

PENCIL POINTS

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Have I a "Philosophy of Design"?

By Ralph Adams Cram, F. A. I. A.

Editor's Note:—*This is the ninth of a series of articles in which leading architects are discussing the philosophy of design, considered in the light of present-day practice. Preceding articles in the series have been by William Adams Delano, George Howe, Albert Kahn, Alfred Fellheimer, Irving K. Pond, William F. Lamb, Dwight James Baum, and Louis La Beume. Still to come are articles by John W. Root, Charles Z. Klauder and C. Howard Walker.*

The Editor has propounded a question not wholly easy to answer. I should say on the whole it was a matter of individual cases. Sometimes, yes, certainly, especially where some new problem is concerned; new, that is because it develops from the special circumstances of that new era which began to show itself in material form about a century and a half ago, and which links up in no particular with the long thousands of previous years that worked out their architectural expression along lines that, though superficially varied, were consistent and unchanging in their basic impulses and principles. For a good many years, when dealing with those ancient institutions and forces that may perhaps be called the domestic, the educational and the religious, the approach, so far as I am concerned, has been more or less instinctive, but, looking backwards, as I am asked to do, to find the "why" of my own actions, I begin to remember certain rather definite mental processes of inquiry, with their resulting conclusions, that were probably the basis of what is now pretty nearly instinctive.

Of course there were a few fundamental things that by conviction had to hold in every case. For instance, that art in any form always had expressed, and always must, the *best* in any time or place. The democratic theory did not apply here even if it did elsewhere, a fact which I took the liberty to doubt then in those far-off days and doubt still more today. It was the "best" in emotion, aspiration and wonder that wrought the great architecture from Imhotep, 2800 B.C., down through varying ages and varying cultures to Alberti, Churriguera and William of Wykeham, not the crass and heavy-footed likings of a peasantry or bourgeoisie that, nevertheless, answered quickly to the nobler stimuli that were offered by the mysteriously elect who, perhaps unconsciously, certainly instinctively, produced, under an impulse not of their own making, those art-works that were far finer than anything inherent in themselves. Art of any kind had to be the *best*, that was sure and final.

Then, as a consequence, it had to be beautiful, and this quality had in it something of the absolute. Every form of art and every art-product for five thousand

years had been beautiful, though in varying degrees and couched in many "styles." It was not up to the individual, whether artist or layman, to say: "This thing is beautiful because it is so to me." The Erechtheion or the Capella Palatina or the Sainte-Chapelle was beautiful, while a "Carpenter's Gothic" church or a "Greco-Baptist" meeting house or a "Richardson Romanesque" fire engine house and police station was not, and it did not matter if some thought otherwise.

Again, in architecture the thing done had to have some real propriety in the matter of linked tradition and felicity in its environment. You could not do a Christian Science temple in Greek Byzantine or Catholic Gothic, or an Episcopal church in Puritan Colonial, or a movie theatre in Ionic Greek, nor could you force a Spanish palace into the Vermont hills, nor a Norman stronghold upon the sandy plains of the Southwest. Which brings up the question why you should use any of these ancient and outmoded things anywhere.

Which was almost the root question anyway. Where, when I began the practice of architecture in the year 1889, were we to start? Since 1830 the line of artistic continuity had been broken, and fifty years of such wilful barbarity as we had had in this country, an interregnum of base futility such as had not happened before in history, had left us with no light and leading. We sought the gold at the end of Richardson's glorious rainbow and lo, there was none. We limped in the Gothic Crusade that had set up its standard in England and somehow it seemed not to get to the Holy Places, let alone effect their redemption from the infidel. We found at least a measure of safety in the pure and Puritan Classic of McKim and the romantic Renaissance of Carrère and Hastings, but even here it was safety rather than adventure—and we wanted that! When some radicals began preaching a "national style" we were sure this was both heretical and impossible because we had begun to think that the national ethos was not of a quality that could create "style" and because we knew quite well that styles are born, not made. This conviction remains

with many of us today, now in the paling fury of "modernism," and especially because we have noted the crimes—or rather follies—committed under this name.

I suppose in this wilderness of doubt and vacuity of tradition, and confronted by the necessity of doing something under the pressure of abounding and increasing wealth and the sudden conviction of Mr. Babbitt and the crescent ambition of Main Street—that we had to have Art and would, even if we had to get it with an axe—we became what, for lack of a better name, we may call eclectics. And perhaps not such an unwise conclusion after all. Like the lost dog on the English railway-station platform that had "eat his tag," our destination was uncertain and directions non-existent. Not only had the cord of continuity broken, depriving us of all native and sub-conscious impulse, but fifty years of quite unexampled architectural degeneracy had undermined any inherited taste we might have had. Also we were confronted in increasing measure with wholly new problems, ideas to express, forces to embody, that never had been heard of before. It was a new civilization mingled with the hold-overs from an old culture, and it is hardly to be wondered at that we knew not which way to turn.

However, we had to turn somewhere for the new demand for architecture had to be supplied, and our earliest Schools of Architecture and the new vitality of the American Institute of Architects provided a

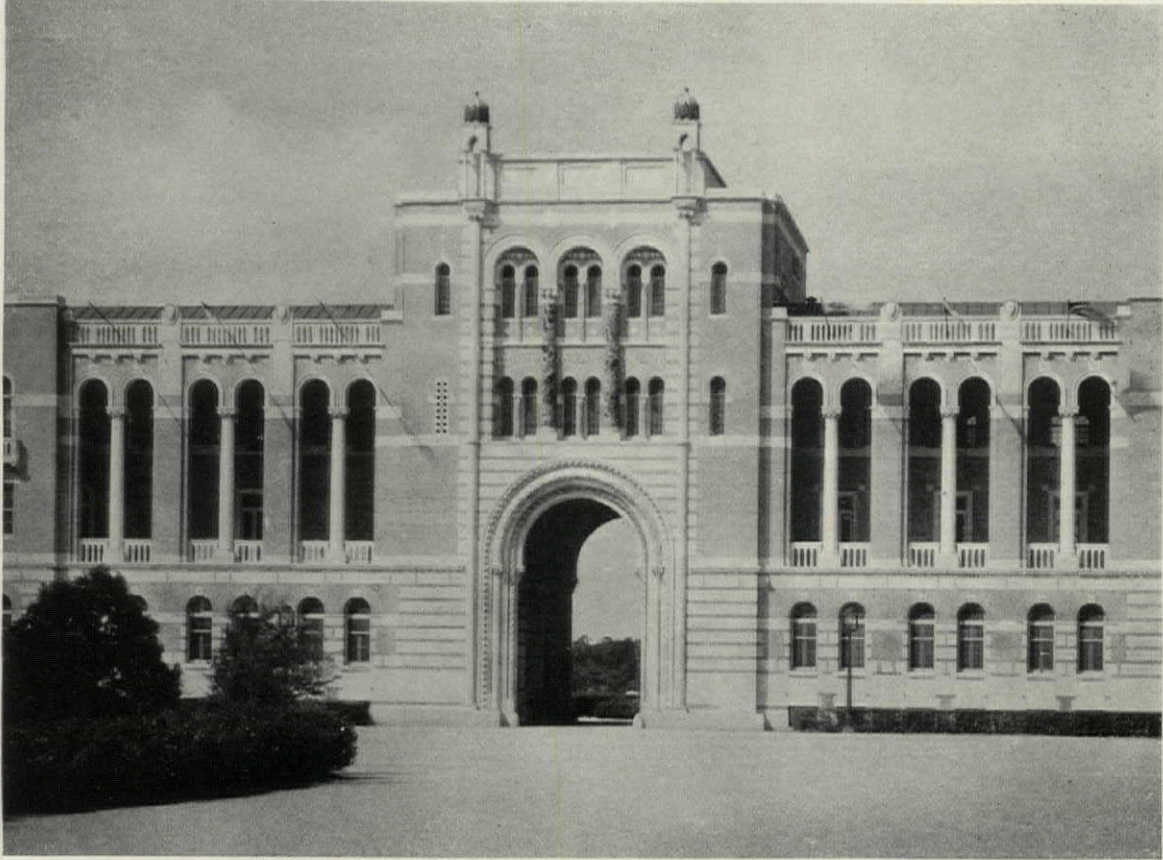
stimulus, if both were less effective in leading. I suppose what we did, what I did anyway, was to take each problem on its merits and try to solve it as a particular matter for solution. For example, when, about 1890, it became evident that the demand was increasing for significant church buildings, I tried to think out what was the logical line to follow, once the inspiration of Richardson had been assimilated and his style abandoned. The resulting theory, or basis for design, was this: Gothic had been the perfect expression of Christianity amongst the northern nations for some four hundred years. At the time of the Renaissance in Europe and the Reformation in England it had not died a natural death but had, in a sense, been cut off, if not in its prime, at least at the point of its culmination. "Perpendicular Gothic" was a strictly English style, it was still capable of further development, and it fitted in well with contemporary conditions. The Atlantic seaboard and its hinterland were predominantly British by race, the climate was about the same, the traditions still enduring. Therefore, the thing to do was to take up English Gothic where it had been violently stopped early in the sixteenth century, and go on from that point just as though nothing had happened.

This worked very well for a while, or so long as the Episcopalian and Roman Catholic Churches were concerned, but later, when all sorts of sects and denominations that hated and feared the very power



INTERIOR, THE SECOND CHURCH IN BOSTON

Cram and Ferguson, Architects



MAIN ENTRANCE, ADMINISTRATION BUILDING, RICE INSTITUTE, HOUSTON, TEXAS

Cram, Goodhue, and Ferguson, Architects

which had created and fostered Gothic art for its own ends, not to speak of religions alien in spirit altogether, began clamouring for as much Gothic as Catholics could ask for, it had to be considerably modified, and in many cases abandoned altogether. So, appropriately enough, our own Colonial offered itself, and here also, the principle followed was to take the rather naïve but honest and excellent motives and try to develop them by adding something from the emotional and spiritual quality of the earlier Catholic arts. Here the Georgian of Wren, Jones, Gibbs, and Hawksmore was a great help. Colonial reproduced archaeologically was, it always seemed to me, a sad gift to those of the Protestant way of thinking who really wanted religious architecture, but the foundation was good and all it wanted was free and, so to speak, emotional development.

Or take another case of widely different quality. A college was to be created *de novo* in Texas. What to do? Here was a plane-like area and with no cultural traditions except those of the flimsiest with Mexico. Racially it was New England, culturally it was Middle West. What style could be used as a "*point d'appui*"? The so-called "Mission" style then in vogue in California and in the furniture of Grand Rapids? The strange and effulgent Renaissance of Mexico by Churriguera out of the native Indian race? The Colonial of New England, the "Collegiate Gothic" then (and now) rampant throughout the

North? None seemed really possible under the circumstances, either because of obvious affectation, inapplicability to climatic conditions, prohibitive cost or just obvious impropriety.

It may be asked: "Why not frankly have recognized these new conditions and have done something 'Modernist'?" Of course this question implies the possibility of defining the suggested "style" otherwise than as just "something different" and uncompromisingly ugly, the two most salient characteristics of its present estate. Assuming that a valid definition can be found, the question itself is easily answered. First, because in those "dim dark days beyond recall" before the Great War, "Modernism" in architecture did not exist, and even if it had existed it would have been as promptly rejected as "Collegiate Gothic," simply because a part of our philosophy of art was that the old and eternal things, of which education was as much one as was the Church, simply had, by their very nature, to preserve the sense of continuity and show in its very forms not only its close linking up with the past but its high place above whim and changing fashion. However various may have been the "styles" from Sakkarah to Salamanca, there has always been this continuity, this natural merging of one mode into another. Always, that is, except twice in five thousand years; once when the amateurs and connoisseurs of the Renaissance invented a clever new style and imposed it on a surprised public by the very force of

social, intellectual, and ecclesiastical position; once when an emancipated democracy, following the political triumph of General Jackson just a century ago, imposed its own quaint and humorous tastes on the cowed and silenced aristocracy of the arts, and indeed of society itself, and for fifty years brought architecture to a level of depravity unexampled in history.

No, this college had at least to suggest the learning and the culture that reached back, essentially unchanged through Oxford, Cambridge, Paris, Heidelberg, to Salerno, Cordoba, Byzantium and so to Alexandria, Athens, Thebes, and Memphis. For this reason a quite new theory was postulated, and thus:

Mediæval art was the result very largely of religious fervour under monasticism, working itself out through the fresh and uncorrupted blood of Northern races, translated from the Baltic fens and Scandinavian fjords to the friendly fields and gardens of the Mediter-

anean lands. Now, suppose this great religious revival, which has its earliest beginnings with St. Benedict in the seventh century, had operated, not on rude, though lusty barbarians from the North, but on the Latin races of Italy, Spain, and France? What would have been the architectural result?

The first buildings (the later work has hardly held up to standard) are an attempted answer. The method followed in establishing this stylistic scheme was to become familiar with what had been done around the shores of the Mediterranean, Syrian, Constantinian, Byzantine, Lombard, Dalmatian, French, Italian, and Spanish Romanesque, with a covert glance at the Moorish art of North Africa, and then to try to put oneself into the spirit of enthusiastic builders of Southern race and see what would be the result. There is, I think, nothing archæological in this early work at Houston, and in a measure it does achieve

what we were aiming at. Round arches, Classical columns of richly colored marble, many and varied materials including Greek, Italian, and African marbles, together with a very beautiful sort we discovered in Oklahoma, glazed and iridescent tiles, green bronze, and, indeed, pretty much everything we could think of to add richness and romanticism to the ensemble. And always, of course, the dominating idea that this was an institution of higher learning and that it must *look* like a college and one built in a warm climate.

For a third example, and one quite different to the others, take the continuation of the work on the Cathedral of St. John the Divine in New York. Begun in a rather modified form of Richardson Romanesque, the fashion had changed under the neo-Gothic influence, and now by authority it was to be Gothified and so continued. The result to date has been the outcome of mental processes partly conscious but mostly, I expect, subconscious. The original building had been laid out on a system of squares, not with the oblong areas of a normal Gothic church, and naturally, since it was more or less Romanesque. This was fortunate since, in order to do no violence to what already existed, this setting-out had to be continued, and this implied sexpartite vaulting, a very beautiful device which, for some unknown reason, was abandoned



MODEL, CATHEDRAL OF ST. JOHN THE DIVINE, NEW YORK

Cram and Ferguson, Architects

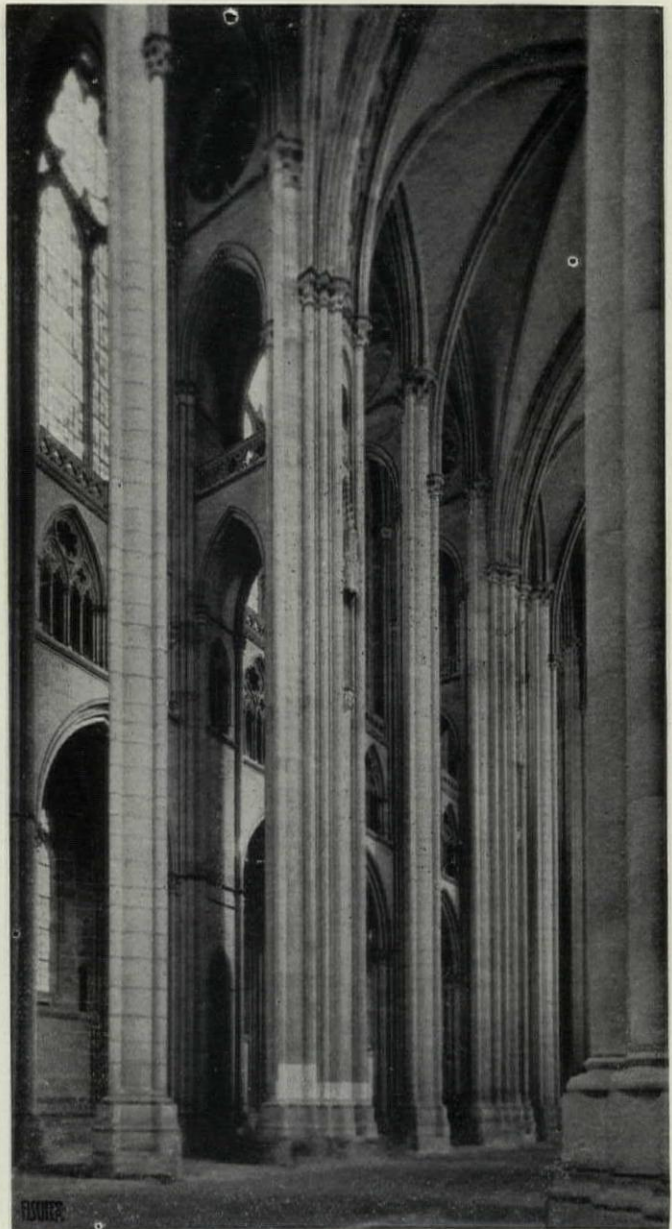
by the Mediæval master-builders before it was fully perfected, and in favour of the "regular" as opposed to the "alternating" system. This was, in a way, a new thing in itself and saved, in a measure, the onus of copying. Moreover, the sexpartite plan had never worked itself out in point of *exterior* expression, there never having been an example where the buttressing was also of the alternating type. That is, the major thrust of the transverse and diagonal ribs was met by the same masonry mass which was used for the far smaller thrust of the intermediate rib. Here then was a chance completely to differentiate this particular cathedral from all others of the Gothic mode, so not only was the interior worked out on a system of columns alternating with massive piers, but the buttresses were alternately single and double. Again, except for the small "hall" churches in Germany, and such unique cathedrals as those of Seville and Palma in Spain and the super-glorious Bourges, aisles had always been low, so that the clerestory came over the main arcade, with the result that great churches always seemed narrow and closely confined between crowding walls. Without, at the time, any first-hand knowledge of the great Spanish examples, and almost instinctively, here in New York the clerestory was pushed out to the line of the aisle walls, so giving a width of one hundred feet between the containing walls, while the aisles themselves were raised in height to that of the nave, a greater elevation than occurs elsewhere in any Gothic cathedral. This meant enormously great height for the intermediate clustered columns, no less in fact than eighty feet for shafts only six feet in diameter, columns more slender indeed than any others except those of Palma alone, a monument at the time quite unknown to the architects.

Here then was a new organism and a new articulation, no copying of any existing plan. The rest was easy. By this time the somewhat narrow enthusiasm for English Perpendicular had given place to a new conception of Gothic as a style, and it was realized that the whole thing was more a spirit than a set of forms and formulæ. The clarity and the clean, so to speak, Classical scale and detail of French Gothic became the inspirational influence and so, I suppose, the cathedral nave and west front are more French than anything else, though I still think it would be hard to find there any instance of direct copying. All the carved ornament, for example, capitals, etc., was designed immediately from American flowers and plants, just as the Mediæval stone masons carved their designs from the local flowers with which they were familiar, as they trudged from their cottages through wood and meadow and garden to the place of their labour, instead of as now, rushing in a Ford or rattling in a subway while reading a tabloid, from grimy tenement through fetid streets, to the place where the time-clock has to be punched.

So I have given these three examples of actual

"jobs" in an effort to indicate, if not to answer the specific question, more or less how I, personally, work. It must be said however, that, certainly in the case of New York Cathedral, the actual working out of the nave at least was nine-tenths the result of unconscious processes. The guiding motives were, I think, three, and as I have written them down, though it is possible that they have been developed in rationalized form since the plans were made, in an effort to find out *why* the building is as it is.

This is enough to show, I think, that at least there are two dogmas that form no part whatever of my "philosophy," indeed are to me repugnant and are therefore sternly rejected. The first is the doctrine of the "Modernists" that we ought today to build everything in the same style, skyscrapers and cathedrals, railroad stations and colleges, movie houses and dwellings, since in the past this was always done, there



INTERIOR, ST. JOHN THE DIVINE, NEW YORK

Cram and Ferguson, Architects

being no isolation of "styles," one for one thing, one for another. The answer to that is that always in the past, at least down to somewhere about 1600, life was a unified affair, with one religion, one economic, social and industrial system, one scheme of political organization. It all varied much from time to time, but for the great periods, when great art came into existence, there was, for the moment, substantial unity. Now the exact reverse is the case, life is chaos, contest and bewildering uncertainty. Therefore, the argument of the "Modernists" is entirely fallacious.

And the second is that a "national style" is not only impossible but undesirable. The United States is not an enduring and self-sufficient entity, but, at present at least, an amorphous episode. If, by the grace of God, we ever find our soul (not to speak of saving our bodies) if we ever acquire a vital self-consciousness and a valid standard of values, and a real corporate unity, then perhaps we may talk of a "national style" but when we do it will be in recognition of a thing already here. We cannot create it, however good our intentions and

industrious our actions, for styles are born not made.

We are, I conceive, engaged now in a process of recovery. After a very black and bleak interlude of fifty years, we are trying to get back something that has been lost. We have not it in us to create great things, for the sequence of power has been broken and we drift at loose ends. Moreover, technological, democratic, materialistic civilization, with its mass-production, parliamentary government, phrenetic movement, religious sectarianism, spiritual indifferentism, and philosophical pragmatism, do not provide the soil in which vital art grows spontaneously, or the mental and corporeal environment which foster it. We look for "the change beyond the change" and so looking we dig and delve in the ruins of a great past, salvaging what we can of beauty and significance and using this as efficiently as we can. A generation will come that will be glad we did this, and it is they that will bring the fruition of the plants we have saved from the wilderness and nurtured, of the seeds we have confidently sown.



