

p PROGRESSIVE **a** ARCHITECTURE

newsletter

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June 1949

- Inability of administration to gain headway with its legislative program makes doubtful passage of health and education measures which would have affected construction. Whether housing bill can survive attacks and present congressional mood is questionable.
- Jones & Laughlin and Carnegie-Illinois announce new steel-making process by "turbo-hearth" method. Vessel is partly enclosed, side-blown, refractory-lined, and is claimed to combine advantages of both open hearth and Bessemer processes.
- Although fabricated structural steel bookings for March showed increase over January and February, three months' total is below 1948 figure. Backlog is 14,000 tons lower than last year.
- CAA has issued its "National Airport Plan" for 1949, listing 4977 locations at which airports should be constructed or improved on the basis of existing and anticipated demands for air service. 2794 of the suggestions are for completely new airports; 2183 are for improvement or development. Federal funds will be available to supplement local sponsor's moneys, as Congress appropriates them.
- Composite aluminum and mild steel rivet has been developed, to prevent electrolytic action when aluminum surfacing is applied to steel purlins or girts.
- Ingersoll Utility Unit Division of Borg-Warner has suspended operations. Their packaged unit, including kitchen, bath, and heater facilities, holding much promise a few years ago, has failed to meet the present economy demand for minimum units.
- Competition for cemetery monument of modest cost has been announced by Monument Builders of America, Inc., twenty-four prizes--first prize \$500. Entries are due August 1.
- First project of the recently reported Building Research Advisory Board will be survey to find why modular coordination "has not yet found wider practical use, despite its extensive technical development."
- Research project of Bituminous Coal Research, Inc., recently studied action of four chimney types--two of common brick, one of prefab lightweight materials, one of experimental double-wall construction. Chimney efficiency varied only slightly with materials used. Old factors of height, area, shape, etc., were controlling. Report can be had from B.C.R.
- Concrete masonry units are increasing in importance, particularly in housing, all over the country. HHFA reports this observable fact, with a bulletin pointing out that use of lightweight aggregates (reducing weight of 8" x 8" x 16" unit from 40-50 pounds to as low as 22 pounds) has spurred use of this material.
- In fact, masonry is still playing a big part in construction, despite interest in newer materials. Significant is the

(Continued on page 2)

- changing of name by Metropolitan Paving Brick Co. of Canton, Ohio, to Metropolitan Brick, Inc., reflecting the dropping off of demand for highway pavers and increased demand for brick as a structural material. Brick and tile production is running well ahead of last year's postwar record output.
- New York bricklayers have signed agreement for one year with no increase in pay. This trade was not included in last year's wage stabilization agreement. New contract covers 7000 bricklayers in metropolitan area, calls for seven-hour day, 35-hour week, and basic wage of \$3.20.
- Sloane-Blabon has reduced asphalt tile prices 3% to 9%, depending on color group. Hachmeister, Inc. announces 8% to 18% reduction in wholesale costs of Hako Asphalt Tile, F.O.B. Pittsburgh. This is a development from court decision on freight equalization, which has recently been reaffirmed by Supreme Court.
- Carnegie-Illinois and National Tube announce reductions averaging \$1.25 per ton for zinc-coated products such as sheets, pipe, etc.
- New York City is spending \$50,000 on radiant heat installations under important street intersections. Initial cost will presumably be made up by economies in snow removal costs.
- Los Angeles is going ahead with plans to build an underground garage in the central city park. Bids were recently opened, with the idea that the successful bidder will lease the land, construct the parking facilities, operates them for fifty years, and then turn the garage over to the city.
- Durisol, Inc., having built its own plant of its own material at Beacon, N. Y., (P/A, April, 1949) is now utilizing the material for planned industrial development in that area. Durisol-New York Industries offers 17 industrial building sites, each to be rented or sold with a one-story building constructed of Durisol units, with financing and special design available. Fletcher-Thompson, Inc. will design the buildings.
- FHA reports activity in cooperative housing projects, in various locations. New regulations permit cooperative groups to file applications for analysis before arranging financing.
- A poll taken in Cleveland suburbs asking whether people would rather have local shopping centers or better and quicker ways of getting downtown resulted in 566 votes for near-home shopping, 66 for improved transit to downtown shopping.
- Construction Industry Information Committee reports survey which shows 2.8 million new rental units built since 1940, but 3 million units removed from rental market by purchase for owner occupancy.
- Urban Land Institute criticizes recent garden-apartment developments for stereotyped design and poorly located parking. Improving land use and living amenities of this type of dwelling, Seward Mott, U.L.I. Director, notes "buyer's market" appearing in many parts of country, and points out, "A gridiron plan; treeless, muddy streets, miles from employment, schools, and grocery store; and drab rows of cracker boxes are no longer acceptable." Architects doing this work might want U.L.I.'s review for added argument with reluctant clients.

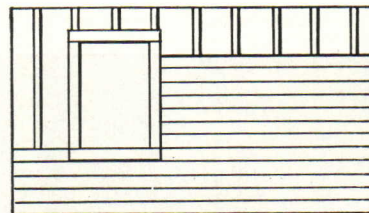


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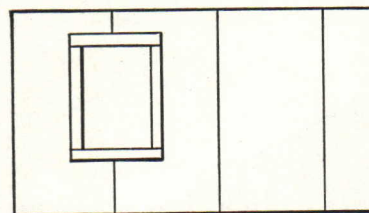


up to 8' x 14'

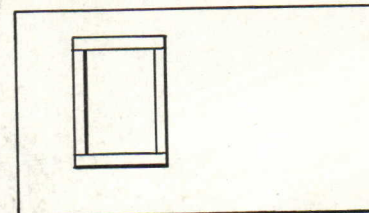
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With 4' x 8' material—3½ pieces in 14' of wall length



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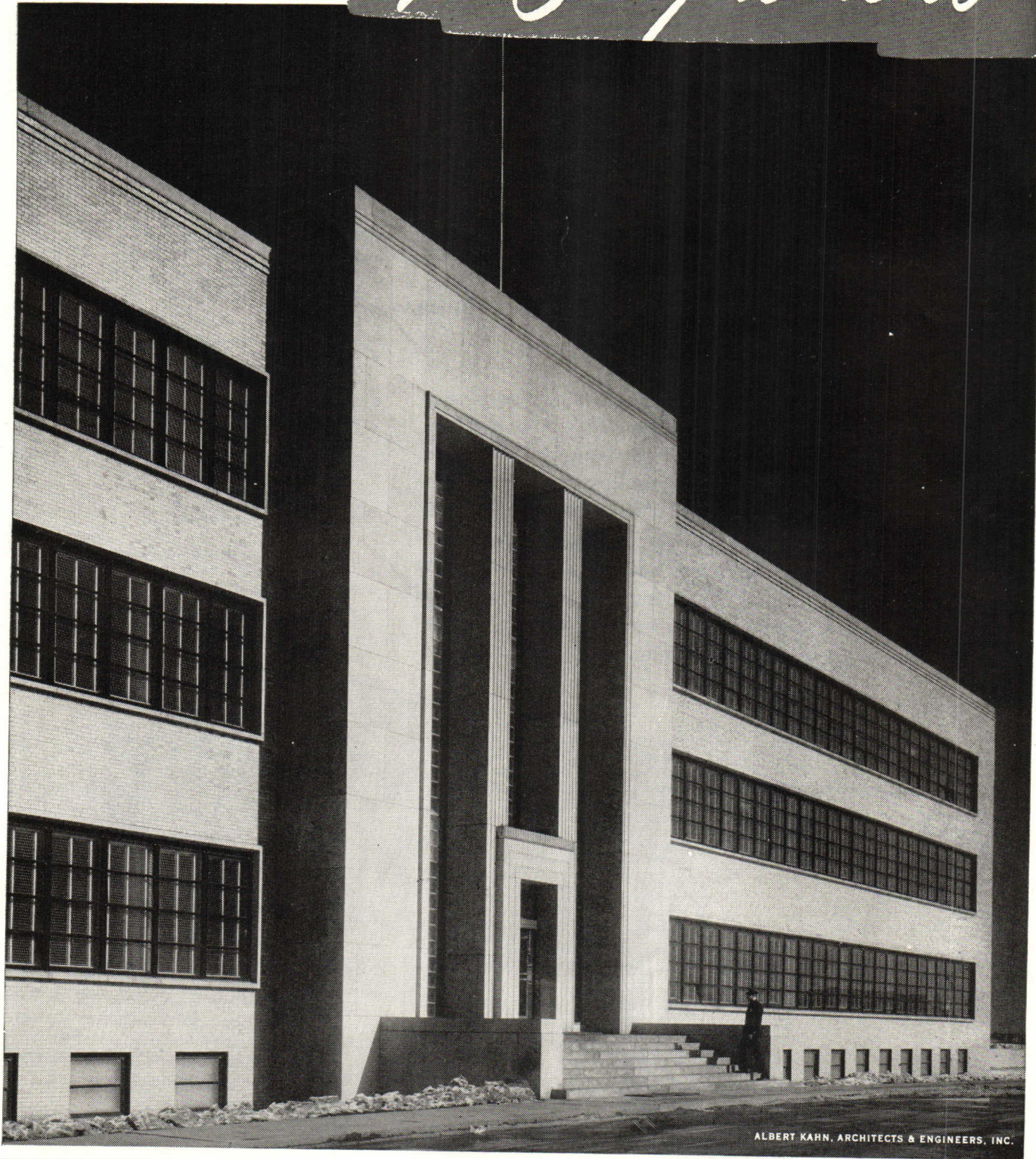
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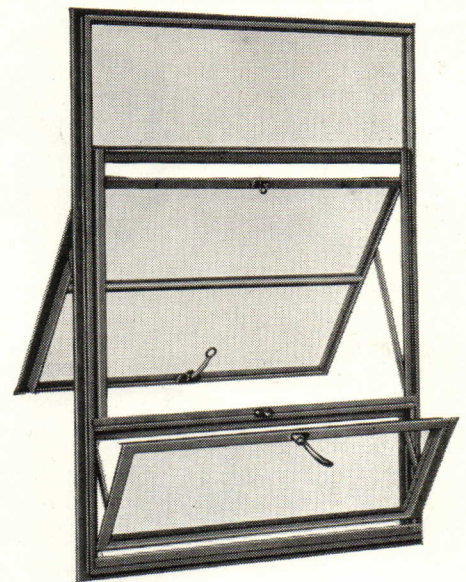
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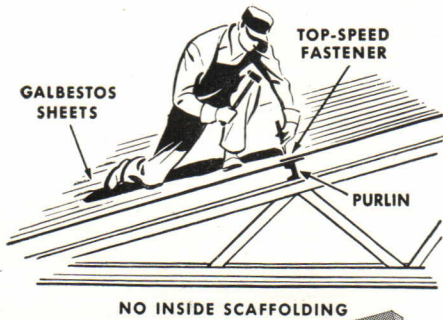
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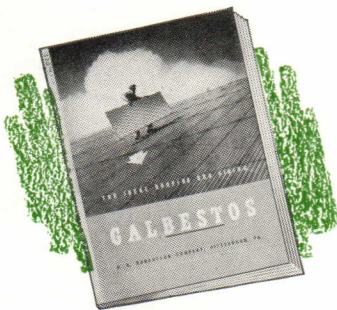


The only way to keep costs down in the face of rising materials and labor prices is to use timesaving methods and construction materials.

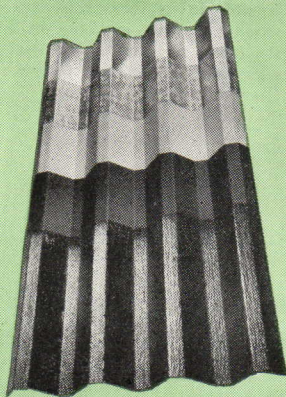
1 **TOP-SPEED FASTENING*** is a faster method of attaching roof and side to steel framework. It results from a new group of tools, Top-Speed Fasteners. *This system is so fast that the same number of men in the same time can apply twice as much material.* All work is done entirely from the top-side, eliminating all interior scaffolding. Write for the booklet that explains in detail the great saving of Top-Speed Fastening.



2 **GALBESTOS** is protected sheet steel. The details of its unique construction are explained in the box below. Please note here that you should familiarize yourself with Galbestos because its use reduces the number of purlins, reduces the amount of structural steel needed. Also, it requires no painting and is so durable that maintenance is virtually eliminated. The choice of colors and surfaces of Galbestos provides you a chance to get new design into industrial buildings. Write for the facts on how Galbestos reduces cost of roof and sides.



Galbestos is listed and classified by Underwriters' Laboratories and the Associated Factory Mutual Laboratories



Lock your fingers like this picture. It will give you an idea of how asbestos fibers are locked into the very core metal of Galbestos. We call this bond the Galbestos Grip. It is a unique development of Robertson research.



So inseparable is the bond that Galbestos can be worked on ordinary sheet-metal shop equipment. By worked, we mean crimped, rolled, sheared, bent and riveted like unprotected metal.

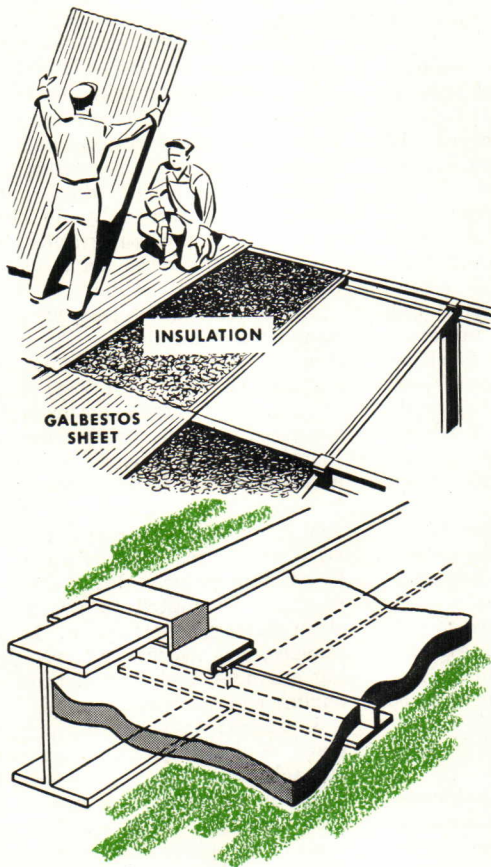


Asbestos is fused to sheet steel by a metallic alloy. The myriad rock-born fibers are literally imbedded in metal. The asbestos is impregnated with asphalt and waterproofed.



Galbestos comes in standard roofing and siding sheets up to 12 feet by 33 inches; maroon or black finishes; flat or in several corrugations; for use over steel skeleton framework. Would you like to see samples?

Lower Costs

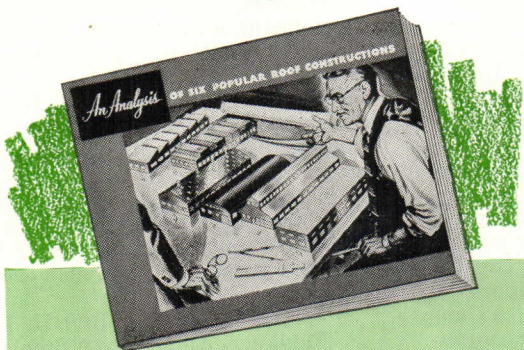


3 **TOP-SPEED INSULATION*** is a structural method developed by Robertson in which insulation can be applied entirely from the outside just before the roofing or siding is applied. Insulation is being required for industrial buildings as never before. Note this: if you build with Top-Speed Fastening and Top-Speed Insulating, you save so much labor cost that it pays for the labor of installing insulation. Therefore, you can insulate merely for the cost of the material. Robertson uses insulation which has good acoustical value. No straps or other fasteners mar the appearance. It can be painted but it makes such a good-looking, smooth job that many owners leave it unpainted. Write for the booklet on Top-Speed Insulation.

4 **ROOF DESIGN** can directly reduce cost. An independent engineering study performed on six roof designs has proved that some roofs reduce over-all building costs more than others. This study compiled figures on amount of steel required, labor, erection time, maintenance. It considered every factor: such details as alternate materials; maximum use of natural daylighting; maximum use of gravity ventilation. This complete study—an original contribution to construction knowledge—is now the exclusive possession of the Robertson Co. Write for your copy of the complete compiled work.

All figures are based upon the true and available costs of today. They will help you make estimates that stick. Write for your copy.

*Patent Pending



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LIKES THE PROGRAM

Dear Editor: This office has received the notice regarding the architectural competition for the proposed headquarters building of the U.S. Junior Chamber of Commerce to be located in Tulsa, Oklahoma, as sponsored by Servel Inc., and General Portland Cement Company.

It will not be possible for this firm to participate in this competition, but we feel that it will be most helpful not only in securing the best possible design but will also serve to show the general public how to handle a competition of this kind in a manner that is fair and just to the participants as well as the owners.

This state has been plagued with so-called "competitions," based upon a program that rules out the services of a competent jury to pass on the merits of the designs submitted.

These competitions have always created disgust and disappointment with attendant recriminations, even when (by accident) the best design has been selected.

The writer has continuously urged the official boards of the state to make use of the A.I.A. program, but has never been able to secure their approval of same.

The program that you are carrying out will, we feel sure, get and deserve a lot of publicity. Its advantages and fairness will be prominently placed before the public, and future competitions may be influenced thereby.

LEONARD H. BAILEY
Bailey & Bozalis
Oklahoma City, Okla.

QUESTIONS AGE LIMIT

Dear Editor: On receiving notice of your competition, I was immediately interested only to note that the competition was limited to age 35.

As a charter member of the Seattle Junior Chamber of Commerce, I am forced to wonder what can be accomplished by so limiting the age.

Is the Junior Chamber of Commerce looking for the best design obtainable or for the best that can be done by the 21-35ers?

Certainly real talent has nothing to fear from us old guys, as Jack Benny puts it, 39.

PAUL THIRY
Seattle, Wash.

DON'T SACRIFICE CLARITY

Dear Editor: I assume that "Streamlined Specifications: Metals" (May 1949 P/A) covers the general require-

ments, workmanship, materials, etc., for the trade sections mentioned and that a separate specification will be written for each of these trade sections, describing in detail the construction and installation for each item required. The following comments are made on the above assumption.

1. Requiring contractor to submit duplicate copies of A.S.T.M. and federal specifications to architect: I believe this procedure should be reversed. If the architect refers to these specifications, I believe it is his responsibility to furnish them to the contractor upon request or at least have copies on file in his office so that the contractor may see them. My experience with reference to these specifications is that the manufacturers supplying the material usually have copies and are familiar with the requirements; general and subcontractors are seldom familiar with requirements and do not know where to obtain copies. This requirement would be very difficult to enforce in most localities.

2. Tailoring to fit specific jobs: If an architect attempted to use this entire specification for a job that required only structural steel, steel joists, and possibly a small amount of hollow metal work, it appears to me that a considerable amount of time would be required to alter this specification to fit a job of this type. If it were set up by sections, more flexibility would be obtained.

3. Form: It is my opinion that considerable clarity has been sacrificed in order to adhere to the abbreviated form throughout. Many paragraphs required reading over two and three times to get the meaning. I am sure that workmen on the job would have similar trouble. Furthermore, I honestly cannot understand what the author is trying to prove or what is to be gained by omitting a few well-placed words that would make the first reading clear to anyone. The amount of typing space can't be that important. In other words, I believe the same information can be conveyed much clearer and in approximately the same typing space. As an example, the last sentence of paragraph 5-(f) reads as follows: "Where exposed fastenings are unavoidable, they: same material, finish as parts joined, mallet to metal, finished to match color, texture of work to which applied." I believe similar sentences could be made clearer and still be considered abbreviated if written as follows: "Exposed fastenings permitted only where unavoidable; when used, make fastenings of same material, finish, color, and texture as metal to which applied and mallet thereto."

My conception of a good specification is not to see how short and abbreviated it can be made, but to see how clear and concise it can be made for the people

who are going to furnish the materials and construct the building. This also means that headings should be well organized to make reading easy and items easy to find. The lack of prominent headings in this specification makes it difficult to read.

Before a specification in this abbreviated form is offered to the profession, I believe that it should be reviewed by competent legal advisers familiar with the construction industry and contracts and their recommendations or findings published along with the document. I personally do not believe that some of the paragraphs as written could be considered legal and binding in case of legal action.

4. Non-ferrous metals, excepting aluminum: and aluminum: These specifications do not require any protective coatings to be applied. Paragraph 2-(b) requires that metals be protected in an approved manner during transportation, installation. For metals such as bronze and aluminum, it is usually customary to require that surfaces coming in direct contact with masonry, concrete, or structural steel be given a coat of bituminous paint and that other exposed surfaces be coated to protect it from stain during construction. In some instances, it is necessary to require covering surfaces with scotch tape or paper during construction.

5. Gages: It appears to me that in place of devoting an entire paragraph on each job to gages generally, it would be better to specify the gage along with each material. This would consolidate it all in one place and be less confusing. For example, in specifying gages for hollow metal door frames, "16 U.S.S. gage" will completely cover the gage used.

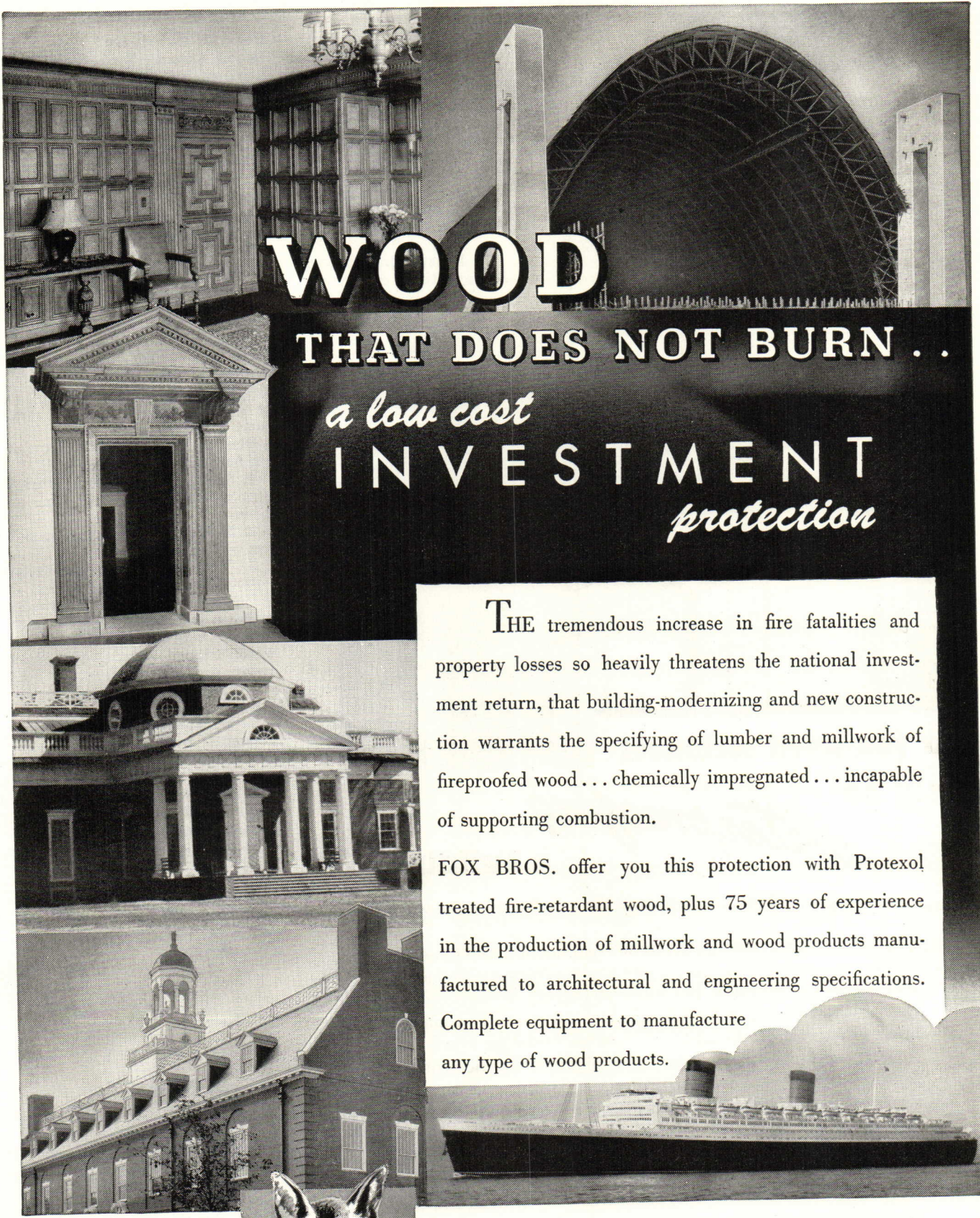
6. Value of this specification: In reading this specification, it is obvious that the author is very familiar with a complicated subject and that he has assembled a great deal of accurate information in one place. However, its value to me personally, if any, would only be for the purpose of reference or as a check list.

BEN H. DYER
Faulkner, Kingsbury & Stenhouse
Washington, D. C.

OFFICE COSTS

Dear Editor: We keep an accurate record of our time even to the extent of time spent on promotion and office routine. (See OFFICE PRACTICE, May 1949 P/A.) Our overhead is low, our profit is average, and our production costs

(Continued on page 10)



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Views

(Continued from page 8)

are high on some jobs, low on others—it all depends on the client. We treat them fairly and guide them to the best of our ability, but, in several instances, supervision of the job must be made to the extent of five and six calls weekly. For that reason, we have come to the conclusion that fees for residential work and all remodeling work should have as much proportioned for overseeing the job as the working drawing stage.

Perhaps because we do about the

only progressive design work in this vicinity there are more details for the contractor to learn and ask about.

We are fully appreciative of the section of P/A devoted to OFFICE PRACTICE and would like to see a discussion devoted to "How to Collect Delinquent Accounts" without the assistance of a lawyer.

ROBERT E. BUCHNER
Ramey, Himes & Buchner
Wichita, Kans.



Do you need technical help on *waterproofing* a building?

Your Sonneborn Man can help you. Here are some of the ways he might do it.

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Or, if the situation called for it, he might attack the problem from inside, with still another Hydrocide. This is a mastic, that stops water and acts as a base for plaster or concrete. You apply it inside, of course.

Then again, you may need help with below-grade water-proofing. Here, he may recommend a single troweled coat of another Hydrocide. It's as efficient as expensive conventional systems that call for as many as *five* layers of material.

Your Sonneborn Man can help you with problems in other fields, too. If you have a tough problem involving protective painting or concrete treatment, call him in. If you don't have his name, write us your problem direct.

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PAINT AND ACOUSTICS

Dear Editor: I read your article on "Home Acoustic Treatment" by Michael Rettinger (May 1949 P/A) and concur wholeheartedly on the essence of his treatise. Acoustic features for residential work have been too much neglected. It is quite important to design for sound absorption in the kitchen and other work areas and in the living and recreation areas.

However, we feel that Mr. Rettinger is not making a fair comparison on the effect that painting has on the various acoustic materials he tested. He bases his experiments on the use of oil paint entirely. As we all know, there are available water-thinned paints made especially for applying to acoustic surfaces, and we have found that the use of these paints does not affect the sound absorption qualities of acoustic plaster, to the extent that oil paint affects the same material.

There are three types of acoustic plaster now in use in this area.

1. Sabinite pumas aggregate: 56 percent average noise reduction per 512 cycles.

2. Perlite: 64 percent noise reduction per 512 cycles.

3. Vermiculite: 67 percent average noise reduction per 512 cycles.

On one particular installation of Vermiculite acoustic plaster which was applied here in Seattle, 14 coats of water-thinned paint were applied by spray process and this did not effect the noise reduction ratio mentioned above.

From the standpoint of cost, acoustic plaster is much more economical than tile to install. The square foot cost of acoustic plaster on metal lath and channels is 45 cents per square foot as compared to 90 cents per square foot for three-quarter-inch acoustic tile.

Aside from this one exception, we wish to say that articles of the type that Mr. Rettinger presents are an excellent thing for the building profession. These stir us into thinking about such vital problems in residential and other designs.

JAMES J. CHIARELLI
Chiarelli & Kirk
Seattle, Wash.

THE QUIET HOUSE

Dear Editor: I feel it a little difficult to make any comments about your article, "Home Acoustic Treatment" (May 1949 P/A). We have wished we could use more of it in the places where it is most needed—kitchen, bathrooms, and utility. But this is just the place where it is difficult to keep a material clean or dry. I wish you had gone into a more comparative discussion of the actual materials. How about grease? How about washing? Tiles with perforations or butt joints gather dirt. Acoustic plasters, as you point out, cannot be painted.

(Continued on page 12)



ARCHITECT:
Wyatt C. Hedrick, Houston, Texas.
CONSTRUCTION MANAGERS:
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Views

(Continued from page 10)

The problem is not serious in the living and dining rooms, especially where we can use thick pile carpet over sponge rubber padding. That in itself does a world of good. Even ordinary sand-finished plaster seems to me to be better than hard finish, though I have not been able to make any tests. And the curtains and upholstered furniture are a great help, too. It is seldom that I have actually felt the need of further acoustic treatment in living rooms and bedrooms, though I have used

it in hallways, nurseries, and for other problems.

But the kitchen, as I said, still needs more attention. Even if an acoustic tile is used on the ceiling, the floor, walls, and cabinets are so hard that the results are not all we would wish for. Or is there something I don't know about?

The article is very good and I hope that as a follow-up you may talk about actual materials and manufacturers.

