TO ENDURE

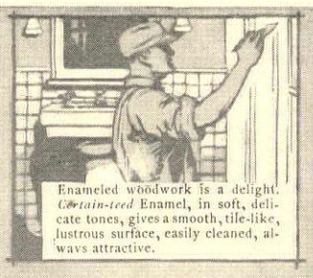
Specifications of most products advertised in THE AMERICAN ARCHITECT appear in the Specification Manual



The appearance of the home proclaims the man. Make it express your taste by choosing from the many attractive shades of *Certain-teed* House Paint.



Children can't mar, weather injure, or scalding water turn white the beautiful finish provided by *Certain-teed* Universal Varnish.



Enameled woodwork is a delight. *Certain-teed* Enamel, in soft, delicate tones, gives a smooth, tile-like, lustrous surface, easily cleaned, always attractive.

Certain-teed Flat Wall Paint, in many attractive colors, produces a beautiful, washable finish that is always in good taste.

Linoleum is most attractive in many rooms. *Certain-teed* Linoleum, in many attractive patterns, is easily cleaned and a real economy

The finishing touch to your home —*Certain-teed* FloorteX Rugs, in attractive patterns. They are inexpensive, durable, easy to clean, beautiful and practical.

—*Help them Build to Endure*

the record of enduring service these products have made.

You are assured against delays in construction, for there are always *Certain-teed* dealers close at hand who depend upon the extensive *Certain-teed* distribution service to keep up their stocks with prompt deliveries.

Making and distributing under one overhead, one management, one sales organization, more than a hundred products not usually grouped in a single business, results in savings which are passed on to your clients in the form of better quality at equal prices.

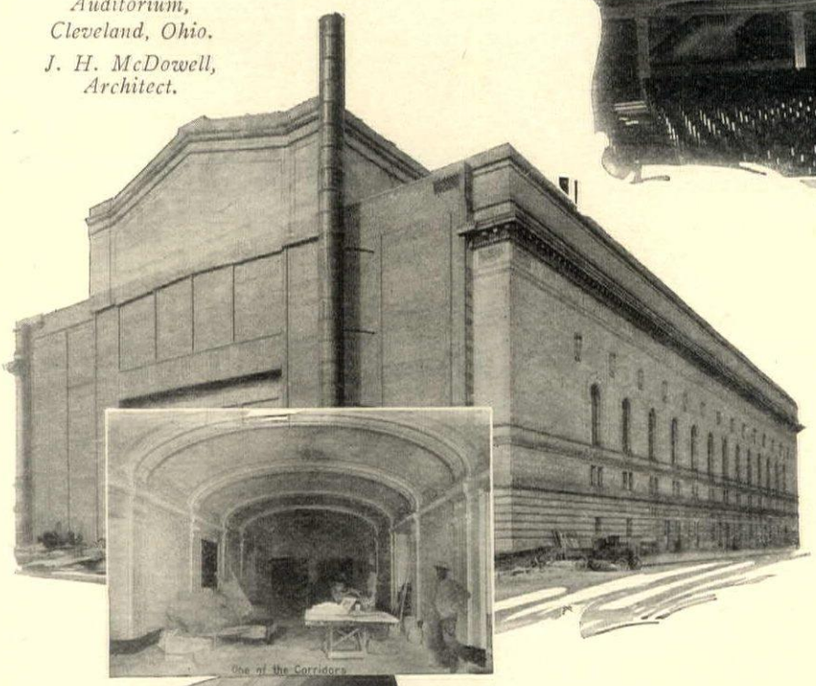
WITH CERTAIN-TEED

Certain-teed Products

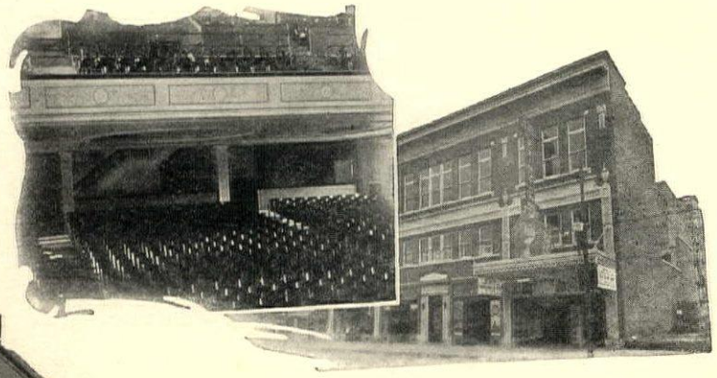
of which more than one hundred are included in the following classifications:

Asphalt Roofings
Asphalt Shingles
House Paints
Varnishes
Enamels
Stains
Gypsum Plasters
Gypsum Blocks
Keene's Cement
Battleship Linoleum
Inlaid Linoleum
Linoleum Rugs
Oilcloth
FLOORTEX
(Felt Base Floor Coverings)
FLOORTEX Rugs

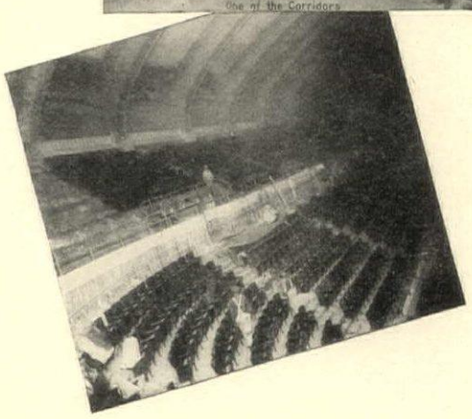
Specifications of most products advertised in THE AMERICAN ARCHITECT appear in the Specification Manual



Cleveland City Auditorium, Cleveland, Ohio.
J. H. McDowell, Architect.



Lexington Theatre, Lexington, N. C.
Harry Barton, Architect



A Better Finish for Theatre Walls

Certain details in the planning or designing of theatres and other public buildings sometimes prove detrimental to perfect acoustics.

This difficulty, however, is often entirely overcome in the wall finished with

OHIO WHITE FINISHING LIME "it spreads so easy"

The reason for this lies in the presence of microscopic pores in the wall finished with this lime. By breaking up and absorbing the sound waves these pores prevent rebound,—the reason for the echo nuisance where this porosity does not exist.