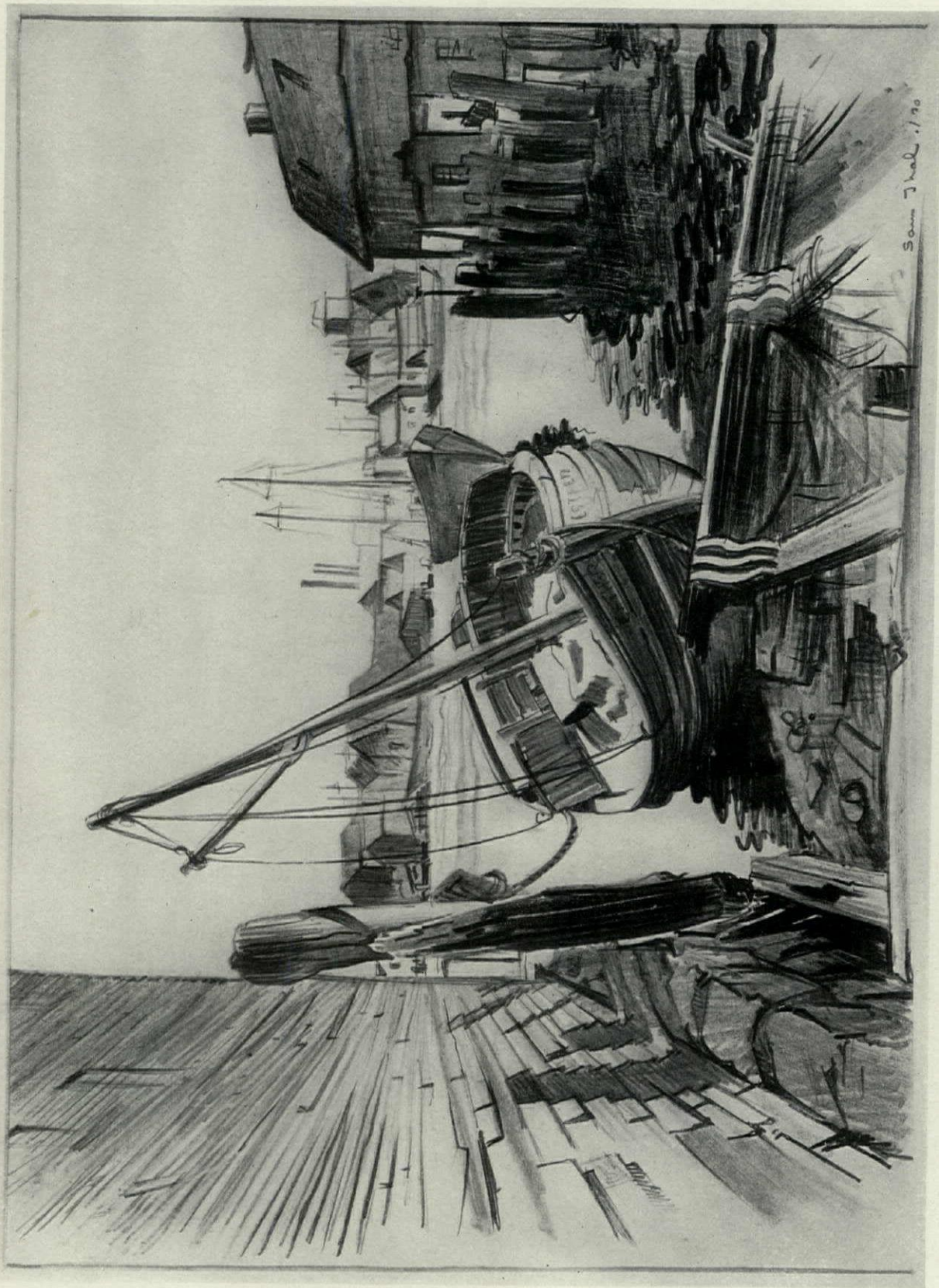
ST. SOPHIA, CONSTANTINOPLE—LITHOGRAPH PENCIL SKETCH BY LOUIS PIROLA
MADE WHILE IN EUROPE ON THE CHICAGO ARCHITECTURAL CLUB SCHOLARSHIP

My Daxian

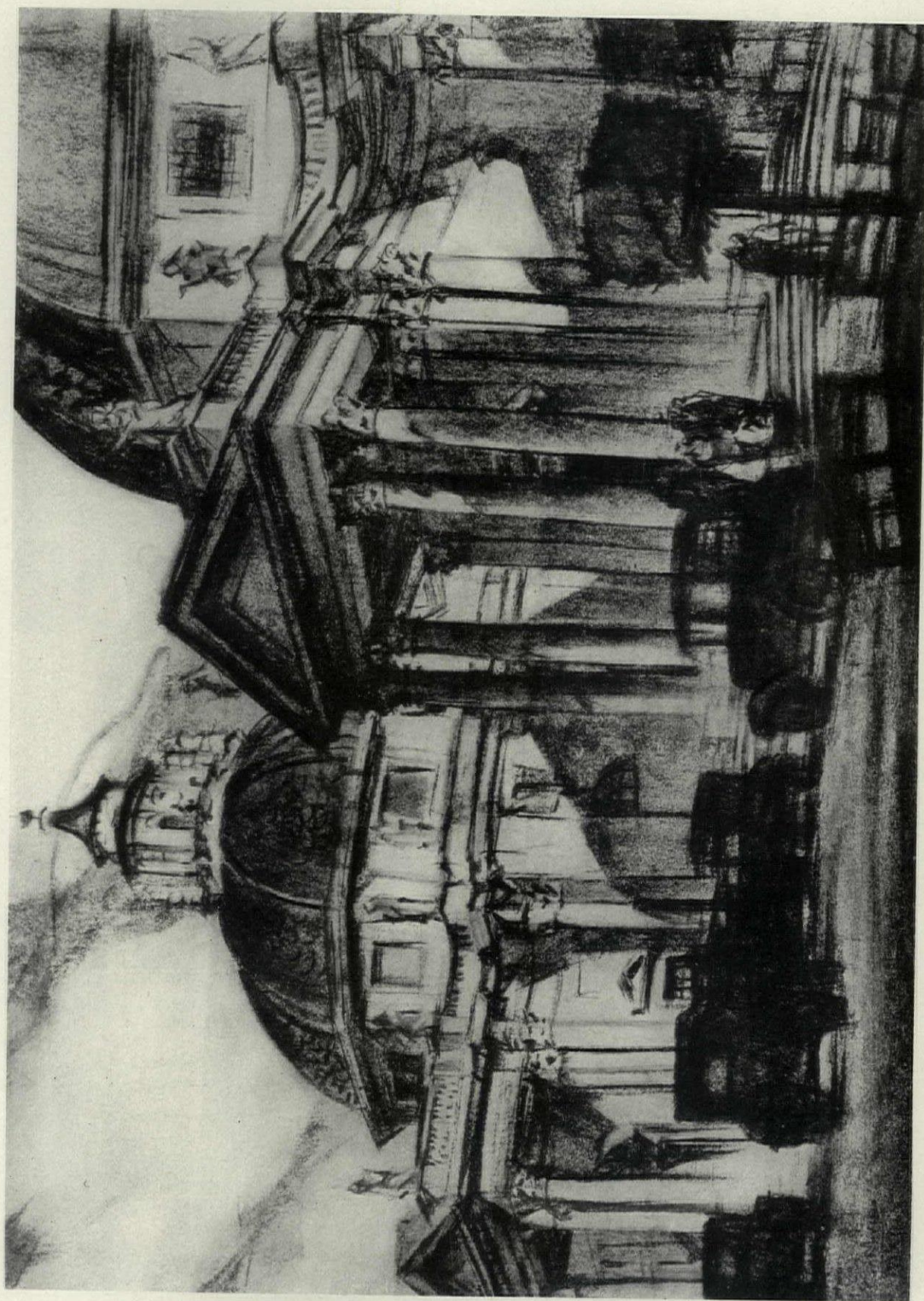
By William Adams Delano
(With due apologies to Hilaire Belloc)

When Willie was a tiny tot
He loved to paint and draw,
Not only in his copy books
But on the walls and floor;
In fact he scrawled about so much
He was an awful bore
To all except his parents—
You know how *they* adore!
These poor misguided parents
Would shame the tender lad
By boasting right before his face
What genius Willie had.
From every architect they met
They'd ask for sound advice
And often those who'd given once,
With gusto, gave it twice.
From year to year young Willie grew
As boys have always done
But he lacked a sense of humor
So he didn't have much fun.
At length it was decided
That Willie should depart
To learn the fundamentals
Of Modernistic art;
For his parents were determined
That Palladio and he
Should sit on topmost branches
In the Architectural Tree.
The school they chose for Willie
Was what one might call free;
By which I mean there were no rules
For a B. S. degree.
Vignola was excluded;
Each pupil from the start
Was told that self-expression
Was the basis of Great Art.
At graduation Willie, who'd
Stood well in all his classes,
As subject for his Thesis chose
"Cheap Housing for the Masses."
This gave his genius ample scope
And he produced a thing
Half-way between a gas tank
And a greenhouse on the wing.

The critics praised it loudly;
His folk were filled with joy
Because the world had recognized
The genius of their boy.
Now Willie's folk were well to do
And thought it would be wise
To build this strange contraption
To open people's eyes
To the value of this domicile
Of glass and shiny metal,
Where one could feel as much at home
As in a bright tin kettle.
In time the house was finished;
In the heat of mid July,
It stood all bright and glistening
Against a cloudless sky.
He called the house "My Daxian,"
Whatever that may mean,
And people came from far and near
To gaze upon the scene.
Up to this point my tale has been
Most pleasant to relate,
But now, alas, I have to tell
Of Willie's awful fate.
In spite of all his parents said,
Young Willie was insistent
That he must make this house his home—
Boy-like he was persistent.
On Monday morning he moved in—
On Monday morning early,
On Tuesday night his parents called
But found him hot and surly.
On Thursday night they called again
But found the doors were locked;
They couldn't gain admission
Although they banged and knocked.
On Friday night they grew alarmed
And battered in the door;
The heat was like an oven—one
Could scarcely touch the floor.
In a corner of the parlor
In the room he had created
They found a pile of ashes—which
Was Willie well cremated.

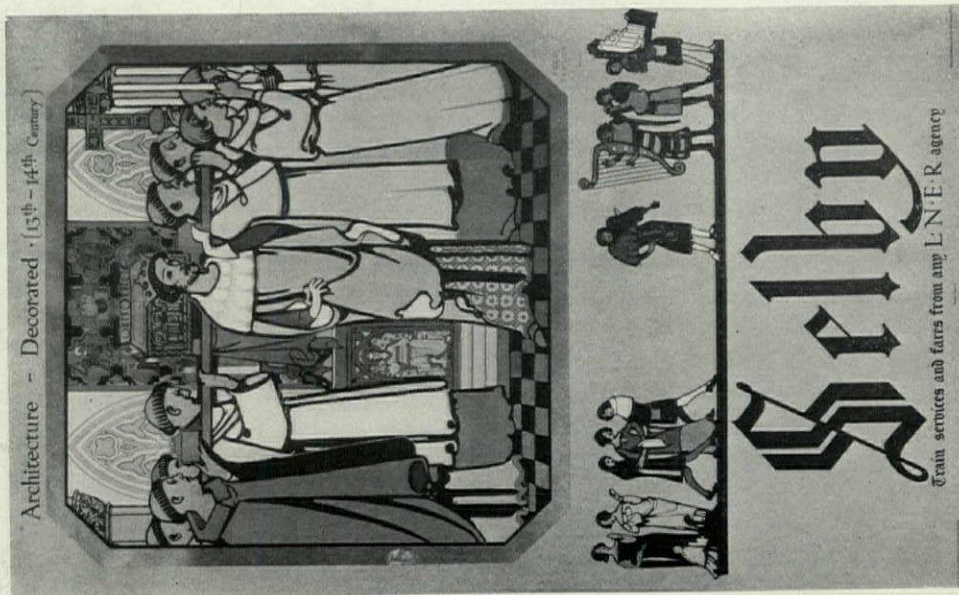
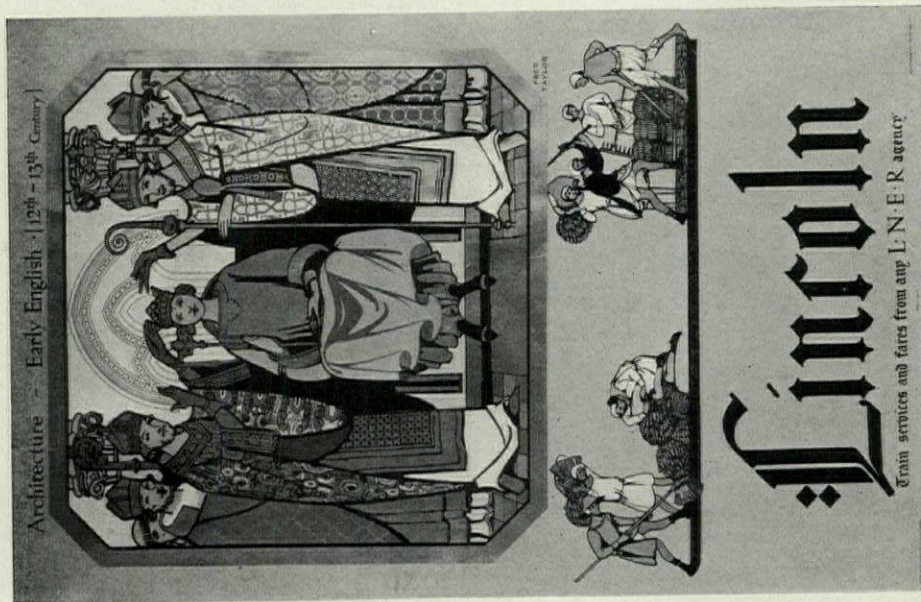
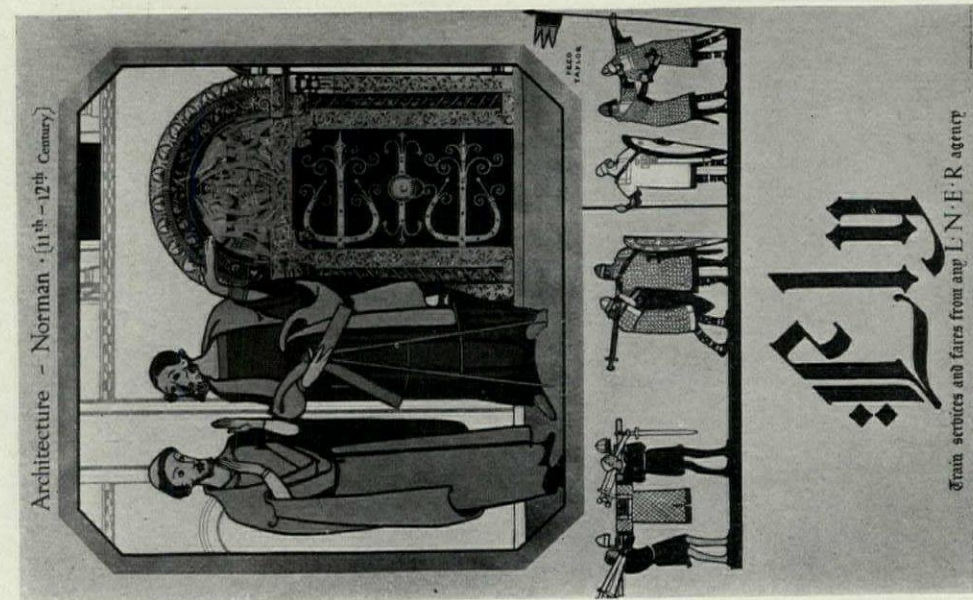


"GLOUCESTER WHARF"—FROM A PENCIL SKETCH BY SAM THAL
Drawn on cameo paper with a direct delineative skill unusual in a sculptor



PIAZZA DEL POPOLO, ROME—FROM A CHARCOAL DRAWING BY C. A. ALBRIZIO
The artist, who is a painter, recently completed a set of murals for the new Louisiana State Capitol.

PENCIL POINTS FOR NOVEMBER, 1932



SOME POSTERS BY FRED TAYLOR FOR THE LONDON AND NORTHEASTERN RAILWAY OF GREAT BRITAIN



A Group of British “Architectural” Railway Posters

By Rodger L. Simons

That the sere blast of commercialism has not cast its withering blight on English advertising art to the same baleful extent that is noticeable throughout America is happily evidenced in a striking series of architectural posters recently issued by the London and North Eastern Railway of Great Britain. Spattered from the nimble brush of Fred Taylor, one of Europe's foremost pictorial artists, the series of six traces the course of England's architectural growth between the eleventh and sixteenth centuries.

As seen on station platforms and billboards in England the posters are done in vivid colors on a cream or buff paper and are of about the size which American advertisers are wont to call a “one sheet,” or roughly 30 by 50 inches in dimension. Occupying the upper half of each poster is a rather comic scene suggesting in costume and contour the spirit of the particular age under consideration. Below in smaller figures is a panel recounting some pastime or pursuit common to them thar days, while under it in large letters is the name of some famed abbey or cathedral in merrie England.

Our program opens with the Prior's Door of Ely Cathedral, dating from the late Twelfth Century. The severity of costume affected by the well-dressed monk of those days, as seen in the two pious and bearded figures, stands in sharp contrast to the elaborate treatment of the door and its surroundings, a notable example of the great decorative richness which delighted the Norman designers. Ye olde tyme square and compass held by the apparently more argumentative of the two chaps seem to suggest the urge for geometric ornament which differentiated this early Norman architecture from its Romanesque forbears.

A stocking-footed queen—well, she looks like it, anyhow—has apparently just been crowned and scopped in a scene typifying the Early English period in architecture, the first of the three major divisions into which the English Gothic style is customarily split. The lady's background, architecturally speaking, is a

group of three sharply pointed lancet arches, an item frequently noticed in the Early English. Another detail in the poster that sets off and identifies this period is the conventionalized foliage at the column capitals.

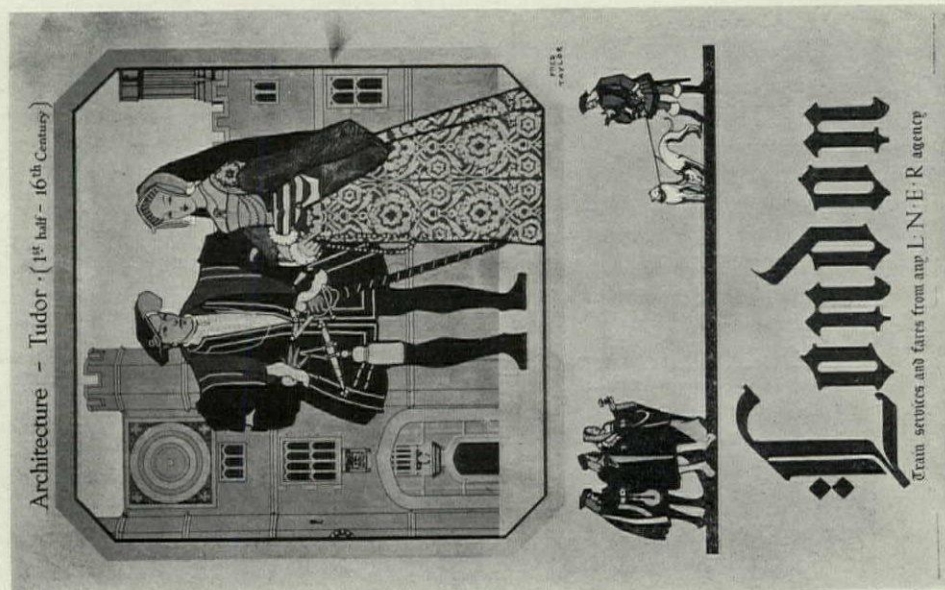
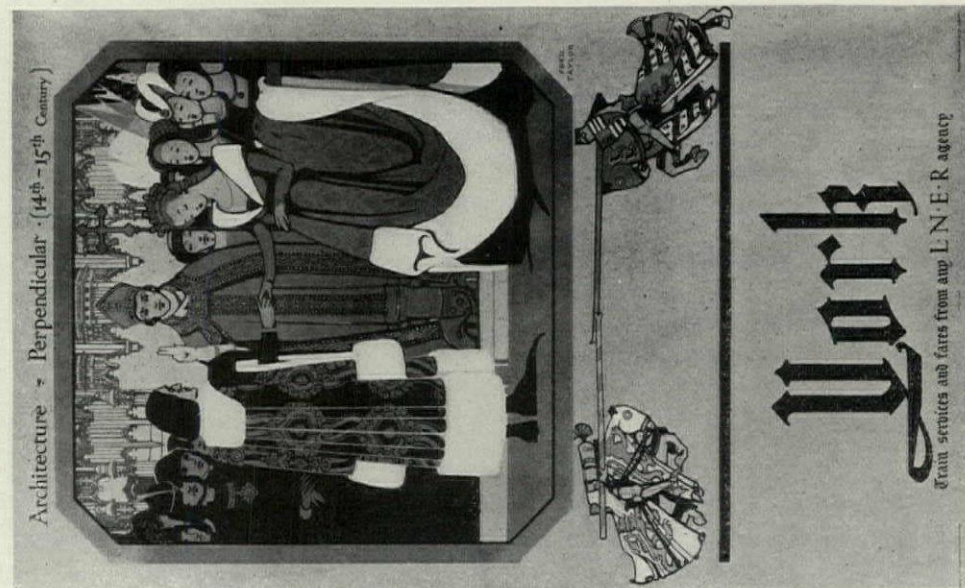
The second of the three ages or stages of English Gothic, the Decorative Period in architecture, is represented by a scene in Selby Abbey, in which, it doth appear, they are bringing in a coffer of old gold. (Ouch!) Characteristic of this period and visible in the picture are the traceried window arches, the use of quatrefoil and trefoil and an addiction to intricate ornament.

Elaborately and fancily arranged organ pipes, to be seen in the choir of York, are remindful of the dominant paneling and window mullions which gave name to the Perpendicular or third period in English Gothic. The scene, quite obviously, is a formal church wedding, with the bride doing her best to look very Janet Gaynor.

Large groups of rectangular windows and complex roof treatment make it appropriate that Hampton Court be selected to represent the Tudor Period, that strained interlude between the Perpendicular and the Elizabethan styles. The man in the case is assumed to be Henry VIII, inasmuch as the castle was presented to him by its builder, Cardinal Wolsey, in 1526.