L. MORGAN YOST
Kenilworth, Ill.

TOO STREAMLINED?

Dear Editor: It was with a great deal of interest that this writer read an article in the April issue of *PROGRESSIVE ARCHITECTURE*, "Don't Overlook the Engineering Specifications," by Terry and Napolitano. Among other things, the streamlining of specifications was mentioned. This writer quite agrees with the above-mentioned authors, insofar as avoidance of undue repetition in specifications is concerned, but does not agree with the common concept of the term "streamlined" as applied to specifications. Specifications are legal documents and, like all others, should be detailed and clearly explicit.

For many architects, particularly the younger element, specifications hold a very minor place, hence any such catch-penny phrase as the word "streamline" appeals to them mightily. It is highly suggestive of an extremely foreshortened product and "just as good." The stressing of design and the technique of planning has been such, of late years, that many architects lack training in the art of specification writing, with the result that many beautiful buildings throughout the country are physically faulty and cause severe maintenance cost loss to the owners thereof.

Then again, many within the architectural profession rely entirely too much upon "General Conditions" and accordingly streamline their technical specifications down to the bone. That type of specification will involve an owner in court procedure quicker than almost any other means.

The "General Conditions" of course have their place and also have value with relation to the whole; but without the support of a well-rounded-out and fully descriptive technical specification, a large percentage of their value is automatically discounted. To tell a contractor, as one illustration, that he must do thus and so with respect to some item of construction, where the method is not clearly defined in the technical specification and on the ground that the "General Conditions" require that "all work must be properly executed," is a sure breeder of trouble.

Then again, we have the sorry spectacle of states competing with each other in an attempt to speed up housing and in the hope of reducing their cost by streamlining building codes, also in the fear that if the states don't do it, the federal government will. What a travesty! Everyone in the building industry knows that the cost of building does not lie solely in the cost and character of the materials nor even in the established methods of construction. As a matter of fact, the cost of many materials has greatly decreased within the past few months. Has there been a corresponding reduction in any other cost factor? Then why pick on the building codes?

The fact of the matter is that both the old-line specifications and the build-

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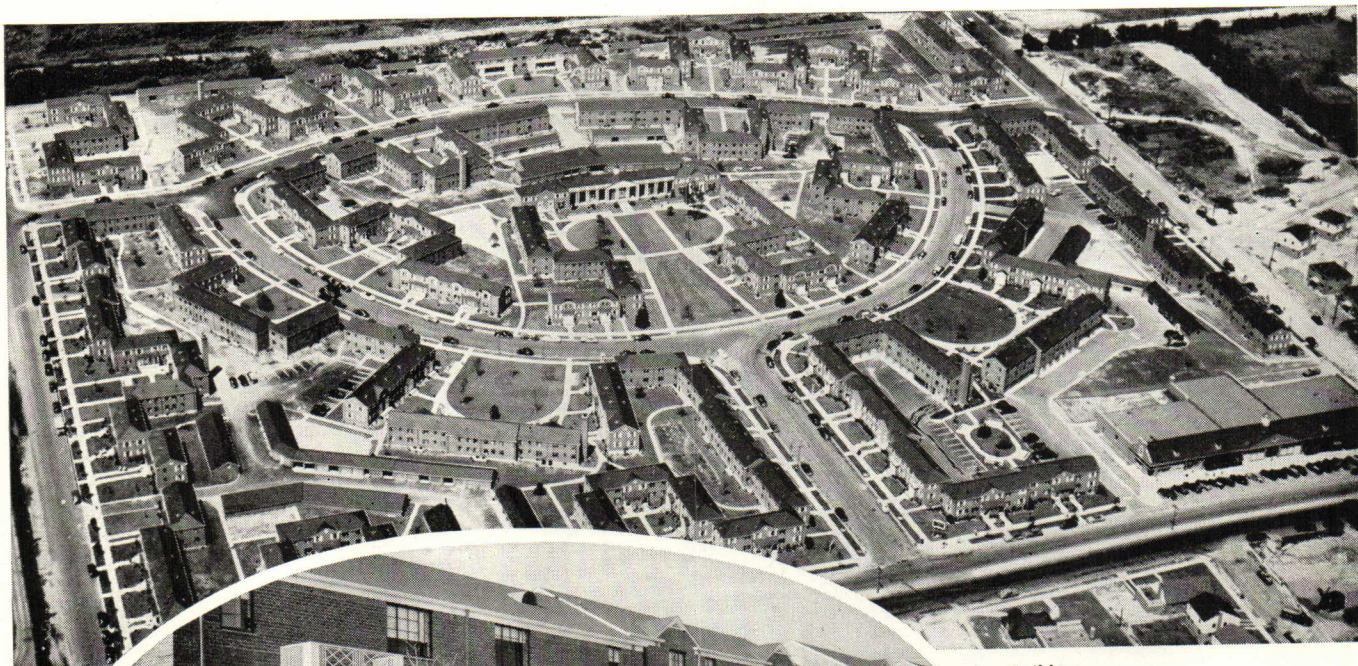
For hospitals, clinics and public institutions in general, ROMANY offers an exceptionally desirable wall surface. For ROMANY is real clay tile. Its hard glazed surface assures extra durability. Its colors are everlasting. And, no surface is easier to clean, more completely sanitary than ROMANY. For corridors, for rest rooms, for kitchens and dining rooms, wherever color and wear and ease of cleaning are wanted, there's no tile like real clay tile, and ROMANY is real clay tile.

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(Continued on page 14)



Builders:
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Architect:
Benjamin Braunstein, Jamaica, N. Y.

Engineer:
Wm. H. Dusenbury, New York City

Plumbing & Heating Contractor:
Louis Light, Rosedale, N. Y.

GLEN OAKS VILLAGE

(Initial Group)

... 576 families kept comfortable with
B & G Hydro-Flo HEATING

Here is a striking example of modern, large-scale housing. Glen Oaks Village, at 149th Street and Union Turnpike, Queens, New York, houses 576 families and is the forerunner of an even larger development.

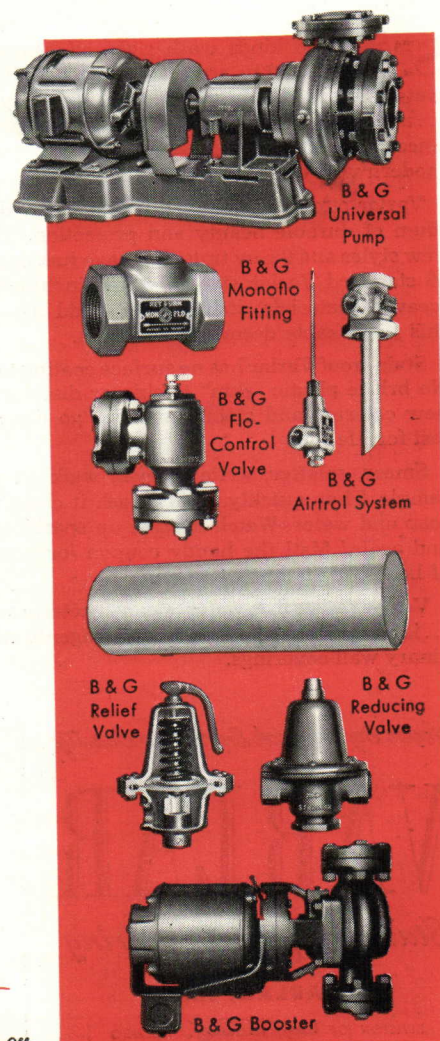
The heating system is a B & G Hydro-Flo System with single main piping equipped with B & G MonoFlo Fittings. 24-hour circulation is provided by *quiet operating* B & G Universal Pumps, controlled by indoor-outdoor bulbs. Sixteen boilers, located in eight boiler rooms are required to handle the 95,000 sq. ft. of cast iron, free-standing radiation.

Hot water for domestic use is furnished by B & G Unitem Heaters in semi-tankless type installations, equipped with bronze-bodied B & G Boosters to assure temperature control and proper circulation of hot water to the fixtures.

Equipped throughout with B & G Hydro-Flo Products

The following B & G Hydro-Flo products were required to make the heating installation in Glen Oaks Village:

35 Universal Pumps • 2850 MonoFlo Fittings • 32 Compression Tanks • 32 Airtrol Tank Fittings • 8 Airtrol Boiler Fittings • 16 No. 12 Reducing Valves • 16 Relief Valves • 80 Automatic Air Vents • 14 Bronze-bodied Boosters • 28 Flo-Control Valves • 32 Unitem Water Heaters.



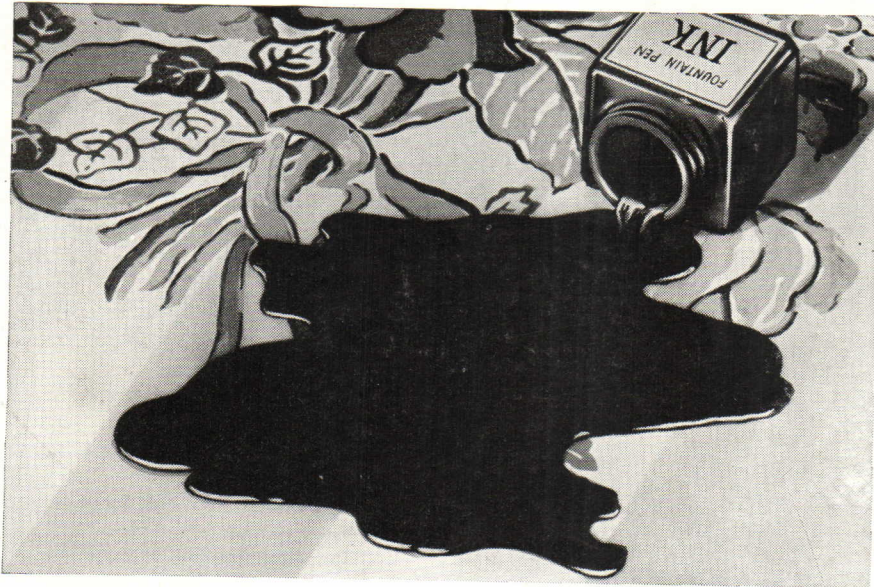
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*Reg. U. S. Pat. Off.

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Street.....

City..... Zone..... State.....

Views

(Continued from page 12)

ing codes have, over a long period of years, been built upon the solid rock of experience and regard for public safety and any letting down of the bars can only result in ultimate disaster.

Those who chafe under the not-too-severe restraints that good specifications and good building codes impose should be held in leash.

The severities of all specifications and all building codes are subject to mutual modification in the first instance and the building codes can likewise be made elastic by the setting up of boards of adjustment and appeal, charged with the power to waive or modify any provisions of the codes that might prevent the introduction of new materials and methods factually as good, which might otherwise become excluded.

The old adage "Don't monkey with the buzz saw" is today just as potent as ever.

C. GODFREY POGGI
Elizabeth, N. J.

NOTICES

SCHOLARSHIP

S. AGATHA TURNER, Lubbock, Tex., has been awarded the 1949 *LeBrun Traveling Scholarship* by the New York Chapter, A.I.A. Miss Turner, first woman to receive the scholarship in the 37 years it has been presented, will be awarded \$2800 and will travel outside the United States for at least six months for the study of architecture.

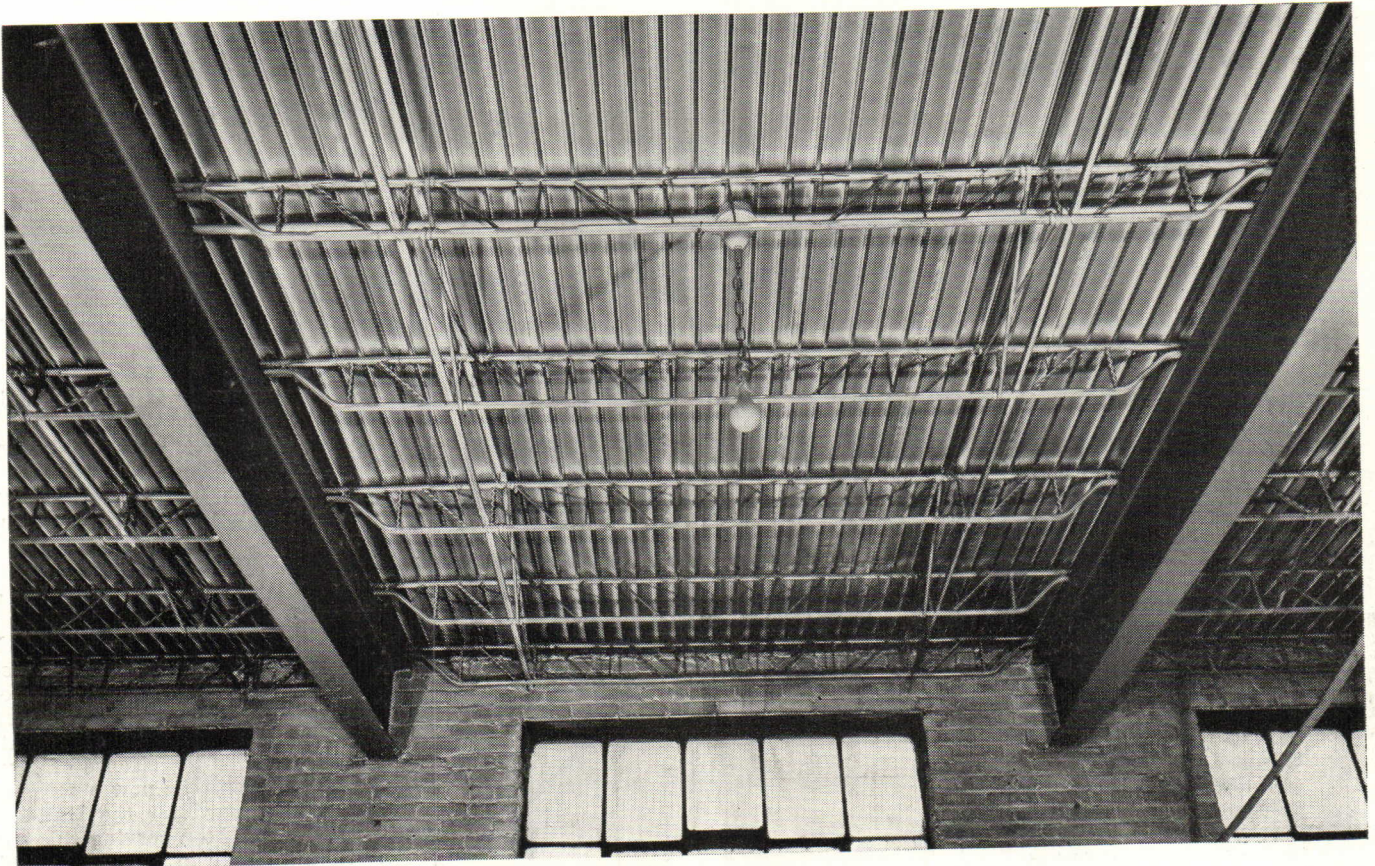
The award was based on the best entry of drawings for a suburban department store building, each submission being judged for land use, traffic control, spatial organization, structure and materials, and character.

Honorable mention went to GORDON F. ANDERSON, Watertown, Mass., and TEMPLE E. KIRKPATRICK, New York, N. Y.

CONGRESS

The SEVENTH PANAMERICAN CONGRESS OF ARCHITECTS will be held this year in Havana, Cuba, Dec. 4-10. In connection with the congress, there is to be an industrial and commercial exposition of materials used in architectural construction. Requests for further information concerning the exposition or the congress itself may be addressed to: VII Congreso Panamericano de Arquitectos, Apartado 262, Habana, Cuba.

(Continued on page 16)



The 25-year Fenestra Holorib ceiling and roof of the P. G. Vincent Cigar Co., Cleveland. Architects—Cavanaugh & Baer

AFTER 25 YEARS—*As Good as New!*

Back in 1924, a couple of months before Calvin Coolidge was elected President, the sturdy roof and ceiling you see above was installed for the P. G. Vincent Cigar Company of Cleveland.

Now—25-years-of-wear later, that Fenestra* Holorib roof is *still as good as new!*

In fact, the present occupants of the building say they haven't even noticed the ceiling in the 12 years they've been there. Why should they? It's never given them a minute's trouble. That's something to remember—if you want permanent protection for your buildings.

WHAT HOLORIB STEEL DECK IS:

Strong, lightweight, smooth-surfaced roof sheathing in 18 or 20-gauge sheets 18" wide and as long as required for multiple purlin spacings up to 24'. Each sheet is self-reinforced by three 1½" deep ribs running lengthwise, spaced on 6" centers. The pyramidal rib shape provides a

broad base for bearing and welding, and narrow rib openings minimize asphalt loss during mopping of insulation. Rib shape—plus the exclusive telescoping end-lap and interlocking side-lap features—is the key to the tremendous strength and rigidity of Holorib installations...the key to the 25-year line of successful Holorib installations.

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Specify Holorib for a roof deck and ceiling that easily passes the 25-year test. Also check on Fenestra D Panels for floors, insulated C Panels for walls. You'll be glad you did. For further information, see Sweet's Architectural File, Section 3c/3. Better yet, call or mail the coupon.

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Don Graf's chart for preliminary troffer layout

Notices

(Continued from page 14)

AWARDS

FREDERICK LAW OLMSTED of Brookline, Mass., authority on city planning and landscape architecture, has been awarded *The Gold Medal* "for distinguished achievement" by the *National Institute of Arts and Letters*. This will be the first time since the award was created, 40 years ago, that a landscape architect has received the medal. Based upon the entire work of the recipient, *The Gold Medal* is given in successive years, in rotation, for drama, essays, fiction, history, music, painting, sculpture, poetry, and graphic arts.

SVEN MARKELIUS, internationally known Swedish architect, has been presented the *Howland Medal* by Yale University. This medal is "awarded to the citizen of any country in recognition of some achievement of marked distinction in the field of literature, the fine arts, or the science of government." Markelius is now a member of the Design Board for the United Nations, and has been serving this spring as visiting critic in advanced architectural design at Yale.

APPOINTMENTS

RICHARD J. CANAVAN, architectural engineer, has been appointed technical secretary of the Producers' Council, Inc.

Architectural Forum has announced the appointment of DOUGLAS HASKELL as architectural editor.

ELECTED

SAMUEL B. LINCOLN has been elected president of Lockwood Greene Engineers, Inc., succeeding CHESTER S. ALLEN, who becomes chairman of the Board.

NEW PRACTICES, PARTNERSHIPS

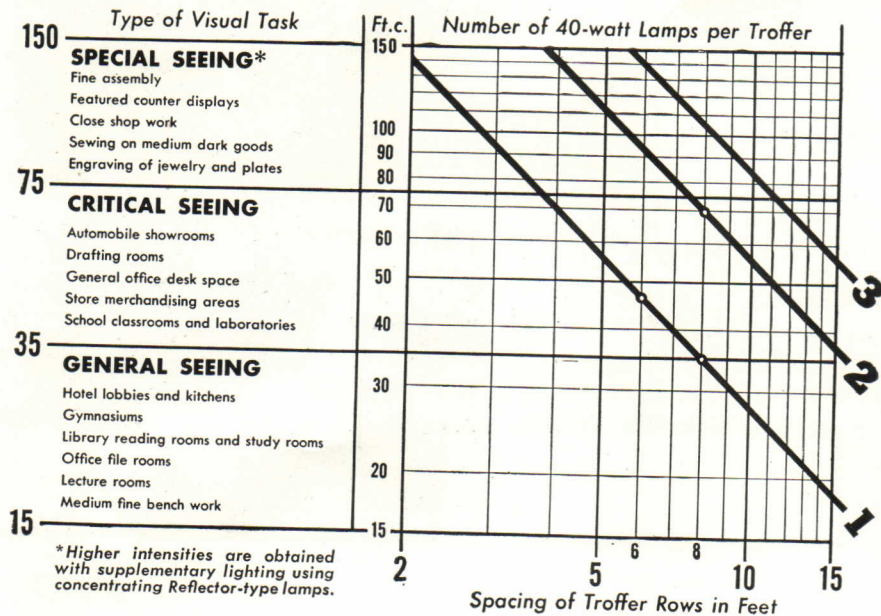
NORMAN L. RAYMOND, 18 Broad St., Stamford, Conn.

C. EDWARD WARE, Architect, 904-E Rockford Trust Bldg., Rockford, Ill.

GEORGE R. GRISWOLD, 3360 56th Ave., N., St. Petersburg, Fla.

CARROLL MARTELL, KENNETH W. BROOKS (MARTELL & BROOKS, Architects), Fernwell Bldg., Riverside and Stevens, Spokane, Wash.

OLOF Z. CERVIN, Architectural Consultant, 3400 10th Ave., Rock Island, Ill. Retired from firm of Cervin & Stuhr to limited practice.



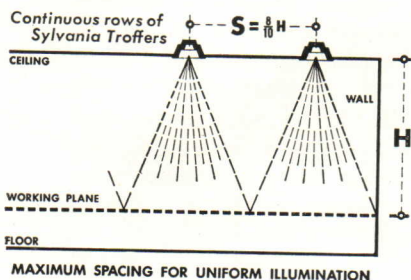
THE new Sylvania Shallow Recessed Troffers provide the designer with a modern architectural method of fluorescent lighting that is highly efficient and flexible. The same basic four-foot units may be equipped with one, two, or three 40-watt lamps. Fixtures may be open, glass-shielded, or louvered.

The chart above, with the diagram below, will allow the designer to quickly approximate the number and spacing of continuous rows

of Shallow Recessed Troffers for uniform illumination on the working plane. The error will usually be on the safe side for average room conditions, but any installation that involves critical or sustained seeing should be carefully checked by competent illumination engineers. Your nearest Sylvania representative or local public utility company will be glad to cooperate with you on request.

GIVEN: Sight-saving classroom, with an "H" of 10 ft. and a resulting row spacing "S" not more than 8 ft.

SOLUTION: Rows spaced 8 ft. o/c, using 2-lamp troffer units in rows 8 ft. o/c will produce about 70 ft.-candles. The designer might choose 4 rows of 1-lamp units 6 ft. o/c to produce approx. 46 ft.-candles for a 25-ft. wide room having a 12" acoustic tile ceiling. Color of walls and ceiling, and room shape, affect results.



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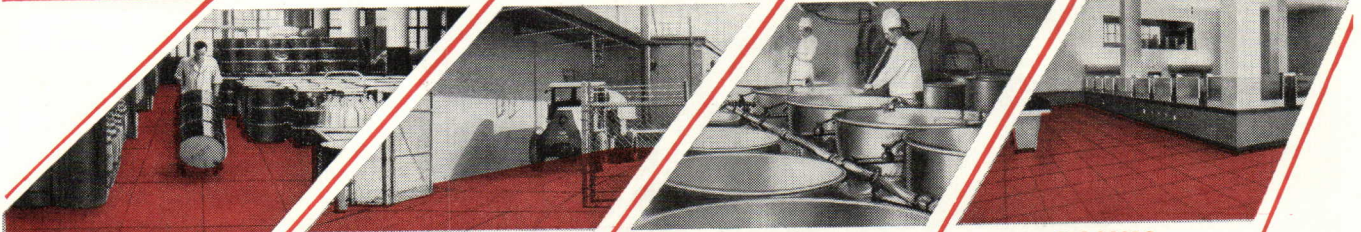
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AUSTRALIA'S PLANNING

Reported by **NORMAN BARTLETT**

Australia faces unique opportunities. On the eve of developing into a major manufacturing country, she is in a position to avoid mistakes made during Britain's period of *laissez-faire*. Many private architects and government officials are aware of this. They are fighting against inertia and self-interest to make Australian towns and cities beautiful as well as rich, convenient as well as busy.

This summarizes the impressions of Sir Patrick Abercrombie, Britain's foremost town planner, after a six weeks' tour of Australia. Sir Patrick visited Australia at the invitation of the federal government, under auspices of the British Council. Sir Patrick's son, Niel Abercrombie, is planning officer for the Illawarra district of New South Wales, south of Sydney, which includes some of Australia's biggest mining and industrial areas.

Australia's most completely planned city is Canberra, the federal capital.



AIRVIEWS OF CANBERRA

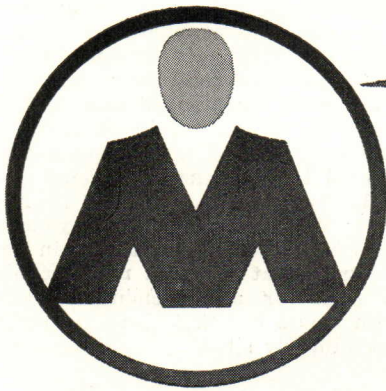


"A planned city has many advantages over an unplanned city . . . As it grows, Canberra will expand according to plan and thus avoid the chaotic development of . . . *laissez-faire*."

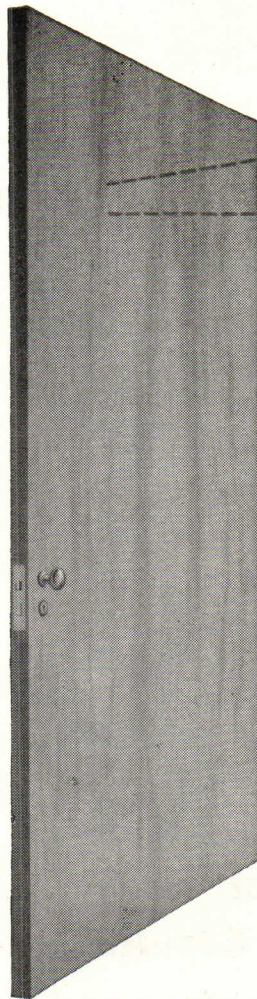
The original plan was by Walter Burley Griffin, Chicago, who won an international competition for a federal capital plan in 1911. Griffin worked in Canberra from 1913 until 1920. Work was practically suspended during World War I, but the first federal parliament sat in Canberra in 1927. The design is on the gridiron system popular in the United States early in this century. The modern Canberra is a graceful, well-situated city, free from advertising signs and commercial vulgarity, but difficult for modern motor traffic.

Discussing Canberra, Sir Patrick pointed out that a planned city had many advantages over an unplanned city. He regretted that there was a tendency in some parts of Australia to disparage Canberra. A modern town planner would have approached the problem in a different manner, he admitted, but Canberra "has many merits." As it grows it "will expand according to plan and thus avoid the chaotic development of cities which grew up under the influence of 19th century *laissez-faire*. At present, in its skeleton phase, Canberra is perhaps too widespread. It would have been better if the authorities had developed one section of the city pretty completely before

(Continued on page 20)



The Original Mengel Flush Door
with the Patented
"INSULOK" GRID CORE →



**Through the MENGEL DOOR
Lies Opportunity for
MORE BEAUTY...LESS UPKEEP**



It's more than just a beautiful door! It's an approved way of building durability and utility into any interior... regardless of period and decorative scheme.

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Mengel Flush Doors come faced with beautiful veneers of *Birch, Mahogany, Oak, Walnut, Gumwood* (and other hardwoods to order).

And they *stay* beautiful! Their smooth, unbroken surfaces are easy to clean... offer no place for dust to cling. No panels to shrink... no moldings to come apart.

Easy to Paint! The smooth Gumwood door is perfect for painting... never shows a grain raise.

For new construction or remodeling, specify Mengel Flush Doors... the doors with years of performance behind them. For full information mail the coupon *today!*

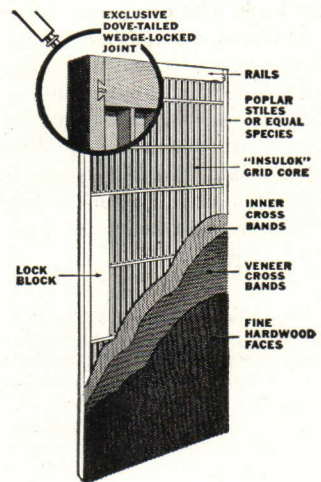
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- 2. 3-Ply Faces Bonded to Core**... with moisture-resistant resin glue by hot-press method.
- 3. 40% Lighter in Weight**... than standard panel hardwood doors.
- 4. Warp-Resistant**... "cured" before leaving factory.
- 5. Slam Tested**... 25,000 times by powerful machine.
- 6. Flame-Resistant Core**... made of $\frac{3}{8}$ " insulation board.

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7. Sealed Construction... prevents entrance of dirt, vermin or moisture.

8. Over-sized Lock Block... centered on edge of stile, permits reversing door.



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MENGEL Flush DOORS
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Progress Report

(Continued from page 18)

spreading out to other parts. As things are, the city is really a collection of small communities without any real central core."

Sir Patrick was impressed by town-planning consciousness in New South Wales. The biggest project in hand is the Cumberland County Plan, which covers Sydney (pop. 1,656,000) and

over 1000 square miles around it. The Cumberland planners say that it is the biggest planning project of its kind in the world. The plan embraces 69 municipalities and shires and takes in 54 percent of the population of New South Wales.

Regional planning schemes are also in hand for the state's two biggest industrial areas—at Newcastle and at Wollongong-Port Kembla. Niel Abercrombie is in charge of planning for the

latter. It is proposed to spend about £A8,000,000 over the next five years on the erection of 5000 houses, including dwellings to be provided by Australian Iron and Steel, Ltd.

Sir Patrick added that he had seen many excellent examples of housing projects by state governments. Most of them are up to date in their recognition of the need for planned neighborhood units. Unfortunately, in some cases, these neighborhood units were not integrated into a general regional plan of the type being developed in New South Wales; some of the younger states being so anxious to obtain new industries that they did not recognize the need for an all-embracing plan which would see that these industries were properly sited.

