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STREET SCENE, ZACATECAS, MEXICO

(From "An Architectural Pilgrimage in Old Mexico")

THE AMERICAN ARCHITECT
THE ARCHITECT

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

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 of 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.

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 Hypothemuse, 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 provider. It was enough for this particular—or, more properly, this special—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 carved likenesses of the animals he went forth to hunt—the Ichthyosaurus, the Plesiosaurus, the Hypothemuse, 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 little 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 seedy. 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 — 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 gun rubber of our modern drafting board.) At first a few really did invent new and conventional forms after they had tired of reproducing ad nauseam 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 strangulated 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-
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 rea-

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

sonable 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.

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 thrill of his times. Chief builder he may be, but even though he direct a thousand pairs of skillful hands, he is but

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JOCKEY CLUB, MEXICO CITY, MEXICO

HERE COLORED TILE AND CARVING BLEND TO PRODUCE A MAXIMUM OF RICHNESS
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.

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 equaled 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.
YEARS ago, discussing with a delightful Roman the possible dangers of walking in the Campagna he advised a friend and me to “take a large stick, and eef any one spik to you, swing the steek carelesslee and tal heem you pref-air not to be molested; he weil 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 garrotter 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.

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-
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 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."

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 "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
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 loneliness. There is a point at which the quaint, the impræxis, 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 win-

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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.

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 turquois, 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 ALA MILANESE

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

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ON THE PONTE VECCHIO

LAGO DI COMO

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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

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

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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 hugged 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 altogether 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' Arno-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
HOUSE OF THOMAS H. FROTHINGHAM, FAR HILLS, N. J.

JOHN RUSSELL POPE, ARCHITECT
HOUSE OF THOMAS H. FROTHINGHAM, FAR HILLS, N. J.

JOHN RUSSELL POPE, ARCHITECT
HOUSE OF THOMAS H. FROTHINGHAM, FAR HILLS, N. J.

JOHN RUSSELL POPE, ARCHITECT

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 a store of literature; the book, a cover and thereby relieve any monotony of the wall paneling.
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.
A marble mantle 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 stair landing is enriched by a case of good proportions in which an ornamental panel and a clock play important parts.

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

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

JOHN RUSSELL POPE, ARCHITECT
A detail of one of the hall doors. It acts as a fine frame for the picture of the dining room beyond.

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

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.

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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 relations 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.

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** A GREAT PATRON ** of architecture in England, and as The Architect, London, designs 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 reconciliation 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.

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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.
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 XVIIth 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.
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 homeliness
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.

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.

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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 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.
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.

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 210,000 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, 101,180 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.

The exterior walls are faced with hard burned...
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 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, 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 shipping 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 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 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 damp-proofing, were shot on the wall with a gun. The 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 1/2" of two coat Portland cement plaster finished with a float.

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.

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

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.

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

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 slot 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 construction 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.

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 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 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...
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.
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 meager 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

<table>
<thead>
<tr>
<th>Protection</th>
<th>No.</th>
<th>Slight Loss</th>
<th>Partial Loss</th>
<th>Heavy Loss</th>
<th>Total Loss</th>
</tr>
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<tbody>
<tr>
<td>Unprotected</td>
<td>12</td>
<td>61</td>
<td>64</td>
<td>137</td>
<td></td>
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<tr>
<td>Sprinklers Alone</td>
<td>35</td>
<td>143</td>
<td>51</td>
<td>209</td>
<td></td>
</tr>
<tr>
<td>Open Sprinklers</td>
<td>37</td>
<td>40</td>
<td>10</td>
<td>87</td>
<td></td>
</tr>
<tr>
<td>Wired Glass</td>
<td>14</td>
<td>40</td>
<td>5</td>
<td>59</td>
<td></td>
</tr>
<tr>
<td>Tin Clad Shutters</td>
<td>10</td>
<td>38</td>
<td>9</td>
<td>57</td>
<td></td>
</tr>
<tr>
<td>Iron Shutters</td>
<td>0</td>
<td>10</td>
<td>3</td>
<td>13</td>
<td></td>
</tr>
</tbody>
</table>

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

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*Abstracted from The Quarterly of the National Fire Protection Association, January, 1908.
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 panic 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 Greeks, 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...
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")
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.

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 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 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 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 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 archi- 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 has 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 tying 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 critically surveyed the towering height of the member from France on the jury of 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 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 Svenen. 136 pages (96 full page plates), 8 x 10 1/2 inches, cloth. J. 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 uninterrupted. 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 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 cooperation is 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 1/2" 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 3/4" 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 3/4" 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 contra-
poitajit factor in gijoil work is coiieerued, but if not exactly miscellaneous in character are not the cas(is where responsibility rightly is bis.

Brick floors, walls, 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 in 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 leveled to a 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 1/2". 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 1/2" 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 hazardous 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 volatilized 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 saturant 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 saturant 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.
The LAW as to ARCHITECTURE

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

A n interesting question is oftentimes 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 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 those 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 intervention 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.

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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 herein 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 or­
der 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 space should be provided by the building for
stairs and elevators and that the stores themselves should
be able to attract customers from the main floor of the
arcades.

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,
which is 17 feet high, may have a projecting roof project above the


NUMBER OF DRAWINGS SUBMITTED:—90.

AWARDS:—


CLASS "B"—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. Be­
fore 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 30'-0" and the greatest width of the
fountain proper shall not exceed 50'-0".

JURY OF AWARDS:—H. O. Milliken, J. H. Freed­

NUMBER OF DRAWINGS SUBMITTED:—84.