And in the next cage, children, is Elizabeth herself, probably accompanied by Sir Francis Bacon. The alleged virgin queen has quite naturally been delegated to represent the period which bears her name, the Elizabethan, an impingement of Italian Renaissance artists and Flemish craftsmen on the vivid Perpendicular Gothic tradition.

Other topics covered in series of posters lately put out by the London and North Eastern Railway include a set on “Famous Rivers of Commerce,” another on historic sea battles and a third entitled, “Old World Market Places.”



THESE POSTERS BY FRED TAYLOR SHOW THAT BRITISH RAILWAY OFFICIALS RECOGNIZE THE PUBLIC INTEREST IN ARCHITECTURE

Designing for Construction in Glass—1

By Eugene Clute

Editor's Note:—*This article, which will be presented in two parts, to be followed by another article discussing other phases of "structural glass," will contain details and practical data which will be of use to the designer.*

Building in glass has only recently begun to make any headway in this country, though buildings with walls entirely or largely of glass blocks have, as we know, been seen in Europe for many years. From time to time some American architect has appeared in print with a prophecy of all glass building for the future, but about as far as we had gone in this direction until the past few years was to increase greatly the glass area in the walls of office buildings and industrial buildings, using, for the most part, the accepted types of windows. Now, however, a number of examples of construction in glass have appeared among us. Though comparatively few and of a tentative nature, they point the way to a significant development in our architecture. It is noteworthy that some of these American installations are of large size and are incorporated in important buildings.

The general reluctance to recognize glass as a building material is, no doubt, due very largely to the persistence of ideas about glass that originated before modern scientific manufacture produced glass

with new properties, and before new methods of application made glass available for this use.

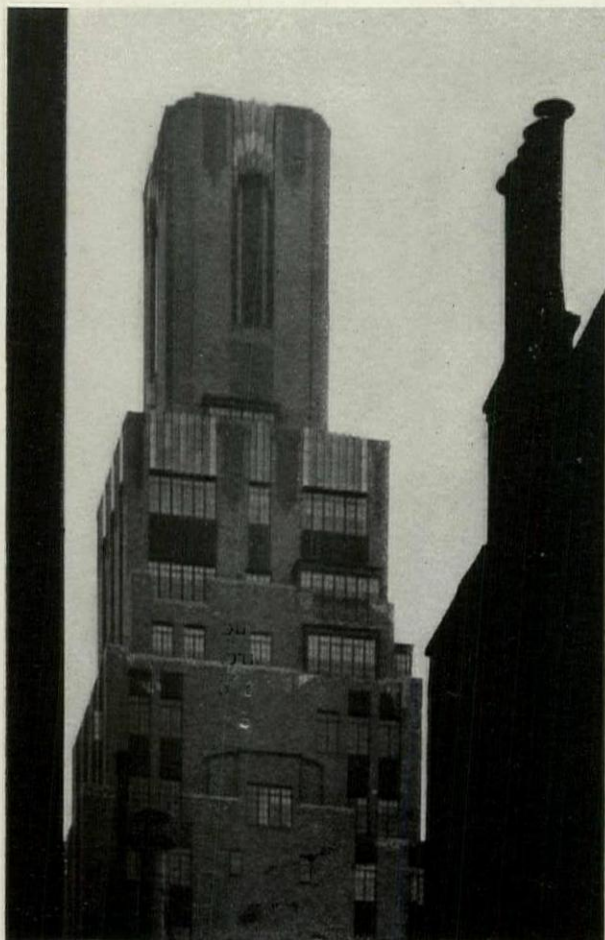
We think of glass as fragile, as breaking when exposed to the heat of a fire and flying into bits when cold water is thrown upon it while hot. We also think of large glass areas as occasioning serious heat loss. But tests and actual service have shown that these new types of glass construction are sufficiently rugged for a wide variety of architectural uses, that they afford a surprising degree of resistance to the spread of fire and that, when of wired blocks or tiles, they are suitable for fire windows. Also, in some forms, they actually conserve heat much better than the usual masonry walls, particularly when built of vacuum blocks, which embody the principle of the familiar vacuum bottle, and afford insulation against the passage of sound as well as of heat. In a lesser degree, but satisfactorily for many places, partitions, exterior walls or windows of hollow glass blocks provide heat and sound insulation while admitting light.

Glass walls suggest a lack of privacy, but in much



Courtesy American 3-Way Luxfer Prism Co.

Glass tiles set in narrow ribs of reinforced concrete form the roof of the Barbizon-Plaza Hotel at Fifty-eighth Street and Sixth Avenue, New York. It shimmers in the sunlight and is lighted from within at night. It is 75' long, 40' wide, and 22' high. Wall at base of roof of hollow glass blocks. Designed by Lawrence Emmons, Architect and Decorator, Murgatroyd & Ogden, General Architects.



Courtesy Architect's Brick Co.

Four great windows of hollow glass blocks are features of the tower of the Town House, 137 East Thirty-eighth Street, New York, Bowden & Russell, Architects. Each is 20' x 6'6", of amethyst colored glass with V-shaped mullions of clear glass.

of the glass used in construction this is taken care of by moulding the surface in prisms or textures and even the clear glass bricks afford only a shadowy view of the interior from the outside. Swinging panels provide ventilation and inserted panels of clear glass permit one to look out.

In designing for construction in glass, data upon this rather unfamiliar structural material and upon the practice in employing it is needed, in convenient form for use in the drafting room. It is the purpose of this article to provide at least a working basis of definite information, by describing recent installations, mainly in this country, by showing construction details and by describing a wide variety of glass units that are now to be had in this market—giving their distinguishing characteristics, some of the purposes for which the different types are best suited, and also the sizes of units and practical methods of building with them.

THE GLASS ROOF OF THE BARBIZON-PLAZA HOTEL

Probably very few people whose eyes are attracted to the shimmering roof on the tower of the Barbizon-Plaza Hotel, which is a prominent feature of the New York skyline just south of Central Park, know that

this roof is constructed of glass units. These units are squares of glass $8\frac{1}{4}" \times 8\frac{1}{4}" \times \frac{1}{2}"$, with half-round parallel ribs $\frac{1}{2}$ inch high moulded upon their outer surface. These lenses give the roof much of its brilliant luminosity when the sunlight strikes it. At night, when the lights inside the roof are on, they diffuse a soft glow. The glass "tiles," as the units are called, are set with their edges only about one inch apart in a system of slender ribs of reinforced concrete that form panels resting upon supporting members of reinforced concrete, a method already familiar in floor lights and roof lights. Since these ribs are only $3\frac{3}{8}$ inches deep and are tapered towards the interior, they offer hardly any obstruction to the light. Protecting the glass units from expansion pressure in the concrete, are cast aluminum frames or "shields" in which the glass is set with a tar-and-sulphur compound to make a weather-tight joint that is sufficiently plastic to accommodate whatever expansion and contraction may occur in the glass. Reground Portland cement was used, while the aggregate is of granite chips and the sand is torpedo sand, a kind of fine gravel, to make the concrete practically waterproof. The steel reinforcing bars are deformed and set low in the ribs to resist the tensile strain most effectively. The narrow strips of concrete showing upon the outside, between the glass units, are painted with aluminum paint and the squares are set diamond-wise with the ribs on adjoining units running in a herringbone pattern, for decorative effect and to secure the maximum luminosity.



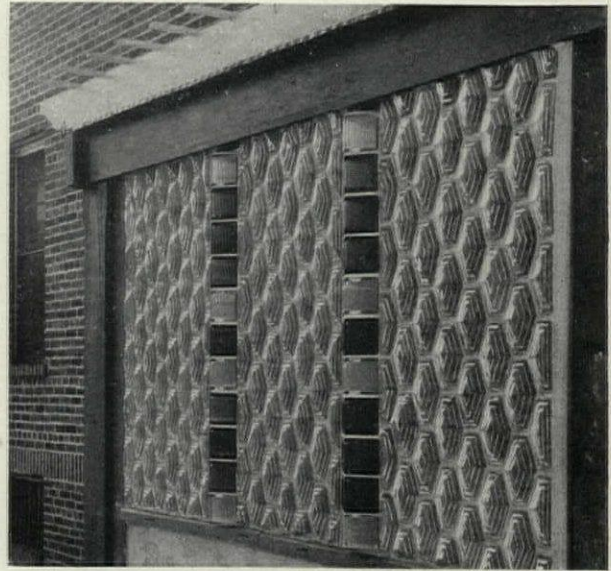
Courtesy Structural Glass Corporation

Solid glass bricks backed with polished aluminum face the splays at entrance to a recently completed apartment building in Brooklyn, New York.

The vertical wall forming the base of the roof is of hollow glass blocks $9\frac{3}{4}" \times 4\frac{1}{2}" \times 3\frac{1}{4}"$ with vertical ribs on the front and back, open at the bottom and with lugs on the top. They are reversed in alternate rows, to interlock. They are in panels framed in brickwork between the structural members of the steel frame. The tower with its glass roof was designed by Lawrence Emmons, architect and decorator, and the general architects of the building were Murgatroyd & Ogden.

GREAT GLASS-BLOCK WINDOWS IN THE TOWN HOUSE TOWER

Another building in which construction in glass is featured is the Town House, at 137 East Thirty-eighth Street, New York, Bowden and Russell, architects. Here there are windows twenty feet high by six feet, six inches wide, built of hollow glass blocks, one window in each face of the tower near the top. The glass units are $9\frac{3}{4}" \times 4\frac{1}{2}" \times 3\frac{1}{4}"$, ribbed vertically upon the outside of the front and back, rough pebbled at the ends, open at the bottom and with square lugs moulded upon the top. The units are reversed in alternate courses. The lugs and roughened ends and edges provide a key for the mortar. Allowance for whatever slight expansion and contraction may take place in the glass is made in the composition of the mortar which is as follows: Portland cement, $1\frac{1}{2}$ parts; lime, 1 part; sand, 4 parts, giving a degree of flexibility. The mortar joints are from $\frac{1}{4}"$ to $\frac{3}{8}"$ thick. Each of these windows is divided into three



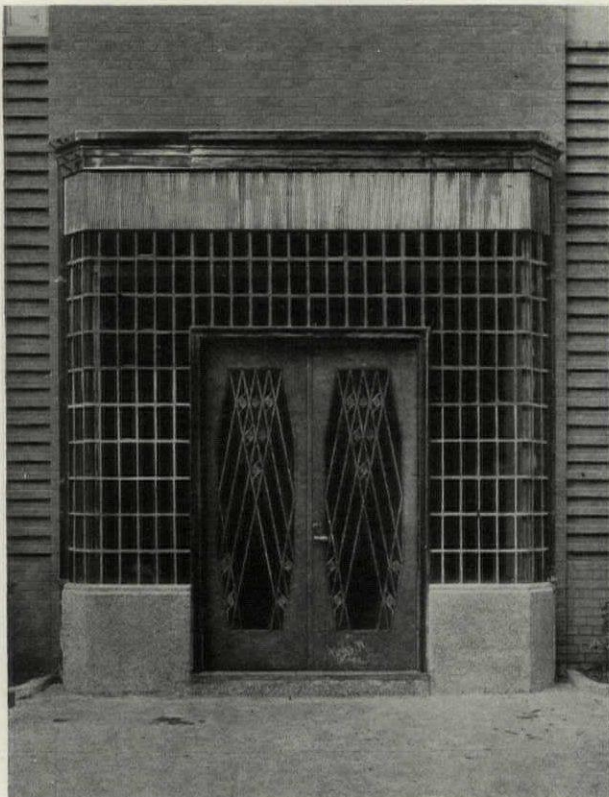
Courtesy Structural Glass Corporation

Windows of glass vacuum blocks set in cement mortar light this entrance porch to a residence near New York. Blocks are hexagons, half and quarter hexagons, with V-shaped mullions of hollow glass blocks.

vertical bands by two mullion-like members that extend from top to bottom and that are constructed of V-shaped glass units, whose sides meet at an obtuse angle. These units have vertical rounded ribs upon their faces like those upon the rectangular blocks; they are $8\frac{1}{2}"$ wide upon the base line of the triangle and $4\frac{1}{2}"$ high.

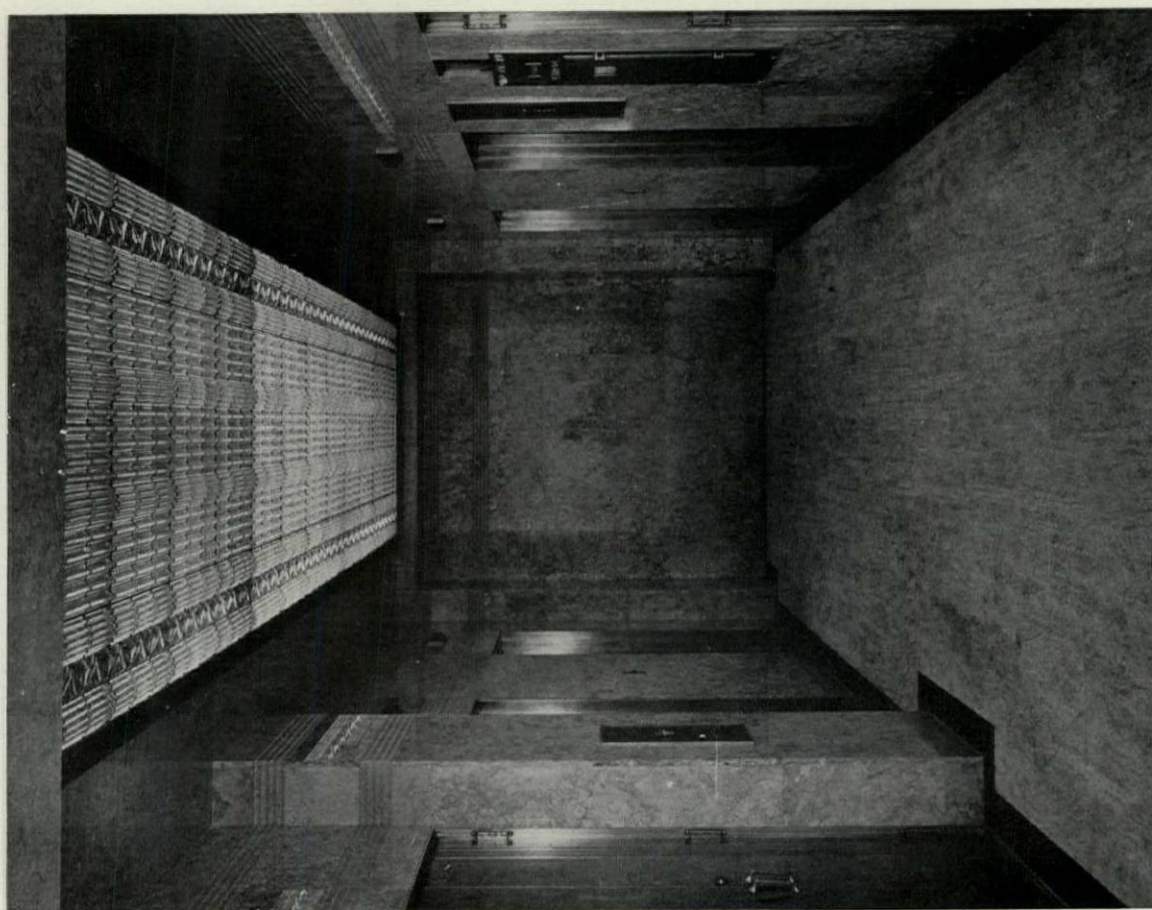
There is no reinforcement in these windows. The glasswork is built into slots, or raglets, in the brickwork at the sides of the openings, the blocks at the sides being built into the walls to one-half their length to accommodate the glasswork to the desired width of opening. Building them in one-third or one-quarter way would undoubtedly have secured them firmly enough and made a weather-tight joint. As a result of their experience in this case, the architects believe that it is not necessary to build the glass blocks into the brickwork, but that the brickwork may be made to overlap somewhat on the face of the window and strips of sheet copper extended into the joints from the masonry along the sides at intervals to anchor the glasswork. This building has been completed over a year and the architects report that a recent inspection showed these windows of hollow glass blocks to be in thoroughly satisfactory condition.

The rectangular blocks are of amethyst colored glass, while the blocks forming the vertical members, or mullions, are of clear colorless glass, producing a fine decorative effect, leading up to the note of color accent, the polychrome terra cotta in prismatic hues at the top of each window. While the amethyst glass admits comparatively little light, the clear glass of the V-shaped members admits a great deal, with the result that the space within the tower, housing the elevator machinery, tanks, and other utility features, is well lighted. At night these windows are illuminated from within.



Courtesy Structural Glass Corporation

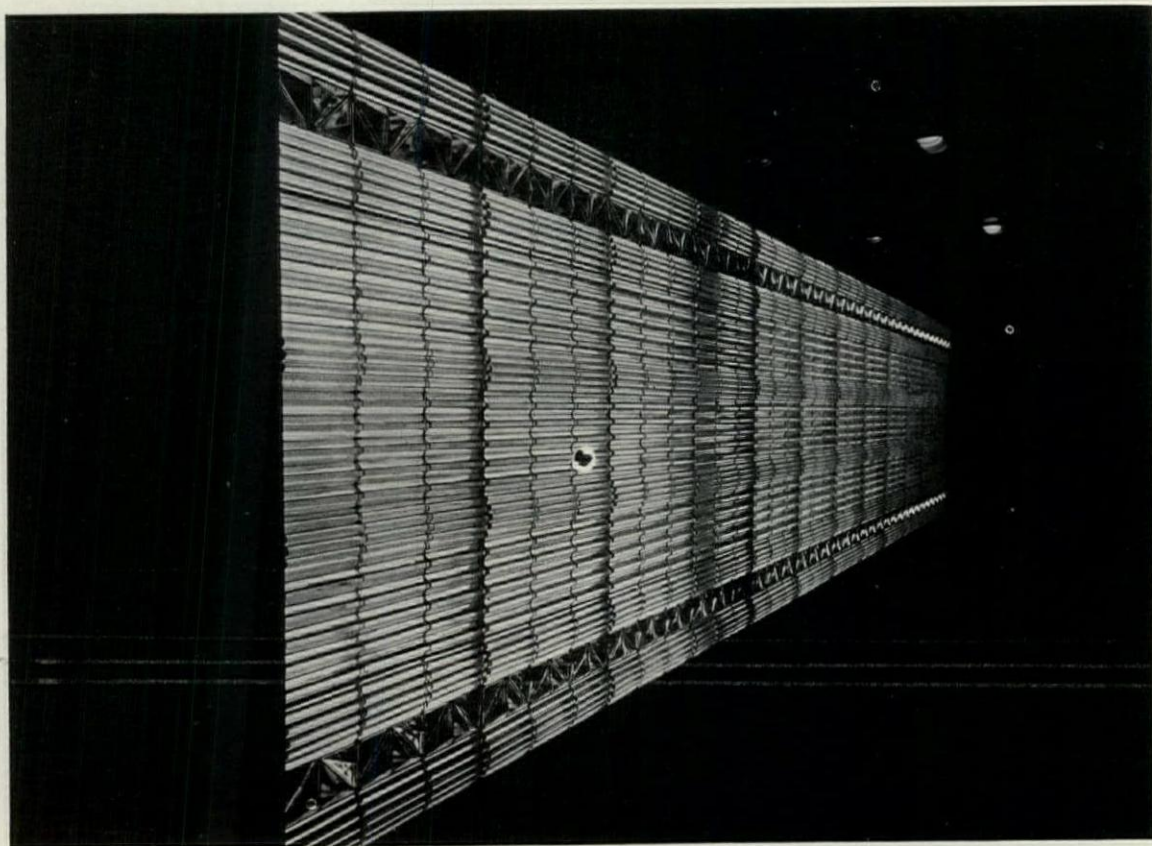
Transparent walls of solid glass bricks enclose entrance of another new apartment building, also in Brooklyn, New York.