But that is only one of the extraordinary features found in this unusual lime. Permanently beautiful, pure white, fire-resisting and metal-preserving walls further enhance the value of Ohio White Finishing Lime. No matter what type of decoration may be applied, its use is insurance against checking, chipping and blistering.

He Knows!

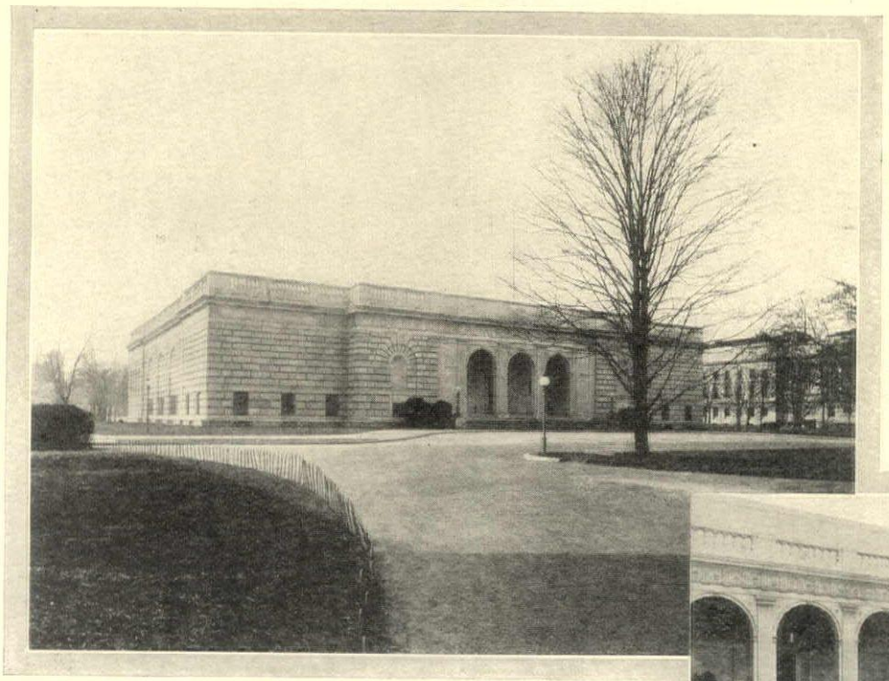
These facts are due to the purity and peculiar natural composition of the limestone rock from which Ohio White Finishing Lime is made, plus its unusual chemical content.

Wherever better-than-ordinary results are wanted you can get them through Ohio White Finishing Lime.

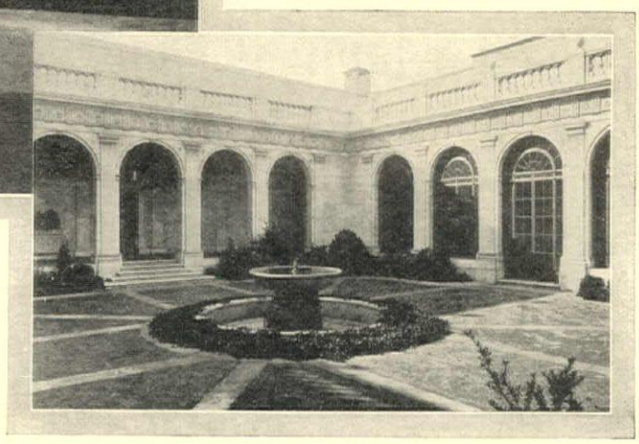
Write today for "The Tale of the Clam," an interesting booklet telling the complete story of lime as produced in Woodville, Ohio, "the Lime Center of the World."

Howard Theatre, Atlanta, Ga.

The OHIO HYDRATE & SUPPLY CO.
Woodville, Ohio
"The Lime Center of the World"



Skylight frames are made of the purest *iron* made in a furnace—ARMCO-Ingot Iron.



Smithsonian Institution,
Freer Gallery of Art, Washington, D. C.
Built by Wolfsteiner Co., Inc.,
Washington, D. C.
(*National Photo*)

The Skylight Frames are made of ARMCO-Ingot Iron

EACH year finds a greatly increased use of ARMCO-Ingot Iron in beautiful structures.

During the many years it has been on the market, this *iron* has demonstrated its ability to withstand the constant attack of corrosion. Hundreds of installations in all parts of the world, and under all degrees of climatic variations, testify to the worth of Ingot Iron.

Architects specify this metal because they feel confident they are building for permanency at the least possible expense to their clients.

ARMCO-Ingot Iron is manufactured by The American Rolling Mill Company, Middletown, Ohio. Every sheet is branded with the company's trade-mark: a *blue triangle* and the word *ARMCO*.

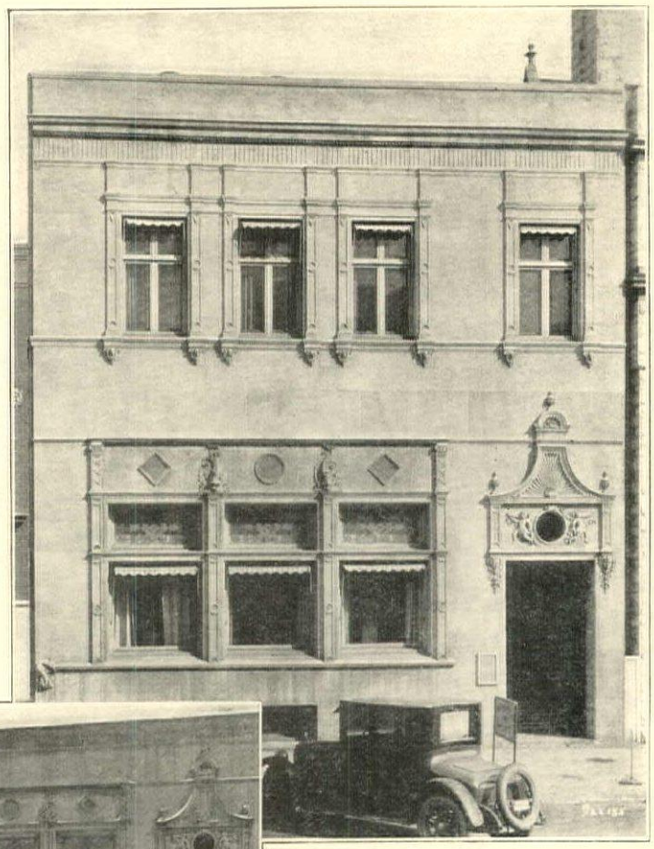
Send post card for interesting booklet:
"Economies in Building with Iron that Lasts"