AWARDS:—


SECOND MENTION:—C. A. Stiehl and R. V. Fare, Armour Institute of Technology—Dept. of Archt., Chi­

Firsts:—C. O. Cerny, Chicago Atelier, Chicago; C. F. Lande­

SECOND MENTION:—C. A. Stiehl and R. V. Fare, Armour Institute of Technology—Dept. of Archt., Chi­

JURY OF AWARDS:—H. O. Milliken, J. H. Freed­

NOTE:—The award received by J. A. Brown of Armour
Institute of Tech., Dept. of Archt., Chicago, on his
Class "B"—I 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 LIGHT  J. F. LAUCK  FIRST MEDAL  UNIV. OF PA.

CLASS "A"—III PROJET—A SHOPPING CENTER

STUDENT WORK, BEAUX-ARTS INSTITUTE OF DESIGN

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

R. RUHNIK  
SECOND MEDAL  
UNIV. OF PA.

CLASS "A"-III PROJET—A SHOPPING CENTER
STUDENT WORK, BEAUX-ARTS INSTITUTE OF DESIGN
L. I. KAHN  
SECOND MEDAL  
UNIV. OF PA.  
T. P. YANG  
SECOND MEDAL  
UNIV. OF PA.

CLASS "A"—III PROJET—A SHOPPING CENTER
STUDENT WORK, BEAUX-ARTS INSTITUTE OF DESIGN
W. W. WURSTER  SECOND MEDAL  ATELIER LIGHT  
B. RIABOFF  SECOND MEDAL  UNIV. OF PA.  

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

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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

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OUTLINE OF TENTATIVE SPECIFICATIONS FOR STRUCTURAL CARPENTRY
A.S.I. Bulletin No. 40
Serial No. 24.10

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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.
For Thereby Hangs A Tale

You have, of course, recognized that both these grilles are from the famous door of the Cluney Museum.

It is but one of 5 hundred and one Ferrocraft Grille designs, the costly patterns for which we have in our vaults.

Next month we will show a rare old English design in its adaptation to a library radiator, placed beneath a casement between two bookcases.

Let us remind you that all Ferrocraft Grilles are always hand chased, bringing out the detail and refinement of the design. Do not confuse them with mere cast ornamental iron.
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, Warren W. Day,
Secretary-Treasurer 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 futilte 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 thereof 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 Architect's 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
The Architect and His Service

It is perfectly natural — because S. W. Straus & Co. are the unquestioned leaders in their field — that architects should have us first in mind when talking to their clients regarding the securing of funds in large amounts for projected building operations.

Nevertheless, it is the architect who should have the credit, for it is he who, sensing the changing trend, has expanded his scope to include that very essential service — helping the client to finance his project.

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being excavated from the dead past. No sooner have we lapsed into lethargy after the shock of Tutankhamen than we are again started 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 $4,400 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. Szedgwick, 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 lip 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.
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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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
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drain on the country's forests amounts to 257,000,000,000 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 percent 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 cavemen 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.

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

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.

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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.

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RAPID RATE

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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. Wallia & 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 914 Deutscher 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. Wend announce the removal of their offices to the Thorndike Building, 254-240 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. Brummeshenkel, architect, has opened an office at 103 Mohican Building, Mansfield, Ohio, for the general practice of architecture. Mr. Brummeshenkel 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.
Nineteen Years of Flawless Service in Pittsburgh

ANAConDA BRASS PIPE has given nineteen years of uninterrupted service in the McCreery Department Store at Pittsburgh, Pa. Used in the concealed work of the sprinkler system, it has done away with maintenance charges and is in place today—a typical record of Anaconda corrosion resistance.

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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 light the falling birthrate by better living environment, at the time of the War 56 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'Enfance, or Children's House. This building contains prenatal and baby welfare clinics and milk stations, a creche 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.
The Johnson Thermostat on the wall of the home is as significant of genuine gentility today as the oil painting on the wall. The resident qualities which it expresses, and the residence qualifications which it denotes are commendable indexes: while the health, comfort, convenience and extreme fuel economy which The Johnson Pneumatic System of Temperature Regulation so successfully contributes make it indispensable in homes that are to be considered strictly first-class, most modernly complete and of faultless construction.

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TWENTY-EIGHT BRANCHES UNITED STATES AND CANADA

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.


AIR CONDITIONING—see also Heating and Ventilation
The Bayley Manufacturing Company, 722-744 Greenwich St., Milwaukee, Wis.

486. Bulletin No. 25. 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 article on air conditioning and hardware used together with useful tables and a set of specifications. 32 pp. Ill. 7½ x 10½ in.

ANCHORAGE EQUIPMENT
Midwest Steel & Supply Co., Inc., 100 East 45th St., New York, N. Y.

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 solutions of anchorage problems for transmission lines, electrical, mechanical, material handling equipment, piping, trackage, cables, etc. Practical working data is given on page 34 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 brake blocks and linings, asbestos building materials and general technical data. 286 pp. Ill. 8½ x 11 in.

ASBESTOS ROOFING—see also Roofing
The Philip Carey Co., Lockland, Cincinnati, Ohio.

380. Asbestos various 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. 16 pp. Ill. 6x9 in.

ASH HOISTS—see also Hoists
Chicago & Goughman, 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, showing details of construction, methods of using, installations, useful and practical data and suggestions. Fully illustrated with photographs of actual installations and descriptive matter of some. 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 7½ x 9 in. 56 pp.

127. A Manual of Fair Brick Construction. The history of brick making, types of face brick, showing details of construction for walls, chimneys and arches. Details of the 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.


