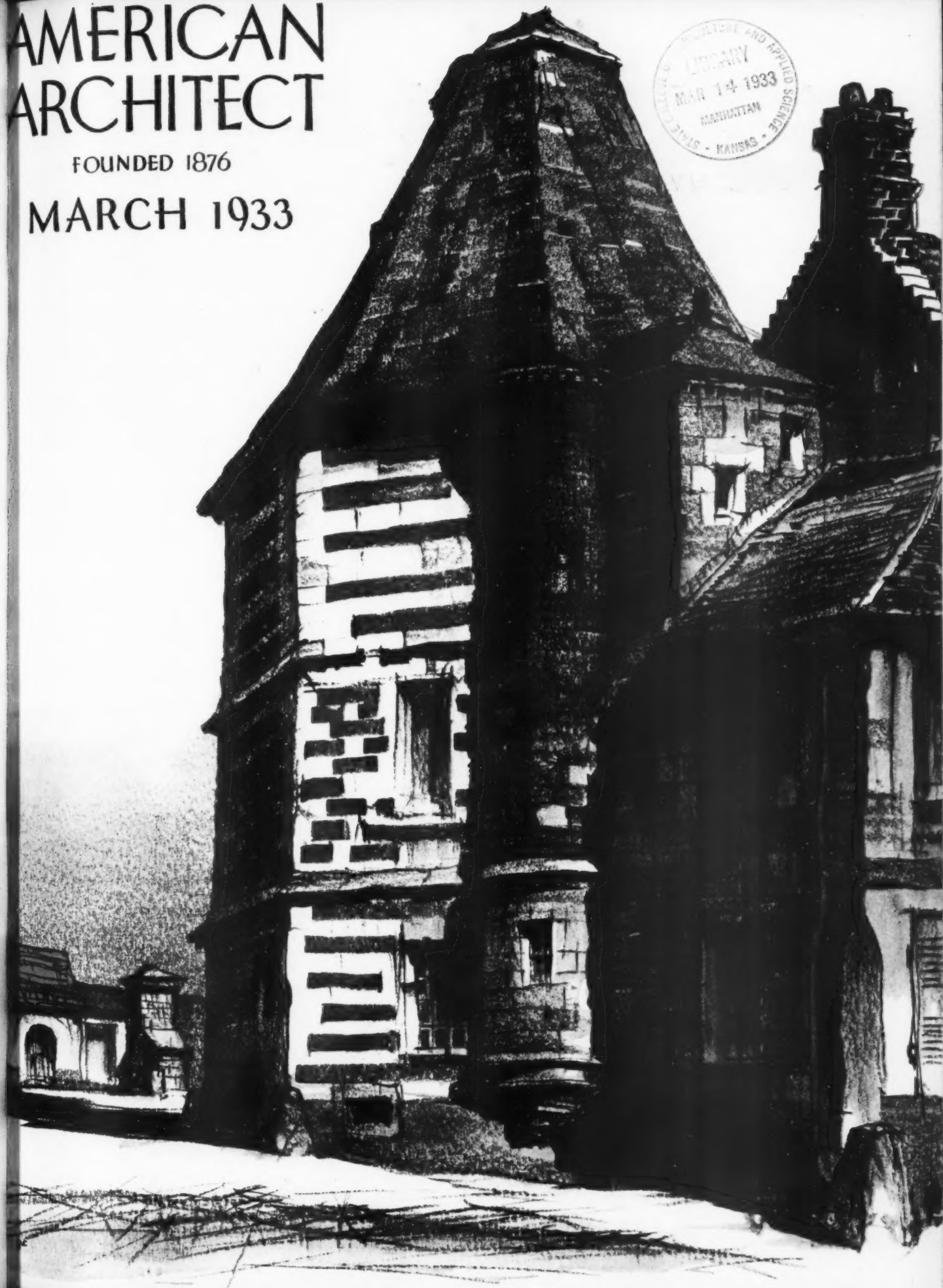


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FIRST: Put two parts of coarse aggregate ($\frac{1}{8}$ " to $\frac{3}{8}$ " size) in your topping mix, with one part portland cement and one part coarse-grain sand.



SECOND: Go easy on mixing water—not more than 5 gallons per sack.

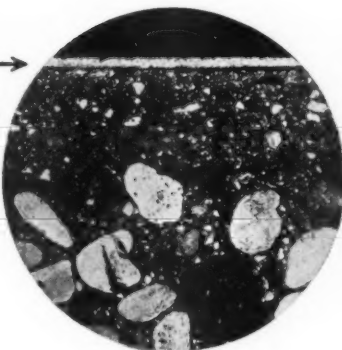
THIRD: Float at once, but don't steel trowel until absolutely necessary (under average conditions, 30 to 40 minutes). Trowel only enough to produce a true, even surface. When hard, cure under wet cover.



That's all there is to it—and the right way usually costs no more than the old-fashioned way. Write the Portland Cement Association if you want more information. It's yours—for the asking.

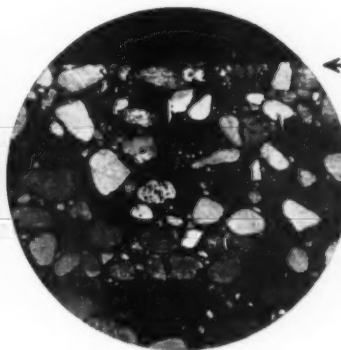
Wrong

See that white line? It's a "dust on" type of finish, too soft, too porous to stand the gaff of wear. Picture shows a cross-section cut from a slab that crazed in ten days after finishing.



Right

See the coarse material in the surface of this section? This is the kind of concrete floor that gives lasting satisfaction. Yet it is simple to lay and ordinarily costs no more than the old-fashioned method.



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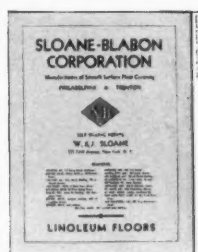
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Main building of the U. S. Coast Guard Academy, New London, Conn. James A. Wetmore, Supervising Architect.

Sloane-Blabon Linoleum has been specified for the U. S. Coast Guard Academy at New London, Connecticut. Eight thousand square yards of 6 mm. brown battleship linoleum will cover the floors of the distinguished new buildings now being erected on the bank of the Thames.

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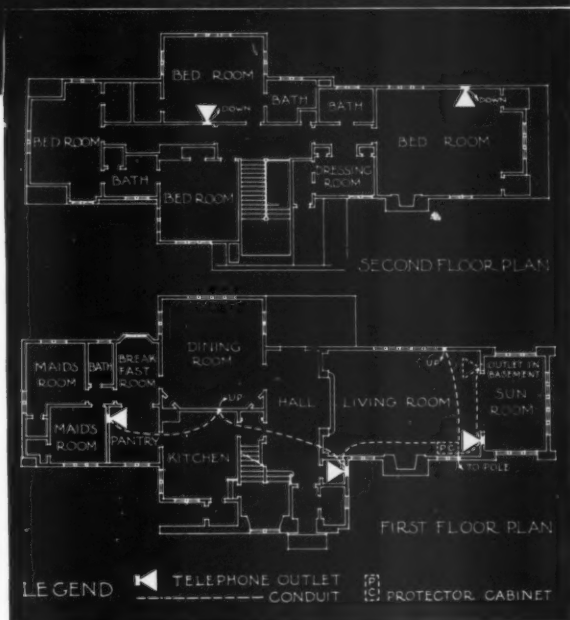
Trained telephone engineers are always at your service



The residence of Mr. E. J. Loranger, 14 Wildwood Circle, Pryor Manor, Larchmont, New York, is equipped for telephone convenience with built-in conduit connecting six outlets, including one in the basement card room. PHILIP RESNYK, Architect, New York City.

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TO BEGIN WITH, a typical loft-building interior. Painted plaster walls . . . pretty well marred and soiled. A plain concrete floor . . . unsightly and uncomfortable.

The architect's problem was to make this into a distinctive, modern reception room. His instructions were to *keep the costs low*.

For the walls, he specified the new Sealex Wall-Covering—in a striated pattern of soft, blended tones of gray. Above the chromium chair rail, the striae run vertically—below, horizontally.

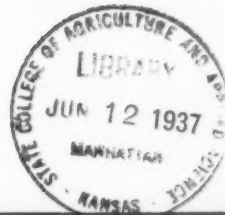
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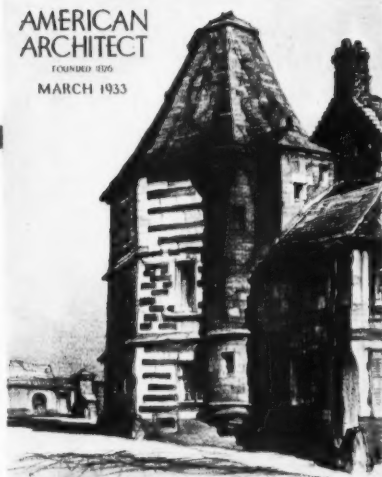
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BENJAMIN FRANKLIN BETTS, A.I.A.,
Editor

TYLER STEWART ROGERS,
Managing Editor

WALTER E. DEXTER,
Advertising Manager

R. F. GARDNER,
General Manager

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JOHN HOWARD PAYNE HOUSE, EAST HAMPTON, NEW YORK

Photograph by Samuel Gottscho

Documents now on record strengthen the contention that the author of "Home, Sweet Home" was born in this house which was built about 1660. The windmill, one of thirteen existing mills in eastern Long Island, originally stood at some distance from the house. The old homestead is now owned and maintained by the village of East Hampton as a museum



Let's Send More Students To Our Schools of Architecture

BY BENJAMIN F. BETTS, A.I.A.

SYMPATHY is frequently expressed for young people recently graduated from the schools of architecture and for those who will shortly complete their studies. Many people view with deep concern the fate of those who upon leaving school find no opportunity in architecture. They believe that the youths of our country should be discouraged from studying architecture. They say that the public should be informed of the overcrowded condition of the profession and that the schools should be urged to tell applicants the facts and direct new students into other channels.

This sympathy for the student is misplaced. For today the persons in greatest need of sympathy are those who have been out of school ten, twenty or thirty years. Most of them have fixed methods of thinking, habits and opinions. They are accustomed to doing one thing. Take this away and most of them are mentally at sea, unable to turn to new fields of activity. Young persons just leaving school have flexible minds. If they find no opportunity in architecture, they will turn to other fields of activity, in which they can apply the lessons learned at school. Many will discover that they are better fitted to do other things than practice architecture. This process of elimination will solve the question of overcrowding the profession.

It would be a great mistake to discourage young people from studying architecture. The man or woman born to be a great architect will find his or her niche and will succeed even under adverse conditions. For persons with creative instinct and a desire for culture there is no better or finer educational course than that afforded by the study of architecture. Those who are not particularly fitted to practice architecture will follow their own inclinations, but they will always have a finer appreciation of architecture and will have had an invaluable training in *how to think*. They will derive great satisfaction from such good architecture as they may see about them. They will be our future builders of fine buildings. They will want well designed houses. They will understand what an architect is and what he does. They are going to be tomorrow's *ideal clients* for those who practice architecture.

The thing to do is to encourage, not discourage, the youth of today who may be so inclined to go to college, if they can, and *study architecture*.

"The school is not the end but only the beginning of an education."—Calvin Coolidge

LETTERS of famous men written and signed by hand are priceless items to the collector. Aside from such letters of architects possessed by the Royal Institute of British Architects, the only known collection is that of the Burnham Library of the Art Institute of Chicago. This library, founded by Daniel H. Burnham, contains among other notable exhibits the library of Pierre F. L. Fontaine, drawings of Louis Sullivan, photographs and portraits of architects and autographed letters. Inspection of the collection brings back memories of many well-known architects and also throws new sidelights on their characters

Whitehall May 24 1706

My Lord

In pursuance of an order from y^r L^{ty} Council
upon the petition of the Clerks of the Parliament that the old building
where the Parliament Roll is kept might be repaired: and an ancient
Sewer there being choak'd up. I did direct the same to be cleared by equis.
the fitting it pass'd under y^r L^{ty} Garden, it was necessary to erect it there.
I humbly beg y^r L^{ty} pardon. & pray you will give leave to proceed in
for necessary a work: that it may be carried through the midst of the water
where it can doe noe damage: and if you please to give this permission.
I faithfully promise y^r L^{ty} it shall be do as speedily as possible, & the
walks made good in better order then before, could I have found it possible
to have carried any other way without ruining houses, I should not
have tropp'd on y^r L^{ty} ground: but this will not only be a public
benefit, but may be of use to y^r L^{ty} upon occasion: Hoping for y^r L^{ty}
favourable construction of my presumption upon so necessary an occasion
I remain with all submission

My Lord

Your L^{ty} most obedient humble servant

Ed. White

Holographs of Famous Architects

BY THOMAS E. TALLMADGE, F.A.I.A.

SUPPOSE the habit of making collections is a trait inherited from our Pleistocene forbears, who gathered nuts and fruits and marrowbones, storing them in triassic caves against the winter when the mammoths and the wooly rhinoceros would migrate before the approaching cold. There are, needless to say, many kinds of collections. It seems to me that about the most useless sort is a stamp collection. I have one, myself, not at all bad—nothing later than 1884, but I musn't get started on that. As a preventive of nervous breakdowns a stamp collection has no equal but one can hardly be regarded as source material. *Source material*, the fountainhead of information for the scholar, the foundation-stone of research, is as well the sheltering wing under which many a collection takes refuge when its usefulness is contested. While this applies equally to the mastodons and dinosaurs of the Field Museum and to the Japanese prints of the Metropolitan, I have in mind at the moment the Royal Family of the collector—first editions, manuscripts and autographed letters. The shelter and abiding-place of all these rarities

is the quiet cloister of the library, be it private or public.

The Burnham Library of the Art Institute of Chicago, founded by Daniel H. Burnham, has a splendid collection of books on architecture. It contains within itself the library of Pierre F. L. Fontaine, the architect of Napoleon Bonaparte. Among its other treasures are the fifty original folio plates of his system of ornament, masterpieces of draftsmanship and precious as the last distillates of the genius of Louis Sullivan.

It can safely be said that American libraries are far behind their European contemporaries in their collections of manuscripts and autographs. There are the great collections in the Morgan, the Huntington and the Congressional Libraries, but not in these, nor anywhere else in the land, are there any collections of the letters and original drawings of architects; in fact, there is only one known to me in Europe, and that is the collection of the Royal Institute of British Architects.

The Burnham Library has started such a collection. It is scarcely more than a year old, but already it holds much of interest and value to architect and scholar. Its



S^r JOHN VANBRUGH

101 - 01 - 00
 Mr. Jones I have examined this bill and truly
 considering the debt that was made of that work
 and the loss he is to pay for recast of the money I
 conceive the rate to be reasonable
 James Jones

corner stone is the priceless assemblage of Sullivan drawings, and its other possessions, modest in amount so far, consist principally of autographed letters, mostly holographs, i.e., letters entirely written and signed by the author. The Library has mounted a case on the wall at the entrance to the reading-room, securely chained like some ancient tome in a mediaeval cloister. In this from time to time are exhibited letters from its collection. If the letter is hard to read, it is translated, and always there is a short biographical account of the architect accompanying it.

Peering between the heads of a couple of architectural fledglings not long ago, I saw impaled in this case a bold and dashing chirography, leading, as one might almost guess, to the virile signature, "H. H. Richardson." The letter is dated December 9th, 1874, and is addressed to his close friend, Frederick Law Olmsted—that friend, who, to amuse him while lying sick with his chronic ailment, placed in his hands a miscellaneous collection of photographs, among which was the tower of the old Cathedral of Salamanca. Richardson (possibly shout-

Brookline

Mass: 9 Aug: 1876

My dear Mr. Olmsted

I enclose a
 sk. of the Buffalo Arch as it
 is to be - the proportions are left off
 and should advise having off
 the turret. I hope it will be
 time for Mr. Sanders to put it
 in the drawing as shown it will
 help our cause for you to show
 it. Evidently wrote me today & I
 have just written saying I had
 met you in all my Salomans
 as I thought. Think we all
 sh. be present - truly faithfully
 H. H. Richardson



VANBRUGH—gay, brilliant, witty, is represented in the Burnham collection by a letter dated 1725 and a portrait by Sir Godfrey Kneller. What better example of beautiful handwriting could one desire than that of Sir Christopher Wren! What memories stir upon reading a friendly letter from Richardson to Olmsted!

ing "Eureka") practically jumped out of bed and re-designed the tower of Trinity. To return to the letter—in particular, to its closing paragraph:

The frieze of angels is partially uncovered; it will be I think a success. I have settled on brass trumpets for the corner angels.

Very truly yours, H. H. Richardson.

What lover of Richardson's great adventure does not know that the Brattle Square Church [won in competition in 1870 by the young architect], was the first building in which Richardson employed the Romanesque style? A sort of architectural John the Baptist, it prepared the way for Trinity to launch the Romanesque Revival.

The Burnham Library will doubtless find its principal and most valuable material in the field of Americana; nevertheless, it has already established its budding collection in the past, and has as its tap roots letters of Inigo Jones, Sir Christopher Wren and Sir John Vanbrugh. The Inigo Jones item (a collector always says item with the same unction that a bootlegger refers to



*With much respect
Yours truly Rich. Lippin.*

his merchandise) is not extensive—perhaps not important except for its signature. The author of the portico of old St. Paul's and the Banqueting Hall of the uncompleted Palace of Whitehall has merely attested the correctness of a bill for materials and authorized its payment—an early form of the well-known "certificate." But to one familiar with the drama of the Renaissance, one who can see in it a sun rising in Italy and spreading light and warmth in succession throughout the countries of western Europe, finally to set beyond an ocean in America, the cramped signature of old Inigo Jones brings a warmth of suggestive pleasure.

The Christopher Wren letter illustrates in an amusing way two characteristics of the world's best-known architect: his good nature, which penalized him with duties of every conceivable nature; and his penchant for getting a job done. "Ye Ld. Treasurer" asks the architect of St. Paul's to repair a sewer. Wren finds that it runs through the gardens of the Earl of Carnarvon, forthwith tears up the garden and rebuilds the sewer, and then writes my lord, trusting that what he has done is all right with him:

Hoping for yr L^{ds} favorable construction of my presumption upon soe necessary an occasion, I remain with all submission,

*My Lord
Your L^{ds} most obedient humble servant
Chr. Wren.*



H. St. John

The Vanbrugh letter of October 25th, 1725, is, perhaps, the gem of the collection. Vanbrugh—gay, brilliant, witty, an ex-habitant of the Bastille, author of *The Relapse* and other comedies that have survived as English literature, the most popular member of the Kit-Cat Club—that coterie of Whig noblemen who had ridden into millions in Queen Anne's train—had purchased a Palladio! With such a tool he became in the eyes of his admiring friends an architect, and some of the greatest buildings in England were laid upon his shoulders. Notable among these is Blenheim Palace, in the building of which he locked horns with the redoubtable Sarah Jennings, Duchess of Marlborough—but let him tell the story:

Since that; I being forc'd into Chancery, by that B.B.B.B. old B. the Duchess of Marb^l, and therefore had no demand upon his estate for my services at Blenheim. I say since my hands were then tyed up, from trying by Law to recover my Arrear, I have prevail'd with Sr Rob. Walpole to help me in a scheme I propos'd to him, by which I have got my money in spite of the Huzzys tooth, and that ought of the sum, she expected to receive into her hands toward the discharge of the Blenheim debts, and of which she resolv'd I should never have a farthing. My carrying this point enrages her much, and the more because it is of considerable weight in my small fortune, which she has heartily endeavour'd to destroy, as to throw me into an English Bastile to



Charles F. McKim



Shepley B. White

finish my days, as I begun them in a French one. But I forgot that you don't love long storys, so begging your pardon for this, I am most truly and faithfully yours, and shall be mighty glad when your affairs and your inclination join, to bring you to London.

Vanbrugh.

The letter was written to Jacob Tonson, "gentleman usher of the muses," favorite publisher of Dryden and secretary of the Kit-Cats. It mentions the Club, Sir Robert Walpole, (the great Whig Prime Minister who kept England out of war and made her rich) and his own incarceration in the Bastille, to say nothing of his racy description of Her Grace, the Duchess of Marlborough, "in spite of the Huzzy's tooth" alone is priceless.

It's a long, long way from Vanbrugh to Richard Upjohn—a way that carries us past a stout company containing such stalwarts as Gibbs, the Adam Brothers, the Greek Revivalists, the Gothic Revivalists, their Battle of the Styles forever hushed, and Ruskin himself, no longer throwing the stones of Venice through the glass houses of Victorian architecture, and in America, our Colonials and Bullfinch and Thomas Jefferson. As everyone knows, Upjohn was the creator of Trinity Church, New York, and the first president of the American Institute of Architects. It was his practise to design one church a year gratis. Perhaps this letter which is short and sweet is to the rector of one of these no-fee churches. It is dated June 20th, 1847. Richardson flatly declines to

superintend a church of which the contractor is *not* a mason, much less, a stone-cutter, although likely enough, his morals are beyond reproach.

Another little gap contains the dubious heroes of our Parvenu period—those creators of our cupoloed and mansarded mansions and of our rustic cottages with their jigsawed gables—and the more than half-forgotten architects who used so often the name of good Queen Anne in vain.

So much we haven't, but let us dig into the portfolio and discover what we have. The Richardson letter I have referred to—in fact, there were two letters, both given by Henry R. Shepley, Richardson's grandson. The second describes in some detail a projected arch in Buffalo. Who knows what it is? Mrs. Schuyler Van Rensselaer doesn't mention it in her splendid biography. Here for instance, is an excellent subject for research. Source material again!

Here is a letter written from Paris and dated March 27th, 1879. It starts, "Dear Mr. Mead." The writer is greatly excited at being in Paris for the first time. He plans to go to Florence. May he stay with Mr. Mead? Then he writes this: *I have been designing a pedestal for St. Gaudens—Faragut—and a jolly hard job it has been. I will tell you about it when I see you. It has been the cause of my delay in leaving Paris, & now St. Gaudens is very sick, and I am helping nurse him.*" Care-free young draftsman that he is, he speaks of having just received a draft from McKim, Mead and

Bigelow, and signs with a flourish—*Very sincerely yours, Stanford White*. The next year the firm became McKim, Mead and White. If one should chance upon a letter written by Leopardi, say, to Sansovino, with the simple statement that he was working on a pedestal for Verrochio's Colleoni, and a jolly hard job it has been, what do you suppose it would be worth?

Other letters we pass by, lingering for a moment over a series of John Wellborn Root, mentioning one after another the skyscrapers, shooting up like mushrooms from the humus of Chicago. He naïvely hopes that his general plan for the proposed World's Fair will meet with favor.

Before me is a veritable pirate's chest. As a matter of fact, it is a chest and an iron bound one. It belonged to Daniel H. Burnham, and in it he stored correspondence, souvenirs, medals, diplomas, menu cards and what not, associated for the most part with the World's Columbian Exhibition of 1893. His sons, Hubert and Dan, have said, "Help yourself." Well, let's take a look.

Here's a letter from Frederick Law Olmsted. It is written from Brookline, Massachusetts, and dated 17th June, 1891. He breaks the news that "his son, Frederick, commonly known as 'Erick' or 'Rick,' will shortly report at Chicago," and he wants him to live at the Fair, following about Mr. Geraldine, Mr. Alvord and especially, Mr. Ulrich (whoever they were), absorbing all he can in construction and horticulture.

Here's a long one from McKim to Burnham, dated March 30th, 1892. They had had, evidently, a big meeting in New York and he writes, *You made an impression on men's minds here which has since gone the rounds and will make it necessary for you to come back more times as the irons of the Great Show get hotter*, and then, a bit mysteriously, *I trust that Atwood is none the worse for his visit East*. He wants a section through Hunt's Dome and the "Court of Honour." Last night he dined with Millet, sitting down at eight and leaving the table a few minutes before twelve, and he ends as follows: *As you read this, will you please order one of your slaves to telephone Arnold to send us some prints of the Agricultural Building right off*. Yours, C. F. McKim.

"John LaFarge, 51 West Tenth Street, New York, June 1st"—no year. LaFarge, what a name! It rolls through one's memory like a herald's call in a mediaeval list, but my picture is of a man with a crusader's mien working like mad high up on a flimsy scaffold far into Saturday night, with Trinity to be dedicated Sunday morning! The letter is very finely written and difficult to read, but this he says: *I think of my decoration as you do a building—a thing to be built*.

Atwood (it is no secret) was, shall we say, uncertain? Here is a curious little note of apologetic explanation, dated January 9th, 1892. He is *unable to go to the office today nor will he be able to be there tomorrow*, but Mr. Burnham need not fret *because he is working at his studio and is making very good progress*.

Here are letters from Major Jenney, from William Holabird, from Thomas Hastings, from Peabody, Cass Gilbert, Daniel French, Karl Bitter, and some of later years such as Willis Polk with disingenuous outpourings on the subject of the Pan American Exhibition. Here

is one from that bluff old aristocrat, Richard M. Hunt, dated September 30th, 1893. There is nothing bluff about the hand-writing. It is frail and uncertain. *I had arranged to go to Chicago October 4th but have been obliged to abandon the idea on account of my health; five days at my office during the past five months—He hopes to start on the ninth but, as he says, the chances are slim*. I wonder if he ever got there—the closing of the great Fair—at which his Administration Building seated at the head of The Court of Honor, looked out from a throne and over a domain fairer than any queen ever had before?

Perhaps the World's Fair or, better still, the World War is a convenient and logical pausing place on the accumulation of architects' letters. The collection, still in its incipency, which we have been discussing has made no effort to get letters or drawings from the Internationalists on this or the other side of the water or from any other living man. What they have said and are saying undoubtedly will be of the greatest interest and value to succeeding generations. If the architect becomes as extinct as the classic example of such a fate, the dodo, then any of our letters will become valuable.

There is, however, one man of our own day, International in the sense that the whole world of beauty was his parish, who seems to have been convinced in his last days that the old order had given place to a new, and that is Bertram Goodhue. A long letter from him to a friend, known to every architect, to a considerable degree states his creed. Perhaps a paragraph or two could be a fitting finis for this essay. The paramount importance of this letter to any commentator on Goodhue or his times is evident.

I hold that while architecture should represent a decent reverence for the historic past of the art, that we should only ignore our rightful heritage for the most compelling reasons, and that one of these compelling reasons is the modern invention of steel frame, or reinforced concrete, construction: That this form of construction does abrogate practically all known forms—at least definite constructive forms such as columns or arches: That it is not enough that a building should be beautiful, it must also be logical. I recognize therefore, and sympathize with, the difficulty under which any and all architects must work now-a-days; Fortunately most of my buildings are honestly built. My buttresses, although I give them a little more projection than necessary, do 'butt' and my columns do 'col.' However, I am using less and less of the latter and have devised a form, neither column, buttress nor pilaster, that is getting to be, I hope, a proper outer envelope for an inner steel vertical. It seems to me that steel, or reinforced concrete floor construction can be perfectly legitimate: That is, these don't imitate wood beams or wood floors, even though the floors themselves can be covered with wood. Contrary to what I suppose is the generally accepted view, I hold no brief for Gothic as opposed to any other style. Gothic seems to be the generally accepted spirit in which churches should be built; also I find its forms attractive, therefore a good deal of Gothic work must be laid to my door; but I assure you I dream of something very much bigger and finer and more modern and more suited to our present-day civilization than any Gothic church could possibly be.

Modernization Methods That Bankers Will Support

BY LOUIS C. STONE

"MODERNIZATION is still in its infancy. This type of building operation is likely to hold the foreground for the next two or three years—if not longer," said one of New York's progressive bankers.

"There is a market for real estate today. Older properties that are in need of modernization are sought by private individuals. As the proper owner of property is not the bank, but the private individual, a sale can be readily negotiated if a satisfactory equity is offered by the purchaser for purposes of modernization.

"As trustees for funds, financial institutions must be careful about protecting their principal. Work of any nature on a building on which they hold a mortgage must be incidental to the safety of that mortgage.

"The ultimate result," he said, "should be one that will reinforce the safety of a mortgage by making the property more rentable, or—if a major operation succeeds in raising rentals—that will improve the margin of safety for that mortgage.

"It must be kept in mind that it is not what can be done to improve property for the next four or five years, but what can be done to make it profitable for the next ten or twenty years. Patchwork jobs under certain circumstances are good as far as they go, and will do under the head of 'waiting until better times.' But if modernization is only a fifty per cent job, banks must refuse to advance funds. This largely depends on location, and wherever possible, a bank would prefer a thoroughgoing 'hundred per cent' job of modernization.

"The ultimate salvation of mortgage investments does not rest with those individuals or institutions who put more money into properties for a short-term carry. For without more thorough modernization, properties are likely to become obsolete again in a few years. That is not what I would call adding to the fundamental strength of the real estate market. Sound modernization should be done with the long-pull point of view."

From the foregoing the implications are plain that the most acceptable modernization scheme will not, necessarily, be the one that costs least; but the one that will bring the best return for the money spent, over the long-term period, will find ready acceptance.

The greatest study and ingenuity will in many cases be necessary in order to arrive, by thorough technical analysis, at the most economical architectural plan and soundest real estate set-up. Architectural and real estate factors are closely interrelated and the architect must have enough familiarity with the real estate situation—rentals, types of occupancy, trend of the district, tenant demands, operating and construction costs—to aid the banker in solving the problem.

The architect's services are indispensable in this type

of work, for sound modernization begins with the plan. The architect can show whether a major or a minor modernization will offer the best investment solution.

Specifically, the principal changes in plan that must be brought about in a carefully studied modernization job are apt to be:

1. Better disposition of rooms for efficient operation.
2. Proper-sized rooms, smaller or larger, as needed.
3. Good light and air.
4. Adequate halls, stairways, exits, elevators; efficient heating systems; etc.
5. Sufficient closets, well planned kitchens and bathrooms, and similar essential renting features.

Figure 1 illustrates the painstaking analysis and study that leads to successful architectural and investment solutions. This example is especially illuminating, for a seemingly impossible rigidity of plan together with extreme obsolescence were made financially attractive in a striking manner. The surgical and economic skill of the architect—aided by a cooperative lending institution and an intelligent builder—are forcefully demonstrated.

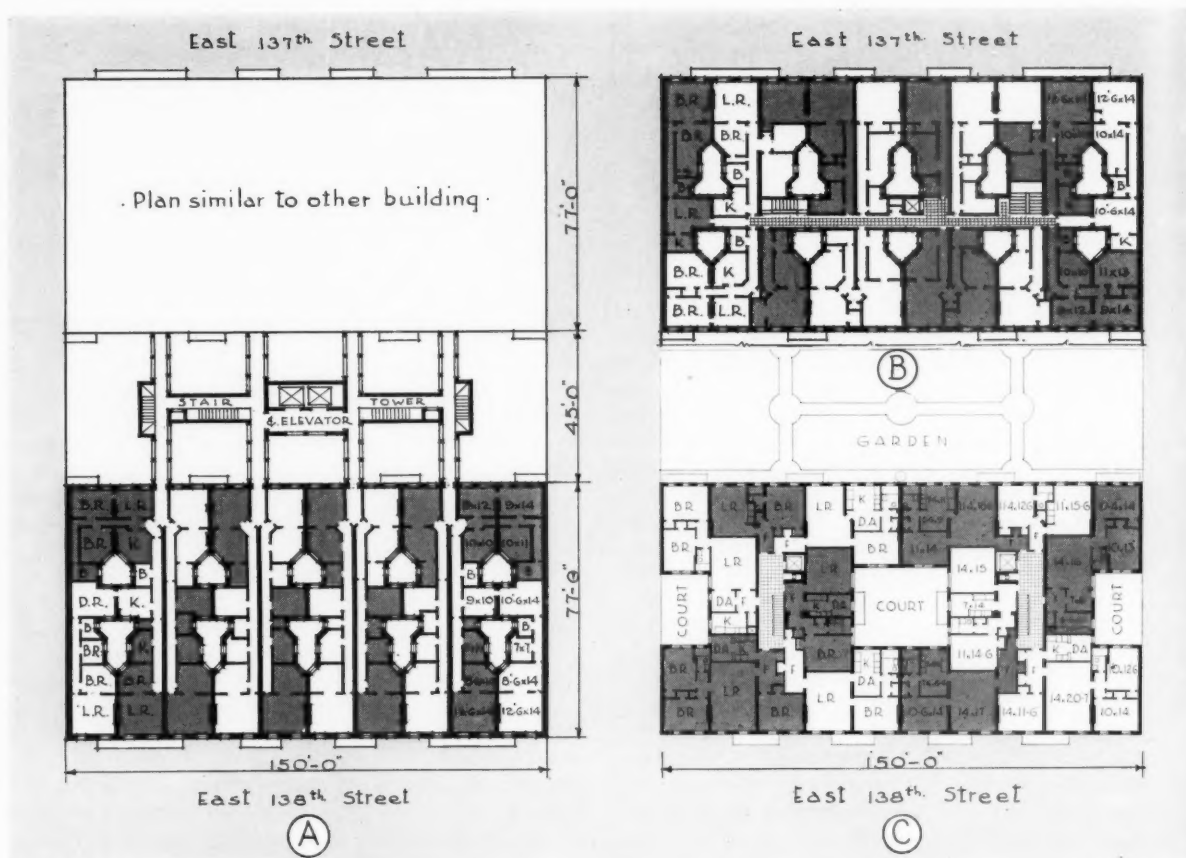
THE story is told in the three plans, A—B—and C. Plan A shows the original layout: obsolete, "railroad" flats, undersized rooms, extreme deficiency of light and air. Antiquated elevators were housed in freestanding shafts in the inner court, with glass enclosed halls leading into each building.

There were four possible methods of modernizing the property: (1) tear down the buildings, because they were operating at a loss, and rebuild; (2) recondition: surface modernization, with some modern equipment; (3) modernize according to Plan B; and (4) modernize more completely, involving the gutting of the entire interior, as shown in Plan C.

After careful study by the bank in cooperation with their consulting architect, solutions 1 and 2 were found to be inadvisable. The first was entirely too costly for the location; the second, too short-sighted, for the buildings would not long stay tenanted.

Solution 3 (Plan B) was discarded because it was believed that the result was "obsolescent." True, it involved less drastic structural alterations and would have cost less than the final solution. Nevertheless, Plan B represents a necessary step in the careful consideration that leads to sound modernization. This analysis paved the way for the final solution (4)—Plan C.

Plan C represents very radical structural changes, paid for by the higher rentals that could be obtained with a better plan standard in that location. Translated into rental per room per month, Plan B would yield no more than \$9, whereas Plan C was set up on a basis of \$12 to \$14 per room. These are the rentals actually being paid.



An analysis of the return on the investment showed that in its "as is" state (Plan A), the property would have shown a loss of over 1% even if fully occupied. Actually the vacancies were about 50%. After allowing for 15% vacancies, Plan B showed a return of about 5% on the gross investment; while Plan C demonstrated an 8¾% return.

And here is a fundamentally conservative investment principle: Because Plan C, with good-sized middle court and two side courts, two elevator halls and elevators, modern materials and equipment, called for a heavy investment, the cost of the improvement will not be written off for many years. But there is no need to compute a carefully studied re-investment that way. The expenditure is based on a long time future income performance. A 1900 shell has been brought to a 1932 income standard. The bank will have the assurance of safety of principal. The re-investment was made jointly with the builder-owner, and a threatened loss of the original mortgage has been turned into a preferred risk.

Figure 2 shows a less involved, though no less skillful modernization solution. The building is over forty years old, with apartment units characteristically ante-bellum. Eight studies were made by the architect before the bank that was interested in this project was satisfied. The rear portion was especially difficult, for there the plan showed a most uncompromising "Victorianism." As a result of the accepted solution, a gross yearly income of some \$5,200 subject to many vacancies and derived from

an irresponsible class of tenants, was increased to \$14,000. Tenure has been more strongly entrenched because the type of tenant appeal was completely changed to fit the present day market in that location. The total cost is reported to have been about \$40,000.

It is apparent then that each modernization problem must be individually studied; precedents serve only to prove how complex are the problems of architectural surgery when every step must be checked by an economic measuring-stick.

This stick is as broad as it is long. For the time being bankers would rather stay out of locations that appeal to the higher income brackets, as there seem to be plenty of apartments available at twenty dollars and more per room per month. But there are hardly enough well planned modern apartments in the ten-, twelve- and fourteen-dollar-a-room class. If that is the way the progressive banker feels about modernization, it appears to be timely to suggest that the diligent architect concern himself with the creation of such dwelling units out of obsolete structures.

There are those who question the wisdom of piecemeal modernization; they contend that if the surroundings remain poor they may cause quick depreciation even of fully modernized property. But it may be that successful individual ventures will encourage others and in this way backward sections may gradually regain their one-time desirability. No one denies that such work will create a "market within a market," and that it is as

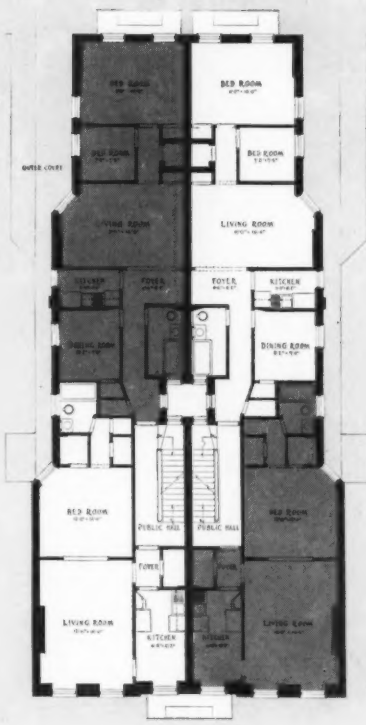
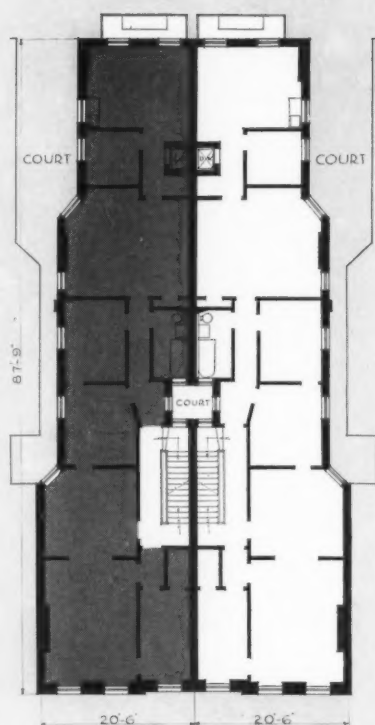


FIGURE 1.

The drawings on the facing page show the original plan at A of an antiquated group of "rail-road" type flats, and at B and C tentative and final plans for their modernization. Plan B, though requiring only minor interior alterations was rejected on the ground that the building would still be substandard for the locality. Plan C, involving radical changes in the plan, showed an 8 3/4% return on the investment and was approved

FIGURE 2.

At the left is shown a less involved, though no less skillful, modernization project. Two eight-room flats with very poor arrangement of rooms were converted into four apartments by relatively simple partition changes and the introduction of new bathrooms and modern kitchens. Note how ample closet space was provided as a renting feature

beneficial as a brand new project as a source of work.

And even the "Park Avenue" type of apartment house is not without its modernization possibilities. There are many eight, ten and twelve room apartments in good neighborhoods that can be converted profitably to smaller and more rentable units.

HOW shall the architect, as expert counsel and chief surgeon in the reconditioning of buildings, establish and extend his contacts so that he can profit by the opportunities in the present real estate market?

The chief avenue of information as to "cases" is to be found in the foreclosure notices published in papers like the Law Journal, and to some extent in newspapers.

No architect should hesitate to call on any lending institution regarding modernization jobs. The banker will welcome the architect who is fully aware of the opportunities that come as a result of liquidation.

The architect knows enough about building and renting trends to realize that some properties are beyond salvation, even though there may be many plan-solutions. On the other hand, a builder who has been actively following modernizing work for the past two years holds that practically any property can be made to show a better rental and income record if it is renovated according to the needs of the existing conditions. Many architects will disagree with this, and rightly. Only experience will help to distinguish between opportunity and *impasse*.

Every property that is foreclosed today and stands in need of such things as hot water, steam heat, electric lights, new plumbing and fixtures, new bathroom equipment, new elevators, and other interior and exterior modernization, is a warning to financial institutions, and to owners, that indifference to the modern standard of living is costly. Bankers are becoming "property-conscious," and because they must furnish these things, or see that they are furnished, in order to keep solvent and to protect their investments, they are also coming to a better understanding and appreciation of the skill of the architect, and are seeking his advice today more fully than they have in the past.

The depression may well serve as liaison between the various interests in building and in real estate. The bankers' more complete recognition of the importance of good architectural services for sound modernization should stand the architect in good stead in the next market for new buildings.

As modernization requires less capital proportionately than a new structure, it is likely to be financed more readily, especially where the long-time return can be shown to be as good or better than bank rates. Foreclosures, with the necessity of an aggressive policy in order to restore practically tenantless, dilapidated buildings to earning power and solvency, favor the further development of this market for architectural services, for labor and for materials.



PROSCENIUM ARCH designed in the shape of a sunburst. The color scheme is gold.

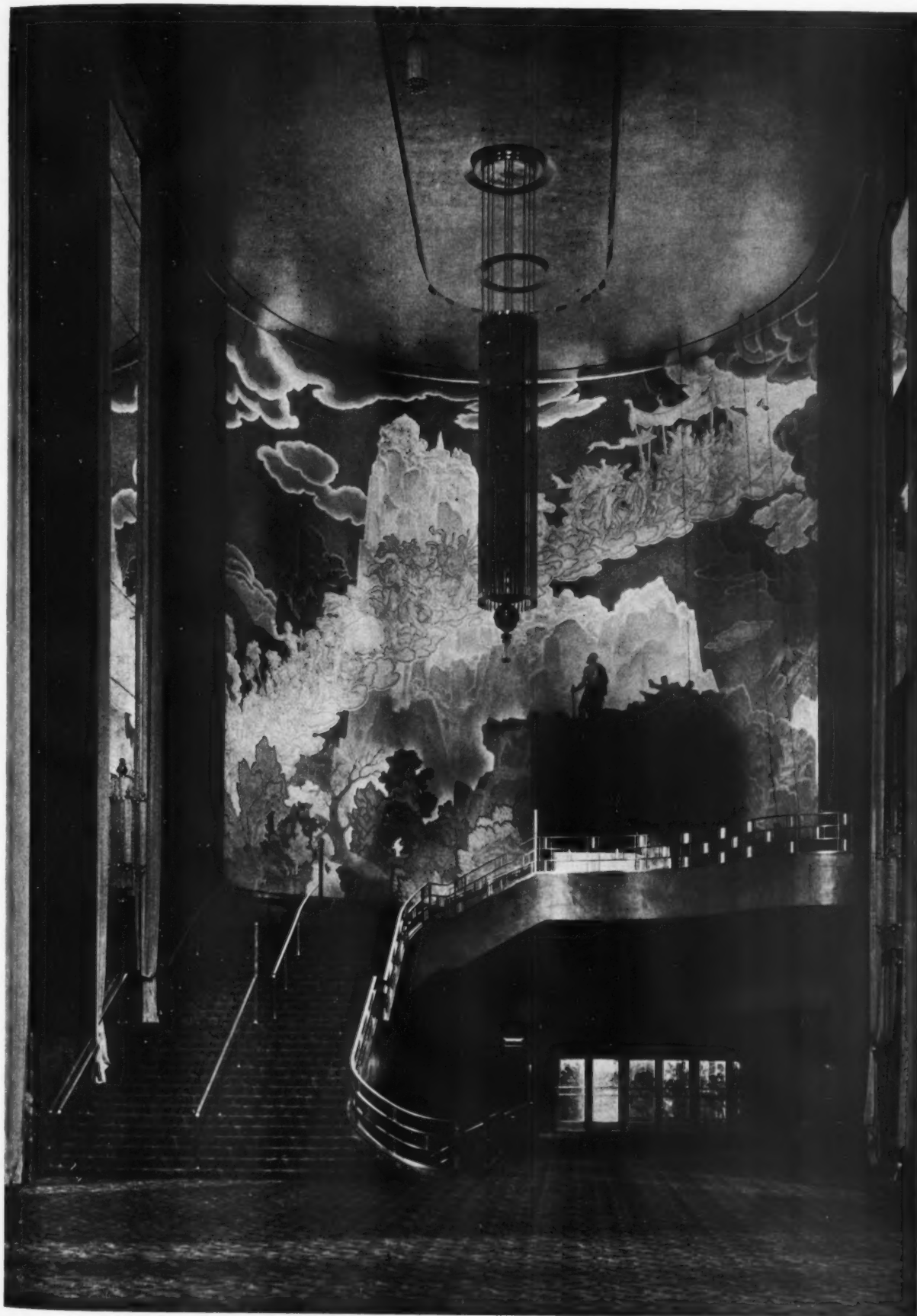
GOOSE GIRL cast in dull aluminum. Robert Laurent, sculptor.

THE GRAND FOYER in red and gold, shown on facing page, contains a huge mural depicting Man's Ascension to the Fountain of Youth. Painted by Ezra Winter.