ARMCO
Ingot Iron

ARMCO
TRADE MARK
INGOT IRON

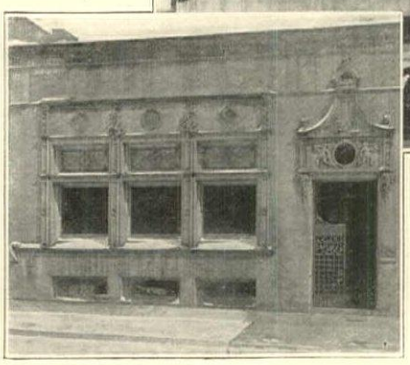
The American Rolling Mill Co., *Middletown, Ohio*

Specifications of most products advertised in THE AMERICAN ARCHITECT appear in the Specification Manual



Milwaukee Art Institute Building
Remodeled in 1921.
Judell & Bogner. Architects.

Booklet showing this country's finest bank buildings will be sent free upon request.



Office Building of the Land, Log & Lumber Co., Milwaukee. Erected in 1902. Ferry & Clas, Architects.

Matching New Stone With Old

The Milwaukee Art Institute Building is an excellent illustration of the possibilities of remodeling and enlarging an old building to meet modern requirements.

After twenty years' service as an office building for a lumber company, the structure was purchased by the Institute and remodeled. Without changing the style of architecture, a story was added, the old cornice moved up and reset over a new fluted frieze to increase its height. The Gray Indiana Limestone in the old building was perfectly matched for the added second story and the entire front cleaned down with bristle brushes, soap powder and water.

The remodeled building shows all of the decorative details of the old front with the added second story in complete harmony.

The builder who selects the Indiana Limestone is afforded an unlimited supply of material, assuring a building for which stone of the same color and quality will be available many years hence, in the event additions to the original structure are required. This is not possible with the product of smaller stone industries.

The Pyramids remain today as permanent evidence that limestone is the world's most enduring building material.

INDIANA LIMESTONE QUARRYMEN'S ASS'N, BOX 765, BEDFORD, INDIANA
Service Bureaus in New York and Chicago

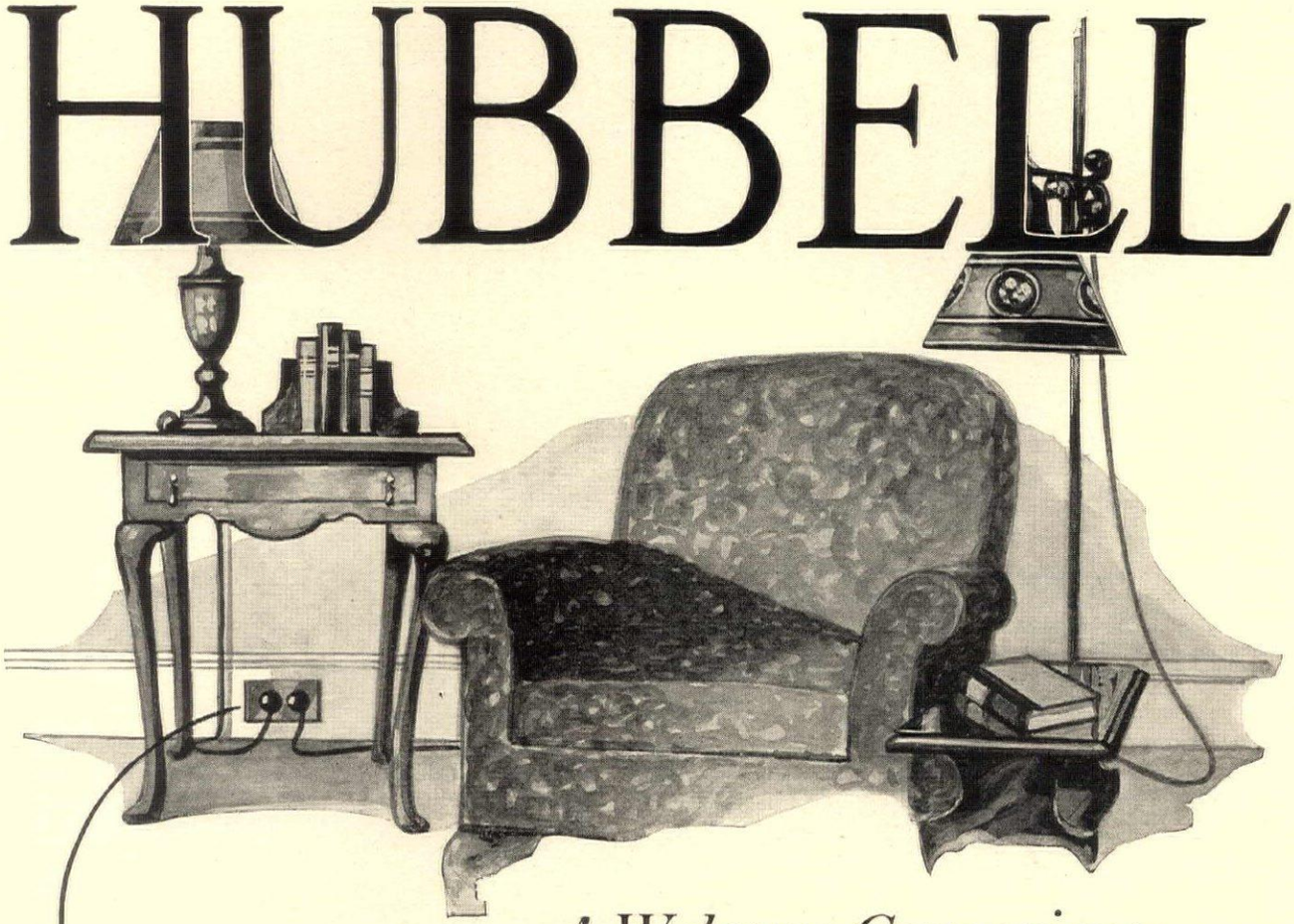
BUILD THE NATION SECURELY WITH

INDIANA LIMESTONE

The NATION'S BUILDING STONE

Specifications of most products advertised in THE AMERICAN ARCHITECT appear in the Specification Manual