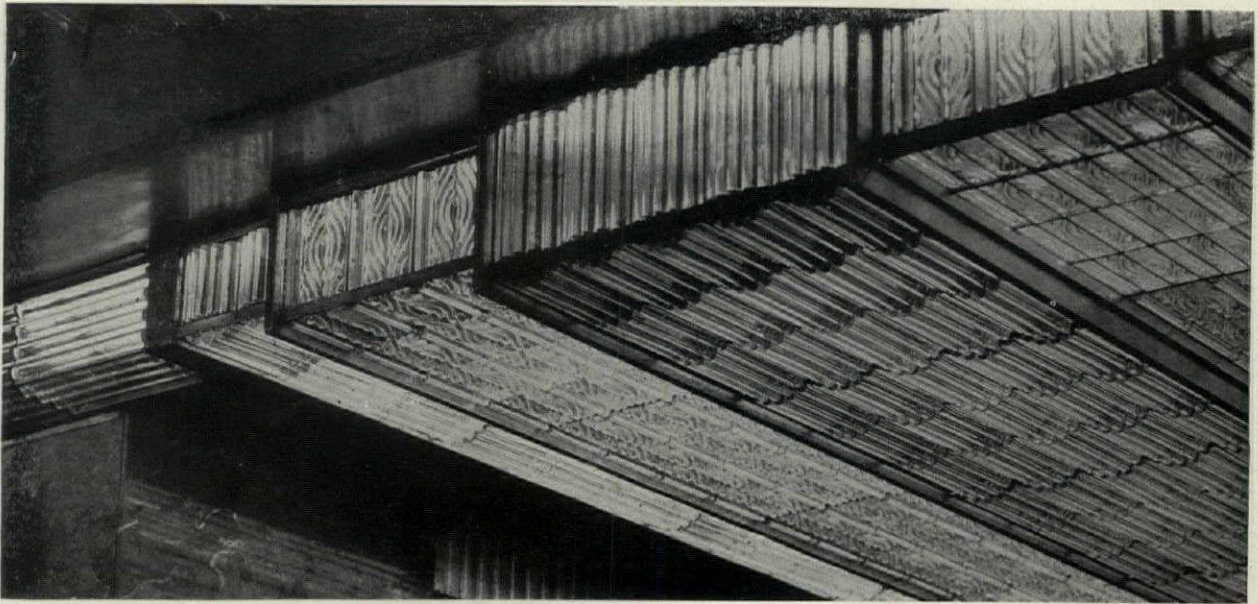
Courtesy Keppler Relief Glass Corporation

Ceiling of moulded relief glass units joined together by electrolytic welding with copper, firmly, but with sufficient flexibility to permit expansion and contraction of glass. Sections set in bronze framework, electric lamps above to illuminate ceiling and light the room, main entrance lobby,

530 Seventh Avenue, New York. Ely Jacques Kahn, Architect.



Courtesy Keppler Relief Glass Corporation



Courtesy Keppler Relief Glass Corporation

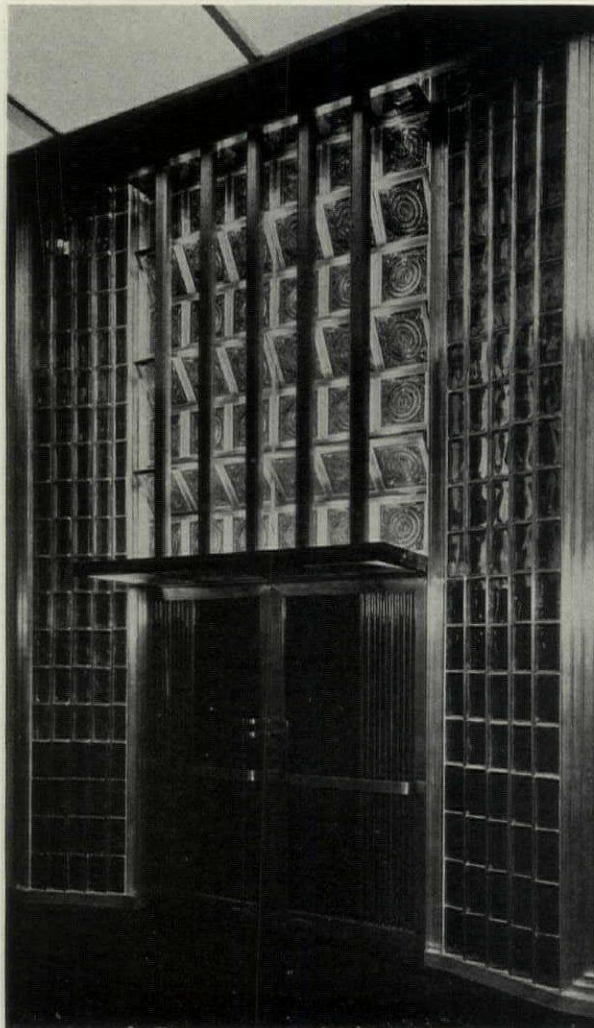
Glass used effectively to house the ceiling lighting in the elevator lobby of the office building at 530 Seventh Avenue, New York. Buchman and Kahn were the architects.

BUILDING ENTRANCES

Two apartment house entrances which have recently been completed show different methods of using glass construction in a field in which it has great possibilities.

In one of these entrances, at 8001 Bay Parkway, Brooklyn, New York City, solid glass bricks are used to face a splayed wall around the opening of the entrance and are backed with sheets of polished aluminum producing a brilliant and attractive effect.

In the entrance to the apartment house at 55 Winthrop Street, Brooklyn, New York City, solid glass blocks are used to build the enclosing walls that form the front of the entrance hall. These walls are reinforced with flat bars of iron forged to conform to the plan and extending from the masonry walls, at either side, to the door opening. These reinforcing bars are hidden in the mortar joints every fourth course and are anchored to the



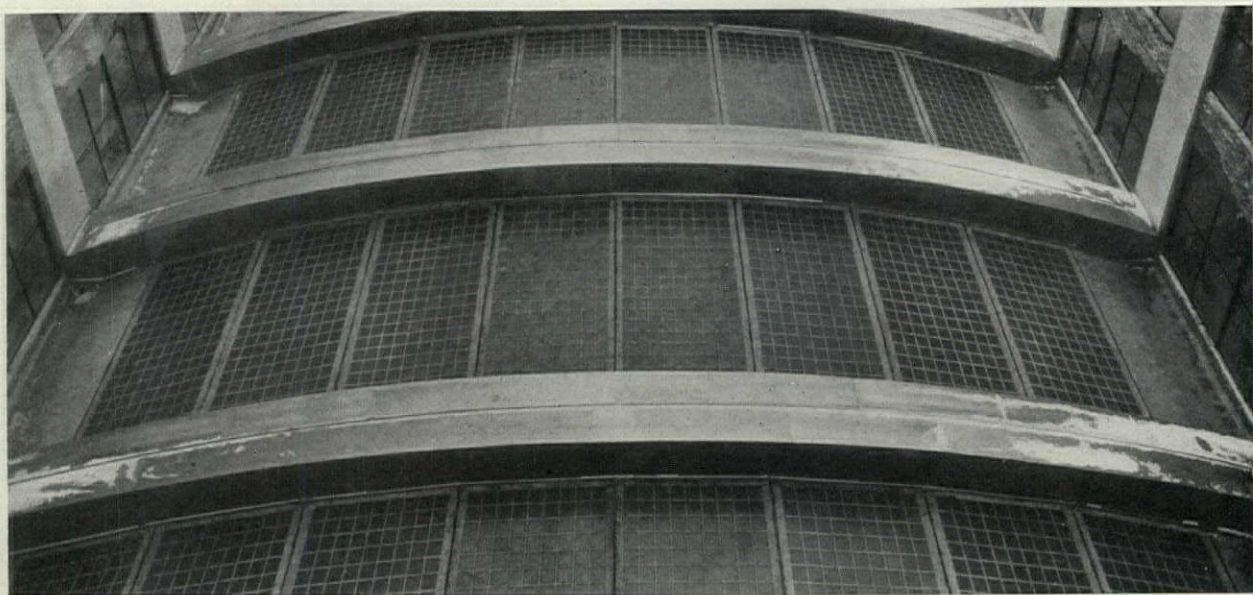
Courtesy Structural Glass Corporation

Entrance to an office building for which Eugene Schoen, Architect, received award of honor at Architectural League Exhibition. At the sides, solid glass bricks in bronze frames; lighted by neon tubes in vertical troughs.

masonry by means of threaded round sections at their ends which are run into expansion shields. Glass blocks moulded to the architect's design for this special job are used at the angles.

Vacuum blocks, hexagons, half and quarter hexagons, are set in mortar, in combination with triangular mullions of hollow glass sections, to form the translucent wall of the entrance porch of a residence in a suburb of New York.

Though it is widely known, the entrance to an office building for which Eugene Schoen received the award of honor for craftsmanship, from the Architectural League of New York, is shown here for the value of the practical suggestions it contains. The walls at the sides are of solid glass bricks, set on end, in cement mortar. Over the doors are glass tiles 11" x 11" x 1/2", set in bronze frames, alternate rows pivoted to open for ventilation. Incidentally, the effect of



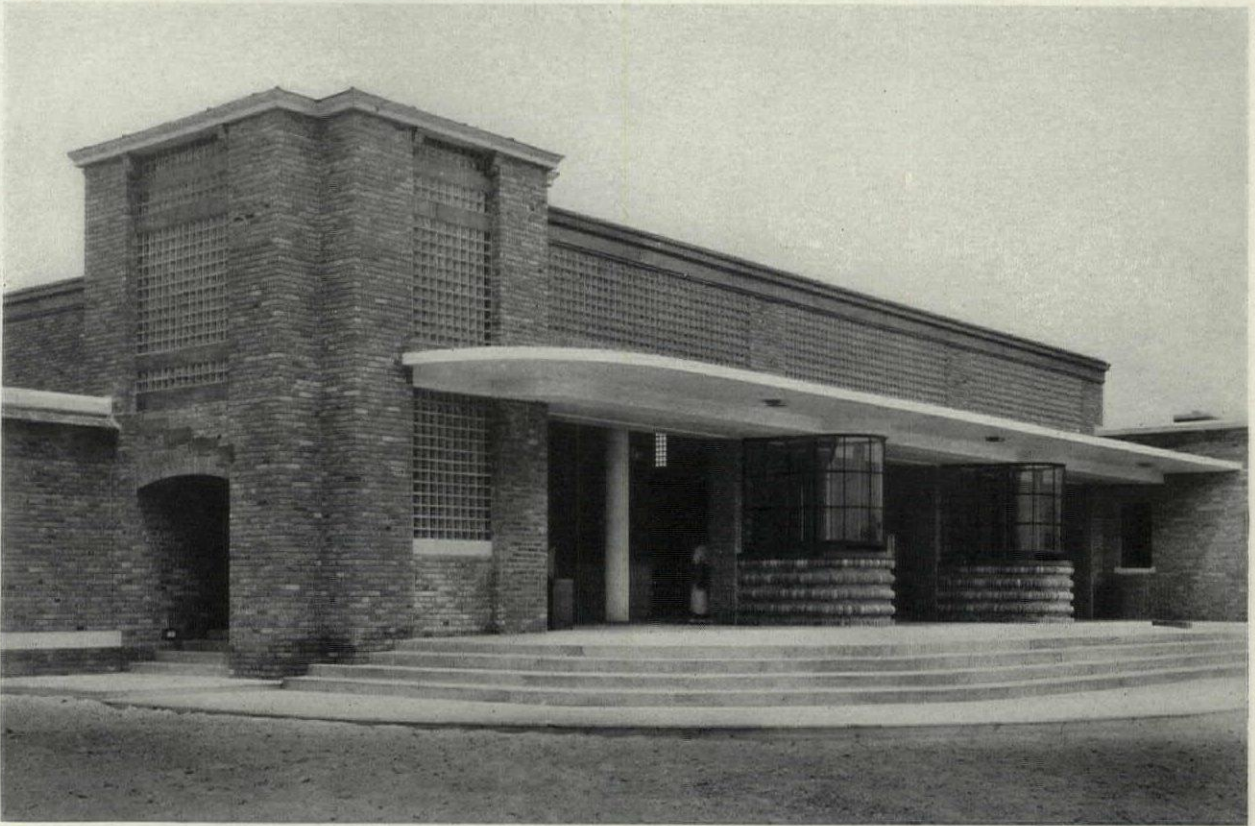
Looking down on the roof of the shop shown below—A. O. Smith Corporation Building, Milwaukee, Wisconsin.



Courtesy American 3-way Luxfer Prism Co.

Armored wire glass units set in ribs of reinforced concrete form the skylighted roof of one of the shops in the A. O. Smith Corporation Building, Milwaukee, for which Holabird and Root were the architects. The units are $8\frac{1}{4}" \times 8\frac{1}{4}" \times \frac{1}{2}"$ and the total glass area of this roof measures 160 feet x 70 feet. The construction weighs 30 lbs. a square foot.

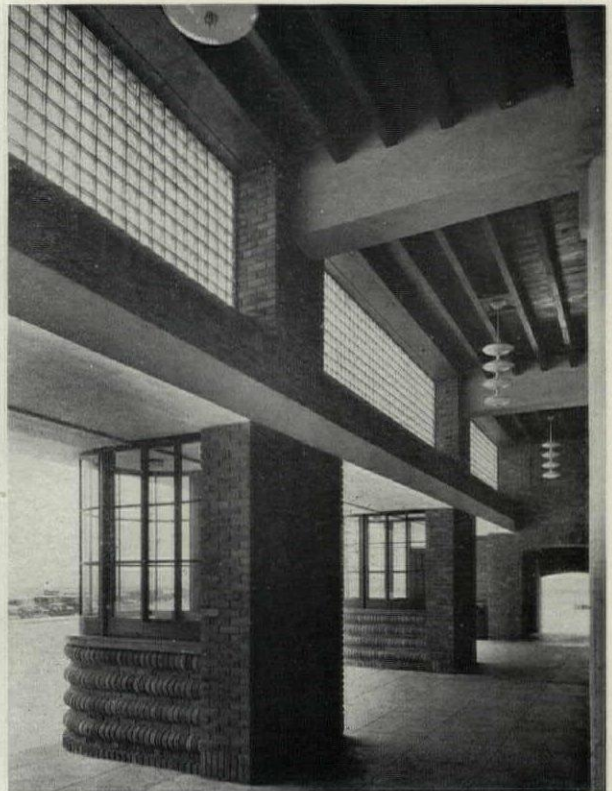
DESIGNING FOR CONSTRUCTION IN GLASS



Entrance to Bathing Pavilion, Sunken Meadows, Long Island, New York. Designed by H. A. Magoon, Architect, for the Long Island State Park Commission.



Courtesy Structural Glass Corporation



The glass units used in this building are vacuum blocks, 5" x 5" x 2½", set in cement mortar. Reinforcing rods were used in both directions in every other joint, making a very rigid construction.



Courtesy Corning Glass Works

SYRACUSE LIGHTING COMPANY BUILDING, SYRACUSE, N. Y.

MELVIN L. KING, ARCHITECT—BLEY AND LYMAN, CONSULTING ARCHITECTS

Opaque and translucent glass was used in this building both structurally and decoratively. The glass for the pilasters was specially made so that it would diffuse the red, white, and blue light coming from the neon and helium tubes behind it.



A detail of the lower stories shows the glass units set in place between stainless steel strips. The black material is opaque black glass.

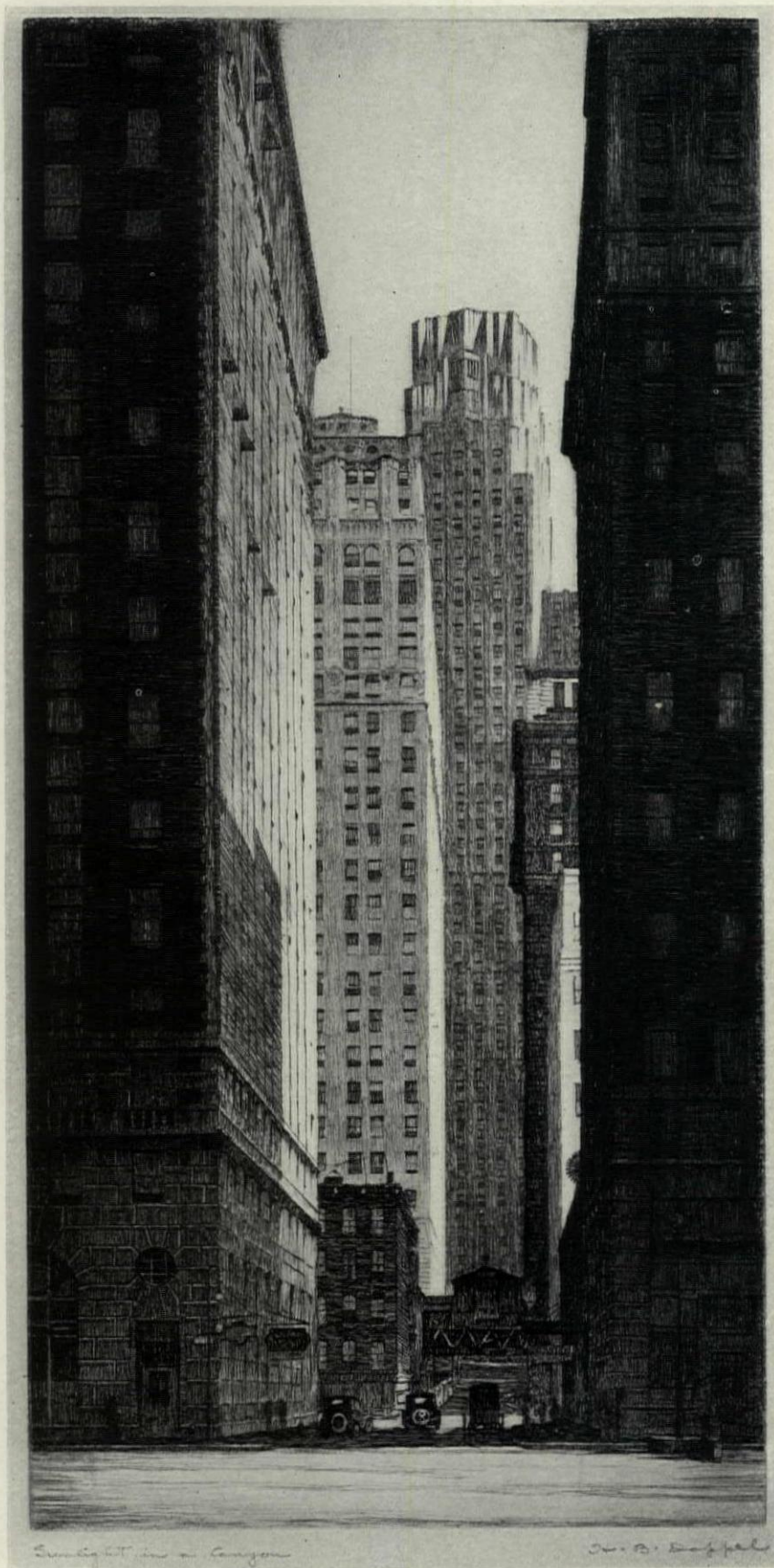


A view of the tower at night showing how the neon tubes, set behind the glass, create a continuous band of light from top to bottom of the pilasters.

the glass is heightened at night by the light from neon tubes concealed in the vertical reflector troughs over the doorway.

A CEILING OF RELIEF GLASS SECTIONS

Indicating clearly the possibilities of moulded relief glass for interior construction is the ceiling in the main entrance lobby of the office building at 530 Seventh Avenue, N. Y., Ely Jacques Kahn, Architect. It is composed of relief glass units joined together by electrolytic welding with copper (a method which will be described later) and supported by a bronze framework. The room is lighted by electric lamps placed above this glass ceiling.

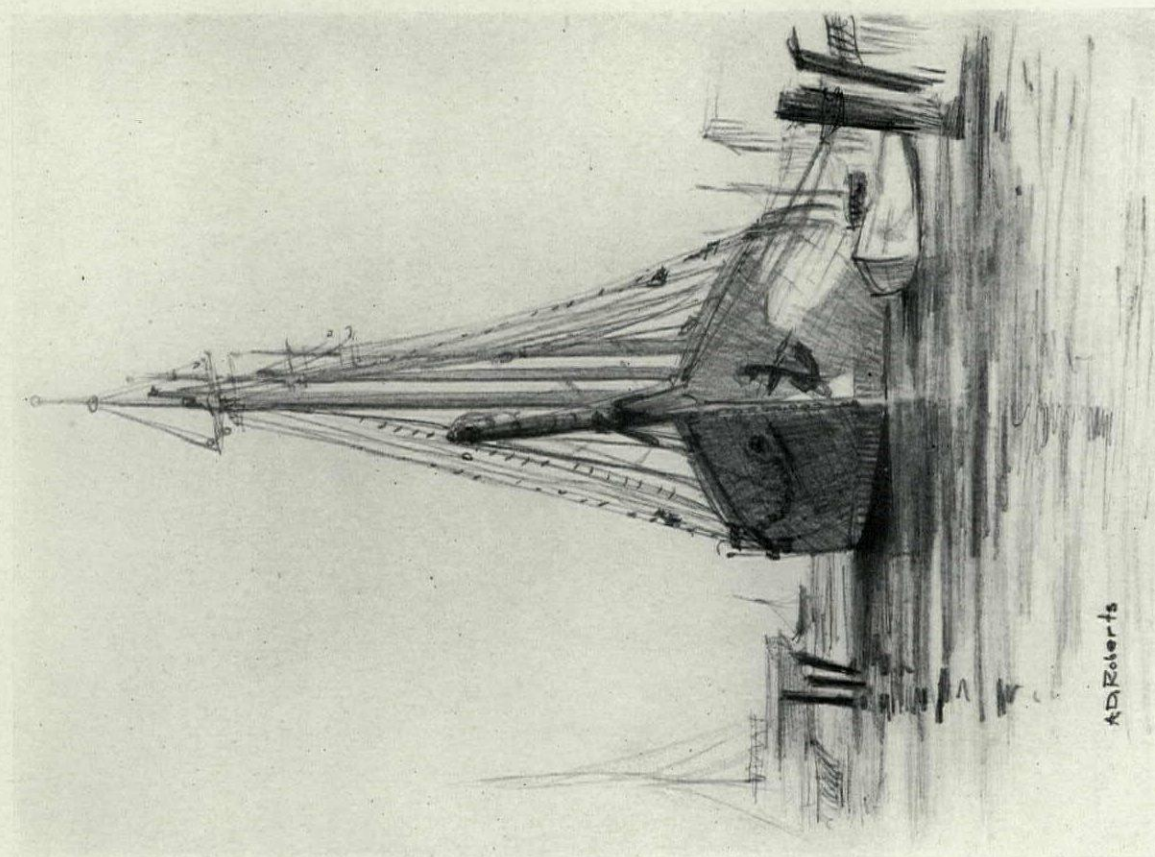


FROM A DRYPOINT BY H. B. DOPPEL

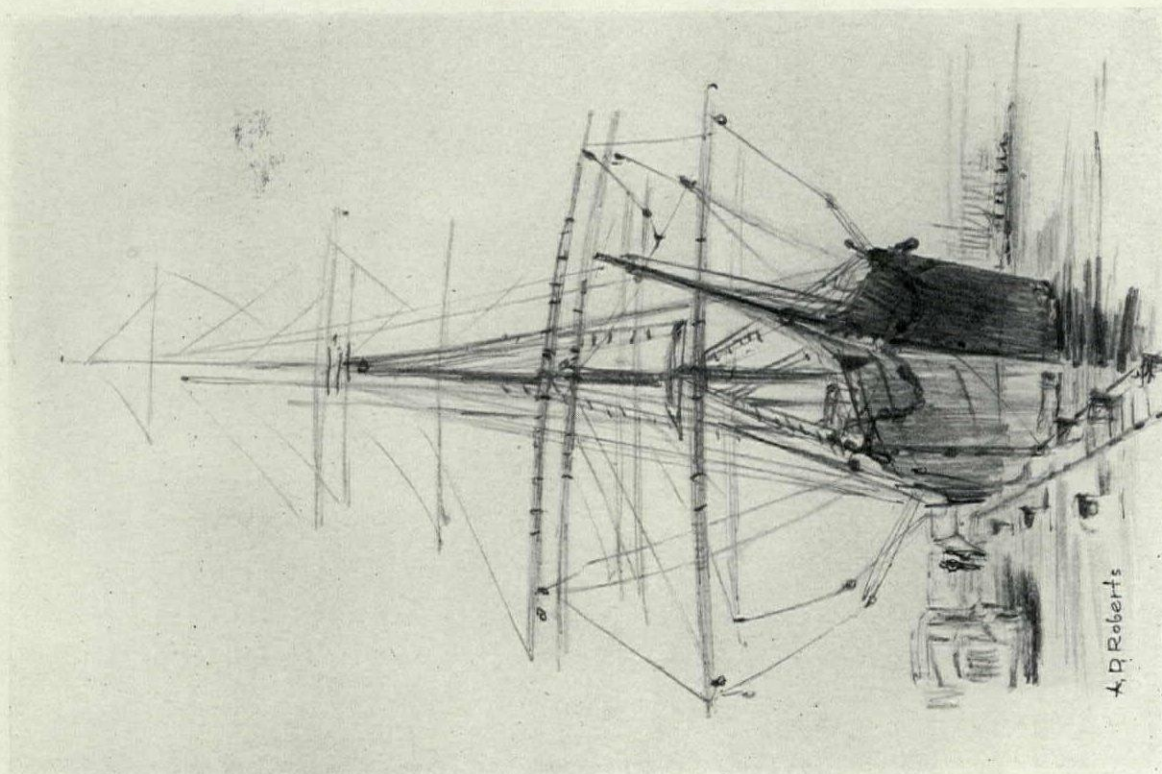
"SUNLIGHT IN A CANYON"