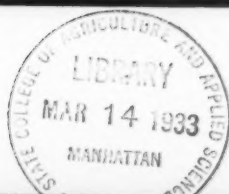
INTERNATIONAL MUSIC HALL, ROCKEFELLER CENTER, NEW YORK CITY

REINHARD & HOFMEISTER; CORBETT, HARRISON & MACMURRAY; HOOD & FOUILHOUX, ARCHITECTS



FOR MARCH 1933

17



Radio City

By Walter Lippmann

ONE hesitates to speak frankly about the Radio City Music Hall in Rockefeller Center. So many persons have invested hope, and effort, and money in the enterprise that almost it seems incumbent upon the mere outsider to wish it success and say no more. Yet its sponsors invite more than perfunctory tolerance. They have built something enormous for the purpose of astounding the world, and it will not do merely to ignore them politely.

What they have done is to build a theater which is so long that from the back rows the performers look like pygmies and is so wide that from the nearer seats the eye cannot encompass the whole stage. For such a theater it would be necessary to create some radically new kind of spectacle, some sort of show in which the individual performer was disregarded, because few in the audience can really establish any relation with him, and to substitute gigantic dolls or the mass effect of regiments of people. I do not pretend, of course, to know what can be done on such a stage, but it is evident that the showmen now in charge of Radio City are equally in the dark. There was no evidence on the first night that they had ever paused long enough to consider whether, in changing the whole scale of the theater it was necessary to change the character of the show. It seemed to me at least that they thought the way to use the biggest stage ever built was to put on it the longest vaudeville show ever given.

They were like men who had built the Leviathan and were trying to use it as a ferryboat to Staten Island, who had built a great pedestal to sustain a peanut, or a pyramid in their backyards. Among all the fantasies of man there is no more striking example of the complete dissociation of means from ends, a more obvious case of enormous effort and absolute aimlessness. Among rational men such a theater might be built because there was a great art that required such a theater. But here the theater has been built first, and for years to come the question will be what in thunder to do with it.

The esthetic aimlessness of the enterprise is equalled only by its social irresponsibility. This collection of mammoth theaters and office buildings is being plumped down in one of the busy and congested portions of Manhattan Island with something like total disregard of its effects on the neighborhood. Within half a mile there are half a dozen theaters which are already absurdly

large and absurdly expensive, and already in excess of any need for mass entertainment. Within the orbit of Radio City there are already stupendous office buildings, part empty, part bankrupt, and all in all beyond anything which the people of the city can effectively use. Either the existing theaters and existing office buildings must be gutted to provide audiences and tenants for Radio City or Rockefeller Center will have deficits to meet commensurate with its own pretentiousness.

Just as no one seems to have considered what esthetic use there was for such a theater, so no one seems to have considered how such structures would affect the surrounding community. It is a classic example of individualism ran wild, all the more perfect as an example because the underlying intention was no doubt high-minded and public spirited. I do not think for a moment that Mr. Rockefeller took up this project to make money or to engage in ruinous competition with other enterprises in the neighborhood. He had meant to create a great center of popular entertainment. But what he forgot was that in a closely integrated civilization like that on Manhattan Island, the best intentions are not good enough. There must be also the subordination of enterprises of such a magnitude to a city plan based on some foresight of the use and some consideration as to the convenience and the interests of the whole community.

RADIO CITY is a monument to a culture in which material power and technical skill have been divorced from human values and the control of reason. The great fortune of the Rockefellers, the virtuosity of engineers and architects, have been expended on a project conceived in the notion that by increasing the quantity you increase the quality. On such reasoning two dinners are more nourishing than one dinner and eighty ballet girls more charming than ten. This is the very essence of materialism, to make human values fit the equipment instead of adapting the equipment to human taste. In Radio City the first consideration was what the available money could buy and the available skill and labor could construct. What use could be made of it, what esthetic, what human, what social purposes the contraption would serve are questions apparently reserved for the cold gray dawn of the morning after.

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Since the original publication of this article by Walter Lippmann in the New York Herald Tribune and associated newspapers, announcement has been made that the International Music Hall will hereafter be used for motion pictures and vaudeville, adopting the same policy as that of the R-K-O Roxy Theater. Robert Edmund Jones has resigned as art director of the two theaters

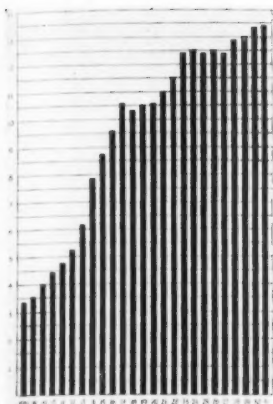


Fig. 1 LAMP EFFICIENCY increased rapidly from 1907 to 1917, supplying the demand for more light without overloading wires. The chart shows lamp efficiencies from 1907 to 1931

How Wire Sizes Affect Lighting Economy

BY W. H. HORTON

West Penn Power Company, Pittsburgh
Executive Member, National Electric Light Association

Prepared in collaboration with Samuel G. Hibben of the Westinghouse Lamp Company and G. S. Merrill of the Lamp Division, General Electric Company, this article is an authoritative analysis of new trends in wiring practice.—*Editors.*

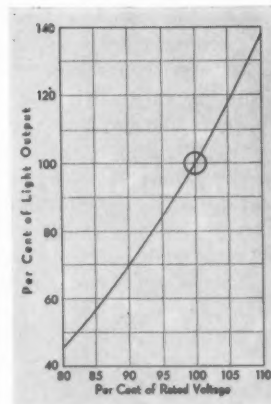


Fig. 2 QUANTITY OF LIGHT produced by lamp is optimum at 100% of its rated voltage. Output varies three times as fast as voltage. Chart shows per cent of light output and rated voltage

ABOUT seven or eight years ago illumination engineers generally began to realize that they ought to give some attention to the wiring which supplied the electricity to their lighting installations. In the early period of electric lighting, the lamps were relatively inefficient. With such lamps considerable wiring capacity had to be installed to provide even the small amount of illumination to which the public was then accustomed.

From about 1905 improvements in the efficiency of the lamp bulbs were made rapidly. This, in some measure, automatically provided additional illumination that users required. During the past ten years the rate of improvement in lamp bulbs has been steady, but much less rapid, as is indicated in Figure 1.

During this last period, as users replaced their bulbs with larger sizes to improve their illumination, circuits were overloaded and fuse-blowing became prevalent. Illumination engineers were faced with the fact that the wire sizes and circuits used in the past could not possibly provide the electric service required for the satisfactory operation of modern lighting systems.

The continuing investigations of illumination experts have shown greater and greater need for better illumination. Their arguments and demonstrations have been so convincing that the recognized standards of illumination values have increased even more rapidly than the improvement in lamp efficiencies. Not many years ago a store or office lighted to an intensity of five foot-candles was considered well-lighted. Today 35 foot-candles may be demanded where close work is involved, and stores with 15 to 30 foot-candles are proving the value of such light in sales and customer satisfaction.

In considering wiring in relation to the lighting service, it is necessary to understand that when an electric current is forced to flow through a wire, electrical pressure is consumed. This is analogous to the loss of pressure in the flow of water through a pipe, a familiar example being the feeble stream obtained from a long length of garden hose. The difference in the water pressure at the two ends of the hose is commonly measured in pounds per square inch; in the wire the difference of electrical pressure is measured in volts.

Energy is required to maintain a current flow through

a wire. In the case of the electric circuit this energy heats the wire through which the current is forced.

We have an excellent illustration of the heating effect of the electric current in the incandescent lamp. Here the current is forced through a long metallic filament which offers so much resistance that it is heated to incandescence, thus converting electrical energy into light. The temperature of the filament increases with the amount of current forced through it, and this in turn increases with the voltage measured at the socket. The light output of the lamp also increases at a more rapid rate than the rise in temperature of the filament, while the color quality of the light becomes whiter and whiter the higher the temperature is raised. Consequently, the light output and color quality are both dependent upon the voltage at which the lamp is operated. This relation between operating voltage and light output is shown in Figure 2.

The lamp becomes more efficient as an illuminant as the operating voltage is increased over its rated voltage, but its rate of depreciation also increases so that an economic balance must be established between these two elements that affect the cost of producing light. This is done by the manufacturer who designs the lamp, and specifies upon it the voltage at which it should be operated, in order that the user may secure the most light consistent with the best economic life of the lamp.

The resistance offered to the flow of the electric current by a conductor, which property is usefully employed in the lamp to heat the filament and produce light, becomes a source of loss in the wiring which carries the current to the lamp. In the wire which carries current to the lamp we do not want to convert electric energy into heat so we must use very much larger wire. As every foot of wire introduces resistance and losses, it is necessary to take into account both the size of the wire and the length of the circuits. The greater the distance the current must be carried, the larger the size of wire that must be used to prevent undue resistance loss.

But an installation made merely to comply with the National Electrical Code does *not* adequately take care of this situation. Here lies the crux of modern wiring and lighting troubles. The Code is prepared from a safe-

ty point of view . . . from the point of view primarily of reducing fire hazards to a minimum. The Electrical Code is not interested in the variations in voltage delivered at various parts of the wiring system, but rather in seeing that the wire is not overheated. Obviously, any portion of the wire in a No. 14 circuit, 1000 feet long, carrying 15 amperes, will not get any hotter than any portion in a similar circuit 15 feet long. In the last instance the voltage drop is negligible, and in the other, 80 volts would be consumed in the wiring. Both would be equally safe from the fire insurance and Code viewpoints . . . but the longer circuit would be ruinous to the unfortunate user's pocketbook.

We therefore must bear constantly in mind that the National Electrical Code is purely a safety code, which in no sense provides for an installation that will insure satisfaction to the user now, to say nothing of the future users, whose electrical demands will be greater.

These statements are equally appropriate to Electrical Ordinances. If a city has an electrical ordinance governing electrical installations, in all probability it is based on some edition of the Code, and like the Code, it is intended to tell us what hazards to avoid, rather than to describe what is adequate for any particular installation.

Of course it is impossible to make a wiring installation in which energy and voltage losses do not occur. Recognized practice in the economic design of wiring installations calls for not more than $3\frac{1}{2}$ per cent voltage drop at full load (under probable future use) between the point at which the utility's facilities connect to the building wiring and the point of use at the lamp socket or other outlet. This is customarily divided as follows:

- (1) $1\frac{1}{2}$ per cent voltage drop in the branch circuit at 15 amperes loading.
- (2) $1\frac{1}{2}$ per cent voltage drop in the feeder supplying the branch circuit panel board after allowing for diversity, (i.e. after allowing for the fact that all branch circuits will not be fully loaded simultaneously.)
- (3) $\frac{1}{2}$ per cent voltage drop in the service entrance wiring to the main switch. (The meter is usually located immediately adjacent to the main switch.)

Under normal conditions, the Utility engages to supply the user with electricity at its stated and published voltage; so it actually should furnish about $3\frac{1}{2}$ volts higher than this figure, delivered at the service entrance. The user equipped with proper wiring would therefore purchase lamps rated at the Utility's published voltage.

Utility practice differs slightly over the country. Service voltages have been standardized at 110, 115, or 120 volts at the socket. We are using 115 volts in the accompanying diagrams and tables.

In Figures 3 to 7 inclusive is shown graphically what happens to the lamp socket voltage under various conditions of load, size of wire and length of circuit. For purposes of illustration 500-watt lamps were used. The same effects would be obtained with other lamp sizes representing the same total loads.

An examination of Figures 4 and 5 might lead one to conclude that these examples are exaggerated. Experienced engineers find quite the contrary, however. Conditions where the lamp socket voltage is from 105 to 110 volts for 115 volts service are common, even in new buildings. Cases of socket voltages below 100 on 115 volt service are not rare.

During the previous decade the general practice of

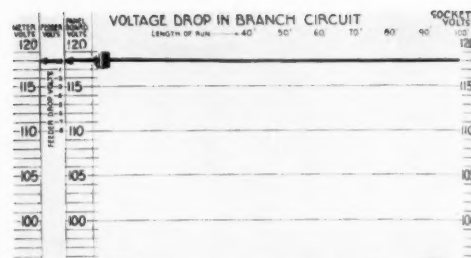


Figure 3

VOLTAGES at panel board, socket and meter are identical when no load is imposed anywhere on a circuit

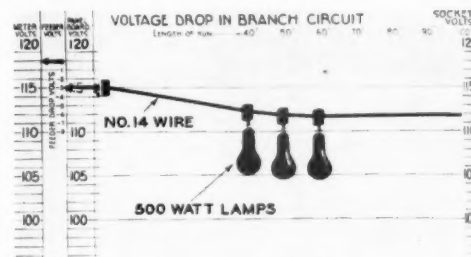


Figure 4

8% LOSS IN LIGHT occurs when a 1,500-watt load is imposed on No. 14 wire at 50 feet from the panel. Note drop in feeder. Part of load should be placed on another circuit and wire sizes increased. See Fig. 7

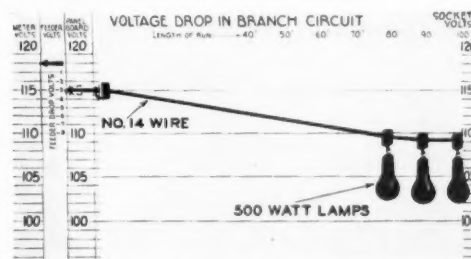


Figure 5

15% LOSS IN LIGHT would result if the same load shown in Fig. 4 were imposed 90 feet from the panel board. To correct this, heavier wire is needed with part of load placed on another circuit, as shown in Fig. 6

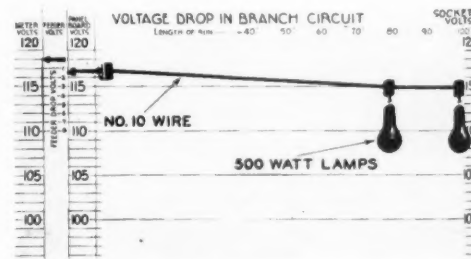


Figure 6

1,000-WATT initial loads per circuit require a heavier feeder and No. 10 wire for runs of 50 to 100 feet. This maintains normal operating voltage at socket

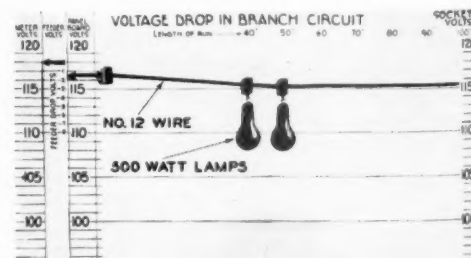


Figure 7

NO. 12 WIRE with a proper size feeder should be used for runs up to 50 feet and initial loads limited to 1,000 watts. Compare with losses in Fig. 4

AMERICAN ARCHITECT

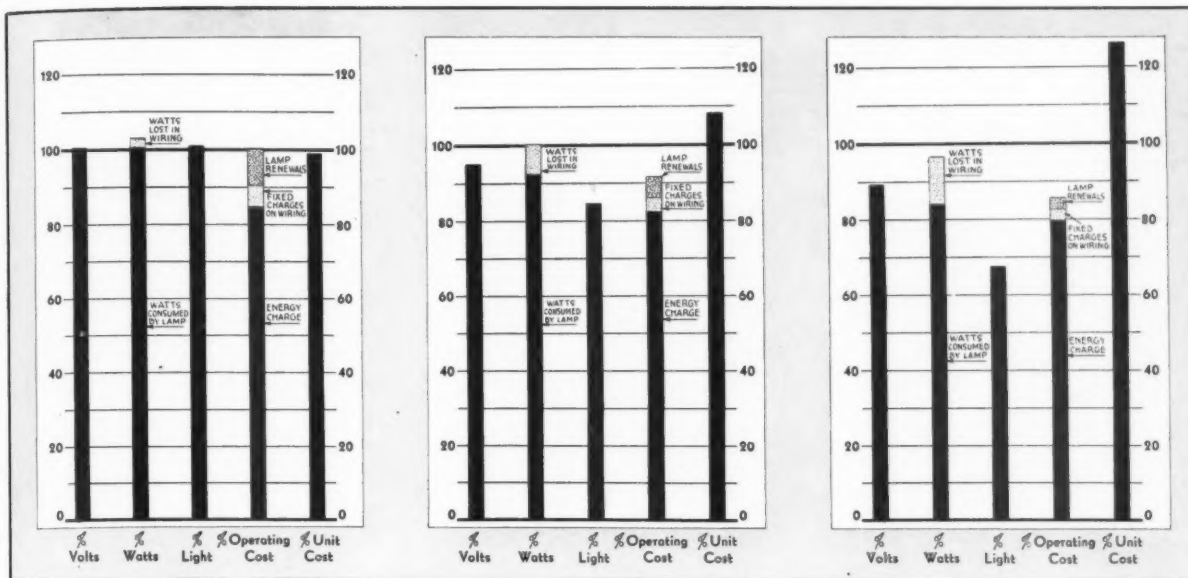


Figure 8

Figure 9

Figure 10

UNIT COST OF LIGHT is least when wiring permits normal operation of lamps as indicated in Figure 8. Where voltage at lamps is 95% of rated voltage, the cost of light increases as shown in Figure 9. The cost is further increased when voltage is only 89% of normal, which is shown in Figure 10

merely specifying that an installation "should be in accordance with the National Electrical Code" produced no immediate disastrous effects. But the inadequacy of the installation that resulted from this practice is now creating serious trouble. For example, the Code allows twelve outlets in one circuit of No. 14 wire. This fact alone means that the circuit will probably be of excessive length, and will be overloaded if lamps of a larger size than 100 watts are used.

Insufficient provisions for electric service that have resulted from the misuse of the National Electrical Code as a criterion for adequacy of wiring, are very difficult and costly to correct. The cost of adding more wiring capacity to existing installations is much greater than the increased first cost of making original installations adequate. For instance, in a small building it was found that if \$200 additional had been spent for extra capacity when the installation was put in ten years ago, it would have saved \$600 which was later spent for increased capacity. Many cases of this sort are on record.

In larger buildings rewiring costs are apt to be even more excessive. In fact, it is practically impossible to increase the capacity of wiring installed in some buildings at any price without defacing the beauty of the building. In this connection it must be remembered that today users of electricity frequently desire to replace 100 and 150-watt lamps with lamps of 200 or 300 watts, or even with 500 and 750-watt lamps to say nothing of wanting additional lamps where no outlets were provided.

A wiring installation designed for 100 or 150-watt lamps becomes expensive to the client who subsequently wishes to use 300 or 500-watt lamps, while the safety of the installation under the increased load is dubious at best. The cost each year of the illumination lost through such overloading may easily amount to one-third of the investment that would have been incurred in providing the necessary capacity originally.

This possibility is illustrated in Figures 8, 9 and 10. Normal operation of lamps is shown in Figure 8. All of the columns stand at 100% except the column for watts. To this column 3 per cent has been added to represent normal full load wiring loss. Therefore the total of this column (103%) represents the watts delivered at the service meter, and of course, the amount for which the customer pays.

Figure 9 represents a wiring condition where only 95% rated voltage is impressed upon the lamps, while Figure 10 represents wiring conditions where only 89% of rated voltage is present at the lamp socket. In each case it is evident that the decrease in light output due to such voltage drop in the wiring is greater than the corresponding decrease in operating cost, and therefore that the unit cost, or cost for any given quantity of light, has increased materially.

Of course the loss in watts and the voltage drop in the wiring has increased several times, as must occur with such uneconomical wiring. These charts aptly illustrate the loss to the customer who is forced to use inadequate wiring. While the total wattage through the meter in the last two cases has decreased slightly, that decrease plus the decreased cost of lamp renewals is by no means commensurate with the much greater loss in light.

However, we must not forget that lamp bulbs are not the only devices which are connected to so-called "lighting" circuits. Heating devices and small motor equipment are likewise affected by inadequate wiring, and such devices are being used in ever-increasing numbers. Fortunately, the effect of excessive voltage drop on most small motor-operated devices is not serious. Of course the user is still paying for the useless heat that such inadequate wiring gives off, but the device usually operates, although sluggishly.

With heating devices, however, it is another story. Low voltage supplied to many heating devices causes

Recommended Maximum Lengths of BRANCH CIRCUITS from panel board to center of load Bold face type: recommended practise Light face type: not recommended						
Number of Outlets Per Circuit		1	2	3	4	5
Size of Wire	Watts Per Outlet	Length of Circuit In Feet From Panel Board To Center Of Load				
14	200	124	61	41	31	25
14	300	73	37	25	—	—
14	500	50	25	—	—	—
12	200	197	98	65	49	39
12	300	117	58	39	29	24
12	500	78	39	26	—	—
10 *	300	171	92	62	46	37
10 *	500	125	62	41	31	26
8 *	500	197	99	66	49	39
8 *	750	149	74	49	37	30

* Use No. 12 wire between outlets

Figure 11

Recommended Wire Sizes for FEEDERS for 115/230 volt, 3-wire supply Based on 1½% voltage drop for load of 7.5 amperes on each circuit position				
Branch Circuits† on Panel Board	Wire Sizes for Given Lengths of Run from Main Entrance (Meter) to Panel Board			
	50 FT.	75 FT.	100 FT.	150 FT.
4	8	8	6	4
6	*6	6	6	4
8	*4	*4	4	2
12	*2	*2	2	1
16	*1/0	*1/0	1/0	2/0
20	*2/0	*2/0	*2/0	3/0
24	*3/0	*3/0	*3/0	3/0

* Size determined by carrying capacity
of wire rather than by voltage drop
† Including spares

Figure 12

These tables reveal the importance of relating wire sizes to the length of the circuit, as well as to the load. Length is measured on one side of the circuit only; that is, it represents the length of one conductor, not the combined length of two or three wires

them to take longer to heat up, or to perform the function for which they were designed. This is apt to make the device less efficient, but what is much more important, it will usually so delay and inconvenience the operator of the device that his efficiency is affected in turn.

This situation leads experienced engineers to scrutinize the wiring that serves appliances with almost as much care as the wiring that supplies lamps. This is leading to the installation of "heavy duty" circuits: using No. 10 wire in the home for appliance outlets and No. 6 for the ranges; and providing power and appliance circuits of even heavier capacity in commercial buildings.

When illumination experts, utility engineers and wiring authorities finally appreciated all the above facts, they jointly prepared, at the request of the National Electric Light Association, "Minimum Specifications for Adequate Wiring of Lighting Circuits in Commercial and Public Structures." This was followed later by similar adequacy specifications for industrial buildings, and quite recently by standards for residential buildings.

These specifications attempt not only to provide for wiring installations for average situations which are adequate for present needs, but to provide for a reasonable degree of future expectancy and a reasonable degree of flexibility to care for changes in occupancy.

All three call for conductors not smaller than No. 12 for branch circuit work. In addition, the commercial and industrial specifications require No. 10 wire from the panel board to the first outlet on lighting circuits if this run exceeds 50 feet, and No. 10 wire from panel board to first outlet on convenience outlet circuits if this run exceeds 100 feet. Lighting outlets and convenience outlets must be on separate circuits in commercial, public and industrial buildings.

In commercial and public buildings there must be one lighting circuit for each 400 square feet of rentable or work space, and one lighting circuit for each 800 square feet of non-rentable or non-producing area; in other

words, capacities of about 4 watts and 2 watts per square foot respectively. In certain spaces specifically listed 8 watts per square foot are called for. Panel boards are to contain one spare position for each five active circuits, and service and feeder conduits are to be of such size that the originally installed conductors can be replaced with others of 50 per cent greater capacity. Initially the feeders must be capable of supplying 7½ amperes to each 15 ampere circuit position including spare positions with a drop in voltage not to exceed 1½ per cent.

In the preparation of these specifications the recommended wire sizes for branch circuits were based on 1½ per cent voltage drops at full load. Such design is indicated in Figure 11, which shows the allowable length of branch circuits for different wire sizes. From this table it is obvious why the use of No. 14 wire is not recognized in these specifications. Let us hope that future practice will show no economic justification for the further manufacture of this size.

Owing to the many diverse conditions of voltage and load under which feeders are installed, the specifications merely state the design basis for determining their size.

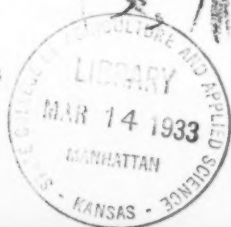
Figure 12 indicates recommended sizes of feeders for a single phase three-wire source of supply at 115/230 volts (no change would be made for either 110/220 volts or 120/240 volts supply). It should be noted that single panel boards of more than 24 positions are unusual. When a single feeder supplies two or more panel boards, the wire sizes should be computed to maintain the standards of adequacy above described.

It is suggested, as a means of further protecting the interests of his clients, that the architect state in his specifications "The wiring installation shall not violate any of the requirements of the National Electrical Code (or City Ordinance, as the case may be) and that it shall meet the requirements of 'Minimum Specifications for Adequate Wiring of Lighting Circuits' as issued by the National Electric Light Association."



Lumber Mill, Seattle
By Norman E. Fox

FOR MARCH 1933



Architect Organizes Campaign To Stimulate Building In Joplin

By CLAIRE B. MANNING

MUCH has been written of the leadership an architect should assume in efforts toward betterment of conditions in his community. Among architects more thought has probably been devoted to how to get a prostrate income into at least a sitting position. My own attempt to combine the two objectives may prove of interest.

Building activity in Joplin, Missouri, with its 34,000 normally industrious inhabitants, was as dormant as it is possible to be without a complete cessation of business. No organized effort was being made to stimulate an industry that would provide the distribution of relief which modernizing and repair activities accomplish. No organization existed that could be turned to for leadership in sponsoring and carrying out a program designed to stimulate building.

It seemed a logical step to bring about an organization of representatives of the local building industries and allied interests in the summer of 1932, and to serve as its executive. Presented with a plan for creating interest in building, this organization, named The Home Improvement Association of Joplin, developed a definite program for stimulating building and repair activities and arrangements were made to finance the cost of its promotion. This program was put into effect during the last three months of the year and its effectiveness is evidenced by present plans for expanded activities in 1933. The character of the adopted program is indicated in the organization chart.

The principal item of cost has been that of publicity through the advertising columns of local newspapers. For this purpose the members of the Association were assessed a total of \$1400. The advertising program was designed to cover a period of twenty-six weeks, and to appear only on the building page of the Sunday edition. Aside from these restrictions I was given free rein in choice of copy and dates of publication.

Linked with the advertising plan a thorough canvass of home owners was inaugurated that has proved effective and that is being expanded to include rental properties and business and industrial buildings.

This canvass is being made by employees of various firms, each person devoting one day a week to this purpose. There is no cost connected with the survey as the canvasser contributes his time, the newspaper furnishes the printed matter, and I furnish the clerical service and serve as director, without remuneration. The director allocates the territory to each canvasser and penalties are attached to lack of cooperation or violation of agreements, with the burden of decision in the hands of the director. A prepared questionnaire is used in the survey. At each house canvassed the questions on this form are asked by the canvasser, who also records

the answers. The questionnaire insures uniform reports and maximum coverage of desired information. Each canvasser is instructed in the manner of approach and is provided with answers to anticipated questions of home owners.

The completed questionnaires are delivered by the canvasser to the office of the director at the end of each day. The information is analyzed and cataloged, prepared in condensed form and distributed the following morning to members of the Association. Their sales organizations, in turn, follow up the likely prospects. These reports are cataloged under "Immediate Work" and "Future Work" and serve as semi-permanent records of prospects, until the work listed has been completed. Each person canvassed is informed that the knowledge of work he proposes to do will be held in strict confidence if he wishes, until permission to release it is obtained. This pledge is rigidly respected.

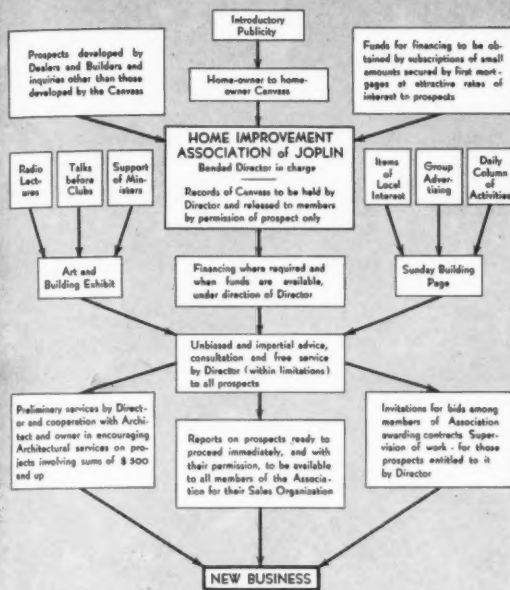
All projects reported are contacted by an architect. Where the size of the project requires complete architectural services a regular fee is charged the owner for handling the work. In many instances, however, the proposed improvements are small in character and no plans are required, in which case advice and consultation are offered without cost or obligation. This form of desirable publicity differs from the accepted practice in this locality in that the architect ferrets out his prospects in a thoroughgoing manner and is the aggressor—rather than waiting in his office for the prospects to come in voluntarily. Success has crowned the efforts of the firms that have gone after this remodeling and repair work. I was personally instrumental in getting \$20,000 worth of such work under way in the latter part of 1932.

The ultimate success of the canvass is indicated by the following recapitulation of the survey as of January 15, 1933:

Description	Total	Percentage
Number taking part in survey.....	10	
Number of home owners called on..	1,230	
Number not at home (return calls necessary)	572	46%
Not planning improvements, house vacant, etc.....	480	39%
House owner deliberately omitted...	46	4%
Number of prospects developed....	132	11%
Analysis of the 132 prospects:		
Number planning immediate improvements	40	30%
Number planning spring improvements	64	49%
Number planning later improvements	28	21%

At the present rate the value of immediate work un-

ORGANIZATION CHART OF BUILDING CAMPAIGN



QUESTIONNAIRE FOR JOPLIN, MISSOURI, HOME-OWNERS

(Answers to these questions are not to be published and the owner of the home is to sign and sign only.)

Date 10/1/32

A. Name CHAR. A. BACON
 B. Location 280 N. WALNUT
 C. Type W. STAIR. FRAME Year erected 1910

1. Recent improvements None
2. Can you suggest any improvements that you would like to have incorporated in your home, such as:
 - A. Arrangement and size of rooms: NEEDS COMPLETE REMODELING
 - B. Bathroom (shower, tiling, etc.): X
 - C. Kitchen (cabinets, etc.): X
 - D. Wall finish: X
 - E. Porch (screened, removed, etc.): REMOVE FRONT PORCH
 - F. Garage (shelving, etc.): X
 - G. Architecture (style, character): WANT NEW ENTRANCE
 - H. Basement (furnace, air-conditioning): WANT CONCRETE PARTITION
 - I. Closets (size, shelving, etc.): X
 - J. Additional rooms: X
 - K. Insulation: WANTS INSULATION
 - L. Attic space: WANT ATTIC - INSTALL DISAPPEARING STAIR
 - M. Painting and decorating: PAINT EXTERIOR
 - N. Roofing: X
 - O. Grounds (grading, walks, etc.): X
3. What definite improvements are you planning for the future?
WANT - REMOVE - REMOVE FRONT PORCH - NEW ENTRANCE
4. Have you knowledge of anyone who has notified a desire to have any repair work done? MRS. C. F. SINGLE - REMOVE DOOR ON BRAD ST.
5. Would you be interested in a plan for paying for repair work by small monthly payments? X
6. Would you be interested in knowing what the cost of any of the above improvements would be? Yes - see item 3

AMERICA'S PREMIER INVESTMENT



Residence at 281 North Wall Avenue, Joplin, Missouri. The Home Above Was Constructed in 1910 at a Cost (Including the Lot) of \$14,000.00.

NOW COMPARE ITS PRESENT VALUE TO THESE "SURE-WINNER" STOCKS

Number Shares	Description—	1929 Cost	Present Price
6	American Can	\$ 1,107	\$ 300
6	American Telegraph and Telephone	1,862	609
6	Bethlehem Steel	845	97
6	Consolidated Gas	1,100	337
6	Public Service of New Jersey	626	273
6	DuPont de Nemours	1,286	192
6	General Motors	850	72
6	Baltimore & Ohio	871	89
6	Montgomery Ward	941	66
6	Illinois Central	821	82
6	Chesapeake & Ohio	1,679	133
6	Sears-Roebuck	1,086	111
6	Westinghouse Electric	1,756	151
6	United States Steel	1,570	208
84		\$16,500	\$2,690

... This study in comparative investment values presents an unanswerable argument for building a home. Suppose the builder of the home above had invested an amount equal in value in the fourteen leading American stocks listed above. These stocks now have a total market value of \$2,690—a shrinkage of 84%—while the present value of this home is many, many times that of the stock investment.

... The developments of the last few years have conclusively proved that the well built, well located home is AMERICA'S PREMIER INVESTMENT...

BUILD WHILE COSTS ARE LOW

This is the Fifth of a Series—Sponsored by the Following Firms:

E. C. Abernethy Lumber Co. Joplin Cement Co. J. H. Magill Lumber Co.
 Joplin Gas Co. Eagle-Flower Lead Co.
 C. A. Dieter Construction Co. Morgan Roofing Co. Southwestern Bank and Trust Company
 Finley Bros. Lumber Co. Morgan Paint and Glass Co. Joplin Hardware Store
 Joplin Supply Co. Stewart Lumber Co. Empire Electric Co.

A Practical Plan for Business Stimulation

THE three basic elements of the campaign described in this article are here illustrated. Above, at the left, is the organization chart of the building campaign. It shows how the "Home Improvement Association," formed for the purpose, functioned as the motivating and directing force. Below is a typical questionnaire used in a house-to-house canvass made by volunteer workers. At the right is one of the newspaper advertisements in a series financed by local building material dealers. The campaign was planned and organized by an architect and offers a practical method which other architects may follow to create work in their community.

covered by the canvass will be approximately \$50,000. By proper stimulation in the way of more personal effort, in conjunction with the publicity program, this amount can be doubled.

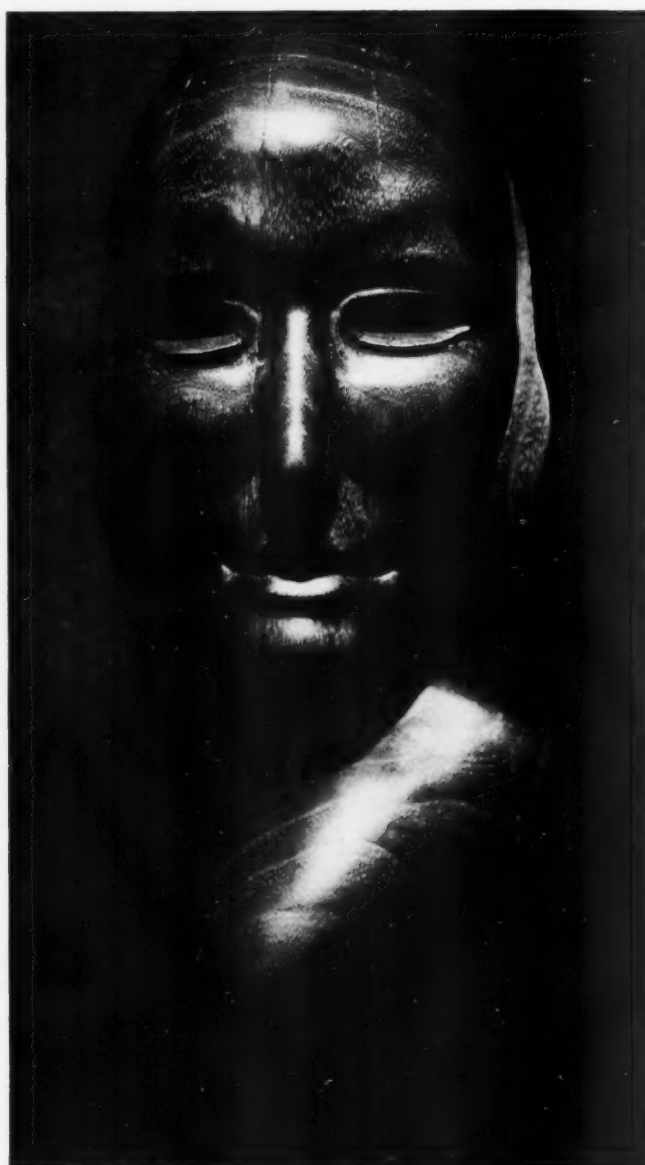
During the Christmas holiday season a window display was installed at the headquarters of the Chamber of Commerce. The exhibit consisted of a cardboard model of a low cost house, surrounded by drawings of the interior and exterior of the house and mounted copies of the newspaper advertisements that had appeared in connection with the campaign up to the time the display was installed. Cost of the entire display was \$3.50, plus my time and effort in preparing the model and drawings.

Now that the ground work has been laid by our efforts in 1932 an enlarged program is planned for 1933. It will include a continuation of our direct advertising; more radio broadcasting; and the expansion of the

canvass to cover all types of buildings. A building exhibit, of modest proportions, is planned for early spring. Financing of desirable improvements will be expanded by establishing a fund for this purpose. Banks and other lending agencies will extend credit to members of the Association who will, in turn, make this money available to prospective builders. The members will endorse this paper to the lending agency.

Computed on the basis of results so far, with little more than one-tenth of the territory covered, indications are that the volume of work stimulated by our efforts on owned houses alone will be in the neighborhood of \$200,000. Most of this will be in small amounts, of which the active architect will obtain his share, and the nature of the work is such that it will provide a maximum distribution of employment. To me this is concrete evidence that service to the community pays dividends to the architect in money, prestige and future clients.

MASK carved in locust wood to serve as a wall decoration. The mask is about eleven inches long, yellowish-brown in color, finished by oiling and polishing. It was carved by James Lindsay McCreery



Mr. McCreery, a graduate of the University of California, is an architect interested in wood carving as a hobby. He has found opportunities to utilize his hobby on buildings and in carving decorative pieces

VAN ANDA



In the Manner of Grinling Gibbons

The overmantle motif shown above was executed in lime wood by the Hayden Company, New York. A close-up detail of the center top portion approximating full size is shown on the following page

Photographs by Samuel H. Gottscho









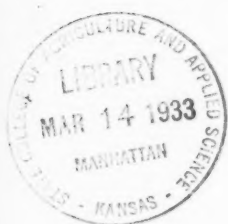
E. SIMM

Overmantel, House of William S. Barstow, Kingpoint, Long Island, N. Y.

(Close-up detail, approximately full size, is shown on the preceding page)

Carved by Arthur C. Rebholtz; Charles G. Peters, modeler

Greville Rickard, architect



GRINLING GIBBONS (1648-1721)

SIR JOHN EVELYN, patron of the Arts, is credited for the discovery of Grinling Gibbons, an apprentice carver then living in an obscure house at Deptford. Gibbons was working upon a carving, which without its elaborate frame is preserved in the Victoria and Albert Museum, taken from a cartoon by Tintoretto. The work of the young apprentice excited the wonder and admiration of Evelyn, who lost no time in recommending him to Charles II, Sir Christopher Wren and Samuel Pepys.

His work, which consisted chiefly of foliage, birds, flowers, fruit and lace, is characterized by its exquisite delicacy and truthfulness and elaboration of detail. As someone has said, "His birds seem to live, the foliage to shoot." He had many followers and imitators but none

of his contemporaries, unless it be Samuel Watson, approached his skill in the wood carving art of its kind.

It is said that he lived in an out-of-the-way place because he felt the need of quiet and seclusion to enable him to work. The story is told that while living in a house in the vicinity of Ludgate Hill he carved a bunch of corn which he placed above his door. The carving was so natural and delicate that "it waved in the breeze and trembled when vehicles passed by."

AMONG his better known works are the decorative carvings in Belton House and the Chapel at Windsor; foliage and festoons in the choir of Saint Paul's; the reredos carved in cedar in St. James' Church, Piccadilly; and a magnificent ceiling at Petworth, in Sussex.

Pre-Planning Low Cost Housing Projects To Meet Economic Requirements

By ALFRED M. BUTTS

THE dominant factor determining the rent of low cost housing is the rate of interest to be paid on the investment. Why should an architect fuss, fume and fret over plans for a slum clearance project when the plan is not the most important part of the problem? Of course planning is what he is paid for, but if the development is doomed to failure because of a faulty economic structure, it will not help much to declare it was a success architecturally. That recalls "the operation was successful but the patient died." Nor is it a valid excuse to claim that the economic structure has nothing to do with the physical structure and should be left entirely to others. On the contrary it has a great deal to do with it.

The success or failure of housing for the lower income groups will be measured in terms of the standards of living that are supplied for the rental asked, with the emphasis on the rental. A perfect floor plan with an abundance of closets may interest prospective tenants, but the rent they will have to pay for those closets will interest them more. Can you say how much a closet costs in terms of rent? Yes, the addition of one closet to a four-room apartment will usually add about ten cents to the rent per room per month. Knowledge of that sort is useful to the architect when the welfare worker asks for higher standards, the social worker suggests lower rents, and the financier demands greater safeguards for his investment. Even where a development is financed by public funds, those funds must be returned with interest, and the architect is expected to produce a plan which will permit this to be done. To do so necessitates a study of the interrelationship between the economic plan and the architectural plan.

The financial requirements of any housing problem set up factors which limit the physical plan. The determination of those limits in advance of any drawing will save time and provide answers for some of those sure-to-crop-up questions. When the real estate operator asks for more building and less garden, it may be necessary to show that high coverage on cheap land is a mistake. Bald statements that slum clearance cannot take place without a "deflation" of land values deserve an analysis before we chose between leaving the slums untouched and starting a deflation that may not stop. A table of rental factors such as is presented here can be made up for any housing project, showing at a glance the effect of changes in those factors and enabling anyone to judge their relative importance. This is made possible by the development of an equation or mathematical formula.

The economic plan of every housing development is based on one fundamental: the rent to be collected must pay all expenses, including charges on the capital invested. On a unit basis the capital invested is the total cost per room, land and building together. The other expenses are the taxes and the maintenance costs, except that, if any rooms remain vacant, those rented must share the expenses of the vacant rooms. The capital charges and the taxes are each based on the total cost and so can be combined. The expenses, then, will be determined by multiplying the total cost per room by the combined percentage of capital charges plus taxes, and adding to this the cost of maintenance per room per year. The vacancies can be taken care of by dividing these expenses by the estimated percentage of occupancy. This permits setting up an equation, remembering that there are twelve months in the year:

$$\frac{\left[\begin{array}{l} \text{per cent of capital} \\ \text{charges plus taxes} \end{array} \times \text{total cost} \right] + \text{maintenance}}{\text{per cent of occupancy}} = 12 \times \begin{array}{l} \text{rent per} \\ \text{room per} \\ \text{month} \end{array}$$

By means of this equation the accompanying diagram has been drawn from which the rent can be estimated by substituting values for its parts. These parts can be further subdivided to allow a more complete analysis. The detailed formula may be expressed thus:

$$\frac{kg}{h} \left[\frac{L}{c} + bf(h+1) \right] + m = 12pr$$

where k — capital charges plus taxes (combined percentage)

g — gross area per room

h — height expressed as number of stories, exclusive of basement

L — land cost per square foot

c — coverage of land by building (percentage)

b — building cost per cubic foot

f — floor to floor height in feet

m — maintenance cost per room per year

p — percentage of occupancy

r — rent per room per month

The capital charges (k) include the interest paid on the equity, and the interest and amortization on the mortgage. The amortization may be considered as eliminating the need of an allowance for depreciation. Hous-

THE RELATIVE IMPORTANCE OF RENTAL FACTORS

To reveal the affect on rent of changes in each of the "rental factors" certain conditions are assumed, as shown in the second column. Under these conditions the rent would be **\$16.37 per room per month**.

If these assumed conditions were varied as shown in the third column the rent would be affected as shown in the last column.

RENTAL FACTOR	ASSUMED CONDITION (Rent \$16.37)	AMOUNT OF CHANGE	AFFECT OF CHANGE ON RENT
Capital charges plus taxes	10%	Percentage changed 1%	Changed \$1.29
Taxes on building		Exempted	Reduced 2.24
Store Rentals	None	Added as in text	Reduced 1.25
Gross area per room	250 sq. ft.	Changed 10 sq. ft.	Changed .51
Height in stories	5	Increased 1 story	Reduced .87
Land cost per square foot	\$5.00	Changed \$1.00	Changed .73
Coverage of land	60%	Increased 10% of total	Reduced .52
Building cost per cubic foot	35c	Changed 1 cent	Changed .26
Floor to floor height	10 feet	Changed 1 inch	Changed .08
Maintenance per room, per year	\$40.00	Changed \$1.00	Changed .09
Percentage of occupancy	95%	Increased 1%	Reduced .17

The above changes are not cumulative and each is true only with the factor values assumed above.

ing projects are not always financed by means of a mortgage, but whatever the arrangement, the percentage of the capital charges can be calculated in a manner similar to the following: If the interest to be paid on the equity is 6% and the equity is one-third of the total cost, then this interest is 6% of $33\frac{1}{3}\%$, or 2% of the total cost. If the interest to be paid on the mortgage is 5%, then this is 5% of $66\frac{2}{3}\%$, or $3\frac{1}{3}\%$ of the total cost. If the mortgage is to be amortized at the rate of 3% per year, that is 3% of $66\frac{2}{3}\%$, or 2% of the total cost.