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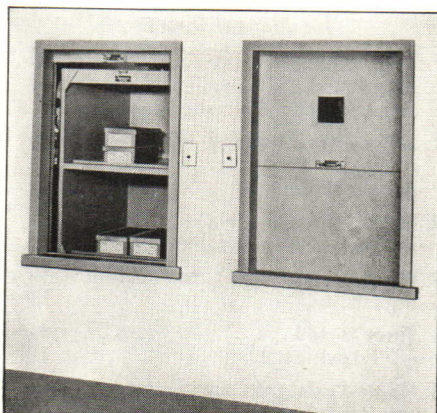
Dumb Waiter Doors are as important for efficient operation as is the selection of satisfactory dumb waiter units. Sedgwick Dumb Waiter Doors are of durable steel construction, have stainless steel sills and can be used with electric or hand power dumb waiters—or for protecting the landing openings of conveyors, laundry and package chutes and other types of floor-to-floor transportation equipment.

Available with approved Underwriters' Label where required, Sedgwick Dumb Waiter Doors are finished in appearance, easy of operation, sturdy and come in four general types, including bi-parting, slide-up, slide-down and hinged. Doors and frames are completely factory-assembled units, convenient for setting in place as hoistway walls are built.

Specify Sedgwick Dumb Waiter Doors for best performance and ultimate economy. They are backed by Sedgwick's 55-year-old experience in planning, engineering, manufacturing and installing of dumb waiters and elevators for all purposes.

Sedgwick Dumb Waiters are available for prompt delivery in a variety of standard sizes and types. The Electric Roto-Waiter and the Electric Traction Dumb Waiter, with capacities up to 500 lbs., are leaders in the power-controlled field. Hand operated units of unusual merit and ease of operation are designed for many uses where less expensive equipment is desired, or when frequency of use is less.

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BUILDERS OF VERTICAL TRANSPORTATION SINCE 1893

Scattered throughout Australian cities are buildings that Sir Patrick found to be "first-class examples of modern architecture." Some of the hospitals are "particularly fine, not only as admirable examples of hospital building but architecturally beautiful." He also noted many excellent examples of modern domestic architecture, although he had "seen no distinct style of Australian architecture yet developed. Nevertheless, Australian architects well understand the need for evolving a style suited to the climate. The chief need in Australian cities is some means of coordinating effort. Even good buildings, when thrown together without regard for general over-all harmony, lose their real beauty. Australian cities, like English cities, need some sort of general architectural supervision to achieve street harmony."

Sir Patrick expressed surprise at the general interest in preserving old buildings, especially those with historical associations. His audiences invariably applauded loudly when he mentioned this subject.

He also liked the Australian habit of building detached houses each in its own block of land, although this development brings with it many town planning problems. The great spread of Australian cities is economically costly and the scattered nature of the outskirts of the cities adds to this cost.

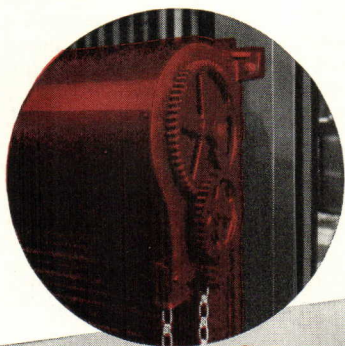
EUROPE REBUILDS

Notes by RICHARD J. NEUTRA

Aspects of reconstruction are greatly diversified in the west European countries, in Scandinavia, and in Italy. Material shortages are still noticeable

(Continued on page 22)

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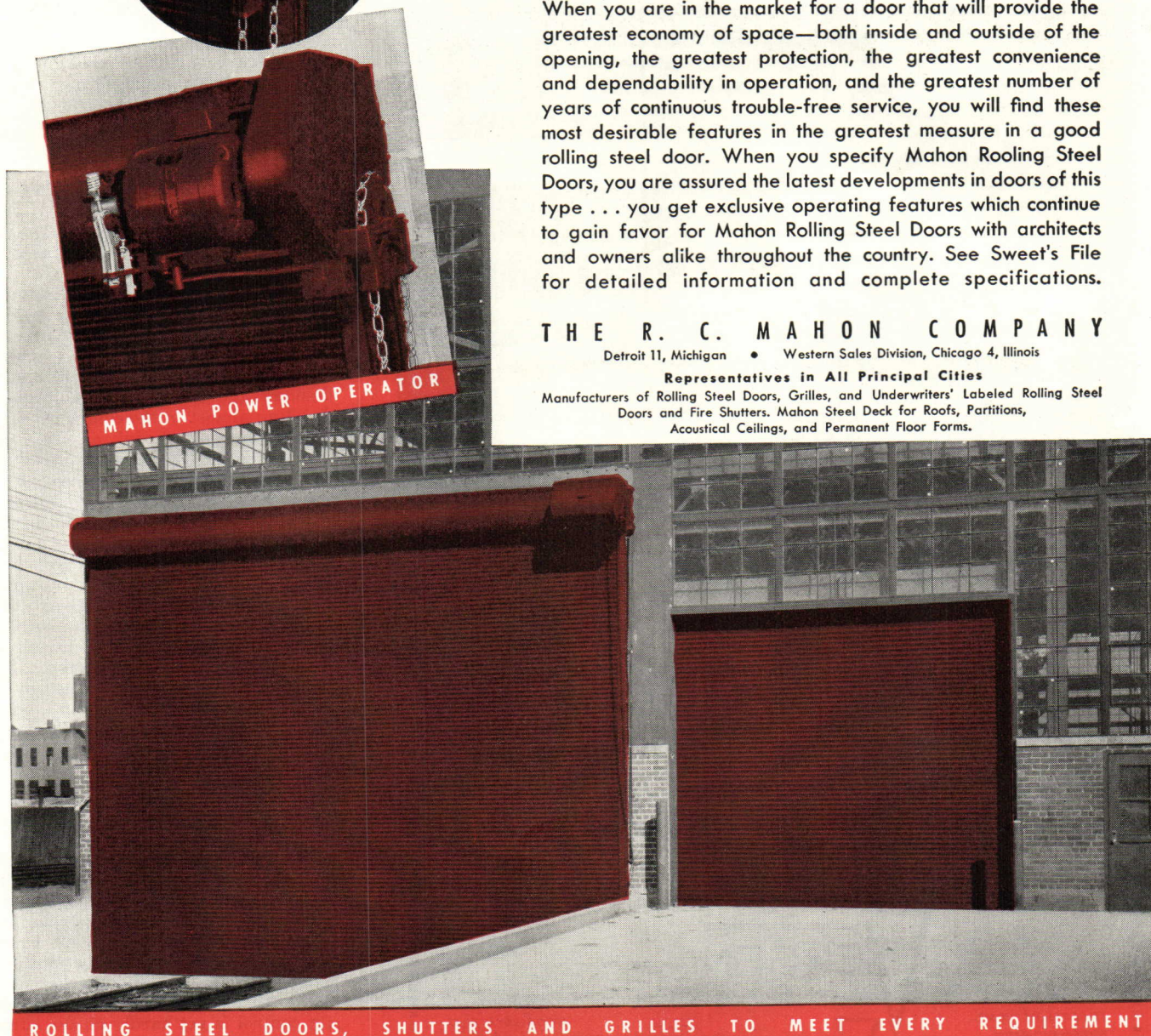
When you are in the market for a door that will provide the greatest economy of space—both inside and outside of the opening, the greatest protection, the greatest convenience and dependability in operation, and the greatest number of years of continuous trouble-free service, you will find these most desirable features in the greatest measure in a good rolling steel door. When you specify Mahon Rolling Steel Doors, you are assured the latest developments in doors of this type . . . you get exclusive operating features which continue to gain favor for Mahon Rolling Steel Doors with architects and owners alike throughout the country. See Sweet's File for detailed information and complete specifications.

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ROLLING STEEL DOORS, SHUTTERS AND GRILLES TO MEET EVERY REQUIREMENT

Two of nine Mahon Rolling Steel Doors installed in a new plant for Production Steel Company, Detroit, Mich. Barton-Marlow Co., General Contractors.

MAHON

Progress Report

(Continued from page 20)

everywhere, but are much more conspicuous in England, France, and Norway than in Switzerland or even Italy.

The intention to produce a small house as a commodity for a vast group of purchasing power is, by far, best realized in England, where building materials and the labor of building artisans are most carefully controlled and rationed on behalf of the dwelling of 1000 square feet and for the reconstruction of homes of this restricted

size. The setting up of these elaborate controls, to give an equable breadth and aim to building activity completely purged of the unnecessary and the post-poneable, nevertheless appears to be a cumbersome machinery. The bureaucracy which operates it in borough and county councils and in the huge ministry of works is yet rather uncertain and only partially experienced. Building legislation that is so far-reaching needs to be implemented and administered by

a capable and efficient personnel, which, of course, can grow up only gradually and slowly.

For the other extreme, the minimum of public controls applied to the building economy, one would perhaps name Italy. Milan and Rome need up to half a million rooms at a popular price level; Venice and the war-devastated cities of Florence and Naples suffer from unbearable population densities. Yet a corresponding building activity of people's houses (*case popolari*) still is negligible in comparison with conspicuous multistory, loudly advertised luxury apartments (*appartamenti di lusso*) to which costly materials and the truly superb talent and willingness of Italian artisans are largely devoted and allocated. Other great projects, absorbing the substance which should help to mitigate the desperate dwelling shortage, are palaces for insurance companies, office buildings, also American importers' buildings which sometimes rival the monumental, half-completed and stranded architectural outbursts of the Mussolini era. At any rate, it is explained, these projects keep the building trades and material suppliers employed.

The Fascist government had to clear the deck for its spectacular projects, displacing many families. Many thousands of these still live in barrack camps to the south of Rome, and war damage has pushed people into cave-dwelling almost in the center of Naples. These "housing needy" are still waiting; their children are kept in several shifts in crowded schoolrooms. No instrument is here being forged, like the recent town and country law in England, to acquire necessary land for communal benefit only. Italy appears a country probably in need of such a law. A splendid treasure of ability and talent among forward-looking planners and architects remains unused, except perhaps in the interesting research housing projects undertaken in the quarters of the Triennale, Milan, and on the Posilippo in Naples, which deserve all attention and support.

In France, the reconstruction ministry, under its new head, M. Eugène Claudius-Petit, a man who well appreciates progressive design, has very lively and good intentions; but ministers in France, however good, are generally considered "fragile." It must be hoped that no political turn interferes. Population density control is yet hardly on the current program in France. One would be happy if the projects now tackled could replace what the war has destroyed. And rent protection, bringing dwelling costs per month down to about the amount of a



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Whose point of view? Everybody's! The architects . . . the store-owner . . . the store's customers. That's the kind of "triple play" many of America's most notable firms expect when they "call for Bergen".

The People's Store of Charleston, W. Va. was no exception. It stands now as the finest store in the South. (We still think the view is swell . . . see the photo above.)

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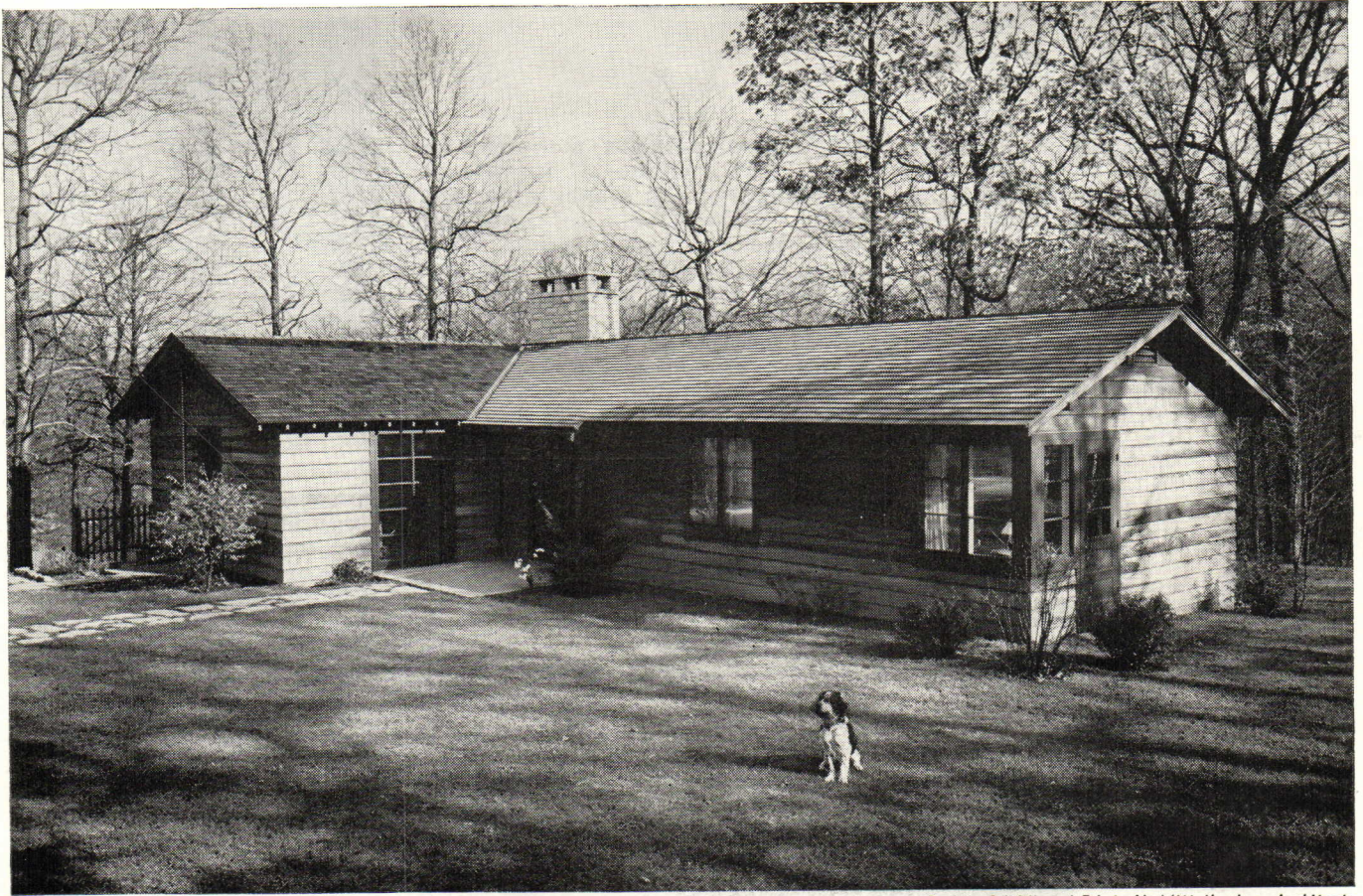
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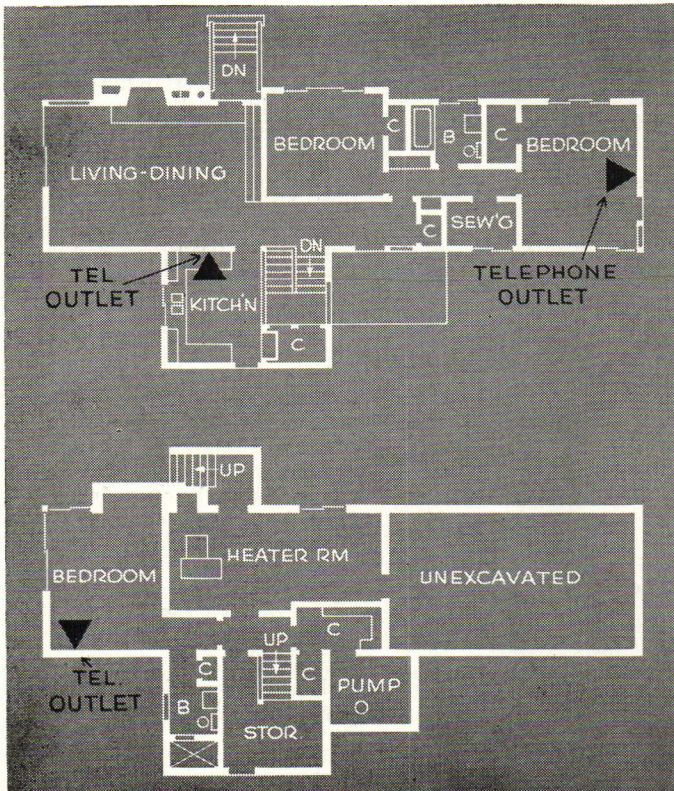
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(Continued on page 24)



Perkins & Will and Edwin H. Mittelbush, Architects

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BELL TELEPHONE SYSTEM

Progress Report

(Continued from page 22)

newspaper subscription or two, makes a nightmare of all housing economics and contemplated construction budgets. The habit of paying diminutive rent, says M. Claudius-Petit, has established a ridiculous frame of mind which will prevent France from getting housing at the cost level of this day. M. Marcel Lods has devoted sacrificial enthusiasm as a planner to comprehensive and splendid research on southern France.

His proposals amount to the opening up of a "French California" for sustaining industries and healthy population shifts, by means of a new navigation canal and electric power projects. Similarly, the Pingsusson regional and town planning study for the Saarland has received too little financial aid by the administration. Le Corbusier's neighborhood under one roof in Marseilles is nearing completion.



The Neutras dine with M. Claudius-Petit



Ambassador for better buildings



When Holabird, Root and Burgee created the design for the pieces shown here to be used in Washington's new Statler Hotel, Lockwood was quick to recognize its appealing simple beauty and assisted in devising a practical means for concealed screw attachment. As a result this "plain as fine sterling" design has now met the test of actual service with flying colors, and as Ambassador design has become a proud part of the Lockwood line.

Ambassador design was specified by Holabird, Root and Burgee for use in the fine new office building and research laboratory of the Standard Oil Company of Indiana at Whiting, Indiana. Write today for your copy of the Lockwood Brochure on Ambassador design.

26A



Lockwood

HARDWARE MANUFACTURING COMPANY

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In Sweden, housing cooperatives have grown into rather mammoth organizations, impressive but somewhat engaged in the process of raising their own sort of bureaucracy to levels perhaps more and more removed from the membership proper. By their natural extra governmental power accumulation, a certain anarchy beyond the public planning programs—which are very good in Sweden—might well be conceivable. This kind of cooperative can turn into a politically formidable private power group of the entrepreneur type, which may overshadow the constructive, original self-help character. The cooperatives need to be harmoniously fitted into the over-all picture and perhaps can do it by attentive self-discipline. No well-meaning individual can substitute for the tuning together of the essential building and housing economies of countries, especially those hard pressed by shortages.

Very small dwellings, such as by necessity are programmed in countries from Norway to Switzerland, are everywhere urgently in need of supplementation through communal and recreational facilities. Denmark perhaps leads in construction of *crèches*, youth clubs, school buildings with extracurricular accommodations, and comfortable old-age homes which have no charity character.

In Holland though, old-age homes are frowned upon as "too institutional." People may be old, but they can play a useful role if they are kept interspersed with the middle-aged and young, not made an isolated group. In Amsterdam, old couples are housed in each new block and made to feel happy and significant—as baby sitters.

The so-called Iron Curtain is not as tightly and dramatically separating the western from the eastern half of

(Continued on page 26)

Park Avenue Building on the banks of the Mississippi

A few miles north of Davenport, Iowa, stands this newly erected, four-story, aluminum-clad office building.

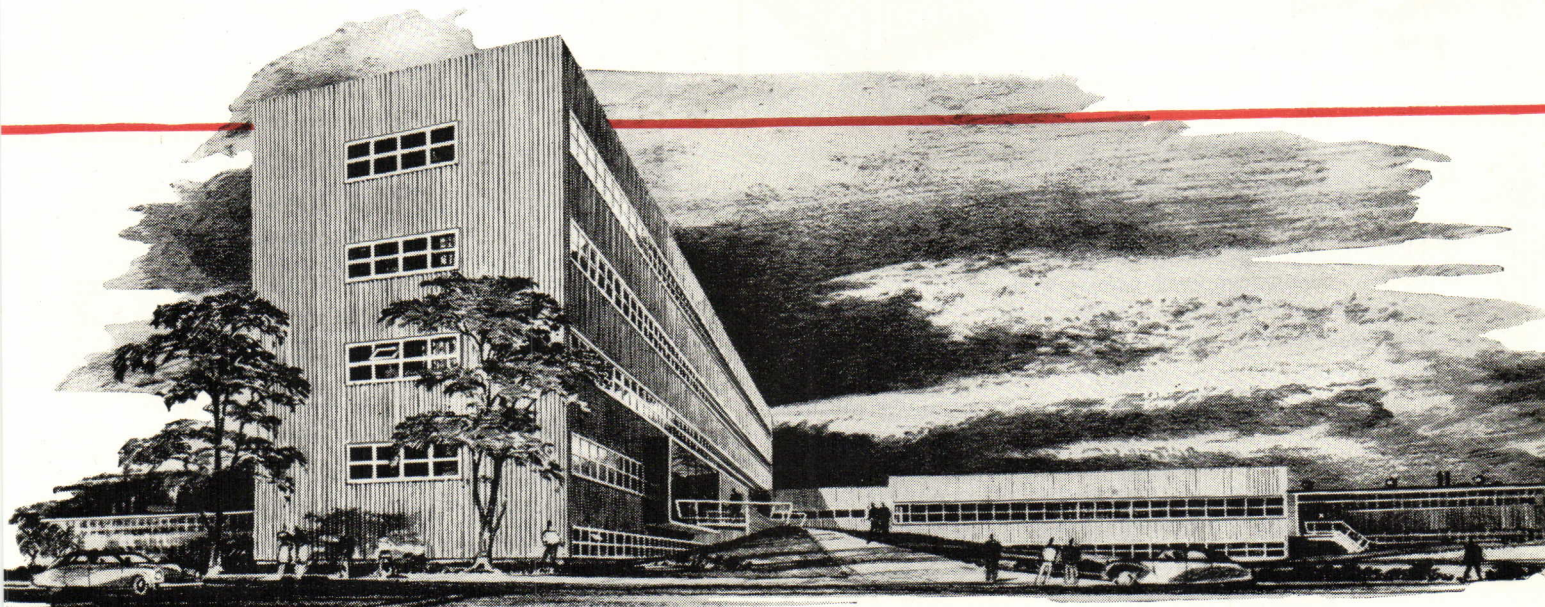
"Why," we have been asked, "build a multiple-story building in the midst of unused acres?" "Why, use construction that matches the building requirements for congested areas, when the location doesn't demand it?"

Although serving as the administration building for Alcoa's newest rolling mill, this building was designed for Park Avenue, for Michigan Boulevard, for every other metropolitan area where factors of strength and fire resistance are necessary; where economics require permanence combined with low construction and upkeep costs.

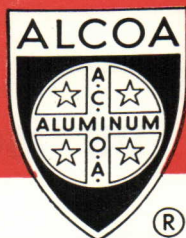
Several types of materials and construction have been used in the same building. Here we hope to prove out our estimates on the feasibility of aluminum curtain wall

construction for commercial buildings. Already an analysis of costs has shown that large cast aluminum panels, backed by four inches of lightweight concrete, permit curtain wall construction at lower cost than with traditional materials of equal strength, fire resistance and permanence.

This is one of many Alcoa research projects now under way to provide practical tests of new uses for aluminum in architecture. As we find the answers, good or bad, we will tell you about them. Our engineers are always at your service to help you plan better, more economical buildings for the future. For information on any application of aluminum, call your nearby Alcoa Sales Office, or write ALUMINUM COMPANY OF AMERICA, 1868 Gulf Building, Pittsburgh 19, Pennsylvania.



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Progress Report

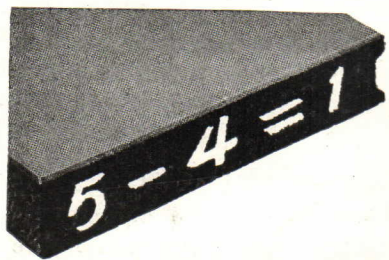
(Continued from page 24)

Europe as the newspaper reader is told. While I was inspecting the Sunila factory in eastern Finland, only thirty miles from the new Russian border, a Finnish industrialist happened to return from directing the Finnish Fair in Moscow, which he reported was visited by almost 200,000 Moscovites, from children to generals. The Finnish gentleman, anything but a "Russophile," commented on the cleanliness of Moscow streets, crowded with Russian-built

cars, and other vital signs of significant managerial progress in the large Russian cities. Of the seven million inhabitants of Moscow, he said, not rarely several families are still crowded into one apartment. Mr. Lubetkin, from London, who had just studied miners' towns in Silesia and returned from Poland, told me in Copenhagen that the effect of new directives, as to simplified design of buildings in Russia, is expected to become evident within six months. Plan-

ning projects of regional scope are supported by the government.

Poland, especially Warsaw under the planning leadership of Simon and Helen Syrkus, has engaged in an exhilarating and spirited building activity which gradually obliterates the war devastations. Hungry tends to become as lively a builder as Poland, it seems. Czechoslovakia suffers from certain pains of readjustment, her cultural orientation having been so distinctly western. Austria is only at the start of building recovery, but projects are anything but slipshod. Germany is slowed down by overhead dispute and inner uncertainty branching into corruption.



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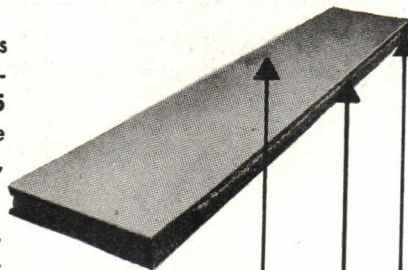
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3/4"	16"	6'8"	15 lbs.	Tongue and Groove	40 lbs. per sq. ft. live load with high safety factor.
4/4"		8'	18 lbs.		

For complete information, write for folder (A.I.A. File Number 4-K). Also see catalog 3c/13a, Sweet's File Architectural, 1949.

DURISOL, INC. 420 Lexington Avenue, N. Y. 17, N. Y.

It would be useful if our press would help readers to obtain thorough industrial and building news from Europe during its process of rejuvenation, to balance somewhat the daily political and military alarms.

This country can greatly profit from watching some of these developments and the taxpayer could be benefited if he would let his experts and officials travel and study what has been soundly accomplished elsewhere; whether in housing or in school and hospital construction. Our own advances may be great, but stimulation is possible and further improvements are always worth considering.

NOTICES

SHOW

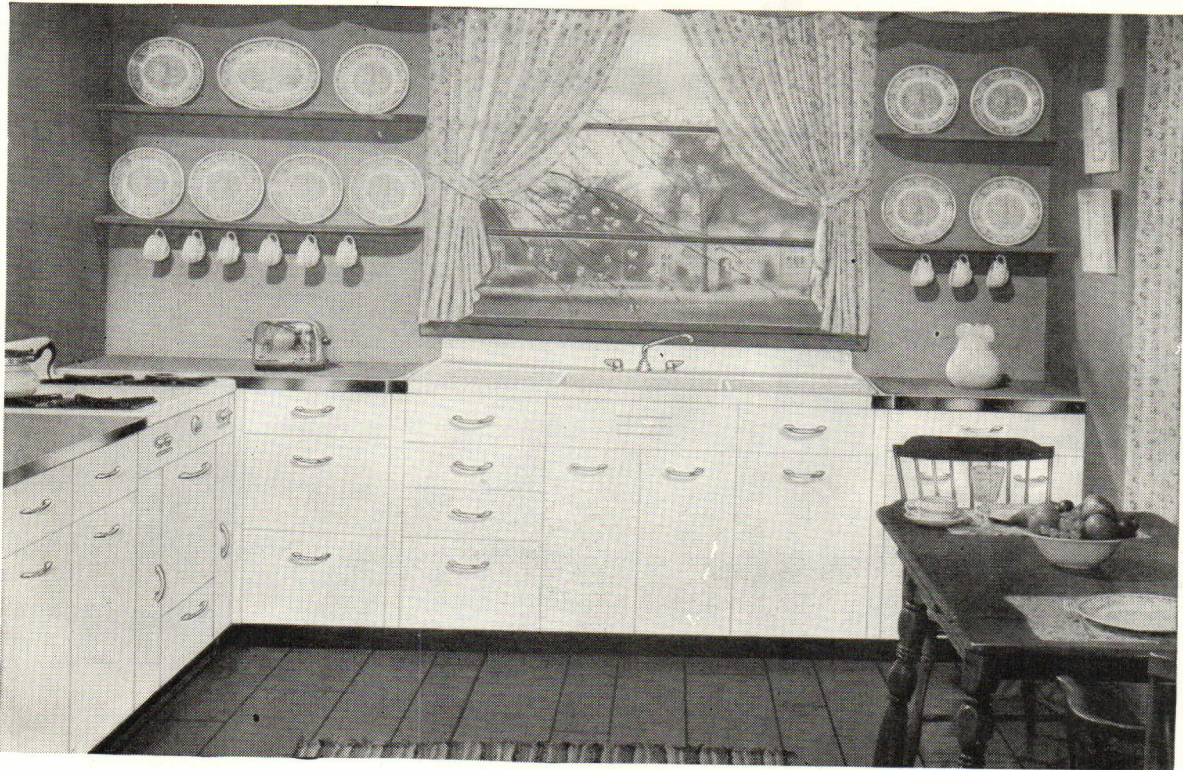
Daily forums and clinics and a national competition for the best modernized store of the year will highlight the 1949 STORE MODERNIZATION SHOW to be held June 19-24 at Grand Central Palace, New York. Approximately 200 entries are expected to be submitted by Chambers of Commerce, civic organizations, and trade associations for the competition. Entries will be exhibited and judged during the Show, and the jury, headed by Morris Ketchum, Jr., will award \$500 in prizes to the winners. Complete details will be supplied by John W. H. Evans, Store Modernization Show, 40 E. 49th St., New York 17, N. Y.