371. Architectural Details in Brickwork. Series One, Two and Four booklets containing indexed folders case to fit standard vertical letter file, containing between 30 and 40 high quality line engravings on fine quality paper. These collections are inspiring aids to all designers. Sent free to architects who apply on their office stationery; to others, 60 cents for each series.

454. Bungalow and Small House Plans. Four booklets containing plans for attractive small brick houses, containing 3, 4, 6, and 7-room houses. 50 pp. Ill. 8½ x 11 in. 25 cents each, .75 for the set.

BRICK AND TILE—see also Brick

BUILDING CONSTRUCTION
Cement-Gun Company, Allentown, Pa.

603. 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. 20 pp. Ill. 6 x 9 in.

Concrete Engineering Co., Omaha, Neb.

547. Handbook of Footprint 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.

Curtiss Compania Service Bureau, Clinton, Iowa.

1502. Better Built Houses. Vol. XIII. This volume contains floor plans and perspectives of 21 two family houses. The designs were made by Knowbridge 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 $1.89, 24 pp. Ill. 8½ x 12 in.

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

343. Clear Floor Space. A folder showing uses and advantages of McKewen "Clearing" long span wood roof trusses. 4 pp. Ill. 8½ x 11 in.


5065. Concrete Floors—Proposed Standard Specifications of the American Concrete Institute. Specifications with explanations, and 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. 6x9 in.

Truscon Steel Company, Youngstown, Ohio.

317. Truscon Floor Type Construction. Form D-252. Contains complete data and illustrations of Floortype installations. 16 pp. Ill. 8½ x 11 in.

318. Truscon Standard Buildings. Form D-90. Describes Trus­
con Standard Steel Buildings, with diagrams, illustrations of installations, descriptive matter and list of users. 68 pp. Ill. 8½ x 11 in.

319. Truscon Building Products. Form D-370. Contains a brief description of each of the Truscon Products. 172 pp. Ill. 8½ x 11 in.

320. Modern School Construction. Form D-390. 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., Chi­

scribing 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 wide letters furnished. Size 7½ x 11 in.

BUILDING HARDWARE—See Hardware

BULLETIN BOARDS


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

510. 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.

CASTIENETS—See Doors and Windows

CEDAR LINING—See Lumber

CEILINGS, METAL
The Edwards Manufacturing Company, Cincinnati, O.

1023. Pamphlet containing 25 pages describing metalceilings and walli­
coving. Well illustrated, with list prices and rules for esti­
mating. 7½ x 10 in.

CELLAR SAHS—See Doors and Windows

Southern Pine
Its Production and Probable Period of Availability

The forests of Southern Pine are located in the South Atlantic and Gulf States and comprise at least 250,000,000,000 feet of standing timber. Southern Pine is now, and has been since 1900, the dominant soft wood of the country, constituting more than one-third of all the lumber of all kinds consumed in the United States.

Existing timber stands make certain that Southern Pine will continue to be a substantial factor in the national lumber trade. The idea now prevalent, in some quarters, that the Southern Pine forests are near depletion, is erroneous. On the contrary, Southern Pine (original growth) is, and will long continue to be, available in large quantities in all standard sizes and grades. It will long continue to be especially well manufactured for flooring, mouldings, interior finish, dimension and lath; there is assured also adequate supplies of dense structural material.

Southern Pine Association
NEW ORLEANS LOUISIANA
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.

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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 mill-work dealer for them. Look for the trade-mark and gold label replacement guarantee. Special Laminex monograph sent upon request.

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Tacoma, Washington, "The Lumber Capital of America"

Sales Offices: Chicago, Memphis, Los Angeles, San Francisco, Spokane
Manufacturers of "Woco" Douglas Fir Doors and Fir Sash

**LAMINEX DOORS**

**WILL NOT SHRINK, SWELL OR WARP**

REFERENCE LIST OF BUSINESS LITERATURE—Continued

ELECTRICAL EQUIPMENT
690. H. & H. Electrical Wiring Devices, Catalog "R." Catalog contains information and diagrams for the design and building of fireplaces, together with descriptions of modern doors and dampers so that a fireplace will work effectively at all times. Contains many illustrations of tasteful mantel designs. 24 pp. Ill. 3 x 7 in.

FLOOR COVERING—See Flooring

FLOORING
Armstrong Cork Co., Lincoln Department, Lancaster, Pa.

FLOORING, SUB—See also Stucco Base

FLOORING
Armstrong Cork Co., Lincoln Department, Lancaster, Pa.

150. Gracono Trinidad Lake Asphalt Mattl. A book describing its manufacture, uses and methods of application, including application over unusual surfaces. Contains separate specifications for flooring, waterproofing and roofing uses. 24 pp. Ill. 6 x 9 in.


Hospital Floors. Descriptions and advantages of using Gold-Seal Battleship Linoleum, Gold-Seal Trendline Tile and Gold-Seal Rubber Tile in hospital construction, insuring durable, noiseless, sanitary and attractive floors. Illustrated part in color. 8 pp. Ill. 7 1/4 x 10 1/4 in.

718. Gold-Seal Trendline Tile. This tile, a scientific compound of cork, various forms and pigments, is described and illustrated in color. Detail drawings and specifications for installation are included. 32 pp. Ill. 7 1/4 x 10 1/4 in.

The Long-Beam 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. Ill. 7 1/4 x 9 1/2 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 6 1/4 x 9 1/2 in. 32 pp.

Marbleloid for Schools. A bulletin showing schools in which Marbleloid flooring is used. Illustrated in composition flooring applied in a plastic stet. Other bulletins show where it has been used in various classes of building. Ill. 7 1/4 x 11 in.