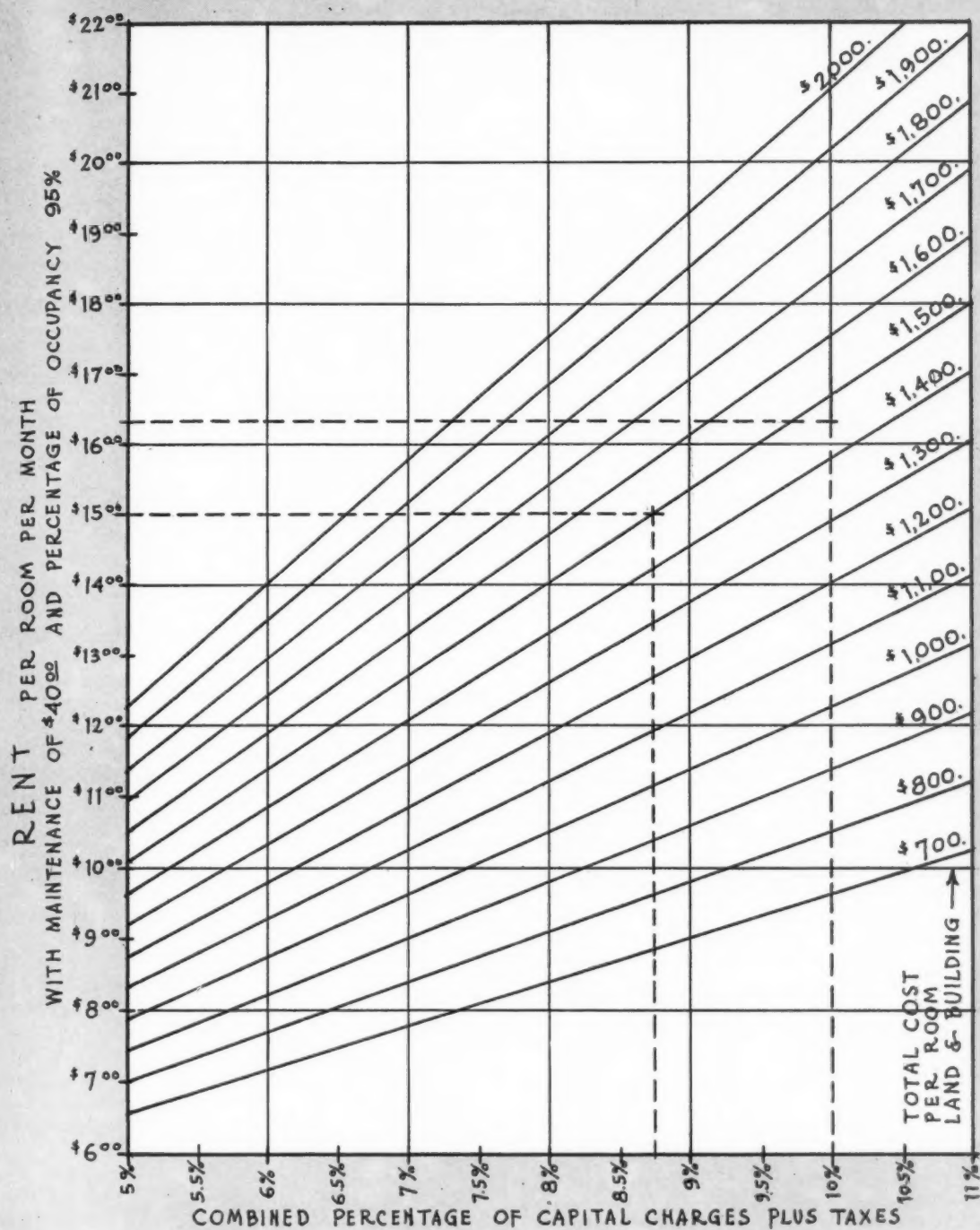
The taxes, also part of k, consist of those levied on real estate and the federal income tax, though there may be a state tax of some sort as well. The income tax is based on the equity interest. If this tax is 13%, then, to continue with the above figures, this is 13% of 6% of $33\frac{1}{3}\%$, or .26% of the total cost. The real estate tax is based on the assessed value, which can be expressed as a percentage of the cost. Again, if the tax rate is 2.7% and the assessed value 90% of the cost, this would be 2.7% of 90%, which is 2.43% of the total cost. All these percentages of the total cost can now be combined into one sum for the percentage of capital charges plus taxes, in this case amounting to 10.02%.

If the buildings are to be tax exempt, as is possible under the New York State Housing Law, the amount thus saved can be determined by multiplying the building cost by the tax rate and rate of assessed valuation. In this connection it might be noted here that the New York plan of having the land taxable and the buildings exempt yields the greatest saving with expensive buildings on cheap land; not a desirable result if the land in slum areas tends toward higher prices. If the buildings

were taxable and the land exempt, the greatest saving would be made, with cheaper buildings on expensive land; a condition which might prove a greater incentive for slum clearance. This, however, is a question which is rather far afield for the present.

The subdivision of the total cost per room, land and building, will be of more direct interest to the architect. The first step in this is to find the total height of the building in feet, which will be the number of stories (h), with one added to include the basement (h + 1), multiplied by the dimension from floor to floor (f). Multiplying this by one square foot will give the number of cubic feet in a section one foot square for the total height. Since the multiplier is one the product will be the same numerically, and this figure for height will be the same as the number of cubic feet in such a theoretical section. This is expressed in the formula by $f(h + 1)$. Multiplying this by the building cost per cubic foot (b) yields the cost of that section.

For every square foot of land covered by the building there is always a certain area left open. Dividing the cost of the land per square foot (l) by the percentage of coverage (c)—building area divided by the total land area—will show the cost of each square foot of land occupied by the building, increased by its proportionate share of the cost of the unoccupied land. The sum of the final product above and this quotient is the cost of one square foot of land and building, which is expressed in the formula by the bracketed symbols. Multiplying this by the number of square feet per room, gross area, (g)—total building area divided by the number of rooms per floor—gives the total cost of one tier of rooms.



NOTE: For an increase of \$1.00 in maintenance add \$.088 to rent; for \$2.00 add \$.176, etc., or subtract same for decrease. For 100% occupancy subtract 5% of above rent, or for 90% divide rent for 100% occupancy by 90%, etc.

RENT ESTIMATING CHART

The dotted lines give two examples. If the capital charges plus taxes are 10% and the total cost per room is \$1,466 $\frac{2}{3}$, then the rent will be approximately \$16 $\frac{1}{3}$. Or, if the rent is to be \$15.00 and the room cost \$1,500, then the capital charges plus taxes cannot exceed 8 $\frac{3}{4}$ %. These figures do not include tax exemption nor store rentals

Dividing this by the height in stories (h), which is the number of rooms in the tier, yields the desired result, the total cost per room, land and building. Adding maintenance charges (m) completes the left side of the equation. The percentage of occupancy (p) in the first formula has been moved to the right side of the equation with rent (r) and the number of months in the year.

This question presents ten factors which are determining points for any housing development of the apartment type. Substitution of values for nine of these will show the rent which they yield. If this rent is not a proper market value, changes can be made in the factors until the desired rental has been reached. Plans can then be drawn to fit these factors. For example, the values used in the table already mentioned are as follows:

if: $k = 10\%$; $g = 250$ sq. ft.; $h = 5$ stories; $l = \$5$; $c = 60\%$; $b = 35¢$; $f = 10$ ft.; $m = \$40$; and $p = 95\%$;

$$\text{then: } \frac{.10 \times 250}{5} \left[\frac{5}{.60} + .35 \times 10 (5 + 1) \right] + 40 = 12 \times .95 \times r$$

and: $\$16.37 = r$, the rent per room per month.

The values of these factors will be subject to controversy. Those used here are intended only as examples for discussion. Some of the values can be nothing more than estimates until the project is completed, and even then no one can guarantee the future for taxation, maintenance or occupancy. Housing can be developed only on sound estimates. Guesses multiplied by an engineering factor of safety will choke off any project before it can even be drawn. The table of rental factors lists the affect on the rent of changes in these factors, but some further notes will be interesting.

Capital Charges Plus Taxes: It has been suggested that Federal funds be loaned for housing at an interest rate similar to that which has been granted for shipping subsidies, 2%. If both equity and mortgage were at this rate and amortization at 1%, the rent in this case would be reduced by \$6.20. Including, in addition, tax exemption for the building it would require very little further saving to provide housing for the lowest income groups. Truly the rate of interest on the capital invested is the most important factor in housing.

Land Cost Per Square Foot: In slum clearance projects the cost of acquiring and demolishing existing structures must be included in this factor, though these costs may not add to the assessed value of the land. The equation will then produce a rent too high by the amount of real estate tax on these costs, which should be calculated and subtracted. Factor values other than those used here, as has been noted, will not produce the same rental changes. With a taller building and a lower gross area per room the effect of the land cost on the rent is smaller, but with a lower building and a higher gross area per room the effect is important.

Coverage: An increase in this percentage decreases the rent, but at the same time the standards of living will be decreased. This double decrease must be weighed to make sure the saving in rent is worth the cost in light and air. The equation shows that, if the land cost nothing (and bore no taxes), the term l/c becomes zero, and 10% coverage would yield the same rent as 90%.

This may be calling attention to an absurdity, but it does bring out the fact that a high percentage of coverage on cheap land is a serious mistake.

Gross Area Per Room: Since a change of ten square feet changes the rent by \$.51, one closet two feet by four feet amounts to \$.408, or ten cents per room in a four room apartment, unless an unlikely change in the cubic foot cost arises. However, the value of this factor must be watched carefully if it is to present a true measure of room size, as it is a *gross* area, and so includes a share of all hall space, public and private, and all "waste space." A high gross area per room may be a mark of inefficient planning rather than of large rooms. The methods of counting rooms will also produce differences here, for dining alcoves counted as half rooms will mean a smaller average area per room. The same count must be used as will be used in charging for the rent.

Building Cost Per Cubic Foot: The importance of cutting construction costs is obvious. Note that as used in the equation this factor must include all expenses during construction: taxes, insurance, fees, etc.

Height: Variations in this factor should be handled cautiously. An increase in height will jump the building cost when fireproof construction replaces semi-fireproof, though this in turn may reduce maintenance and amortization. If the percentage of coverage is large, taller buildings will reduce the standards of light and air.

Floor To Floor Height: As used in the equation this dimension should be ample to make allowance for bulkheads and similar extra cube.

Store Rentals: This factor does not appear in the equation as stores cannot be included in every project. The saving in room rent depends on the number of persons per room, the length of store frontage per person and the rental premium of store frontage over room frontage. If there are 3 persons per 4 rooms, $33\frac{1}{3}$ feet of store frontage per 100 persons, and the rental premium for store space is \$5.00 per front foot per month, the rent then will be reduced \$1.25 per room per month.

The mathematical operation is: $\frac{33\frac{1}{3}}{100} \times 5 = 1.25$.

The architect will do well here to consult with those who have a good knowledge of the real estate field. The size of the development and the class of tenants have a bearing on the subject.

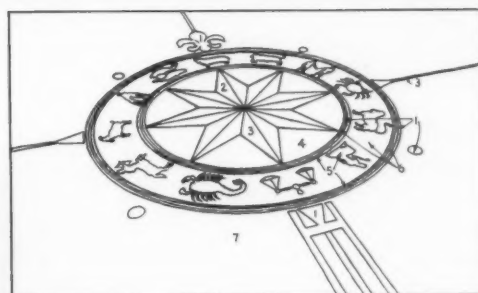
This mathematical study of housing and rent may be pursued much further with profit. Only the highlights of the subject have been covered here, but it is hoped that enough has been said to make clear that any housing project may be studied in the abstract before detailed planning is attempted. Such procedure not only saves much time, but it brings to the fore those factors which are most critical to the success of the enterprise. If the architect appreciates that by getting the realtor to find a lower cost site, or by inducing the banker to lend at a lower rate of interest, he can reduce the ultimate rent further than by weeks of study on plans and revisions, he will be able to spend his time and effort where they will bring the best results.

EDITOR'S NOTE. This article was prepared by Mr. Butts from material which will later appear in book form, including charts and tables designed to simplify the problem of analysing any specific housing project. All reproduction rights are reserved by the author.



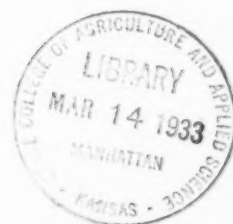
This inlaid compass point of special design is in the Topeka High School, Topeka, Kansas, Jameson W. Williamson & Co., architects. The field is of marbled linoleum laid in segments so that the striations point to the center. Colors used are:

1. Light yellow	2. Light tan
3. Terra cotta red	4. Light blue
5. Chocolate brown	6. Light brown
7. Marbled in gray-brown tones	

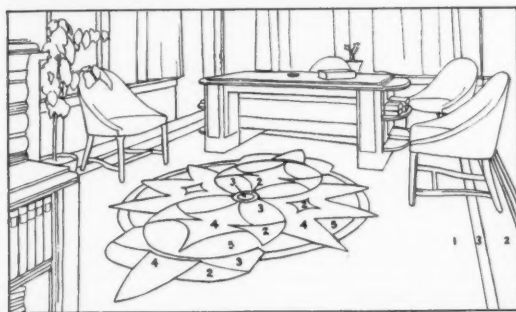
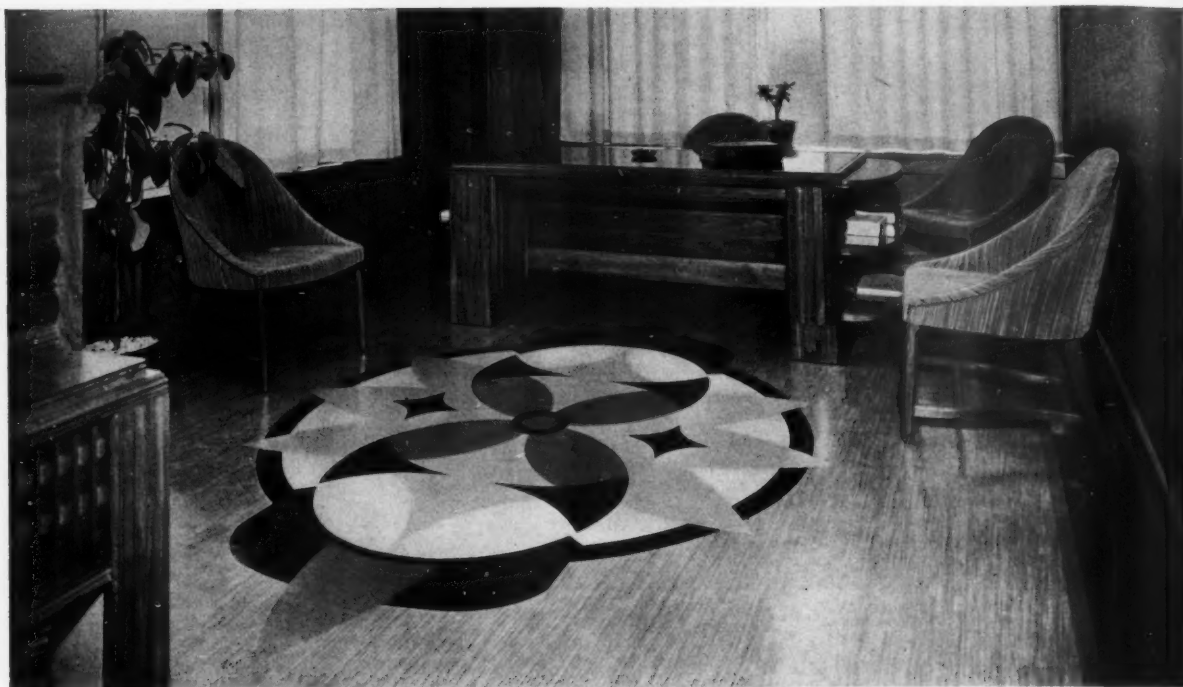


In the banking room of the State Mutual Building and Loan Association Building, Los Angeles, William Richards, architect, tan, brown and two shades of gray rubber tiles are used to form this architectural pattern. The wide bands of the field are tan; the narrow bands light gray. In the pattern at the check desk the light oblongs are warm light gray; the medium toned squares and semi-circles brown; and the dark squares and oblongs warm dark gray

Details of Special Design Floors of Resilient Materials



Resilient flooring materials are adaptable



Linoleum floor in conference room, Metropolitan Press, Seattle, Wash., George W. Stoddard, architect

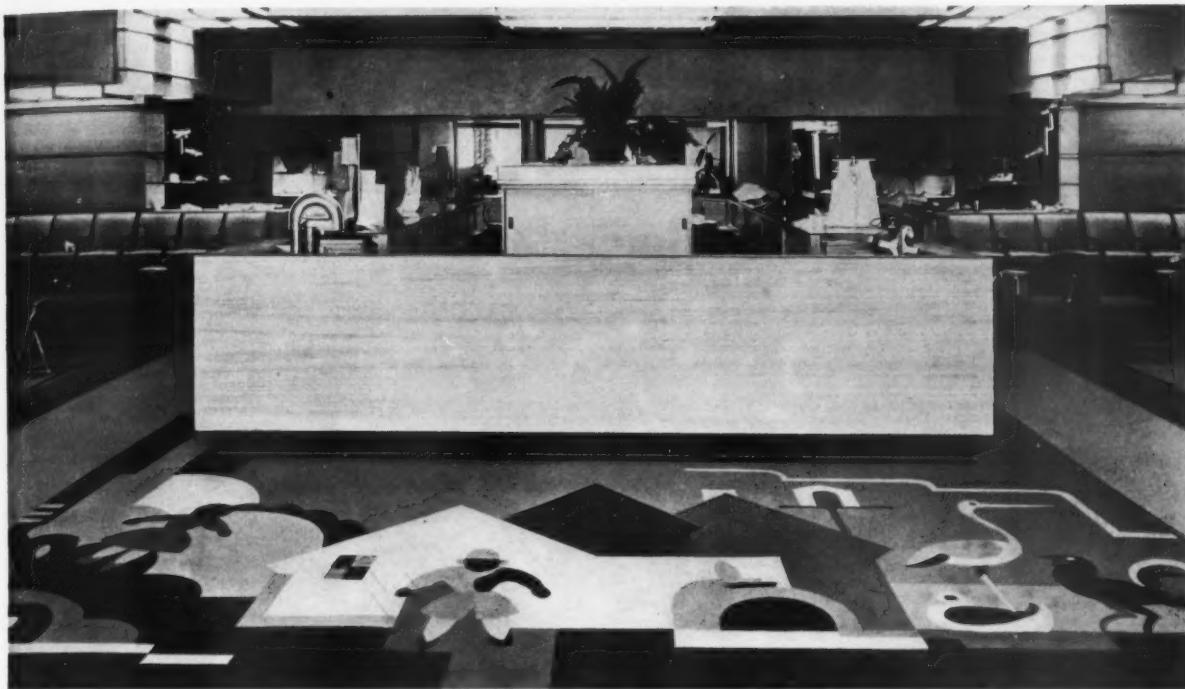
- | | | |
|----------------|---------------|--------|
| 1. Taupe Jaspe | 2. Black | 3. Red |
| 4. Orange | 5. Jade Green | |



Sports Wear Department of The Emporium, San Francisco, Calif. Linoleum floor of special design incorporating orange, black, chocolate and tan in flat areas of color. The design emphasizes the intersection of the main aisles. This floor was designed by the architectural department of the Emporium

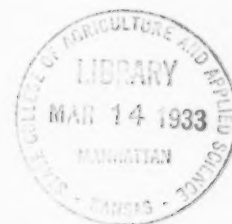
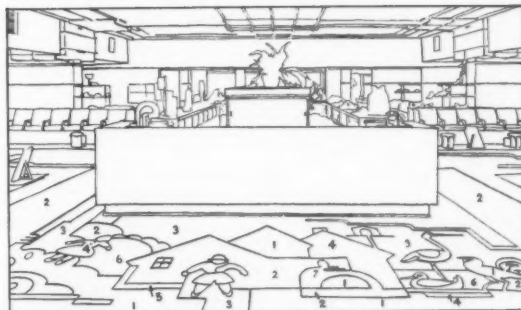


to the development of decorative patterns



A colorful linoleum floor that attracts the attention of children. Juvenile Department, Sommer & Kaufmann Shoe Store, San Francisco, Calif., Albert Roller, architect, Kem Weber, designer and decorator. 1. Dark Green 2. Light Gray 4. Dark Gray 7. Light Green 3. Powder Blue 5. Orange 6. Brown

The figures of boys and girls, birds and animals are broken up into color designs using the range given above



Demonstration nursery in "The Home in the Sky," Cleveland. The floor is of linoleum with a blue center field; white sailboat and border; black outer border and base. The wainscoting is also of linoleum with a white background, blue cap and panel trim, and decorative figures in various colors



Warm brown was selected for the base, border and designed pattern set in a field of yellow. Floor of rubber in the Sales Space



Rubber floor in the Debutante Shop. Field, coral pink; design and border, warm brown; base, dark green



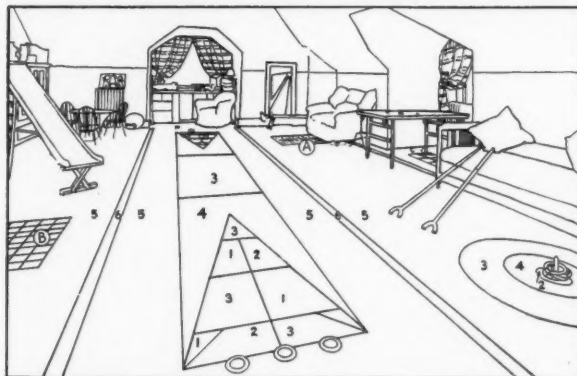
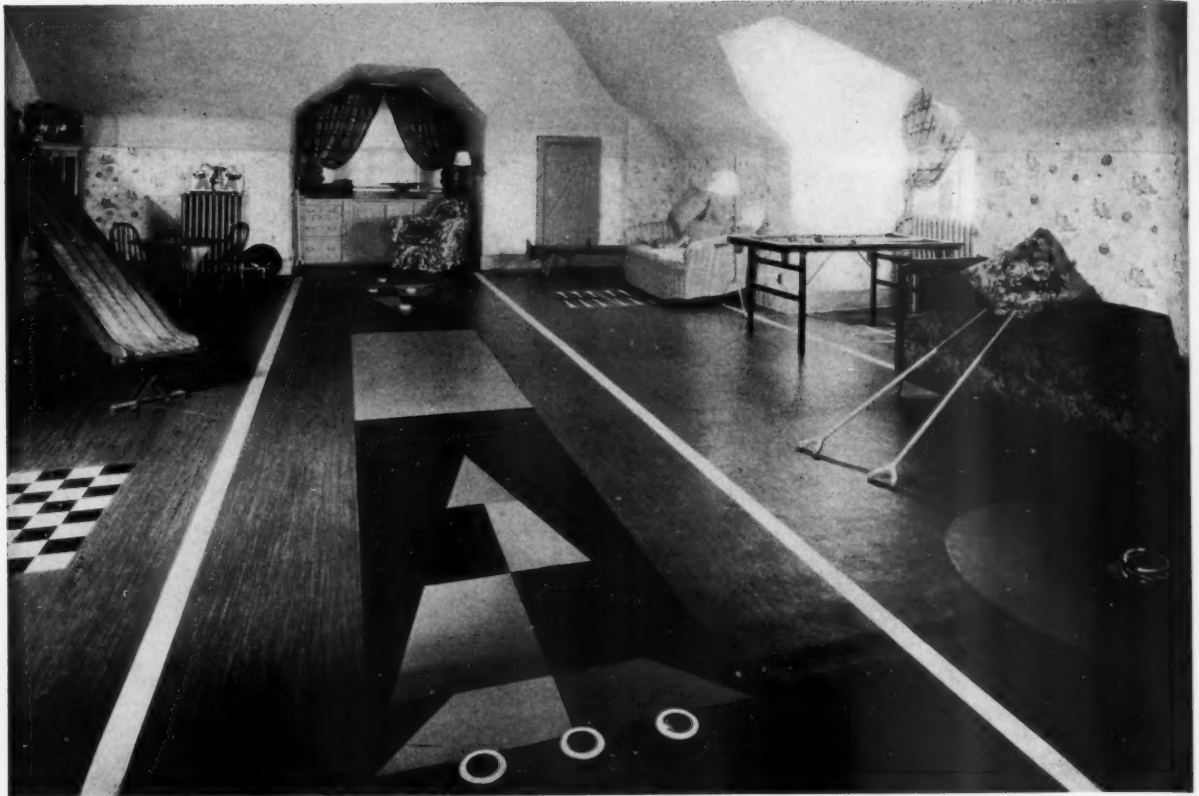
J. W. ROBINSON COMPANY BEAUTY SALON, LOS ANGELES, CALIF., WILLIAM RICHARDS, ARCHITECT



Rubber floor in Manicure Shop. Field, coral pink; design, dark brown; base, dark brown

J. W. ROBINSON COMPANY BEAUTY SALON, LOS ANGELES, CALIF., WILLIAM RICHARDS, ARCHITECT
FOR MARCH 1933

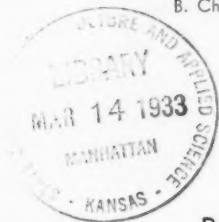




Game room in the house of George Foster, Oak Park, Illinois:

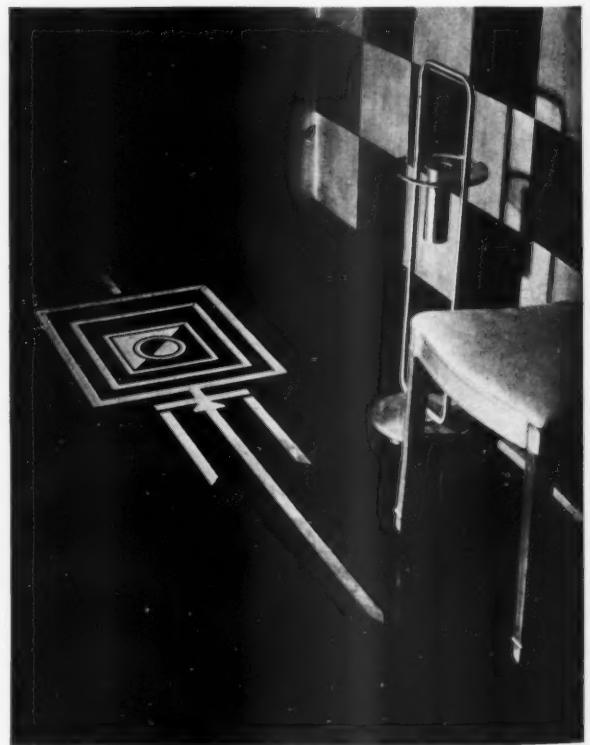
- | | |
|---------------|-----------------|
| 1. Black | 4. Dark Green |
| 2. Orange | 5. Green Jasper |
| 3. Jade Green | 6. White |

- A. Backgammon Board in Black, Red and White.
B. Checker Board in Black and White Squares.



Resilient flooring offers a wide range of special designs for individual rooms

A conventionalized camera forms an appropriate design for the floor of the photographic studio of Hedrich-Blessing, Chicago, Ill. It was designed by Thomas Lewis and consists of gray rubber inlaid in black



AMERICAN ARCHITECT

The Time Has Come To Get The Government Out of The Architectural Business

BY TYLER STEWART ROGERS

THE demand of the architectural profession that the Federal Government cease its competition with architects in private practise faces its greatest chance of recognition and realization since the inception of the fight by *AMERICAN ARCHITECT* on behalf of all members of the profession. No more propitious conditions are likely to exist in the future than are present today.

The imminent change in administration policies and personnel presents an unequalled opportunity for securing the appointment of qualified officials.

The popular demand for governmental economy, coupled with an equally insistent demand for unemployment relief, is wholly consonant with our aims.

And now comes the Chamber of Commerce of the United States with its report on "Government Competition with Private Business." This significant document, issued by an organization representing a comprehensive cross section of the nation's business opinion, contains an arraignment of the government's policy of designing public buildings with its own staff of employes, and presents arguments against government competition with private business of all types. The recent findings of the Shannon Committee of the House are in substantial concurrence with this report. The report says:

"Design and plans for buildings, and supervision of their construction, are in the hands of the Supervising Architect, in the Treasury Department. Although federal buildings are erected in all parts of the country, a force of architects, engineers, and draftsmen has been built up, with ancillary operations, such as blue-printing, on a large scale. Most of these services could be better performed by architects, engineers, blue-printing plants, and the like in private practise. Undertaking of these activities as a centralized government operation has caused delays at a time when the building program was intended to afford emergency employment, prevented spreading the work of designing and planning throughout the country when unemployment in the offices of private engineers and architects was general, and has tended toward use of materials other than those local to the community in which a building is constructed. . . ."

In view of the existing situation let us marshal our objectives and the new evidence in support of them. There are four major objectives:

1. *Pass the Green Bill or its equivalent!*

During the last session of Congress, Representative Robert A. Green of Florida introduced a bill (H. R. 6187) which made it mandatory on the Federal Government to employ architects in private practise to design all government buildings costing over \$50,000. Its passage was successfully opposed by Treasury Department

officials at the hearings held by the House Committee on Public Buildings and Grounds, chiefly on the grounds that the Office of the Supervising Architect could handle the design of public buildings at less cost than by the employment of practising architects. Representatives of the profession were unable to present effective evidence to controvert the Treasury's arguments.

New support on this vital point is to be found in the report of the Chamber of Commerce of the United States. Significant statements are:

" . . . The government's operations can be and are carried on without regard to the elements of profit or loss, which are unavoidable factors in private business. The government can, and does, furnish the funds which are employed, largely from taxation, without requiring or expecting payment of interest, let alone dividends, out of the business. Public property used by the government in business is free from any burden of federal taxation and is removed from taxation by the state, county and town in which it is situated. Allowances for depreciation are usually disregarded, on the theory that more funds will be forthcoming from the public treasury. . . ."

"If under any circumstances the government engages in any form of activity in competition with private enterprise, or in substitution for private enterprise, it has an obligation to ascertain exactly and completely the true costs and make them promptly and readily available to all members of the public. . . ."

"Full allowance should be made in costs for the loss to the Federal Government in taxes and for the taxes of which state and local governments are deprived. . . ."

These quotations support the contentions of the architectural profession that if the Office of the Supervising Architect were required to compute (1) the rental value of its space and the cost of administrative services and rent in other departments—such as in the office of the Fourth Assistant Secretary of the Treasury—which contribute to the execution of government design work; (2) the value of taxes on land, buildings, personal incomes, professional profits, etc., of which the government is deprived through the use of civil service and other government employes and government property; and (3) the value of postal savings, printed matter and other administrative expenses contributed by other departments of the government at less than their normal cost; the total cost of the federal architectural bureau would equal or exceed the cost of employing architects in private practise.

2. *Limit the functions of the Office of the Supervising Architect to the collection and correlation of data relat-*

A C T I O N

1. Petition President Franklin D. Roosevelt to appoint a qualified building authority as Fourth Assistant Secretary of the Treasury and a qualified architect as Supervising Architect
2. Send a similar petition to William H. Woodin, Secretary of the Treasury.
3. Write or telegraph each Congressman representing your state or district urging the passage of the Green Bill or its equivalent.
4. Secure the cooperation of local professional, commercial and political organizations in a general campaign to get the government out of competition with private business

Should reorganization of government agencies take place, the new officials corresponding to those named here should be reached

ing to proposed federal buildings, the selection of architects in private practise to design them, and general administration and supervision of their design and construction on behalf of the government.

In this connection the Chamber's report makes this pointed statement:

"The government's employment of personnel for functions not directly governmental should be limited to persons technically qualified to make specifications as to services, goods, and construction needed for the government's purposes, to determine impartially and expertly which tenders of private citizens should be accepted to supply the government in accordance with such specifications, and to inspect the performance of such contracts to ascertain if in fact they have been properly fulfilled."

3. *Secure the appointment of a man thoroughly conversant with building practise as Fourth Assistant Secretary of the Treasury.*

Heavy responsibilities devolve upon this executive, who in the broadest sense is the real directing head of the federal building program. It is he who must administer what is probably the greatest group of construction projects ever undertaken by any government. Obviously, the position not only demands great executive capacity but also a thorough knowledge of building practise and procedure and extensive first hand experience with architects, contractors and material suppliers. With a man of such training and background in this key position it is safe to assume that the negative attitude toward architects shown by the present administration would be reversed.

During the hearings on the Green Bill the testimony of Treasury Department officials showed that the assignment of work to outside architects was not based on any recognition that it was good business for the Federal Government to avail itself of the best archi-

tectural talent the country affords; rather it was frankly stated that work was given out merely as a matter of expediency. The Supervising Architect's office was swamped; it could not expand rapidly enough to keep pace with the demands upon it. Hence outside help was needed to satisfy the clamor for quick action. No disposition whatever was shown to concede that architects were entitled to market their wares to the government when the expenditure of public funds created a need for them, just as building material vendors sell their products without thought that the government might produce them in competition with existing business.

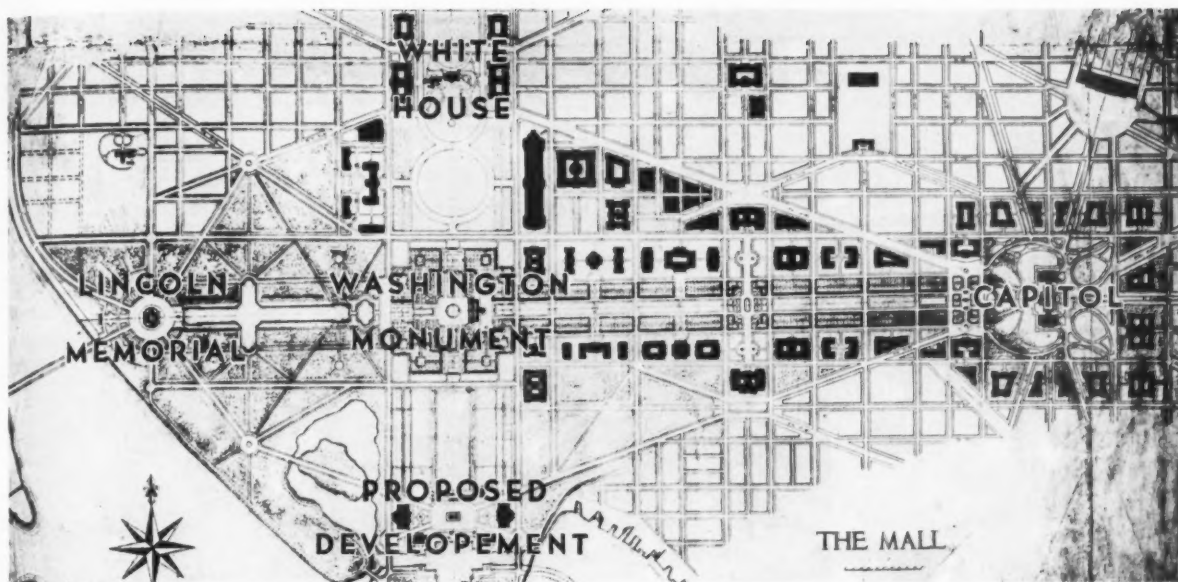
4. *Secure the appointment of an architect of high attainment as Supervising Architect of the Treasury.*

There are two reasons why this objective is of the utmost importance. Assuming that the Green Bill or its equivalent is passed and that the other objectives are gained, the position of Supervising Architect is still one demanding the best talent the government can obtain. To paraphrase an old saying, "It takes a good architect to find a good architect." Likewise it takes a good architect to appreciate good architecture. The position under the new deal we are seeking will call for excellent judgment; first, in selecting qualified architects in all parts of the country to design future government buildings, and second, in criticizing or approving the designs they create. The collection of data as to the requirements of the various agencies for whom buildings are to be erected, the correlation of these data in form that the selected architect may use as a basis of design, and the interpretation of the preliminary designs submitted to the department heads concerned, are tasks demanding the skill and diplomacy of an architect of broad experience and high standing.

Obviously, too, the excerpt last quoted from the Chamber of Commerce report bears directly upon this point. "... persons technically qualified to make specifications as to services, goods, and construction . . . and to inspect the performance of such contracts. . . ."

The second reason comprehends the possibility that some of our other objectives may not be satisfactorily attained. It is well known that the government does not pay large salaries. It is no reflection on the capabilities of the employes of the Supervising Architect's office, to say that the real leaders and geniuses of the architectural profession are not to be found on the government payroll. But if the public, which is spending \$700,000,000 of its money in the erection of federal buildings, is further to be deprived of the benefits of the best architectural talent obtainable in the country, at least some measure of protection would be afforded by intrusting this work to the direction of an architect of "high attainment." Such a man would demand the best that was in his men. He would stimulate them to high endeavor. He would automatically establish a higher order of excellence than is now demanded. He would, in short, not only control the largest architectural office in the world but he would seek to make it the best of its kind.

The opportune time has come to make the government cease its competition with the architectural profession. Created politically, this work can only be eliminated by political means. It is a job that requires the cooperation of every member of the profession and of every friend. The logical procedure is outlined above.



The Best Laid Plans of Mice and Men . . .

New knowledge of foundation conditions and modern traffic demands require the abandonment of the McMillan Plan of 1901 for the development of the Washington Monument Grounds

BY MAJOR D. H. GILLETTE, C. of E., U. S. A.

Assistant Director, Public Buildings and Public Parks of the National Capital

THE time-honored problem of the Washington Monument Grounds (which has been with us since 1783) has again come to life, this time with greatly increased complications. For the first time we know what is under the footings of the monument. The McMillan Plan of 1901, which was considered the ultimate solution, appears to be impracticable of fulfilment.

The question now is: "What shall we do about it?"

In 1884, after fifty years of bickering, the Monument was completed, to the satisfaction of all concerned; the public heaved a great sigh of relief and came in droves to enjoy it. They have been doing so ever since. Then came the 1901 plan for the city and its gradual execution. The Monument began to acquire some new neighbors: The Lincoln Memorial and Reflecting Pool; the enormous new triangle buildings, the Department of Agriculture, and the Mall development. The time approached when the Monument Gardens portion of the Plan should be commenced, and in 1930 the Director of Public Buildings and Public Parks secured an appropriation to prepare detailed plans and estimates therefor.

Then the old difficulty began anew.

Of course, if the reader numbers himself among the great multitude who prefer the Monument as it now stands, the difficulty is purely hypothetical. On the other hand, if you feel that the Monument Lot should be made to conform to the neighbors' "front yards," then you will have to face certain apparently insurmountable contradictions which may be briefly discussed.

The Monument Grounds, bounded by 17th Street, Constitution Avenue, 14th Street, and the proposed B Street South, are approximately in the form of a rectangle with the sides varying from 1400 to 2100 feet in length, and with one existing side an irregular line.

The Monument, which stands on the top of an irregular mound some 30 feet high, is not in the center of the "rectangle" nor is it exactly on any axis or any diagonal thereof. The level of the ground to the east is now some 20 feet higher than that to the west. The Monument rests on a spread footing approximately 80 feet above bed rock and about half of the 80 feet is soft, wet clay.

The conditions to be met in the final solution are:

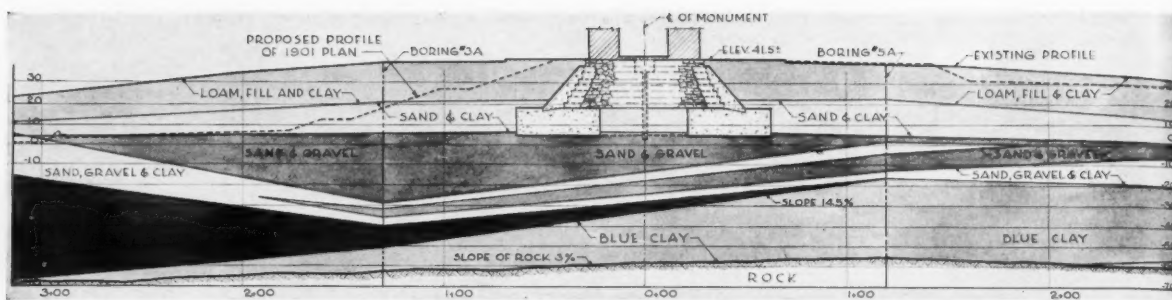
1. *Aesthetic*—To change the appearance of the Monument Grounds so that they will conform aesthetically to present surroundings.

2. *Traffic*—To pass traffic conveniently from the high-level Mall roads across the Monument Grounds to the low-level of the Reflecting Pool area.

3. *Engineering*—To make no changes in soil loadings that would endanger the present stability of the shaft.

The 1901 Plan was prepared from a purely aesthetic standpoint as at that time the automobile hardly existed and practically nothing was known as to conditions under the foundations of the Monument.

In 1930 Congress authorized the appointment of a committee to study the matter. The architect member was William A. Delano, of New York City; the



New borings to bed rock reveal several strata of clay and sand below the bed of sand and gravel upon which the Monument foundations rest

The "Plan of 1901", shown in this model, was made without knowledge of the subsoil conditions. As shown by the profile on the drawing above, it would require an excessive shifting of earth loads endangering the stability of the Monument



landscape architect was Frederick Law Olmsted, Jr., of Brookline, Massachusetts; and the engineer members were: J. Vipond Davies, C.E., of New York City; Lazarus White, C.E., of New York City; Maj. Douglas H. Gillette, C. of E., U. S. A., and John L. Nagle, C.E., of Washington, D. C.

The enormous shifting of earth loads involved in the 1901 Plan, which contemplated filling up the entire east side of the Monument Gardens to the level of the present sidewalk at the base, and the excavation of the greater part of the west half of the lot to the level of 17th Street, caused the Committee great concern. No information was available as to what was supporting the footing of the Monument, and the necessity of a thorough study of foundation conditions was indicated.

A number of core borings to bedrock were taken just outside the pavement at the top of the mound. These borings disclosed the existence of a stratum of moist clay just under the gravel bed upon which the foundations of the Monument had been constructed. The blue clay is thickest at the northeast and tapers off toward the Tidal Basin, with its upper surface dropping on a grade of 14.5% from northeast to southwest. The bedrock likewise slopes southwestward toward the Tidal Basin on approximately a 3% grade.

APPARENTLY this site, in the early geological periods, was a bay in which blue silt was deposited from the river flow, probably in still water. At some later period, the river apparently changed its course, encroached on the bay, and removed a part of the silt. Further changes in the course of the stream over a long period of time caused alternate deposit and erosion

which resulted in lens-shaped bodies of different materials at various elevations within the area. Finally, there was a general deposit of sand and clay over the entire surface and it is upon this latter layer that the Monument was constructed.

The simplest analogy would be to imagine that the Monument is like a pencil stuck vertically into the top crust of a rhubarb pie that has been tipped at an angle—stable so long as no one cuts a slice in the pie. How far one could thin the pie crust on the low side before the filling would break through and run out would be a matter of conjecture.

It is significant to note that General Thomas Lincoln Casey, who underpinned the Monument, and completed the construction above the 150-foot level, attempted to drill into the gravel bed, but met with no success because drilling equipment had not at that time reached a sufficient state of development. The old records show that he got within a few feet of the clay stratum before he was forced by the toughness of the gravel bed to stop operations. It is interesting to speculate as to what his procedure would have been had he succeeded in reaching the clay bed!

The conditions disclosed by the first set of 1930 borings indicated the necessity for additional data in the outlying areas, so a second set of borings was made on a larger circle with a radius of about 400 feet and its center at the Monument. This second set furnished further data as to the extent and thickness of the clay blanket, and disclosed the existence of the numerous lens-shaped deposits of various materials throughout the area above the clay blanket. These deposits greatly complicated the solution because of their irregularity.



Of the two new plans prepared in 1932 the Delano Plan, also called the "Balustrade Plan" is the more formal, using masonry balustrades and steps and an orderly arrangement of trees and roads to achieve its effect



The Olmsted-Hubbard Plan is designated as the "Informal Plan" and relies largely on the rearrangement of trees and planting to create a setting. Models are shown looking east

However, they substantiated previous apprehensions that any appreciable earthwork operations in the vicinity of the Monument would be ill advised.

After studies which lasted through the year 1931, the engineer members pronounced that the unbalancing of soil pressures which would result from the construction work contemplated by the 1901 Plan would be too hazardous to the stability of the Monument to warrant the execution of that plan without underpinning the Monument. The engineers further stated that while it would not be impossible to underpin the Monument, the operation would be both hazardous and costly. It was suggested that the architects attempt to devise some other acceptable treatment which would not require important changes in the contours and loading around the base of the Monument.

At the present time, two new architectural plans, differing mostly in degree of formality and in amount of cut and fill, have been proposed. Both plans contemplate only a slight raising in the area between the Monument and 14th Street, and both provide that the roads through the Monument lot shall be adapted to present day traffic requirements. The Olmsted-Hubbard Plan, which is designated as the "Informal Plan," contemplates the securing of its effect mostly through rearrangement of the trees. The Delano Plan, designated as the "Balustrade Plan," puts the roads and trees upon more formal lines and introduces masonry balustrades and steps for additional formality.