CONVENTION

The 51st Annual Convention of the AMERICAN HOSPITAL ASSOCIATION will be held in Cleveland, Ohio, September 26-29. Evaluation of hospital service and its distribution, and a comparison of proposed plans to further improve and extend hospital care, will be given major attention. Further information is obtainable from the A.H.A., 18 E. Division St., Chicago 10, Ill.

ANY SIZE

Kitchen



The Crane Sunnycrest Sink, single basin, double drainboard

...IS A CRANE SIZE KITCHEN

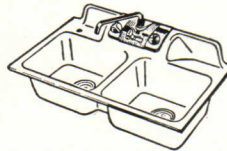
Crane sets no limitations on size or style. There is a Crane sink for the modest kitchenette as for the elegant living-kitchen—a truly complete line.

No doubt that it's the *preferred* line . . . home owners have testified to this year after year.

That's true, of course, of Crane bathrooms, too—and here again you'll find a style for every taste, a price for every budget. In home heating, Crane supplies everything required for any system, any fuel.

See Crane Service for Architects for selections from the Crane line—and be sure to check plans early with your Crane Branch or Crane Wholesaler.

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To save individual liberty and personal freedom--corner-stones of our civilization--may not be easy. As a leader you are called upon continuously to help form and direct a militant public opinion. Only by the united, vigilant efforts of all citizens of good will, those who cherish our principles of government and our ideals, will we maintain our invaluable heritage of liberty, justice and freedom.

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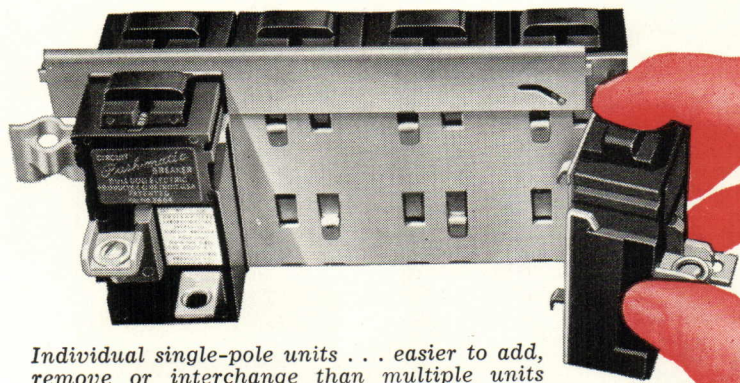
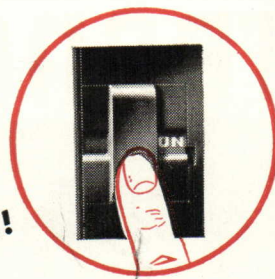
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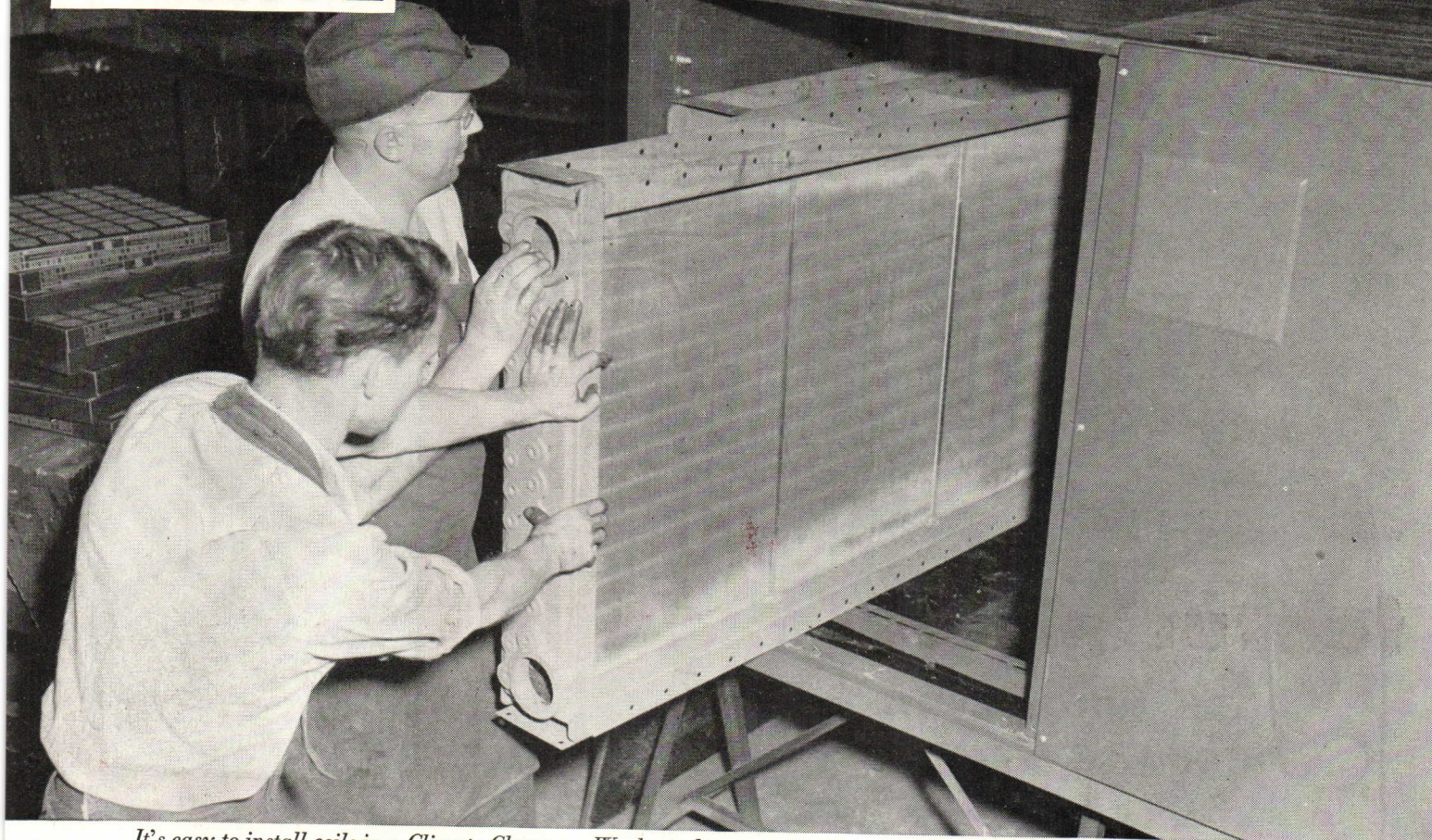
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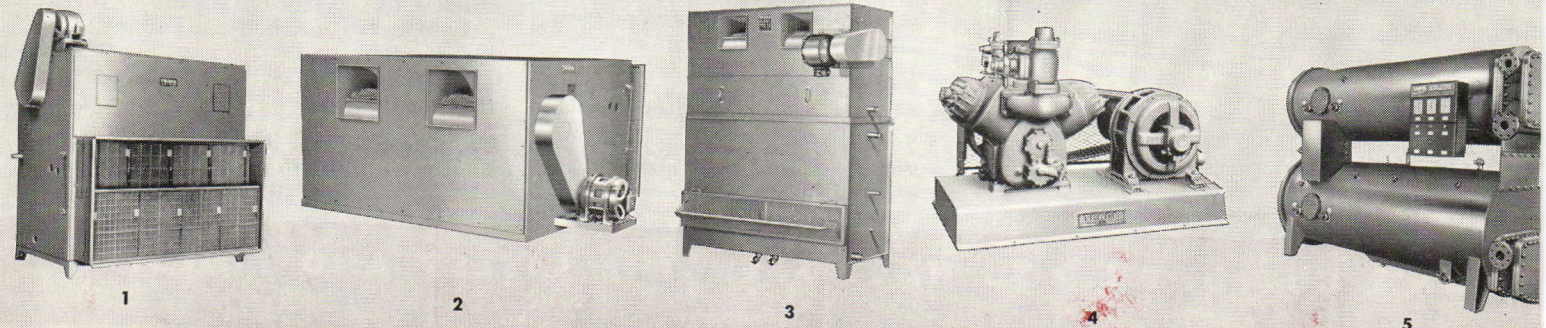
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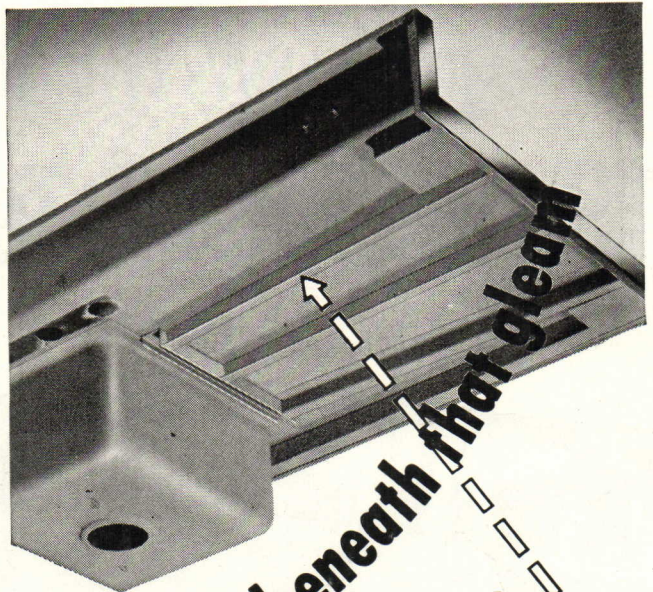
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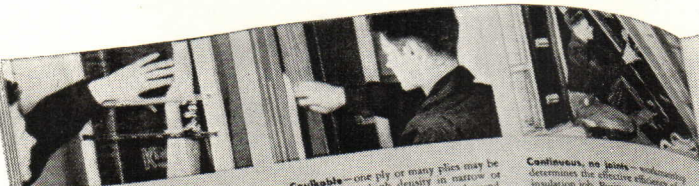
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Light Weight—1.4 lb. per cubic foot. Standard Thickness weighs only 115 lbs. per 1000 square feet.

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Facts About Thermal Insulation... for Architects, Builders and Engineers!

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Placed in a fire for 15 minutes, Kimsul blankets do not burn, char, or melt. They do not support the fire, and they do not allow heat to pass through.

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	Without Insulation	With Insulation
Standard Brick	3.2	4.1
Double Brick	2.1	2.7
Double Brick with Kimsul	1.4	1.7
Commercial Brick in Garage	2.3	2.4
Commercial Brick in Wall	2.0	2.1
Double Brick in Garage	1.7	1.8
Double Brick in Wall	1.1	1.2
Commercial Brick in Garage	0.9	1.0
Commercial Brick in Wall	0.8	0.9

300 sq. ft. Uncompressed Insulation

200 sq. ft. KIMSUL Insulation

Pyrogard Insulated Cover—For ducts, Kimsul Insulation covers and wraps. Customarily used on highly flammable and corrosive material, regardless of the material used for insulation.

Any Width, Any Length—It can be cut exact lengths or square walls. Avoids waste and fast. Works into a fast, neat job—with ease.

VENTILATION—All attic spaces and crawl spaces shall be ventilated with two or more louvers arranged to provide cross ventilation with free area of at least one square foot for every 300 square feet of exposed interior surface.

COLD-STORAGE CONSTRUCTION. For details see Application Data Sheet No. 11, published by Kimberly-Clark.

THICKNESSES	THERMAL RESISTANCE (AV.) "R"	SOUND ATTENUATION (AV.)	SQUARE FEET PER REGULAR STANDARD WIDTHS			APPROX. NET WEIGHT 1000'
			16, 20, 24 INCHES	48 INCHES	60 INCHES	
COMMERCIAL THICK (Approx. 0.5 in.)	1.85	40	300	500	150	11
STANDARD THICK (Approx. 1.0)	3.70	55	200	300	100	7
DOUBLE THICK (Approx. 2.0)	7.40	70	100	150	50	4

Commercial Thick rolls contain two blankets (100 sq. ft. each). Standard Thick and Double Thick rolls contain one blanket (100 sq. ft.). Available in 36-inch width rolls to cover three courses (maximum); one grain, 9 ft., four-inch of masonry difference in vapor pressure. Weighs 115 lbs. per 1000 sq. ft.

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Sanymetal^{*} "PORCENA"

**Trade Mark Reg. U. S. Pat. Off.* (Porcelain on Steel)

TOILET COMPARTMENTS

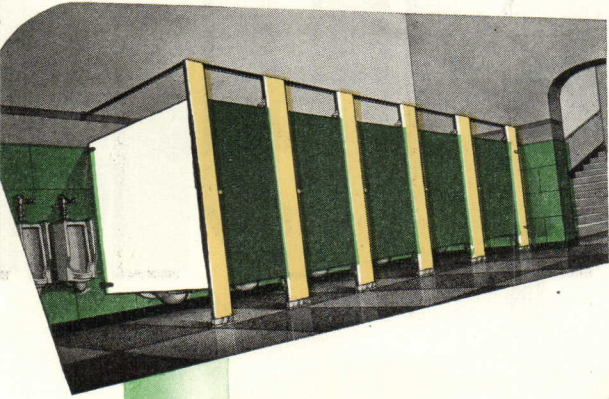
Why the Bare Functional Type of Toilet Room Is No Longer Suitable

The ascendancy of good taste combined with new concepts of sanitation and convenience in toilet room environments makes the bare functional type of toilet room inadequate according to today's standards.

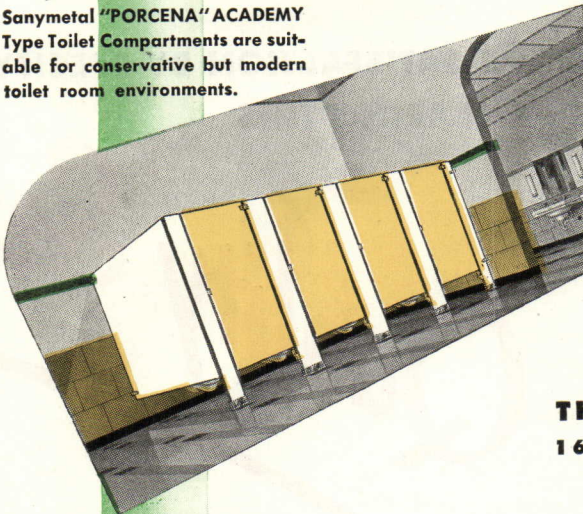
Toilet compartments usually dominate a toilet room, influence the toilet room environment and help to fulfill modern concepts of sanitation and convenience.

Sanymetal "PORCENA" Toilet Compartments are fabricated of ageless and fadeless material, porcelain on steel, which is a glass-hard, stainless material that always looks new, does not absorb odors, is moisture- and rust-proof, and resists the corroding of ordinary acids. The glistening "PORCENA" finish, which can be wiped clean as easily as a porcelain table top, requires no painting or refinishing.

Sanymetal "PORCENA" Toilet Compartments combine the results of over 35 years of specialized skill and experience in making over 100,000 toilet room installations. Ask the Sanymetal Representative in your vicinity (see "Partitions" in your phone book for local representative) for further information about planning suitable toilet room environments. Refer to Sanymetal Catalog $\frac{21b}{6}$ in Sweet's Architectural File for 1949.



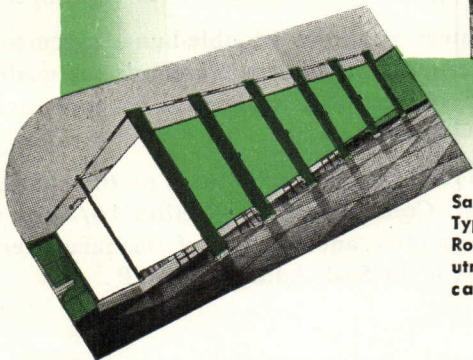
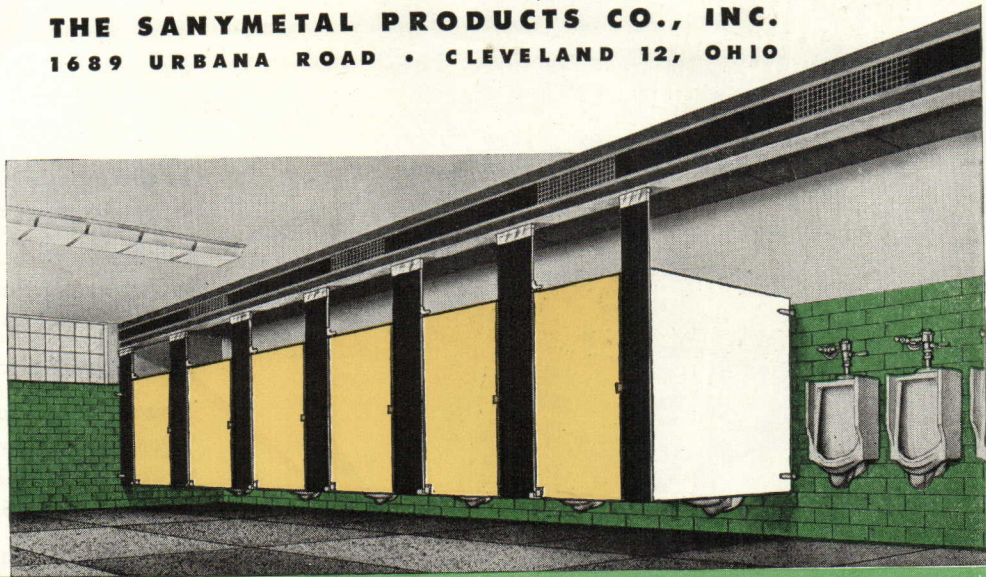
Sanymetal "PORCENA" ACADEMY Type Toilet Compartments are suitable for conservative but modern toilet room environments.



Sanymetal "PORCENA" NORMANDIE Type Toilet Compartments endow a toilet environment with dignity and good taste.

Sanymetal "PORCENA" CENTURY Type Ceiling Hung Toilet Compartments offer the utmost in sanitation and provide modern, distinctive toilet room environments for schools, institutions, terminals and other public buildings.

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Sanymetal "PORCENA" ACADEMY Type Shower Stalls and Dressing Room Compartments provide the utmost in sanitation for tourist camps, gymnasiums, clubs, Y.M.C.A.'s, etc.

Write for Sanymetal Catalog 86 which illustrates modern toilet room environments suitable for all types of buildings. Several attractive designs in a wide range of colors available. This catalog is also contained in Sweet's $\frac{21b}{6}$ Architectural File for 1949.



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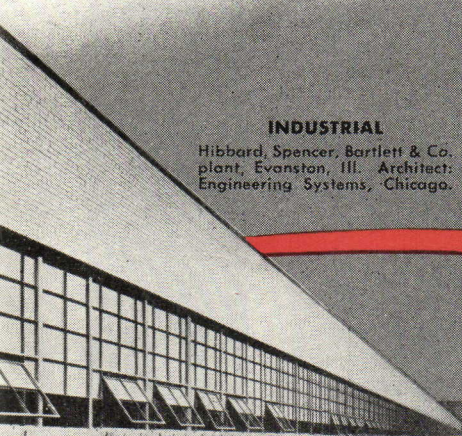
Aluminum Window Manufacture

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WINDOWS!

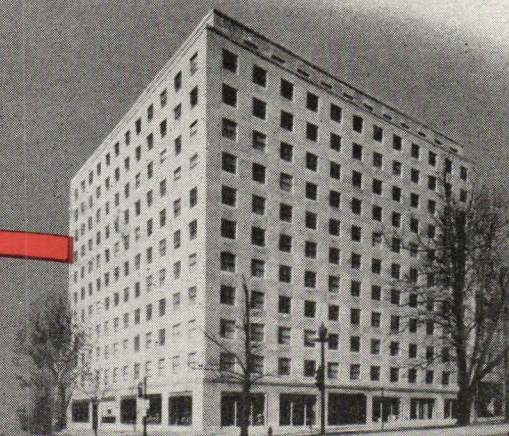
INDUSTRIAL

Hibbard, Spencer, Bartlett & Co. plant, Evanston, Ill. Architect: Engineering Systems, Chicago.



COMMERCIAL

Ring Building, Washington, D. C. Designer: Ring Engineering Co., Washington, D. C.



HOSPITAL

Harkness Pavilion, Columbia Presbyterian Medical Center, New York, N. Y. Architect: Voorhees, Walker, Foley & Smith.



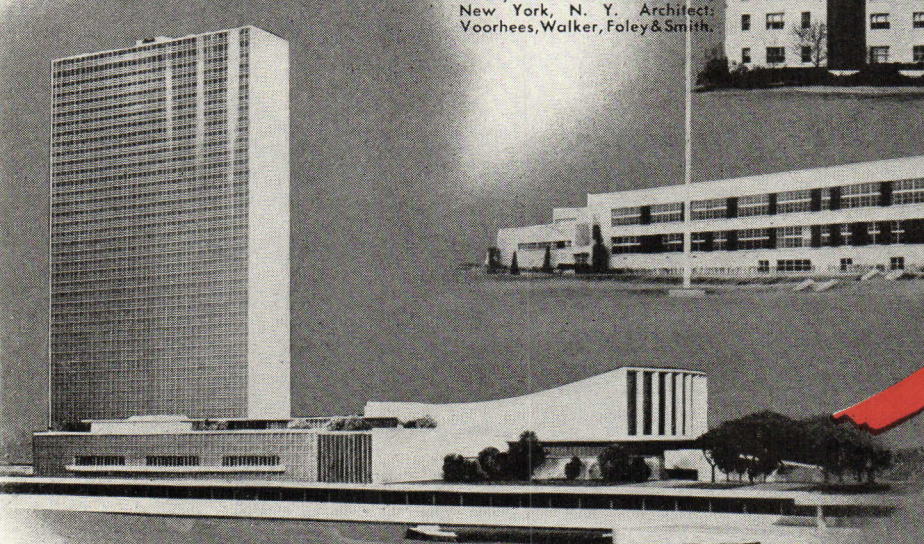
SCHOOL

High School, Harrison, N. Y. Architect: R. P. Vignola.



MONUMENTAL

United Nations Secretariat Building, New York, N. Y. Architects: U. N. Board of Design Consultants, Wallace K. Harrison, Director.



Association

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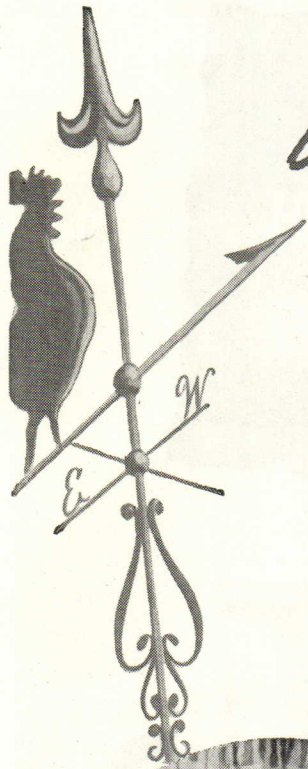
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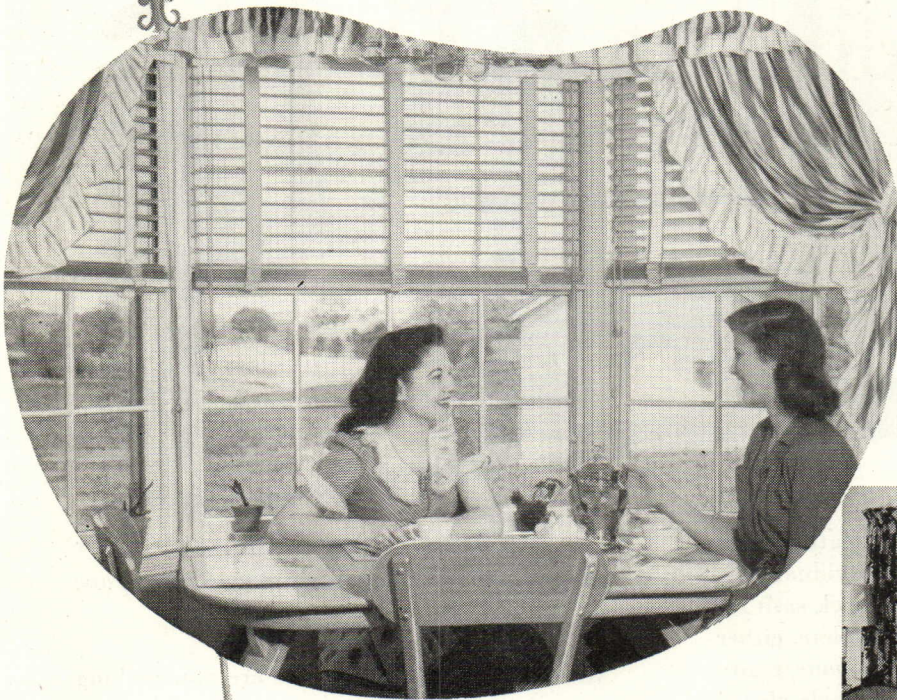
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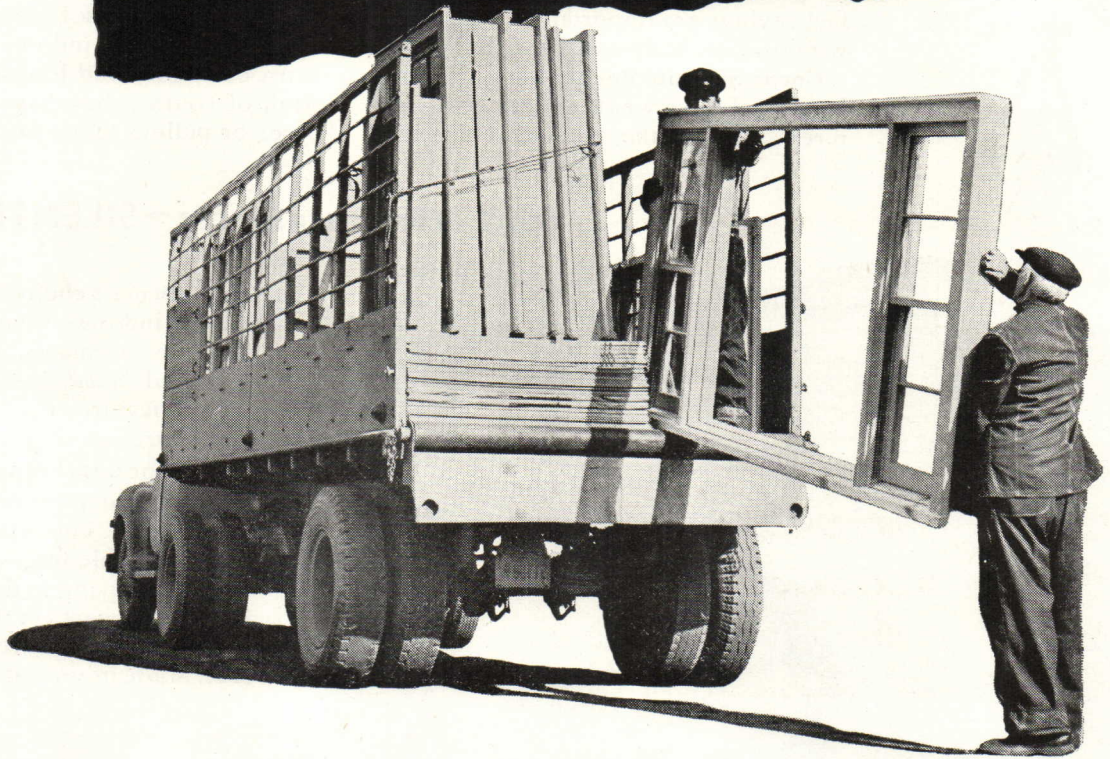
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Roy F. France—Architect
Taylor Constr. Co.—Builder