Size of original, 5" x 10"

PENCIL POINTS FOR NOVEMBER, 1932



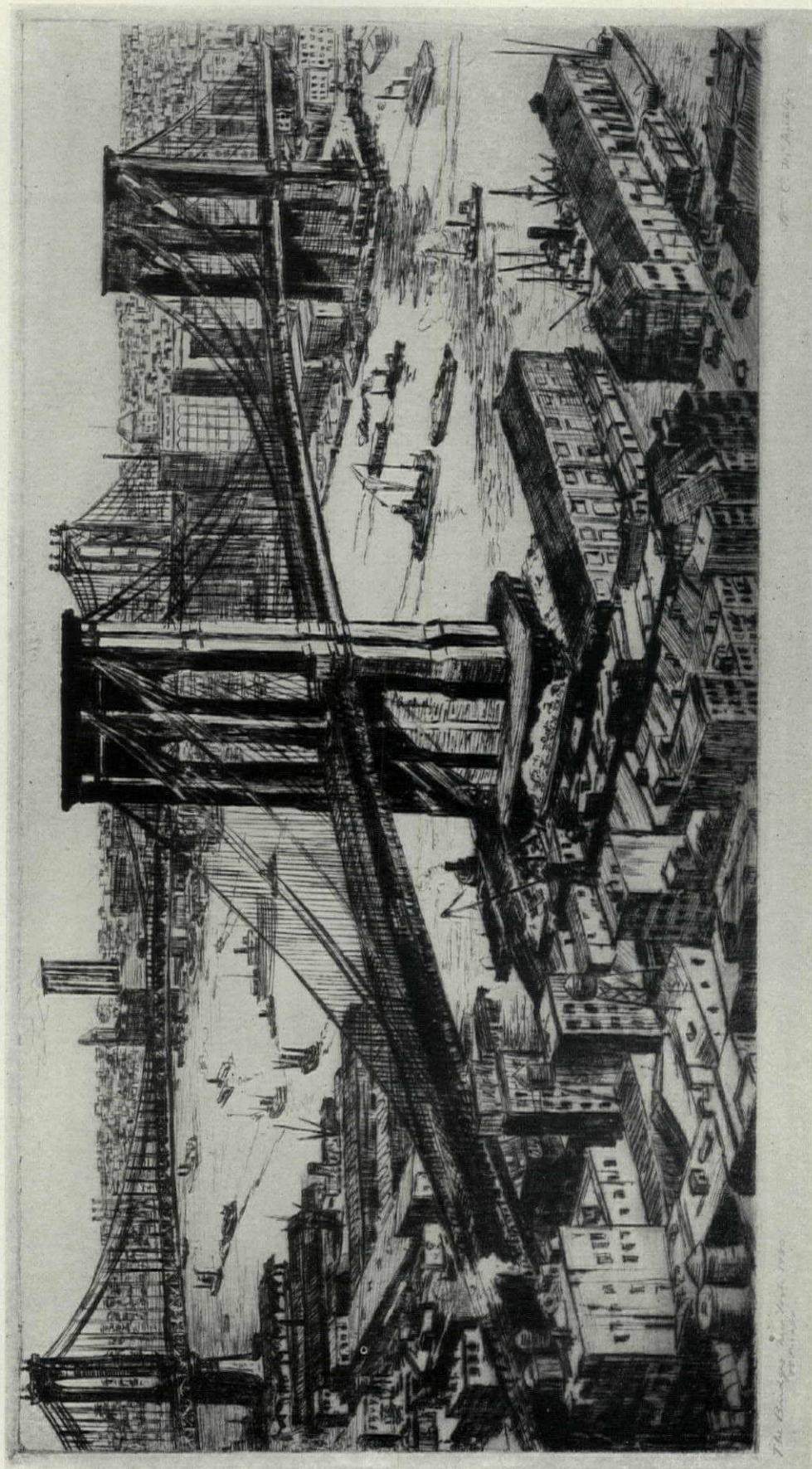
"THE LOTTIE CARSON," SAN PEDRO HARBOR



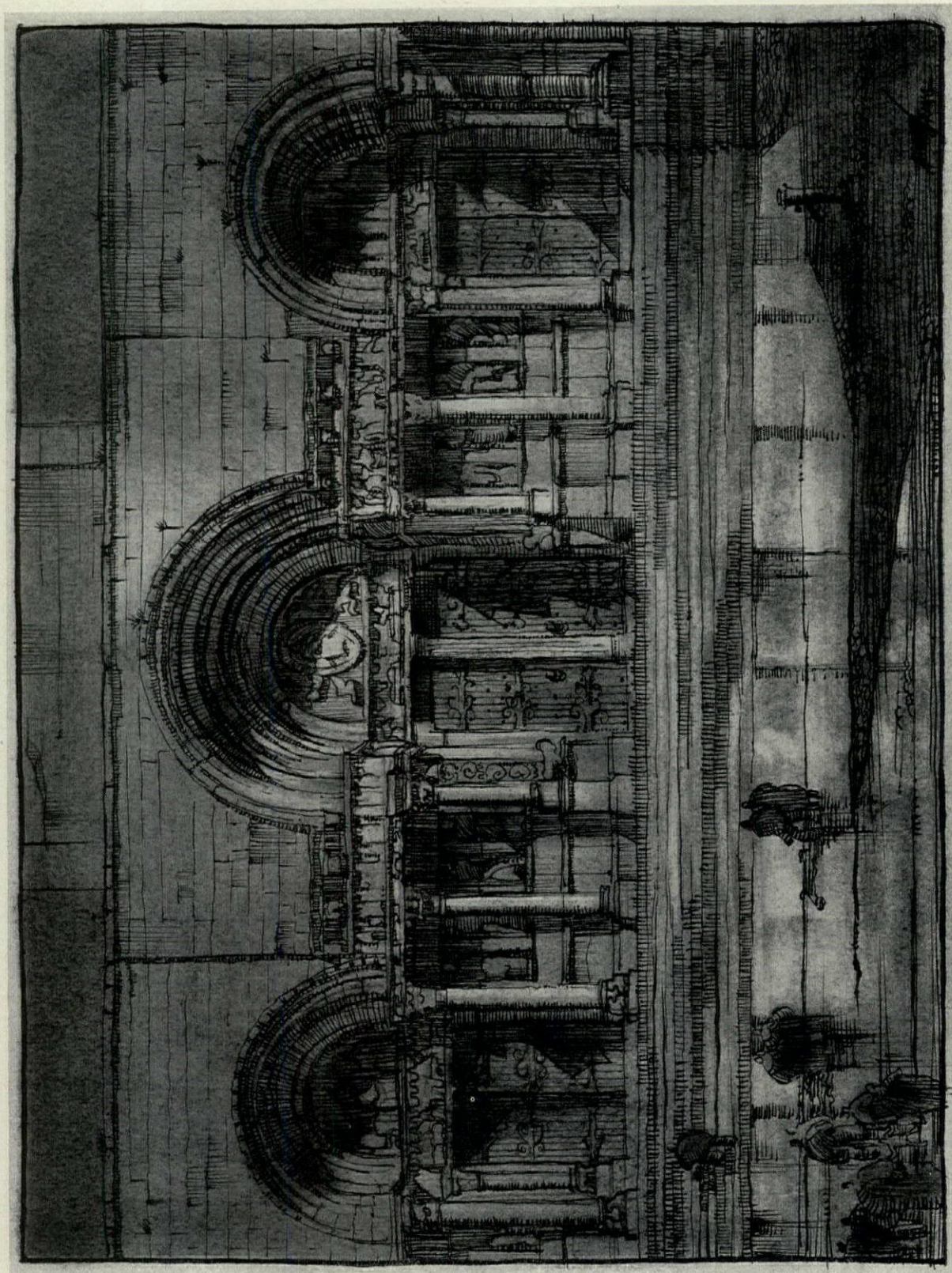
"STAR OF INDIA," SAN DIEGO HARBOR

PENCIL SKETCHES ON CAMEO PAPER BY A. D. ROBERTS

PENCIL POINTS FOR NOVEMBER, 1932



THE BRIDGES, NEW YORK, 1930—FROM A DRYPOINT BY WILLIAM C. McNULTY
Size of original, 12¼" x 6½"



PORTALS OF ST. GILLES—FROM A DRAWING IN PEN-AND-INK AND RUBBED PASTEL BY ALLEN J. STRANG

This technique might well be employed in making studies for etchings. The subject is first sketched out in pencil; then the principal values are put in with black pastel, well rubbed into the paper. The ink is applied over this base and finally any additional highlights may be picked out with a soft eraser.

The Architectural Guild of Small Home Design

By Albert Martin

It was inevitable that the current era should have thrust upon it many "cure-alls" for the problems of the nation. In every industry, within the last three years, there have been countless plans and schemes evolved each of which was supposedly endowed with magic properties to settle all the difficulties of that particular industry.

The architectural field has certainly not been an exception. We have literally been showered with suggestions; some good, some not so good. Those in the profession and those outside are liberal with well-meaning advice. In presenting the Architectural Guild of Small Home Design we are well aware of all that has gone before. Yet the Guild Plan has this in its favor—it is not primarily an emergency plan for it fills a need that has been very much in evidence for a long time past.

The Architectural Guild of Small Home Design offers to architects a plan that is especially fitted to cope with the unusual conditions of the present day. Although the Guild is a new organization and but recently inaugurated yet for years past it has been in the process of development. It should not be confused with any method hurriedly thrown together to take advantage of the present situation. The Guild Plan is the result of careful study and exhaustive research in the field of small homes. It is a plan that would have been effective under normal conditions and now becomes doubly valuable.

The Guild was formed by a group of Chicago architects who have specialized in the designing of small houses. In laying the foundation of our plan we met and consulted with representatives from all branches of the building industry—realtors, contractors, material dealers, manufacturers and mortgage bankers.

These discussions revealed clearly the fact that in the immediate future the small house field offered the biggest and most lucrative opportunities. The principal reason for this is that for some time to come it will be difficult to finance large projects and it is also true that there is a shortage of well designed and well constructed small houses.

Realtors and contractors were united in the opinion that the public is disgusted with the poorly designed homes of inferior construction and workmanship that have been foisted upon them in the past. Small home builders have come to realize that obsolescence is a vital factor to reckon with, as many of their homes become obsolete overnight and seriously depreciated in value. These facts have been impressed not only on the individual small home builder, but on the large scale operator as well. Lending agencies have had many houses come back from discouraged and disillusioned home owners. These homes could not be resold because of poor design or construction, or both. Everyone involved then realized the absolute necessity for Competent Architectural Service.

SMALL HOME FIELD NEGLECTED BY ARCHITECTS

Heretofore, we neglected the small home field because it did not pay—we were not set up to economically

take care of this type of work, consequently we devoted our time and effort to more lucrative fields.

The small home buyer likewise neglected to consult us because (and very frankly we must admit this) our services were considered too costly for the amount to be expended by the home owners.

Knowing this and taking advantage of the situation, many outside the profession educated the small home builder to the ridiculous belief (without much protest on the part of the architect) that an architect's services are a luxury—that he is "outside talent" called in only on rare occasions—that the architect is a poor business man—impractical and, therefore, not qualified to handle small house work. The public apparently has not understood and appreciated the comprehensiveness of an architect's services. They are unaware of the fact that the architect not only draws plans but he provides a *complete architectural service!*

TIME HAS ARRIVED FOR CONCERTED, UNIFIED ACTION

The prestige of the architect has suffered greatly due to this attitude of the public and has permitted the intrusion of plan agencies of every description until now many, who have something to sell to the home builder, offer free plan services in order to sell their materials. Architects, it seems, encouraged this practice by ignoring it.

Architects very often unintentionally cooperated with these agencies in "gambling" away their valuable time and ideas against the slight chance of winning money prizes in competitions sponsored by such antagonists. Many architects permitted themselves to be exploited in this manner until, having freely given of their ideas, they were too frequently left "holding the bag," so to speak, yet their work was good enough to be used to the interest of the sponsor.

Consideration of these facts convinced us that the time has arrived for concerted, unified action to secure our rightful share of small house work. The first intelligent thing to do, we felt, is to welcome and encourage preliminary consultation with us by those interested in building a small home and to educate the public that there is a definite tangible economy in consulting an architect and in using his services.

To achieve worth while results the goal of any organized movement of this sort, we agreed, should be to ATTRACT THE SMALL HOME SEEKER TO THE ARCHITECT'S OFFICE where the architect would have an opportunity to prove to the client the value of his services before others could use their damaging influence. He would thus gain a control of the situation which he could not otherwise enjoy.

THE PRICE FACTOR

Price, at this time particularly, is a very important consideration of the small home builder, and in order for him to acquire a home, it is necessary to practice the strictest economy. Since he is price-minded and

architecture in his opinion is an "intangible," he considers the services of an architect as an "added unnecessary expense."

The small house builder in our opinion will always be reluctant to pay the architect the fee he deserves for full services. The architect, on the other hand, cannot make sketches, working drawings, details, and supervise the building of a small house, and make a living, unless he charges the customary fee.

This is the architect's small house problem in a nutshell! To solve it we developed this plan:

First, we formed what is now known as THE ARCHITECTURAL GUILD of SMALL HOME DESIGN for the purpose of organizing and maintaining a system that would give the architect an opportunity to serve small home clients at fees well within their means and still allow the architect to make a worth while profit.

Second, we pooled our services in the production of a series of small home designs—with working drawings and specifications available for the use of each member of the GUILD in serving clients who are unable to pay for individual services. Members of the GUILD were paid a full commission for their work after each plan was accepted by a competent jury of architects. These working drawings formed the nucleus of what we term the GUILD LIBRARY.

Third, we published the first of a series of documents showing these designs and graphically illustrating the services furnished by the local architect to the small home builder (the balance of the series will be published in the near future). Each document is to be a beautifully illustrated treatise on the building of a home in a definite style of architecture. For the purpose of giving uniformity to these books, all renderings and illustrations are the work of one architect whose exceptional skill in architectural delineation is nationally recognized.

In a general way, these documents are to be educational guides to the prospective home owner, which by means of drawings and editorial matter outline all of the many important factors one must consider in building. They strongly stress the need of an architect's services in order to avoid the many pitfalls of poor design and bad construction, that await the unadvised.

Not only are the fundamental features of building progress to be explained in these documents but there will be indications of the correct materials to use throughout the house to produce an harmonious result.

Thus the home builder has a complete, compact document certain to help him appreciate the complexities of building and how tremendously important are an architect's services. It instills in him the desire to have every detail of his home as beautiful and harmonious as it is possible to make it.

DOCUMENTS DISTRIBUTED BY ALL BRANCHES OF THE INDUSTRY

In addition to supplying these documents to registered architects, they are to be widely distributed to manufacturers, realtors, lumber dealers, contractors and loaning agencies at nominal cost. They in turn will distribute the documents to their customers and prospects interested in small houses. Recipients of these documents will constantly be reminded that to obtain working drawings of the houses illustrated and complete architectural service, they must get in touch with a local architect.

These documents become a tremendous weapon with which all branches of the industry may cooperate with the architect in combating the inroads of unarchitectural agencies into the small house field. They will be a powerful influence in bringing the client into the architect's office.

Everyone of these books will be furnished to people actually interested in building a small home—no general hit-or-miss distribution! The architect will get the publicity where, and at the time, it will do him the most good.

HOW WE MAKE PRACTICAL USE OF THE GUILD PLAN

When inquiries come into our offices concerning small house design and supervision, we are fitted by the use of the GUILD documents and access to the GUILD LIBRARY of working drawings to present our story more graphically than ever before and can help the prospective client to visualize more clearly the extent and value of an architect's services.

We ascertain how elaborate a home the client anticipates building and estimate its cost. If he feels he cannot pay a full fee for an individually designed home, we furnish a design from the GUILD Library, which enables us to quote a fee that is very reasonable to the client and most profitable to us. Working plans for all GUILD houses are available to us at \$5.00 per set and we charge our clients a specified amount for plans combined with supervision—WE NEVER QUOTE ON PLANS ALONE.

We also carefully explain that it is only for the small home designs illustrated in the GUILD documents, that we can furnish architectural services at such a low fee.

GUILD SERVICES FOR ARCHITECTS ONLY

The Architectural Guild holds faithfully to the policy of allowing only registered and qualified architects to obtain copies of working drawings from the Guild Library.

The facility with which architects can serve the prospective small home owner through the Guild plan makes it possible for them to devote their time to other work or the promotion of new business.

We have found that it is to our advantage to serve the small home client through the Guild as it gives us contacts that often bring in other work. Frequently, the small home builder is connected with larger projects and having had the value of an architect's services proven to him in his own experience, he understands and appreciates the importance of competent architectural services.

The Guild, to keep its services contemporary with the trend of design, will from time to time call on architects associated with it to submit preliminary sketches of small houses that they consider are worthy of being in the Guild Library. These drawings will be judged by a jury of nationally known registered architects and if accepted, the architects submitting them will be asked to make working drawings at full fee. These drawings will then be placed in the Guild Library and be available to all architects. They will be fully copyrighted (as are all drawings of the Guild) and published in the documents which will be issued periodically.

OTHER ARCHITECTS INVITED TO USE THE GUILD PLAN

It has taken us many months to establish the Guild, as well as a great deal of money to finance its organization and produce the material now available and we have the utmost confidence that our plan is sound and will succeed.

With sufficient cooperation of architects in other cities, an expansion can be effected in the Guild program at this time without much additional expense. We are perfectly willing to pass on to other architects the many benefits of

THE ARCHITECTURAL GUILD OF SMALL HOME DESIGN

the work already done without them assuming any part of the expenses we incurred.

Since offering to extend its plan nationally, the Guild has literally been swamped with inquiries and is daily receiving applications from architects all over the country. The applications are gone over carefully before being accepted, and if there is any doubt as to whether the applicant is fitted to participate in the Guild plan, inquiry is made concerning his qualifications, of prominent architects practicing in the same community as the applicant.

Eighteen thousand lumber dealers throughout the country have been informed of our plan and it has been very gratifying to us to find how interested they are in our plan and to receive expressions of their willingness to cooperate with local architects. Some of them have even

gone so far as to abandon the drafting forces they were maintaining in their yard offices and are having all their drafting work done in the offices of architects registered with the Guild.

We would like to emphasize the fact that the Guild is *not* another stock plan bureau or agency. It is not a commercial enterprise, nor is it affiliated with anyone outside of the profession. It is of the architect—by the architect—for the architect.

We feel that the greater the number of architects in this movement to recover the small house work for the architect, the less room there will be for "wildcat" agencies. Any registered architect who is interested may write the Architectural Guild of Small House Design, 540 North Michigan Avenue, Chicago, Illinois, for further information.



FROM A PENCIL DRAWING BY M. O. HODGES
HARRIS FARM, MARBLEHEAD, MASSACHUSETTS

Some Notes on Fences

By Arthur Bates Lincoln

The charm and stately dignity of the early Colonial houses that line the streets of our older New England villages would be lessened were the picket fence that borders the sidewalk missing from the picture. Serving to outline the boundary of the property and to enclose the lawns, it links the structure and its surrounding grounds together, bringing enhanced importance to the limited mass of the house of average size.

Wood fence enclosures, designed in harmony with the architecture of the main structure, can be made as important an element to the complete composition as are the decorative frames with which the old masters surrounded their canvases. They should be included in the house building program as a matter of course. There is no reason for waiting until the client wakes to his need for such a feature. This is the first detail on the homestead that will come under the close scrutiny of the stranger. Its impression upon the visitor can only be favorable when it is in harmony with the house.

Utilitarian factors must always be kept in mind in working out the design. What appears to be a senseless restriction will not infrequently develop a very striking and effective detail. This fact is proven by the accompanying illustrations. Close spaced, broad, flat pickets, when extended above the eye level, offer an effective screen against an unsightly view. When vision need not be thus obstructed, and the fence is intended to suggest disapproval of trespass, without attempt to make it mandatory, wide spaced pickets and turned balusters offer many variations.

One important factor in the correct detail of a fence is the proper determination of its height. On one hand is the low, friendly fence, not over 24" high, intended only as a reminder that property boundaries should be respected. The more customary height for the fence that is not intended to obstruct vision, but rather to constitute a definite barrier against trespassing, is 36" to 48" high.