HUBBELL



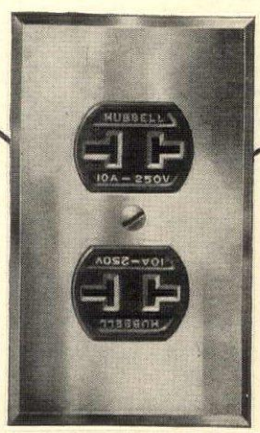
A Welcome Convenience— the Duplex Outlet

In the living room, a Hubbell Duplex Convenience Outlet provides connections for both table and reading lamps —without necessitating extra wiring.

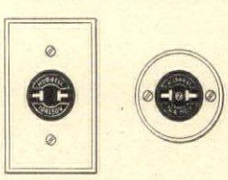
An architect's clients appreciate this constantly used *double* convenience and welcome its availability throughout the home.

Hubbell Convenience Outlets are made in both duplex and single types.

We would welcome an opportunity to confer with any architect regarding the most advantageous locations for convenience outlets in any class of building.



Duplex Convenience Outlet. Composition body No. 7575; Porcelain body No. 6257; Stamped brass flush plate for either of above, No. 6258.



Hubbell Convenience Outlets are also made in the single types shown above, with round or rectangular plates

HARVEY HUBBELL INC
ELECTRICAL WIRING DEVICES
BRIDGEPORT CONN. U.S.A.

Remember it's the Te Slots, that make outlets "Convenient"

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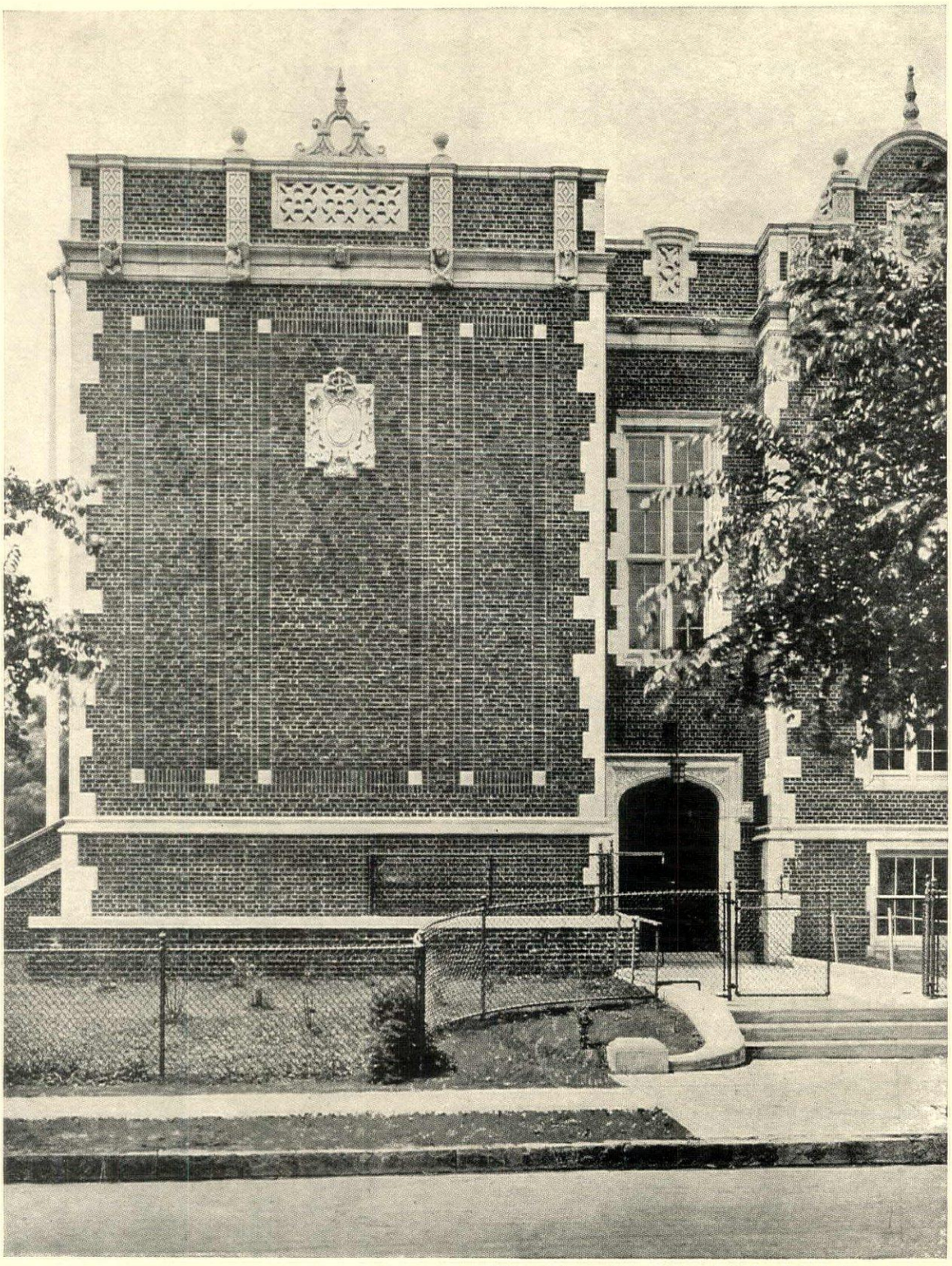


Wing of Normal School, Newark, N. J. E. F. Guilbert, Architect

THE stone and terra cotta trim bring out well the rich, dark field of brickwork, embellished as it is by delicate diamond traceries and pilaster effects. If you do not have "Architectural Details in Brickwork," ask for the portfolio. The halftone plates, issued in three series, each in a folder ready for filing, will be sent to any architect requesting them on his office stationery. The plates show many examples of the beautiful effects that can be economically obtained through the use of standard sized face brick.