Franklyn H. Miller Co., Waukegan, Ill.
243. Asbestos Floor Coverings. A book describing uses of and giving specifications and directions for installation. Base, wainscoting, etc. Size 6 1/4 x 9 1/2 in. 11 in.

Oak Flooring Bureau, 1014 Ashland Block, Chicago, Ill.
103. Modern Oak Floors. A book that tells the complete story of Oak Flooring 24 pp. Ill. 6 x 9 1/4 in.

The Rood Co., Century Bldg, Pittsburgh, Pa.
1898. Redwood Block Floor Booklet. A treatise on the advantages of Redwood Block Floors in factories, warehous es, hotels, office buildings, department stores, schools, etc. Contains charts, dimensions and specifications for installing. 14 pp. Ill. 4 x 9 in.

FLOORING
Redman Products Co., South Braintree, Mass.
585. Fiedman Naturalized Reinforced Flooring. A circular describing a product formed from reenforced with cotton fibre, made in various colors and used for floors, wainscotting, sanitary base, stair treads, interior decorative units, wall coverings, table and desk tops and drain mate. 6 pp. Ill. 6 1/4 x 9 1/2 in.

PLOORS—See Building Construction
PHAMER—See Doors and Windows

PUMPS—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. Practice Anti-Slip Trends for Garage Inclines and Ramps. P170. A folder explaining the advantages of and illustrating the actual usage of Ferulal Anti-Slip Treads on ramps and inclines in public garages. 2 pp. Ill. 8 1/2 x 11 in.
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.

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

REFERENCE LIST OF BUSINESS LITERATURE—Continued

GARBAGE DESTROYERS

354. The Sanitary Elimination of Household Waste, 1s. 3d. Folding circular and operation of the Sanitary Elimination of Household Waste, 1s. 3d. A folding circular 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 6 in.

Kernerator Boiler Co., New Haven, Conn.


GARBAGE RECEIVERS
Edwin 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 buildings and apartments; also types for suburban wall with opening on the inside for the maid and outside for the garbage man. Size 2 1/2 x 6 1/4 in. 16 pp.

GARDENS
Julius Rechts Company, Rutherford, N. J.

400. The Ten-Tens issued three times a year—covering news of the trade, current information, and ideas for fruit trees, roses and perennials. Also one general greenhouse catalog, listing articles and greenhouse plants.

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

404. The Plate Glass Plants in the Life of Every Man. An illustrated folder describing the many uses of plate glass. Ask also for a companion pamphlet "Garbage Stalls" 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., 140 Front Street, New York, N. Y.

229. Zinc Spraying. Describes leakers, gutters, etc. "Made from Horse Head Zinc," giving information concerning their economy and durability. 8 pp. Ill. 6 x 9 in.

HARDWARE
Allith-Prouy Co., Danville, Illinois.

508. General Catalog No. 20. This catalog embraces a description of a complete line of door hangers and tracks, garage door hardware, spring hinges, rolling ladders, fire door hardware and a complete line of hardware and hardware specialties. 144 pp. Ill. 7 1/4 x 10 1/2 in.

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

350. Win-Door Casement Hardware. A booklet describing the various types of windows, casements and accessories, and specifications and details of the casement window and the operating devices suitable for all sizes. 24 pp. Ill. 6 x 9 in.

P. & P. 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. 8 1/4 x 11 1/4 in.

Monarch Metal Products Co., 5600 Penrose St., St. Louis, Mo.

430. 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. 16 pp. Ill. 7 1/4 x 11 1/2 in., in heavy folder for vertical file properly indexed.

Richard-Wilcox Mfg. Co., Aurora, III.

350. Modern Hardware for Your Home. Catalog of hangers for vanishing French doors; "Air-Way" multipurpose hardware; "Dillute" garage door hardware, 24 pp. Ill. 8 1/2 x 11 in.

Dickson Garage Door Hardware. Catalog A-35. This is more than a catalog. It is a treatise for architects and builders on the proper design and selection of garage door operating mechanism. Includes folding, moving and combination sliding and folding doors, with complete specifications. 40 pp. Ill. 7 1/2 x 11 in.

Sliding Door Hardware. Catalog No. A-37. A catalog of sliding glass doors, hardware of Paradox, Artco, robinson and Irl paradoxx, 32 pp. Ill. 7 x 10 in.

Columbian Garage Door Hardware. Catalog A No. 40. A complete treatise on garage doors that has been mechanized and mechanically operated with description of standard and special hardware and accessories. 46 pp. Ill. 8 1/2 x 11 in.


6009. Recruit Period Hardware. A brochure illustrating hardware trim, characteristics of architectural styles and periods. 71 pp. Ill. 8 1/2 x 11 in.

6100. Catalog of Hardware. Volume Four. A complete catalog of building hardware, trim, locks, butt sets and accessories. 350 pp. Ill. 8 1/2 x 11 in.

Sargent & Company, New Haven, Conn.

560. Sargent Locks and Hardware for Architects. The latest complete catalog of locks and hardware for architects, 364 pp. Ill. 9 x 12 in.

The Stanley Works, New Britain, Conn.

11. Wrought Hardware. New 1926 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 butt, hinges, bolts, ete.; 374 pp. Ill. 8 1/2 x 11 in.

12. Garage Hardware. Booklet, illustrated. Garages and their equipment, such as hinges, latches, door holders, latch sets, chain and hand bolts, showing illustrations and text with dimensions of all garage, 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 1/2 in.

127. The Stanley Works Bell Railing Butt. Illustrated. Description with full size illustrations of many types butt and their parts, dimensions and finish. Size 5 x 7 1/2 in.