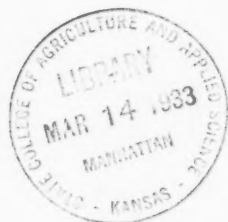
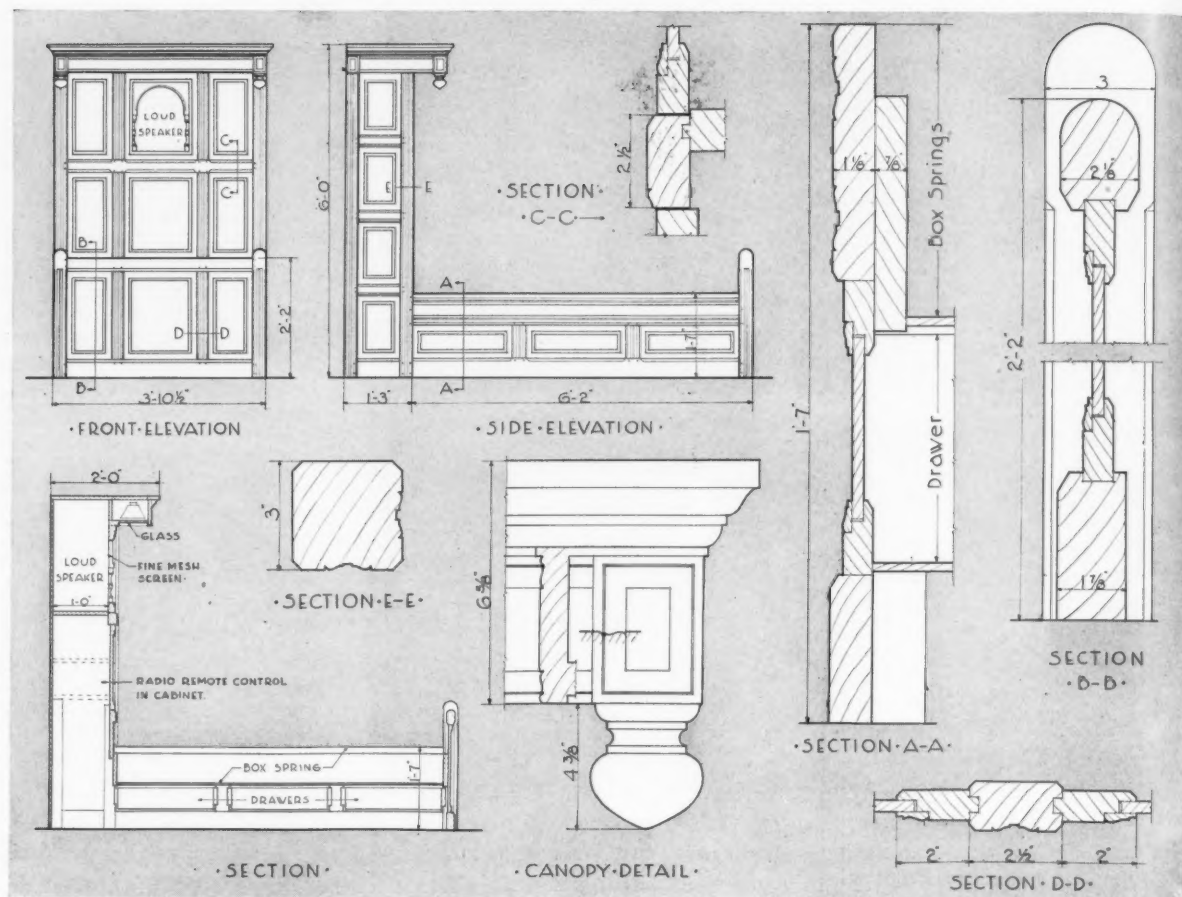
The photographs of the models show clearly the difference between the two plans. As to the models, it is an interesting sidelight that William Partridge, who pre-

pared the recent models, is the same man who prepared the model for the 1901 Plan. The recent plans were studied and revised by use of the models. The ground level was formed of plasticine about $\frac{1}{2}$ " thick, and individual trees were shifted about until the best effect was obtained. The tentative drawings were then revised until they agreed with the model.

ONE great difficulty with the making of a design for the Monument Grounds which will not too seriously affect the contours, is that the mound around the base of the Monument was deliberately given an irregular shape so as to make it appear as a natural hillock. As the result of this, it presents a definite ridge extending to the southwest, which, to one looking west from the base of the Monument, gives an unpleasant impression of vertical asymmetry with respect to the Lincoln Memorial.

The difference in elevation between the southwest and northwest quadrants is so great that to cut to the southwest and fill to the northwest in order to make this asymmetry imperceptible, would involve the shifting of enormous earth loads very close to the base of the Monument. It would also create a new hazard because the northwest fill would have to be placed over a part of the old fish pond where the underlying strata are still soft and wet due to the same springs and marshes that caused the Monument to be placed in its present location.

It is too early to state which of these two plans will be selected for submission to Congress, neither having as yet been approved by either the National Capital Park and Planning Commission or the National Commission of Fine Arts. "The best laid plans . . . gang aft agley."



BEDSTEAD with built-in radio. The radio receiving set, located in the basement of the house, is operated by a remote control device concealed in one of the cabinets of the bedstead. The reproducer is also built into the bedstead near the top. The bed is illuminated by a unit placed in the canopy. A built-in typewriter is another feature of this room



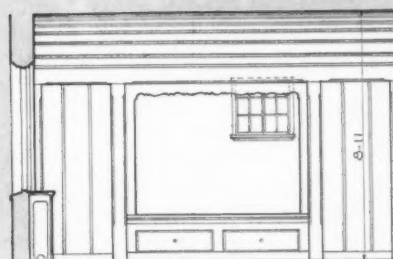
BEDSTEAD WITH BUILT-IN RADIO, HOUSE IN NEW CANAAN, CONN., ALFRED MAUSOLFF, ARCHITECT



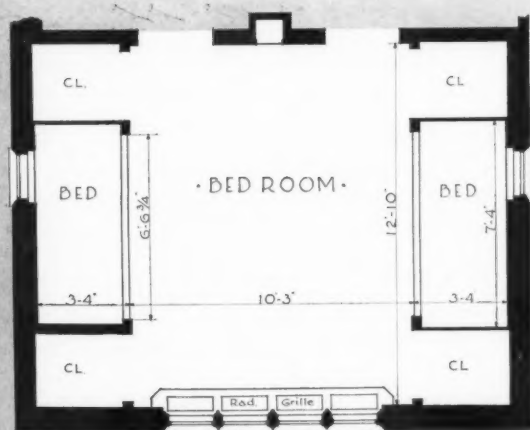
BUILT-IN BEDS similar to those found throughout northern Europe are a feature of this architect's own residence. The draperies are reproductions of the old Bavarian hand-blocked linens. The rug and table cover are of old Spanish origin; the candelabra, Dutch; and the floor tiles, Welsh. The beds are provided with individual windows for ventilation and light. Four closets provide good cupboard and storage space. The entire room, including the ceiling, is finished in V-jointed fir boards of random widths



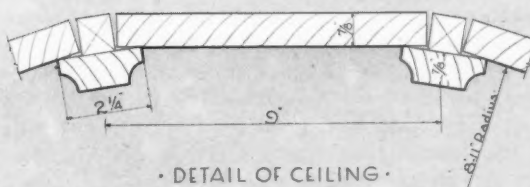
• CROSS SECTION •



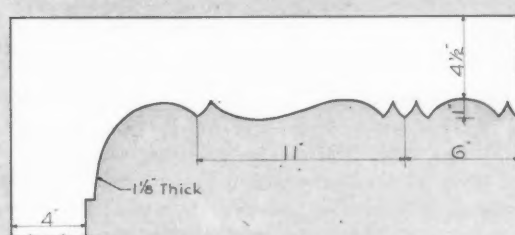
• LONGITUDINAL SECTION •



• PLAN •



• DETAIL OF CEILING •



• DETAIL OF
• VALANCE BOARD •

. . As It Looks

Six Times A Year

TO meet new needs and conditions created by today's unusual business situation AMERICAN ARCHITECT will be published every other month. The February issue was omitted and the current issue marks the first issue under the new publication schedule. Hereafter this magazine will appear in May, July, September, November, January and March.

It will be noted that this issue contains more articles and plate illustrations than did the January issue. This policy will be continued. The new publishing schedule will maintain the same high quality of articles and illustrations, covers, paper and printing as in the past. The reference data section giving condensed and authentic information on building materials, equipment and planning will become a regular feature. Subscriptions will be extended so that each subscriber will receive the total number of copies to which his present subscription entitles him.

Through this change in publication policy the publishers of AMERICAN ARCHITECT believe the interests of its subscribers can be better served and the needs and conditions of the changing times can be met. This change has not been made without due consideration and in consultation with prominent members of the architectural profession who have without reservation concurred in the opinion of the publishers that this change is desirable and advisable at the present time.

Get Ready for Future Business

ON every hand we see vacant stores with "for rent" signs in the windows. When business picks up new businesses are going to rent these stores. The old stores will not be suitable for the new occupants. The new tenants are going to need new show windows designed to display their merchandise properly. Interiors will have to be altered to meet new demands. This is going to be a good field of activity for architects who understand store keepers' problems. Now is a good time to find out what kind of stores different businesses require. It would be a good idea to begin now to lay the foundations for this new clientele.

A Plate Correction

THE Corning Glass Works has called our attention to a caption error in connection with the publication of the R-K-O Theater, Unit No. 8, Rockefeller Center, in the December issue of AMERICAN ARCHITECT. The caption on page 46 referring to the large windows in the Grand Foyer stated "Windows are translucent, sandblasted glass lighted from behind." These windows are "moulded Architectural Cast Glass Panels, 21" x 24" in size, made from the architects' designs to plaster models and iron moulds. They were not sandblasted but were finished with a special acid after having been cast in special moulds." The inaccuracy of this caption as published is deeply regretted.

No Institute Convention

THE Board of Directors of the American Institute of Architects has unanimously voted to omit the Sixty-sixth Convention scheduled to be held in May, 1933. This decision is based upon the greatly reduced budget upon which the Institute is forced to operate at present; conservation of Institute resources through eliminating convention expenses; conservation of Chapter finances by omitting the assessment of convention taxes; saving of expenses of individual members who would attend; and the desirability of using the funds saved by the Institute to meet the expenses of Directors and officers visiting Chapters and Divisions, a matter that is viewed as of especial importance at this time. The reasons for omitting the convention this year are sound and should have the approval of all members of the Institute.

Gold Medal House

ROYAL BARRY WILLS received from President Hoover on February 15 the Gold Medal which was awarded for the prize-winning design in the Better Homes in America Small House Architectural Competition for 1932. His house for Maurice A. Dunlavy at Brookline, Mass., which was published in the June, 1932, issue of AMERICAN ARCHITECT, won the prize.

We Need Ideas

KARL W. ZOELLER, an advertising man, says, "We are not short of money, but we are short of ideas." Observation attests the truth of his statement. The banks are not short of money. It is true that many of them have too many "frozen assets," but the savings departments have large surpluses. Most people seem to buy what they want and need. In spite of poor business, people with ideas are busy. Many of them are working night and day trying to keep up with the demands made upon them. These people are not wasting time trying to sell something in a market that does not exist. They are meeting today's demands and needs. The trouble is that most of us do not spend enough time in thinking and analyzing our problems, developing new ideas. Some of these "new ideas" may be merely old ones in new dress.

Good Time for Improvement

A SUBSCRIBER says, "The architectural magazines publish interesting and valuable articles, but of what use are they today when we have so little to do?" This reader forgets that when business does not take all of one's time there is a rare opportunity for mental improvement; a time for assimilating facts; getting "posted" on many subjects for which one ordinarily finds scant time. Most architects are making excellent use of their surplus time to acquire information that will prepare them for the busy days ahead.

to the Editors . . .

Aid to the Unemployed

SOME time ago architects in Chicago raised what proved to be an inadequate sum of money for the relief of unemployed architects and draftsmen. Later it was decided to hold an architect's ball. For atmosphere at the ball arrangements were made to reproduce a street from the Latin Quarter of Paris. Unemployed draftsmen were employed to design the street, make the working drawings, build the street and paint it. The ball was held in the Drake Hotel and netted a fund of \$8000. Then the Architect's Relief Committee, of the Chicago Chapter and Illinois Society, organized an Architects' Sales Bureau. The Bureau invites manufacturers to submit samples of products that can be sold by architects and draftsmen. Those who are interested in selling are financed by a small fund and provided with a stock of such products as they believe they can sell. The products vary from toilet seats and world globes to cord wood for fireplaces. Many men have taken advantage of the opportunity with varying degrees of success. Each man is supposed to repay the Bureau for the cost of his stock and advanced financing. This money is replaced in the fund for the use of the other applicants. The idea has possibilities and it is to be hoped will prove a good solution of the problem of helping the unemployed to help themselves instead of placing them on a charity basis.

Monument to Sydney Wagner

WILLIAM SYDNEY WAGNER of Bottomley, Wagner and White, New York City, died on May 26, 1932. Through his persistent and indefatigable efforts and with only a public school education he won the Paris Prize in 1907 which enabled him to study at the Ecole des Beaux Arts in Paris. Later he became a member of the firm of George B. Post and Sons. Following this association he helped to found the firm of which he was a member when he died. As a token of the esteem in which his memory is held by his many friends a monument has been erected by them in Northport Rural Cemetery on a hill overlooking Long Island Sound. The monument is a slab of Vermont marble designed by Otto R. Eggers, architect, in collaboration with Edward F. Sanford, sculptor.

An Embarrassing Question

AS an aid to unemployed draftsmen exhibitions are held at the Architectural League of New York. An admission charge is made for all visitors except unemployed draftsmen. Before collecting the price of admission an attendant asks the question, "Are you an unemployed draftsman?" Harvey Wiley Corbett, visiting one of these exhibitions, was asked the usual question. Somewhat puzzled, Mr. Corbett asked the reason for the query. Upon being informed that the unemployed are admitted free, Mr. Corbett smiled, said nothing, but paid his fifty cents.

Too Much Red Tape

IN January the clocks in the New York City Hall ran down and stopped because of a change of clock-winding contractors. The new contractor had failed to obtain a bond in time to permit him to start winding the clocks as soon as the former contractor stopped his work.

In the same city there is a War Memorial with an Eternal Light. The light consists of ten bulbs. When one burns out another automatically begins to burn. Requisitions for the bulbs must go through the ordinary routine of the proper department as "illumination of public buildings." Recently the light ceased to function because the last two bulbs had burned out and the requisition made several weeks before failed to provide new bulbs in time.

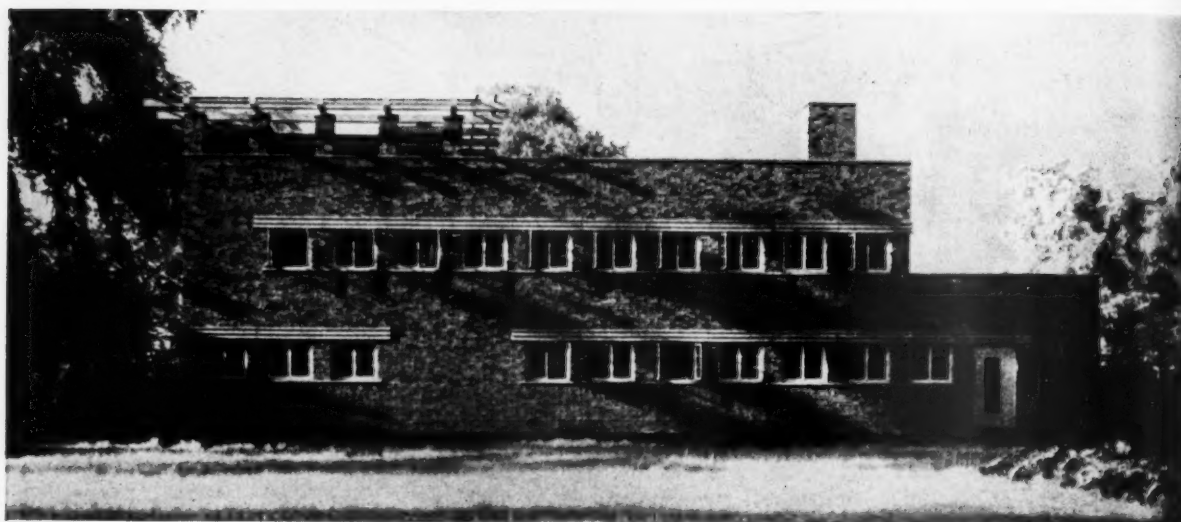
Why must we surround ourselves with so much red tape? Why do human beings make things so hard for themselves? In architecture the most difficult thing to achieve is simplicity. This is a fact that seems to be true of all human endeavor and relationships. It is especially true of government. The income tax blanks are a good example that comes forcibly to the attention of taxpayers at this time of year.

Good Designs Publicized

APPRECIATION of what is a good taste in architecture is a problem of public education faced by the entire profession. The leading large circulation consumer magazines devoted to home interests perhaps can exert greater influence in this direction than any other medium of public education. Noteworthy leadership is shown in the March issue of Good Housekeeping which presents three houses designed especially for the purpose by Dwight James Baum, Myron Hunt and Henry Ives Cobb. These small houses, with rooms on one floor, range in volume around 20,000 to 24,000 cubic feet and should cost approximately \$7,000 using good materials. No plan services are involved; their sole purpose is to stimulate interest in good design.

The Architect's Goal

PLANS and photographs of a house submitted to a layman's magazine were returned to the architect with a polite note from the editor. The same documents were sent to AMERICAN ARCHITECT with request for a frank criticism of the house. The architect wrote, "I think it good and my clients are 100 per cent satisfied. Have I gone stale and is it rotten?" This architect has not "gone stale." The house is not "rotten" in design. The editor who returned it no doubt was honest when he said that he had too much material on hand—most editors today do have too much material on hand. But though the house happened to be just a good house and not spectacular in design this architect had achieved the goal toward which every architect must or should work—he had satisfied his client 100 per cent! Isn't that what he is paid to do?

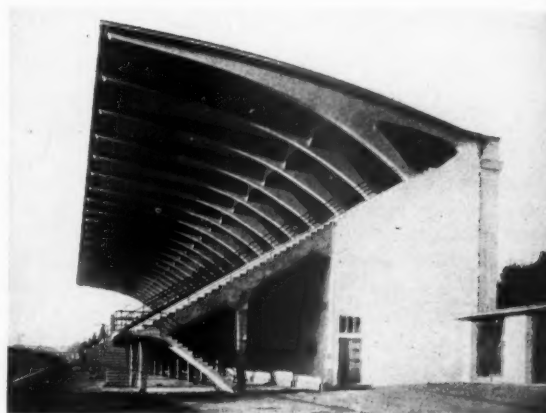


TRADITIONAL domestic construction and materials are used in this "modern" house in Cambridge, England. Designed by Marshall Sisson. From Architectural Review



DEATH MASK uncovered upon altering the wall of a house over one hundred years old. Found in the house of L. W. C. Tuthill at Chester, N. Y.

GRAND STAND at Florence, Italy. Pier Luigi Nervi, architect and engineer. The roof, of reinforced concrete, is 350 feet long and projects 70 feet. Total seating capacity of the stadium, 32,000. From Moderne Bauformen



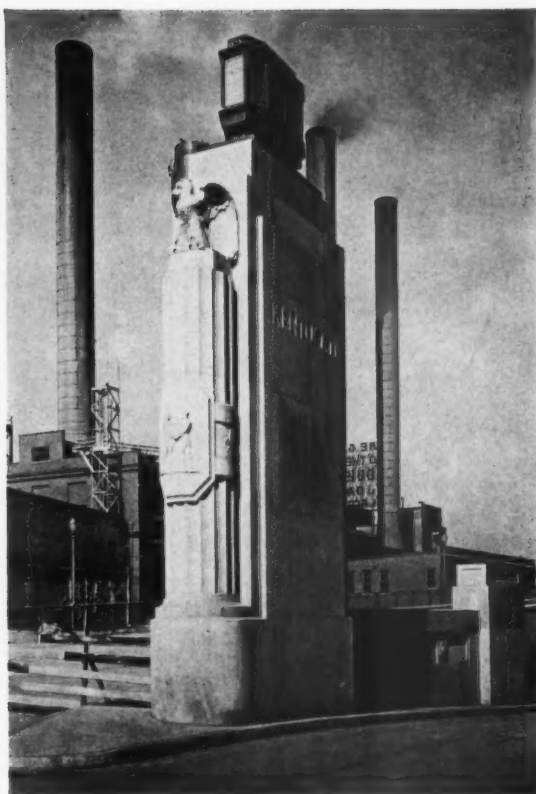
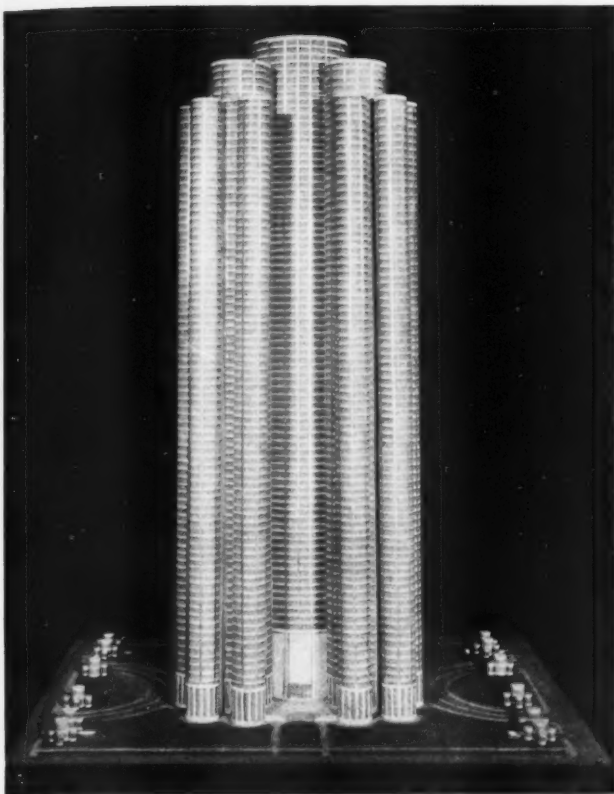
Trends & Topics

• "Rank injustice" is the term used by the American Engineering Council in a recent condemnation of the present system of control of government river and harbor work by Army engineers. Evidently the engineers feel as the architects do about government competition.

• Professor James M. White, F. A. I. A., former Dean of the College of Engineering, University of Illinois and for twenty-six years Supervising Architect, died February 6, 1933 at the age of 65 years. He was responsible for many of the University buildings and also acted as consulting architect for five other uni-

versities. Prof. White was president of the National Council of Architectural Registration Boards and chairman of the A. I. A. Committee on Registration Laws.

• "Manhattan Cruises" are sailing around through the streets of New York, with architects and draftsmen acting as captains for the voyages. This is one of the latest activities of the Women's Division of the Architects' Emergency Committee. The cruises take patrons at \$1.00 per head to see various places of interest in the city. "Admiral" Hugh A. Simpson, architect, is in charge of the cruises.



BRIDGE APPROACH of the Louisville and Jeffersonville Bridge, Louisville, Ky. Paul Cret, architect; Modjeski & Masters, engineers

OFFICE BUILDING model, above at left. Designed by Natalie Hays Hammond and recently exhibited at the Marie Sterner Gallery, New York. The model represents an eighty-story skyscraper in the form of a circular tower with four projecting cylinders, these again having three smaller engaged cylinders. The construction would be largely of aluminum and glass. The object of the circular design is to obtain maximum sunlight

COLUMBUS MEMORIAL, now under construction at Syracuse, New York. Dwight James Baum, architect; Renzo V. Baldi, of Florence, sculptor

Of the Times

- Free landscape architectural service is being offered by members of the New York Chapter of the American Society of Landscape Architects until March 15. In the interests of unemployment relief, the members offer to property owners one visit for consultation on any project that will give six days' work to ten men or more, and additional visits in like proportion to the men engaged. No charge except actual travel expense is made, unless plans are needed, and these will be made at cost.

- Laborers, material suppliers, subcontractors and other workers in the building trades are given a more equitable

basis for liens than has hitherto existed, in the Uniform Mechanic's Lien Act just published by an advisory committee of the Department of Commerce. While marking an important forward step in legislation of this character, it is notable that the law does little or nothing for architects.

- Prizes ranging from \$500 to \$200 are offered by House Beautiful in its 11th Annual Cover Competition which closes May 4. Detailed instructions to competitors may be obtained from the publishers at 8 Arlington Street, Boston, Mass.

(Continued on page 110)

Dollars

Out of the Depression

Appraising Existing Buildings to Effect
Savings on Insurance Protection Offers
a New Field of Business for Architects

BY H. AUGUSTUS O'DELL

THE depression has brought a new source of income to architects! Paradoxical as that statement may seem, I have established its truth to my own satisfaction. The sharp decline in building costs has correspondingly lowered the reproduction or replacement cost of every existing structure. Fire insurance policies contain a provision that prevents the insured from collecting a greater sum on a fire loss than is required to restore the building to its condition immediately prior to the fire. Hence, the amount of insurance a building owner carries should change as the cost of replacement changes, rising during times when prices are high and dropping during depressed periods.

The architect's new source of income lies in the appraisal of existing buildings for adjusting insurance policies to correspond with prevailing construction costs. The depression has brought this opportunity.

Some time ago, I discovered that a former client was carrying the same fire insurance coverage that he had placed on his building shortly after I completed it a number of years ago. I called the matter to his attention, appraised the structure for him, and now he is paying for insurance on \$33,000 worth of property instead of \$48,000 and is saving \$186 on his three-year insurance premium.

This gave me an idea. I wrote to each of my past clients and to a long list of acquaintances who own buildings. I told them of the effect which the decline in construction costs had on their fire insurance coverage and of the saving they might make by proper readjustments. The letter brought business. I discovered that many building owners were unaware of the provisions of their fire insurance policies. Others did not know that all reputable insurance companies are advising re-appraisal of valuations, as they do not wish their policy holders to pay for more protection than they could collect.

Thus launched in a new and logical division of architectural service, I found other uses for appraisals. Of these the most important was for use in tax reduction appeals. In one case an owner has received a five-fold return on the small cost of his appraisal through the combination of tax and insurance savings he effected. Another value, to me at least, was the opportunity this work afforded for making contacts with clients.

It is my opinion that all building appraisals should be

made by either architects or general contractors, with the possible exception of "market value" appraisals on land and buildings, which fall within the scope of the real estate expert. The latter do not reflect intrinsic worth, but merely what the property would bring under prevailing real estate market conditions.

Appraisals of intrinsic worth, by which is meant the determination of reproduction cost new or of replacement cost, must be made by men constantly in touch with costs in all the building trades. The large appraisal companies, which evaluate anything from works of art to railroads or skyscrapers, must get their information on building costs from either architects or contractors. I would like to see all qualified architects render appraisal services, not merely as a "pot-boiler" during slack times, but as a natural extension of architectural practice.

ANY architect who has let contracts for a reasonable volume of work of varied character is qualified to make appraisals. The figure arrived at by any appraisal method is accurate in proportion to the experience and good judgment of the appraiser. Experienced architects, of necessity, possess these qualifications.

Three factors enter into an appraisal. They are (1) reproduction cost new, which is the cost of erecting an identical building of new materials instead of old; (2) depreciation, which measures the loss in value between a new replica and the original structure that has seen wear and tear; and (3) obsolescence, which measures the loss of value due to lag behind present day practices and standards.

Only two of these values are factors in insurance appraisals, for a policy recognizes only what may be termed "reproduction cost new less depreciation" or true replacement value. No matter how obsolete a building may be, the insurance company pays only the cost of replacing what existed before a fire, tornado, lightning or other loss, as the case may be, occurred. In tax appraisal work, obsolescence may become a significant factor.

There are various ways of making an appraisal, and corresponding types of appraisal documents. Costs vary with each type. The large appraisal companies usually prepare an itemized list of all materials employed in a building with their respective quantities. This itemized

Ten Year Range In Building Costs

The values shown in this table apply to Detroit, Michigan. They embrace all cost factors, including architects' fees and builders' profits, except financing charges and specialized equipment. They were compiled by the Detroit Real Estate Board and are reproduced by permission

COST PER CUBIC FOOT IN CENTS										
Classification of Buildings	Dec. 1	Jan. 1	Feb. 1	Feb. 1	Feb. 1	Jan. 1	Jan. 1	Jan. 1	Jan. 1	Jan. 1
Factories and Warehouses:	1922	1924	1925	1926	1927	1928	1929	1930	1931	1932
Fireproof (<i>Under 300,000 cu. ft.</i>).....	.21½	.24	.23	.22½	.23	.22	.22	.22	.16½	.15
Fireproof (<i>Over 300,000 cu. ft.</i>).....	.19½	.23	.22	.21½	.22	.21	.21	.21	.16	.14½
Mill Construction	.14	.16½	.16	.16	.16½	.15¾	.15¾	.15½	.11½	.11
Ordinary	.13½	.15	.14½	.14	.14½	.14	.14	.13½	.10	.09½
Frame	.11½	.13	.11	.10½	.10½	.10	.10	.10	.07½	.07
Stores:										
Fireproof	.36	.41½	.40	.39	.39½	.38	.38	.38½	.30	.29½
Ordinary	.24½	.28	.26½	.26	.26½	.25½	.25½	.25	.20	.19
Flats (<i>Above Ordinary</i>).....	.30½	.31	.29	.28	.28½	.27½	.27½	.27	.22	.21
Ordinary without Basements.....	.18½	.21	.19	.18	.18	.17½	.17½	.17	.14¼	.14
Churches and Theatres:										
Fireproof	.32½	.37½	.36	.35¼	.36	.34¾	.34¾	.35	.27	.26
Ordinary	.22	.28½	.27½	.27	.27½	.26½	.26½	.26	.20½	.19½
Office Buildings:										
Fireproof	.51	.54½	.52	.51	.51½	.49¾	.49¾	.50	.39	.37½
Ordinary	.30½	.35	.33½	.32¾	.33¼	.32	.32	.32	.25	.24
Hotels:										
Fireproof	.52	.59½	.57	.56	.57½	.55½	.55½	.56	.42¾	.42
Ordinary	.43	.43	.34	.32	.32½	.31¼	.31¼	.31	.25½	.24
Schools:										
Fireproof	.37	.45½	.43½	.42	.43¼	.40	.40	.40	.32	.30
Hospitals:										
Fireproof	.37	.45½	.43½	.42	.43¼	.45	.45	.45	.32	.32
All Steel Buildings:										
Under 20,000 cu. ft.....	.19½	.20	.14	.13½	.13½	.13	.13	.13	.11	.11
20,000 to 100,000 cu. ft.....	.14	.14½	.12	.11	.11	.10½	.10½	.10½	.10	.10
Over 100,000 cu. ft.....	.11½	.11½	.10	.09½	.09½	.09	.09	.09	.07	.07
Apartments:										
Fireproof	.50	.55	.52½	.51	.52	.50	.50	.50	.39	.37½
Protected	.43	.48	.46	.45½	.46	.44¾	.44¾	.45	.34½	.34
Brick (<i>Ordinary</i>)	.39½	.34	.32	.30	.30½	.29½	.29½	.29	.24	.23
Brick (<i>Veneer</i>)	.34½	.32	.30	.29	.29	.28	.28	.28	.22½	.22
Residences:										
Brick	.45	.48	.46	.45	.45½	.44	.44	.44½	.34½	.33½
Brick (<i>Veneer and Stucco</i>).....	.34½	.34	.32½	.32	.32	.30¾	.30¾	.30½	.24	.23
Frame	.30½	.30	.26½	.25	.25	.24	.24	.24	.20	.19
Frame (<i>Not over 25,000 cu. ft.</i>).....	..	..	..	..	.20	.20	.20	.20	.15	.15
Cinder Concrete Block.....	..	.41½	.39	.38	.38	.36¾	.36¾	.37	.29	.28
Garages:										
Fireproof	.21	.24	.23	.22½	.23	.22¼	.22¼	.23	.17	.17
Mill Construction.....	.14	.16	.15	.14	.14½	.14	.14	.13½	.11	.11
Ordinary	.13	.15	.13½	.12½	.13	.13	.13	.13	.10	.10
Frame	.10½	.12	.10	.09½	.09½	.09	.09	.09	.08	.07
Sheds Without Heat:										
Enclosed Without Floor (<i>Frame</i>).....									.04¾	.04½
Enclosed (<i>Frame</i>)									.06	.06
Enclosed (<i>Ordinary Construction</i>)									.09½	.09¾
Enclosed Without Floor (<i>Ordinary Construction</i>).....									.09¼	.09
Enclosed (<i>All Steel</i>).....									.04½	.04½
Enclosed Without Floor (<i>All Steel</i>).....									.03½	.03½
Open Shelter (<i>Frame Construction</i>).....									.03	.03

(Copyright, 1932 by Detroit Real Estate Board)

list serves as the basis for relatively easy and low-cost re-appraisals from time to time and also is evidence of what existed before the loss in the event of controversy over the values destroyed. But such appraisals are costly to make and what is most significant, they do not show detailed values but merely the total reproduction cost new and the amount deducted for depreciation.

I do not advocate that architects enter into competition for this type of appraisal, although there is nothing to prevent any architect from making such an itemized appraisal if he desires.

THE simpler and less costly appraisals which I have found entirely adequate are based upon a careful examination of the structure, a comparison of its makeup with that of other similar buildings of known cost and a determination of present day replacement value based on the architect's judgment. In some cases cubic foot costs are used; often they are not satisfactory. But the process of making such a valuation requires little time and the fees charged are correspondingly low. If one has cost records of actual jobs and can back up his judgment with a record of experience the values arrived at by these methods can seldom be upset in court.

The Detroit Real Estate Board has issued a table showing costs per cubic foot of different types of buildings for each of the past three years, as compiled by the Detroit Department of Building. The table is reproduced here by permission. The values are presumed to represent the least cost, including architects' fees and contractors' profit, at which a fairly good building of economical design can be constructed under the most favorable conditions in the Detroit area. The cost includes all equipment, mechanical trades, elevators, painting and decorating; but does not include special items such as incinerators, refrigerating machinery, compressed air piping, etc. It does not include financing costs. These values must be used with judgment and varied to meet conditions in districts outside of Detroit.

The appraisal report normally takes the form of a letter or simple document. It should contain the following data:

(1) An identification of the property appraised, its location (legally described) and its owner's name.

(2) A detailed description of the structure indicating its size, type of construction, principal materials employed, character of mechanical equipment, etc; identifying all special or abnormal features which would materially affect its replacement cost. The more complete and accurate this description, the more value attaches to the appraisal in case the building is totally destroyed. In low cost work the description must be brief, seldom requiring more than one or two single-spaced typewritten sheets of foolscap size.

(3) Where practical, a brief statement of its general condition indicating the extent of depreciation or obsolescence, or both. Where available the original date of construction should be recorded.

(4) A statement of the value of the structure as of the date of the appraisal. This statement is positive, not qualified, and gives the appraised value in dollars. It should indicate that the value given is "reproduction cost new," "reproduction cost new less depreciation"

(or replacement cost), or "present value" which includes obsolescence as well as depreciation. The appraisal should close with a certification that the appraisal has been based on an inspection of the property as of a given date. It should be signed.

If land values are included (as for tax purposes) this figure should be separately listed and identified. Usually this value is secured from a real estate expert unless the architect is well acquainted with local values.

The fee charged for such appraisals varies according to the following factors; (a) The size and complexity of the building. A small building costs proportionately more to appraise than a large structure of similar character. A building of involved plan or with extensive equipment calls for a higher charge than a simple structure of the same worth. (b) If drawings and specifications of the building are available to eliminate need for measurements and extensive notes, the charge is lower than where these time-savers are lacking. (c) What the client can afford, as governed largely by the savings which can be made on insurance or taxes, or both. Remember that the preparation of such an appraisal is a matter of hours, not days. It involves a visit to the structure, a few hours of checking notes and comparative costs and the time required to dictate or type a report.

It has been my practice to state that the fee will generally represent the saving on insurance premiums for the first three to six months. This method of estimating is based on the assumption that the client is carrying insurance on values of three years ago. In any event the charge is but a fraction of the cost of an itemized appraisal. Where my charge might range from \$15 to \$50 or more, an elaborate appraisal would cost from \$200 to \$2000 and up.

There is one appraisal service organization, I am informed, that provides subscribers (who may be architects, builders, real estate agents or others having a fair knowledge of construction) with time saving forms, a loose leaf book of cost data and a constantly changing "price factor" which is said to make simple appraisals profitable on a \$10 to \$15 basis. Without personal knowledge of this service, I can see the possibility of its value.

The procurement of appraisal business presents no great difficulty. I have added the word "Appraisals" to my letter head and I intend to keep it there. I have used a simple form letter with much success. It relates a typical example of the savings made by a client as a result of my appraisal, it explains the standard provision contained in all fire insurance policies relating to the payment of losses according to existing replacement values, and it urges consideration of having me make an appraisal. I indicate that the fee is small, and is normally but a small part of the savings in insurance premiums.

Contacts with banks and mortgage companies often help, for their officials are glad to have borrowers save money on insurance or taxes and they frequently have business of their own to offer. The great majority of property owners are your prospects. So long as you make it clear to them that you are not seeking their insurance business and that your work leads to an actual saving of money, they are receptive to your story.

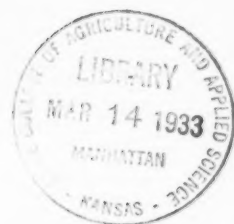


CENTRAL NATIONAL TOWER
BATTLE CREEK, MICHIGAN

HOLABIRD & ROOT, ARCHITECTS

Photographs by Hedrich-Blessing Studio

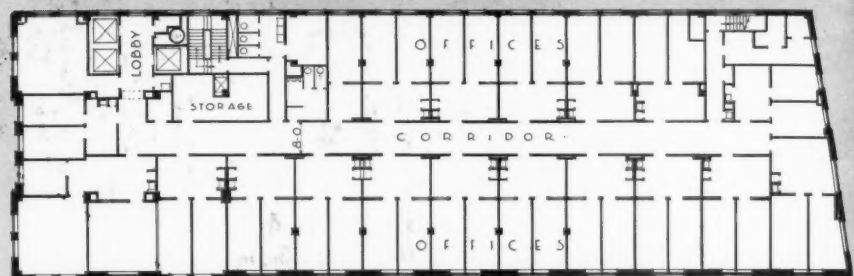
FOR MARCH 1933



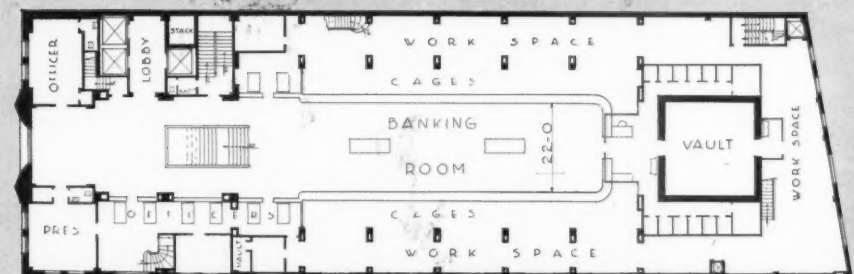
Typical Tower
Floor Plan



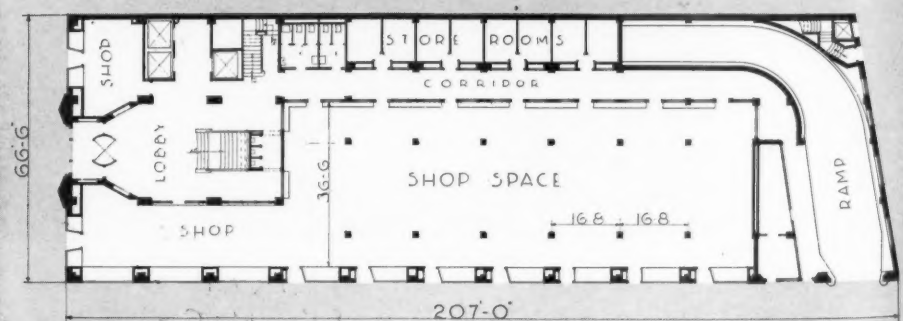
Fourth Floor



Second Floor



First Floor

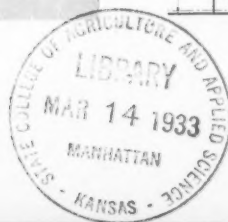
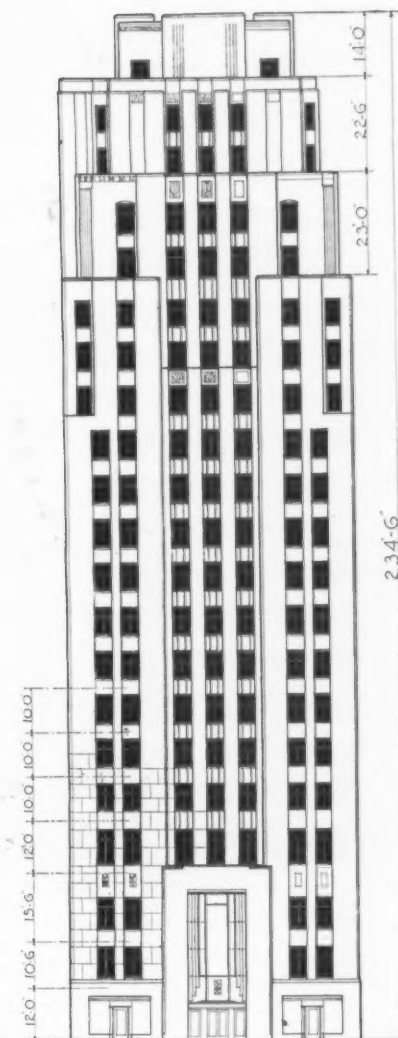
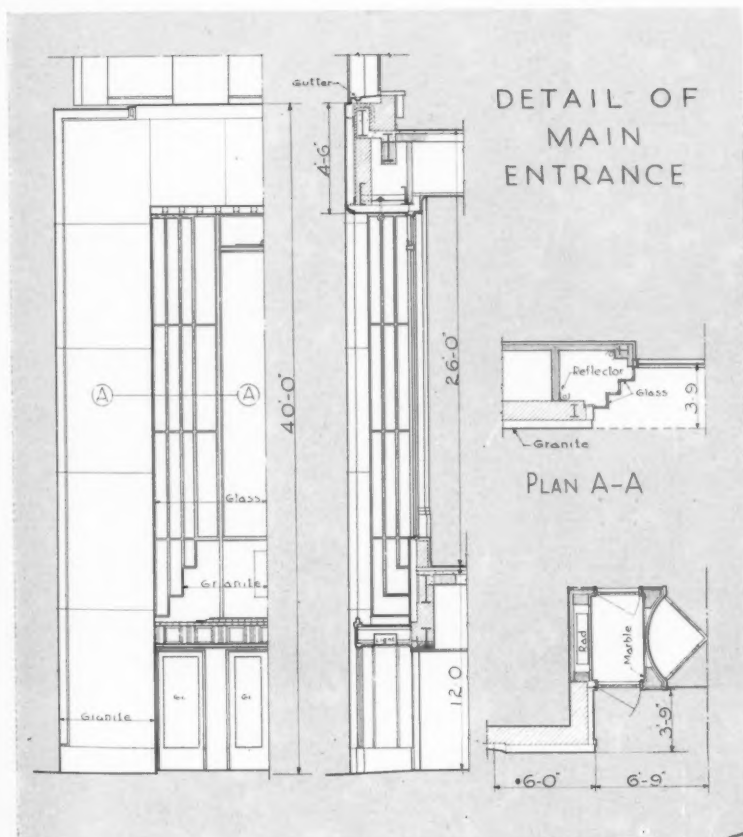


CENTRAL NATIONAL
TOWER BUILDING
BATTLE CREEK, MICH.
HOLABIRD & ROOT
ARCHITECTS



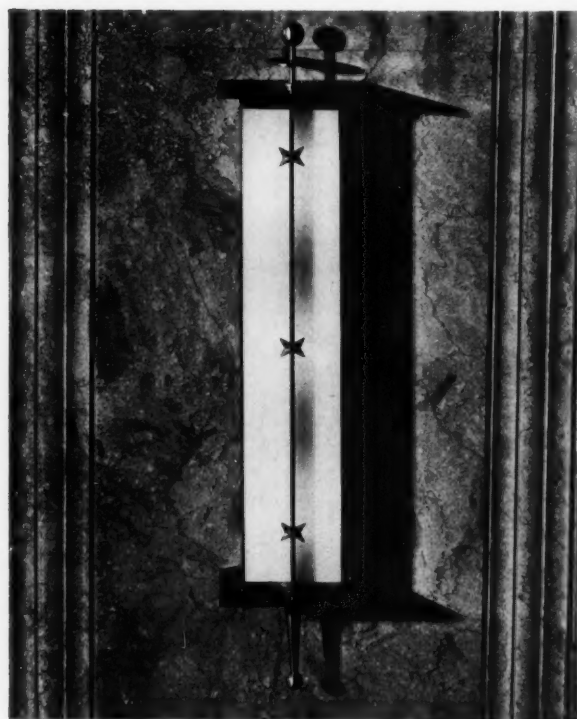
CENTRAL NATIONAL TOWER
BATTLE CREEK, MICHIGAN
HOLABIRD & ROOT, ARCHITECTS

EXTERIOR faced with selected buff limestone. Base course and entrance motif faced with Minnesota red and black variegated granite. Window spandrels, aluminum. Window sash, steel, double hung. Cubic contents, approximately 1,600,000 cubic feet. Cost, including decorations and furnishings, \$1,225,000. Built in 1931





The public stair to the banking room is protected by a bronze enclosure. The mail box is also of bronze