Address, American Face Brick Association, 1754 Peoples Life Building, Chicago, Illinois.

Milwaukee Public Library—Onliwon equipped

Extending Service Into the Years

ONLIWON SHOWS A SAVING IN MILWAUKEE LIBRARY

During a recent test in the Milwaukee Public Library, the attendant in the Ladies' Comfort Room kept an accurate check on the number of visitors during two weeks to compare the consumption of roll paper towels against ONLIWON paper towels.

The first week 1983 persons used 1800 roll towels at a cost of $1.86. The second week 2040 visitors used 800 Onliwon double folded towels at a cost of $1.23.

One person out of three used the towels—but two or three roll towels were used by each person as compared to a single ONLIWON double folded towel.

APW
Quality Toilet Paper Products
REG. IN U. S. PAT. OFF.

FROM the day the tenants move into that new building you are planning, until it is torn down to be replaced, there is one item of equipment that will be in continuous use—the toilet paper fixtures. And from that day this same item will constitute an expense on which your client may effect a real economy, or suffer an unsuspected loss unless he has your expert advice.

Should not the architect, therefore, investigate this subject so that his client may have the fullest advantage of professional knowledge, even to this last detail, often considered trivial and neglected.

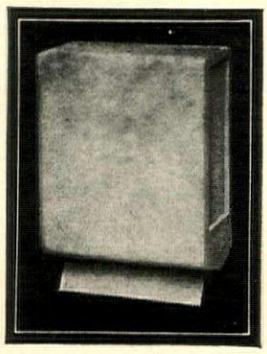
Onliwon toilet paper (and paper towel) cabinets are specified by architects who have had this subject brought to their attention because

—Onliwon cabinets are trouble-proof; easily refilled; give uninterrupted service; and require less time and attention than other types of fixtures.

—on account of the unique method of delivering the paper (just two interfolded sheets of toilet paper and one doublefolded towel at a time) Onliwon cabinets prevent waste, showing actual savings of from 15 to 50 per cent.

—there is an Onliwon cabinet to harmonize with any interior.

Write for our Architect's File Card, which gives full description and dimensions of all Onliwon cabinets.



White Porcelain Onliwon Toilet Paper Cabinet

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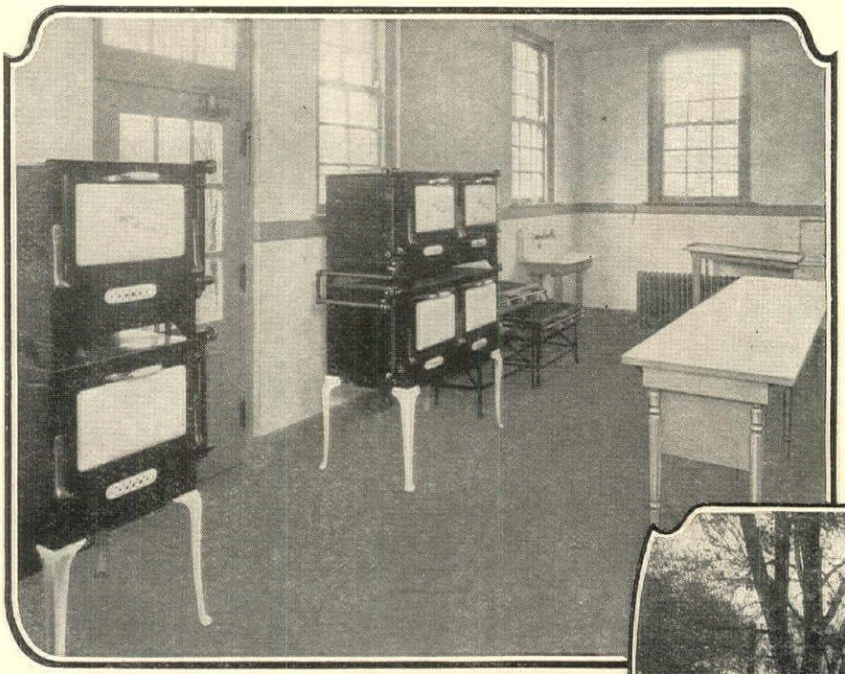

Kitchen of the Masonic Temple, Webster Groves, Mo., equipped with Quick Meal Gas Ovens with Lorain Oven Heat Regulators.

One easy turn of the Lorain Red Wheel gives the housewife a choice of 44 measured and controlled oven heats for any kind of oven cooking or baking.

Masonic Temple, Webster Groves, Mo.

The *Most Modern* Kitchens Have Lorain-equipped Gas Ranges

A GAS RANGE equipped with the Lorain Oven Heat Regulator represents the highest achievement ever reached in the development of an appliance for the cooking of foods because it makes possible perfect results every time. Any kitchen that has a gas range *without* Lorain cannot be said to have the *most modern* cookery equipment.

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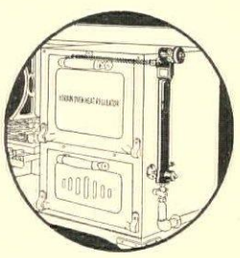
The Lorain Oven Heat Regulator automatically regulates and controls the heat of the oven, thereby making possible cooking without constant watching. Lorain also makes it possible to can fruits and vegetables in the oven with minimum effort and perfect results.

Also—once anyone has cooked or baked any dish successfully it is merely necessary to use the same Time and Temperature for the same dish to insure equally successful results every time thereafter.

Lorain-equipped Gas Ranges are also used in thousands of the finest apartment houses, and in nearly a thousand of the leading schools and colleges for instruction in Cookery. For specific data as to sizes, styles, etc., see pages 2315-24 inclusive, 18th Edition Sweet's Architectural Catalog. Prices, catalogs and other data furnished on request.



View showing application of the Lorain Oven Heat Regulator to the gas range oven.