160. Stanley Details Manual. A catalog in house leaf binder, consisting of over 125 pages on Butt, Bolts, Blind and Shutter Hardware, Stanley Garage Hardware, Screen and Sash Hardware. Detailed drawings are given, showing clearances and other data needed by details. 116 pp. Ill. 7 3/4 x 10 1/2 in.

Vonnegut Co., Indianapolis, Ind.


310. Prince-Self-Releasing Fire Exit Device. Supplement to Von Duprin Catalog No. 10. 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 1/2 x 11 in.

HEATERS—See Water Heaters
HEATING
American Radiator Company, 104-108 W. 42nd St., New York, N. Y.

247. 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 small coal stove, required. The ash carrying reduced to a minimum. 24 pp. Ill. 6 x 8 1/2 in.


241. Steam Catalogue. A book containing full descriptions of the complete line of Crane valves, fittings, etc. 800 pp. Ill. 8 x 10 in.

The Durso 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, foundry, laboratory, etc. 4 pp. Ill. 8 1/2 x 11 in.

The Farquhar Furnace Company, Wilmington, Ohio.

353. Healthful Helpful Hints. A discussion of furnace and chimney design and capacity for hot air and ventilation systems, with description, installation and operation of the Farquhar furnace. 16 pp. Ill. 4 x 6 in.

312. A Plain Practical Book for 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. 8 1/4 x 11 in.

General Boilers Company, Wheeling, 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.

763. 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. 6 pp. Ill. 8 1/2 x 11 in.


Hess & Company, Racine Ave., at 21st St., Chicago, III.


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.

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Vonnegut Hardware Co.
Indianapolis, Ind.

Skinner Junior High School,
Denver, Colorado.
W. Harry Edwards, Architect.
Arvid Olson, Contractor.
REFERENCE LIST OF BUSINESS LITERATURE—Continued

HEATING

Buffalo Forge Co., 430 Broadway, Buffalo, N. Y.


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

67X. New Sectional Catalog 6. This contains the latest improved fan designs for heating, ventilating and drying also standard steel plate fans and pipe coil heaters, capacity tables and specifications, 24 pp. 3½ x 10½ in.


141. Unit Ventilation. Architects' and Engineers' Edition. A scientific treatise on ventilation for schools, offices, commercial buildings; with 46 pages of engineering data on ventilation for architects and engineers. 22 pp. Also "Supplement A" for Air Conditioning. 15 pp. Ill. with half-tone, line drawings and designing charts. 8¼ x 11 in.

HOISTS—See Elevators and Ash Motors

INSECTICIDE—See Gordon Destroyers

INSULATION—See also Stucco Base

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

791. Celotex Insulating Lumber. An insulating material made from cane fibre in form of boards of various lengths and thicknesses. Descriptive catalog, 12 pp. Ill. with half-tone, line drawings and specifications, several catalogs, booklets and leaflets.

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

487. Universal Insulating in Building Construction. Describes a clean, sanitary, insectless and vermin proof insulation made from selected waterproofed wood fibres, felted into light, strong, uniform sheets. Examples are given for the insulating of walls, doors together with details and useful data. 37 pp. Ill. 8½ x 11 in.

United States Mineral Wool Co., 290 Madison Ave., New York, N. Y.


IRON AND STEEL—See also Metals

The American Rolling Mill Co., Middletown, Ohio.

585. The Electric Steel Mill. 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. 5¼ x 8¼ in.

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

297. Booklet 14 on Standardized Metal Caging. Description of various ways of reinforcing the concrete by caged steel, with particular reference to Standardized Metal Caging.

KITCHEN EQUIPMENT—See also Stoves

Bromhall, Donn Co., 201-A West Madison St., New York.


The Prometheus Electric Co., 362 West 13th St., New York.

145. Prometheus Electric Plate Warmers. Leaflet illustrating the plate warmers, with description and specifications, adaptable for residences and hotels, according to specifications. Sizes and prices.

LATH, EXPANDED WOOD

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

905. Ex-Wo Expanded Wood Lath. An expanded wood lath made in sheets and attached to a steel hanger. Paper. Description, directions for installation, specifications and tests. 2 and 4 pp. Ill. 9 x 11 in. and 7½ x 11 in.

LATH, METAL

American Steel & Wire Co., Chicago, Ill.

289. Stucco Houses Reinforced With Triangle Mesh Fabric. A pamphlet containing valuable data on stucco work with tables of qualities of material and many illustrations of houses covered with stucco applied on Triangle Mesh Fabric. 24 pp. Ill. 8½ x 11 in.

Concrete Engineering Co., Omaha, Neb.


The General Fireproofing Co., Youngstown, Ohio.

592. Building for Permanence and Beauty. A booklet containing illustrations and plans of residences, with description and specifications of stucco construction on Harrington Metal Lath.

The Right Angle. A monthly magazine devoted to fireproof construction involving the use of metal lath, expanded metal and steel lath. Specifications and 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:

- Hoffman Mercury Pressure Gauge. This gauge shows an exact reading in ounces of the pressure conditions at the boiler.
- 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.
- 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.
- 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 sensitivity under either high or low pressure. The valve operates under a pressure range from 13 inches of vacuum to 50 lbs. steam pressure.

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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REFERENCE LIST OF BUSINESS LITERATURE—Continued

LATH, METAL
Truscon Steel Company, Youngstown, Ohio.

311. Ornamental Metal Table, book of general data and illustrations of hy-rib and metal bath construction. 6 pp. Ill. 8 1/2 x 11 in.

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

68. 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 8 1/2 x 11 in. 44 pp.

The Phoenix Company, Rochester, N. Y.