Detail of bronze and glass wall bracket lighting fixture



View in banking room looking toward entrance stairway

CENTRAL NATIONAL TOWER, BATTLE CREEK, MICHIGAN, HOLABIRD & ROOT, ARCHITECTS



Banking room looking toward vault

CENTRAL NATIONAL TOWER, BATTLE CREEK, MICHIGAN, HOLABIRD & ROOT, ARCHITECTS
FOR MARCH 1933





Detail of vault in banking room and mural painted by David Leavitt

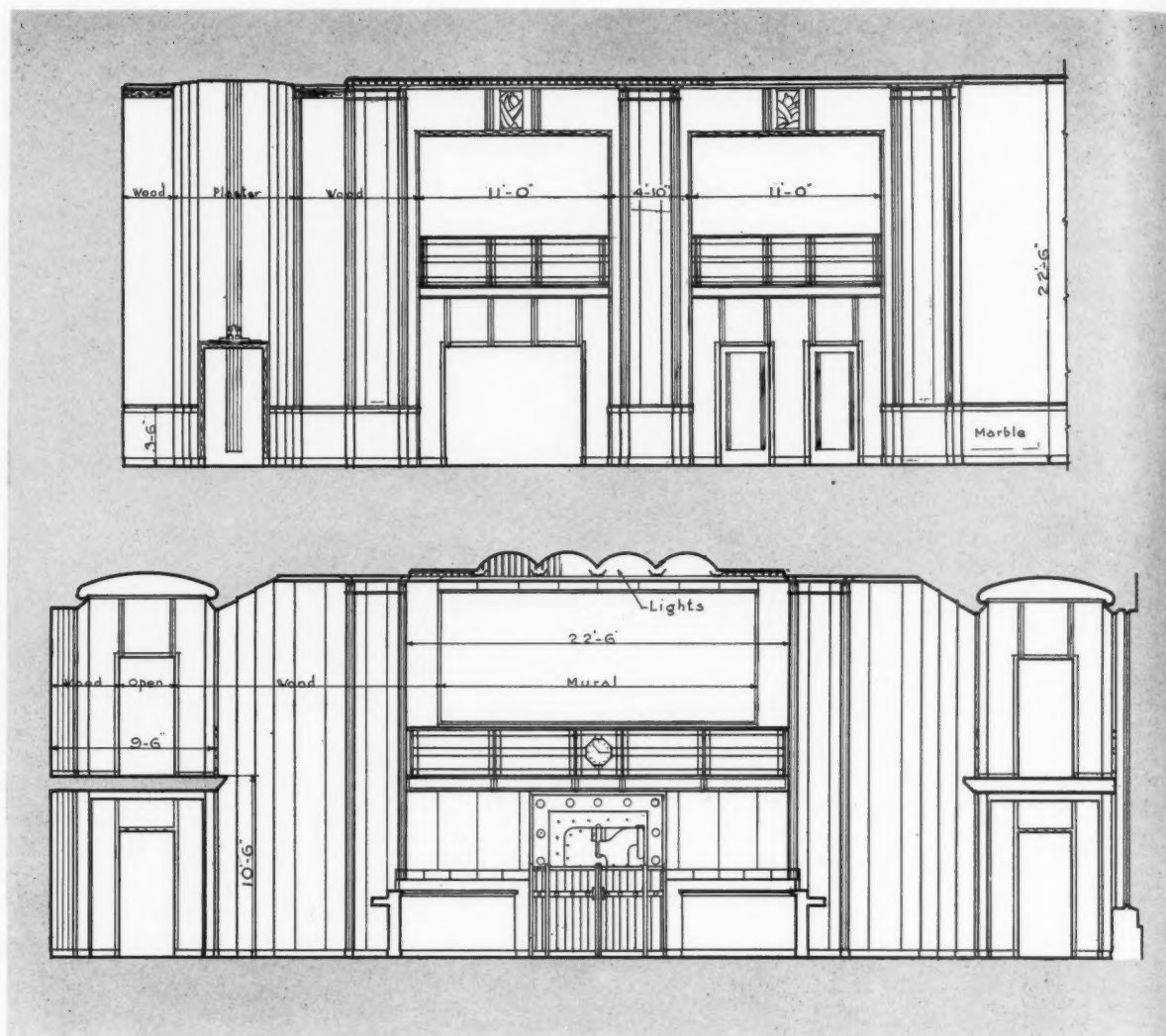
CENTRAL NATIONAL TOWER, BATTLE CREEK, MICHIGAN, HOLABIRD & ROOT, ARCHITECTS



Detail of bank screen and mezzanine railing

CENTRAL NATIONAL TOWER, BATTLE CREEK, MICHIGAN, HOLABIRD & ROOT, ARCHITECTS
FOR MARCH 1933

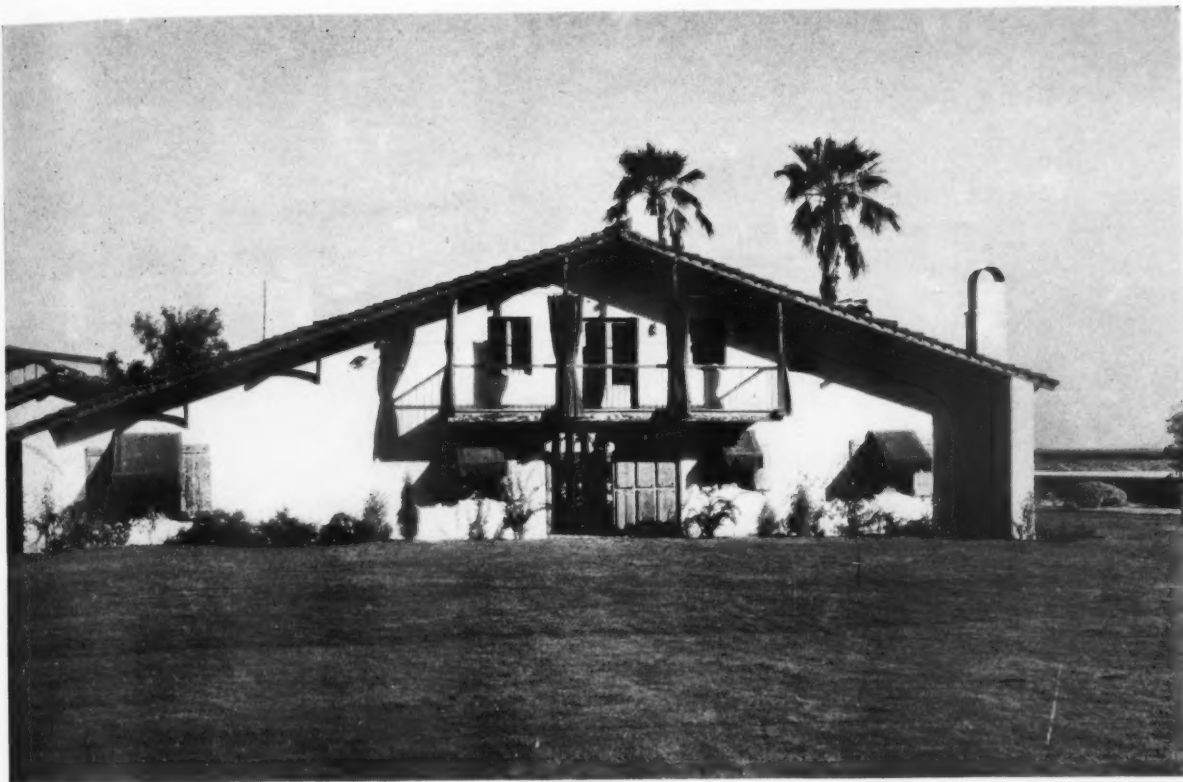




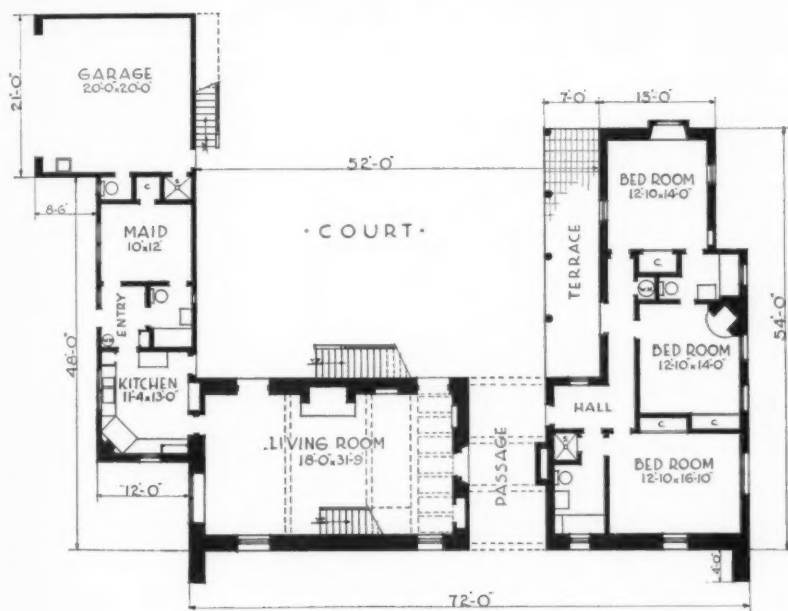
Typical elevations of main banking room walls

American black walnut, cut from the famous Meramec tree in Missouri, has been used for the paneling of the main banking room. Doors and trim of typical floors are of mahogany. The interior metal work, including railings, grilles and lighting fixtures, is bronze. The vault doors are polished steel. The main banking room ceiling light is made of bronze with concealed 40-watt lamps spaced nine inches on centers. The counters in the banking room are Lunel Notre Dame marble of pronounced brown color with rose veining. The floor is Tennessee marble. Corridor floors are terrazzo; wainscots, marble. The building is served with three passenger and one freight signal-controlled elevators. A two-story apartment occupies the free space in the tower penthouse.

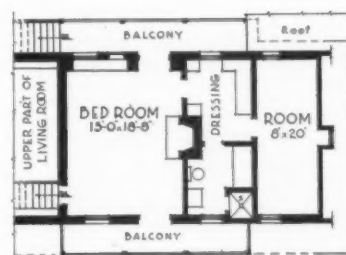
CENTRAL NATIONAL TOWER, BATTLE CREEK, MICHIGAN. HOLABIRD & ROOT, ARCHITECTS



The design of this house has been carefully considered in relation to its site on the desert sands. Based upon the Basque type it has deep reveals and wide overhanging eaves which provide good shadow lines and protection from the sun. The color and texture of the materials harmonize with the locality



FIRST FLOOR PLAN



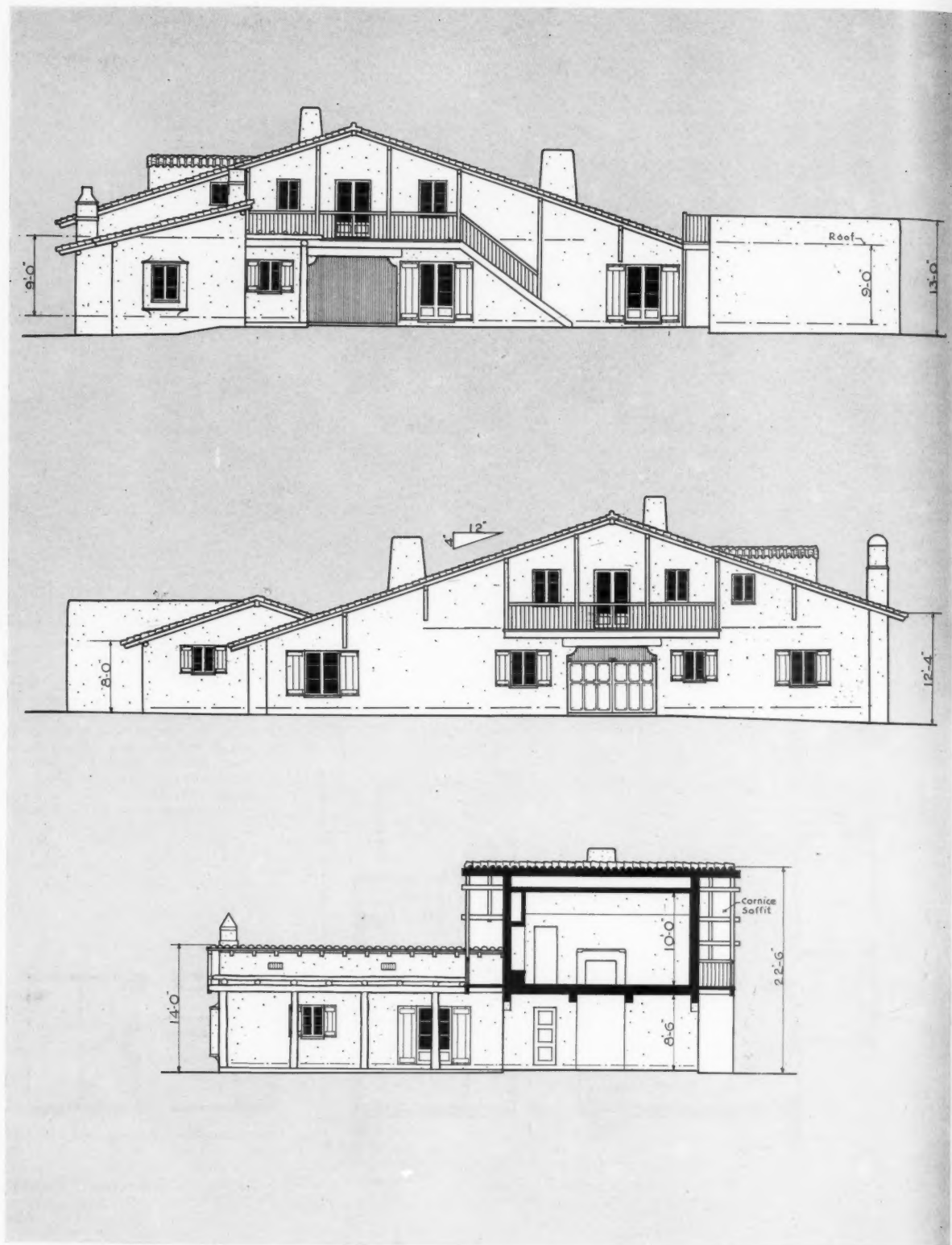
SECOND FLOOR (above passage)

HOUSE OF JULIAN S. NOLAN PALM SPRINGS, CALIFORNIA

JOHN BYERS, ARCHITECT

FOR MARCH 1933





An elevation looking into the court as well as the principal facade and a section through the first story passage and court are shown above

HOUSE OF JULIAN S. NOLAN, PALM SPRINGS, CALIFORNIA. JOHN BYERS, ARCHITECT



Detail of entrance passage



Court elevation showing outside stair to garage roof

HOUSE OF JULIAN S. NOLAN, PALM SPRINGS, CALIFORNIA, JOHN BYERS, ARCHITECT
FOR MARCH 1933





CONSTRUCTION DATA: Roof, hand made Mexican tiles with Italian pan tiles at the rakes. Roof overhang is three feet six inches with tiles exposed from below. Angle braces supporting the roof purlins, rafter ends, posts and railings are hand hewn. Balcony floors, rough planking spaced one-quarter inch apart. Pergola in court built of eucalyptus branches laid horizontally over posts made of old telephone poles and covered with rough matting made of tules gathered and woven by Indians. Outside stairway leads to roof of garage which is screened for use as a sleeping porch. Exterior walls, stucco on frame construction. House is insulated from heat by double walls. Interior is cooled by evaporation of water sprayed through ordinary sprinkler heads placed on roof with control valve at grade. The court and passage are paved with cobble stones. Interior floors are of hand made tiles over a concrete slab laid directly on the sand. The living room ceiling follows the line of the roof with exposed purlins supported on ledges and by angle brackets. Ceilings, timber, treated with lye and stained to color of driftwood. Exposed timbers of interior are hand hewn. Walls, plaster

HOUSE OF JULIAN S. NOLAN, PALM SPRINGS, CALIFORNIA, JOHN BYERS, ARCHITECT



HOUSE OF MARGARET OWEN, BEDFORD, NEW YORK

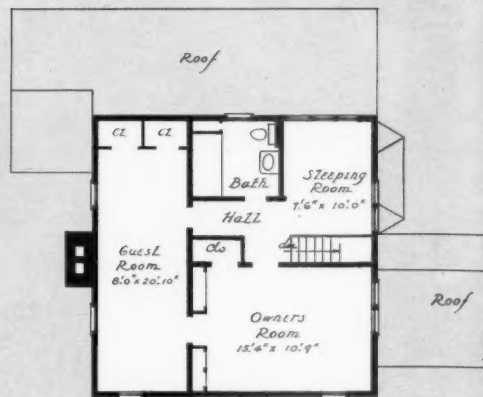
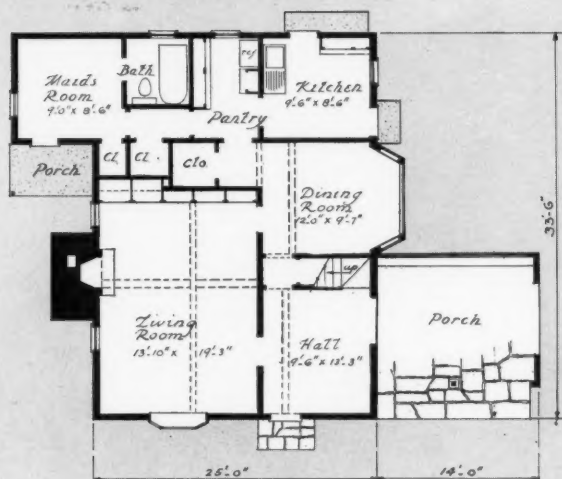
A REMODELED FRAME FARM HOUSE

EDGAR AND VERA COOK SALOMONSKY, ARCHITECTS

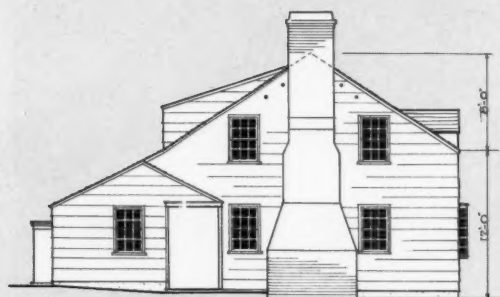
Photographs by Robert MacLean Glasgow

FOR MARCH 1933





SECOND FLOOR PLAN



SIDE ELEVATION



REAR ELEVATION



FRONT ELEVATION



SIDE ELEVATION

Insofar as possible, the exterior lines of the original house were retained. The front bay replaced several window openings. The small dormers on the front developed from two of the many small, low windows usually found in early houses of this type. The entrance porch with lattice sides and lead-covered roof is new, as is also the porch to the right of the hall. The brick chimney follows the lines of those seen in Maryland and Virginia. Dotted lines on the first floor plan indicate the location of original beams and approximate location of partitions. The entire house retains the small scale established by the house as originally built.

HOUSE OF MARGARET OWEN, BEDFORD, N. Y., EDGAR AND VERA COOK SALOMONSKY, ARCHITECTS



Planting has been designed to tie the house into its rural surroundings, giving privacy and emphasizing the diminutive scale of the house itself



HOUSE OF MARGARET OWEN, BEDFORD, N. Y., EDGAR AND VERA COOK SALOMONSKY, ARCHITECTS
FOR MARCH 1933



The horizontal lines of the exterior are emphasized by the shingle courses and flush matched boards below the eaves. The result is a restful composition that nestles close to the ground and adds to the livable, enduring qualities of the whole

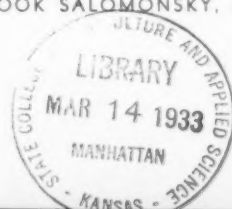
HOUSE OF MARGARET OWEN, BEDFORD, N. Y., EDGAR AND VERA COOK SALOMONSKY, ARCHITECTS



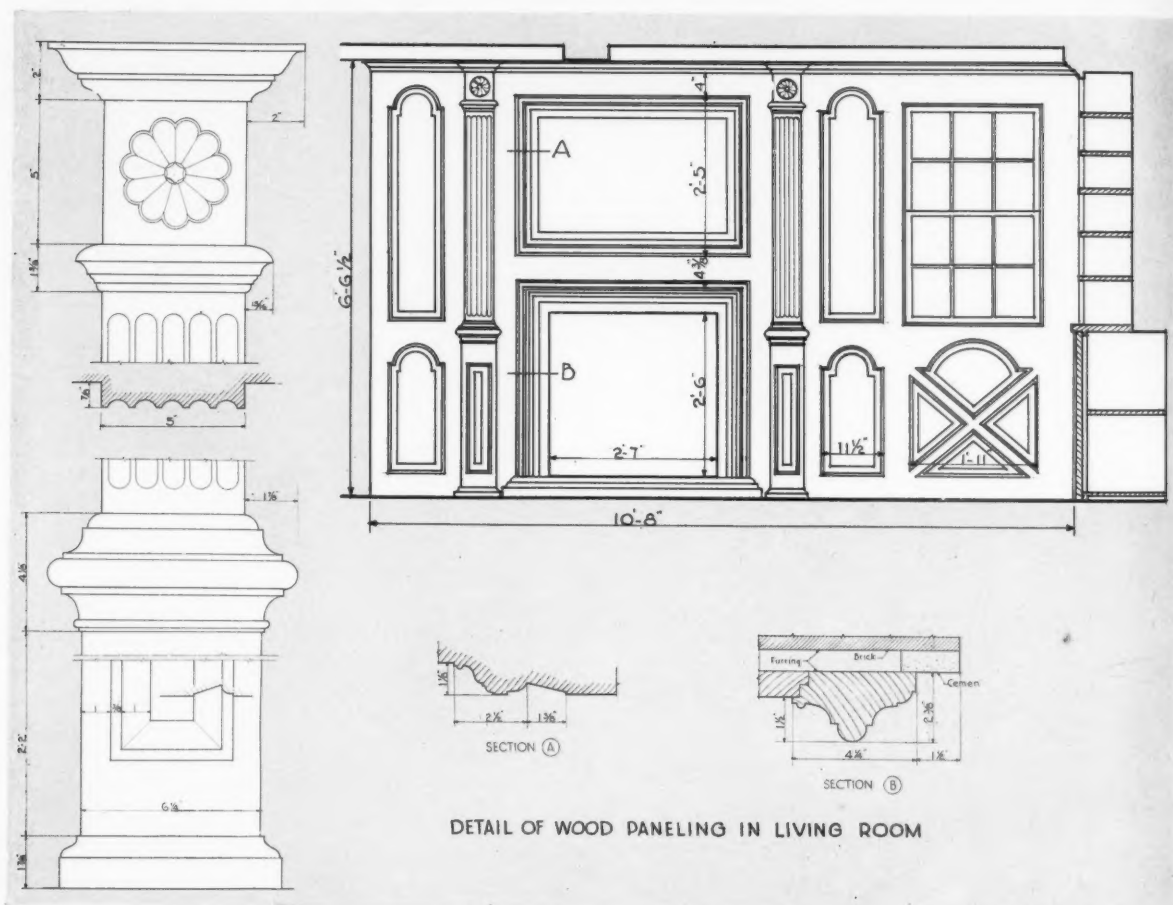
The diminutive scale of the interior is even more emphatic than that of the exterior. Many of the door openings were and still are only five feet ten inches in height. The entrance door is six feet high. Note the unusually low ceiling height of the first story as shown above

HOUSE OF MARGARET OWEN, BEDFORD, N. Y., EDGAR AND VERA COOK SALOMONSKY, ARCHITECTS
FOR MARCH 1933

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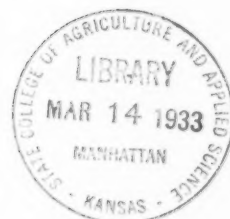
The apparent size of the living room, due to the low ceiling, is larger than its actual size, which is 14' x 19'. The ceiling beams, stained dark brown, are those of the original house



DETAIL OF WOOD PANELING IN LIVING ROOM

The ceiling of the first story was so low as to permit an almost exact reproduction of the pilaster and panel treatment of the fireplace in a room from Newington, Connecticut, now in the American wing of the Metropolitan Museum. This room has been a fruitful source of inspiration, but the low ceiling height of the original has usually required a change in proportions when reproduced, impairing the scale of the design

HOUSE OF MARGARET OWEN, BEDFORD, N. Y., EDGAR AND VERA COOK SALOMONSKY, ARCHITECTS



METHODIST-EPISCOPAL CHURCH
KNOXVILLE, TENNESSEE

BARBER & McMURRY, ARCHITECTS; OFFICE OF JOHN RUSSELL POPE, ASSOCIATED
Photographs by Jim Thompson Co.

FOR MARCH 1933

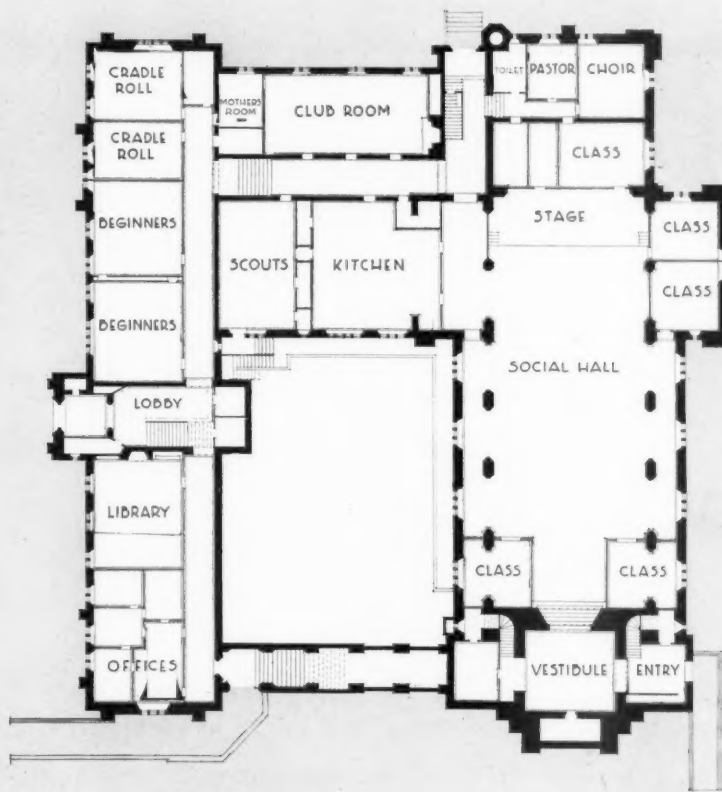
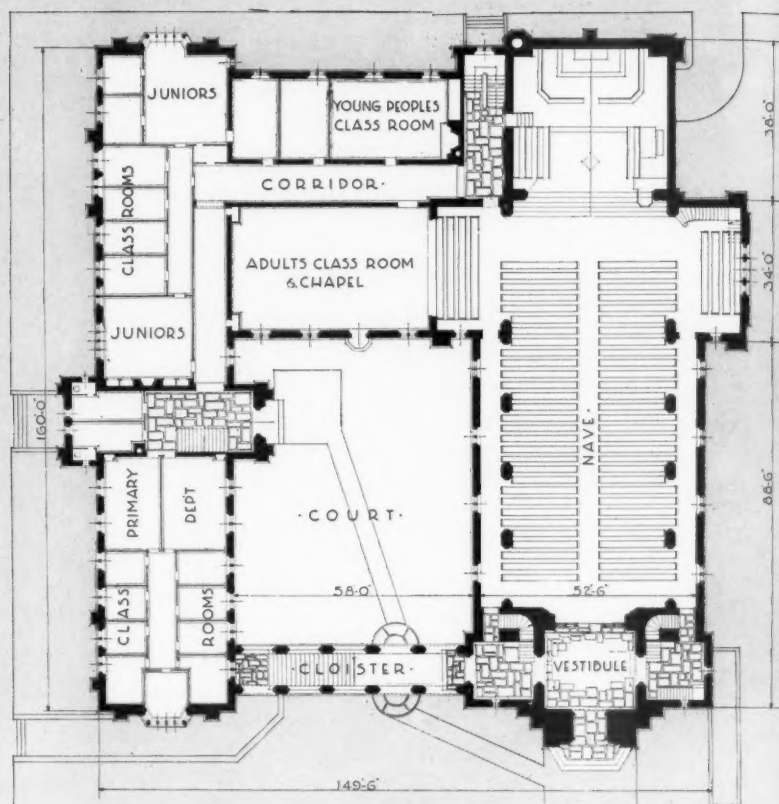
73

PLANS. Above: Main floor. Below: Basement. The Sunday School, enclosing two sides of the court, has a second floor containing classrooms for adult, senior, and intermediate grades

CONSTRUCTION: The building is of fireproof construction except for the roof which is of wood. Exterior and interior walls are of masonry; floors, reinforced concrete. Interior woodwork is of oak stained a warm gray. Ceilings of nave and transepts are of oak timbers with 1 1/2" of cork between rafters for insulation and acoustical purposes. Cork surface painted a brush coat, light tan color, and wiped off. Vapor vacuum heating system with fan ventilation in main church. Approximately 1,000,000 cubic feet. Cost, \$450,000, or 45c per cubic foot

METHODIST- EPISCOPAL CHURCH KNOXVILLE, TENNESSEE

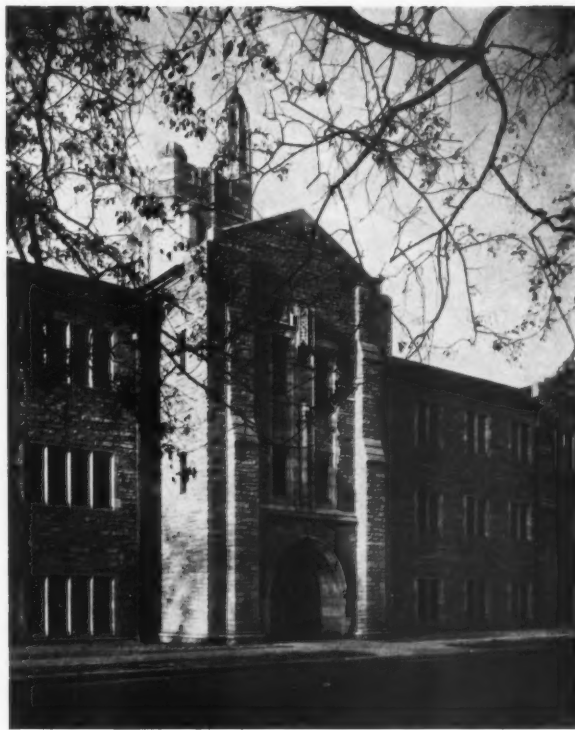
BARBER & McMURRY, ARCHITECTS; OFFICE OF JOHN RUSSELL POPE, ASSOCIATED



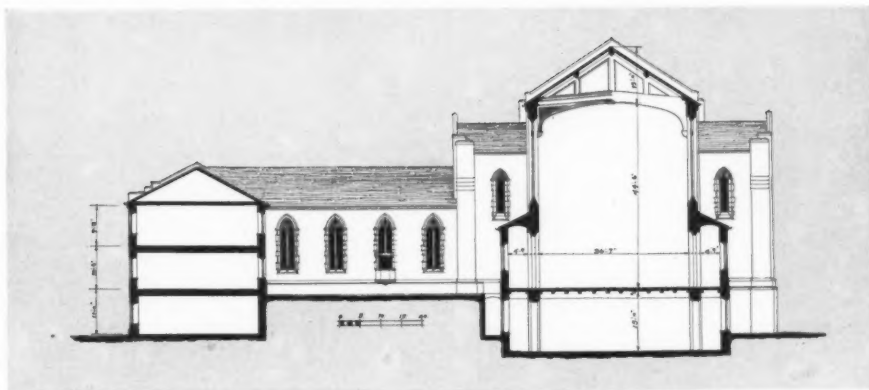
AMERICAN ARCHITECT



Detail of Cloister Arcade

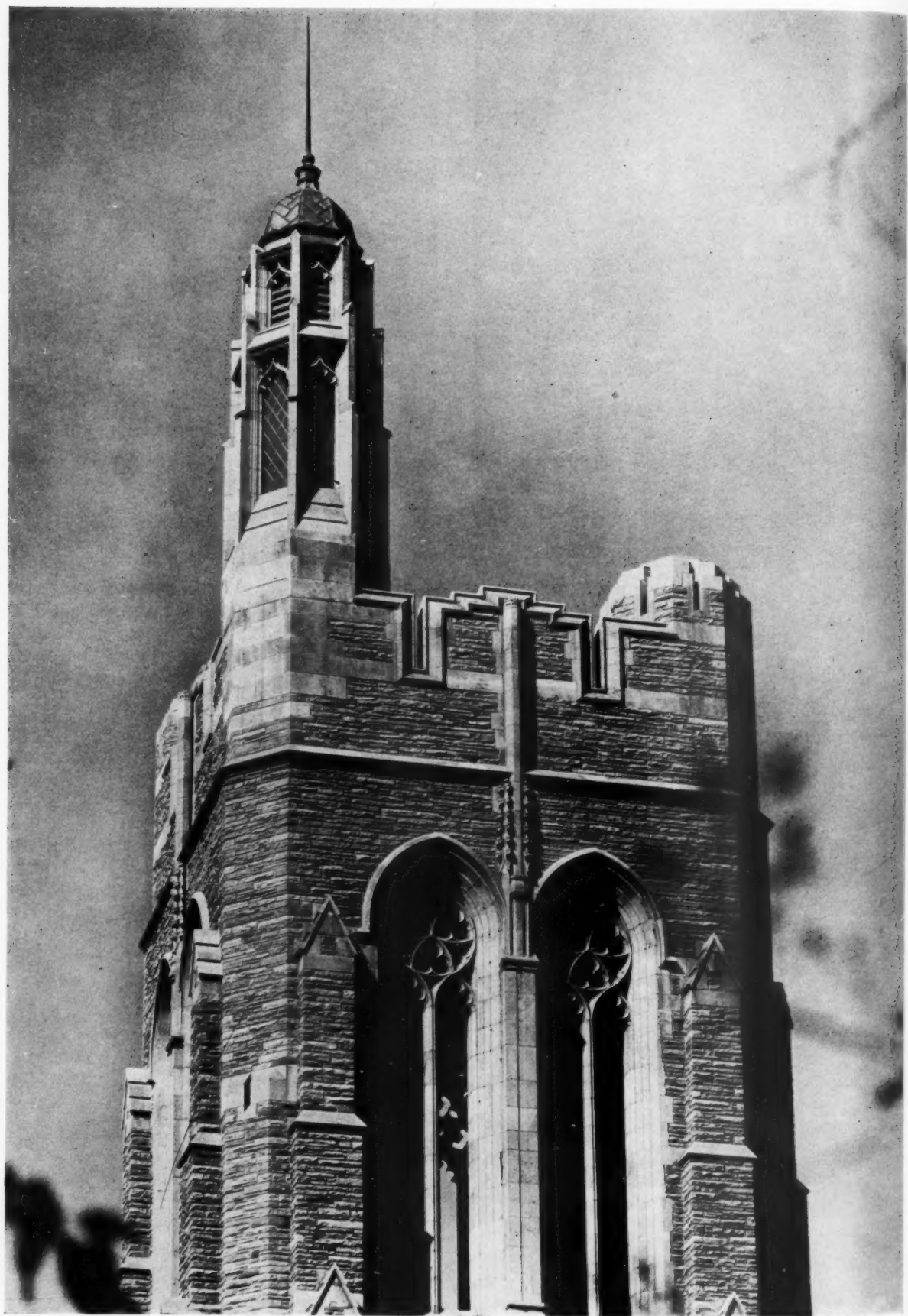


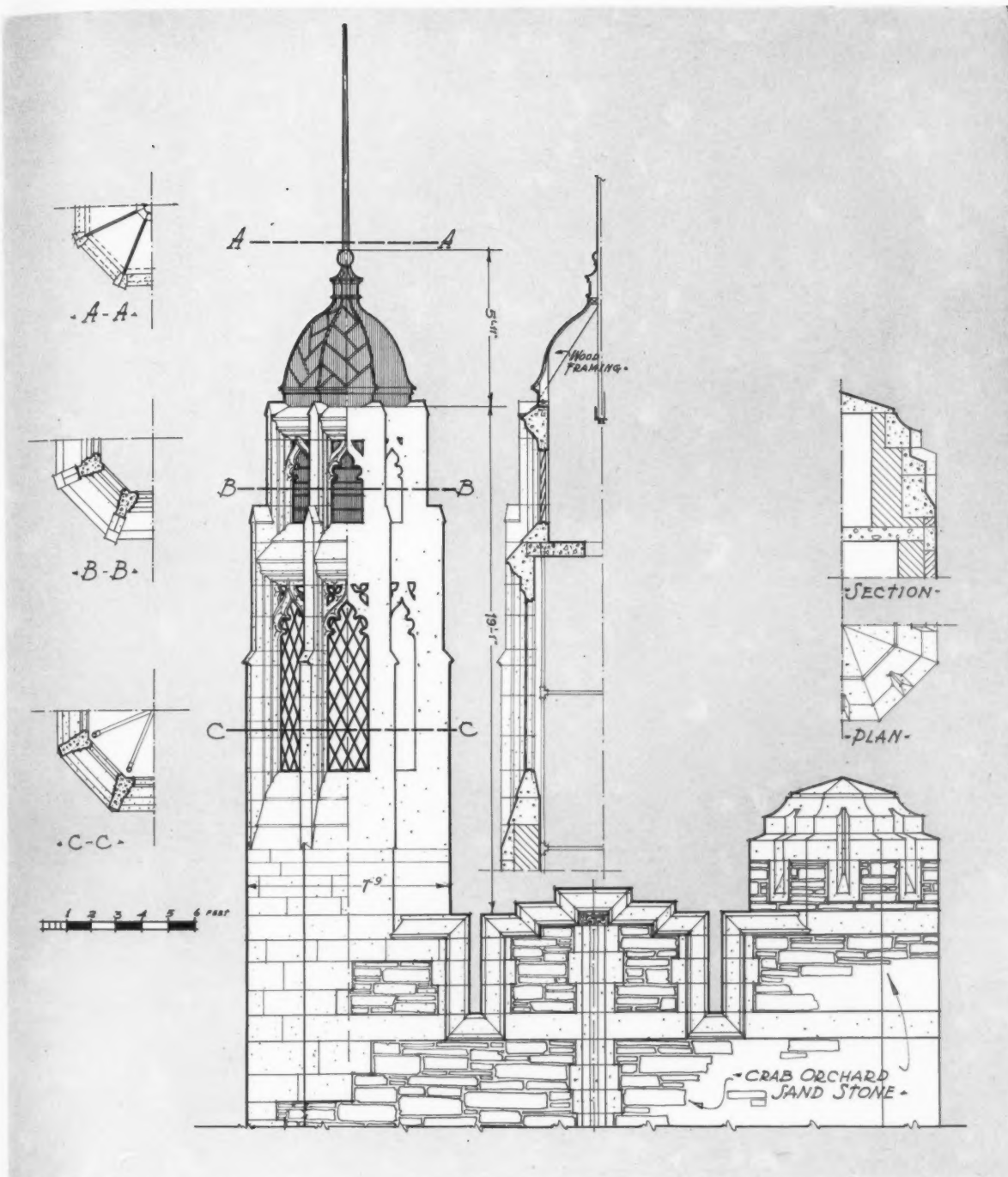
Detail of Sunday School Entrance



Exterior walls are faced with Crab Orchard sandstone, backed up with brick. The stone trim is of Old Gothic Indiana limestone. The exterior stone ranges from light gray through the buffs, tans and dark rust colors and some weathered dark gray and black tones. Similar colors in the sandstone and limestone "pull" the two together. The exterior is carried into the interior through the use of the same materials for interior walls and floors. Stone for exterior was laid on its natural bed and varies from $1\frac{1}{2}$ " to 6" in thickness, and up to 3' in length. The wall depth of the stone varies from 6" to 18". On the interior the flat sides of the stone are exposed. Slate roofs are of variegated gray-green, dark gray and light gray tones. Slates vary from $\frac{1}{4}$ " to $\frac{3}{4}$ " in thickness; exposures vary from $6\frac{1}{2}$ " to $12\frac{1}{2}$ "; mixture, 25% rustic, 25% fading green, 25% gray, and 25% Vermont black. Gutters and downspouts, lead-coated copper; rainwater heads, hard lead







DETAIL OF TOWER

METHODIST-EPISCOPAL CHURCH
KNOXVILLE, TENNESSEE

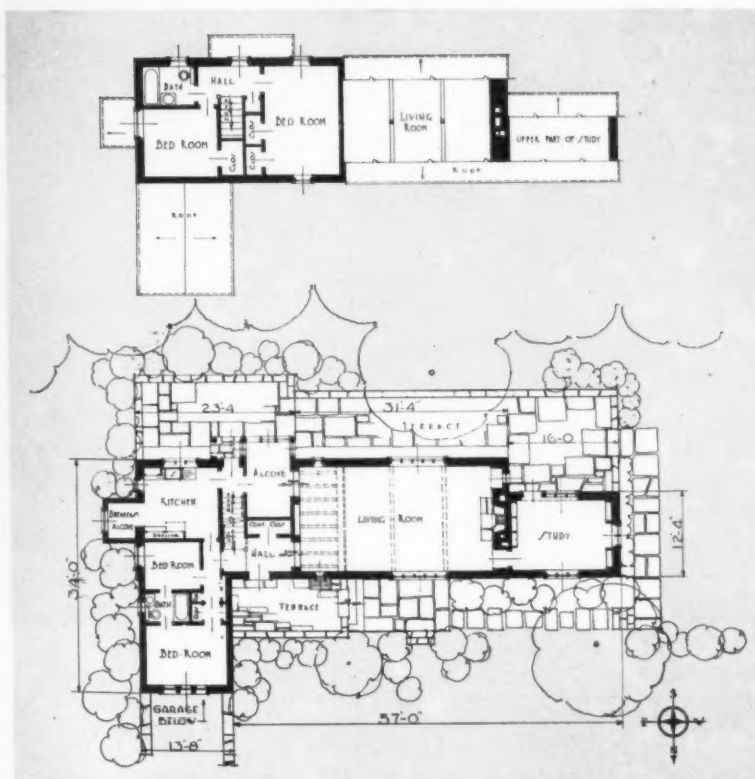
BARBER & McMURRY, ARCHITECTS, OFFICE OF JOHN RUSSELL POPE, ASSOCIATED





Walls of the nave of the main church are of buff colored acoustical plaster; ceiling, oak with cork between rafters. The stone trim is of Old Gothic limestone. The aisle floors are of Crab Orchard sandstone. The walls and floors of the vestibules are of the same sandstone

METHODIST-EPISCOPAL CHURCH, KNOXVILLE, TENN., BARBER & McMURRY, ARCHITECTS; OFFICE OF JOHN R. POPE, ASSOCIATED



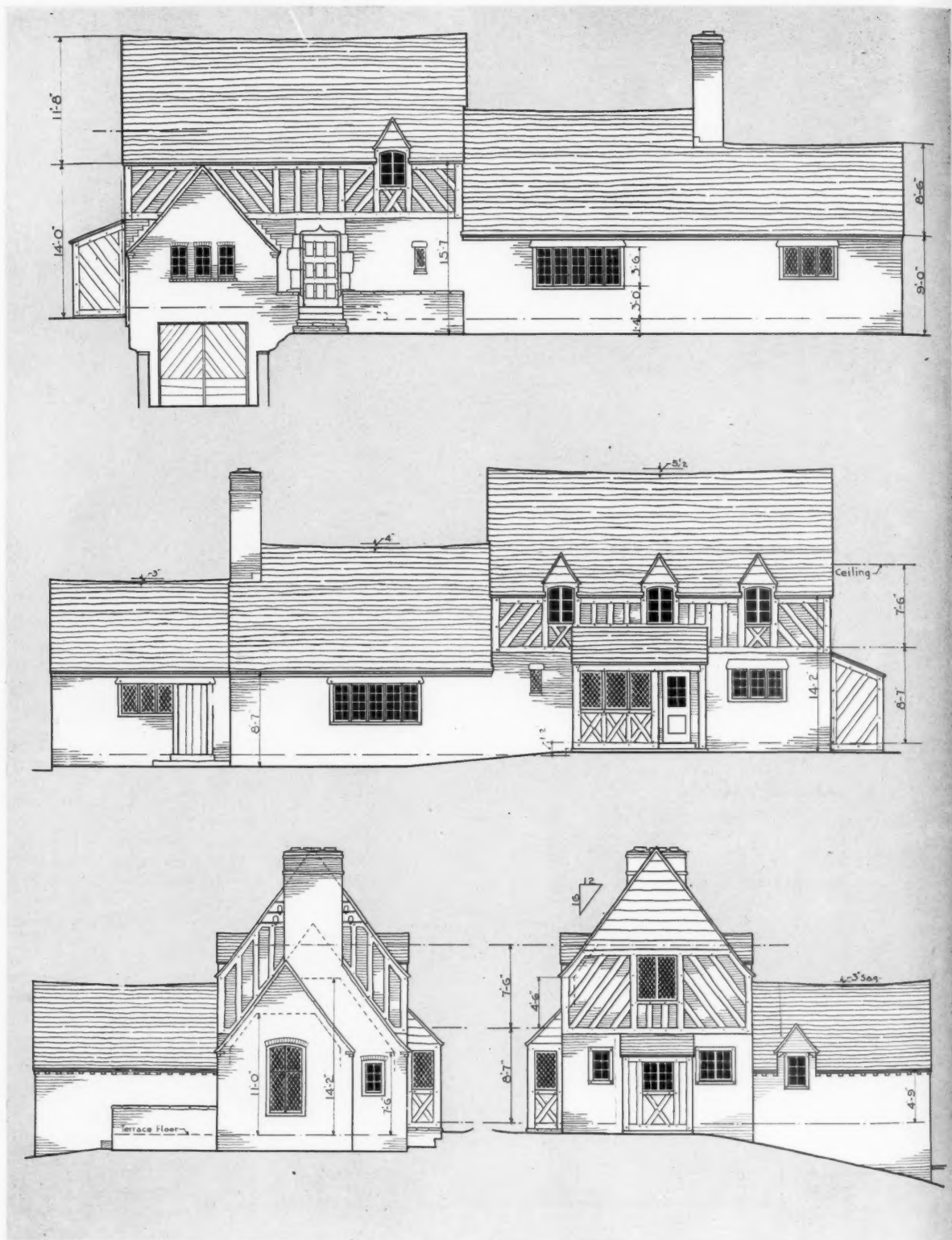
Foundation walls are of concrete; superstructure of brick veneer on hollow tile. The brick used is a common clinker brick, dark red in color. All exterior masonry is whitewashed. All exterior woodwork is oak, stained with creosote. Roof is of Vermont quarry graduated slate in random widths, with thicknesses varying from $\frac{1}{4}$ " to $\frac{3}{4}$ "; in a general color range of weathering greens. Terrace flagging of bluestone. Interior walls natural sand finish plaster. Interior trim, oak in living room, study and hall; painted whitewood elsewhere. Forced warm air heating. Contents, 26,000 cubic feet. Completed in the summer of 1929