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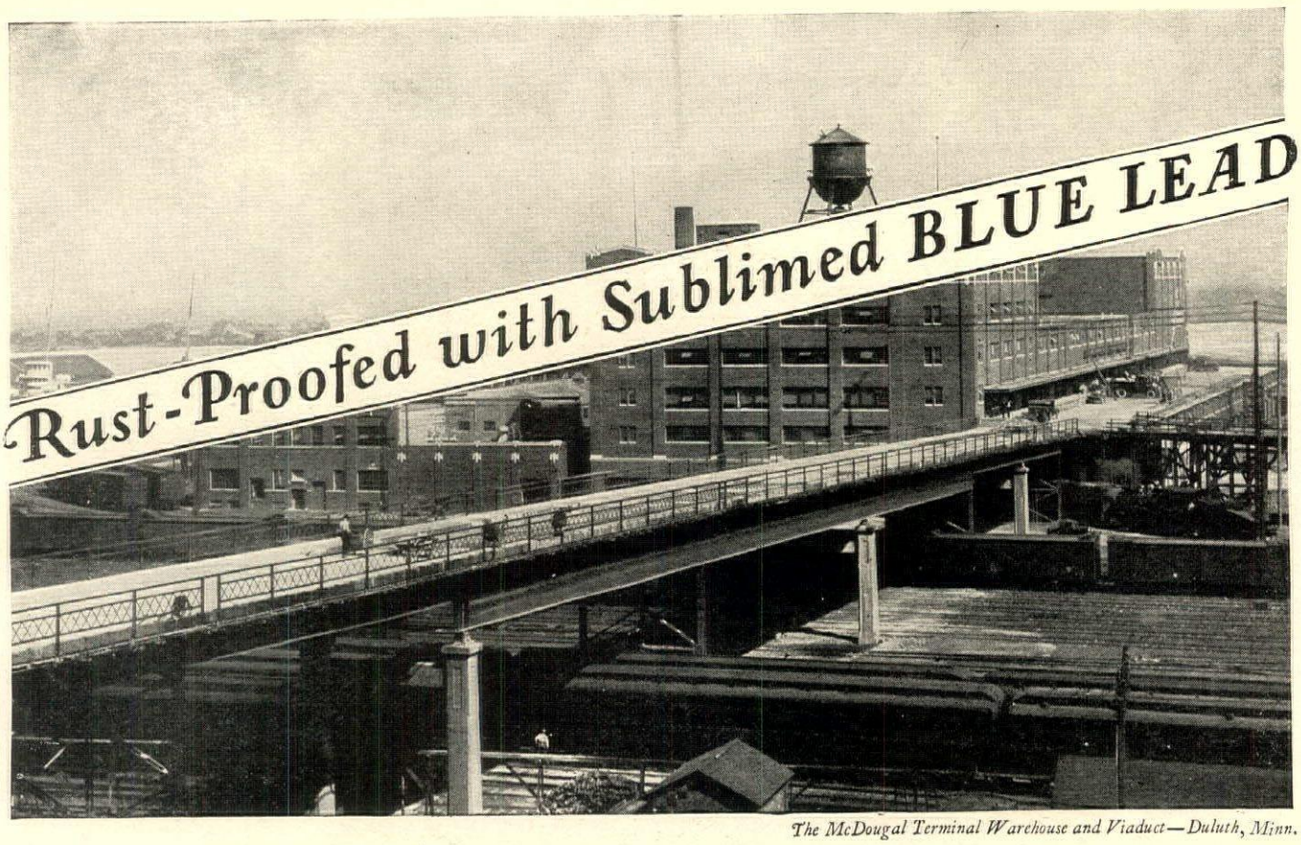

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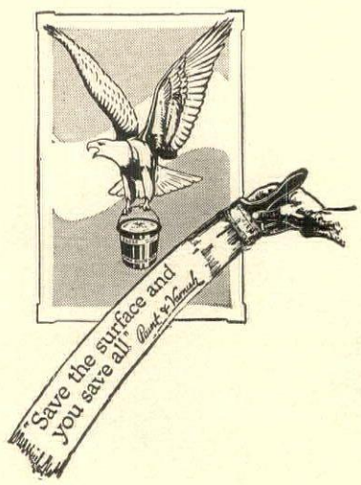

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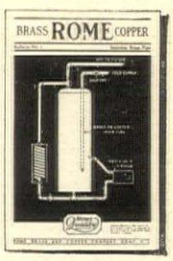

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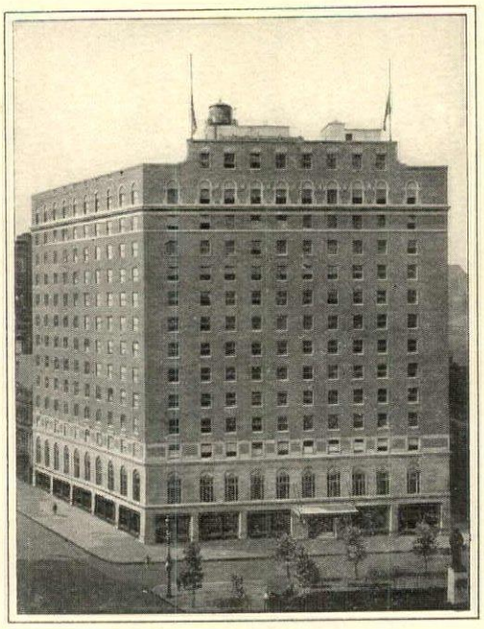

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Architect: Frederic I. Merrick, Empire Bldg., Pittsburgh, Pa.

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The first requirements were for Varnishes, Enamels and Paints that would stand hard wear. Hotel guests are not careful customers.

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Robert E. Mackay Company of New York City, did the painting which in itself is assurance that nothing but the best material was used.