The client may request protection from the annoyance of headlight glare along a motor parkway, or there may be some dilapidated barn or blatant gasoline station which he wants shut out from sight. The high fence of six to eight feet, to reach above the level of the eye, is necessary where it is desired to set up such a visual screen. Elements that contribute to the design must be placed sufficiently close, so that, in conjunction with quick growing vines, the objectionable vista is entirely shut off.

One type of trespasser against which it is very difficult to erect barriers is the animal which seems to delight in running across choice flower beds. Short pickets, set between those of full height in the lower half of the fence, will reduce openings sufficiently to shut out the larger and more troublesome of these.

Some means must be provided for getting through every fence. To make protection complete the gap must be closed by a gate. When the openings are broad, as is the case where an entrance drive passes through, a pair of gates will be required. These must hang from the posts at the side of the opening, and because of the stresses developed during the opening and closing, hardware must be sturdy, while the hinges are well anchored to the side supports. It is not unusual, as the illustrations will prove, for masonry piers to be placed at broad openings.

In their design and construction gates must be planned to stand continual abuse from both man and the weather. At the same time they must be kept as light as possible so that it will not take excessive effort to move them. A diagonal tie frequently is introduced to prevent sagging, but if the gate is very wide, a small wheel is often provided under the end that closes to the center, so that a portion of the weight rests upon the ground.

The elements used to make the gate, whether pickets or wood panels, will be similar to the material of the fence. In many instances the design will attempt to carry the spirit of the fence across the opening, so that at a distance the gate will not be noticeable when it is closed.

The fence proper is formed by a succession of posts between which rails are spanned. These supporting posts are the only part that rest upon the ground, with foundations that extend below frost level. Poured concrete is customary for the footing, often capped with stone to bring the masonry above grade level. The post is anchored to this masonry. A fence may surmount a low masonry wall, into which the posts will be bolted.

The wood picket fence is usually nailed together, copper nails often being used. Rustic types of rail fence may be fastened with wood pegs. With a wood rail a span of six to eight feet between posts is found to be most suitable, varying with the requirements of the design.

The elements that comprise a wood fence are pickets, balusters, posts, rails, and in some instances diagonal pieces. The typical picket has a pointed top, which may be rough sawn or carved in decorative fashion. The post is usually embellished with a molded cap, and surmounted by a finial that may be richly carved. In such touches as these the designer has an opportunity to display his ingenuity. While pickets are often of uniform height, the tops may be so cut that they form a pattern, which may be simply a sweeping curve between supporting posts.

Though fences are constructed of materials assembled from the four corners of the earth, those under present consideration are of wood. Northern white pine, which was the universal choice of the New England Colonies, is a favorite where the fence is to be painted, although it shares honors in this later day with cypress. Fences that are to be stained and left to weather into their natural surroundings are often made of oak or chestnut.

If the fence is so constructed that all parts can dry out rapidly after a rain, depreciation will be slight. It is those portions of the wood post that are encased in masonry or buried in the ground that rot out quickly. Red cedar, because of its inherent rot resisting qualities, is often used in such locations. Special precautions taken to prevent dry rot include creosoting all wood that is to be placed under ground or buried in masonry. Chemical treatment for termites is recommended in warm, moist climates.

The life of a fence will compare favorably with other elements about the house if all ordinary precautions are observed. Since it is not an asset of short life, the design should be sound rather than garish. There is as little reason for disregarding sanity in fence design as there is in any other portion of the house. Long before the weather endangers its existence obsolescence will overtake the fence that is of freak or eccentric design.

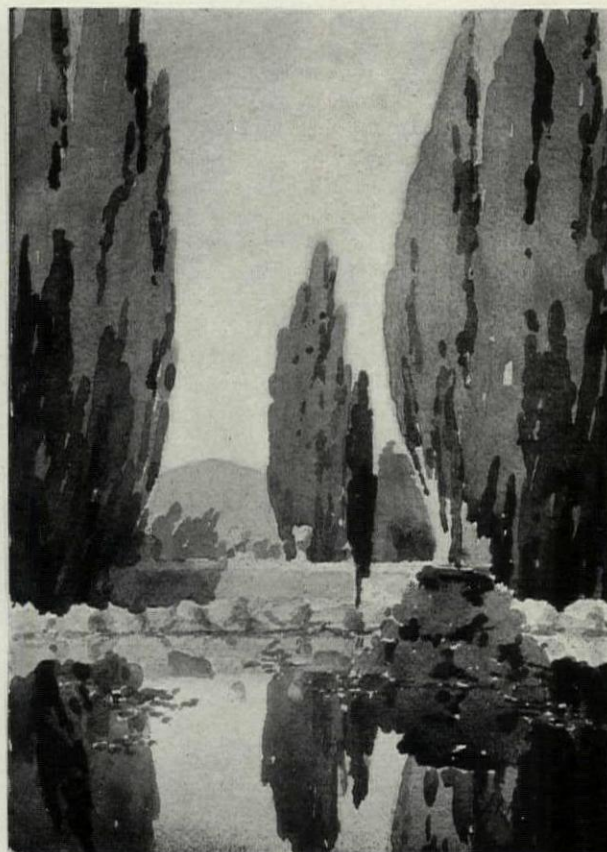
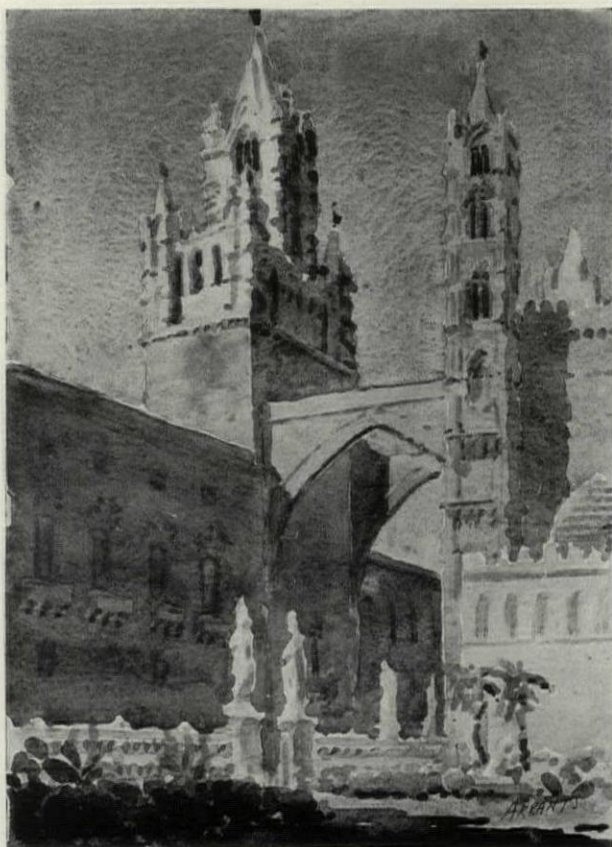
a formula for the arrangement of goods which permits the purchasing public to make close, direct contact with the articles of merchandise, to examine the wares at first hand and indulge in self-service if one's mood or one's impatience in rush-hour conditions counsels "take with" procedure. Back of this primary significance, but no less a challenge to traditions is the necessitated modification of architectural arrangements.

Realization of the purposes of Open Display requires the drastic reduction of the amount of shelf space in the store and the lowering of the height of the shelving to insure full visibility. The old-style counter is in comparative disfavor, if it cannot be wholly discarded, and a ban is in force against many of the forms of tall cases that encumbered floor and counter space in the old days. Instead of the old-style cellular type of store arrangement, with stock apportioned in compartments of devious origin and uncertain structural harmony we have that conception of Open Display which sweeps away all screens, partitions, and other obstacles to wide visibility and provides, to the utmost limits of store space, a mosaic of tables and "island" counters with wide aisles affording access on all sides. Incidentally, the doctrine of the wide open spaces has opened the door to notable developments in store lighting and has simplified the problems of store ventilation.

For architects, the best promise of the unique investigation by Federal forces of the mysteries of store arrangement, is found not so much in concrete specifications for immediate application as in the assemblage, for the first time, of a wealth of impartial authoritative data that

should prove of practical value in store design and the twin responsibility of store remodeling. In illustration of the lengths to which the specialized quest for knowledge has gone there might be cited the examination of the functions and relationship of show windows in store design. Field agents of the Commerce Department were stationed before store windows daily from 7 A. M. until midnight to record, by age, sex, race, etc., the number of pedestrians who "shopped" the windows and the percentage of instances in which the respective classes of passers-by were influenced to enter the stores.

Always, in the fact-gathering there has been the practical solicitude for the economics. In reports to be issued over a period of a year or two, the Department of Commerce will discuss such questions as the relative advantages and disadvantages of the small versus the large store, and the square versus the narrow store and the various problems of capitalizing structural features. But all will be approached from the economic as well as the æsthetic side. One study of 876 sales transactions in a specific store revealed that 24 per cent of the items sold were difficult to procure and that operating expenses were extravagant in proportion. As a result of such stop-watch observations the consultants at Washington are preparing recommendations that architectural aspirations in the retail store field shall be tempered by a lively appreciation of the importance of arrangements planned to conserve the time and labor of store employees. Proof is waiting that center posts may penalize a store as heavily as too many or too few customer entrances.



FROM WATER COLOR SKETCHES BY EDWARD B. ARRANTS
MADE WHILE ABROAD AS HOLDER OF THE RICE INSTITUTE TRAVELING SCHOLARSHIP

Two Architects Answer Mr. Yaeger

Editors, PENCIL POINTS

GENTLEMEN:

The inquiry from Roland A. Yaeger in October issue of PENCIL POINTS merits reply by more than one architect, since the problems he raises are really fundamental, and are met by all architects except those fortunate enough to have a very large practice.

In effect, the problem is, "Shall an architect or architectural draftsman do the kind of work required by the ordinary speculative builder, and accept the sort of compensation such builders are willing to pay?"

My own answer is "Yes," with qualifications.

In the first place, an architect or draftsman, correctly concerned with an ethical standard of practice, should remember that the conditions existing in the building world are not under the control of any one man. They are bigger than one man or group of men, and have so far proved to be insoluble to the profession of architecture as a whole.

Second, in talking of ethics, let us be sure we are agreed on a definition of ethics. To my mind, ethics consists in doing the fair, square thing by your fellow man; allegiance to a theoretical formula for doing business may be idealism, in a way, it is *not* ethics, necessarily.

Now the "realtor" we have always with us, it seems. These gentlemen, as a rule, have but one object in view, namely, to sell real estate for a profit. Many of them will gouge every person with whom they come into contact in order to reduce the price of the house they intend to build, thereby insuring quicker sales and bigger profits. And in doing this they are merely *doing exactly what modern business does in every branch, from Henry Ford down*; that is, buy labor and material in the cheapest possible market and sell it to the best possible advantage. This is the principle on which our modern economic life is built up, and there is no use blaming the "realtor" whose instinct of self-preservation dictates that he must conform to the rules or be shoved out of the game.

The question of ethics in dealing with these people therefore, it seems to me, resolves itself down to this:

"In doing this 'short-cut' class of work, at the reduced prices these people will pay, am I breaking the 'rules of the game' or am I merely conforming to the custom?"

An analysis will usually show the latter. The young architect, and many of us older also, will have to get down to reality and recognize there are many sorts of people in the world and many ways of doing business. If we can make people conform to our ideas and our prices, O.K! but if we cannot, we must conform to theirs or get out.

To illustrate my viewpoint better, I will give the following recent experience, which may be of interest to Mr. Yaeger and others having similar problems. Let me preface it by saying that I have always made it a rule to secure not less than what is considered proper minimum compensation for various kinds of work, believing that this is the only way I can ultimately succeed in doing good work, and further, that it is the only way to be fair and equitable to other practitioners.

This past summer, having little else to do, I interviewed a number of "realtors." Some of them proved willing to pay a good price for architectural work—not full commission, but a substantial proportion of it—for plans without specifications or supervision. Others would talk but

one thing—price. This class of people want plans for two purposes only—to get by the building department of the District of Columbia, and to get a more or less stock arrangement built at the cheapest price possible. Some build a very good class of house, and pride themselves on getting cut-throat prices on everything, especially the plans.

Learning that one of our largest realtor builders employed outside architects I called on him. He brought out several beautiful preliminary sketches of houses, well designed, well planned. I said, "How much do you pay for those?"

"\$10.00."

"How about working drawings?"

He disappeared and came again with two complete sets of pencil tracings of houses that cost to build, with his own gang, at least \$10,000 each.

"What do you pay for that work?"

"\$50.00."

"You surely get your money's worth!"

"Oh, they knock 'em out in one day."

"Impossible. One man can't do it."

"No, two of 'em do it though, I've seen 'em."

I left that office a sadder and a wiser man.

A few days later I met another realtor. Yes, he wanted some plans. What's your price? Knowing the type, I replied with a figure of about one-half a proper commission.

"Gee, you're high! Now here's a set of drawings I want duplicated—with just a few changes. [The few proved to be about everything, of course!] Now I can get these done over for \$35.00."

"Well," I said, "you have a cheap man. But how do you get up on the third floor. There isn't head room to walk up—you would have to crawl."

"Yes, that's right. My foreman had to change that. I don't want nothing like that on these again. Then he had to change the second floor too, it wasn't right either."

"Well, I think too, if the windows on the side elevations were arranged better, instead of being scattered all over the place, you would have a more salable house."

"Yes, I am sure you can fix that up O.K."

"Don't you think that a better studied plan, with all elevations, and a section that really shows something, would be worth more money than these three sheets here?"

"Yes, of course. But I just got to keep the price down. My wife and all my friends tell me I'm a fool to build now anyway. I'm taking a big risk, and I just *gotta* keep the price down. Tell you what I'll do. I see you know your business or you wouldn't-a caught that stair matter so quick. I'll give you \$50.00—\$15.00 more than the other fellow. But I want those plans *right*. That's the very best I can do."

There have been plenty of years in my experience when I would have politely refused to consider this proposition as anything but a joke; when I would inwardly have consigned the whole transaction to realms where plans on paper can not exist long. But I accepted! Fifty dollars is better than an empty purse! And in accepting, I did no wrong to any other architect on earth, for he was at outs with the \$35.00 man, and his conception of architecture will never rise above his present level. Then I decided that having forced me to go one mile with him I

would go two. I made the plans as thoroughly as I would have for a regular client paying full commission. I believe in so doing I satisfied all claims of ethics, and made this benighted gentleman to have a somewhat higher respect for architects than he had previously!

ROSSEL EDWARD MITCHELL.

"Am very much intrigued by your Page 702 wherein a question is very much set forth. Apparently, the writer of this page was seeking an 'easy way out' and if he has had any experience in life surely he should know such solutions do not grow in bunches like bananas or grapes. Sound advice would be to do as many of us have done and are continuing to do, tighten up the old belt, spit in your hands and get a new grip, and grit your teeth with a determination to carry on.

"If there is a profession that has been taught to think, to plan, to analyze, to take criticism and solve problems, surely it is the architectural profession. Not only the draftsmen but we also who were a short time ago employers of draftsmen have certainly had to take it on the chin. Not only have we lost our jobs but fixed expense has spelt ruination. Still one must continue. This particular article reminds me of an experience I had while in Philadelphia. I happened to meet at the T-Square Club, and later in one of the architectural offices, a young man who for the sake of argument we will call Al.

"Al held a Master's Degree in architecture from the University of Pennsylvania. I understand that he was a bright student, but a picture maker is not necessarily an architect nor even a draftsman.

"Al soon found that his five years to attain his M.A. had been five years taken out of what might have been a useful life. Al realized that to be an architect was beyond his capabilities. Al for a while sold shoes and then sporting goods, then tried one or two other things with mediocre success and then tried to return and woo Miss Architecture, and it was at this point I had the privilege of knowing him. The chief draftsman in the office in which I happened to be employed was also a classmate of Al's and through friendship previously established gave him employment. He placed Al in my squad, having previously told me Al's history, and between us we struggled for about six months to make Al into a draftsman. In this time I became closely associated with him and we became good friends and still Al could not see the vision. *He was in his own mind a misfit.* He made no effort to better his condition and when criticized or corrected he had a tendency to become morose until finally I realized that Al had to be talked to by a Dutch uncle so I proceeded to get him told. I told him that his training in the university should give him a broader outlook upon life than in thinking of wasted years. That in those years he had been taught to think, to take criticism, to see the other man's point of view. He had also been taught some of the world's literature, the history of his time and the various and sundry civilizations that had preceded ours and of which ours is the result.

"After much discussion and many heart to heart talks I finally got over to him that irrespective of what line of pursuit he followed throughout his life, whether it be selling shoes or sporting goods and that even though he never drew another line, his five years of life had not been misspent and neither was he a misfit; that irrespective of what he tackled the educational and cultural background should permit him to excel or at least do well anything that he might tackle. He finally grasped the

idea and set about to take hold of himself and his mental attitude changed. Finally one day he handed in his resignation and went back to selling shoes at a store on Chestnut Street. He went back with the idea of being the best shoe salesman in the entire city; whereas he had sold one pair of shoes before, he would now sell three or four, and apply his constructive thought to the retail shoe business by studying merchandising methods and improvement of same. I continued to live in Philadelphia for nearly two years after this happened. Al was one of my best friends. He sold me a number of pairs of shoes and very much increased the volume of sales in that particular store. Where he is today I do not know, what line he is pursuing or what he is doing I do not know, but wherever he is he has my best wishes and unless he has suffered a relapse I am confident that he is still carrying on.

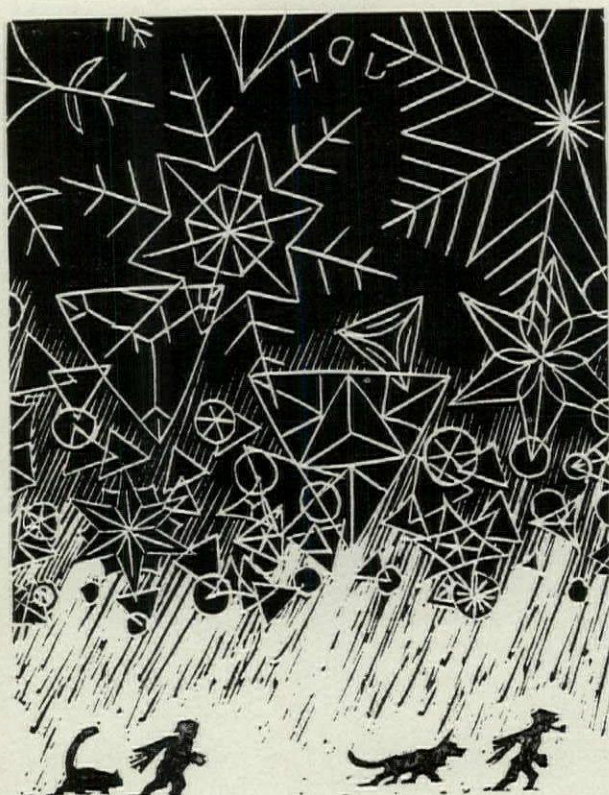
"It is this very same thing throughout our entire profession as a whole. If we, as architects and draftsmen, have to dig ditches, let us dig the best ditches that have ever been dug. If we have to take in floors to scrub, let us give them the damndest scrubbing they have ever experienced; if we have to sell shoes let us sell more and better shoes than have ever been sold before and if we have to go back to the farm and look the old mule up the back, let us plow the longest straightest furrows that have ever been plowed.

"Let the architectural profession meet its present-day adversities with a smile and show that even in the face of what has been disaster to us, that we can still think and have not lost our ideals. I cannot help but feel confident that even though much water has flowed under the bridges and even though the whole world has turned upside down and that no doubt the water is very muddy now, still there is yet to be much water to flow under greater bridges than have ever been built and maybe it will be not the muddy water of today but the clear bright and sparkling stream of a new tomorrow. So tell Roland A. Yaeger to tighten up his belt and that if he must let down bars and follow the speculative builder, tell him not to lose sight of his ideals and to make the best speculative builder that ever speculated on the spectrum and keep his vision clear and not be blinded by the aberration of one mere depression."

FRED W. CLARKE, Mobile, Alabama.



FROM A WATER COLOR BY RICHARD J. WERNER



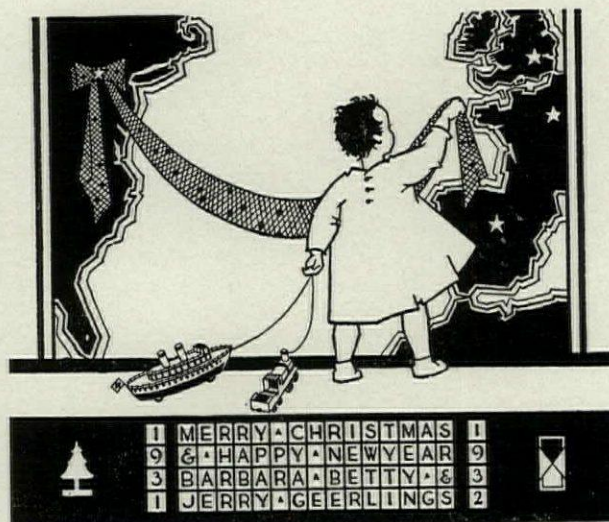
PRINT BY JAMES D. HAVENS, ROCHESTER, NEW YORK
This card is unusual in design and method of execution. It was cut from a rubber material with a metal backing used commercially for water-color printing. Prints in several colors may be made and printed, as Mr. Havens did, on a wash wringer.



CHRISTMAS CARD FROM A DESIGN
BY A. GORDON LORIMER, NEW YORK



A PEN-AND-INK DRAWING BY DAVID ABRAHAMS,
BOSTON, MASSACHUSETTS
Made more personal by filling in the name of recipient.



THE GERALD K. GEERLINGS FAMILY SENT OUT THIS
CARD LAST YEAR

Printed on a tan paper in bright red, it not only conveyed the Geerlings' holiday greetings, but also served to announce that the family was planning some foreign travel.