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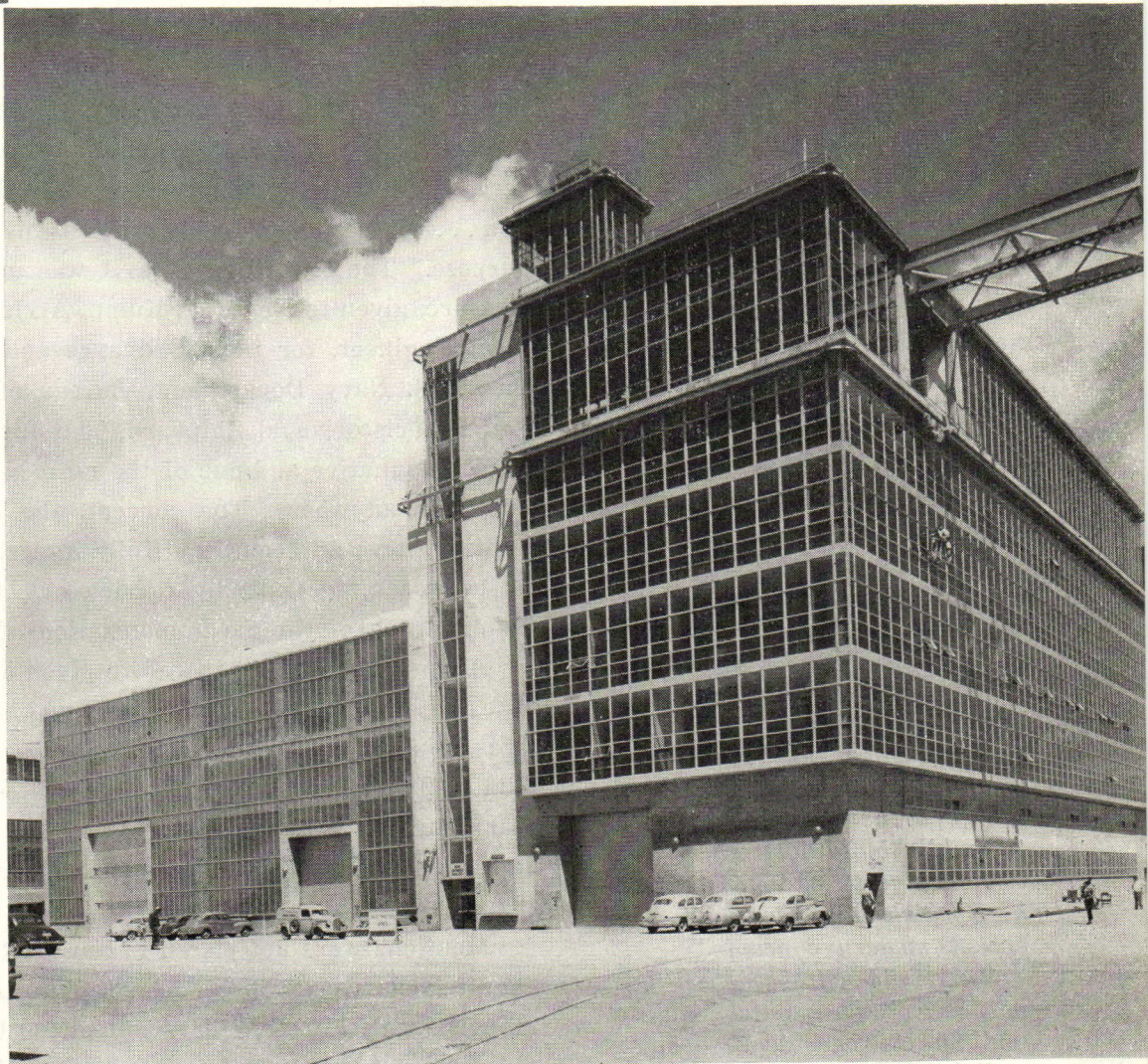


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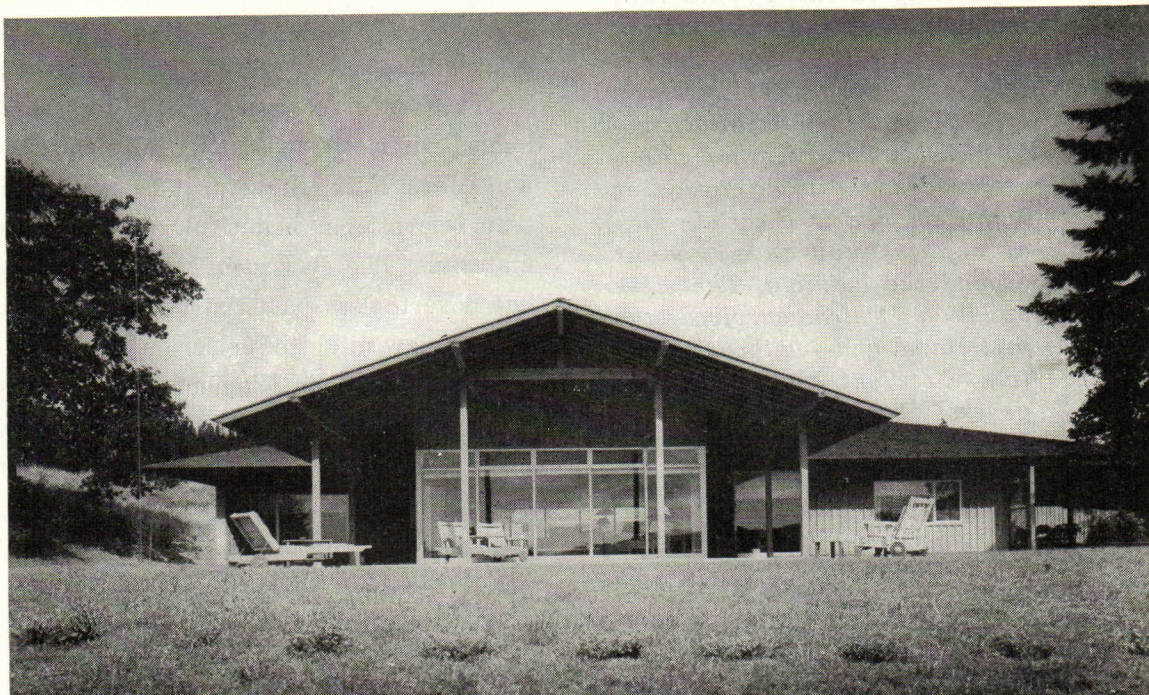


Ordnance and Optical Shop Building for Bureau of Yards & Docks, USN, by Ernest J. Kump, Architect, and Mark Falk, Structural Engineer

CLASS I

CLASS II

House at Yamhill, Oregon, designed by Pietro Belluschi, Architect



Report of the Jury

One hundred and sixty-nine entries were submitted, of which fifty-eight were detached houses. One hundred and eleven were buildings in all other categories. Every part of the country was represented. The quality of the entries was so excellent as actually to surprise the Jury. At the end of the long session it was felt that it was "the most encouraging architectural experience in a long time. It indicates on the part of many architects a facility in thinking in terms of space and materials, which ten years ago was called new." Along with this impression, we felt that people all over the country must be more receptive to new architectural ideas than they have been. To quote one Juror on this point; "The clients for whom the architect is now designing are encouraging him. Our operations as architects are entirely dependent on those with whom we work. If they won't accept what we do for them, we're licked. I think all this indicates that people are more receptive than they have been, particularly with regard to public buildings. There are two universities represented here which have been willing to accept modern concepts."

Some mild regret was felt that no public governmental building and no churches were deemed sufficiently excellent to warrant mention. If the Jury had any general criticism, it was on the score of insufficient study. Many of the entries were unsatisfactory in the lack of organization of façades, the proliferation of materials, and in a certain lack of consistency as one went around the building. The sixty buildings which survived the first round had—without exception—excellent plans, were in general pleasant, and often imaginative. Those which were eliminated in succeeding rounds suffered most frequently from a lack of orderly development.

class I

The annual Awards are given for two categories. The first is for any building or group of buildings not a private residence. The Jury took very seriously the announced program, that "the only basis of selection . . . will be demonstrable progress in fitness, strength, beauty, and purpose." The Award in Class I was unanimously, and with great pleasure, given to Ernest J. Kump, Architect, and Mark Falk, Structural Engineer, for their Ordnance and Optical Shop Building for the U. S. Navy Department, Bureau of Yards and Docks, at the San Francisco Naval Shipyard. The Jury felt that it is one of the most imaginative and one of the most beautifully detailed industrial buildings anywhere. The concept, the handling of materials, the lighting, have all been beautifully integrated. Because it is so direct an approach, so skillfully carried out, the Jury felt it represents definite progress in the humanization of industrial plants.

A close second, and therefore given a special Honorable Mention to express the Jury's enthusiasm, was the American National Red Cross building in San Francisco, by Gardner Dailey, Architect, and Walter T. Steilberg, Consulting Architect and Engineer. The Jury was delighted with its imaginative plan, excellent structure and details, and with the clarity and excellence of its development from plan.

Mentions were not placed in any particular order. Three elementary schools were chosen. The Indian Lake School, in Barrington, Illinois, by Perkins & Will, Architects, of Chicago, was picked because the Jury felt that it had satisfactorily solved a problem of great importance to the country. They also recognized that in such rural schools, usually forgotten things, economy is a tremendous problem.

The school classroom building for the San Mateo Elementary School District, San Mateo, California, by Ernest J. Kump, Architect, and Mark Falk, Structural Engineer, was very much liked for its plan, elevations, beautiful ends, and particularly for the use of materials. The classroom windows facing directly on an unaccepted but nevertheless paved street were questioned, as the Jury felt that such a view might offer serious distractions to students.

The Suburban Elementary School in Richfield, Minnesota, by Long & Thorshov, Inc., Architects, of Minneapolis, Minnesota, was much admired. We felt that it is one of the best examples to date of the one-story subdivided school for a northern and bitter climate. It is also noteworthy for its fine use of brick.

Fred N. Severud, Chairman
Robert Woods Kennedy, Secretary
Talbot F. Hamlin, Member
Louis Skidmore, Member
Edward D. Stone, Member
Thomas H. Creighton, Adviser

Three college buildings were also picked. The Student Club, University of Miami, Coral Gables, Florida, by Robert Law Weed & Associates: Marion I. Manley, Associate Architect; Frank E. Watson, T. Trip Russell, Herbert H. Johnson, Associates of Mr. Weed; Richard Belsham, Engineer; and George Farkas, Interiors, was perhaps the most admired. The siting and plan of the building was felt to be noteworthy, particularly considering the number and variety of requirements that go into such buildings. The use, detailing, shape, and camber of the reinforced concrete frames in the dining room received particular commendation.

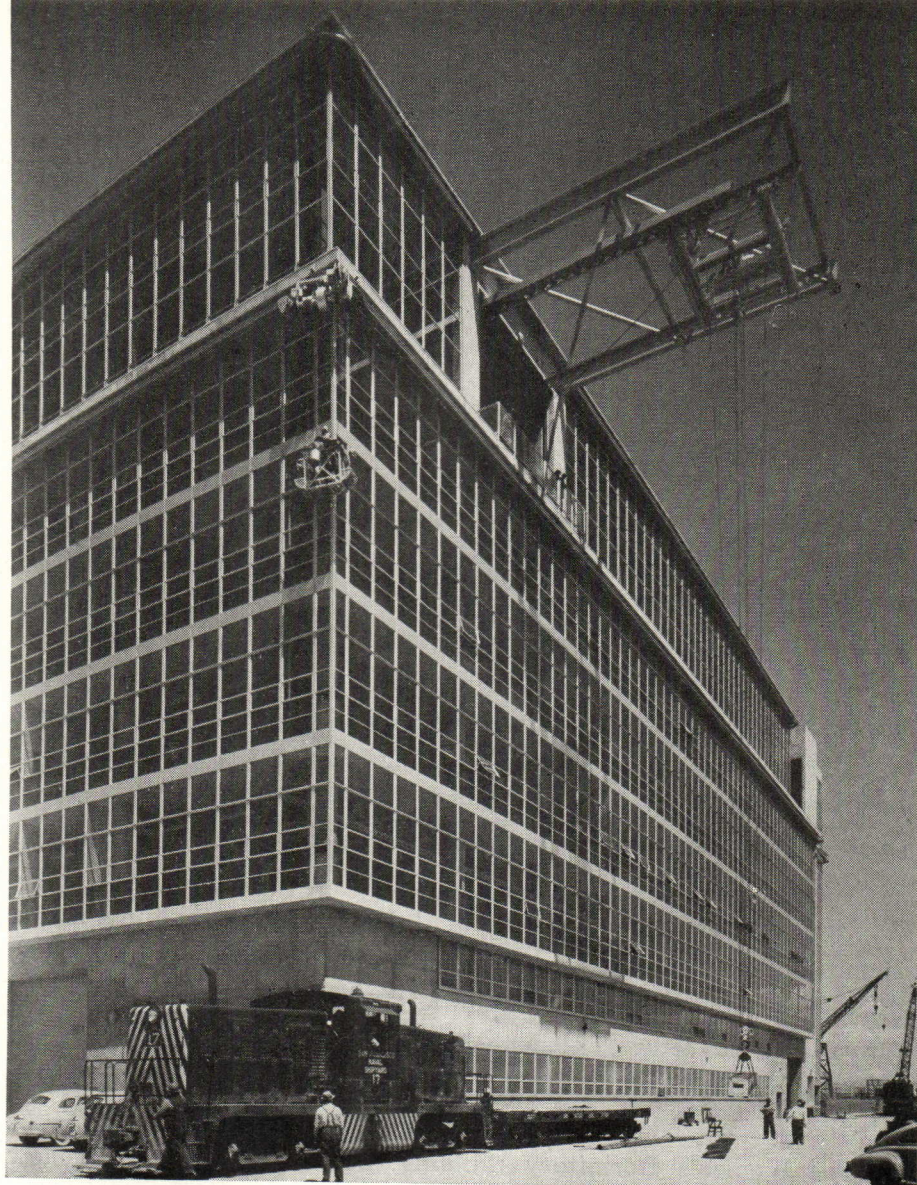
The Football Stadium and R.O.T.C. Headquarters Building, at the Henry Grady High School, Atlanta, Georgia, by Richard L. Aeck, of Aeck Associates, Architects, Atlanta, Georgia, was given a mention for its direct structure, excellent seating arrangement, easy entrances. There was some disagreement about its light towers, but the majority felt that these are logically done and give the structure spirit.

The Women's Dormitory Building, at Antioch College, Yellow Springs, Ohio, by Saarinen, Saarinen & Associates, Bloomfield Hills, Michigan, with Max G. Mercer, Yellow Springs, Ohio, as Associate Architect, was felt to do a very good job of achieving a residential character, in spite of its size. Its simplicity, its lack of applied style, its economy of means, make it somewhat of a new departure in university housing.

The Visitors Information Center for the Portland Chamber of Commerce, Portland, Oregon, by John Yeon, Designer, associated with Wick, Hilgers & Scott, Architects, was both criticized and admired by the Jury. The three-foot module was liked, found too small, considered wasteful, admired for its consistency, found beautiful, calm and expressive, rigid, tight, and monotonous. But finally its beautiful detailing, fine plan, and marvelous interiors persuaded everyone that it was a very mentionable Mention.

The longest discussion of all, however, was devoted to the Office Building for the Equitable Savings and Loan Association, Portland, Oregon, designed by Pietro Belluschi. Much of this revolved around the method of covering the reinforced concrete frame. At the end, however, it was felt that "it is so much the perfect expression of the conventional method of building skeleton structures that the valid criticisms against it perhaps mean that the conventional method (of covering) is not the final answer to the problem."

(Continued on page 61)

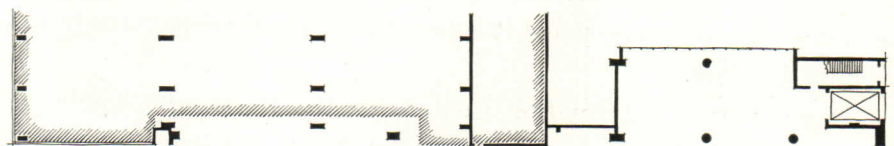


award: class I

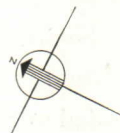
Ordnance and Optical Shop Building

BUREAU OF YARDS & DOCKS, USN
SAN FRANCISCO NAVAL SHIPYARD

Almost square in plan, this notable, steel-framed structure which the Awards Jury felt to be "one of the most imaginative and most beautifully detailed industrial buildings anywhere" is made up of two distinct sections. A six-story, plate-glass-enclosed structure on the south side (photo above), borders a rail spur (the sixth floor is a two-story-high optical shop); and rising above the roof level is a periscope tower where equipment is tested for distant viewing. The lofty, crane-bay portion of the building on the north (photo across page) is laid out in two 75-foot bays and sheathed in panels of corrugated wire glass. The crane-bay section is also a dual unit in that the northernmost bay reaches up the full 60-foot height; the other being but 40 feet high, the remainder of the height being used as a rear extension of the third floor of the multistory portion (see section across page). Purpose of the structure is to house highly specialized pursuits of testing and repairing various ordnance items and intricate mechanisms used by the Navy—periscopes, range-finders, gyro-rotos, sonar and radar electronics devices, etc.

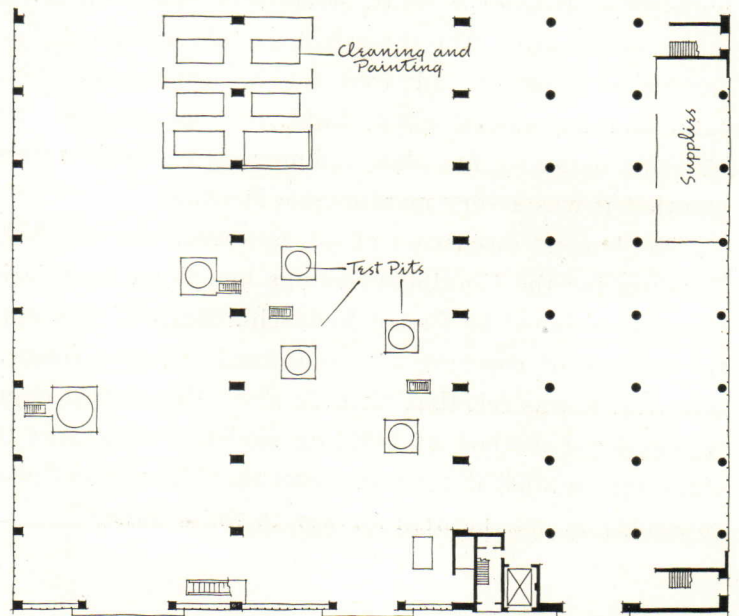


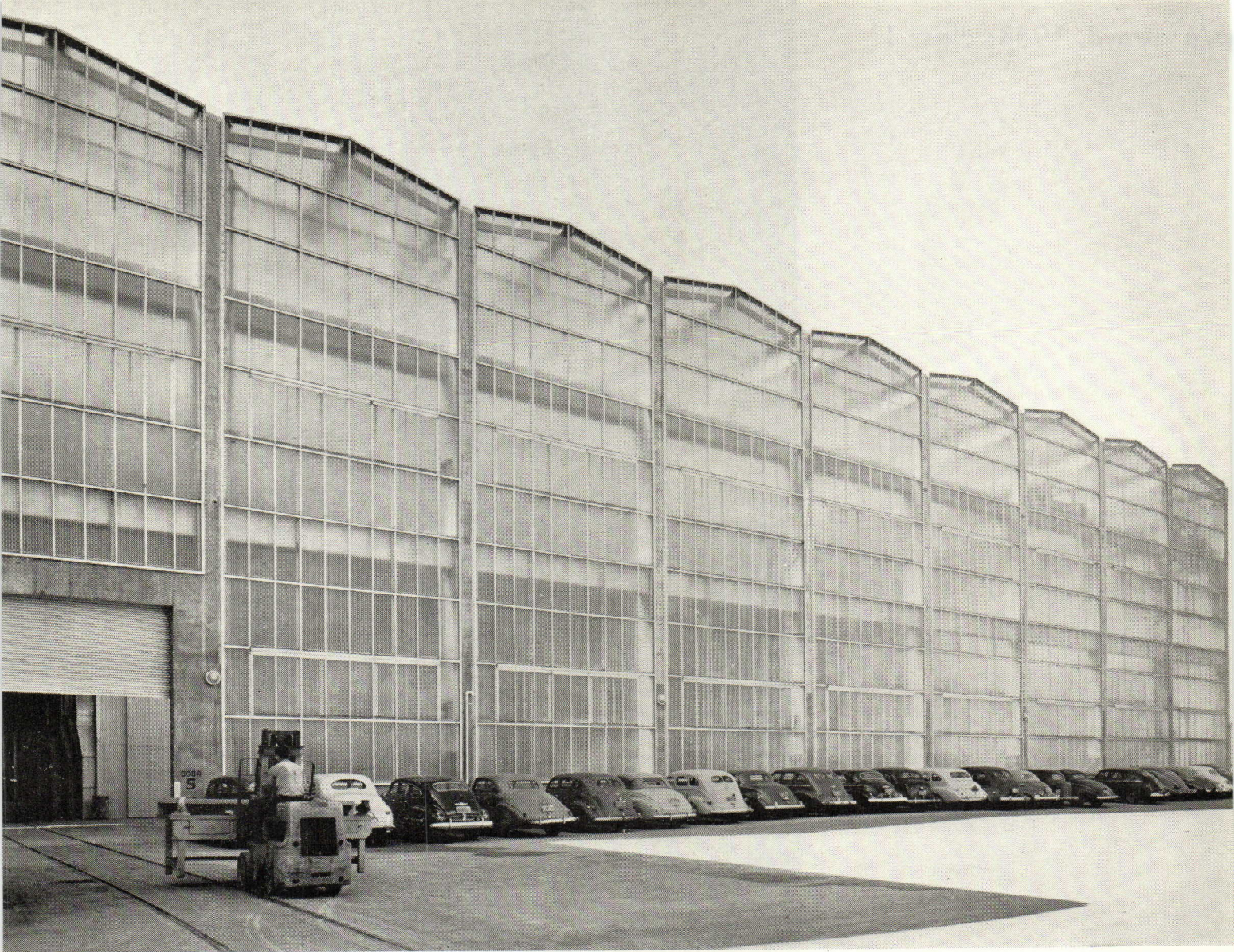
Railway



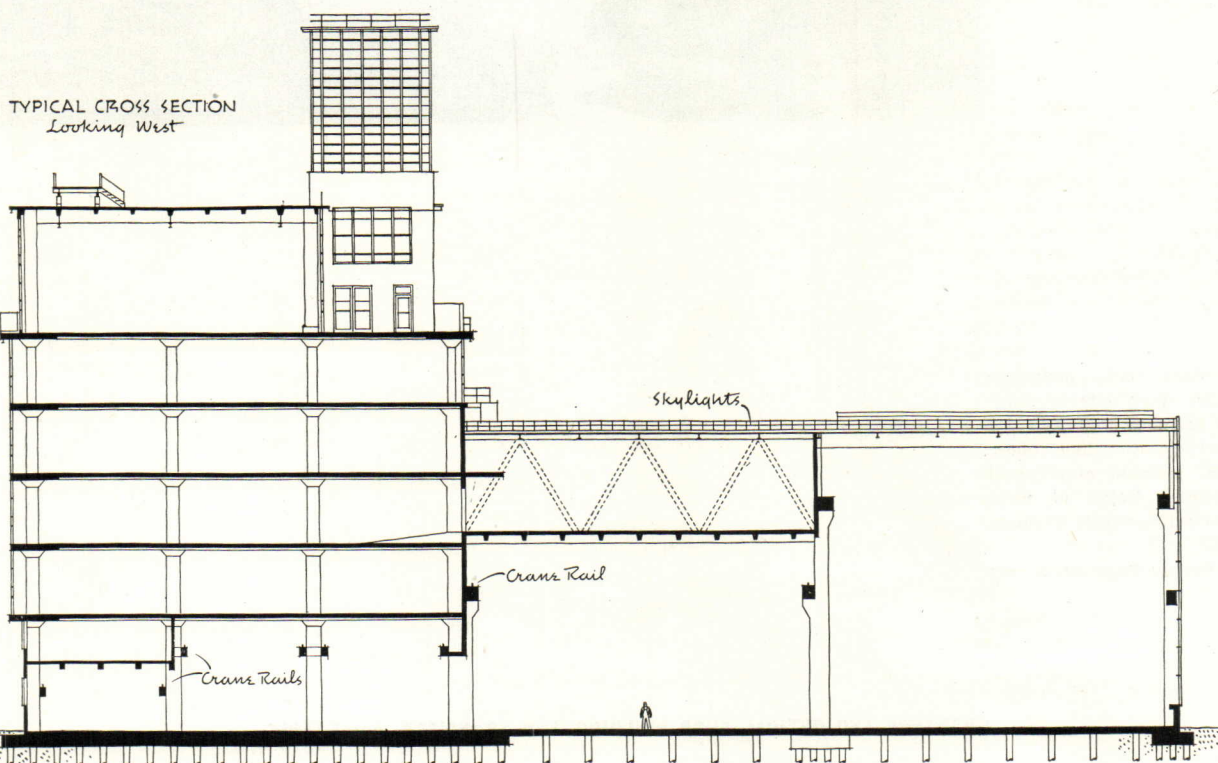
Scale 0 50'

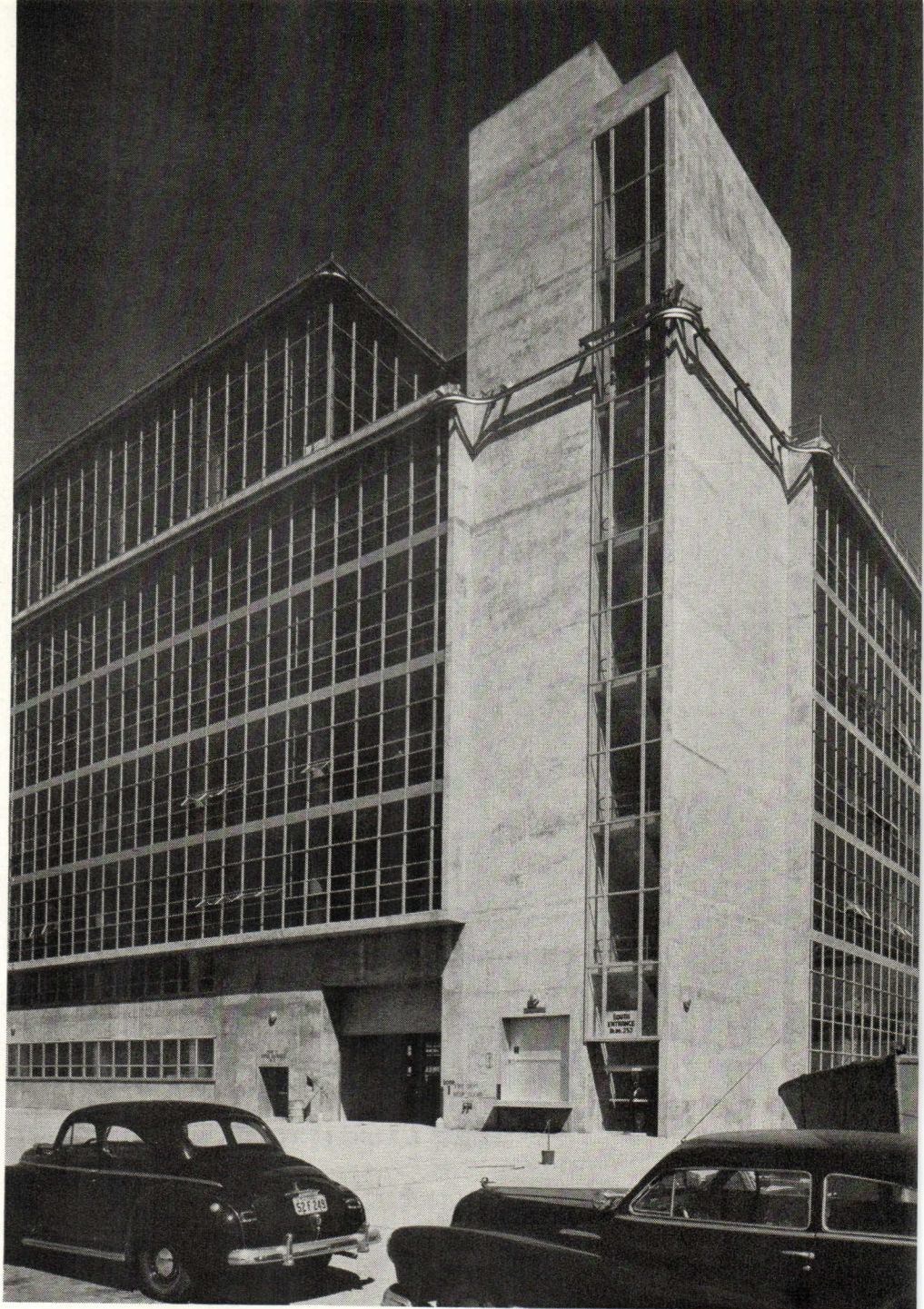
GROUND FLOOR





ERNEST J. KUMP, ARCHITECT; MARK FALK, STRUCTURAL ENGINEER, SAN FRANCISCO, CALIFORNIA





Above: northeast corner, multistory block. Doors, from left to right: pedestrian entrance; railway track entrance; elevator door, above truck dock. Vertical glass panel lights stairwell. Detail of point where glass wall projects is shown on page 87.

Photos: Roger Sturtevant

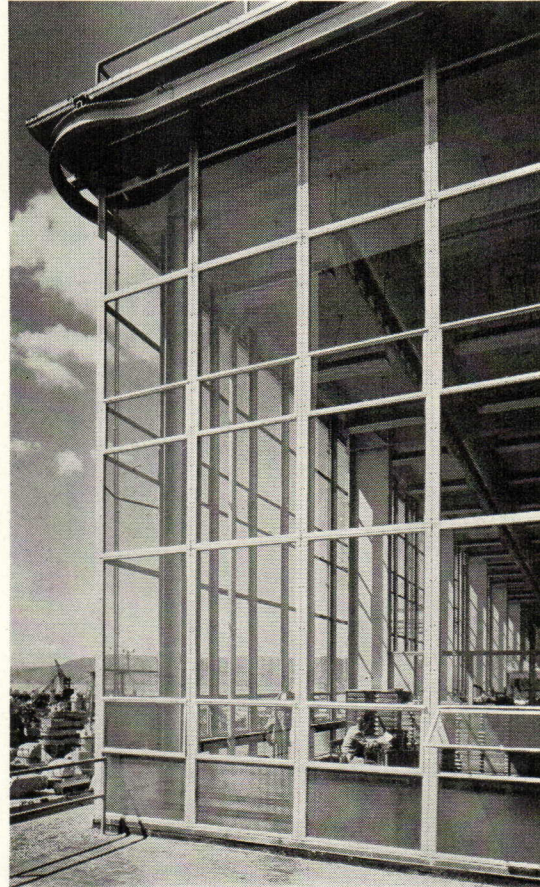
ORDNANCE AND OPTICAL SHOP BUILDING, SAN FRANCISCO, CALIFORNIA

MATERIALS AND METHODS

CONSTRUCTION: Foundations: concrete capped wood piling. **Frame:** structural steel. **Walls:** corrugated glass on crane loft side; plate glass on multistory side. **Floors:** concrete surfaced with wood block or asphalt tile. **Roof:** composition. **Sash:** steel. **Doors:**

steel rolling; tempered plate glass.