581. Glass Lined Steel Laundry Chute, Catalog describing a glass lined steel laundry chute with flushing ring at top. Specifications, dimensions and details adapted to hospitals and hotels. 14 pp. Ill. 5 1/2 x 7 in.

LIGHTING—See also Electrical Equipment
Frank Adams Electric Co., 2449 Boll Ave., St. Louis, Mo.

679. The Control of Lighting in Theatres, A book describing means for complete control of lighting in the stage, auditorium and various parts of theatres with details of installations and specifications. Also applications of control to Masonic buildings, schools and colleges. 22 pp. Ill. 8 1/2 x 11 in.


613. Erickson Reflector Catalog No. 90, A pamphlet describing reflectors. 24 th St. and 10th Ave., New York.

11 in.

LIME
This book gives directions for buying, outlining the processes are shown in detail and the uses of lime are illustrated and described. "Bruce Cedaline," for lining clothes closets as a complete protection against moths. 12 pp. Ill. 4 1/2 x 6 in.

LOCKERS, STEEL—See Factory Equipment

353. Now the Cedar Clothes Closet, A book illustrated in colors describing the Cedar Clothes Closet, an improvement of the standard specifications for erecting long-life lockers of the best rich lime mortar. 16 pp. Ill. in colors. 5 1/2 x 7 1/4 in.

LUMBER, ASBESTOS
Asbestos Shingle, Slate & Sheathing Co., Amerlca, Pa.

54. Amerlcans Building Lumber, Catalog illustrated. Describes various kinds of fireproof products for both exteriors and interiors. Tables of sizes and illustrations of various types of buildings in which it has been used. Size 8 1/2 x 11 in. 32 pp.

MAIL BOXES
The Chalm Mail Box Co., 2511 Union Central Building, Cincinnati, O.

704. The Chalm 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. 8 1/2 x 11 in.

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Edwin A. Jackson & Bro., Inc., 60 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 1/4 x 11 in. 32 pp.

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Appalachian Marble Co., Knoxville, Tenn.

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220. Frink Lighting Service for Banks and Insurance Companies, A pamphlet describing a description of bank and insurance company lighting system for the most effective lighting of displayed objects. 20 pp. Ill. 8 1/2 x 11 in.

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LUMBER
American Soft Pine Bureau, Little Rock, Ark.


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

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

203. From Trees to Trade, This book tells the story of the manufacture of long-life Lumber. Tables give an insight of the sources of business and the care and attention given to the manufacture and grading of Long-Bell trade-marked products. 160 Illustrations. 48 pp. Ill. 8 1/2 x 11 in.

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

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LUMBER, ASBESTOS
Asbestos Shingle, Slate & Sheathing Co., Amherst, Pa.

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The Chalm Mail Box Co., 2511 Union Central Building, Cincinnati, O.

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THE STEDMAN NATURIZED REINFORCED RUBBER FLOORING

is the solution of the flooring problem, and is repeatedly specified by the country's leading architects for use in many types of buildings.


STEDMAN PRODUCTS COMPANY
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by the TACO method

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The reason is apparent:

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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.

Thermal Appliance Company
Incorporated
342 Madison Avenue, New York
Write for this Handbook on their economical advantages

Designed expressly for your files and in conformity with the standard size adopted by the American Institute of Architects.

Surprising economy and great savings over other designs are resulting throughout all parts of the country. Many contemplated structures, halted because of excessive estimated costs, re-designed for Meyer Steelforms Construction, were then able to be let and completed.

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.

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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.

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The inspiring beauty and quiet dignity of the St. Mary's of the Lake Church show how perfectly Midland Terra Cotta meets architectural requirements.

Midland Terra Cotta Company
105 West Monroe Street, Chicago, Illinois
“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!”

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


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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.

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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.

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Please send me samples of Richardson Super-Giant Shingles, your new booklet, and further facts about Richardson Roofing.
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Estimated cost of Plate Glass for glazing this house to-day is $140; total cost of house, $30,000.
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MAY BE HEARD INFORMALLY, AT ANY TIME, AT
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Full details appear on pages 2340-41, Sweet's (1923). Additional information, such as references of installations near you, gladly sent.

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KERNERATOR
Built-in-the-Chimney
Reg. U. S. Patent Office

Seven Kinds of Service
—in the interest of Good Architecture and Good Hardware

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It's our first elevator door installation and has been in continuous operation since 1906. Many larger installations have followed it; methods of construction have been materially developed and improved; but through it all we can point with pride to the first fruits of our toil because it possessed that element of distinction which is only achieved through an earnest desire to produce the best in a given piece of work. That is still our motive force and Dahlstrom Elevator Inclosures today possess that same element of distinction as in days gone by.

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NEW YORK DETROIT
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CHICAGO—19 So. La Salle Street

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Built to Endure

Help them Build to Endure

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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

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Aside from their beauty, IMPERIAL Tapered Mission Tiles provide absolute protection from fire and the elements. Because they will outlast any structure, they are easily the most economical roofing material you can specify.

**IMPERIAL**

Tapered Mission Tiles

LUDOWICI-CELA DON COMPANY

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Chicago, Illinois
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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. 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.

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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."

The Ohio Hydrate & Supply Co.
Woodville, Ohio
"The Lime Center of the World"

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The security and service rendered by banking houses is comparable to the security and service performed by Stanley Products. This is why

STANLEY

Ball Bearing Butts

were chosen for the Wild Bank and Office Building, Indianapolis

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New York Chicago San Francisco
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Stanley No. BB 239
4½" x 4½"
Wrought Steel Template
Ball Bearing Butts
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:
“Economics in Building with Iron that Lasts”

The American Rolling Mill Co., Middletown, Ohio
In addition to provision for the amenities of social life a building of this nature has many of the features of a large hotel.