SOME SUGGESTIONS FOR YOUR HOLIDAY SEASON GREETING CARD

HERE & THERE AND THIS & THAT

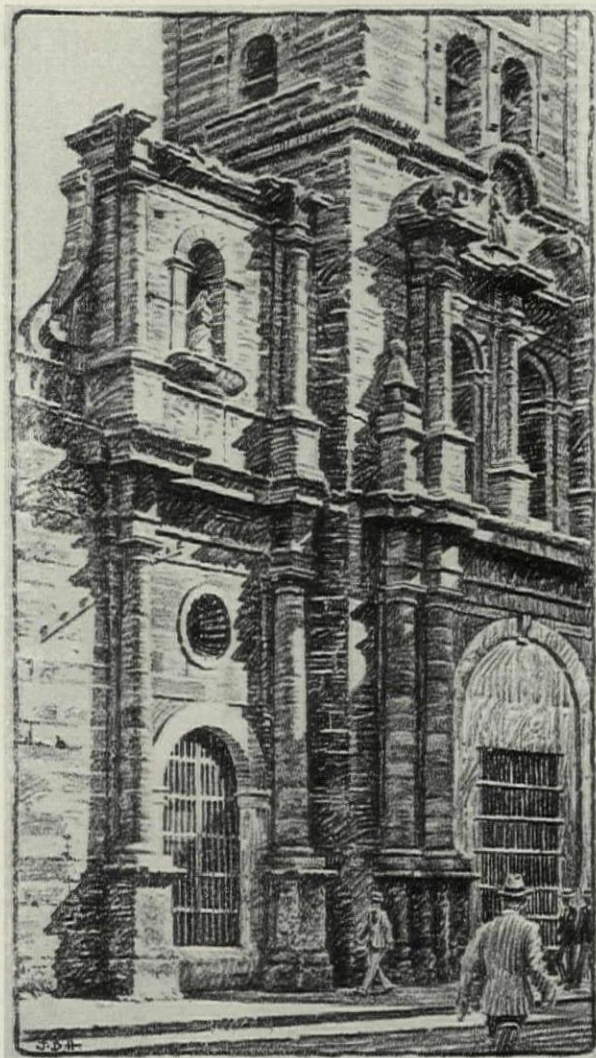
CONDUCTED BY E. L. C.

This department conducts four competitions each month. A prize of \$10.00 is awarded in each class as follows: Class 1, sketches or drawings in any medium; Class 2, poetry; Class 3, cartoons; Class 4, miscellaneous items not coming under the above headings. Everyone is eligible to enter material in any of these four divisions. Good Wrinkle Section: a prize of \$10.00 is awarded for any suggestion as to how work in the drafting room may be facilitated. No matter how simple the scheme, if you have found it of help in making your work easier, send it in. Competitions close the fifteenth of each month so that contributions for a forthcoming issue must be received by the twelfth of the month preceding the publication date in order to be eligible for that month's competitions. Material received after the closing date is entered in the following month's competition. The publishers reserve the right to publish any of the material, other than the prize winners, at any time, unless specifically requested not to do so by the contributor.

THE PRIZES in this month's competitions have been awarded as follows:

Class I—Julio Diaz Horta, Havana, Cuba
 Class II—John M. Kerr, Buffalo, N. Y.
 Class III—Jesse Marsh, North Long Beach, Cal.
 Class IV—Henry G. Rieber, Washington, D. C.
 Good Wrinkle—Nathan Raynes, West Philadelphia, Pa.

We cut out Mr. Raynes' scales and had a lot of fun subtracting and adding the fractions and decimals. It actually works. Try it out for yourself and see how easy it is.

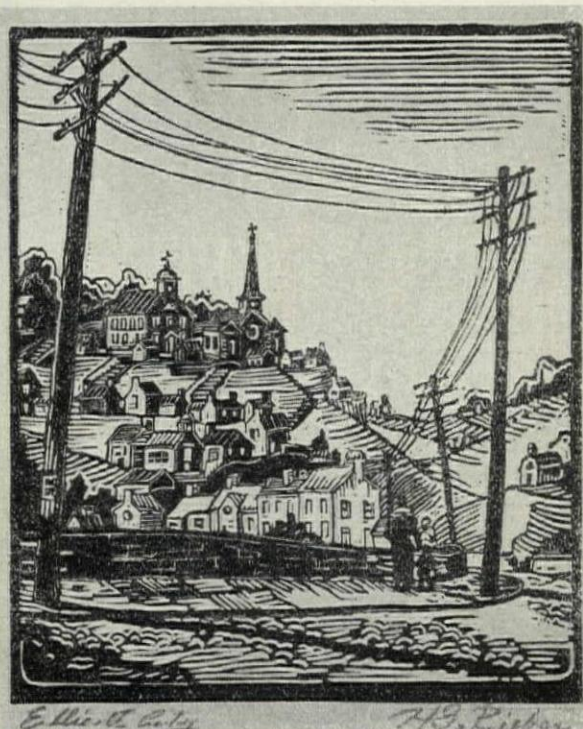


LITHOGRAPH PENCIL DRAWING BY JULIO DIAZ HORTA
 "Old San Francisco Convent, Havana"
 (PRIZE—Class One—October Competition)

Of course, we're going to have our annual Christmas Card Competition. Each competitor may submit as many entries as he wishes, the only stipulation being that the designs are original. For your inspiration we have reproduced on the opposite page several readers' cards that were sent to us last year.

After all the ballyhoo we made last month about our boss coming back on the *Rex*, it upsets us to announce that he only remained on board from Genoa to Gibraltar, where he deserted the palatial liner for a ship on which the plumbing functioned. The reports from the boss on Ragusa were not overrated. His photographs show some perfect gems of architecture and we know you'll all be enthused when you see them. Incidentally, one can live in Ragusa, it seems, for the sum of \$1.08 a day, or, if you prefer, seventy-two *dinars*, including *eau de vie*.

We were surprised and delighted when Salvador Gloop dropped in the other day after a tour of the great open spaces. Sal was burbling over with information regard-



RUBBER TILE BLOCK PRINT BY HENRY G. RIEBER
 "Ellicott City"
 (PRIZE—Class Four—October Competition)

ing the political situation. He says that he has given it his most careful thought and in his opinion what the country needs is a four-hour day and a twenty-hour night. Naturally, a dark horse candidate is indicated and he proposes to gallop himself on the Gloop Ticket, or somethin', handling the entire situation over a coast to coast network. Mr. Gloop's idea at first swept us off our feet (which *is* somethin'), but after a few seconds of ponderous thought we heartily agreed with him in his proposed handling of the campaign.

We suggested to him that he call in Mr. Elmer Twillig to take charge of the welcomes. We communicated with him at once by telephone, and to our deep regret were informed that Mr. Twillig, having been very much occupied hanging around all available corners looking for prosperity, was completely out of ideas for welcomes.

Further news regarding Mr. Gloop's campaign may be followed by our gentle readers in the Daily Press.

'T WAS EVER THUS

By John M. Kerr

(PRIZE—Class Two—October Competition)

While strolling one day, down the Appian Way,
I stopped by the roadside to rest;
And started a thinkin' of all my poor blinkin'
Fraternity brothers gone West.

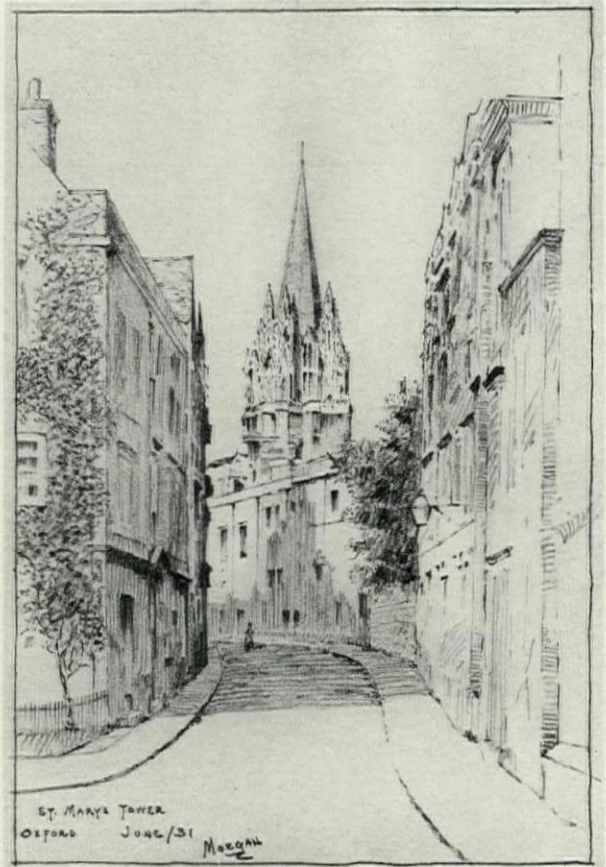
Those old Architects who had tried so to do
Their utmost for æsthetic beauty;
With all their acumen, they must have been human,
And so—feeling just a bit snooty—



"Scram! I ain't hirin' no men today!"
"Sir! I am the architect!"

SUBMITTED BY JESSE MARSH, NORTH LONG BEACH, CAL.

(PRIZE—Class Three—October Competition)



PENCIL SKETCH BY E. C. MORGAN
St. Mary's Tower, Oxford

I wondered what time they got down to their work—
What sort of "Full Sizes" they made;
Did they knock off for tea, at a quarter to three,
To size-up the Cæsar's Parade?

Did they argue with "Subs,"—those Baal-ze-bubs—
Was Union Labor a factor?
When things went awry, did they break down and cry,
Or fenagle the Gen'ral Contractor?

Did old Pericles, in his silk B.V.D.'s
O'er esquisses grow weary, and fret
Just like you and me, that the good old "Parti,"
Was far from a masterpiece—yet?

As idly I saw the old jamb of a door,
Who furnished the hardware, I wondered?
Who wrote up the "Specs" for "Romanized" decks
That probably leaked when it thundered?

Oh, Shucks! What's the use of being obtuse;
They must have had grief—a full quota,
Anno D., or B. C., it dawned upon me,
That things haven't changed an iota.

Readers will be interested to know that the December Monograph, on the subject of *New England Inns and Taverns*, is to be written by Hubert G. Ripley, whose recipe for a champagne cocktail recently appeared in this department. If we know Mr. Ripley rightly he will not only discuss these interesting old buildings themselves but will add a word or two as to what went on inside in the good old days.

HERE AND THERE AND THIS AND THAT

SHERMAN G. COATES of Philadelphia sent us the verse published below. It was written by one of his friends "in appreciation" of a poem by Mr. Coates, published in the June issue of this department. Here it is:

HOW TO LICK THE DEPRESSION

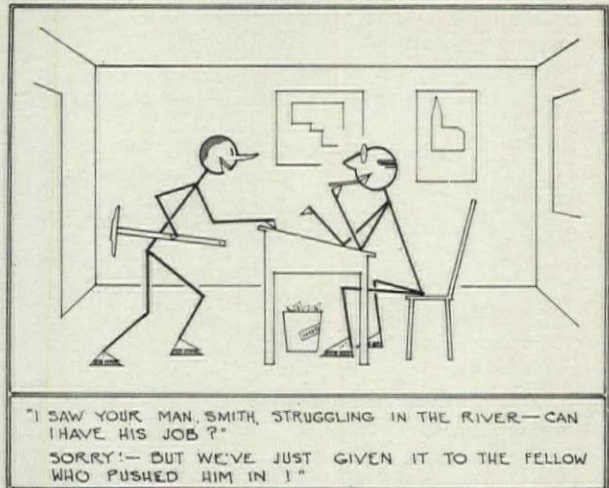
(A SUGGESTION)

By Lewis W. Easby, Philadelphia, Pa.

Ten berries a month for writing a verse,
(In passing, would say that it might have been worse!),
Keep wolves' hot breaths from scorching your door,
And assure you a sandwich—or possibly more.

So keep on penning your "This and That" rhymes;
A book of verses abreast of the times
Will be issued. Your Architect friends far and near
Will rise on their hind legs and give you a cheer!

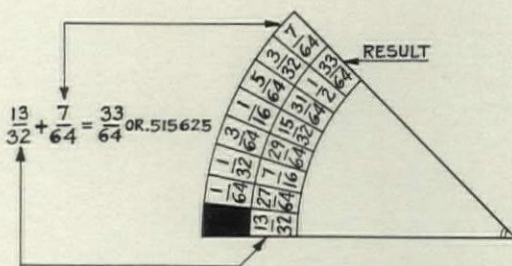
Hard times? No more!
With the book selling fast,
Depression is o'er,
And some kopecks at last!



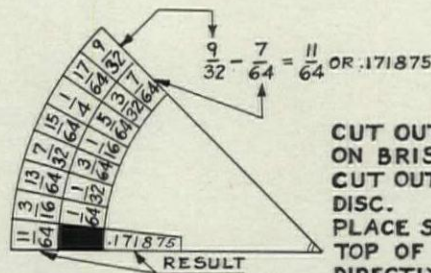
SUBMITTED BY NORMAN L. IRWIN, TORONTO, CANADA

Endeavoring to entertain P. G. K., the other day, we showed him the above cartoon. "Ha," said he, "that was good forty years ago!" Our apologies if they are in order!

ADDITION AND SUBTRACTION OF DECIMAL EQUIVALENTS AND FRACTIONS



EXAMPLE OF ADDITION



EXAMPLE OF SUBTRACTION

CUT OUT DISCS, MOUNT ON BRISTLE BOARD. CUT OUT SLOT IN SMALL DISC. PLACE SMALL DISC ON TOP OF LARGE DISC, DIRECTLY IN THE CENTER. PUNCH HOLE IN THE CENTER FOR EYELET OR EQUAL.

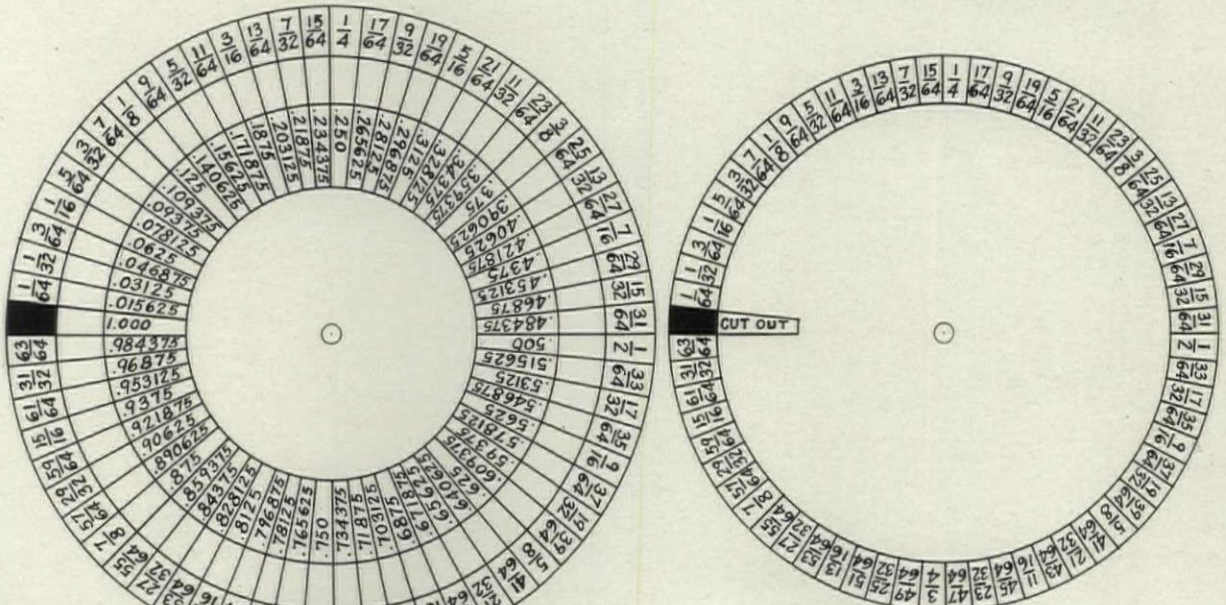


CHART FOR THE ADDITION AND SUBTRACTION OF DECIMAL EQUIVALENTS AND FRACTIONS, BY NATHAN RAYNES
(PRIZE—Good Wrinkle—October Competition)

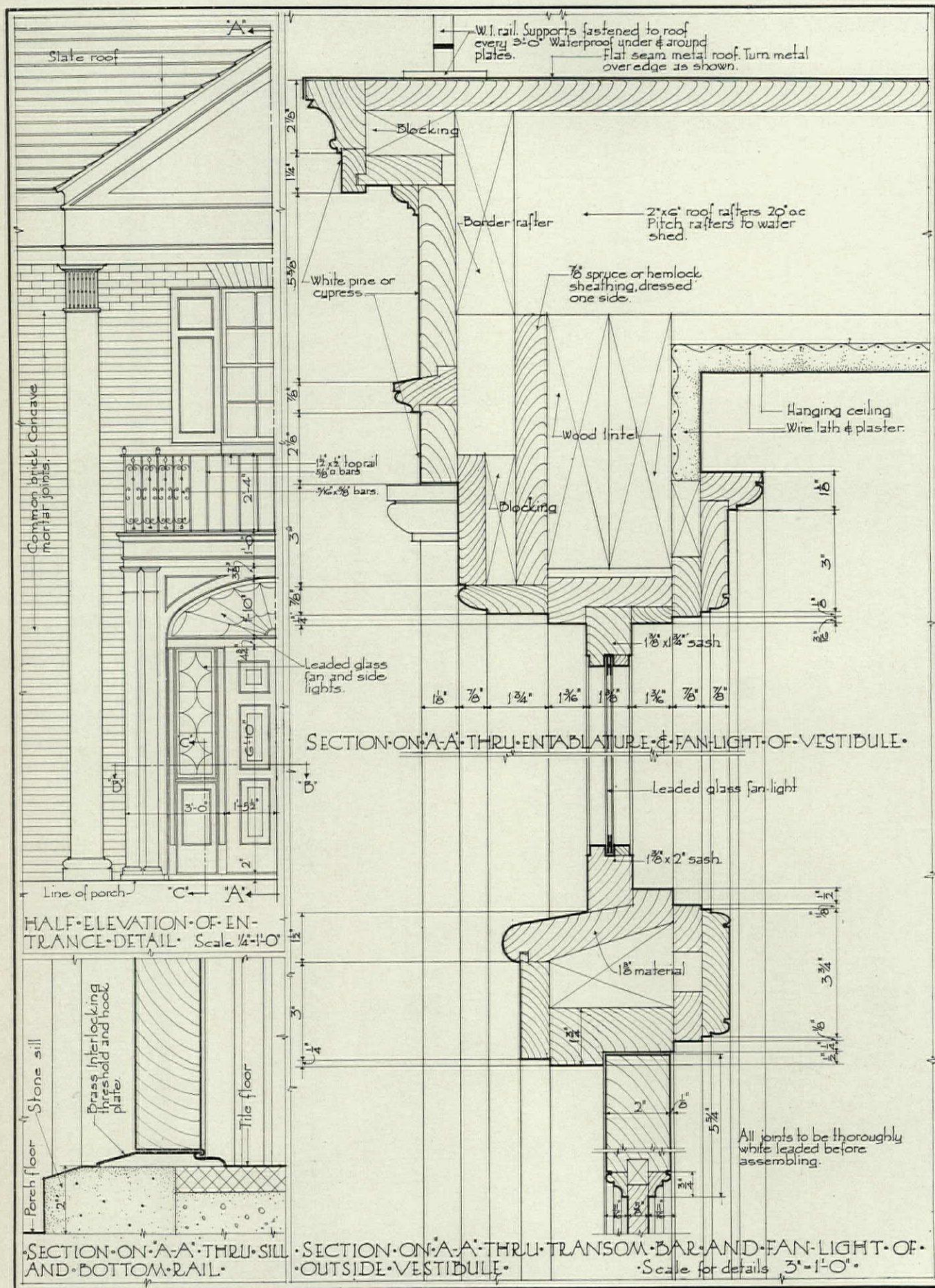


PLATE I—OUTSIDE VESTIBULE AND PORTICO—DRAWN BY PHILIP G. KNOBLOCH

(Other details of this portico will be presented in succeeding issues.)

THE SPECIFICATION DESK

Insurance During Construction

By R. P. Wallis*

To appreciate properly the part played in the Construction Industry by Insurance and its significance in safeguarding the interests of the Owner, one must be conversant with the nature of the contract between Owner and Contractor and the hazards that inevitably beset this calling.

The formal contract is customarily executed between Owner and Contractor. The Architect appears as the agent of the Owner in all matters pertaining to the contract. On the other hand mention of the Contractor implies all of the associated subcontractors, material dealers, and manufacturing plants as well.

The hazardous nature of the industry is too well known to warrant repetition. Its unhappy record of accidents is painful evidence of the risks run not only by those directly engaged but by the disinterested public as well. Aside from the threat of personal injury we have property damage and fire hazards as ever-present risks to be considered.

The Owner as the sole possessor of tangible interest may without cause on his part find himself in the role of defendant. To provide for just this exigency we find written into practically every specification or contract a clause whereby the Contractor assumes the responsibility of defending damage suits arising out of accident or other cause, agreeing at the same time to reimburse the Owner for whatever damages may be assessed against him.

The Contractor thus becomes responsible to the Owner not only for his own acts but for those of his associates as well. Thus in the fixing of responsibility for injuries or damages the Owner looks to the Contractor and him alone for protection against possible litigation arising out of accident or other mishap.

To make certain that the Contractor will prove financially able to carry out these provisions he is further required to carry sufficient insurance to meet such claims as may arise. Thus it is eventually the insurance company that foots the bills and not the Contractor, leaving the latter's credit unimpaired. The usual specification stipulates that certificates of insurance covering those policies mentioned therein be filed with the Architect as evidence of compliance with insurance requirements. The Contractor will generally find it advisable to require of each of his subcontractors the equivalent of the insurance protection which he is under contract to furnish to the Owner. Such requirements are usually written into each subcontract. Entirely aside from the question of responsibility the Contractor must bear in mind the possibility of serious construction delay from default or insolvency on the part of any of his subcontractors.