EQUIPMENT: Heating: blowers; exhaust fans. **Special equipment:** electrically operated moving stairway; heavy duty cranes; one-ton jib booms; automatic sprinkler system.

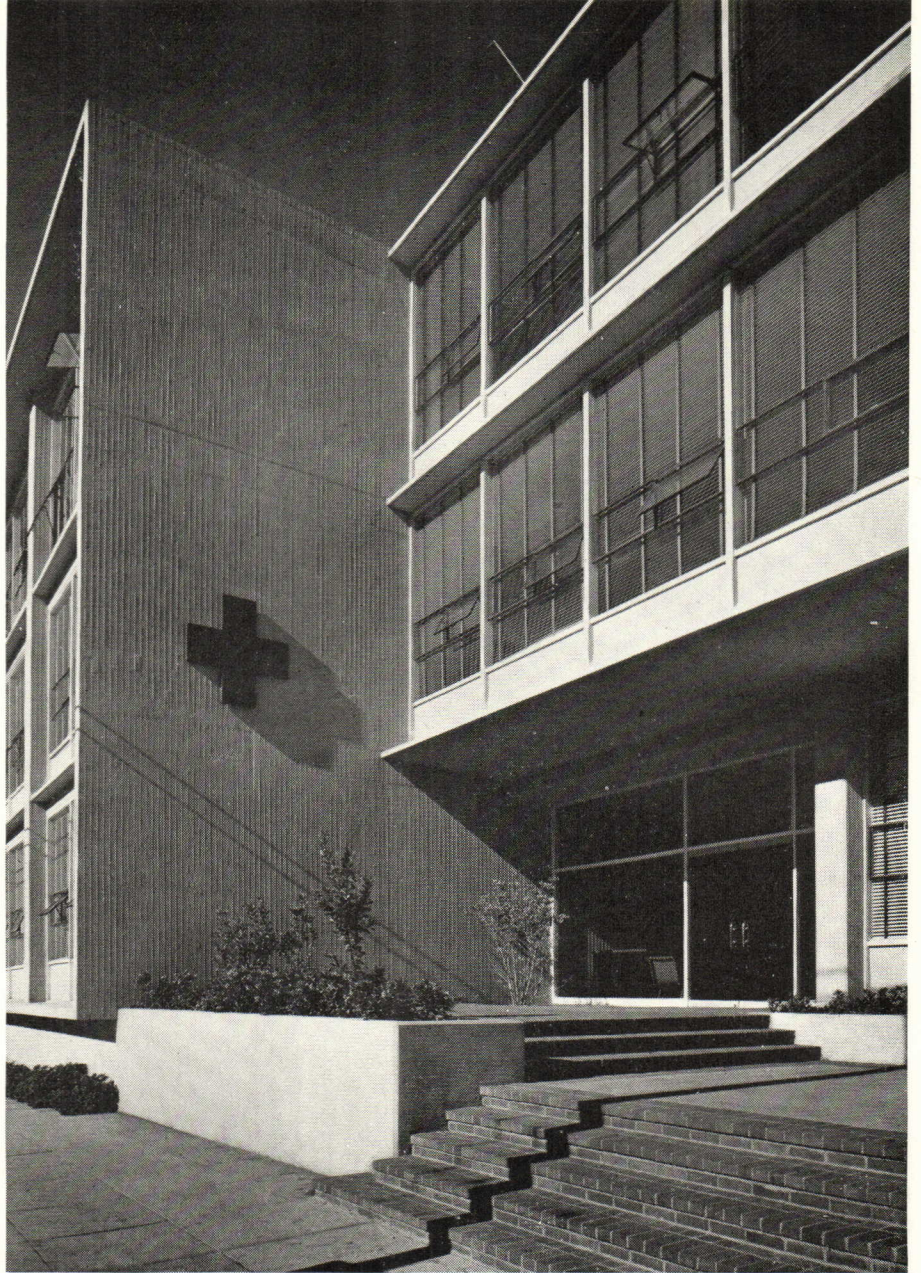


Above: exterior view of two-story-high, top-floor optical shop.

Below: inside optical shop. Equipment for calibration or repair arrives at south side of building on rail spur and is lifted to this level by outrigger crane.

This was considered such a close second to the Class I Award winner that the Jury voted a special citation to express enthusiasm for its "imaginative plan, excellent structure and details, and . . . clarity and excellence of its development from plan." Around a court are arranged offices of Western Area headquarters of the American Red Cross.

Photo: Roger Sturtevant

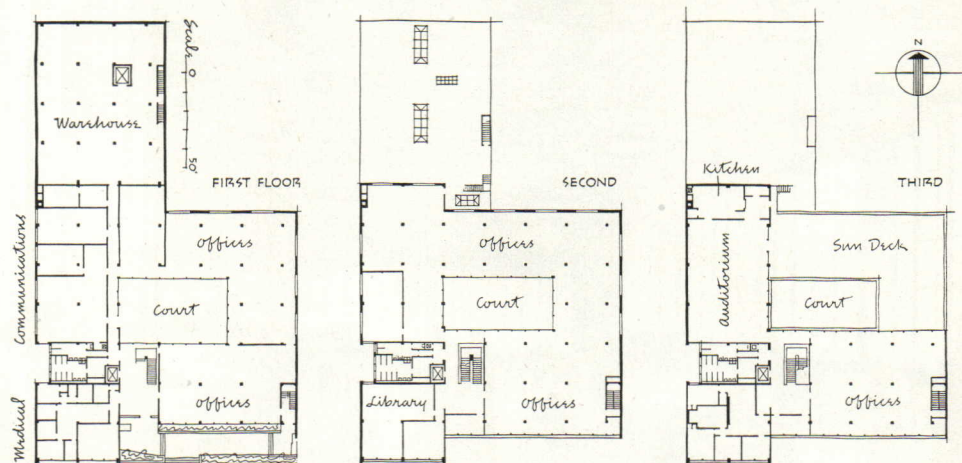


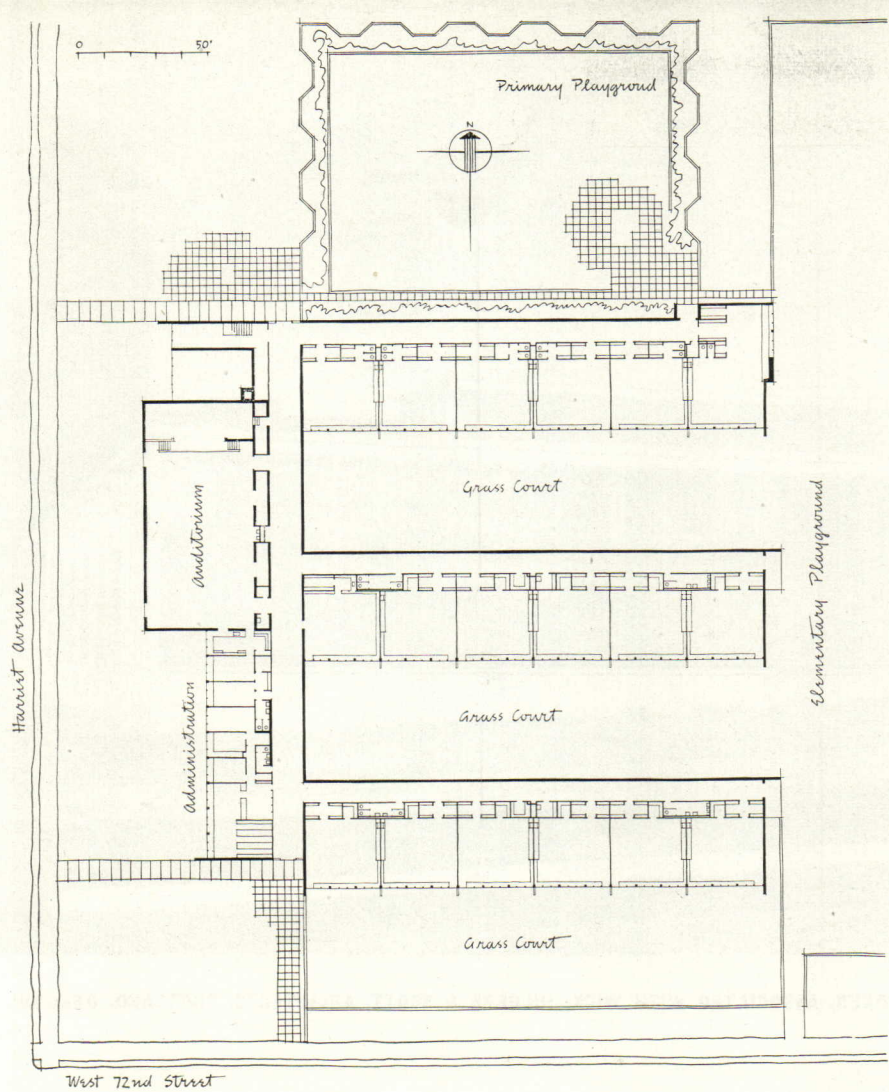
honorable mention: class I

American National Red Cross Building

SAN FRANCISCO, CALIFORNIA

GARDNER A. DAILEY, ARCHITECT; WALTER T. STEILBERG, CONSULTING ARCHITECT-ENGINEER





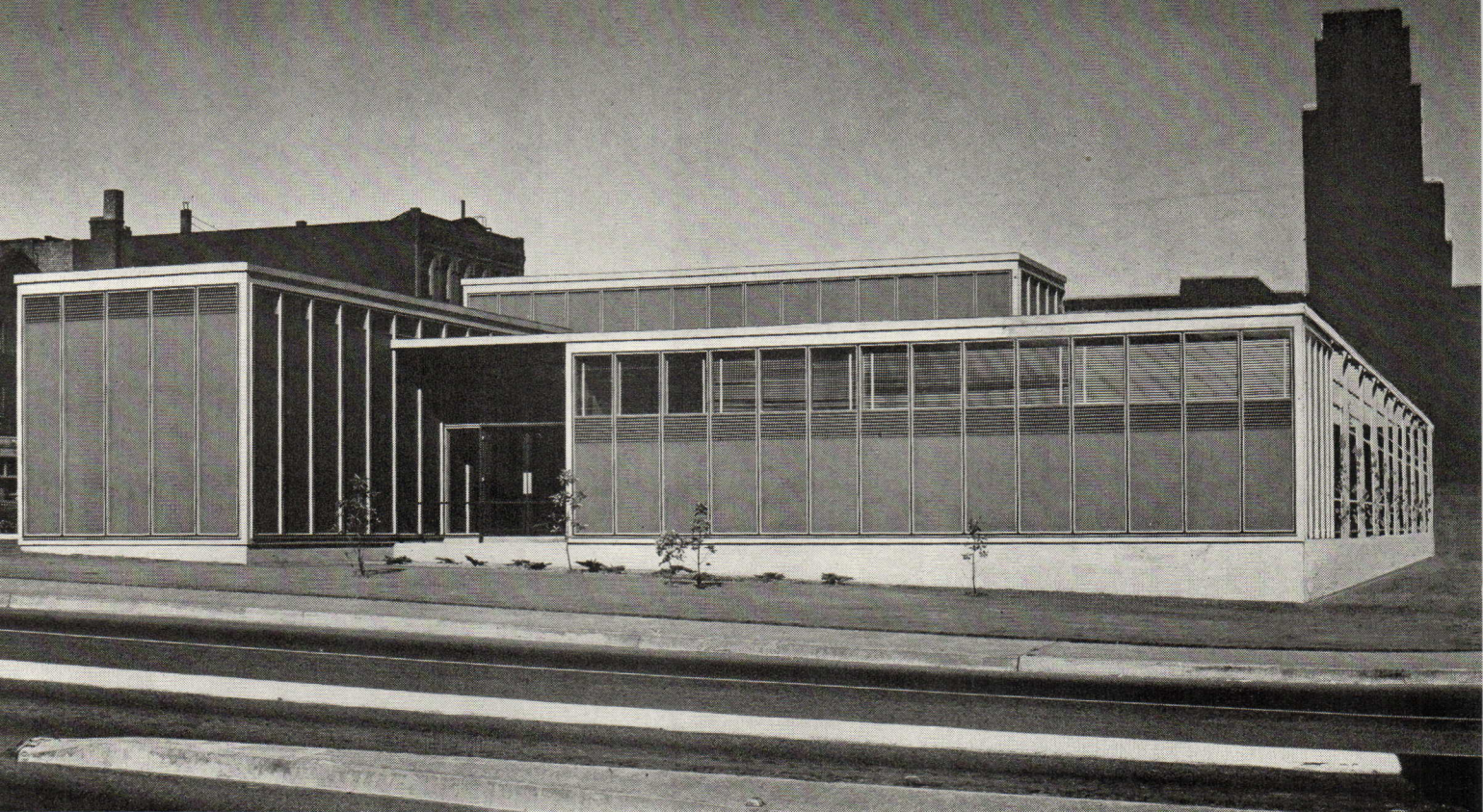
mention: class I

Admired as "one of the best examples to date of the one-story subdivided school for a northern and bitter climate," this school building has large window areas to the south, with sunlight controlled by roof projection, and continuous clerestory on the north to provide bilateral lighting. The Jury also commended the "fine use of brick." Photo: Photography Inc.

Central Elementary School, Richfield, Minnesota

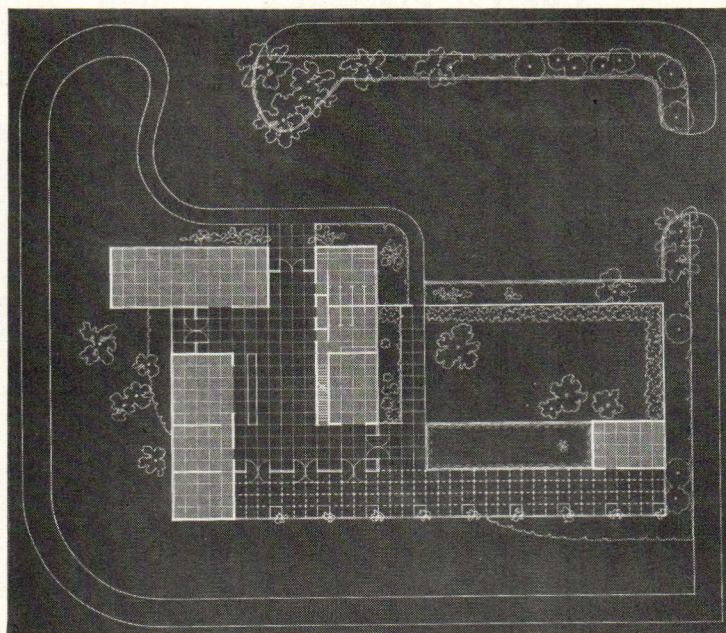
LONG & THORSHOV, ARCHITECTS, AND RALPH E. THOMAS & ASSOCIATES, INC., ENGINEERS, MINNEAPOLIS, MINNESOTA





JOHN YEON, DESIGNER, ASSOCIATED WITH WICK, HILGERS & SCOTT, ARCHITECTS, PORTLAND, OREGON

mention: class I



Plan and sensitive detailing won approval for this modest public structure. Designed on a three-foot module throughout, it is candidly disciplined in expression. The inviting building and its garden are open year-round.

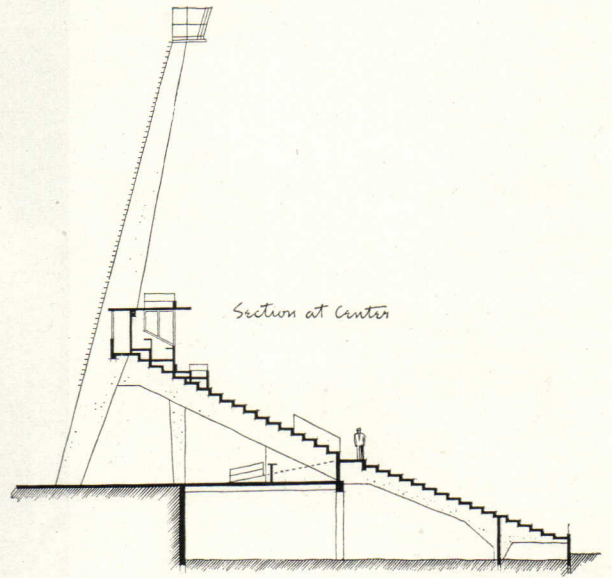
Photo: Roger Sturtevant

Visitors Information Center, Chamber of Commerce, Portland, Oregon

Football Stadium and R. O. T. C. Headquarters, Henry Grady High School Atlanta, Georgia

For "direct structure, excellent seating arrangement, easy entrances" this stadium held the interest of the Jury. On a filled site, it has at lower levels provision for R.O.T.C. activities (rifle range, armory, etc.) and in the stands seats 10,000 spectators. The stadium is used by six high schools for football and track events.

Photo: Gabriel Benzur



mention: class I

RICHARD L. AECK, ARCHITECT, OF AECK ASSOCIATES, ARCHITECTS, ATLANTA, GEORGIA



mention: class I

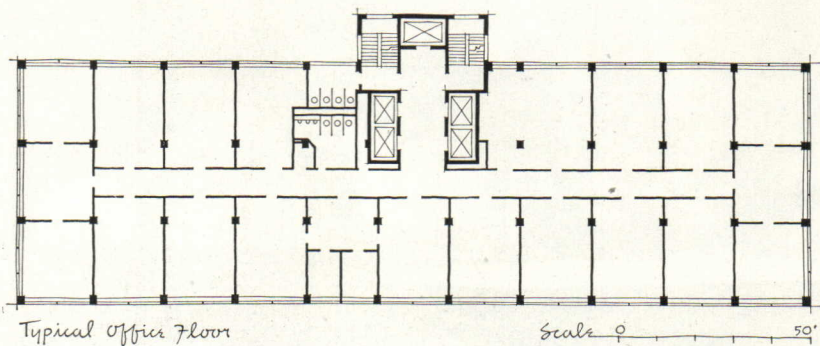


Office Building, Equitable Savings & Loan Association, Portland, Oregon

PIETRO BELLUSCHI, ARCHITECT, PORTLAND, OREGON

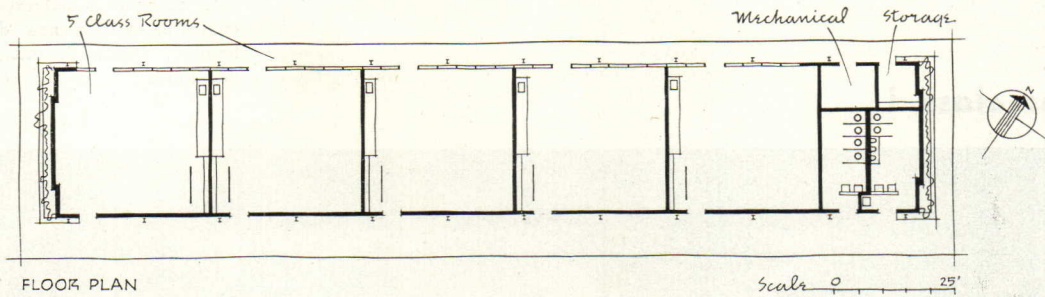
Longest of the Jury discussions was devoted to this building and loan headquarters and rental building, which reflects both the client's desire for a thoroughly modern building and the talented architect's unrestricted solution. The enclosing of the structure was agreed to be "the perfect expression of the conventional method" though doubt about the final validity of this answer was entertained by some of the Jurors.

Photo: Roger Sturtevant



Classroom Building, Lawrence Elementary School, San Mateo, California

ERNEST J. KUMP, ARCHITECT; MARK FALK, STRUCTURAL ENGINEER, SAN FRANCISCO, CALIFORNIA



Much liked for its plan, as well as for adroit use of materials, this building is one in which the architect carefully considered the effect of texture and area disposition on school environment. Trilateral lighting is provided for the classrooms (elementary grades). Photo: Roger Sturtevant

mention: class I



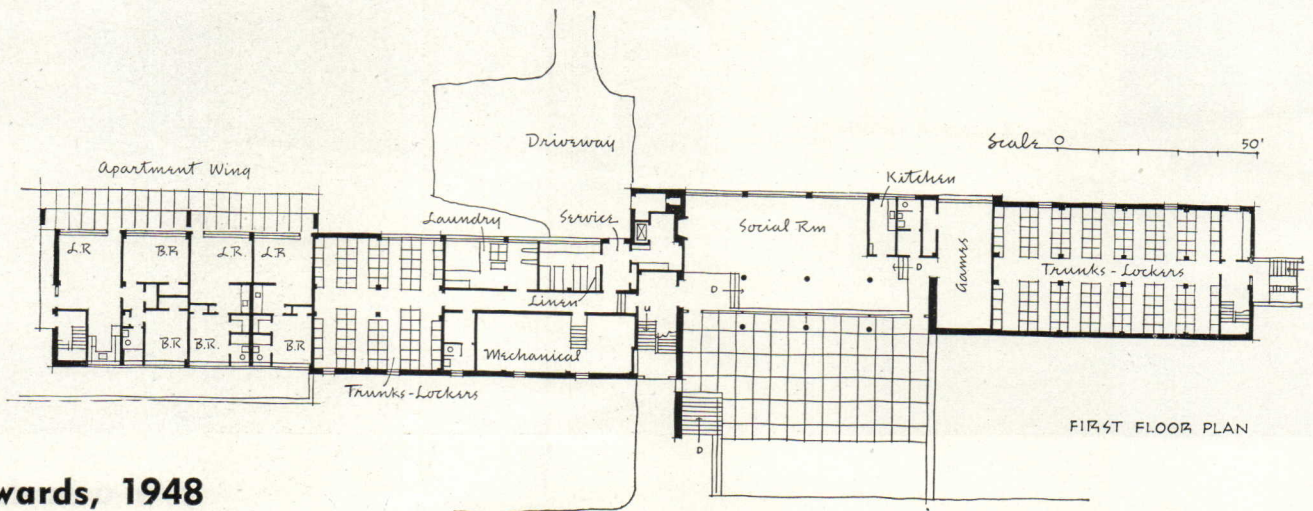
Women's Dormitory, Antioch College, Yellow Springs, Ohio

SAARINEN, SAARINEN & ASSOCIATES, ARCHITECTS, BLOOMFIELD HILLS, MICHIGAN

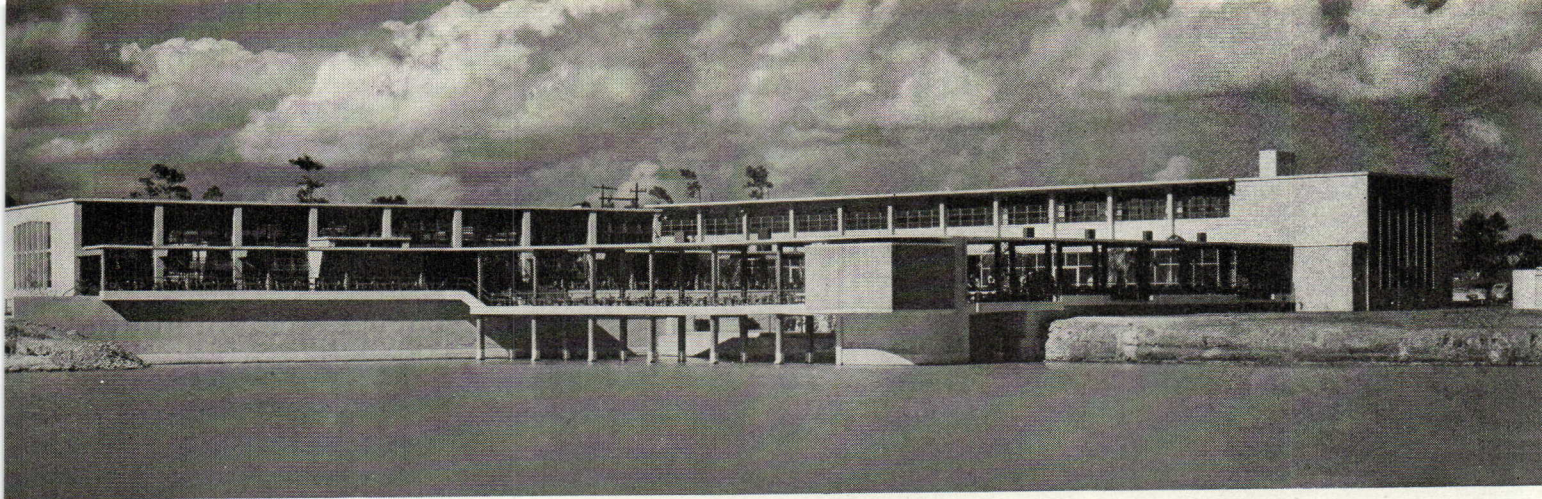
MAX G. MERCER, ASSOCIATE ARCHITECT, YELLOW SPRINGS, OHIO

Despite the size of this three-story structure, the Jury thought it achieved pleasant residential character—was a new departure in university housing. Typical dormitory floors are the second and third.
Photo: Dearborn-Massar

mention: class I



p/a awards, 1948



mention: class I

Student Club, University of Miami, Coral Gables, Florida

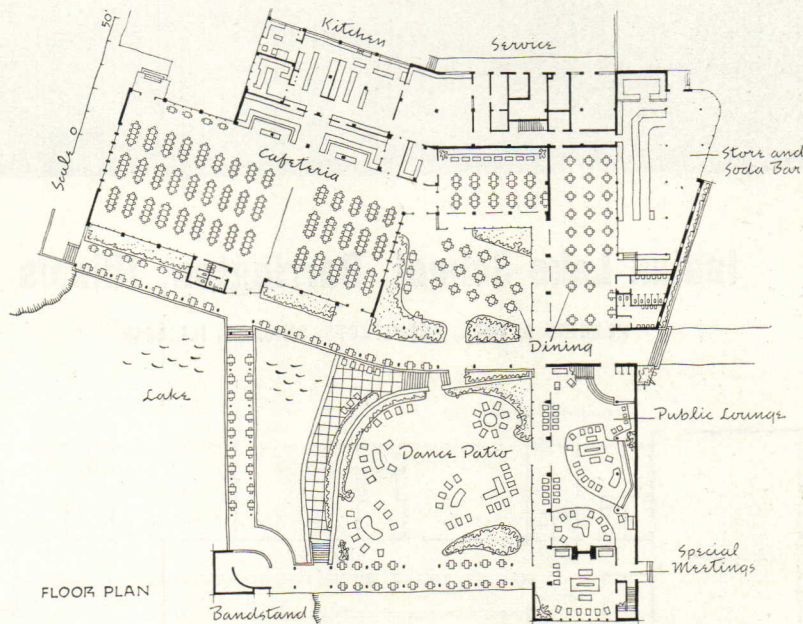
ROBERT LAW WEED & ASSOCIATES, ARCHITECTS, MIAMI, FLORIDA

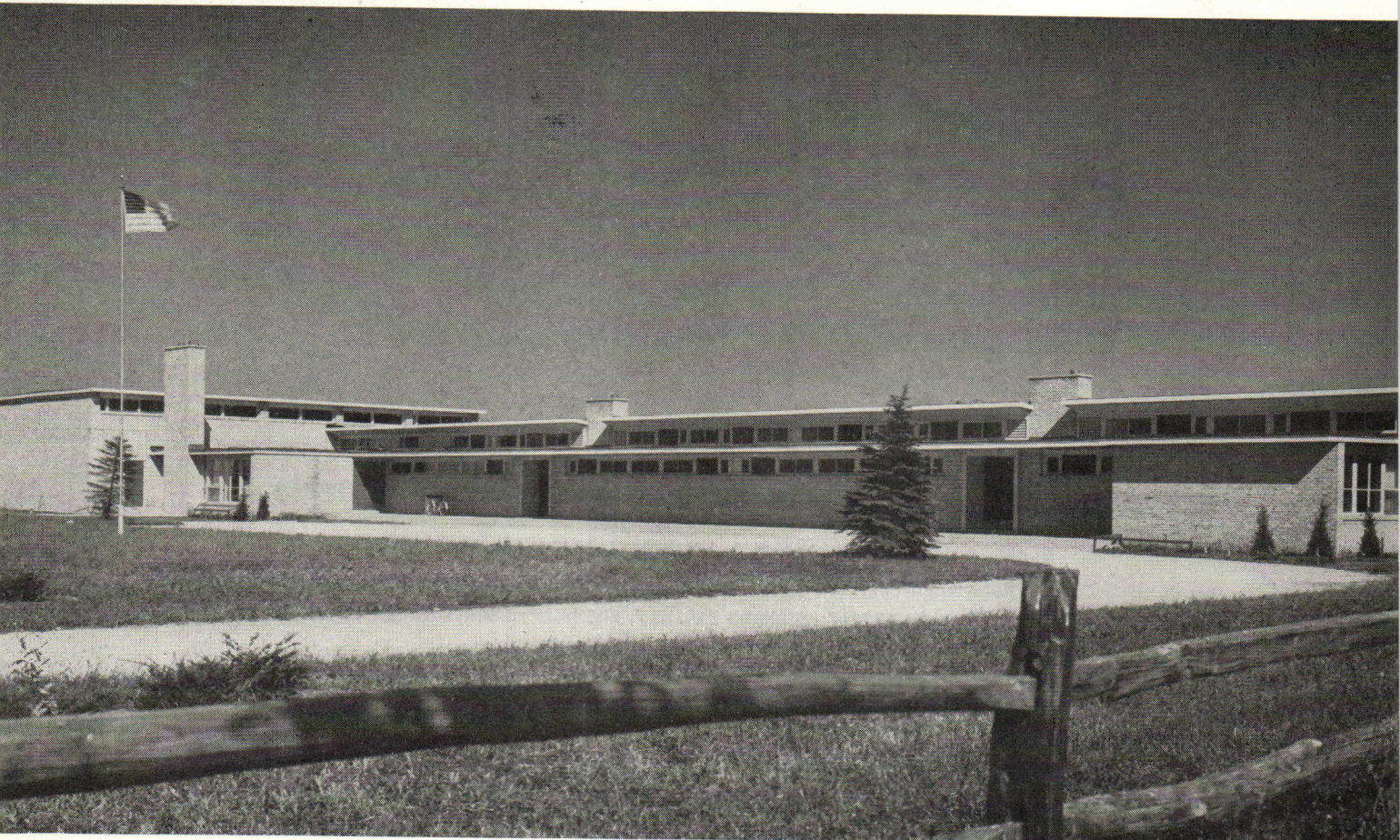
FRANK E. WATSON, T. TRIP RUSSELL, HERBERT H. JOHNSON

MARION I. MANLEY, ASSOCIATE ARCHITECT; RICHARD BELSHAM, ENGINEER; GEORGE FARKAS, INTERIORS

In addition to the imaginative siting and plan of this club, the camber of concrete frames in the dining room received attention. Social facilities for undergraduates of a large university are here provided.