The hardware equipment is therefore usually as important as it is in a hotel, consideration being given to the security of the guests, the convenience of the operating staff and the protection of the management.

with which this building is equipped, meet the exacting requirements of constant use.

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NEW YORK, 94 Centre St. CHICAGO, 221 W. Randolph St.

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Standing seam Horse Head Zinc Roofing is shipped in casks complete with clips, nails and full instructions. Each cask contains sufficient to cover one square. It can be laid by time-tried methods.

Send for Bulletin 1-28

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Mineral Point Zinc Company - The New Jersey Zinc Sales Co.

The world's Standard for zinc products

New Jersey Zinc

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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.

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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.

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The Nation's Building Stone

Solid Backing for the Specifier of Better Wiring Devices

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For every room where electrical appliances may lighten the work or brighten the home. Every latest refinement in Duplex and Single Outlets, composition and porcelain; oblong and round-plate receptacles. Shallow type, to go in 2-inch partitions. T-slot, to take all standard plug caps. The new Duplex Outlet costs but a few cents more than the single; not a cent more to install. Gives twice the accommodation to the householder; well worth recommending to clients.

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More and more popular in modern buildings for their convenience and decorative novelty. Brought to perfection in the H&H "8601"—the smoothest, quietest, nicest-balanced movement you ever touched. Its ease of action makes the tumbler switch appreciated as never before. Shallow, 1-inch depth for 2-inch solid partitions in apartment and office buildings—or for easier wiring in any wall. Costs no more than ordinary low-priced tumblers, but worth more to the architect who features the latest.

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We are very well pleased indeed with the action of your traps, and also their durability. To date we have as yet not replaced any diaphragms. Inasmuch as we make it a practice of cleaning and inspecting the valves every season, we are in a position to know whether the diaphragms are in working condition or otherwise.

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Very truly yours,

R. E. EDWARDS, Chief Engineer.

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MAKE WARM FRIENDS
ASSURE COMFORT — AVOID TROUBLE
A Welcome Convenience—
the Duplex Outlet

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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.

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Address, American Face Brick Association, 1754 Peoples Life Building, Chicago, Illinois.
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This building now stands nearly completed at Thirty-sixth Street between Broadway and Sixth Avenue, New York City. It was designed by York and Sawyer, and is being built by Marc Eidlitz & Son. All insulating materials used in connection with the heating, ventilating, plumbing and drinking water systems of this building were furnished and applied by Johns-Manville.

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Extending Service Into the Years

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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.

Not alone in thousands upon thousands of homes but in hundreds of churches, hospitals, schools and fraternal organization structures, where food well-cooked for many people with minimum expenditure of time and labor is required, gas ranges equipped with the Lorain Oven Heat Regulator are regarded as ideal cookery appliances.

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You'll want these samples for your files!

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The United States Rubber Company has made rubber flooring since 1897. In "U. S." Tile we feel that we have the finest product of its kind on the market. Architects who have investigated its merits agree with us.

Have you samples and information on "U. S." Tile in your files?

United States Rubber Company
1790 Broadway, New York City

“U.S.” Tile Flooring
Combating Corrosive Gases, Heat, Cold, Wind and Water

The almost constant stream of corrosive and sulphurous gases from the locomotives plying beneath immeasurably speeds the corroding action of wind and water attacking the railway viaduct.

Jacobson Brothers, the contractors, of Duluth selected Sublimed Blue Lead in Oil to meet this most severe test of a rust-proofing paint on the McDougal Terminal Viaduct. The structural steel in the building is also protected with Sublimed Blue Lead in Oil for the life of the building.

Sublimed Blue Lead in Oil will not harden in the container.

The paint, properly mixed, works so easily and smoothly under the brush that a painter can cover a greater area in a day and still produce a paint film that is free from breaks, runs, or alligatoring. The paint film is also virtually insensible to changes in temperature.

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Every length of Rome Seamless Brass Pipe now bears this mark of quality—a guide to uniform, carefully made brass pipe that may be specified with utmost confidence.

Behind this symbol of quality are the resources and manufacturing facilities of mills long experienced in the production of brass, copper and bronze.

The specification of trade-marked materials of known quality and service saves your time and protects the owner.

We trade-mark the Seamless Brass Pipe made in Rome Mills so you'll know you are getting genuine "Rome Quality."

Specify Seamless Brass Pipe bearing the "Rome Quality" trade-mark and provide enduring satisfaction.