HOUSE OF FRANKLIN EDGERTON NEW HAVEN, CONNECTICUT

FRANK J. FORSTER, ARCHITECT

PHOTOGRAPHS BY
ROBERT MacLEAN GLASGOW





The house is situated on a high terrace, offering easy access to the basement garage. The elevations are notable for their simple handling of the masses and fenestration, simple roof lines and the restrained but logical use of half-timbering

HOUSE OF FRANKLIN EDGERTON, FRANK J. FORSTER, ARCHITECT



REAR TERRACE AND ENTRANCE TO THE STUDY

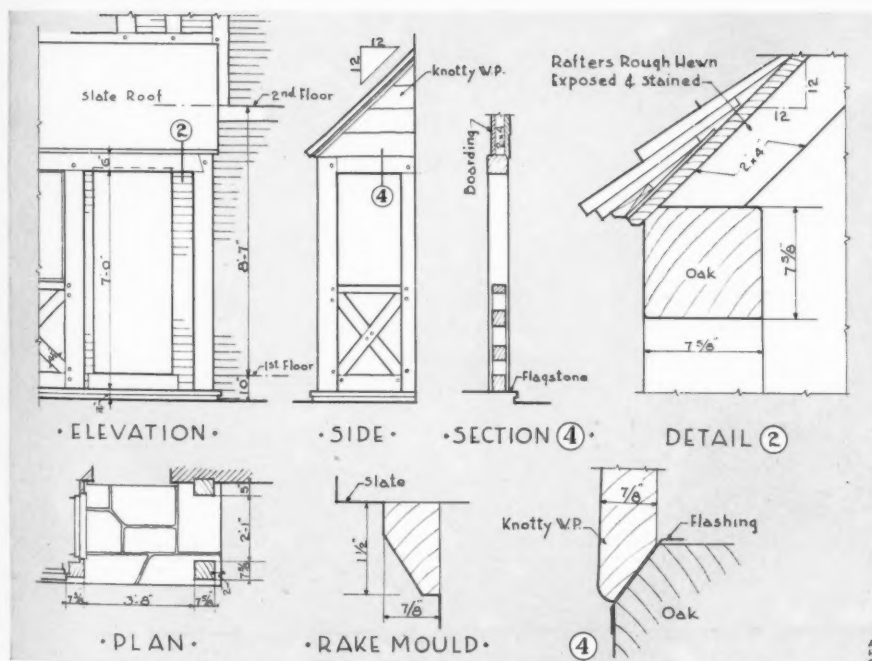
HOUSE OF FRANKLIN EDGERTON, FRANK J. FORSTER, ARCHITECT
FOR MARCH 1933





REAR AND END ELEVATIONS

HOUSE OF FRANKLIN EDGERTON, FRANK J. FORSTER, ARCHITECT

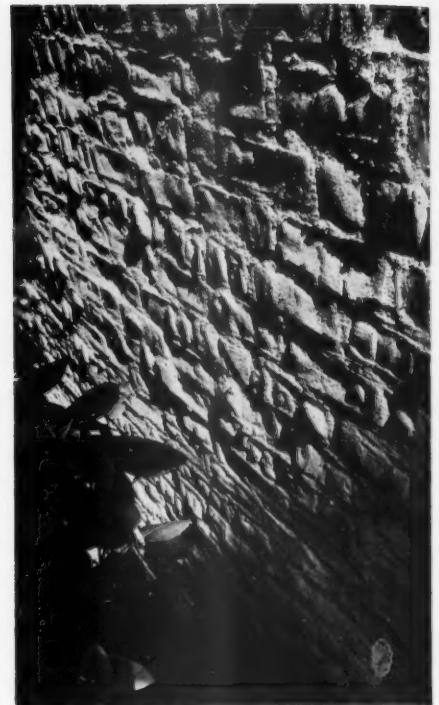


DINING TERRACE AND REAR ENTRANCE PORCH DETAILS

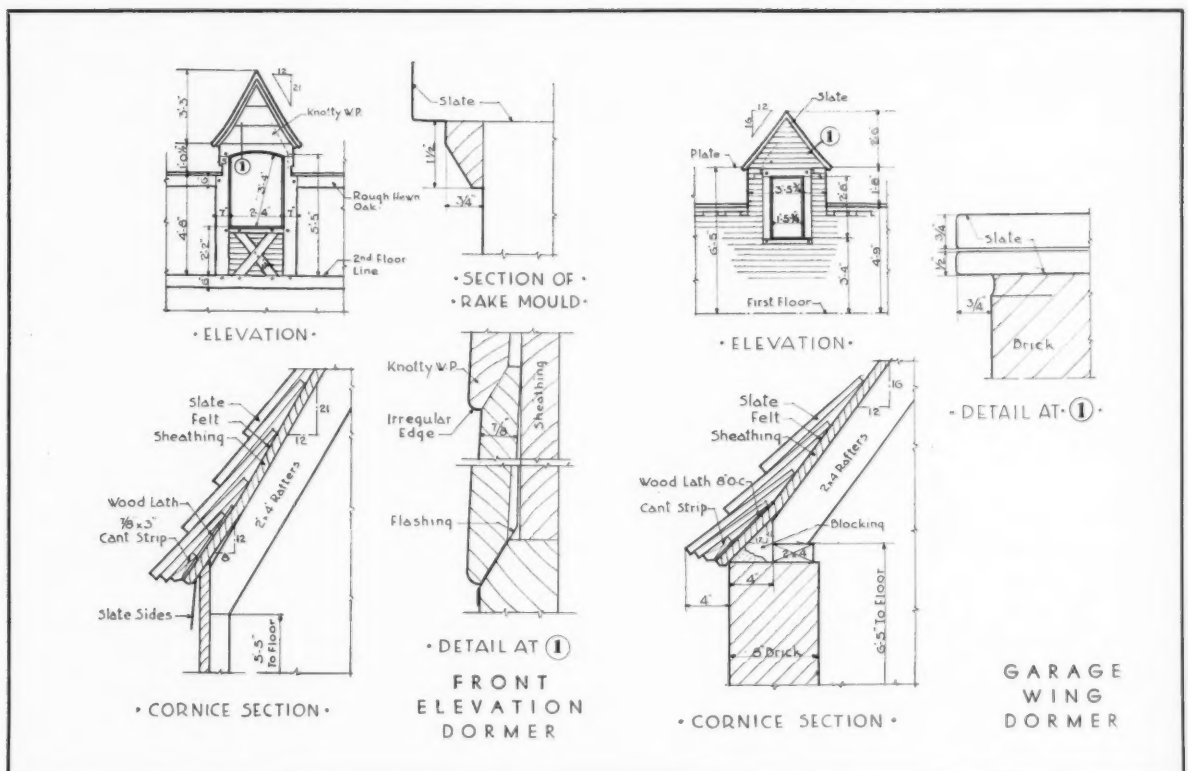
The leaded casement windows form a bay in the alcove dining room immediately adjacent to the living room. The porch leads in between the kitchen and alcove, facilitating service of meals on the dining terrace. Timber work is of oak with knotty white pine in the half-gable



Detail of Dormer in Garage Wing, Showing Texture of Roof and Half-Timbering



Common Red Clinker Brick, White-washed, Gives Texture to Walls



DETAILS OF TYPICAL DORMERS

HOUSE OF FRANKLIN EDGERTON, FRANK J. FORSTER, ARCHITECT



LIVING ROOM, LOOKING TOWARD STUDY

HOUSE OF FRANKLIN EDGERTON, FRANK J. FORSTER, ARCHITECT



"BEFORE AND AFTER" VIEWS OF THE EXTERIOR

This building was altered in 1931 as a means of aiding local employment and to improve the standards of architecture in the community. The original structure was frame construction. The clapboards were removed, the width of the building increased and enclosed with brick veneer. The shingle roof was replaced with black slate. Existing cornices were removed. The plan was altered to provide for stores and an apartment on the first floor, apartments on the second floor and lodge rooms on the third floor with a lodge banquet room on the fourth floor. The stores and stairhalls are equipped with automatic sprinklers. Apartments are equipped with electric refrigerators, stoves and modern plumbing. Gutters and leaders are jacketed with a pocket for steam. Steam from the heating plant is used to clear the gutters and leaders during cold weather. Cost of alteration, \$40,000. The owner is Mr. Harvey D. Gibson of New York City

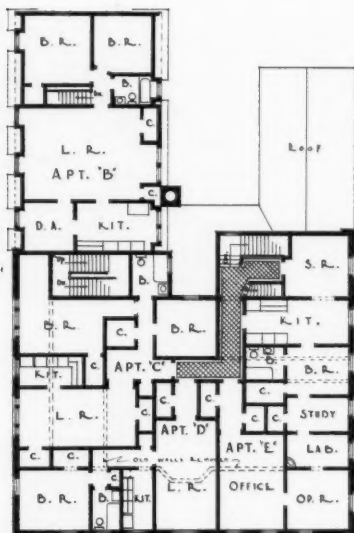


ALTERATION OF A BUILDING, NORTH CONWAY, N. H.

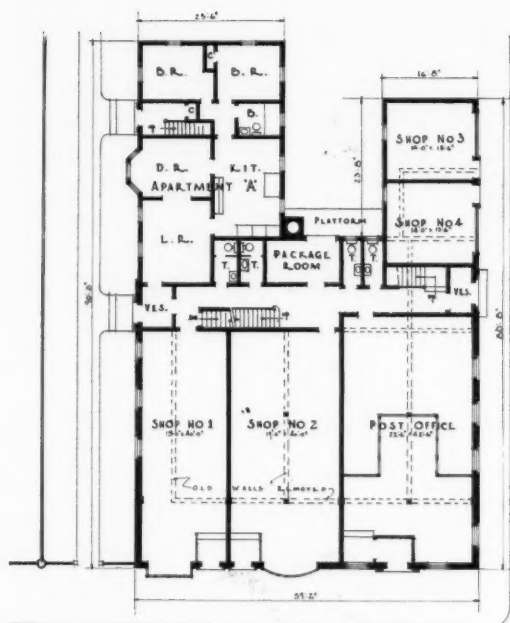
GODWIN, THOMPSON & PATTERSON, ARCHITECTS

FOR MARCH 1933





SECOND FLOOR PLAN



FIRST FLOOR PLAN
Scale 1/8" = 1'-0"

MAIN STREET



FRONT ELEVATION



ALTERATION OF BUILDING, NORTH CONWAY, N. H.

GODWIN, THOMPSON & PATTERSON, ARCHITECTS

The original building contained three stores, one apartment over the store, a duplex apartment in the wing, and lodge rooms on the third floor. The building as altered contains four stores, a post office, five apartments, lodge rooms on the third floor and a banquet room for fifty persons on the fourth floor



SIDE ELEVATION

"RESILIENT" FLOORING MATERIALS

A Guide to the Selection and Use of Rubber, Cork, Asphalt, Wood Fibre and Related Synthetic Composition Floorings

ALL types of flooring materials may be broadly grouped into three divisions; (1) hard floorings of masonry character including marbles, stones, cement, terrazzo, ceramic tile and synthetic compositions of like character; (2) wood floorings of all types; and (3) the so-called resilient or soft floorings synthetically compounded of cork, rubber, wood fibre, asphalt and similar basic materials. All-over carpets, when used as a fixed floor covering, may be included in the last group.

This division follows the normal grouping by architects and building owners when they first consider the selection of flooring materials for any given area. After the basic type has been determined upon—whether it be of wood, masonry or resilient materials—the floorings falling within each group compete with each other for consideration.

FACTORS INFLUENCING SELECTION

OF the many different factors influencing the selection of "resilient" floorings two cannot be treated here. They are appearance and cost. The appearance and design characteristics of these floorings are familiar to all architects. A wide range of colors and color blendings and an almost infinite variety of patterns can be obtained or developed with these materials. Costs are too variable for profitable discussion. Complete data on these two points must be obtained from the manufacturers, their authorized agents, or from local flooring contractors.

The remaining factors influencing selection are usually of greater significance as they may definitely limit the choice or may offer characteristics of predominant importance. They are discussed in general below and in particular under each type of flooring.

Each type of resilient flooring possesses characteristics that distinguish it from the others. At the same time, almost every flooring problem presents one or more special requirements. A flooring material that is utterly unsuited to one set of conditions may be a superior material under another. It is the architect's obligation to select for each floor area the particular material that best meets the prevailing conditions. Thus absolute comparisons of different types of flooring materials are as useless as they are deceptive. The following notes on the relative physical properties of resilient floorings must

not be used or construed as indicating comparative merit. They merely are aids in the selection of materials to meet specific conditions of service.

Durability. The quality of the flooring material, the care exercised in laying it, and the conditions of service and maintenance influence durability far more than the type of material employed. A costly hand woven Oriental rug will last a lifetime in a house and perhaps only 10 to 15 years in a hotel lobby. Under typical service conditions in the average home all types of resilient flooring materials are sufficiently long wearing to make the relative rate at which they wear out secondary in importance to other factors. In commercial installations, however, this may be an important consideration.

Resistance to Wear. If the flooring materials are unfinished—that is, without lacquer, wax or other surface preservative treatment, asphalt tile is considered the most resistant to heavy and abrasive traffic. Rubber tile, cork composition tile and linoleum come next in order and are approximately equal in this respect. Cork tile has shown long life under traffic but few manufacturers urge its use under severe wear as it is difficult to maintain under these conditions, the dirt being ground into and darkening the floor. Compositions of wood fibre and magnesite resemble asphalt tile in wear resistance and compressed wood fibre in laminated blocks may be classed with linoleum. Cork carpet and ordinary woven carpeting show the least resistance to wear. These ratings are subject to some controversy, as there are tests and cases on record indicating that the more resilient materials will outlast the hard floorings of equal gauges.

Resistance to Chemicals. Greases will soften and permanently impair asphalt tile and rubber tile and may stain but not seriously damage the cork floorings. Fruit juices will stain most colored floors of all types if not removed in a reasonable time. All types are either destroyed or seriously damaged by strong acids and alkalis unless these are immediately removed. Black asphalt tile is considered most resistant to chemicals of the group; the degree of damage of other materials will be proportional to their brightness of color. Dilute alkalis should be avoided on all resilient floorings with the possible exception of asphalt tile. Organic solvents should be kept away from all composition materials.

Sanitary Qualities. Absorption of water through the surface is the usual criterion of sanitary quality, and this in turn is related to the density of the material. Cork

tile has the highest water absorption, wood fibre compositions and linoleums are next down the scale, with rubber and asphalt tiles showing the least absorption of moisture.

Effect of Finishing on Preceding Characteristics. If the composition floorings are finished and maintained by means of water emulsion waxes in the case of asphalt and rubber tiles, by either wax or lacquer on linoleums and wood fibre compositions, and by means of varnish and wax in the case of cork tile, the resistance of these materials to wear, staining, chemical destruction and moisture absorption changes materially. For then the resistance of the surface finish governs the performance of the floor, assuming this finish is properly applied and maintained. Hence by the selection and correct use of the proper finishes the owner or architect may modify or eliminate susceptibility to attack by some of these destructive agents and may base his selection of material upon other qualities he may desire, such as color or degree of resiliency or hardness.

Safety. In a large measure the slipperiness of resilient floors is governed by the character of the finish applied and the maintenance it receives. All such floors, except carpets and cork, may become slippery when wet. If dry and unfinished, the coefficient of friction is highest between sole leather and cork tile and then progressively drops for rubber tile, linoleums, asphalt tile to polished oak.

Fire-Resistance. Rubber tile, asphalt tile, cork tile, cork composition tile and linoleum have been tested for combustibility and have demonstrated their inability to support or spread fire. No important restrictions due to fire hazard have been placed on any of the resilient floorings under normal conditions of use.

Quietness and Sound Absorption. The accompanying table shows the relative "impact" noise of a weight dropped on a number of common flooring materials and the coefficient of sound absorption of several of these and others. The data, though incomplete, reveal that the sound absorbing properties of most resilient floorings except carpet are negligible, while their production of sound from impacts is far less than that of a hardwood floor, which is taken as 100 on the sound scale.

Relative Hardness or Resiliency. Within limits the relative hardness or softness of a floor as expressed in its "feel" under foot, is dependent upon the thickness of the flooring, the character of the sub-floor and the presence or absence of an interlining felt or other cushion. Other conditions being equal these floorings range from soft to hard in approximately the following sequence: Carpets, cork tile and cork carpet form the "soft" group; cork composition tile, rubber tile, linoleum, asphalt tiles, the intermediate group; and laminated wood fibre tiles, wood fibre and cement compositions the "hard" group.

Ease of Replacement. Regardless of type, the tile or unit forms of flooring simplify the problem of replacing worn or injured areas without re-laying the entire floor. The sheet forms, however, and particularly patterned goods can usually be patched by skilled workmen. Color fastness and resistance to staining are important factors for if the original floor has faded, or if its lighter colors have darkened with embedded dirt, the patch of new material cannot be concealed.

Cleaning and Maintenance. The basic methods of

cleaning and maintaining all resilient floorings except carpet are similar. In detail, however, the differences are significant, both with respect to the proper care of each type of floor and the annual cost of such care on large projects. Recommended methods are discussed under each type of flooring.

POINT LOADS ON RESILIENT FLOORINGS

All resilient flooring materials are susceptible to permanent injury by point loads; i.e., concentrated loads caused by furniture such as tables, desks, chairs, lockers, etc. All stationary furniture should be equipped with broad-base gliders or castor cups. Dome gliders are particularly injurious. All movable furniture such as chairs, typewriter stands and the like should be equipped with ball-bearing castors having rubber tired or soft composition wheels not less than 1½ inches in diameter. Safes and other heavy equipment should be moved across such floors only on broad wood planks and they should be seated on wood or steel foundations large enough to spread the load.

SUB-FLOOR REQUIREMENTS

The utmost importance attaches to the type and condition of the sub-floor over which resilient flooring materials are laid. Any imperfections in the sub-floor will eventually show through on the surface of linoleums, cork and rubber floorings, will cause uneven wear on carpets, or will cause chipping or breaking of asphalt tile and wood fibre compositions. If the manufacturers' directions and requirements cannot be met in the preparation of any sub-floor area, it is far better to abandon the use of the selected material in favor of another that is adapted to the existing sub-floor conditions.

The following summary is a composite of the principal requirements of leading manufacturers of asphalt tile, linoleum, cork composition tile, cork tile and rubber tile. Variations from these general conditions are noted under the respective materials. The manufacturers' specific instructions should nevertheless be followed explicitly.

Concrete Sub-Floors. All concrete which is to receive rubber, cork, cork composition linoleum and wood fibre floorings *must* be absolutely dry, as demonstrated by one of the tests described on page 91. This is an absolute requirement and should never be overlooked. Dry conditions are desirable for asphalt tiles at the time of laying but dampness that would destroy the adhesion of rubber and cork floorings does not similarly affect asphalt tiles.

Concrete floors resting on the ground or below grade are not acceptable to any manufacturer of rubber linoleum or cork floorings, but may be finished with asphalt tile. Conservative manufacturers will not guarantee rubber or cork type floorings over such concrete floors even if waterproofed by the membrane method, though some consider a five-ply membrane waterproofing acceptable. Generally speaking, cork tile, rubber tile, linoleums, cork composition tile and wood-fibre floorings should not be used on concrete on or below grade except at the owner's risk.

Concrete floors must be brought to a true, even surface at a level as much below the finished grade as the thickness of the flooring to be applied plus any felt or other intervening materials.

QUIETNESS OF COMMON FLOORING

HARD FLOORINGS	Relative Quietness Under Impacts	Relative Absorption of Sound*	RESILIENT FLOORINGS	Relative Quietness Under Impacts	Relative Absorption of Sound*
Hard Woods.....	100.0	.03 to .08	Asphalt Tile.....	8.2	—
Travertines	72.6	.05	B. S. Linoleum.....	2.74	.03
Marble	47.4	.01	Cork Composition Tile.....	1.82	—
Quarry Tile.....	12.3	—	Rubber Tile.....	1.37	.08
Cement	10.5	.014 to .016	Cork Tile.....	.46	.03 to .08
Brick set in cement.....	—	.025	Carpets, unlined.....	—	.15 to .28
			Carpets, lined or on cushions or felt.....	—	.20 to .37

*Coefficient of sound absorption at 512

TESTS FOR DAMPNESS IN CONCRETE SUB-FLOORS

It is mandatory that concrete sub-floors which are to receive rubber tile, cork tile, cork composition tile or linoleum be thoroughly dry. The presence of moisture may be determined by any of the following tests, which should be made at several points representative of the whole area to be covered.

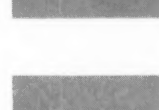
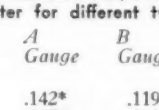
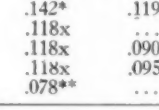
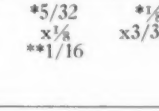
FLATIRON TEST. Place a hot flatiron on the cement floor, preferably over a piece of asbestos paper not over 1/16" thick and let stand from 5 to 15 minutes. If moisture is present in the slab a damp spot will show where the heat was applied.

IMPERVIOUS COVERING TEST. Place a fair-sized piece (a square yard if possible) of linoleum, rubber tile or impervious roofing paper on the concrete slab, weighting the edges to prevent evaporation. If concrete beneath the covering shows dark spot within 24 hours it contains too much dampness to be acceptable.

CHEMICAL TESTS. Form a ring of putty about 6" in diameter and 1/2" high on the concrete floor at each point to be tested. Sprinkle any of the chemicals named below within these rings and cover each with a piece of dry window glass. Press glass down on putty to seal the enclosed chemicals from the outside air. Leave in place for 12 to 24 hours.

- Anhydrous copper sulfate, which is white when dry, will turn blue if moisture is present.
- Anhydrous potassium carbonate will be dissolved by moisture, leaving a stain.
- Calcium chloride, readily obtainable at most drug stores, reacts similarly to anhydrous potassium carbonate. If the floor is damp, beads of moisture will show on the glass within 12 hours, the chemical will be partly or wholly dissolved and a wet spot on the floor will show where the chemical was placed.

THICKNESS OF RESILIENT FLOORINGS

	.625 5/8" Wood-fibre Cement Flooring
	.500 { 1/2" Cork Tile 1/2" Laminated Wood Fibre
	.312 5/16" Cork Tile
	.250 { 1/4" Asphalt Tile 1/4" Cork Carpet 1/4" Cork Composition Tile 1/4" Cork Tile 1/4" Rubber Tile
	.235 6MM Battleship Linoleum
	.187 { 3/16" Medium Battleship 3/16" Rubber Tile 3/16" Cork Composition Tile 3/16" Asphalt Tile
	.142 A Gauge Plain Linoleum
	.125 3/8" Asphalt Tile
	.119 B Gauge Plain Linoleum
	.118 A Gauge Inlaid Linoleum
	.095 C Gauge Plain Linoleum
	.080 D Gauge Plain Linoleum

LINOLEUM GAUGES

Approximate manufacturing standards of one manufacturer, showing that finished thickness varies under the same gauge letter for different types of linoleum.

	Heavy Battleship 6 mm.	Medium Battleship 3/16 in.	Light Battleship A Gauge	AA Gauge	A Gauge	B Gauge	C Gauge	D Gauge	Z Gauge
Plain Linoleum	.235	.187	.142	...	.142*	.119*	.095*	.080*	...
Jaspe Linoleum	.235	.187	...	...	.142*	.119*	.095*	...	...
Hand Linoleum	...	...	...	.142	.118x	...	...	...	...
Straight-line Inlaid..	...	...	...	...	.118x	.090x	...	.071x	.055
Embossed Inlaid	...	...	...	...	.118x	.095x	.078x	...	...
Moulded Inlaid	...	...	...	...	.078**	...	...	.071x	...
Nearest Fraction of Inch	1/4	3/16	5/32	5/32	*5/32 x1/4 **1/16	*1/8 x3/32	*3/32 x1/16	*3/32 x1/16	1/16

In new work the top layer of concrete should be 1* or 1½** inches thick and should be composed of 1 part Portland cement and 2 parts clean screened sand finished to a hard steel troweled surface which will not scale, crumble or deteriorate. Rubber tile manufacturers advise against the use of lime, gypsum, metallic hardeners, hygroscopic materials, paint or surface coats of any kind. Gypsum floors are not acceptable. Some linoleum manufacturers recommend use of a hardener with float-finished concrete; no hardener with troweled finish.

No concrete floor that shows scaling, crumbling or deterioration of the cement surface is acceptable. No expansion joints or seams should be put in the floors to be covered with resilient flooring materials.

Old concrete floors should have all seams filled, all uneven places smoothed off or filled and otherwise the entire floor brought to the condition required for new suspended concrete floors.

Wood Sub-Floors. All wood sub-floors should be of double construction, kiln dried, solid wood, tongued and grooved flooring. The under floor should be of firmly nailed ¾" boards not over 5¾" wide. The top floor should be laid over building paper and should be not over 3"* or 4"* wide nor less than ¾" thick thoroughly blind nailed and finished true and level.

Old wood floors which are loose and springy must be relaid or replaced. Wood floors laid on concrete must be protected against dry rot. Worn and warped flooring must be patched and finished to a smooth firm surface.

Wood floors, like concrete surfaces, must be thoroughly dry.

Other Sub-Floors. Terrazzo, magnesite, marble, ceramic tile, steel decks and other sub-floors must be similarly brought to a smooth, level, firm surface, free from hollows or worn spots, cracks or rough areas. They must be dry, and all grease, wax or other surface finishes must be removed. Highly glazed surfaces should be sanded or otherwise prepared to bond with the cements or pastes employed.

ASPHALT TILE

Asphalt tile is a low cost utility flooring made of asphalt, mineral pigments, fibrous materials, rubber (in some cases) and suitable binders. It is obtainable in a variety of colors and color blends. It is hard, durable under traffic, resistant to most weak alkalies and acids and relatively quiet under foot. It will tolerate some dampness (but not hydrostatic pressure) in the under-floor, hence may be used in basements and on concrete on the ground or below grade where other resilient floorings would fail.

Limitations. Asphalt tile is not suitable for floors subject to heavy trucking, excessive heat, or to grease, oils, gasoline or kerosene. Grease and oils soften and destroy this type of flooring. Point loads will indent asphalt tiles as well as softer floorings. Conservative manufacturers do not advocate the use of asphalt tile over wood floors, as any movement in the underfloor may cause "edge-chipping" or breakage, but all permit it and provide specifications covering such installations.

Thicknesses and Sizes. Asphalt tiles are usually made in two thicknesses, 3/16" and 1/8" and in tile shapes and sizes from 6"x6" squares to oblongs 18"x24".

*Recommended by linoleum and cork tile manufacturers.

**Recommended by rubber tile manufacturers.

Preparation of Sub-Floor. Follow "Sub-Floor Requirements" for rubber and cork base floorings, except that concrete need not pass such rigid moisture tests so long as the surface is visibly dry at the time asphalt tile is laid. Preparations are available for overcoating underfloors in bad condition to receive asphalt tile.

Method of Laying. Asphalt tile is laid in an asphalt base paste or cement, which should be of the type recommended by the tile manufacturer and used according to his instructions. Over concrete the tile is cemented direct without any intervening material unless the tile is subsequently to be removed, in which case a felt is employed as for wood sub-floors, the felt being pasted down with a water soluble linoleum paste. Wood sub-floors require a 3/8" scratch coat of Magnesite, or a mixture of asphalt, sand and Portland cement of the same thickness.

Maintenance of Asphalt Tile Flooring. Periodic scrubbing with warm water and mild soaps approved by the tile manufacturer is recommended. The soaps must not contain oils or solvents. Clear water mopping should follow to prevent the accumulation of a soap film. Asphalt tile floors are improved if finished with water-emulsion waxes. Avoid at all times sweeping compounds, waxes or cleaners containing oils, naphtha, benzene, gasoline or turpentine solvents; also detergents containing abrasive fillers.

LINOLEUMS

Linoleum is one of four basic types of flooring made of cork and should be distinguished from the other three which are: (1) cork composition tile, sometimes called linoleum tile; (2) cork tile; and (3) cork carpet.

Linoleum is made in a variety of forms which should also be distinguished one from another. Descriptions of the principal types, with notes on their relative characteristics follow:

Battleship and Plain Linoleum. Solid color linoleums of maximum utility and durability made in various thicknesses as shown on page 91.

Jaspe Linoleum. A two-tone coloring having characteristic striated blending of the colors. Slightly less resistant to heavy traffic than Battleship.

Marbleized Linoleum. Distinguished by marble colorings and veining, but in all-over effect like Jaspe as distinguished from Marble Inlaid.

Inlaid Linoleums. These are of several types of which the principal are hand inlaid and straight line or machine inlaid. In both the pattern is developed in separate units which are arranged on a common backing and calendered to form an homogeneous sheet. Marbleized, mottled and plain colors are used.

Embossed Linoleums. Usually inlaid linoleums with indented interliners to form the effect of depressed joints between tiles or stones.

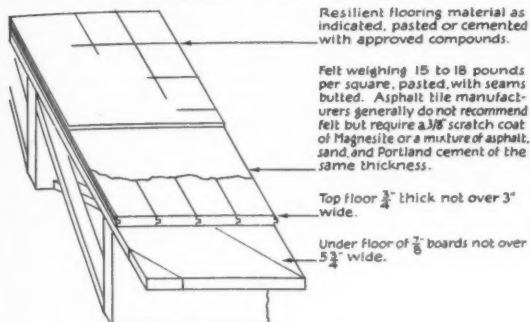
Felt Back Linoleums. These have a facing of linoleum compound on a felt instead of a jute backing for minimum cost. May be solid color or inlaid.

Limitations. Linoleums must not be laid on damp floors, on concrete resting on the ground or below grade, or on unseasoned wood floors. The resistance of linoleum to traffic wear, staining, attack by acids or alkalies, etc., is largely dependent upon the finish and maintenance of the floor. Normally linoleum manufacturers

METHODS of INSTALLING RESILIENT FLOORING MATERIALS

OVER WOOD SUB-FLOORS

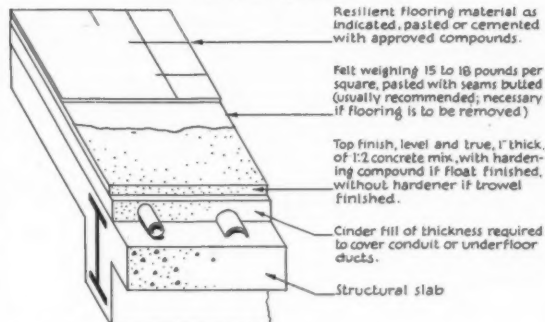
Linoleum, Cork Carpet, Cork Tile, Cork Composition Tile, and Asphalt Tile (if approved)



NOTE Wood fibre compositions may be pasted or nailed to wood top floor, without intervening felt.

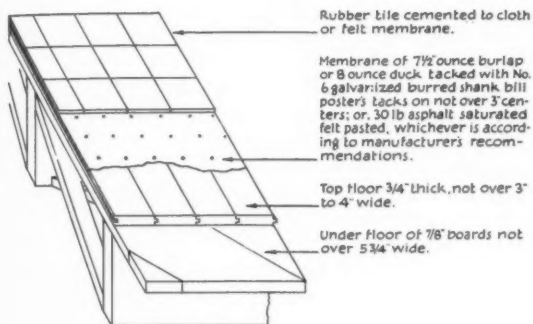
OVER CONCRETE SUB-FLOORS

Linoleum, Cork Carpet, Cork Tile and Cork Composition Tile

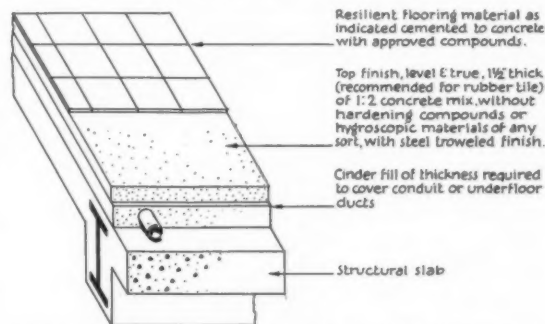


NOTE All concrete must pass tests for dryness.

Rubber Tile

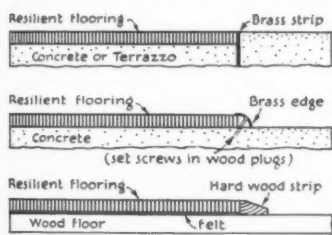


Rubber Tile, Asphalt Tile, Wood Fibre Composition Tile

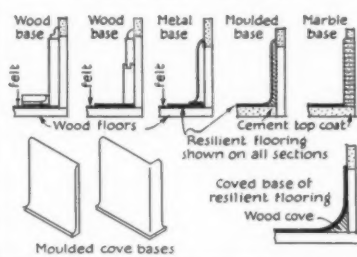


NOTE All concrete must pass dryness tests before laying rubber tile or wood fibre compositions; asphalt tile requires surface dryness at time of laying.

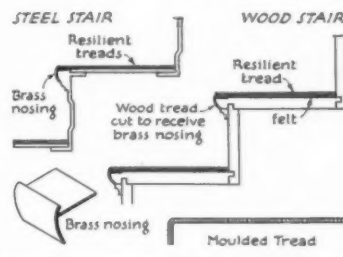
METHOD of PROTECTING EDGES



TREATMENT OF BASE



STAIR TREADS



place few restrictions on the use of linoleum if properly installed and maintained. In general, constant exposure to water or dampness (due to over frequent washing or to conditions within the area covered) is to be avoided.

Widths and Thicknesses. The standard width of linoleum is 6 feet; occasional types can be obtained in 12 foot widths. Thickness, which has an important bearing on resiliency, durability, ease of maintenance and cost, varies for each grade or type and between grades. The table on page 91, based on standards of one manufacturer, reveals these variations. Note that "A" Gauge in plain linoleum is thicker than "A" Gauge for inlaid linoleums and that other similar variations in gauge exist.

The usual tolerance in gauge is .005 inch either way.

Preparation of Sub-Floor. Follow instructions under "Sub-Floor Requirements" with great care, including the performance of tests for dampness in concrete sub-floors.

Use of Felt. Linoleum manufacturers differ in recommending the use of felt under linoleum on concrete sub-floors. No special advantages are gained by its use. But it is universally recognized as necessary over wood. In the latter case it serves to take up the movement of the underfloor caused by expansion and contraction which otherwise would tear the linoleum. Felt also provides an easy means of removing the linoleum intact should changes become necessary. The felt normally

recommended is an unsaturated lining felt weighing about 1½ pounds to the square yard or 15 to 18 pounds per square.

Use of Intermediate Linings. The use of fibrous wall boards or similar compositions as a cushion or as a means of covering a sub-floor in poor condition has been rather generally disapproved by linoleum manufacturers in the past because of the uncertain shrinkage and expansion of these boards. A few types of board have received limited approval. Recently a special material for this purpose has been produced by one linoleum manufacturer as an optional material; no special recommendations being made respecting its use. When any such product is employed, a lining felt of lighter weight (1 pound per square yard) should be used above the intermediate base.

Method of Laying Linoleum. The method of laying linoleum has become well standardized. It is important to follow the manufacturer's recommendations in detail, including the use of their approved pastes and cements. Upon these factors, plus the quality of workmanship, depends much of the success of the finished floor.

Surface Finishes. Most modern linoleums have a factory finish of lacquer or its equivalent which serves to seal the surface pores. This lacquer finish is sufficient in itself to add life to the linoleum under light traffic conditions, and if no other treatment is given to the floor it may be renewed periodically by surface applications. It is recommended, however, that linoleum be waxed after laying, using approved paste or liquid wax well rubbed and buffed. From time to time rewaxing and polishing will renew the protective film and will add measurably to the life and beauty of the floor.

Maintenance and Cleaning. Linoleum can be cleaned by dry mopping or brushing with a soft hair brush for daily maintenance, with occasional washing with approved mild soap and water. If the floor has been waxed, the washing should be followed by buffing to restore the polish. Occasional re-lacquering is recommended but any wax must first be removed.

CORK COMPOSITION TILE

Substantially the same as the better qualities of battleship linoleum in composition and characteristics, linoleum tile or cork composition tile differs chiefly in its unit form and consequent change in laying method. See Linoleum for all data except the following:

Thicknesses and Sizes. Usually made in two weights ¼ inch and 3/16 inch and in a wide variety of sizes including squares from 2"x2" to 30"x30"; oblongs 2"x4" to 30"x36" and lining strips in widths from ¼" to 1".

Sub-Floors and Laying Methods. Sub-floor requirements are the same as for linoleum. Some manufacturers recommend the use of lining felt over concrete; others do not. Some do not advocate the use of cork composition tile over wood sub-floors; where such use is approved lining felt is invariably required. Waterproof cement is employed in laying these tiles.

CORK TILE AND CORK CARPET

Pure cork tile is made of compressed cork without artificial binders of any sort. It comes in several natural cork shades of brown. It is the most resilient of the cork floorings and is primarily intended for areas not

subject to heavy traffic where quietness and resiliency underfoot are dominant objectives. It makes a warm dry floor surface, that with proper finishing and maintenance is easily kept in good condition. It is relatively more expensive than linoleum or cork composition tile. Under proper conditions of use cork tile has shown excellent durability, some installations made over twenty years ago still being in service.

Cork carpet is of similar character but is made in sheet form and in lighter weight for use where a low cost floor of considerable resiliency is desired. It is less durable than cork tile. It may be obtained in two colors, brown and green.

Limitations. Both products are relatively absorptive and should not be used where subjected to dirt, foods, greases and other materials of unsanitary character because they may become deeply embedded. Also these floorings should not be subjected to excessive gritty, abrasive traffic. Point loads must be widely spread to allow for the relative softness of these floors.

Sizes and Thicknesses. Cork tile is made in three thicknesses ¼", 5/16" and ½", and in squares from 2"x2" to 18"x18" and oblongs from 2"x6" to 18"x36". Cork carpet is normally made ¼" thick only and 6 feet wide.

Note: In all respects except finishing, cork tile is handled like cork composition tile, and cork carpet like linoleum.

Finishing. After laying cork tile it must be sanded to an even finish and then treated with an approved cork tile filler and a surface finish made especially for this purpose. It may also be waxed if desired. Similar finishes may be used on cork carpet except that no sanding is required.

Maintenance and Cleaning. Daily brushing and occasional washing with tepid water and an approved soap are the only care needed, except for infrequent waxing if a wax finish is desired.

RUBBER TILE

Rubber tile is widely used where resiliency, sanitary qualities and good appearance are primary considerations. It is relatively non-absorptive and therefore is not easily stained. Its comparative hardness gives high resistance to wear, yet it is quiet under foot, as shown on page 91. Thickness has more bearing on its walking comfort than on its durability as the lighter gauge tile has sufficient resistance to wear for all practical purposes but lacks in degree the cushioning effect of the heavier product.

Limitations. Rubber tile is permanently injured by grease and oils; it should never be used in commercial laundries or kitchens nor in restaurants immediately adjacent to such kitchens unless some provision is made to prevent waiters from tracking grease from the kitchen or pantry floor into the dining room. It should not be specified behind restaurant counters or soda fountains, nor in butcher shops, bakeries, public toilets and bath houses, etc., where the floor may be exposed to excessive spillage or grease or water. Its use in places where oils, gasoline, kerosene or other hydrocarbon solvents are likely to be spilled on the floor should be avoided. Rubber tile should not be used over excessively warm sub-floors such as those directly over boilers, as heat tends to soften and

disintegrate the cements employed. It should not be used where subject to condensation, such as may occur over refrigerating plants or cold storage spaces. It is subject to deterioration by constant exposure to sunlight. See also "Preparation of Sub-Floor."

Sizes and Thicknesses. Commonly made in two thicknesses $3/16$ " and $1/4$ " and in square units from $4'' \times 4''$ to $18'' \times 18''$ and oblongs from $6'' \times 12''$ to $36'' \times 72''$.

Preparation of Sub-Floor. See "Sub-Floor Requirements." Rubber tile demands a permanently dry, firm sub-floor and must never be laid on concrete that does not pass the most rigid dampness tests. No manufacturer guarantees rubber tile laid over concrete on the ground or below grade, even if a membrane waterproofing is employed.

Method of Laying. No felt or intervening material should be used over concrete. The cement recommended by the manufacturer should be specified. Over wood floors the standard recommendation is to lay $1\frac{1}{2}$ pound felt (plain or saturated) without cement, over which strong cotton muslin or $7\frac{1}{2}$ ounce burlap fabric should be tacked down thoroughly using flat head galvanized tacks with burred shanks. One manufacturer prefers to use asphalt saturated felt weighing about 30 pounds per square, pasted down with linoleum paste, and without a fabric tacked over.

Surface Finishes. While good quality rubber tile has a satisfactory self finish, the use of approved water wax as a surface finish is endorsed by all manufacturers. Floor waxes suitable for wood or linoleum may contain hydrocarbon solvents and must not be used on rubber floors. The water wax should be applied in thin coats without rubbing, allowed to dry and then buffed.

Maintenance and Cleaning. Standard instructions for maintenance of rubber flooring have been prepared by the Rubber Flooring Manufacturers Division of the Rubber Association of America, Incorporated, which should be followed explicitly. Copies may be obtained for filing (A. I. A. File 23-C) from any member manufacturer together with a list of approved cleaners and polishes.

The manufacturers' standard guarantee on rubber flooring is made contingent upon adherence to these recommended cleaning and maintenance methods which may be briefly summarized as follows:

Polished rubber floors may be cleaned with a push broom for daily maintenance and the floor occasionally wiped with a mop dampened with clear cold water. Unpolished floors may be brushed free of dirt and mopped with water containing an approved cleaning compound. This must be immediately followed by wiping with a rinsed mop. Systematic buffing of either polished or unpolished rubber floors materially reduces the number of necessary washings.

WOOD FIBRE FLOORING

In this classification there are two widely different types of "resilient" flooring. One is made up of two layers of heavily compressed wood fibre laminated with a resilient wood fibre core between. The units are of block form with tongues on two adjacent sides and grooves on the others. The other type is made of wood fibres mixed with a magnesite or similar cement to form a relatively hard flooring material resembling the texture

of travertine or Caen stones. Both types can withstand point loads of reasonable weight without injury.

In general utility the laminated type may be grouped with linoleum and cork composition tile. In cost it compares with battleship linoleum. The fibre-cement type wears about the same as native travertine, and is in the cost range of high quality rubber tile.

Limitations. Both types may be used wherever linoleum or rubber tile may be employed, but neither should be laid on damp sub-floors. Both are stained or injured by dilute acids and moderately strong alkalies but their resistance to staining depends largely on the finish employed. The fibre-cement type becomes harder with age and is less susceptible than other resilient floorings to damage by point loads.

Thicknesses and Sizes. Laminated wood fibre flooring is $1/2$ " thick and is made in tile sizes and shapes from $6'' \times 6''$ to $12'' \times 47''$.

Fibre-cement flooring is usually $5/8$ " thick and can be had in various cut sizes, ranging from $5\frac{1}{2}'' \times 5\frac{1}{2}''$ to $17\frac{1}{2}'' \times 47\frac{1}{2}''$.

Preparation of Sub-Floor. Follow instructions under "Sub-Floor Requirements" for both types.

Method of Laying. Both forms of wood fibre flooring are laid in approved cement or paste over either concrete or wood sub-floors or may be nailed to wood sub-floors. In general, the laminated type is handled like cork-composition tile and the fibre-cement type like asphalt tile. Felt is not used with either material, but over old concrete the laminated type may have a wood fibre board interliner cemented in place.