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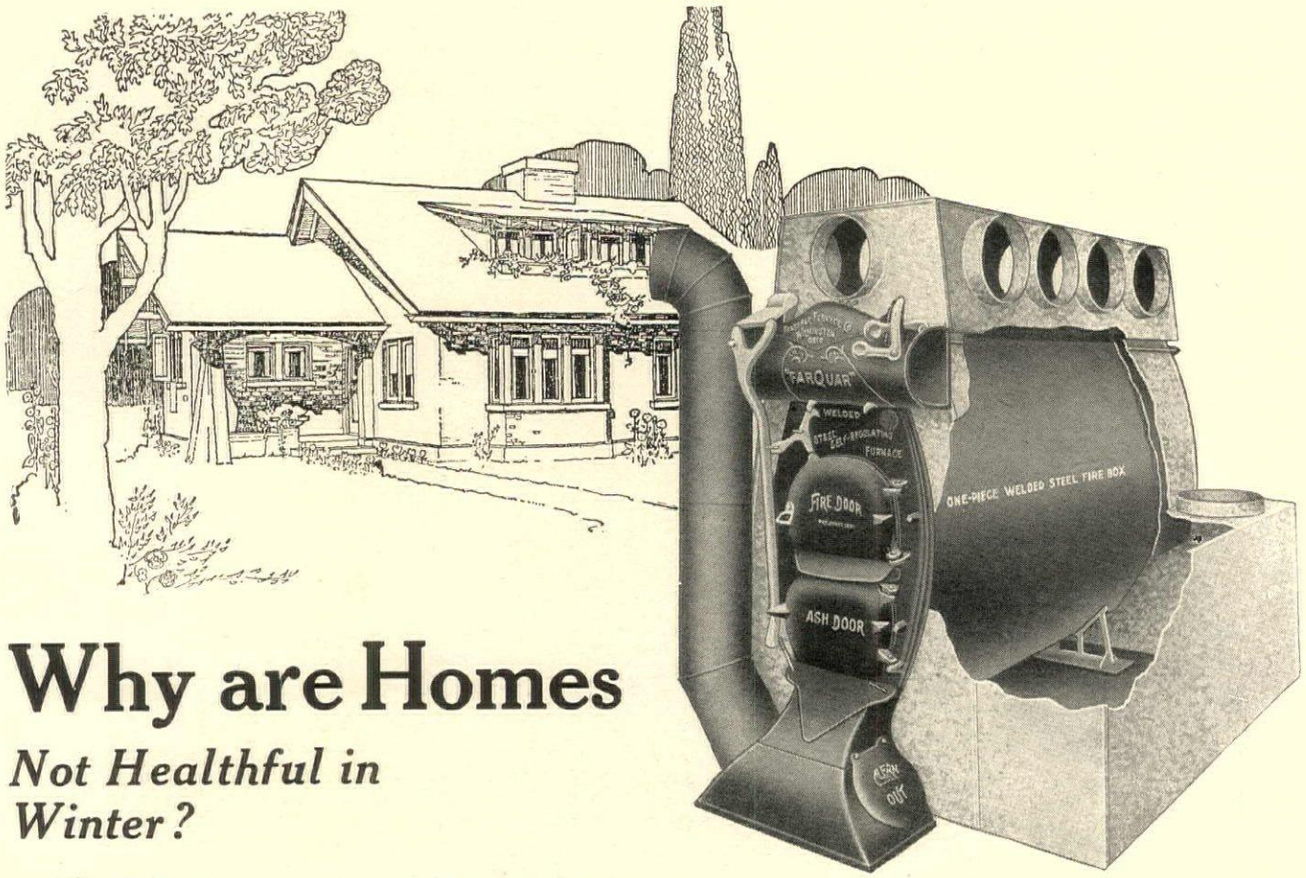

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Not Healthful in Winter?

Why is it, when you enter most homes in winter, you are subjected to stale, odor-laden air, oftentimes filled with dust and fire-gases and anything but pleasant to breathe? No wonder the occupants complain of a dull drowsiness, show a lack of vitality and often are victims of "bad air diseases"!

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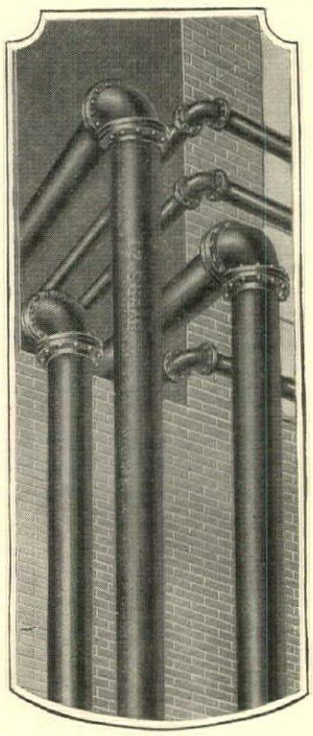
PIPE

Insurance Exchange Building, Des Moines, Iowa. Boyd & Moore, Architects. Byers for Plumbing.

LEFT: *Federal Reserve Bank, Cleveland. Walker & Weeks, Architects. Byers for Heating.*

The trend toward better pipe



EVEN an infinitesimal amount of corrosion—far too small to be measured from day to day, but irresistibly going on from year to year—ultimately becomes destructive to any plumbing, heating, or other pipe system. Staggering replacement expense then has to be faced. Measured against such odds, the additional cost of Byers pipe is a small consideration, for it adds but little to the first cost of installation.

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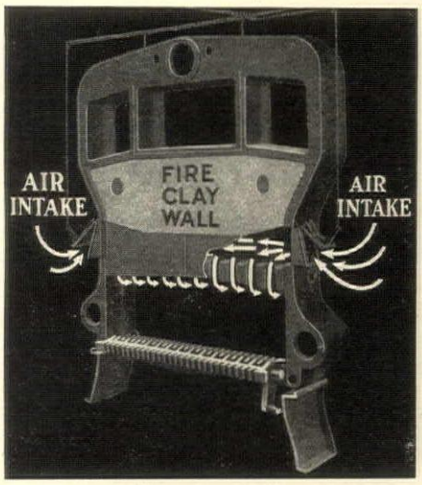
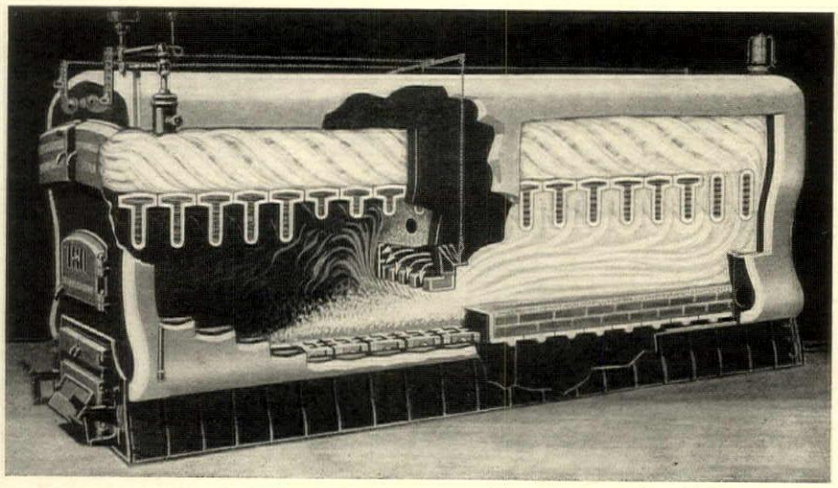