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# Architects' Guide

**For Painting • Varnishing • Staining and Enameling**

**Important:** Each of the products specified below bears our name and trade mark.

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<td>S-WP (Sherwin-Williams Pre-tinted Paint)</td>
<td>Kynol Structural Steel Primer, Kynol Enamels, Primer, Kynol Enamels</td>
<td>Old Dutch Enamel, Gloss</td>
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<tr>
<td>Exterior Metal Surfaces</td>
<td>Kynol Structural Steel Primer</td>
<td>Old Dutch Enamel, Gloss</td>
<td>Old Dutch Enamel or Enamelled</td>
<td></td>
</tr>
<tr>
<td>Factory Walls (ext.)</td>
<td>S-W Enamel Mill White</td>
<td>Old Dutch Enamel or Enamelled</td>
<td></td>
<td></td>
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<tr>
<td>Floors (interior wood)</td>
<td>S-W Inside Floor Paint (air dry)</td>
<td>S-W Inside Floor Paint (air dry)</td>
<td>Oil Stain or Flatilce Varnish Stain</td>
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</tr>
<tr>
<td>Galvanized Iron Surfaces</td>
<td>S-W Galvanized Iron Primer (Finish with 2 or 3 coats)</td>
<td>S-W Galvanized Iron Primer and Old Dutch Enamel</td>
<td>S-W Acid Stain</td>
<td>S-W Masonite Stain</td>
</tr>
<tr>
<td>Interior Wood Trim</td>
<td>S-WP (Sherwin-Williams Pre-tinted Paint)</td>
<td>Old Dutch Enamel or Enamelled</td>
<td>S-W Acid Stain</td>
<td>S-W Masonite Stain</td>
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<tr>
<td>Porch Floors and Decks</td>
<td>S-W Porch and Dark Paint</td>
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<td>Stainless Stain or Solid Stain</td>
<td>Stainless Stain or Solid Stain</td>
</tr>
<tr>
<td>Radiators and PIPES</td>
<td>Flat Top Wall Finish or S-W Gold Paint or S-W Aluminum Paint</td>
<td>For White—S-W Snow White Enamel</td>
<td>For colors—Enamelled</td>
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</tr>
<tr>
<td>Roofs—Metal</td>
<td>S-WP or Metallic (If Used)</td>
<td></td>
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<tr>
<td>Roofs—Wood Shingles</td>
<td>S-WP</td>
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<tr>
<td>Stacks and Hot Surfaces</td>
<td>Salmander Smoker-Stack</td>
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<tr>
<td>Structural Steel</td>
<td>Sherwin Structural Steel Primer, Sherwin Structural Steel Primer, Primer</td>
<td>Sherwin Structural Steel Primer, Primer</td>
<td>Sherwin Structural Steel Primer, Primer</td>
<td>Sherwin Structural Steel Primer, Primer</td>
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<tr>
<td>To DAMP-PROOF FUNDATIONS</td>
<td>S-W Asbestos</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To DAMP-PROOF INTERIOR WALLS ABOVE GRADE</td>
<td>S-W Plaster Bond</td>
<td></td>
<td></td>
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<tr>
<td>Wood Preservative</td>
<td>S-W Carbolic</td>
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</tr>
</tbody>
</table>

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*Right*

The keynote of Sherwin-Williams' service has long been "the right finish for each surface." The Architects' Guide indicates which paint, varnish, stain and enamel is "right" for each surface.

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Accelerating
Frostproofing
Curing
Hardening
All Portland Cement Mixtures
It is approved and endorsed by
United States Bureau of Standards

**CAL costs**

<table>
<thead>
<tr>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than ton lots</td>
<td>4c lb.</td>
</tr>
<tr>
<td>Ton lots less than 5 tons</td>
<td>3c lb.</td>
</tr>
<tr>
<td>5 ton lots less than 25 tons</td>
<td>33½c lb.</td>
</tr>
<tr>
<td>25 ton lots</td>
<td>2½c lb.</td>
</tr>
<tr>
<td>All prices F.O.B. factory, Berkeley, W. Va.</td>
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</tr>
</tbody>
</table>

Equivalent prices from Cement Dealers
(For most purposes we recommend 5 lbs. Cal per bag of cement)

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**New York**
30 E. 42d St.
Phone Enderle 8656

**Baltimore**
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Phone Walch 8466

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See Sweet's pages 2199-2207

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INCREASE your service to your clients by the aid of an organization which for twenty years has specialized in reinforced concrete. The Truscon engineers know all phases of reinforced concrete and are daily applying their knowledge in practical work.

The economical and efficient design of reinforced concrete is dependent upon so many features that nothing less than the most complete service should satisfy you. Truscon engineers will co-operate with you fully and give practical assistance of real value. Their organization is nation-wide, assuring direct personal service.

Many of the leading architectural and engineering organizations are continually using this specialized Truscon Service. It is available to you without obligation on your part. No matter what your problem, write us or get in touch with our nearest office.

Truscon Steel Company
YOUNGSTOWN OHIO

Union High School—Mt. Vernon, Wash.
Equipped with 31 Univent
Stephen—Stephen & Brust, Architects
Seattle, Washington

Buildings Destined to Service

The soul of the Architect is seen in the buildings he plans. These buildings, especially the school buildings, immortalize his conception of Service.

Their beauty constantly exerts its influence on an upspringing generation, while their methods of lighting, sanitation, and ventilation actually increase the physical virility and mental prowess of the coming men and women of America.

A keen appreciation of the Architect’s ideal of buildings, destined to service, was the inspiration of Univent Ventilation. This simple, positive method of bringing heated fresh air direct from the window and diffusing it in each room without draft, simplifies instead of complicates the Architect’s task.

The special Architects’ Edition of “Univent Ventilation” shows how we co-operate with the Architect in the achievement of the ideal of buildings destined to service. If you haven’t your copy, write for it today.

The Herman Nelson Corporation
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1930 Third Avenue

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We cut the top off the boiler and tipped it back so you could see its insides. Note how the fire goes back and forth 3 times before it goes up the chimney. The arrow shows it on one side only, but it's 3 times on both sides.

Made in 21 sizes. Steam Boilers will heat from 650 to 5,250 square feet of direct radiation.
Water boilers will heat from 1,100 to 8,700 square feet of direct radiation.

REMEMBER the big stove in the corner of the school room, and the smoke pipe that went down one side and across the other to the chimney.

Used to wonder why it wandered around so.

Know now.

It was so the pipe would give off more heat, instead of most of it scooting up the chimney.

Reckon Mr. Burnham must have gone to some such stove-pipe heated school, because when he designed his first boiler, he made the heat travel around, back and forth, inside its insides, so the water could grab most of the heat before the chimney got a crack at it.

He said it was this long fire travel that made the Burnham's short coal bill.