Maintenance. The laminated type should be waxed or oiled with approved materials. Subsequent cleaning is the same as for linoleum or hard wood. The fibre-cement type should be waxed, or first lacquered or varnished and waxed and should be cleaned as directed for waxed linoleum or asphalt tile.

SPECIAL CONDITIONS AND ACCESSORIES

No resilient flooring should be installed with unprotected edges. When laid over parts of a floor area, as in the case of a panel down the middle of a corridor, the resilient material should be laid in a recessed panel equal to its depth, or else its edges should be covered or supported by wood or metal edge strips. The same practise should be followed where there is an exposed edge such as may occur at doors between a room covered with resilient flooring and another not so treated. See diagrams on page 93.

Stair Treads. To provide this necessary support to the edge of resilient materials a metal nosing should be provided on all stair treads, with a lip equal in height to the thickness of the covering. An exception to this may be made when moulded stair treads are employed.

Cove Bases, Plinth Blocks and Other Accessories. Linoleum, cork tile, cork composition tile, rubber tile and wood fibre composition floors are frequently and advantageously finished with cove bases of the same material, manufactured for the purpose. Moulded bases, plinth blocks and other accessories can be obtained in rubber, asphalt, cork and wood fibre compositions, where of suitable design and thickness they may be used with other resilient floorings. Linoleum cove bases are made of strips of linoleum fastened to a wood cove.

The Readers Have a Word to Say

• ABOUT TELEGRAM TO PRESIDENT-ELECT ROOSEVELT

MINNESOTA CHAPTER, A. I. A.—This will be an expression of the sincere thanks of the Chapter to you for your unending work in behalf of the architectural profession to reorganize the Supervising Architect's Office. The last meeting of the Chapter voted such a resolution, with particular reference to your telegram to President-elect Roosevelt.—*Albert O. Larson, Secretary.*

J. O. PARR, *Hawk & Parr, Oklahoma City, Okla.*—Congratulations for your telegram of December 8, 1932, to Hon. Franklin D. Roosevelt as published in the January number of *AMERICAN ARCHITECT* on page 17. We appreciate very much this great effort on your behalf and have been doing all in our power to aid in this work.

CHARLES H. LENCH, *New York City.*—Featuring of telegram to Governor of New York and next President should cause every he-man architect to call for three cheers and a tiger for *AMERICAN ARCHITECT*.

H. L. PALMER, *Chicago, Ill.*—I have just read a reproduction of your telegram to President-elect Franklin D. Roosevelt in *AMERICAN ARCHITECT*. You have covered the situation of the appointment of Fourth Assistant Secretary of the Treasury marvelously well. Every sentence in your telegram carries a message and has a punch that should bear results.

CARL E. HEIMBRODT, *Chicago, Ill.*—I presented your telegram to President-elect Roosevelt to the Board of Directors of the Architects Club of Chicago with the idea of requesting support of that organization of the particular points you have stressed in the telegram to Mr. Roosevelt. The Board of Directors expressed themselves heartily in favor of the contents of your telegram.

ATLEE B. AYRES, *F.A.I.A., San Antonio, Texas.*—What you have done for the architects over the country in connection with your campaign for having the Government employ private architects in its work, should overburden you with their gratitude.

JOHN J. DONOVAN, *Berkeley, Calif.*—I read your telegram of December 8, 1932, addressed to President-elect Roosevelt and I join with my fellow architects throughout the land in expressing sincere appreciation for this initiative on your part.

You have expressed the truth in your telegram and coming from you and the very valuable architectural periodical you represent, undoubtedly it will be given fullest consideration by Mr. Roosevelt.

I am writing this letter on my own stationery but in the course of a week or so I feel rather confident that you will receive a somewhat similar letter from the Northern California Chapter of the A. I. A., of which I am president.

LOUIS LABEAUME, *Chairman, Committee on Public Works, A. I. A., St. Louis*—Your telegram to President-elect Roosevelt is timely and lucidly expresses the principles which have been endorsed by the profession and which we hope, may be put into permanent effect by the new administration. The Treasury Department has already recognized these principles in the appointment of some three hundred architects to design federal structures in various sections of the country, and has expressed itself as satisfied with the results.

• OWNERS' EQUITIES

Editor, AMERICAN ARCHITECT:

IN the January issue of *American Architect*, under the caption "We Might As Well Face Realities," you write as follows: "Restoration of public confidence in real estate as a safe investment is essential. Some means by which an owner's equity can be safeguarded in times of distress would be a big step in this direction."

I am inclined to the opinion that this statement needs qualification, at least to the extent that the financial assistance available for the protection of an owner's equity in real estate in times of distress should be governed by the degree of intelligence that he has expended in making his investment. This, of course, raises the moot question as to what constitutes an intelligent investment.

Dr. Richard T. Ely in the *New York Times* of September 11, 1932, propounds the theory that: "Value depends upon income over a series of years

when property is properly utilized." In the preface to my book "The Promotion of Commercial Buildings," this same idea is advanced—more, however, as a starting point for further research than is Dr. Ely's flat statement of opinion—where it says: "Such items as building costs, cost of procuring money, interest rates, taxes, income, and operating expenses will vary considerably during economic cycles, as will also methods and rules for computing mortgages. In every prospective operation each of the above factors must serve as the basis for a searching analysis. As a result of such analysis one eventually may arrive at the conclusion that the only set-up upon which a prospective commercial building operation can promise financial security to an investing owner is one that is based upon an estimate of the average anticipated income over a period of lean and fat years."

A very large percentage of so-called investors in real estate who are in need of banking assistance at the present time are involuntary owners. In reality they were speculators for the rise whose plans went awry when they failed to dispose of their property to others at a profit before the downward trend started. Let us consider then a practical illustration to see whether we can differentiate between an intelligent and an unintelligent purchaser of real estate who buys at or near the top of a boom.

Assume an investment in a property producing, in boom times, a rent roll of \$50,000. The owner who acquired what figures indicated to be 40% equity in this property when rents were inflated far beyond the average available over a period of lean and fat years, has only himself to blame if, now that rents are subnormal, he finds that his supposed equity has disappeared. Computing theoretical value by multiplying the rent roll by a factor of six, the theoretical value of the property is \$300,000; a 60% mortgage would equal \$180,000; and the owner's cash investment would be \$120,000. If the rent roll shrinks to subnormal, at say 40% of the rent roll in boom times, and one uses the same factor to determine theoretical value, the property now has a value of \$120,000.00. Assuming that the original first mortgage of \$180,000 remains, the owner finds that not only has his \$120,000 cash been wiped out but just so long as the property is en-

cumbered with a first mortgage of \$180,000, he is \$60,000 in the red.

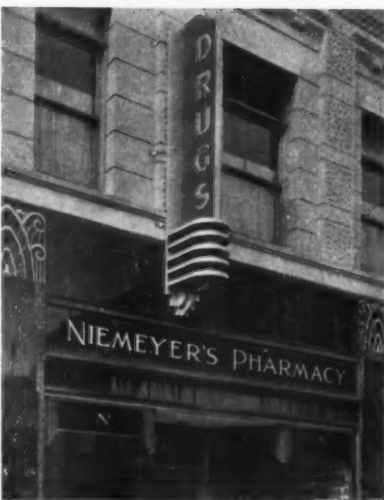
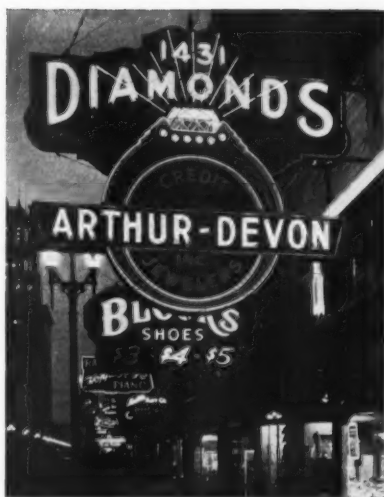
This means that if the mortgage expires during this subnormal period and is renewed on a basis of 60% of the new theoretical valuation based on income, the investor, if he is to retain ownership, must supply \$108,000 of additional cash. On this basis his entire cash investment in the operation, when rents have reached subnormal, equals \$228,000. Figured in another way, a \$72,000 mortgage on a property for which the owner paid \$300,000 would mean a cash investment of \$228,000. It can be assumed that the owner whose mortgage falls due under these conditions will be either unable or unwilling to furnish the additional \$108,000 in cash and consequently will lose his property by foreclosure.

Under what conditions then should the banker extend cooperation to help the owner save his property? Supposing we assume an average rent roll over a period of lean and fat years of say 60% of the rent roll in boom times, the probable actual value of the property, again using the factor of six, becomes \$180,000. Had the owner's cash investment at the time he purchased the property at \$300,000 equalled the difference between 40% of this probable actual valuation and the purchase price, his cash investment, assuming a 60% mortgage of \$108,000, would have been \$192,000, so that when the theoretical value of the property in subnormal times becomes \$120,000, and the mortgagee desires to renew for \$72,000, the owner will be called upon to invest \$36,000 additional cash, or just one-third of what he would have been obliged to furnish had he purchased at a price of \$300,000 with a mortgage of \$180,000. Obviously if the owner proves his inability to furnish this \$36,000 in cash, the banker can accommodate him more easily than if he were called upon to finance the larger sum of \$108,000.

One can assume, therefore, that any owner who had acted so intelligently to protect his investment might, under normal conditions over which he had no control, be granted a renewal mortgage large enough to take up this \$36,000. This would mean a mortgage of \$108,000 and would present an opportunity for the banker to act in the owner's behalf, on the theory that in the rebound from subnormal to normal conditions this mortgage would be conservative.

This we believe is the type of owner who should be entitled to, and is actually getting, the utmost consideration in times through which we are now passing. By their intelligence in making their real estate investments shall such owners be known to the banker.—

CHARLES H. LENCH, architect, N. Y.



Signs may embellish as well as mar commercial buildings. The better electric sign makers seek the cooperation of architects

• WHY SIGNS MAR BUILDINGS

Editor, AMERICAN ARCHITECT:

IN the December issue there is a letter entitled "Uncontrolled Signs Mar Buildings." Granted they are uncontrolled, but why?

The architect has designed a well planned building or shop. There has been nothing left out. Every trick has been used. Nevertheless, there has been a great oversight—the occupant's most vital problem of advertising his establishment—commercial value.

With scaffolding removed, the plaster, shavings and debris swept into the trash barrel, the contractor brushes his hands and with a satisfied gleam on his face utters "There she is—just like the blue-print." The architect's and builder's work is over. The new tenant's task has just begun.

The building's artistic value meets

with the satisfaction of the new occupant. If this were not so he would not be moving in. However, he is aware of the fact that something must be done to advertise his business. As a result, several sign companies are called in. Little consideration is made for the original idea behind the scheme of the edifice. What does the chiseling sign builder care about harmony of line and color? No, he's out to make a profit on his homely "tin cans." He throws in every color of the spectrum that can possibly be pumped into the tubes.

The practice of the sign manufacturer to plaster his product upon buildings will continue until the architect gets wise to himself and calls in the proper type of sign men to help him with his problem.

The present vogue of installing attractive and novel store fronts has given design-minded men a big play. Store fronts of today are enlarged displays, full of color and advertising value. These men are consulting reputable sign concerns and are availing themselves of the services of designers who are familiar with illuminated advertising.

That a sign in some shape or form will find its way upon a commercial structure is inevitable. Signs should be planned for in the beginning. There are many architecturally-minded men in the sign business. Consult them when you are planning your shops—don't wait to insult them when the thing is done!—V. S. Klein, art director, Electrical Products Consolidation, Seattle, Washington.

• A PLEA FOR HARMONY

Editor, AMERICAN ARCHITECT:

AM taking the liberty of commenting on the January number with special reference to the Talbot Faulkner Hamlin article "The International Style Lacks the Essence of Great Architecture."

I feel that there is enough antagonism between the old and the new (or rather, the conservative traditional group of architects and the so-called modern school). This new era that we are facing has divorced itself from temples and palaces for kings. Would it not be wiser during these times to bring harmony and cooperation among the thinking and creative architects rather than antagonism?

Creative work seems to be the only logical thought that should direct our work today, remembering that a noble logical diagram when covered with new forms and rhythms will give us a hope for enchanting vistas for a new era of great architecture.—J. H. PHILLIPS, New York City.

Courts Allow Architects' Fees Where Limits of Cost are Respected

BY GEORGE F. KAISER, LL.B.

•**WHAT HE DID:** An architect entered into a contract which provided that if his client should abandon the project after bids were received, the architect's commission should be $3\frac{1}{2}$ per cent of the lowest bid and that the owner should have the right to refuse to proceed further if, on receiving bids, he found that the building would cost in excess of a specified amount.

After the plans and specifications were drawn and bids received, it was found that one bid was well within the limit of cost. The owner refused to accept this bid but delayed any decision until, some weeks later, the low-bidding contractors wrote saying that their bid was subject to change without notice because of rising prices of building materials. Shortly thereafter the owner abandoned the project. When the architect demanded his fee the owner refused to pay, and the architect was compelled to bring suit.

•**WHY HE DID IT:** The owner thought that as

the lowest bidder had written him that the bid was subject to change without notice, the architect was not entitled to his fee of $3\frac{1}{2}$ per cent of the bid.

•**WHY HE SHOULD NOT HAVE DONE IT:** The court decided that the owner was not justified in abandoning the project and could not deprive the architect of his compensation, especially in view of the fact that the bid was within the limit of cost.

The court said that when the contractors submitted the lowest bid they could not have withdrawn their bid if the owner had executed the same promptly, even though the contractors subsequently advised the owner that their bid was subject to change without notice. As it was due to the neglect of the owner himself that the contract was not entered into with the lowest bidders, he could not be harmed by the architect's basing his claim for recovery of fees on the low bid; hence recovery of $3\frac{1}{2}$ per cent of the lowest bid was allowed to the architect.

OWNER RESPONSIBLE FOR EXCEEDING LIMIT OF COST

•**WHAT HE DID:** An architect entered into a contract for the preparation of plans and specifications for a business building, which provided that the sum of \$40,000 was to be the approximate limit of the cost of the proposed building.

From time to time, however, the owner gave instructions which required important changes in the original plans and specifications. None of these was included in the original understanding but were merely afterthoughts on the part of the owner.

Eventually the owner concluded not to use the plans and specifications the architect had prepared and refused to accept them, claiming that they did not conform to the requirements of the contract between them. When the architect tried to collect the fees due him, the owner further claimed that the plans and specifications had never been "delivered" to him, and refused to pay.

•**WHY HE DID IT:** The owner believed that as the architect could not prove a delivery and acceptance of the plans and specifications the courts would not compel him to pay the architect's fee especially if he further claimed that the cost of the building would not be reasonably close to the sum specified in the contract.

•**WHY HE SHOULD NOT HAVE DONE IT:** The court, however, refusing to recognize the owner's claims said, "The action is for services performed and expressly incurred in the preparation of the plans and specifications which the defendant does not now desire

to use and in effect refused to accept, claiming that they did not conform to his contract. There was no evidence of a refusal to deliver them. In the circumstances no delivery is necessary in order to entitle the architect to compensation.

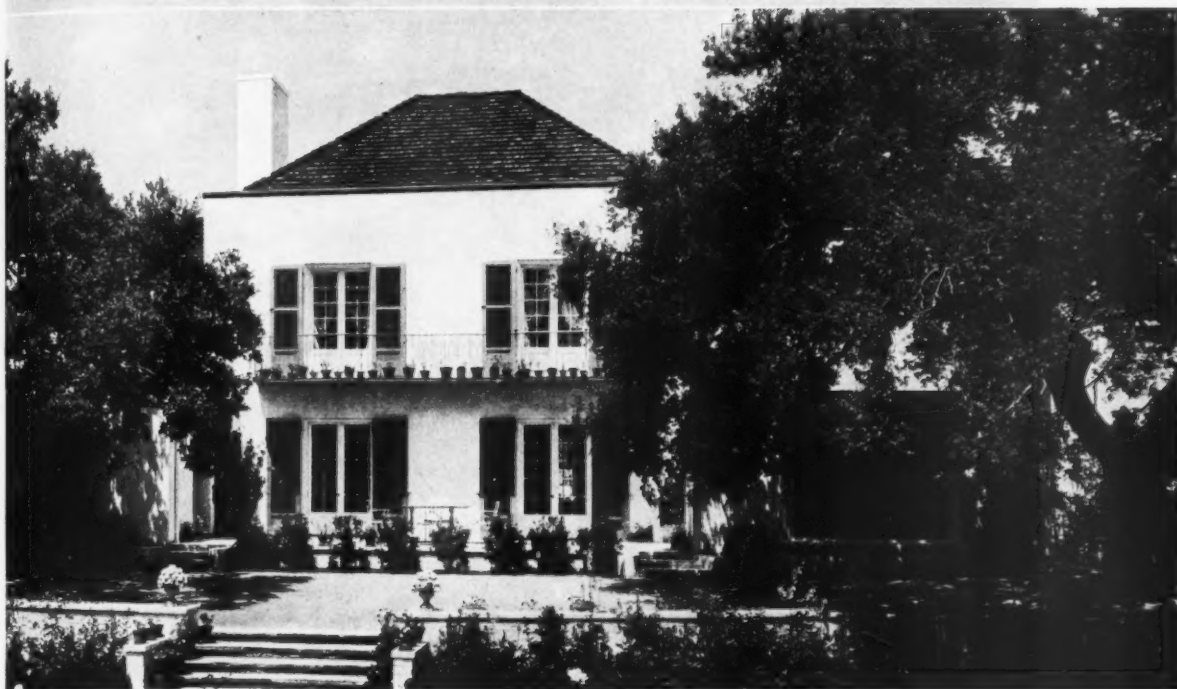
"One who proposes to build may in his contract of employment with an architect, state an amount as the limit of the cost of the building which is to be erected and provide that at least reasonable conformity to the requirements shall be a condition under which the service shall be rendered. In such a case liability for services is negatived unless the building can be built for an amount reasonably within the restrictions upon expenditures. But a contract may be made in which the sum named is only by way of estimate, as where the instructions given require the preparation of plans and specifications for the construction of a building according to the express wishes of the owner as to size, method and detail of construction.

"In such a case mere non-conformance of cost of construction under the plans and specifications with the amount so estimated does not prevent a recovery. There was no agreement to prepare plans and specifications for a building that was to 'Cost a sum not in excess of an amount stated.'

"The owner had in mind and told the architect that he was ready to spend \$40,000, but he also insisted he wanted a lot of special features that he specified. Recovery of his fees by the architect under such a state of facts is clearly proper and will be allowed."

• THIS HOME, GLAZED WITH
LIBBEY • OWENS • FORD QUALITY GLASS,
WAS AWARDED A

First prize



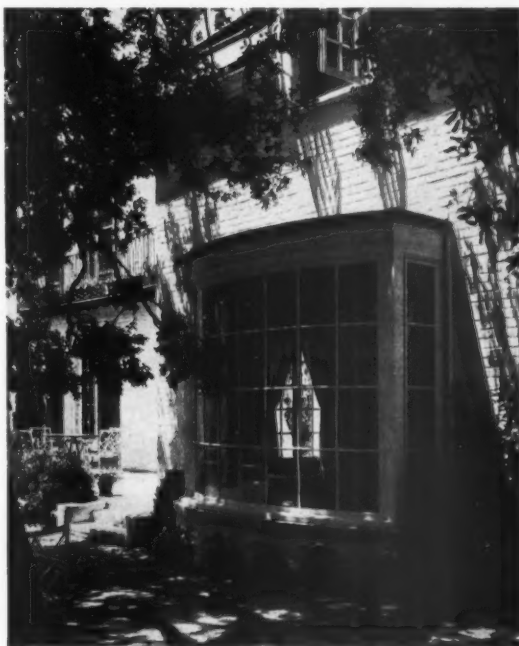
It is significant, though hardly surprising, that so many prize-winning homes are glazed with Libbey-Owens-Ford Quality Glass. Of course, the glass itself very probably has comparatively little to do with these awards, but the way in which fine glass emphasizes and enhances the architectural design and the way in which it blends the completed structure into a harmonious unit certainly makes an appreciable difference from every standpoint. Because Libbey-Owens-Ford Quality Glass is more brilliant and more beautiful, many architects specify it to insure the last detail in their planning . . . the *atmosphere* they seek to create.



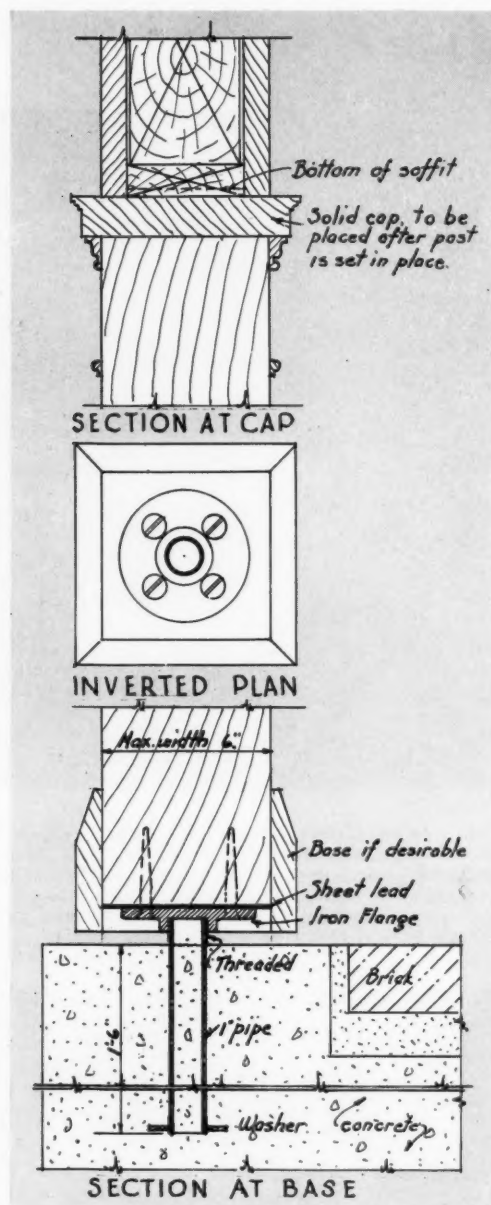
LIBBEY • OWENS • FORD GLASS COMPANY, TOLEDO, OHIO,
manufacturers of Highest Quality Flat Drawn Window Glass,
Polished Plate Glass and Safety Glass; also distributors of
Figured and Wire Glass manufactured by the Blue Ridge Glass
Corporation of Kingsport, Tennessee.

LIBBEY • OWENS • FORD
QUALITY GLASS

This residence, the home of Mrs. Richard B. Fudger, Beverly Hills, Cal., was awarded first prize in the sixth annual small house competition, western group, conducted by the magazine, "House Beautiful". Roland E. Coate, Architect, 701 Architects Building, Los Angeles, Cal. Eric Barclay, Contractor, Beverly Hills, Cal. • Above: General View, Street Elevation. • Below: Exterior, Dining Room Bay Window.



... Things You Didn't Learn in School ...

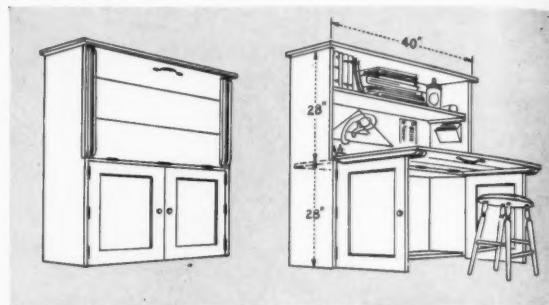


• METHOD OF SECURING SMALL SOLID PORCH POSTS

By Richard B. Gay
Baltimore, Maryland

TO protect small solid wood posts on porches, terraces and other masonry from rapid decay, the accompanying detail may be used with success. A one-inch pipe, preferably of wrought iron, is embedded in the masonry to a depth of twenty inches. The upper end is threaded to receive an iron flange such as is made for pipe stands and railings. The post must be cut short for insertion, and screwed down into place. A solid cap is then slid into place as shown.

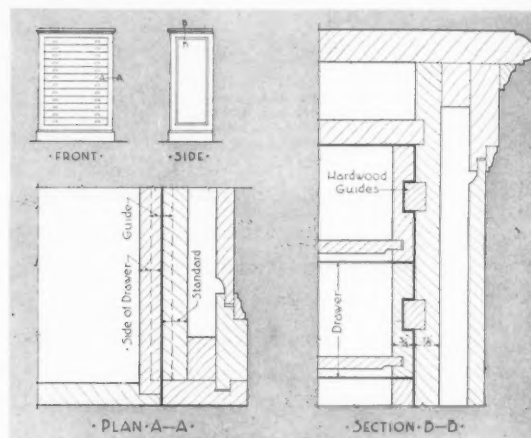
100



• COMPACT DRAFTSMAN'S CABINET

By C. Nye
New York, N. Y.

THIS space-saving cabinet provides room in the upper part for reference books, catalogs, instruments and supplies, and in the lower half for standard-sized rolls of drawing paper, tracing cloth, drawings, etc., either on shelves or on rollers. The drafting board itself forms the front of the upper section when closed; the lower doors serve to support the board when in use.



• COMPACT DRAWER CASE

By W. R. Bluhm
Rochester, New York

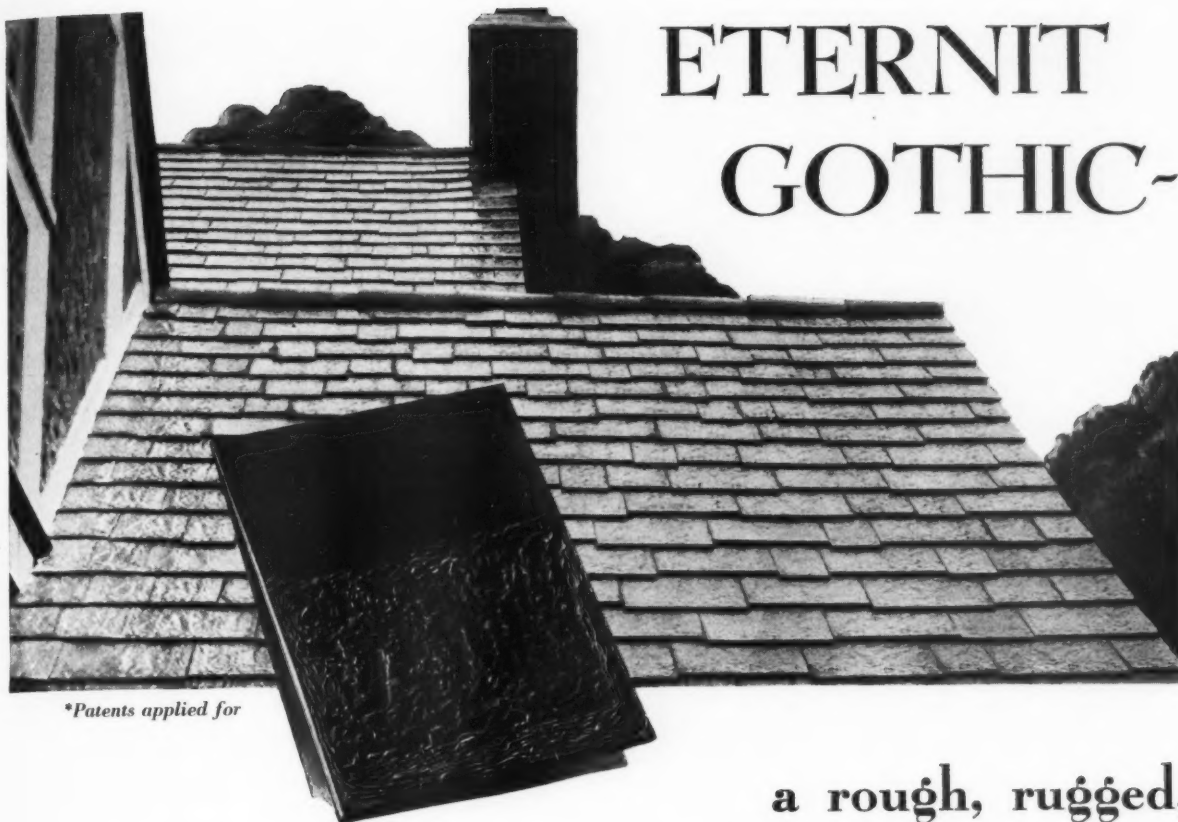
WASTE space between drawers can be eliminated by grooving sides of drawers to slide on hardwood guides fastened to the standards as detailed above.

• WATER COLORS ON A GREASY SURFACE

By Lancelot Sukert, A.I.A.
Detroit, Michigan

DID you ever try to make a water color rendering on a photostat that has a greasy surface? After trying various methods without success, common pounce powder has been found as the answer. Rub it into the surface, brush it off and there you are. It will work on almost any kind of greasy or slippery surface.

AMERICAN ARCHITECT



*Patents applied for

ETERNIT GOTHIC-

GOTHIC FEATURES

1. AGELESS AND FIREPROOF—Ingredients: Portland Cement, reinforced with asbestos rock fibres. Both are time- and fire-defying.
2. TAPERED CONSTRUCTION—Designed to provide thickness and strength where it is most required. Needless weight eliminated.
3. RUGGED TEXTURE—7" exposed shingle area, textured like rugged rock, carved by time.
4. MELLOW COLORS—Ten rich, time-mellowed colors. Ideal for color harmonies or color contrasts. The mineral oxide colors are an integral part of each shingle.
5. RANDOM WIDTHS—Full size shingle 12" x 16", spaced $\frac{1}{8}$ " apart. Supplied also in random widths of 5", 6" or 7".
6. STAGGERED BUTTS—Double sets of punched nail holes permit laying irregular shingle courses.
7. DEEP SHADOWS—Butts are $\frac{3}{8}$ " thick, assuring deep, heavy shadow lines.
8. MODERATE COST—Saving in both materials and labor permits roof cost in keeping with 1933 income.

a rough, rugged,
tapered Asbestos Shingle
that has changed Architects'
ideas of 1933 Roof Values

*B*EFORE you specify another roof, fully investigate the Gothic*, one of Eternit's most popular Asbestos Shingles.

Introduced to architects less than a year ago—a product of The Ruberoid Co. Research Laboratories, this unique shingle is recognized today as 1933's Greatest Roofing Value.

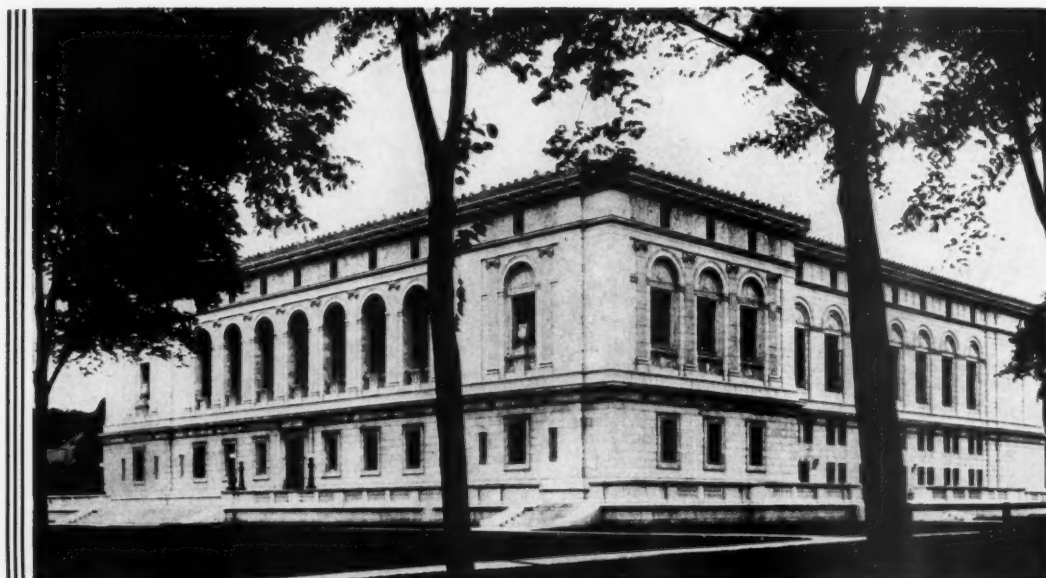
Compare the features of the Gothic point by point with your idea of what a good roof should be. We believe the Gothic will win your admiration and confidence, too.

Samples gladly forwarded upon request. Complete specifications and details pages A299-302 Sweet's 1933.

The RUBEROID Co. ROOFING MANUFACTURERS FOR OVER FORTY YEARS

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DETROIT LIBRARY, Detroit, Mich.... Architect: Cass Gilbert, N. Y. C.—3 Heine Boilers, 200 HP each, operated at 150% of rating (one of these boilers is idle).—2 fully automatic Petro Oil Burners, 15,000 gallon storage capacity for oil supplied by the Petroleum Heat & Power Co.

Detroit Library saves 61.2% with Petro Burners

*Entire equipment will be paid for in
three years out of savings effected*

The answer to many an architect's question is found in the experience of the Detroit Library.

Originally, this imposing structure, designed by Cass Gilbert, was heated with two boilers equipped with coal stokers. These stokers were later discontinued in favor of city steam.

A survey made by Petro engineers indicated a saving of 57% with Petro oil burners. The changeover was made. In November the actual saving was 61.2%. The burners operate entirely automatically, either boiler being fired independently, or both simultaneously.

The Detroit Library is not alone in showing important economy in Detroit. Recent Petro installations in that city include: Professional Bldg. (a

Kresge Foundation operation), Garfield Bldg., U. S. Post Office, Graphic Arts Bldg., University of Detroit High School, American Can Co., Visitation Church and School, St. Dominick's Church and Rectory, etc.

As a public service enterprise, providing both the equipment and the fuel oil in our own trucks from our own oil terminals, our responsibility is undivided.

This complete oil heating service is available throughout the Atlantic seaboard to every type of structure, regardless of its size or purpose, including large and small residences.

This same equipment used in this 100% guaranteed oil heating service may be depended upon wherever it is sold.



ARCO-PETRO AUTOMATIC BOILER
SAVES 47% IN THIS HOUSE

F. E. d'Hume, of Scarsdale, N. Y., chief engineer of the Western Union Telegraph Co., formerly had a tubular steel boiler and a well-known oil burner in his house, and a gas-fired domestic water heater. For his own pleasure he kept accurate records of cost over a period of years. The first year, after replacing his old heating plant with the new Arco-Petro, that furnishes both automatic heat and domestic hot water, showed a fuel saving (oil, gas and electricity) of 47%.

PETROLEUM HEAT & POWER CO., STAMFORD, CONN.

*World's Oldest and Largest Oil Heating Organization... Manufacturers of
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No house is big enough to have a coal bin!



Residence of J. Frederick Langdon, M. D., Omaha, Nebraska. One of 80,000 houses heated by Petro & Nokol. Architects, John and Alan McDonald, who designed the \$5,000,000 art institute, Joselyn Memorial Bldg., in Omaha.

Compactness and cleanliness of oil heating opens up new opportunities for house planning

Eliminate coal, and almost one-third of the floor space of a house is made available for happier uses. The furnace room becomes a stag room. The coal bin becomes a cold room. And the entire basement area becomes as clean as the living room upstairs. Dust and dirt are gone forever. Combining the oil-heated boiler with the domestic hot water system provides automatic hot water, and the entire cost of heating is reduced by almost a third. Where heat can be made automatic at a lower cost, where basement space can be put to such enjoyable use, and every floor kept immaculately clean . . . no house is big enough to have a coal bin!

With the innumerable types and sizes of heating plants on the market, it is impossible to make one type of oil burner fit them all. For this simple reason,



Petro was selected to present the progress of automatic heat at the Fair.

Petro makes 66 sizes, 16 models of 8 types of oil burners, as well as the Arco-Petro Automatic Oil Burning Boiler in 2 types and 6 sizes for steam, hot water and vapor. Having a specific type and size for every domestic, commercial and industrial heating and powerplant, the Petro & Nokol dealer can afford to be unbiased in his recommendation.

As a public service enterprise, providing both the equipment and the fuel oil in our own trucks from our own oil terminals, our responsibility is undivided. This complete oil heating service is available throughout the Atlantic seaboard to every type and size of structure, regardless of its size or purpose, including large and small residences. This same equipment used in this 100% guaranteed oil heating service may be depended upon wherever it is sold.



SAVES \$1000 FIRST SEASON

In the Wiltshire Apartments, St. Louis, Mo., one Petro Model W-5 replaced 3 domestic burners of another make. The saving of 1c a gallon on heavier oil and 1-3 less oil used resulted in a saving of over \$1000 the first season.



For Architects

"The New York Hospital and their engineers, Buerkel and Company, in conjunction with ourselves, decided on the use of Petro Equipment in this group of buildings because of its cleanliness, efficiency and economy."

"Your compilation of information on oil and oil burning equipment is clear and comprehensive. We find it useful as a ready reference in our work."

Coolidge, Shepley, Bulfinch & Abbott
Francis V. Bulfinch"

FREE—Write for 24-page Bulletin G-1 that gives full details and specifications of Petro Model W, the leader in industrial and commercial installations.

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LEFT—The North Aisle, from "The Cathedral of Palma de Mallorca." . . . ABOVE—The Cologne-Mülheim Suspension Bridge. . . RIGHT—Railway bridge near Düren. From "The Bridges of the Rhine"

THE CATHEDRAL OF PALMA DE MALLORCA

By Ralph Adams Cram. Published by The Medieval Academy of America, Cambridge, Massachusetts. Illustrated; 24 plate pages and 16 text pages; size 10" x 13"; price \$5.00

THE Cathedral of Palma on the Island of Mallorca is distinguished by being one of the largest, most original and significant, and least known of Gothic Cathedrals. As it was never properly recognized in standard works on Gothic architecture, this book was deliberately undertaken to provide a record of the church and an introduction to its further study and appreciation.

The text, as one might expect of its author, is an erudite survey of the historical background and architectural qualities of the building. It is supplemented by measured drawings of plans, elevations, rose windows and other details, and by an excellent collection of new photographs of the cathedral as it stands today.

AIR CONDITIONING FOR COMFORT

By Samuel R. Lewis. Published by Engineering Publications, Inc., Chicago. Illustrated; indexed; 244 pages; size 5 1/4" x 8 1/2"; price \$2.00

THIS book treats of the theory and practise of air conditioning for human comfort as it may be applied to the home, small stores, offices and similar spaces. It takes the reader through the fundamental data required in the designing of a system of air-conditioning; shows the application of the formulas developed to the necessary calculations; and finally it proceeds to the actual calculations required for two residences and a restaurant installation.

Heating systems are logically considered along with cooling systems because of their very close relationship in terms of equipment and general design of structures. The book is at once a text book for students and a reference book for architects.

The author is a past president of the American Society of Heating and Ventilating Engineers and has been chairman of the committee on research.

HOUSING OBJECTIVES AND PROGRAMS

Edited by John M. Gries and James Ford. Published by The President's Conference on Home Building and Home Ownership, Washington, D. C. Indexed; 345 pages; size 6 1/4" x 9"; price \$1.15

THIS is the eleventh and concluding volume of the final reports of the President's Conference on Home Building and Home Ownership. As a summary and analysis of the whole work of the conference it is perhaps the most vital of the many documents issued. It seeks, among other things, to establish an ideal standard of American housing and to appraise present progress toward this ideal.

METHODS AND PROBLEMS OF MEDICAL EDUCATION

Published by The Rockefeller Foundation, New York. Illustrated; indexed; 226 pages; size 8" x 11"; free to those interested.

THIS is the twenty-first, and for the time being the last, of a series of publications of like title, presenting articles on institutions for medical education and the methods and equipment they employ. The architectural aspects of planning such buildings are frequently touched upon and illustrated.

BRIDGES OF THE RHINE; ROMAN, MEDIAEVAL AND MODERN

By Karl Möhringer. Published by Joh. Möhringer, Messfisch, Germany. Illustrated; 104 pages; size 9" x 12"; price \$6.00

THIS is probably the first publication in the English language dealing with bridge building on the continent of Europe. It illustrates the art of good bridge design and reflects the efforts made in recent years to replace, in bridge architecture, the traditional external design by the modern functionalist conception based on the principle of expressing the structural features of the bridge. As modern American bridges demonstrate, a similar evolution has been going on for some time in the United States.

The first part of the book is devoid of engineering technicalities, and deals with bridges over the Rhine and its tributaries. The profuse illustrations reveal the historical development of Rhenish bridges from Roman times to the present. The second part presents an account of the latest structures over the Rhine and is mainly devoted to the Cologne-Mülheim suspension bridge, the design and construction of which are treated in some detail. Architects interested in bridges should find this work of considerable importance.

KALENDAR OF ROYAL INSTITUTE OF BRITISH ARCHITECTS

Published by The Royal Institute of British Architects, 9 Conduit St., W.1. London. Indexed; 716 pages; size 5 1/2" x 8 1/2"; price three shillings, ninepence

CHIEFLY devoted to a register of membership and allied societies, this yearbook for 1932-1933 is intended as a reference directory.

NEW CATALOGS . . .

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

SHEET COPPER MANUAL

214 . . . A handbook of 129 pages on the applications of sheet copper in the construction of buildings has been issued by the Copper and Brass Research Association, New York. The distribution of this monumental reference volume is limited to practising architects. It supercedes previous editions of Copper Roofings and Flashings and contains much new data. It is replete with line drawings showing correct details in the use of copper for building purposes.

ANACONDA "ELECTRO-SHEET" FOR BUILT-UP ASPHALT ROOFS

215 . . . The uses and advantages of Anaconda "Electro-Sheet" made of thin sheets of copper backed with asphalt saturated fabric are presented in a 12-page booklet issued by The American Brass Company, Waterbury, Connecticut. Its principle application is for built-up roofs and for flexible flashings.

ARCHITECTS' REFERENCE DATA FOR WIRING DEVICE SPECIFICATIONS

216 . . . A six-page folder containing illustrations and description of uses of representative "H & H" wiring devices has been issued by Hart & Hegeman Division, The Arrow-Hart & Hegeman Electric Co., Hartford, Conn. A.I.A. File 31-C-7.

HOWELL TUBULAR FURNITURE

217 . . . Howell Company, Geneva, Illinois, has issued a 16-page catalog of Howell Modern Tubular Furniture in Chrominum illustrating their complete line of tubular furniture. A.I.A. File 28-A-2.

MURPHY CABRANETTE KITCHENS

218 . . . Murphy Door Bed Company offers an 8-page catalog of Murphy Cabranette steel kitchen units and assemblies, including cabinets, ranges, refrigerators and sinks.

MURPHY BUILT-IN WOOD KITCHEN EQUIPMENT

219 . . . Murphy Door Bed Company has issued an 8-page folder giving dimension diagrams and data on their line of wood cabinets and assemblies for kitchens.

FAIRBANKS VALVES

220 . . . The Fairbanks Company, New York, offers a deluxe brochure of 64 pages illustrating many important buildings in the metropolitan New York area in which their products have been used.

ATLANTIC TERRA COTTA

221 . . . Architects who have not received the November issue of "Atlantic Terra Cotta" will find in this monograph on contemporary design in terra cotta a number of plates illustrating recent buildings, including a large full color illustration of the tympanum in the pediment of the Philadelphia Museum of Art. A.I.A. File 9.

JAMISON COLD STORAGE AND REFRIGERATOR DOOR PRODUCTS

222 . . . A comprehensive 12-page catalog on vestibule and auto-close doors for refrigerators and cold storage rooms of various types has been prepared for architects by Jamison Cold Storage Door Company, Hagerstown, Md. Details of construction are given. A.I.A. File 32-C-1.

ULTRA-VIOLET AND INFRA-RED RAY GLASSES

223 . . . Fish-Schurman Corporation offers a catalog reprint describing Uviol-Jena ultra-violet ray health glass and Kool-Glass, which absorbs over 95% of the heat infra-red rays of the sun.

NEW WAYNE OIL BURNERS

224 . . . Wayne Oil Burner Corporation, Fort Wayne, Indiana, has issued folders describing their revised and improved line of oil burning equipment. One new domestic burner replaces four previous sizes, the single unit having a capacity range from 400 to 3,000 feet of steam. Its adaptability to various standard boilers is demonstrated.

ENTERLOCKING FABRICATED BUILDING LUMBER

225 . . . Long Bell Lumber Sales Corporation, Kansas City, Mo., has developed a series of ten basic framing members pre-fabricated to serve more than three quarters of all uses for lumber in the framing of a building, each self-identified as to its use and prepared where suitable with an "enterlocking" joint. The new method and the materials offered are described in a four-page folder.

HUBBELL ELECTRICAL WIRING DEVICES

226 . . . Harvey Hubbell, Inc., Bridgeport, Conn., have issued their catalog No. 21 for 1933-34 illustrating and pricing their complete line of electrical wiring devices.

THE MODUTROL SYSTEM

227 . . . A condensed 12-page catalog and manual describing the Modutrol System of automatic modulating control for air conditioning, mixing dampers, ventilating systems, etc., has been issued

NO POSTAGE REQUIRED ON THIS CARD

AMERICAN ARCHITECT
New York City

March, 1933

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

• I also desire further information about the new products described in this month's "New Materials and Equipment." . . . (See pages immediately following this insert)
Numbers

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

Name

Firm name

Address

City

Occupation

FOR MARCH 1933

These NEW Catalogs may be obtained through AMERICAN ARCHITECT

by Minneapolis Honeywell Regulator Company, Minneapolis, Minn. Data on typical applications are included. A. I. A. File 30-F-2.