Baffle Wall Water Section with protected openings through which air enters at the heart of the fire



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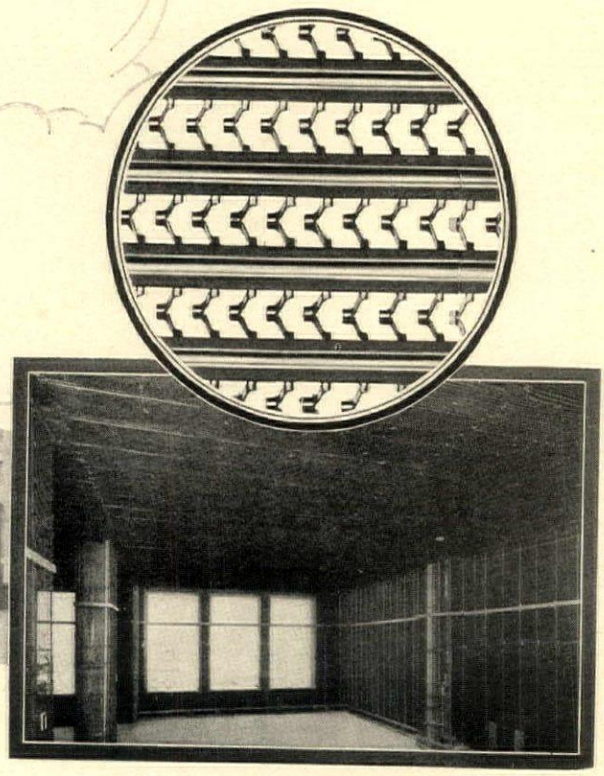

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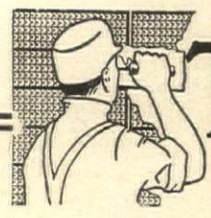

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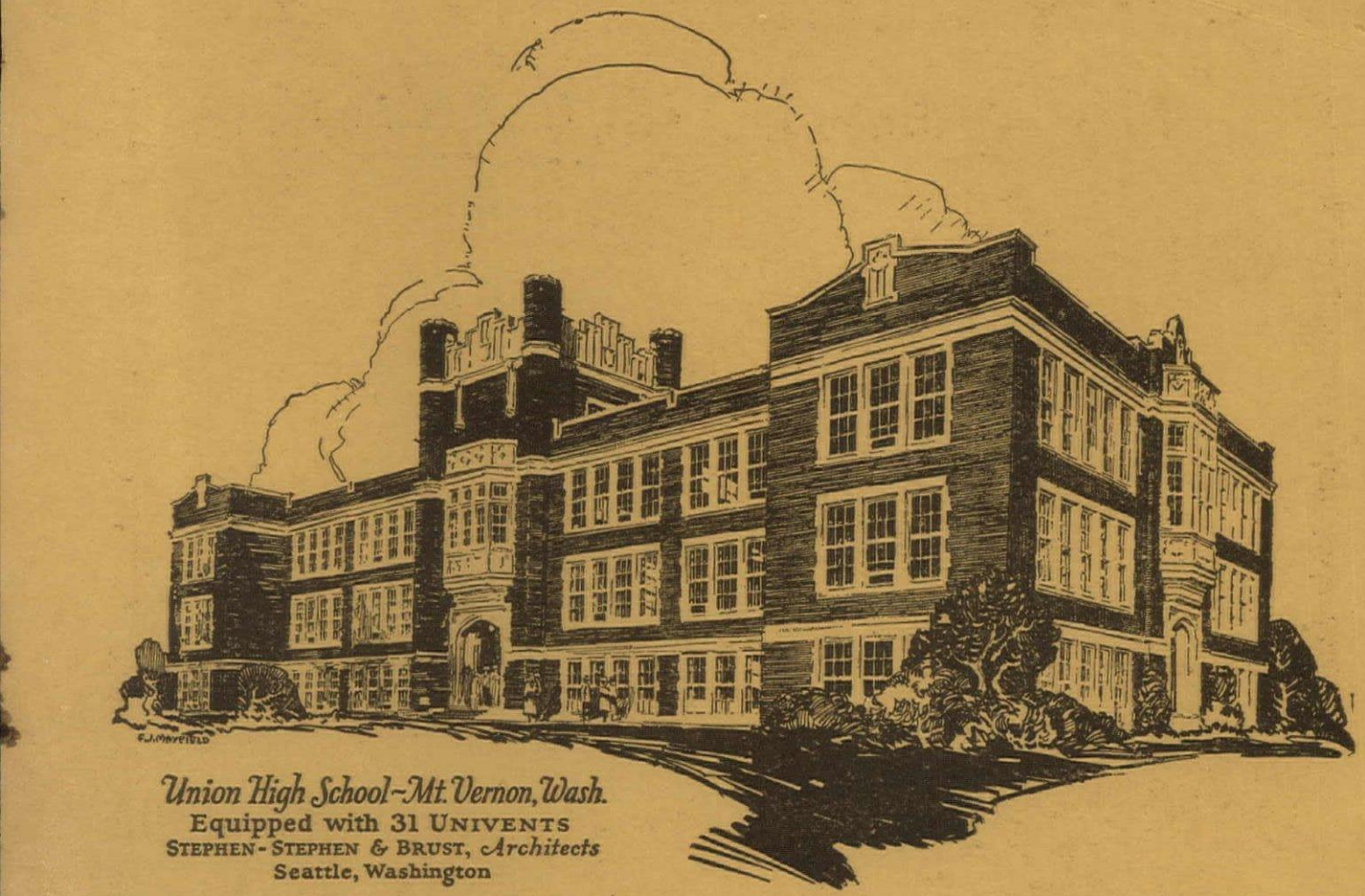

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