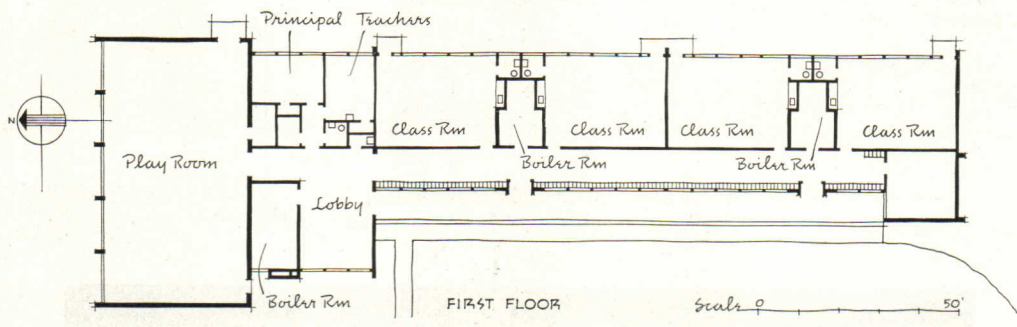
Photos: Ezra Stoller:
Pictorial Services





Indian Lake School, Barrington, Illinois

PERKINS & WILL, ARCHITECTS, CHICAGO, ILLINOIS

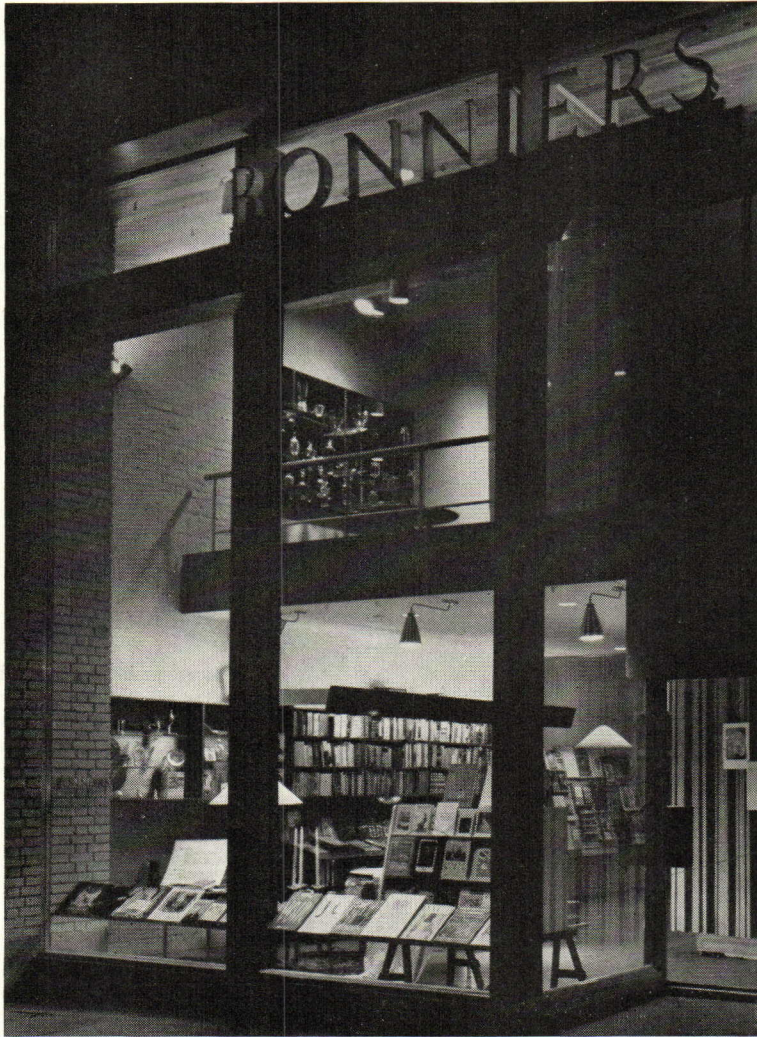


Within rigid limits of economy too-familiar in rural school districts, the architects were held in high esteem for a satisfactory solution. Brick walls are unfinished inside, combined with wood.
Photo: Hedrich-Blessing, Ltd.

mention: class I

Bonniers, New York, N. Y., by Warner-Leeds, Architects and Consultant Designers, is an adaptation of two lower floors of a business building to provide open space for display of books, records, and Scandinavian products; and work and entertaining area for staff and foreign visitors.

Photo: Elliot Clarke



The first section of a student center for College of the Pacific, Stockton, California, this building by Wurster, Bernardi & Emmons, Architects, of San Francisco, will be the east side of a future enclosed court.

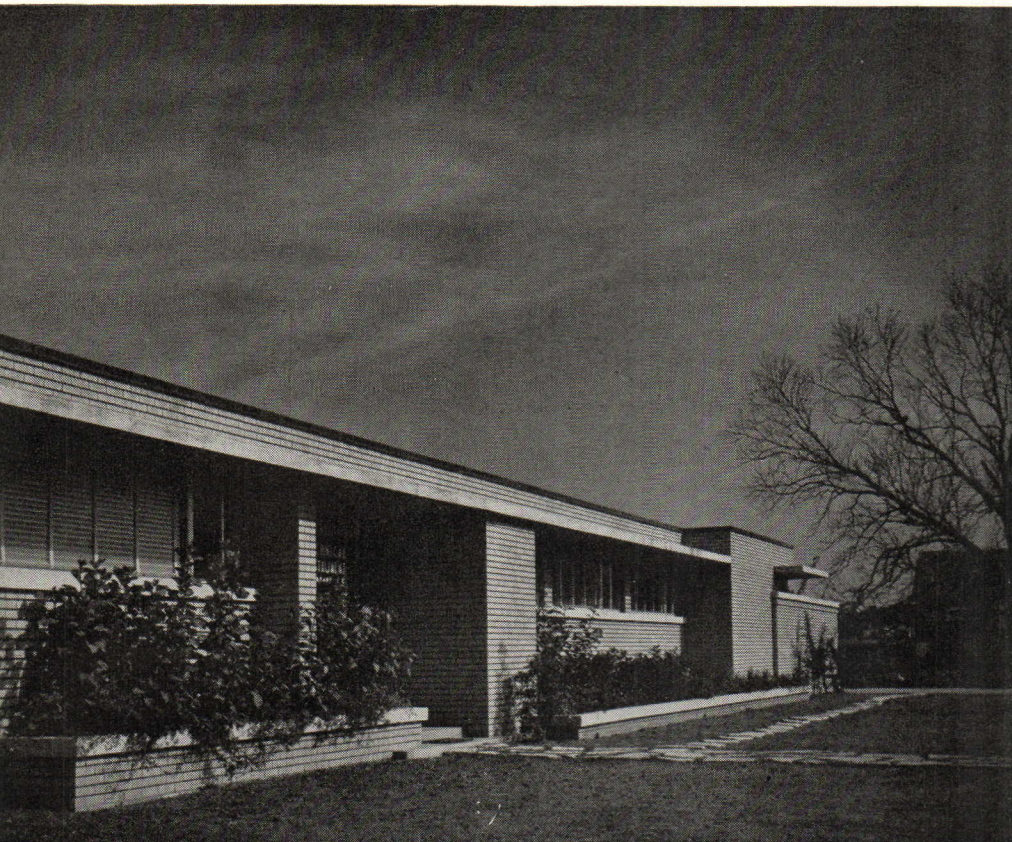
Photo: Roger Sturtevant





Clyde's Supermarket, Oklahoma City, Oklahoma, was designed by Joseph N. Boaz, Architect, to attract attention at a busy intersection. The open front is as much for advertising appeal as the insistent sign.

Photo: Meyers Photo Shop

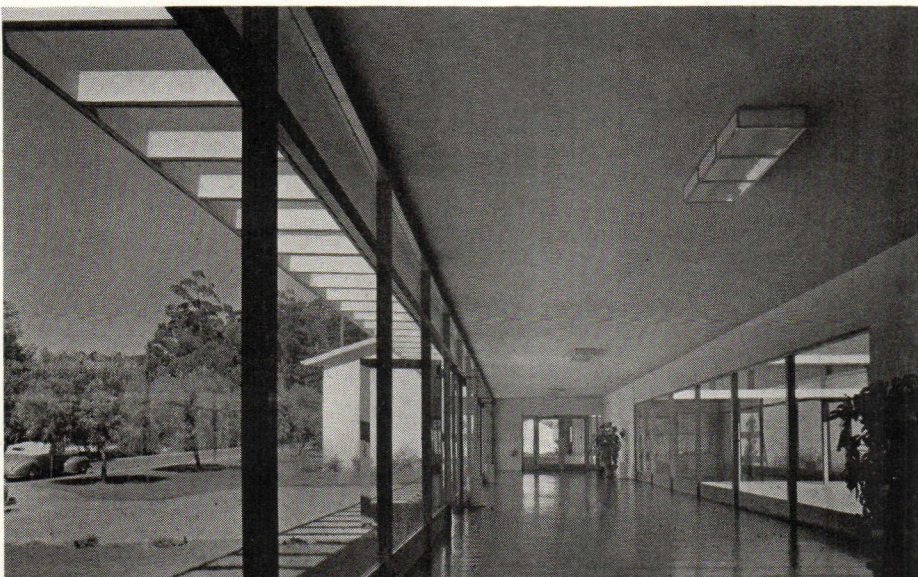


Offices and Plant for Technical Instrument Company, Houston, Texas, were designed by MacKie & Kamrath around a cool patio.

Photo: Mears Studio

The one-story units of the Life Sciences Building for Mills College, Oakland, California, by Clarence W. W. Mayhew, Architect, are connected by pleasant galleries such as this central one serving as the entrance lobby.

Photo: Roger Sturtevant



runners-up: class I

Report of the Jury (CONTINUED)

class II

The winner of the Award in Class II, private residences, was a house for Mr. and Mrs. P. L. Menefee at Yamhill, Oregon, by Pietro Belluschi. As in the case of Kump's Ordnance Building, the Jury was unanimous, enthusiastic, and delighted. Mr. Stone—"I think this is one of the most distinguished houses that has been built in this country." Mr. Skidmore—"It is a kind house, kind and warm." Mr. Kennedy—"I like the way in which the U plan, usually treated as a rigid symmetrical form, has been freely and asymmetrically handled." Mr. Severud—"The low pitch and the overhang gives such a feeling of shelter, like a hen taking the chicks under her wing." Mr. Hamlin—"The house would be good anywhere that wood is plentiful and the climate moderate. That is, its is not a *restricting* regional character."

The most admired Mention was the house for Mr. and Mrs. Albert Hershfield, Berkeley, California, designed by Henry Hill, Architect, of San Francisco, which was affectionately known throughout the session as "The Peanut." It was admired for its excellent plan, regular, simple structural rhythm, for its economy of cost and means. The Jury doubted the social desirability of having to build to such a small area, while recognizing the economic necessity for it. There was much discussion of whether one would leave one's wife under such cramped circumstances (no conclusion). The one criticism of the plan was the seeming lack of inside privacy from the entrance side.

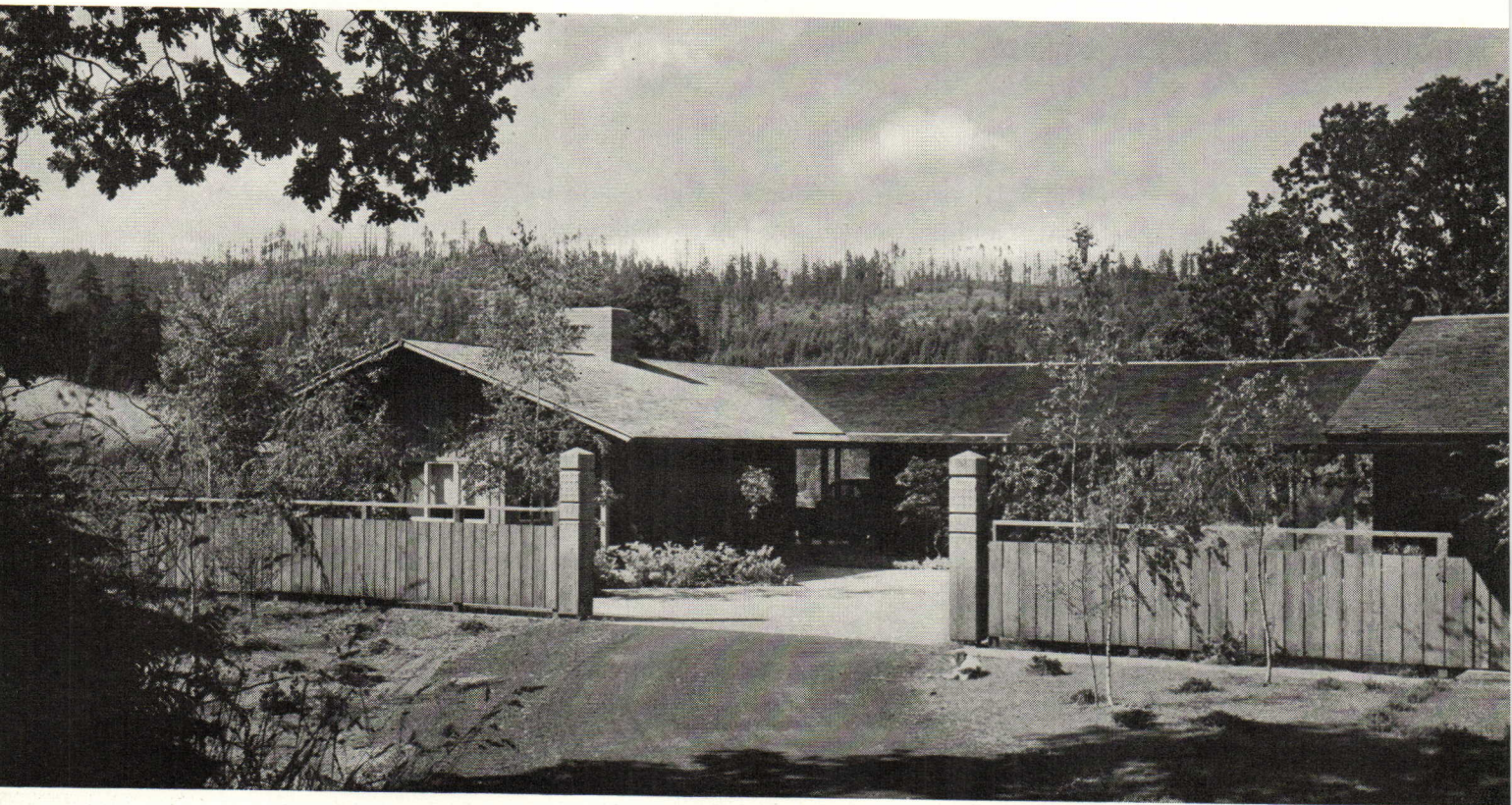
The house for Mrs. Marion Miller in Sarasota, Florida (Siesta Key) by Ralph S. Twitchell, Architect, and Paul M. Rudolph, Associate, was admired for its sweep, orderliness, and particularly for the repetitive use of the frames, which make the interiors very pleasant.

The house for Mr. and Mrs. Richard G. Clarke, in Suffield, Connecticut, designed by Robert Carroll May, of Hartford, was liked for its siting, for its unusually fine, even poetic plan, and particularly for its use of concrete blocks and exposed framing. Some members of the Jury found it derivative, but so creatively done within the Usonian framework that it merited a Mention.

The only prefabricated house submitted, "The Acorn House," was a test house erected in Concord, Massachusetts, and designed by Carl Koch, Architect, with Huson Jackson and John Hancock Callender, Collaborators. The Jury, after long discussion, felt that it deserved a Mention because it is a very real and able attempt at progress in a new field. The foundation system, the method of shipping and assembly, the fireplace, and several other features were remarked on for their ingenuity and for the study which must have gone into their development.

The house for Dr. and Mrs. Stewart Bailey, in Santa Monica, California, designed by Richard J. Neutra, was chiefly liked for its plan. The excellent relationship of its two parts was much admired, as well as the very fine interior spaces. The relationship of ends and sides was criticized by some members of the Jury, and it was felt by everyone that its plan, which was to be repeatable, is essentially neither more or less subject to duplication than any other specially designed house for an individual client.

Fred N. Severud, Chairman
 Robert Woods Kennedy, Secretary
 Talbot F. Hamlin, Member
 Louis Skidmore, Member
 Edward D. Stone, Member
 Thomas H. Creighton, Advisor

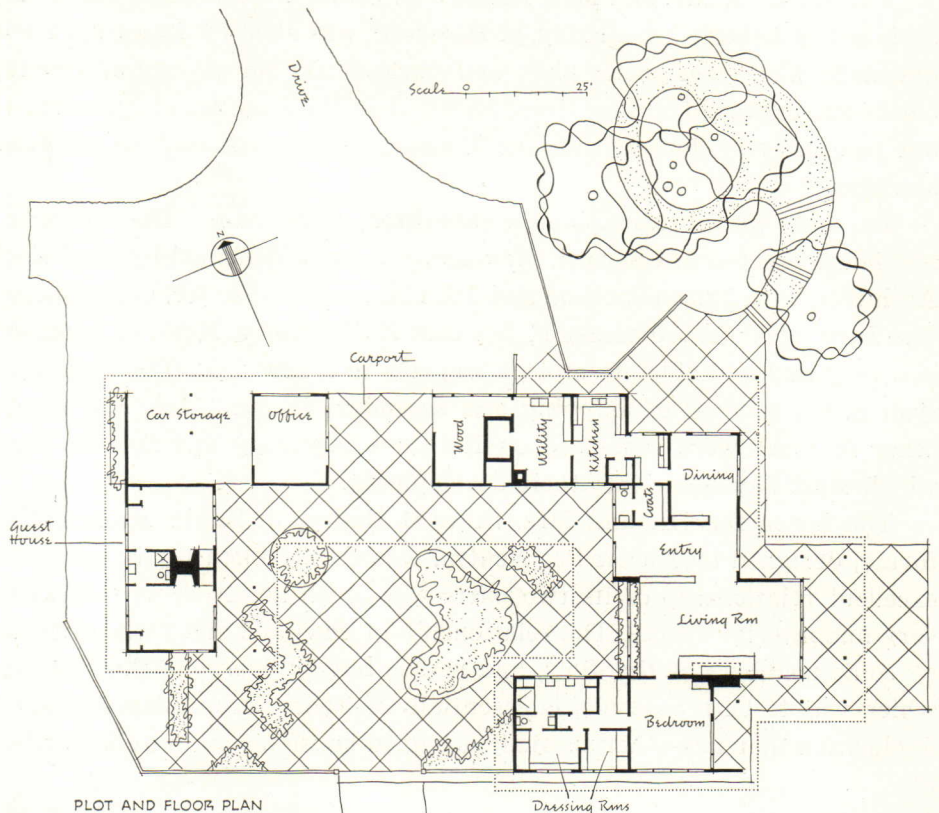


House: Yamhill, Oregon

PIETRO BELLUSCHI, ARCHITECT, PORTLAND, OREGON

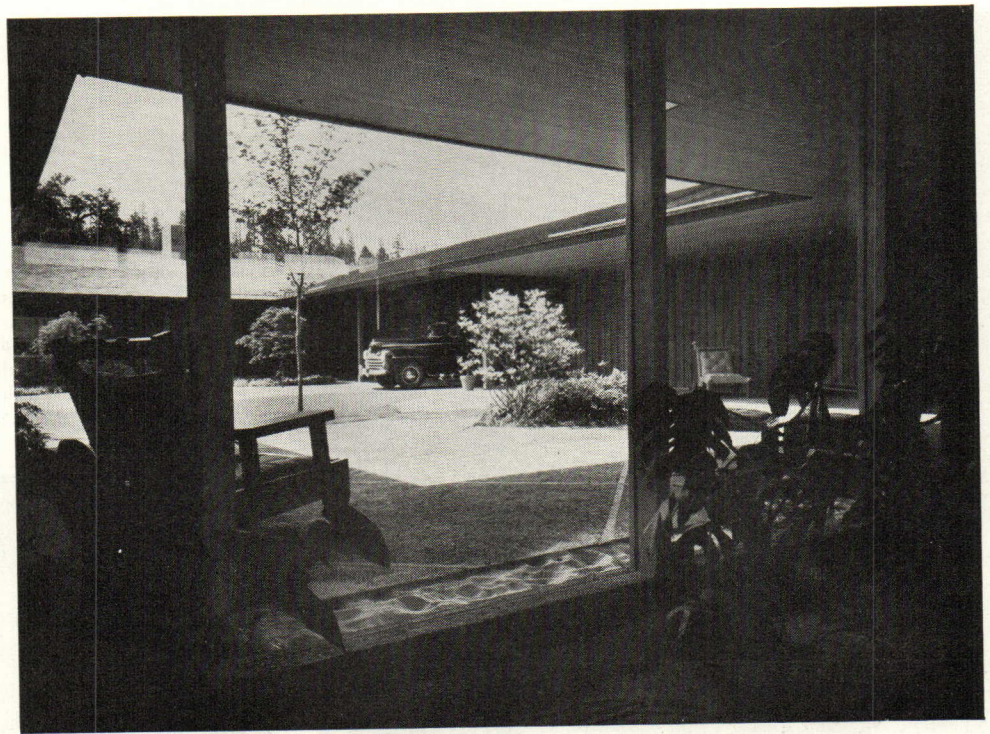
The country home of Mr. and Mrs. Percy Lee Menefee, owners of the largest turkey ranch in the world, this house is organized around a landscaped inner court (Thomas D. Church, Landscape Architect). To the southeast, the land drops away to a pleasant valley view. The living room is so planned that it looks

out both on the quiet courtyard and—through a wall of glass set well back under the deep projecting southeast roof—down the valley. The ranch office and two-bedroom guest house in the north corner of the site are set apart from the house, for privacy. Covered passages connect all portions.



PLOT AND FLOOR PLAN

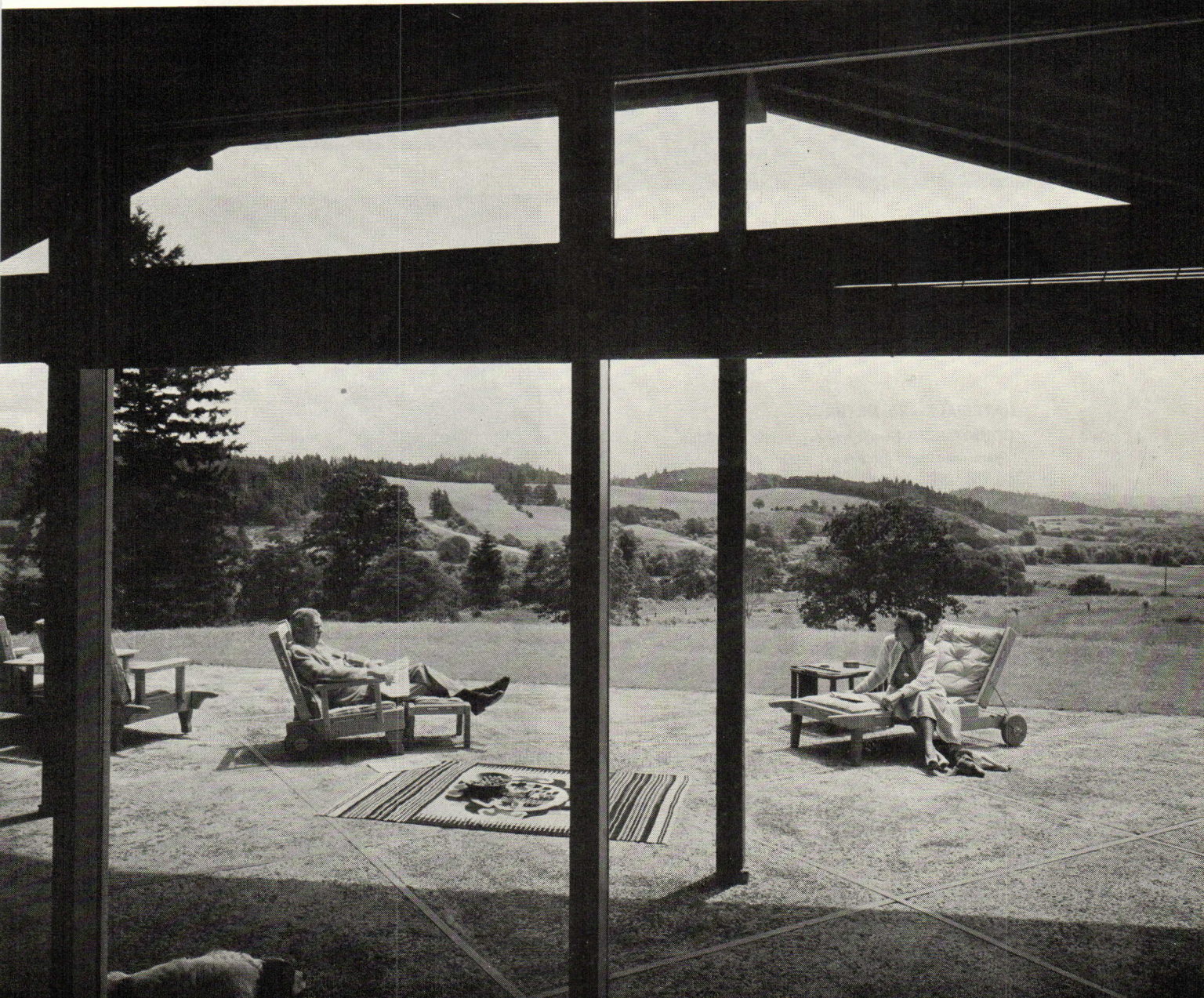
ward: class II



Opposite page: top—courtyard fence with guest-house wing, left; below—looking across court to living room and owners' bedroom wing.

On this page: at right—view from living room across court to guest-house-office corner; below—looking down the valley across the southeast porch.

Photos: Ezra Stoller: Pictorial Services





Left: the raised living room fireplace with its ceiling-height copper-hood heater (see Selected Detail, page 89).

Immediately below: the dressing room-coat closet looking out to the hall.

Bottom: dining room, with a glimpse of the living room fireplace in background.



MATERIALS AND METHODS

CONSTRUCTION: **Frame:** wood. **Walls:** frame surfaced outside with rough-sawn boards and battens; inside, birch veneer plywood; fir plywood, T & G hemlock. **Floors:** concrete, finished with cork or asphalt tile. **Ceilings:** cedar siding; T & G hemlock; insulating tile. **Roof:** cedar shingles on frame. **Fenestration:** wood sash; double insulating glazing. **Doors:** flush, birch.