MARBLE IN MODERNISTIC DESIGN-WORK

228 . . . A series of fifteen plates illustrating Vermont marble used by various architects in buildings reflecting the modern trend in design has been reprinted from the original advertisements and made into a file collection for architects. A. I. A. File 8-B-1.

GENERAL ELECTRIC AIR CONDITIONING PRODUCTS

229 . . . Data sheets for the architect have been issued by General Electric, Air Conditioning Department, New York, covering the General Electric Oil Furnace, the General Electric Air Conditioner for warm air heating, and the General Electric Humifilter for radiator heated houses. These are factual documents providing the necessary technical and use data. A. I. A. File 30-B-12 and 30-F-1.

KEEPA-LITE EMERGENCY LIGHTING SYSTEM

230 . . . A self-contained emergency lighting system which supplies a separate source of electric current to its own high efficiency lamps is described in a small folder issued by The Electric Storage Battery Company, Philadelphia. Keepa-lite, the "Exide watchman" consists of an Exide battery, automatic relay, battery charger, switches and signal compactly arranged in a case; with voltage lamps and special fixtures to be installed at desired points.

"SELF-SYN" MOTORS

231 . . . The Ideal Electric & Manufacturing Company of Mansfield, Ohio, offer Bulletin 40, dated October 1932, describing the "Self-Syn" motor. This

is a self-excited, self-synchronizing, self-contained general purpose motor.

WING COMBUSTION CONTROL SYSTEM

232 . . . A method of substituting low cost small sized anthracite coal for the more expensive sizes usually employed is offered in the Wing Combustion Control System described in a booklet (A. I. A. File 30-G-3) issued by L. J. Wing Mfg. Co., Newark, N. J. The system employs Wing blowers with suitable automatic controls.

REVERE COPPER AND BRASS PRODUCTS

233 . . . A revised general catalog and price list, dated January 1, 1933, has been issued by Revere Copper and Brass Incorporated, New York, to supersede prior issues. All products are listed.

"DUCT" ELECTRIC RADIATOR

234 . . . A compact and efficient electric radiator employing copper radiating plates in conjunction with non-radiant heating elements is described in a small consumer folder and a catalog page reprint by Duct Electric Heater Corporation, New York. The radiating fins serve to extend the heating surface and also form ducts which stimulate the circulation of air.

PARSONS PUREAIRE KITCHEN

235 . . . A completely equipped steel kitchenette unit containing range, refrigerator, sink and storage space and requiring a floor space only 22" deep and 45 3/4" wide is described and illustrated in a four-page folder issued by The Parsons Company, Detroit. A. I. A. File 35-C-12.

NEW MURPHY IN-A-DOR BEDS

236 . . . The complete line of Murphy In-A-Dor beds is illustrated and described in a 16-page and cover catalog issued by Murphy Door Bed Company,

New York. Types to meet every space and plan requirement are included, with drawings showing dimensions needed for clearance of built-in models. A. I. A. File 35-N-9.

KLIEGL SPOTLIGHTS AND ACCESSORIES

237 . . . A comprehensive catalog of spot lights for theater and advertising uses has been published by Kliegl Bros. Universal Electric Stage Lighting Co., Inc., New York. A wide range of types is shown and complete descriptions are given indicating the uses for each unit.

ENDURO STAINLESS STEEL

238 . . . In a 16-page brochure, Republic Steel Corporation, Youngstown, Ohio, presents a fund of comprehensive information on architectural applications of Enduro Stainless steel, including its fabrication, properties, and shapes and finishes available. The brochure includes the results of collaboration with leading architects and engineers who have specified Enduro in important building projects. Bulletin 217-B.

GERDES METHOD OF HEATING, VENTILATING AND COOLING

239 . . . Theodore R. N. Gerdes, M.E., New York, has prepared a 16-page booklet presenting the characteristics and advantages of the Gerdes Method for providing comfortable and healthful air conditions indoors at all times of the year. The principal feature is the use of natural fresh air at all times, unvitiated by incorrect heating methods. Typical installations are illustrated.

PANELOUVRE

240 . . . A comprehensive catalog of Panelouvres for all ventilating purposes has been issued by The Ventilouvre Company, Inc., Bridgeport, Conn. The data cover door, transom, wall and window applications, construction details, uses, finishes and installation methods.

"CONVERTA" PARTITIONS

241 . . . Harry A. Waldman, manufacturer of architectural woodwork, Long Island City, New York, presents the merits of "Converta" partitions of wood and glass and describes their portable features in a 4-page folder.

SEDGWICK ELECTRIC ROTO-WAITER

242 . . . Sedgwick Machine Works, New York, offer descriptive folder and data sheet on their new electrically operated dumbwaiter designed to serve two levels.

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BUSINESS REPLY CARD

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AMERICAN ARCHITECT

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New York, N. Y.

FIRST CLASS
PERMIT NO. 5
(Sec. 510 PL & R)
NEW YORK, N. Y.

New Materials and Equipment

BRIEF REVIEWS OF MANUFACTURERS' ANNOUNCEMENTS
TO KEEP THE ARCHITECT INFORMED OF NEW PRODUCTS

New General Electric Ventilating Fan



171M The General Electric Company, Merchandise Department, Bridgeport, Conn., has added to its electric fan line a new Wall Cabinet Ventilating Fan designed especially for permanent kitchen installation in homes or apartments. A special feature of this unit is the newly designed,

deep-pitched fan blade which moves large volumes of air with exceptional quietness. Air delivery—500 cubic feet a minute—is sufficient to renew air in average sized kitchens in from three to five minutes. The fan is controlled by a convenient pendant chain within the kitchen. Outside shutters close automatically when fan is stopped.

"Zephyr 50" Unit Air Conditioner

172M As a lower cost companion to its Zephyr 75 air washer and conditioner, Air-Control Systems Inc., Chicago, has introduced the "Zephyr 50" for small domestic and office installations. This unit, housed in an attractive cabinet or built into the wall or floor, has an air-washer operating at low pressure (12 to 15 pounds) which cleans and humidifies the air in winter and, by the addition of refrigeration, cools, cleans and dehumidifies the air in summer. All year around the motor-driven blower circulates the air for added comfort. The unit will provide air washing and humidification for 20,000 cubic feet of space—an average house of seven rooms—and with refrigeration added will cool and dehumidify the air in one room in addition to air washing and circulation. The price of the unit is within the \$100 to \$150 range.



Sedgwick Electric Roto-Waiter

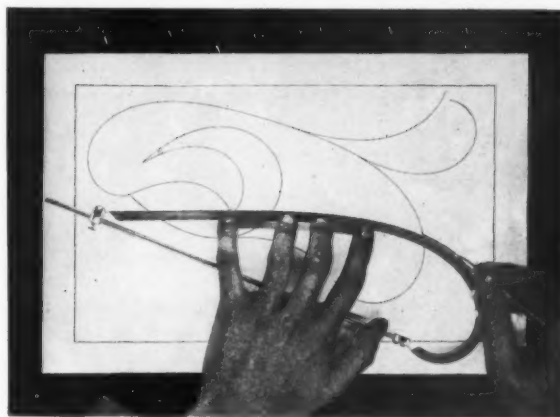
173M A low priced electrically operated dumb waiter to serve two landing levels or stops has been developed by Sedgwick Machine Works, New York. The device consists of an electric motor, gearing, control switches, steel guide framework, cab, and driving chain, ready for assembly and installation. Complete wiring is supplied which provides operating controls that bring the car to the correct levels automatically.

Oil-O-Matic Hot Water Heater

174M A new horizontal, oil fired automatic water heater has been introduced by Williams Oil-O-Matic Heating Corporation, Bloomington, Illinois. A special Oil-O-Matic oil burner is mounted to fire through a horizontal combustion chamber within the boiler where baffles are arranged to provide triple heat travel. The burner is set to consume one-half gallon of oil per hour, giving an estimated average cost of two cents per 50 gallons with a 100 degree rise in temperature. Heating capacity with this rise is 50 gallons per hour; storage capacity 35 gallons. Burns No. 4 oil and lighter.

New Kohler Boiler

175M A new automatic firing boiler designed especially to burn oil and gas fuels more economically is presented by the Kohler Company, Kohler, Wis. Intended to meet the demand for an oil and conversion gas fired boiler for residences, stores, small apartment buildings, etc.



An Automatic Irregular Curve Instrument

176M A new drafting aid, known as the Wade Automatic Curve, has been placed on the market by Wade Instrument Company, Brooklyn Station, Cleveland, Ohio. It consists of a flexible steel drawing edge backed with a strip of rubber that is automatically formed into perfect irregular curves of any desired form by moving a convenient slide along a rigid bar. A clamp holds the curve in the desired form. The rubber backing of the steel drawing edge serves as a finger rest and aids in holding the instrument to the paper.

New Construction for Metal Partitions

177M The metal partitions of F. C. and G. M. Mills Company, Cleveland, Ohio, are now assembled with mortise and tenon instead of with bolts and screws and electric welds. When posts have been fastened to the floor, office partitions can be erected with a hammer.

New Tapered Asbestos Shingle



178M Eternit Gothic is the name of a new tapered asbestos shingle placed on the market by Eternit, a division of the Ruberoid Company, New York. The texture resembles quarried slate. The shingles come in regular and random widths and are so punched that the butts may be staggered.

There are 10 rich time-mellowed colors, ideal for color harmonies or color contrasts. The mineral oxide colors are an integral part of each shingle.

Permanently Fireproofed Cotton Fabrics

179M Fireproof Fabrics Sales Corporation has announced a process of fireproofing cotton fabrics which provides fire resistance that is unimpaired by exposure to the weather. The process can be applied to light or heavy fabrics, either in a transparent finish or in colors as desired. Awnings, canopies, portable marquees, theater curtains, tarpaulins, temporary construction enclosures and use as a wall covering in place of stucco, are among the applications suggested in the building field. The process is said to make the fabric waterproof and to provide protection from mildew, sunlight and acid fumes in addition to its fireproofing effect.

Westinghouse Room Coolers

180M Westinghouse Electric and Manufacturing Company will shortly introduce a new model room cooler of approximately one ton capacity. This unit is designed to cool, dehumidify and clean the air and will serve a moderate sized room. Heating and humidifying elements will be included in many of the units for winter service. Suitable compressor-condenser units for the operation of single or multiple coolers will also be available.



Solka, a New Base for Asphalt Shingles

181M Leading manufacturers of asphalt shingles have recently adopted Solka as a new and improved base for their better grade products. Solka is made from highly purified cellulose fibres which, when felted to-

gether, produce an exceptionally strong, flexible roofing base that will carry a higher percentage of enduring asphalt than the felts formerly used. Solka has met the requirements of the Board of Underwriters, Inc. The use of Solka is licensed by Brown Co. of Portland, Maine, in whose laboratories it was discovered.

New Majestic Refrigerators

182M Six new Majestic refrigerators have been announced by Grigsby-Grunow Company, Chicago, including one small low priced model and five de luxe models ranging in size from 9.68 square feet food storage area to 23.25 square feet. All de luxe models have sealed motor and compressor; a defrosting control that maintains temperatures low enough to preserve perishables during the defrosting period; a device that restores operation following a temporary drop in voltage; and triple insulation of three different materials. All interiors are of acid resisting porcelain with rounded internal corners. The larger models have exteriors of porcelain; the others have an "Elasto" finish.

New Crane Siwelco Closet



183M The new Crane "Siwelco" closet introduced by Crane Company has a low bowl with a dip in the center to meet the need suggested by medical authorities who have found that the strain resulting from too high a seat has a direct bearing on constipation. Reduction of exposed surface gained by the dip plus the thorough rim

wash with which the bowl is equipped minimize the possibility of soiling. A raised ledge at the back, upon which the tank rests, prevents anything from passing between the tank and the ledge.

Master Metal Insulation

184M An entirely new insulation both in type and principle is being introduced by Reynolds Metals Company, New York. It consists of tough kraft paper faced on both sides with bright metal foil only 5/1000 of an inch thick, with a waterproofing compound between the metal and the paper. Insulating efficiency is the product of high reflectivity and low emissivity of radiant heat. The permanently bright metal surface reflects 95% and emits only 5% of the radiant heat impinging upon it. From 50% to 80% of the heat which passes through frame or hollow walls and roofs is said to be radiant heat.

Master Metal Insulation must be applied so that at least one metal surface faces an air space. It weighs 6.8 pounds per square and is furnished in rolls of 250 square feet either 17" or 32" wide. It is being distributed through retail building material dealers.



G-E WHITE ELECTRICAL CONDUIT

made by GENERAL ELECTRIC

EASY BENDING
GLYPTAL COATED
Inside and Out
HOT-DIPPED GALVANIZED
Inside and Out
CLEAN DEEP THREADS

For further information see nearest G-E Merchandise Distributor, or write to Sec. C-113, Merchandise Dept., General Electric Co., Bridgeport, Conn.

GENERAL ELECTRIC

RIGID CONDUIT

MERCHANDISE DEPARTMENT, GENERAL ELECTRIC COMPANY, BRIDGEPORT, CONNECTICUT

Trends and Topics of the Times

(Continued from page 51)

- Licenses for real estate appraisers are proposed by S. R. Firestone, real estate expert of New York. As a means of safeguarding investors in real estate bonds, he would establish a State appraisal bureau which "should be responsible for passing upon the appraisals before they could be officially issued by the appraiser to his client." The complete plan is designed to put a check upon the development of surplus space in districts already built up beyond their renting capacity.



- "Architects' Tea Sets" will soon become the vogue if the plans of the Women's Division of the Architects' Emergency Committee of New York bear fruit. Five thousand tea sets of the copyrighted design shown, are being made for the committee by Lenox, Inc. and will be sold nationally at \$35 per set. While a set of this quality is considered inexpensive at the price asked, it is expected that the profits will contribute a large sum to the \$100,000 fund being raised for unemployment relief.

- The College of Architecture of the University of Michigan announces the ninth annual competition for the George G. Booth Traveling Fellowship in Architecture. The competition begins on Saturday, April 8th. The competition is open to graduates of the school who are unmarried and who are not yet thirty years of age. Candidates may receive complete information by writing to the office of the College.

- Roger W. Babson, noted for his independent thinking, would stop economy campaigns. "The word 'economy' should be tabooed instead of emphasized," he said recently. "And that does not mean that I recommend wasteful extravagance in government or in personal affairs either. I say there is a commonsense middle course, and that to keep harping on economy now will do infinitely more harm than good to business."

- Lantern slide charts are to be standardized so that architects and others who have to attend lectures will be able to read the type and see the lines the lecturer is talking about. The standards were developed by a sub-sub-committee of the American Society of Mechanical Engineers.

- Architects of Maine have formed the Maine Architectural Society, the organization of which conforms to the plan recommended by the American Institute of Architects for its chapters. John Calvin Stevens, F. A. I. A., is president. There are thirteen members, three associates and seven affiliates. Headquarters are at the office of the secretary, Royal Boston, Jr., Clapp Memorial Building, Portland. (Continued on page 112)



The entry as originally constructed



Consult SWEET'S
Volume A
Page 853 for
Cast-iron Veranda Designs
Volume D
Pages 677-681 for
Exterior Lighting Fixtures



The same entry after a Smyser-Royer cast iron veranda was installed.

..... Remodeled for New Charm ..

The transformation pictured here suggests a world of possibilities in remodeling work to discerning architects. Otherwise barren entries when framed with artistic cast iron verandas, become quaintly charming and inviting.

Leading architects and builders everywhere are taking advantage of the returning vogue for cast iron verandas and are executing many profitable commissions. America's foremost architects have been specifying Smyser-Royer castings for almost a century.

SMYSER-ROYER CO.

Main Office and Works, YORK, PA.—Philadelphia Office, 1700 WALNUT ST.



A Kitchenette
+
a Monel Metal Sink
=
A KITCHEN

AN ARCHITECT conceived the idea. One of his clients had some kitchenette apartments which weren't renting well. Thought the kitchenettes should be modernized—and enlarged if possible. Wanted the job done inexpensively, without ripping out partitions. The architect saw a chance to kill two birds with one stone. He said: "Put in Monel Metal Sinks." Clever!

This architect knew that when you come right down to cases, the practical difference between a kitchenette and a kitchen is working space—not floor area. Women

want elbow-room without extra steps. He knew that Monel Metal Sinks give up to 31 percent more working surface than ordinary sinks of the same nominal sizes. He knew that Monel Metal Sinks have roomy, full-size bowls which make ordinary kitchenette sink bowls look dinky.

Also, Monel Metal Sinks make a kitchenette look much larger. Their softly reflective surface has an expanding effect on a room's appearance. Their silvery lustre captures a woman's gaze and seems to say: "Come in—it's fun to work here!"

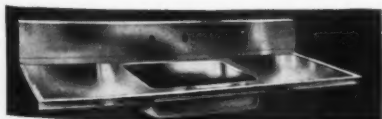
Besides adding more work space, a Monel Metal Sink makes a kitchenette easy to keep spick-and-span and insures its future attractiveness. These silvery sinks resist corrosion and staining. They can't rust or chip. They have no glaze or coating to rub or crack off. Careless treatment won't mar their lasting beauty, for Monel Metal* is strong as steel.

Have you received your copy of the new Monel Metal Sink and Top catalog? If not, just write for one today.

THE INTERNATIONAL NICKEL COMPANY, INC., 67 WALL ST., NEW YORK,

N. Y.

*Monel Metal is a registered trade-mark applied to an alloy containing approximately two-thirds Nickel and one-third copper. Monel Metal is mined, smelted, refined, rolled and marketed solely by International Nickel.



● Monel Metal Sinks and Cabinet Tops are now available in 45 standardized models, including 12 sizes of sinks from 48" to 112", and 12 sizes of cabinet tops from 15" to 84". Cabinet tops and cabinet sinks are uniform in design and finish. Left: Double drain board Monel Metal Cabinet Sink.



A Prize for Beauty and Praise for Durability

Here is what Mr. Fuller writes about his house for which he was awarded the Certificate of Honor by the Southern California Chapter of The American Institute of Architects in 1930:

"The use of Cabot's Old Virginia White and Cabot's Creosote Shingle Stain was I believe instrumental in producing the charm which lead the jury to make this award.

"The building is now about three years old and the surfaces are as well preserved and in as good condition as when newly finished. I am very well pleased with the finish and durability of your products and specify them at every opportunity."

Whether the house you are building is brick, stone, stucco or wood, Cabot's Collopakes and Cabot's Creosote Stains will give it a beautiful and durable finish. Write us for full information about Cabot's Old Virginia White, DOUBLE-WHITE, Gloss Collopakes, Interior Flat Collopakes and Stains.



Residence at Los Angeles, California. Leland F. Fuller, A.I.A., Architect and Owner. Cabot's Old Virginia White on side walls, DOUBLE-WHITE on exterior brick, Cabot's Creosote Shingle and Wood Stains (Dark Blue) on roof.

Cabot's Collopakes

Modern Scientific Colors for Every Paint Use

Samuel Cabot
Inc.

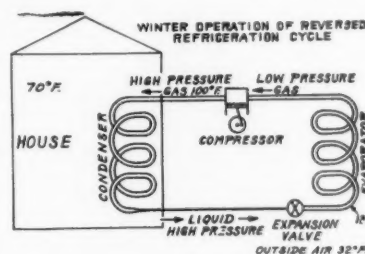
Manufacturing Chemists
141 Milk Street
BOSTON, MASSACHUSETTS

Please send me Color Card and full description of Cabot's Stains and Collopakes.

Name

Address AA-3-333

• "Reversed refrigeration," or the process of heating a house in winter by means of the same equipment that cools it in summer, is an idea which is being carefully investigated by Westinghouse air conditioning engineers.



In summer, air conditioning equipment absorbs heat from inside the house, pumps it to the outside and discards it. In winter the cycle is reversed; heat is picked up from the outdoors and

brought inside to warm the house. Coils inside the house which absorbed heat in the summer become radiators, while the outside coils absorb warmth from the outside air instead of throwing off heat. It seems a paradox to get heat from the cold outdoors to warm a house, but the explanation lies in the fact that the atmosphere is only relatively cold; even zero F is some 460° above absolute zero. An experimental installation has heated an ordinary frame house satisfactorily in winter. However, there are many problems yet to be solved before reversed refrigeration equipment will be practical.

• Modern art now has its own gallery in the Pennsylvania Museum of Art, which will become, in effect, a forum for living artists. The project was made possible by a grant from the Carnegie Corporation of New York.

• Rotch Traveling Scholarship preliminary examinations will be held April 3, the *en loge* sketches April 10 and 12, and the finals April 15, in Boston, Massachusetts. Registrations close April 1. Requirements are: two years experience in the employ of a Massachusetts architect, or one year of such employment and two years work in an approved school; under thirty years of age. Apply to C. H. Blackall, secretary, 31 West Street, Boston.

• Architects have been helping Chicago climb out of its tax muddle. Eight architects have served on an advisory committee of citizens, appointed by the County Appraiser of Cook County. Tirrell J. Ferrenz was appointed senior deputy building assessor and was responsible for the valuation of all buildings over nine stories in height. He built up a temporary staff of some twenty-eight men, mostly architects, engineers, draftsmen and estimators, which developed a remarkable *esprit de corps* and was the only group to finish on scheduled time. At one period thirty registered architects were employed in the whole office and about twenty others were called in at times for special council. Values were reduced from twenty to thirty per cent and everybody is satisfied that the new valuations, for the first time, are fair and equitable.

• Students of unusual promise in architecture and all branches of music and art may compete for the Kate Neal Kinley Memorial Fellowship, offering one academic year of study at home or abroad. Candidates must be graduates of an institution equivalent to the College of Fine and Applied Arts of the University of Illinois. Applications should reach Dean Rexford Newcomb at Urbana, Ill., before April 1, 1933. (Cont. on page 114)

Heating Practice *and Hospital Facilities* improve through the years

JOHNSON HEAT CONTROL

contributes to that improvement

. . . continual advancement and
careful study of ever-
changing requirements
over a span of nearly
HALF A CENTURY



Johnson equipment in hospitals effects automatic regulation of heat in operating rooms, patients' quarters, administrative offices, and service spaces. Thermostats are fitted with various types of adjusting mechanism, enabling nurses to vary temperatures to suit all conditions.

Special applications of Johnson heat and humidity control devices are arranged for oxygen chambers, incubators, sterilizers, and special purpose rooms.

AUTOMATIC TEMPERATURE CONTROL SINCE 1885

JOHNSON SERVICE COMPANY

Main Office and Factory

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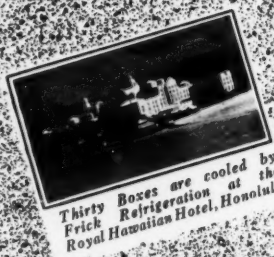


JOHNSON

HEAT CONTROL



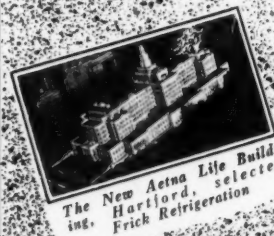
Refrigeration at the Harborview Hospital, Seattle, is supplied with Frick Carbon Dioxide Equipment



Thirty Boxes are cooled by Frick Refrigeration at the Royal Hawaiian Hotel, Honolulu



Three Frick Plants care for the Refrigerating Load at Girard College



The New Aetna Life Building, Hartford, selected Frick Refrigeration

Why



Refrigeration

is selected for such Buildings as these

1. Because a Frick Plant provides Refrigeration service in any form desired—for cooling refrigerators, making ice and ice cream, conditioning air, supplying cold drinking water, aiding in research work, etc.

2. Because scores of similar institutions over the world testify to the reliability, safety and economy of Frick Refrigerating Equipment.

3. Because Frick Branch Offices and Distributors are located in more than 80 principal cities, ready to give prompt sales, engineering and maintenance service at all times. Your inquiry will receive expert attention.

Frick Company
WAYNESBORO, PA. U.S.A.
ICE MACHINERY SUPERIOR SINCE 1892

• The Architects League of Northern New Jersey has received in trust a fund of \$5,000 under the will of the late Anton L. Vegliante, architect, of Garfield, New Jersey, the income of which is to be used to make an annual award to some member of the League who has distinguished himself during the preceding year in the architectural world, or who, because of his achievements and accomplishments, merits such an award. This recognition is to be known as the Vegliante Memorial Award.

• Philadelphia is staging a "Renovize Campaign" under the direction of the local Federation of the Construction Industry. A survey by that organization indicates there is \$20,000,000 building rejuvenation work immediately needed and the campaign managers are striving to get it under way.

• For years a famous New York hotel pumped "spring" water out of its basement, using it for cooling water for the refrigerating plant. It was also used for drinking purposes in the basement quarters and much was said about its excellent taste, its purity, etc. After 20 years, however, the flow increased enough to become a nuisance, and an investigation was made. It developed finally that the "spring" was really a leak in a huge water line in the street. The leak, thus discovered, was repaired, and now the hotel has to pay for its cooling water.—*Buildings and Building Management.*

Architects in Public Life

• Mayor of Madison, Wisconsin, is the honor conferred upon James R. Law, A.I.A., of the firm of Law, Law and Potter as a result of the election last November of Madison's Mayor as Governor of Wisconsin. Mr. Law will hold the office of mayor until the city election in April. Perhaps he will be nominated and elected for a regular term at that time.

• Last November, O. R. Bean, A.I.A., of Lawrence, Holford, Allyn and Bean, architects, Portland, Oregon, was elected City Commissioner. Public service is not new to Mr. Bean for he has served on the advisory board of the Portland Housing Code, the City Planning Committee of the Portland City Club, Board of Appeals and committee of the Oregon Building Congress.

• On December 14, 1932, the New York Building Congress gave a luncheon in honor of the appointment by Joseph V. McKee, Acting Mayor of the City of New York, of Harris H. Murdock, A.I.A., as chairman of the Board of Standards and Appeals. Mr. Murdock's appointment of this important post has the wholehearted endorsement of the entire building industry in the New York metropolitan area.

• No doubt there are many other architects throughout the United States who are actively engaged in varied forms of public service. The above are but three who have come to the attention of the editors. It is an encouraging sign for architects and architecture when men of this profession take prominent part in government affairs.

Make
BEAUTY
and
SERVICE
lasting!



NATIONAL USS PIPE AND TUBES

Architects find new and interesting possibilities in the use of NATIONAL U S S 18-8 Stainless and Heat Resisting Pipe and Tubes. Wherever either ornamental or structural elements may be fabricated or fashioned from metal tubing, and wherever permanence of lustre and of beauty as well as of service is desired, these widely

adaptable chromium-nickel alloy seamless tubes will reward inquiry. A wide range of diameters and wall-thicknesses as well as different shapes are offered, and various beautiful finishes are available for different effects. Correspondence is invited. Descriptive literature and other pertinent information will be supplied on request.



NATIONAL TUBE COMPANY
Frick Building, Pittsburgh, Pa.



SUBSIDIARY OF UNITED STATES STEEL CORPORATION

PRINCIPAL SUBSIDIARY MANUFACTURING COMPANIES

AMERICAN BRIDGE COMPANY
AMERICAN SHEET AND TIN PLATE COMPANY
AMERICAN STEEL AND WIRE COMPANY
CARNEGIE STEEL COMPANY

COLUMBIA STEEL COMPANY
CYCLONE FENCE COMPANY

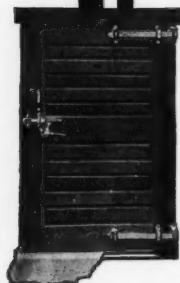
ILLINOIS STEEL COMPANY
NATIONAL TUBE COMPANY

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PERSONALS

- Rudolf H. Blatter announced the opening of an office for the general practice of architecture on February 1, 1933, at 435 Kenwood Avenue, Delmar, New York.
- Joseph R. Fallon and E. E. Mills, architects and engineers, announce the opening of their office at 509 First National Bank Building, Richmond, Indiana.
- John H. Pritchard has opened an office for the practice of architecture at Call, Texas. Manufacturers' catalogs are desired.
- A. E. Klueppelberg, architect, has moved his office from 69 West Forty-sixth street to 5 East Forty-fourth street, New York City.
- William Gehron and Sidney F. Ross have announced that their partnership was dissolved as of October 28, 1932. Since that date they have been practicing as individuals. The address of each is the same as before, 101 Park Avenue, New York City.
- Nat. O. Matson, architect has opened a new office at 167 Mamaroneck Avenue, White Plains, N. Y.
- Goodwillie and Moran announce the removal of their offices from 56 West 45th St., to 370 West 126th St., New York City.
- Oscar Euphrat, Cincinnati, Ohio, died on February 2, 1933. Mr. Euphrat was President of the American Institute of Quantity Surveyors.
- Addison Mizner, architect, Palm Beach, Fla., died on February 5, 1933 at the age of 62 years. His development at Boca Raton, the Everglades Club and the Ritz Carlton Cloister on Lake Worth are among the well-known works built under his direction.
- Rapp & Meacham, architects, have moved their offices to Room 1100, Times Star Tower, 800 Broadway, Cincinnati, Ohio.
- Kemper Goodwin, architect, has opened an office at 208 Kangerga Building, Henderson, Texas. He desires manufacturers' samples and literature.
- Alvin E. Harley and Harold S. Ellington announce the formation of the firm of Harley and Ellington, Inc., architects and engineers, 1507 Stroh Building, Detroit, Michigan, for the general practice of architecture and engineering.
- Hugh Clinton Porter and G. Harmon Gurney announce the formation of a partnership for the professional practice of architecture under the firm name of Gurney and Porter, 6 East 45th Street, New York City.
- Edward Lippincott Tilton, F. A. I. A., died of pneumonia January 5 at the age of 71 years. He was noted as both architect and archaeologist. He was formerly associated with the firm of McKim, Meade and White and later formed a partnership with William A. Boring, now dean of the School of Architecture at Columbia University.
- George Willard Conable, A. I. A., died of heart disease January 2 at St. Petersburg, Florida at the age of 66 years. He was long an active member of the Brooklyn Chapter, A. I. A., and in recent years was associated with Robert T. Schirmer and Julius W. Schmidt at 1440 Broadway, New York.

(Continued on page 118)



A "Down-East" Colonial house from February Good Housekeeping. N. Stanwood Phillips, A. I. A., Architect

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• George F. Hackney has opened an office for the practice of architecture at 206½ N. Corcoran Street, Durham, North Carolina. He would like to receive manufacturers' catalogs.

• Paul G. Silber & Company, architects and engineers, announce the removal of their office to 101½ W. Pecan Street, San Antonio, Texas.

• William T. Nakayama is now associated with Harry Sims Bent, architect, 3115 Diamond Head Road, P. O. Box 1208, Honolulu, Hawaii. Mr. Bent is Honolulan representative of Mayers, Murray & Phillip, architects of New York City. Manufacturers' catalogs and samples requested.

• The firm of Hall, Stromquist & Rice, architects, with offices at 175 W. Jackson Boulevard, Chicago, Illinois, has been formed to succeed the firm of Emery Stanford Hall, Bisbee and Rhenisch. The principals of the firm are: Emery Stanford Hall, F. A. I. A., Victor H. Stromquist and Nelson P. Rice. Mr. F. Harris Wells is associated as structural engineer.

Odds and Ends

• Technocracy, one of the principal topics of the day, seems to resolve itself into a lot of statistics, the collectors of which now wonder what use to make of them. Technocracy has at least made a lot of people think. And that is something!

• Correspondent writes, "My poor head is filled with articles about technocrats, etc. It is like the old story of overproduction in the automobile business. If you recall there have been three or four occasions when we passed the saturation point. But just before we dismantled our automobile plants, business picked up and we built another million or so."

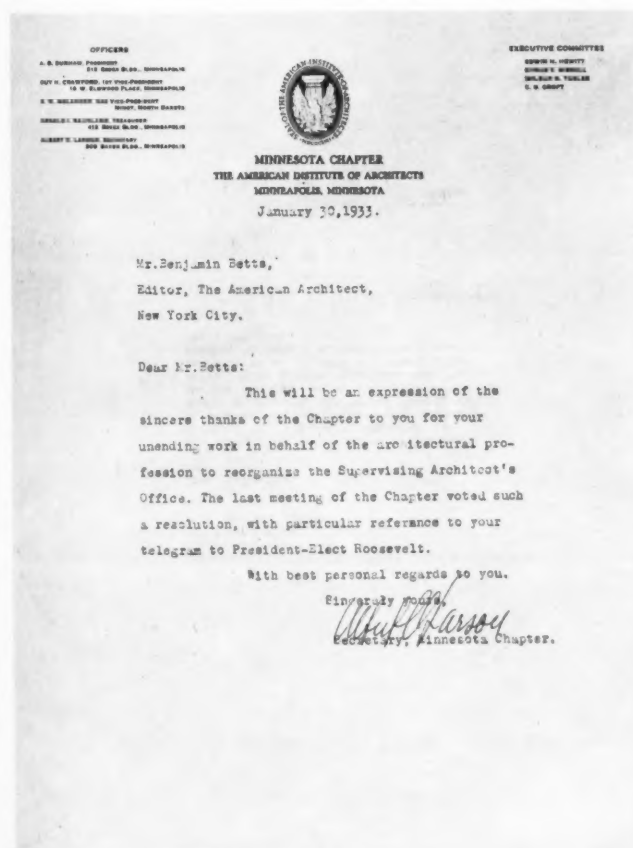
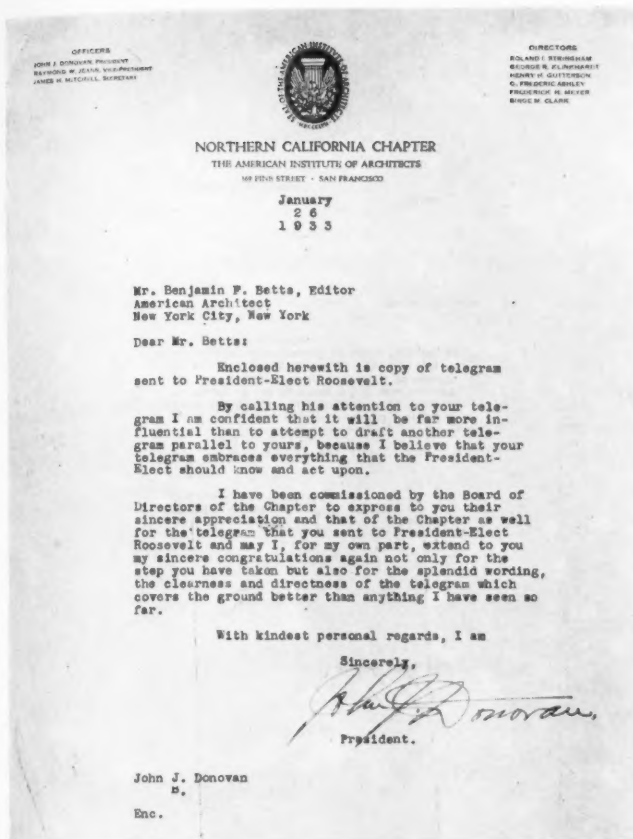
• H. I. Phillips, author of the Sun Dial column in the New York Sun, referring to Radio City says, "And all about the great center there will be gardens, malls, grottoes, pools, fountains, statues and paintings of fauns chasing nymphs from pillar to post and from post to microphone."

• The depression, among other things, has sent a lot of people out-of-doors. A sporting goods dealer states that he has noticed a marked increase in the demand for out-of-door clothing—men's, women's and children's. Out-of-doors . . . woods . . . camps! Isn't this a good "market" for the services of many architects?

• In the New York Herald Tribune, F. P. A. says, "As we understand it, some of the industries are going to begin all over again by throwing their machinery into a lot of monkey wrenches."

• If architects would solve the problem of getting small jobs the larger jobs would come easily and of themselves. The small jobs are the hardest to get.

• A woman recently remarked that her house was built with a lot of profanity and some concrete.



AMERICAN ARCHITECT

is proud to reproduce the accompanying resolutions from the Northern California Chapter of the A. I. A. and the Minnesota Chapter of the A. I. A.

● A vigorous editorial policy has brought to AMERICAN ARCHITECT a well deserved leadership ● This policy is responsible for the fact that more architects in the United States subscribe to AMERICAN ARCHITECT than to any other architectural magazine

Improve Acoustics WHEN YOU MODERNIZE

*Here's a practical way
to increase rentals*

YOU'LL agree that a large part of the 1933 building activity will come from remodeling.

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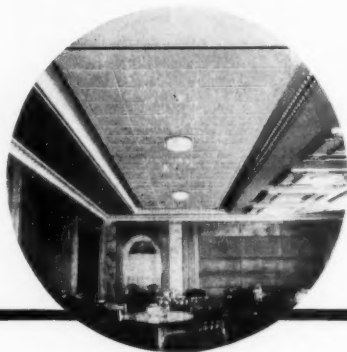
Bring your files up-to-date with a copy of the new A. I. A. booklet, "Armstrong's Acoustical Products." Armstrong Cork & Insulation Company, 936 Concord Street, Lancaster, Pennsylvania.

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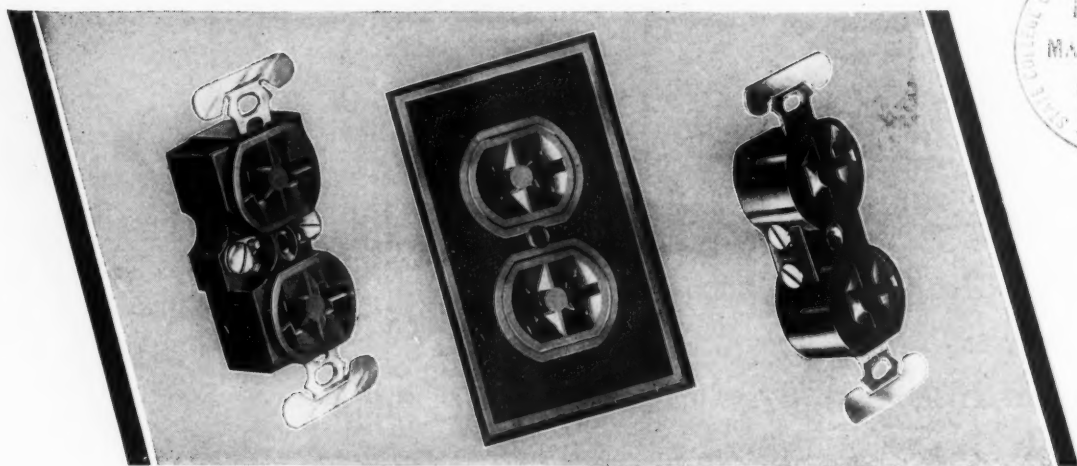


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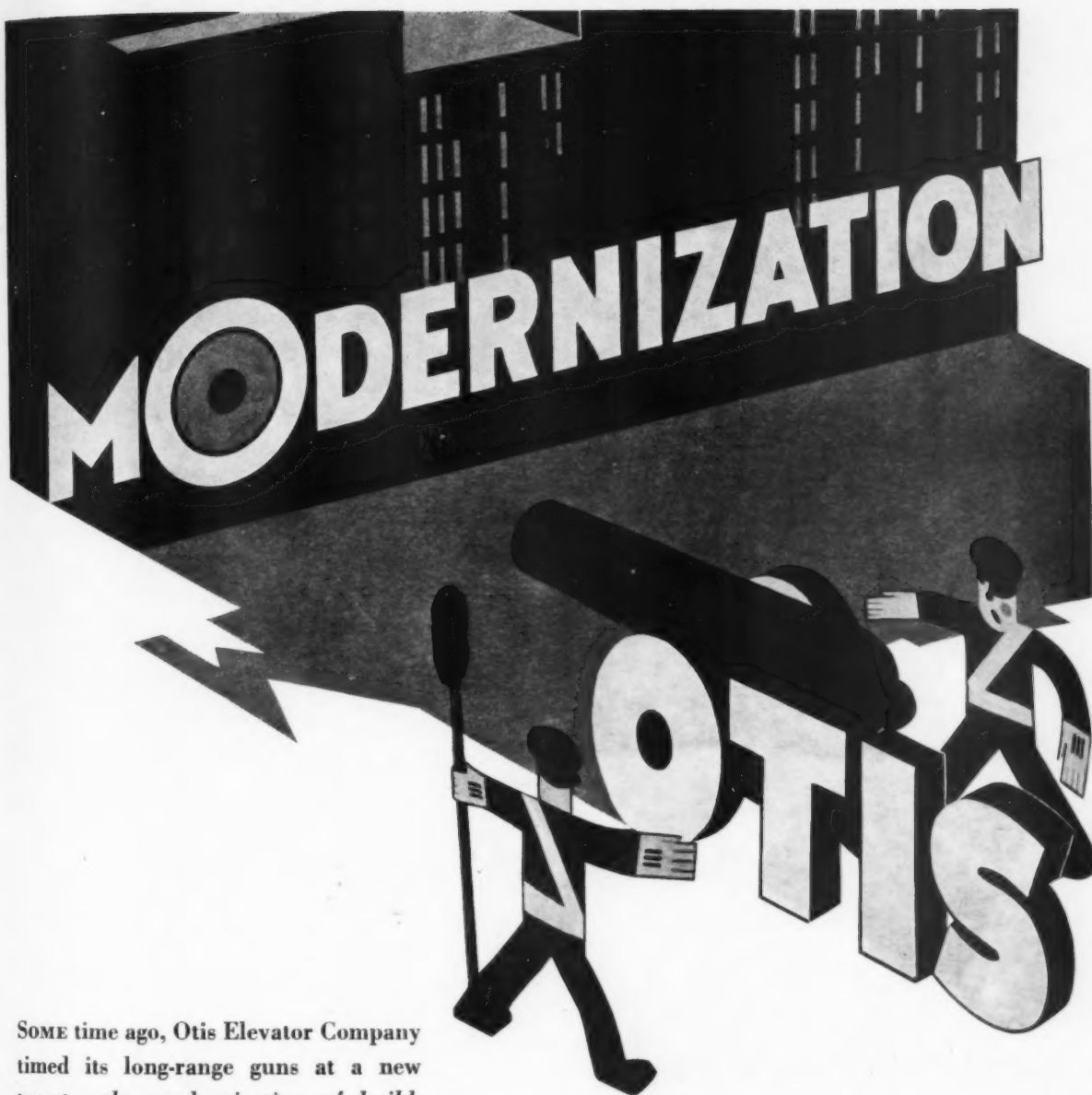


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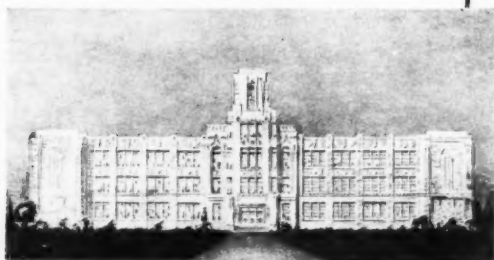
are some recent contracts for the elevating of four and five story walk-up apartments. One building owner writes that he easily filled nineteen vacancies on upper floors as soon as the elevators were installed.

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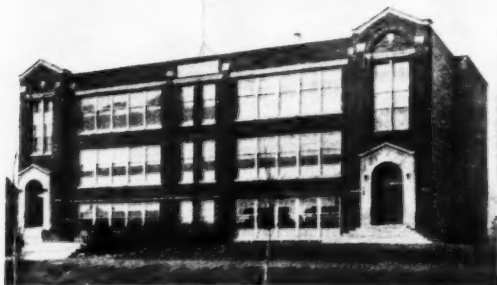
Modutrol System SELECTED IN MILWAUKEE SUBURB AFTER COMPETITIVE TEST

■
The Nathan Hale Junior High School, West Allis, Wis.
Lindl & Schutte, Inc., Milwaukee, Architects; H. M.
Miller, Milwaukee, Heating Engineer; S. V. Hanley
Co., Milwaukee, Heating Contractor; Jozo Construc-
tion Co., West Allis, General Contractor.



The Modutrol System of temperature control was selected for this new Milwaukee suburb school following exhaustive tests at the challenge of competitors, and which clearly proved the Minneapolis-Honeywell claim of true modulation necessary for satisfactory control results.

The Woodrow Wilson School, where competitive tests were run concurrently in identical rooms and under the supervision and direction of the West Allis Board of Education.



BOARD OF EDUCATION CITY OF WEST ALLIS WEST ALLIS, WIS.

Dec. 6, 1932

Minneapolis-Honeywell Regulator Co.,
Minneapolis, Minn.

Gentlemen:

Last night the School Buildings, Grounds and Supplies Committee recommended the change in the specifications on our new Nathan Hale Junior High School from the pneumatic system of temperature control specified to your electrical control. This recommendation was made after a six weeks intensive competitive test held by the Committee at our Woodrow Wilson School. The Board accepted and approved the recommendations unanimously.

Outside of the slight difference in cost, in my opinion, the one feature brought out in the tests which led the Committee to make this change was the uniform discharge temperatures which you produced. I believe that with this uniform discharge temperature we will eliminate drafts which have been a weakness in our heating and ventilating systems.

You will undoubtedly receive the official notice of the changes made within a day or two from the Secretary of the Board.

I wish to take this opportunity to personally thank you, the men working out of the Milwaukee Branch and all employees of your Company who contributed in making this test, for the fine cooperation and spirit shown the Committee.

Yours very truly,

Porter Redcliff

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