There are still other insurance requirements imposed by law. Society has as a measure of social justice written

into the statutes of the various states provision for the compulsory insurance of workmen against injury or death suffered in the course of normal employment. This provision is frequently written into the specifications, but is an unnecessary precaution in those states where it is a legal requirement.

In addition to coverage stipulated by contract and by law there are many other forms of insurance which the prudent contractor will carry for his own protection. The Owner while not directly concerned in this phase of the contractor's affairs is nevertheless much interested in his financial stability as in event of default delay and loss may ensue.

The question naturally arises as to who pays the premium thus made necessary. Analysis will show that in all cases this cost is ultimately absorbed by the Owner as a legitimate charge against the job. It may appear directly as an item on the estimate sheet or be included under the heading of overhead, likewise a part of the estimate.

The aggregate premium on a job of any consequence may amount to as much as ten per cent. of the contract price. The Architect should assure himself that all insurance requirements are complied with by the Contractor in order to protect his client's interests.

Under the heading of Insurance prescribed by contract, we find ordinarily such policies as Public Liability, Contingent Liability, Fire, Property Damage, and Contract Bond.

Insurance stipulated by law calls for Compulsory Workmen's Compensation Insurance. This may be written either through State Commission or private agency, depending upon the laws of the particular state.

The last classification, consisting of those policies carried by the Contractor on his own initiative, lists Tornado, Plate Glass, Automobile and Team Liability, Boiler, Elevator, Payroll, Safe Burglary, Robbery, Catastrophe Insurance, as well as many others.

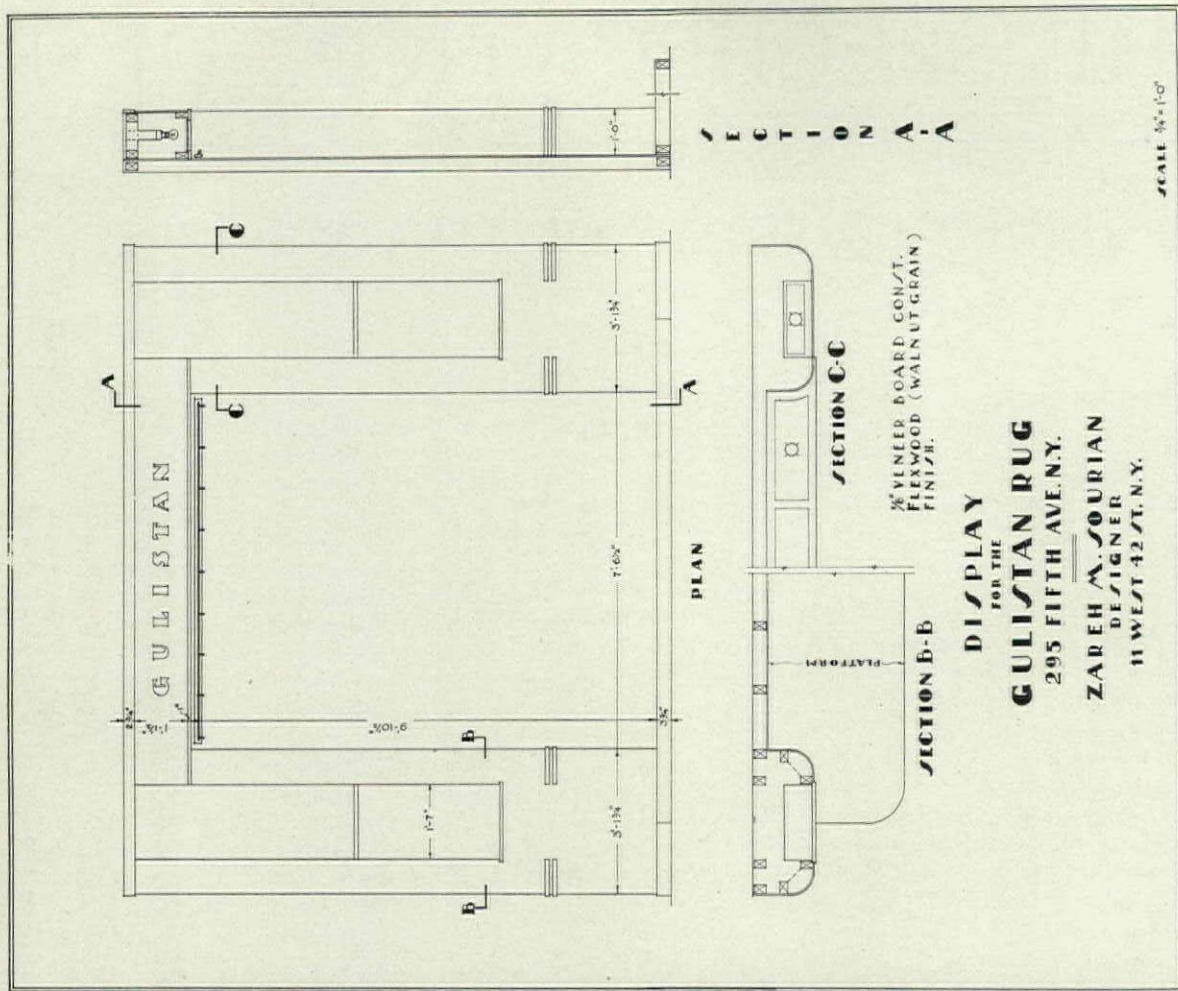
It is difficult in all instances to allocate properly these various policies to their respective groups. It would seem that much might be accomplished in this respect by the application of the principles of standardization.

The Architect should interest himself in this subject as it is largely through his assistance that the Owner may be assured of adequate protection against the hazards of the industry.

We will discuss first the group of Policies imposed by the Contract.

The first of these to be considered is Public Liability Insurance. The laws of the various states hold a contractor liable for injuries caused through his own acts or those of his agents to any one not in his direct employment. His own employees are covered by Compensation Insurance. Thus if an employee of a subcontractor is in-

*Instructor in the Elements of Building Construction, John Huntington Polytechnic Institute, Cleveland.



AN EFFECTIVE RUG DISPLAY ARRANGEMENT DESIGNED BY ZAREH M. SOURIAN
 IDEAS LIKE THIS ARE SALEABLE AND CAN BE WORKED UP BY ALERT UNEMPLOYED DRAFTSMEN AND ARCHITECTS

INSURANCE DURING CONSTRUCTION

jured by any act of the Contractor or his employees, or if a passer-by should suffer injury in a similar manner the Contractor stands liable for damage. It is to cover such risks that Public Liability Insurance is written.

It is customary to write into such a policy limitations of liability on the part of the Insurer based upon injury to one or to two or more persons. These limitations should be ample to cover any reasonable award by the jury as damages in excess of this stipulated amount must be met by the assured out of his own resources.

Policies should be worded to cover "any and all" of the various operations commonly conducted by the insured as otherwise the Insurance Company may plead that their policy did not cover the specific operation cited as the cause of the accident.

Premiums are usually based upon the kind of work at a designated rate of so much per \$100.00 of payroll.

The Contractor will find it expedient to assist the subcontractors in securing ample coverage as their ability to complete their respective contracts may be seriously affected by an adverse judgment.

In the case of damage suits it is quite customary to name as defendants anyone and everyone whom the plaintiff might hold responsible, entirely irrespective of legal or moral responsibility. A Contractor or an Owner may thus be called to defend a suit brought against him on grounds that are no concern of his. They cannot look to Public Liability Insurance for relief as that applies only to injuries chargeable to them or their agents. There are, however, two forms of Insurance written to cover such a contingency: "Owner's Contingent Liability" and "Contractor's Contingent Liability," covering the interests of the Owner and Contractor respectively. This risk is comparatively slight and the rate is fixed not upon payroll but upon the face value of the various subcontracts. Property damage is an ever-present risk against which adequate protection must be carried.

Ironworkers are all too liable to shower rivets, wrenches, and drift pins upon passing traffic below. Concrete is too frequently deposited by the antics of the wind in locations never anticipated by the Builder. Automobiles may be damaged, clothes ruined and adjacent buildings defaced as a consequence of the Contractor's operations.

The Contractor and his subcontractors are liable for such damage and should avail themselves of sufficient Property Damage Insurance to protect their respective interests and those of the Owners.

Fire Insurance is familiar to most of us. Its application to construction is complicated somewhat by the steady increment in risk as the structure takes shape. The large quantity of combustible material entering into construction as concrete forms, stagings, framing, and so forth, makes excellent kindling for overheated salamanders and carelessly discarded matches.

In answer to the demand for reasonable coverage at reasonable rates a form of insurance policy known as the Automatic Builder's Risk policy has been devised. Under such a policy coverage keeps pace with insurable value. Monthly reports are made determining the insurable value throughout the life of the job. The monthly premium is based one half upon the valuation of the preceding period and the remaining half upon the current appraisal.

The policy should be written with 100 per cent. coverage rather than with the usual 80 per cent. co-insurance clause. The added coverage may be obtained for only a nominal increase in the amount of the premium. The added protection is quite worth it.

This form of policy may be applicable to insurance written against the risk of windstorm, earthquake, and explosion, as well as riot.

Owners are occasionally desirous of extending their protection on present property to include new construction. This may be effected by proper endorsement upon the policy.

The subject of Contract Bond is a large one and one that may only be touched upon briefly here. The financial hazards incident to this business are such as to produce a high mortality rate among contractors. One unfortunate venture may wipe out the accumulation of years of careful and diligent effort.

Contract Bonds are written into the specifications to protect the Owner against the inability of the Contractor to complete his contract. The amount of the Bond may be set at whatever percentage of the contract sum the Owners and Architects deem advisable. In case of default the Surety Company may elect to complete the work itself or have others do so to the extent of their liability.

The Surety Company is presumed to make a careful and thorough investigation of the applicant both as to financial standing and experience. The schedule of rates as in the case of Workmen's Compensation reflects the lessons of past experience. The premium for the bond is most generally assumed direct by the Owner and does not appear in the Contractor's estimate.

The purpose of Workmen's Compensation is, as the title implies, an attempt on the part of the State to fix upon industry the responsibility of providing for those killed or injured while in pursuit of their legitimate employment.

The laws of the various states differ materially in the administration of this office. In some states private concerns are authorized to write compensation insurance. In others both private and public agencies may compete for the business, while in others it remains the exclusive prerogative of the state.

Let us take as a typical case the method by which compensation is provided under the Statutes of the State of Ohio. In this instance insurance is written only through the State Industrial Commission. The law applies to all employers of three or more employees. Those with smaller working force may, by applying to the Commission, take advantage of the benefits offered by State Control.

Assessments are made every six months based upon a schedule of ratings drawn up on a basis of the relative hazards of the various classifications of work. These ratings are subject to revision every six months so as to reflect accurately the cost of operation during the period just past.

Compensation for death is set at \$6,500.00 with a definite scale for partial or total disability based upon the weekly wage scale. The maximum weekly payment is set at \$18.75 and may in case of permanent total disability run for life.

Should it be evidenced that the injury in question occurred through failure on the part of the Contractor to conform to the provision of the State Safety Code an additional assessment of fifty per cent. may be added as a penalty.

An Employer may by posting proper bond and by complying with other requirements become what is known as a self insurer. Under this arrangement equivalent payments are made direct by the Employer to the beneficiary. So much is set aside on each payroll for this purpose. A self

insurer benefits directly by a low accident rate, hence he is most assiduous in promoting safety campaigns.

The beneficiary is denied the privilege of suing his employer under the terms of the Workmen's Compensation Act. His privilege of seeking redress against others through the Court is, however, not abridged.

Interesting and heartening features of this program are the provisions for selling the idea of safety to the men and the effort made through vocational rehabilitation to make wage earners out of those prevented by accident from resuming their former employment. New trades are taught and opportunities offered those who in previous generations would become a charge upon the community.

The Contractor should insist upon a certificate of insurance from each of his subcontractors and should be ready to submit these to the Architect as evidence of compliance with the specifications. Under the law the Contractor automatically becomes the employer of any workman whose employer has failed to comply with the insurance requirements. As such he becomes liable for any penalty imposed on account of Safety Code violation.

The final group contains policies written primarily for the Contractor's own protection and are not of such vital concern to the Owners and Architects.

Payroll Robbery and Safe Burglary are all too common features of the front page to excite more than passing comment. Insurance against such losses should be carried by the contractor as a general precaution.

The use of automobiles or teams outside the immediate vicinity of the building site is always attended by a suffi-

cient element of risk to make advisable the carrying of sufficient insurance to guard against mishap arising therefrom.

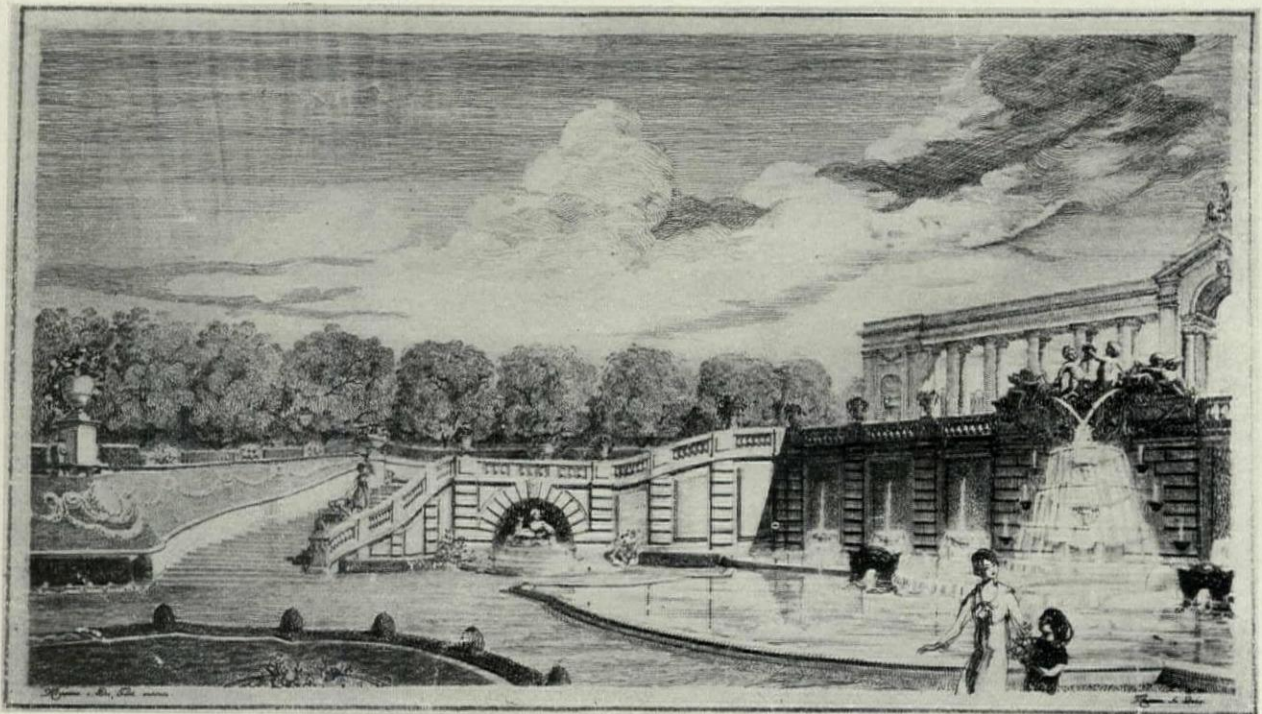
Plate glass insurance should not be overlooked. Expensive glass windows are only too subject to breakage once they are in place and unless they are properly protected by insurance some one may suffer a heavy loss.

Where it is desirable to protect the Contractor's interests beyond the point covered by ordinary limitations a special form known as Catastrophe or Excess Liability Insurance is available to cover up to whatever limits may be agreed upon the overrun above the original liability. The premiums are small and are based upon payrolls.

It may happen that the Owner for one reason or another desires to place the insurance or to extend his present policies to cover the new risk. This is entirely optional on his part but should be definitely covered as a contract requirement.

Insurance companies are organized for profit. They have a commodity for sale. This commodity is protection. The purchaser is very liable to receive just what he pays for. The insurance companies are careful to print on their policies the note "Read Your Policy." This means exactly what it says. They will be bound up to the limit of their legal obligation as set forth in the policy but no further, despite any verbal representation that may be made during the period of negotiations.

It is the responsibility of the Architect to protect the interests of the Owner. This obligation applies to the field of insurance exactly as it does to the realm of actual construction.



GARDEN ON THE ESTATE OF A. I. DU PONT, ESQ.—FROM A DRAWING BY G. MASSENA

MASSENA AND DU PONT, ARCHITECTS



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No 11

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THE MART

Earle A. Deits, 302 S. Prospect St., Colorado Springs, Colo., would like to sell or trade a complete I. C. S. architectural course for a structural engineering or heating engineering course.

James A. Kaltenbrun, 261 S. 17th Street, Columbus, Ohio, has for sale the *White Pine Series*, Vols. IX and X, except No. 3 of Vol. X. He would also like to trade a copy of *French Farmhouses, Small Chateaux and Churches*, by Antony Di Nardo (original price \$20.00) for a good copy of Guptill's *Drawing with Pen and Ink*.

John Bilane, 16 Sherman Place, Irvington, N. J., has 13 copies of PENCIL POINTS commencing with January, 1931, issue, which he will gladly give gratis to any student who will forward postage. All copies in fairly good condition.

William Helburn, Inc., 15 East 55th St., New York, N. Y., would like to obtain the following issues of the *White Pine Series*: Vol. I, No. 3; Vol. II, Nos. 1, 3, 4, and 6; Vol. III, Nos. 1, 2, 3, and 4; Vol. X, No. 6.

V. Mohr, 180 Middle Neck Road, Great Neck, L. I., N. Y., has the following magazines for sale: *The House Beautiful*, 1912 through 1918; *Architecture and Building*, 1912 through 1914; *Architectural Record*, 1912 through 1919; *Architectural Forum*, 1928 through 1931; PENCIL POINTS, 1927 through 1931; *The White Pine Series*, 1915 through 1928; *The Monograph Series*, 1929 through 1931. Any reasonable offer accepted.

B. J. Allen, 2411 Harrison St., McKeesport, Pa., has the following books for sale; Garner & Stratton's *Tudor Architecture in England*, \$49.00; *Renaissance Architecture in Spain*, Prentice, \$14.00; *Provincial Houses in Spain*, Byne & Stapley, \$22.50; *Italian Doorways*, McGraw, \$10.00. All like new, sent postpaid and insured.

Frank E. Wetherell, 506 Shops Bldg., Des Moines, Iowa, has architectural library for sale. This includes Viollet-le-Duc's *Dictionnaire*, Pugin's *Gothic*, Brandon's *Gothic*, first five volumes of the *Architectural Record*, nine volumes of the *Brochure Series*, etc. Send for list.

B. Tanner, 812B Venezia Ave., Venice, Calif., will trade a slightly used complete set of Castell Polychromos Colored Pencils, containing 64 colors, value \$8.00, for a full 1932 subscription for PENCIL POINTS; back numbers to be in good condition and must contain all Data Sheets.

Charles Schaefer, Jr., 332-338 East 149th St., Bronx, New York, has the following for sale: *Architectural Record*, Vols. I to XVI, inclusive, bound in half leather; 1914, January and July missing; 1915, July missing; 1916;

1917; 1918, December missing; 1919; 1920, May missing; 1921, September, October, November, and December missing; 1924 through 1928, complete. *Architectural Forum*, 1921, 1923, 1924, 1925, 1926, bound in cloth. *Architecture*, 1917, 1920, 1921, 1924, 1925, 1926, bound in cloth.

Drafting table wanted, at least 31" x 42", with adjustable top and large drawer. Price to be about \$5.00. Harvey P. Clarkson, 135 West 85th Street, New York, N. Y.

Robert Ronowski, 410 N. Edgewood Ave., LaGrange, Ill., has for sale the following: *Architectural Record*, from May, 1928, to May, 1931, except year 1930; PENCIL POINTS, from February, 1932, to November, 1932; and Vol. I, Nos. 1 and 2, of the *White Pine Series*. Make offer.

Lewis Gersh, 10636 95th St., Ozone Park, N. Y., has the following PENCIL POINTS for sale, in good condition: 1921, 1923, 1925, 1926, 1928, 11 copies of 1924, 11 copies of 1927, and some copies of 1920, 1929, 1930, 1931, and 1932.

Harold Bush-Brown, Head of Arch. Dept., Georgia School of Technology, Atlanta, Ga., would like to obtain the following *White Pine Series*: Vol. II, Nos. 1, 3, and 4; Vol. III, Nos. 1, 2, 3, and 4.

Stewart, Hurt, and Thompson, Architects, Boxley Building, Roanoke, Virginia, want ten or twelve copies of the July, 1930, issue of PENCIL POINTS.

PERSONALS

ARTHUR CREGIER, formerly with Earl H. Lyall, Architect, of 334 5th Avenue and 477 5th Avenue, New York, please communicate at once with W. F. Rouquette, Administrator of the Estate of Louis P. Rouquette, 160 Hancock Street, Brooklyn, N. Y.

FRANCOIS A. ROUSSEAU, ARCHITECT, has moved from New Bedford, Mass., to 78 Center St., Fairhaven, Mass.

CAMILLO BATTAGLIA, ARCHITECT, has opened an office for the practice of architecture at 68 Hudson St., Hoboken, N. J.

DANA B. JOHANNES, JR., architectural designer, is now conducting business in his drafting room at 6125 Georgia Avenue, N. W., Washington, D. C.

B. SUMNER GRUZEN, A.I.A., has opened offices for the practice of architecture at 970 Madison Avenue, New York, and Concourse Building, Jersey City, N. J.

EMPLOYMENT SERVICE ITEMS WILL BE FOUND ON PAGE 30, ADVERTISING SECTION