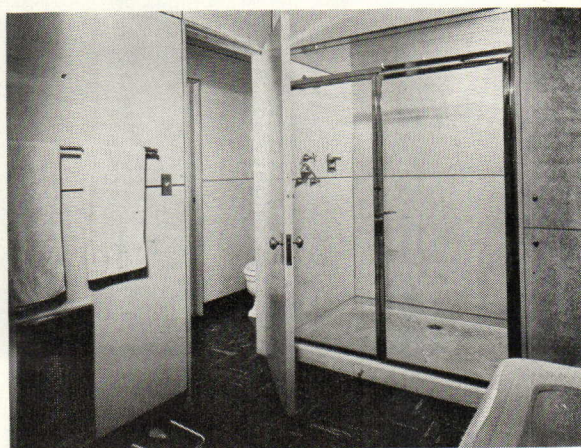
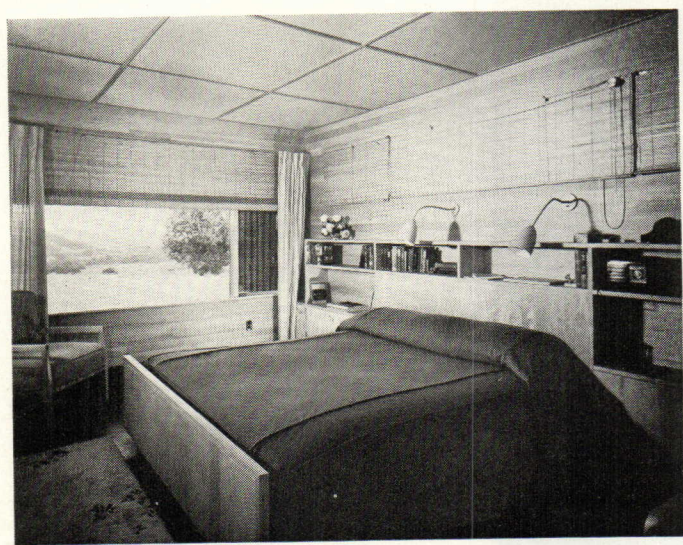
EQUIPMENT: **Heating:** radiant, floor panel; hot-water; oil-fired furnace; automatic controls; supplementary unit electric heaters.



Above: a bookcase unit is the only division between hall and living room.

Below, left: owners' bedroom.

Below, right: top—Mrs. Menefee's dressing room; bottom—owners' bathroom.



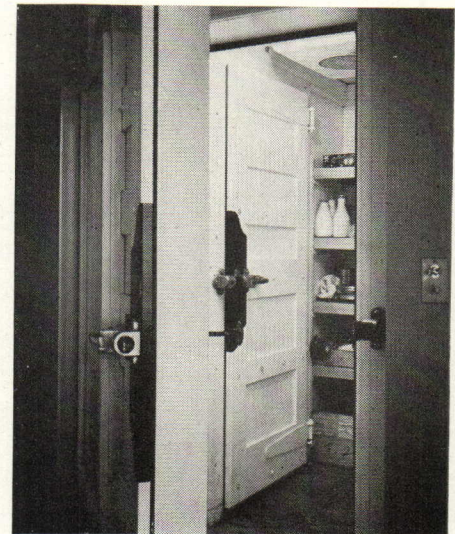


p/a award, 1948: class II

Above: U-planned kitchen; door serving north dining terrace, just beyond refrigerator.

Right: cold room, off the utility room, divided into two separate cold compartments for two degrees of chilliness.

Below: the ranch office, separated from the main house by the porte-cochere entrance.

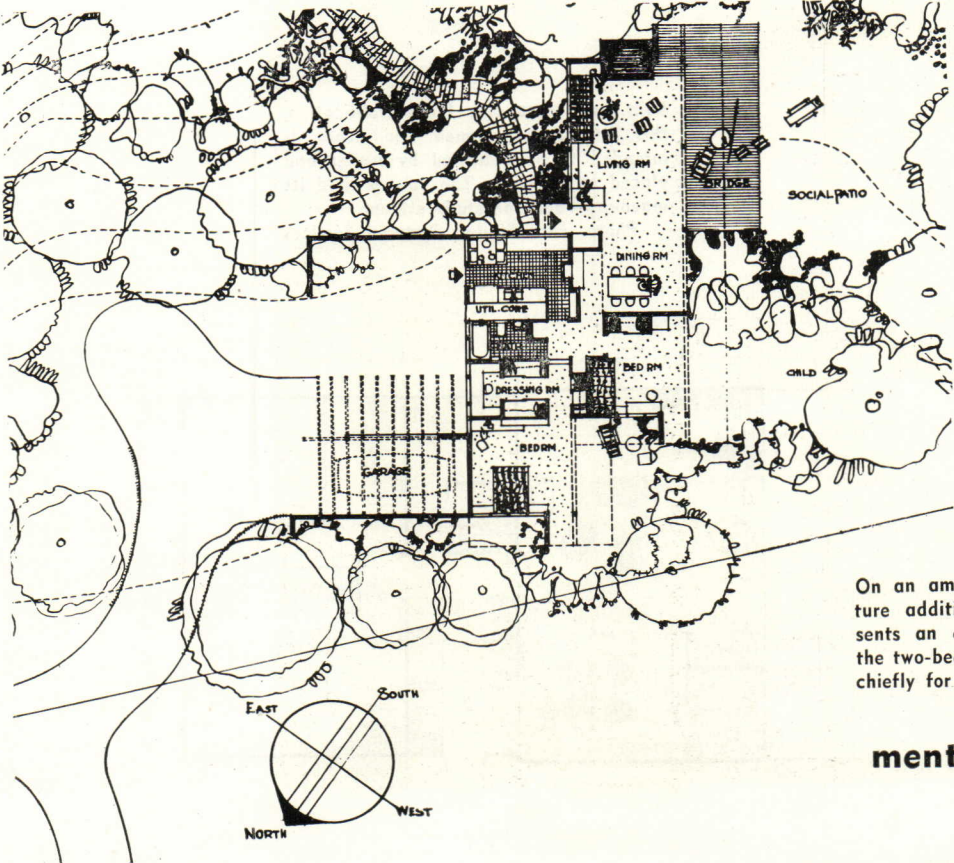


HOUSE: YAMHILL, OREGON



House: Santa Monica, California

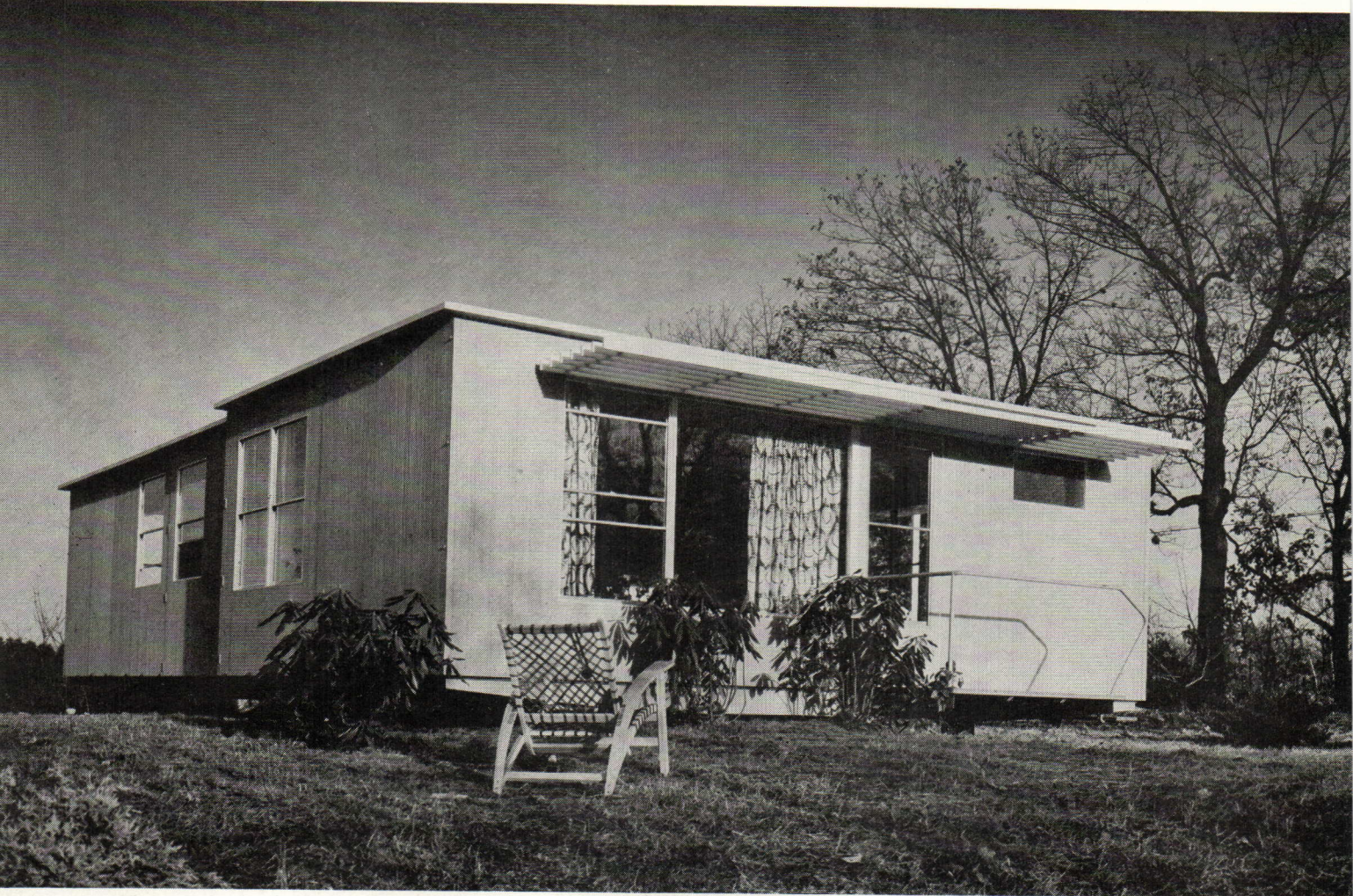
RICHARD J. NEUTRA, ARCHITECT, LOS ANGELES, CALIFORNIA



On an ample site, permitting future additions, this house represents an economical solution for the two-bedroom size. It was liked chiefly for its plan.

Photo: Julius Shulman

mention: class II

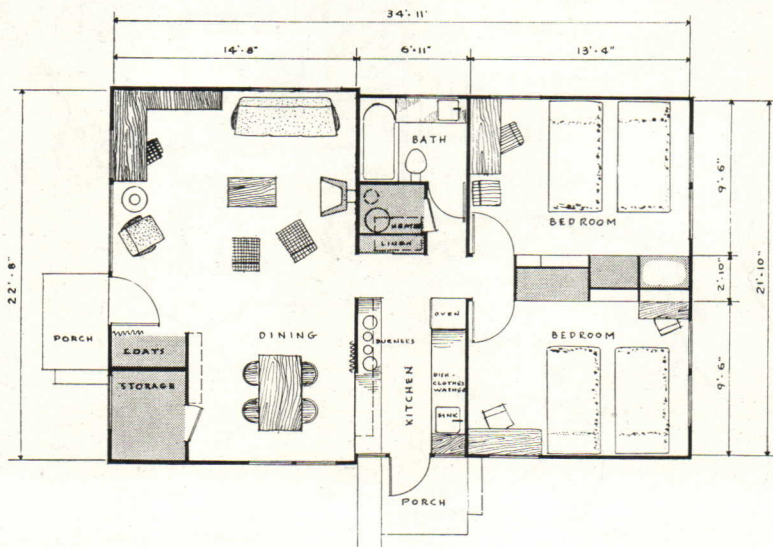


House: Concord, Massachusetts

CARL KOCH, ARCHITECT; JOHN BEMIS, ENGINEER, MASSACHUSETTS; HUSON JACKSON AND JOHN CALLENDER, ASSOCIATED, NEW YORK

Built as a test unit for prefabrication, this little house, named *The Acorn*, is intended to be delivered by trailer and placed on the site. The Jury praised its ingenuity—and the study evident.

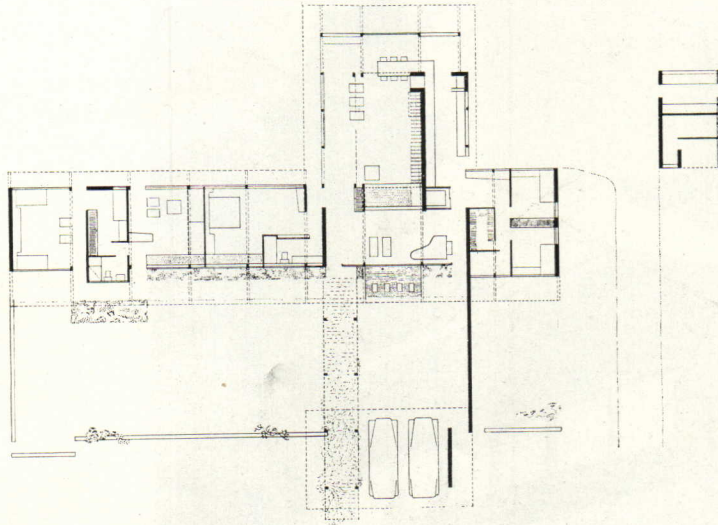
Photo: Ezra Stoller: Pictorial Services



mention: class II

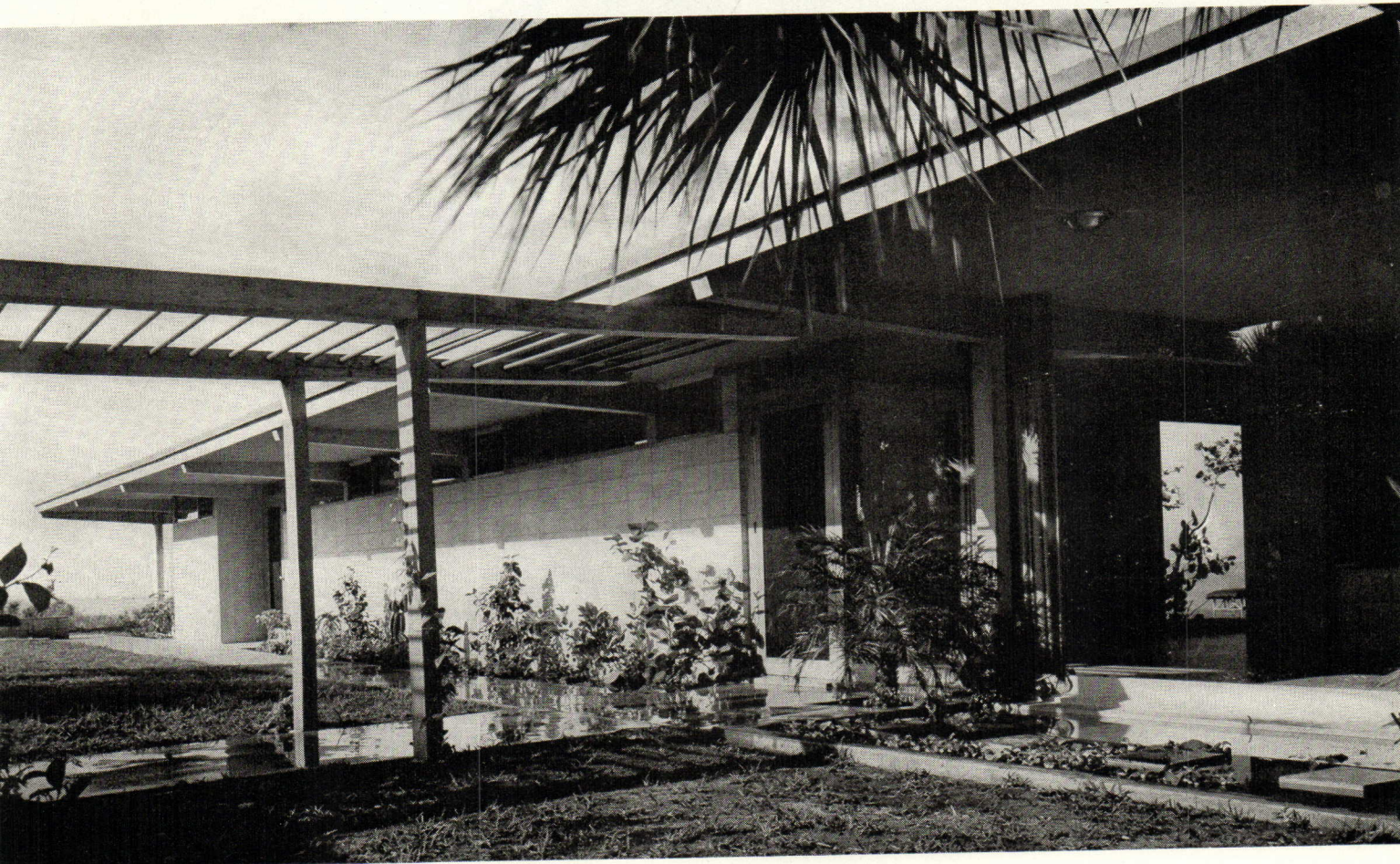
House: Sarasota, Florida

RALPH S. TWITCHELL & PAUL M. RUDOLPH, ARCHITECTS, SARASOTA, FLORIDA



Orderliness of the design and pleasant interiors recommended this house to the Jurors. It is used principally for entertaining during the winter season.

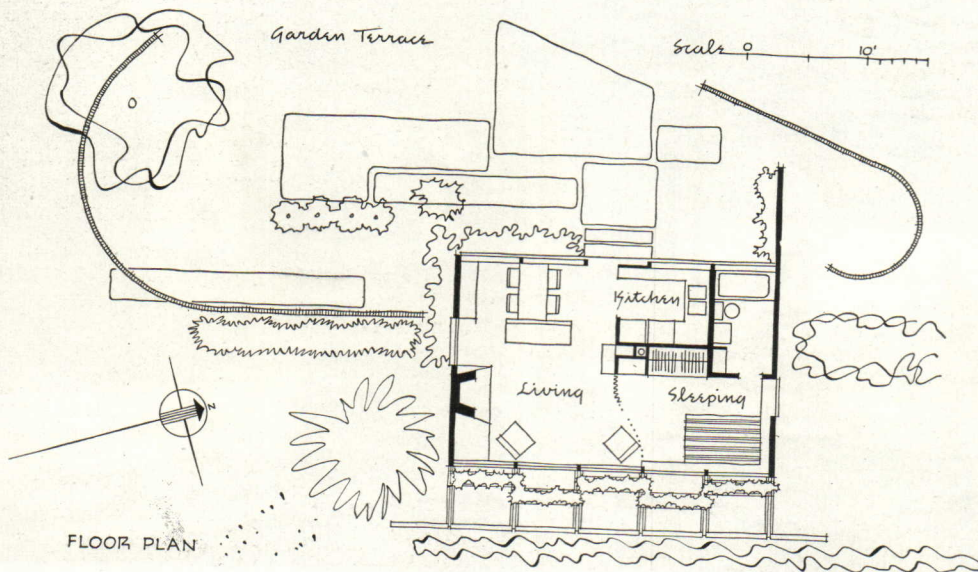
Photo: Ezra Stoller: Pictorial Services





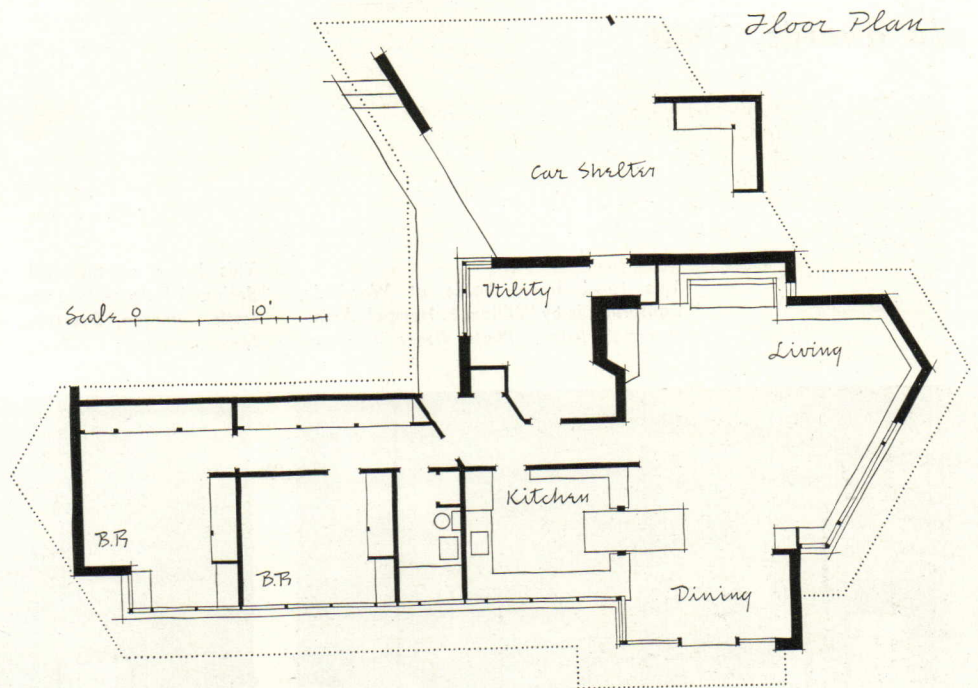
House: Berkeley, California

HENRY HILL, ARCHITECT, SAN FRANCISCO, CALIFORNIA



Admired for its economy, simple structural rhythm, and its good plan, this "absolute minimum" house was especially liked by the Jury. Photo: Roger Sturtevant

mention: class II



House: Suffield, Connecticut

ROBERT CARROLL MAY, ARCHITECT, HARTFORD, CONNECTICUT

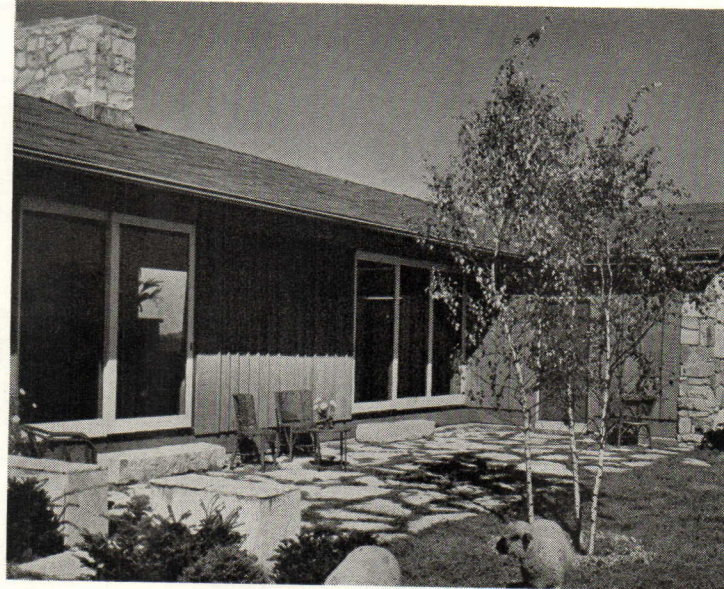
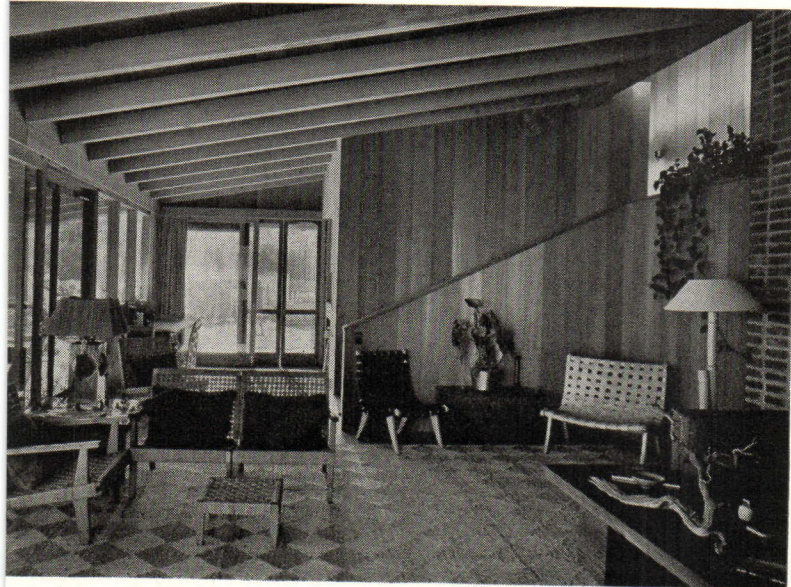
Good siting and creative planning won a citation for this rural house. The Jury considered it derivative, but well done "within the Usonian framework."
Photo: Ray Kardas



p/a awards, 1948

This two-bedroom house at Woodside, California, is by William F. Hempel, Architect, Palo Alto. *Photo: Roger Sturtevant*

This house at Big Hill, Kentucky, was designed for a college teacher by W. Danforth Compton, Designer, of Cambridge, Massachusetts. *Robert Harvey Studio*



For weekends and summer vacations, this house at Carmel, California, was designed by Wurster, Bernardi & Emmons. *Photo: Roger Sturtevant*

The living room of a small house Russell Forester, Designer, of La Jolla, California, designed for himself indicates the simple handling. *Photo: Lynn Fayman*

runners-up: class II



The Architect and Building Economics

BY EUGENE H. KLABER*

Were we to poll the architectural profession asking the question, "What would you consider an ideal job?" the answers would vary greatly. I venture a guess that most would have one statement in common: "The ideal job is one in which you don't have to worry about the cost."

Sometime in his career, each of us has had one or two such jobs, but in most cases we do have to concern ourselves with cost and in many instances with the financial factors which affect the likelihood and the advisability of building. In general our jobs fall into three categories with respect to money:

1. Buildings for special uses which are unrelated to monetary return, such as homes, clubs, hospitals, churches, schools, and other public buildings. Here the architect must consider first cost and depreciation, but has no concern with the financial problems of their use and operation.

2. Buildings for business purposes, in which the capital invested is judged in relation to the productivity of a business or industry. Examples: banks, insurance company buildings, factories, and department stores. Since the owner builds for his own use, he is the best judge whether or not the money spent is justified either by savings in rent or added prospect of profits.

3. Income-producing buildings, in which the structure is the machine that produces profit through rental of space or services, such as hotels, apartments, office and loft buildings, and public garages.

Our concern in this paper is principally with the third category. In buildings of this kind the soundness of undertaking their construction and operation is so intimately related to financing that it is necessary for the architect to know something of the methods by which income-producing buildings are financed and of the criteria on which economic soundness may be judged.

In the promotion of income-producing buildings, the architect is drawn into the picture at an early stage. He frequently finds a situation about as follows: a promoter of more or less experience believes that a

certain type of structure is needed and likely to be financially successful. Let us assume it is an apartment hotel in an inlying location of a city. The promoter owns no land but has in mind several sites of various sizes. Before negotiating an option he wants to know what sort of building can be built on each of them. Hence, he needs an architect to make sketch plans. When these are done he will be able to figure out the probable cost and return on the investment. Next he will try to interest capital in the venture. At the same time he will be shopping around among mortgage lenders to see where he can secure the biggest loan on the most favorable conditions. If the prospects look bright, the land will be optioned and a corporation will be formed to own and operate the building. The architect's contract will be with this corporation. The likelihood is that he will be asked to take part of his fee in stock of the corporation.

Let's see where the architect stands so far: he has been asked to spend time and money on sketches, with the hope of a contract with a nonexistent corporation, in which he will have to take some stock. So far, he is the only one who has spent real money on the enterprise. He starts asking himself questions:

1. *What assurance have I that I will be paid anything?* Answer: none. If the promoter is a man with whom I have had past experience and whom I know to be honorable, it may be all right to take chances. If not, I'd better find out at once what kind of man I am dealing with and if he proves to be reputable, then he should be willing to guarantee personally at least the architect's out-of-pocket expense in working for him.

2. *If the promoter is on the square and means to give me the job if it goes ahead, can I consider the job mine?* Answer: no. The promoter may find when he negotiates a loan that the mortgage loan company will insist on an architect of its own choice, who may even be a relative of an officer of the lending company. This is not mere cynicism; these things happen.

3. *If the corporation is formed and I receive a contract, am I sure to receive my fees?* Answer: You won't know, finally, until the estimates are in and you can see that all the money needed for the project is available.

* F.A.I.A., A.I.P., formerly Director of Architecture for Rental Housing, Federal Housing Administration, Housing and Town Planning Consultant

4. *If I have to take stock for part of my fee, will it be worth anything?* Answer: If the stock you accept amounts to, say, \$10,000, this is merely a figure that measures your contribution to the equity of the corporation as compared with that of others. It may be worth that amount; it may be worth more or less. Corporate stock is merely a measure of your proportion of the proceeds of the operation—it is *not* a dollar value. Its *value* can be determined only when the corporation's profits are known. If there is a loss, you'd better be sure your stock is not assessable.

In going into a promotional enterprise, you are taking a risk; it is up to you to measure that risk and determine for yourself whether you can afford to take it. This means that you must understand all phases of the operation. Who will participate in the enterprise? What will each contribute to stock, against your own \$10,000? Will there be enough money to complete the building? Will the building earn enough to make your stock worth something? Frequently architects ignore these problems or are hesitant to inquire into the financing. This is a mistake. Remember that you are going into a business in which you have a stake and that it is your right to know everything about it and have all the cards face up on the table. Should you find that your associates are unwilling to give you full information, get out at once, since you'll lose out anyway.

It is well, then, to know a bit about the types of men who are likely to be in a promotional deal and what their interest is apt to be:

The Promoter. This word is frequently given a disagreeable connotation. It brings up visions of a thousand crooked deals made by irresponsible persons. Of course, there have been many of this type, but a promoter is not necessarily a crook. In essence, he is the man who conducts a complicated business of coordinating a dozen and one interests and bringing an enterprise to a successful fruition. This requires experience and judgment. Whether he is a specialist in promotion, a builder, or an architect, he performs an essential service which is worth money to all of his associates. In some cases promotional fees are allowed as an expense of building; if not, the promoter is compensated by corporate stock. In either case the fee should be adequate, but exaggerated promotional fees are one of the best means of wrecking an enterprise.

The Landowner. If the land is bought outright for cash, the landowner is not in the deal. Usually this is not the case and he is asked to take all or part of the purchase price in stock. It is not surprising,

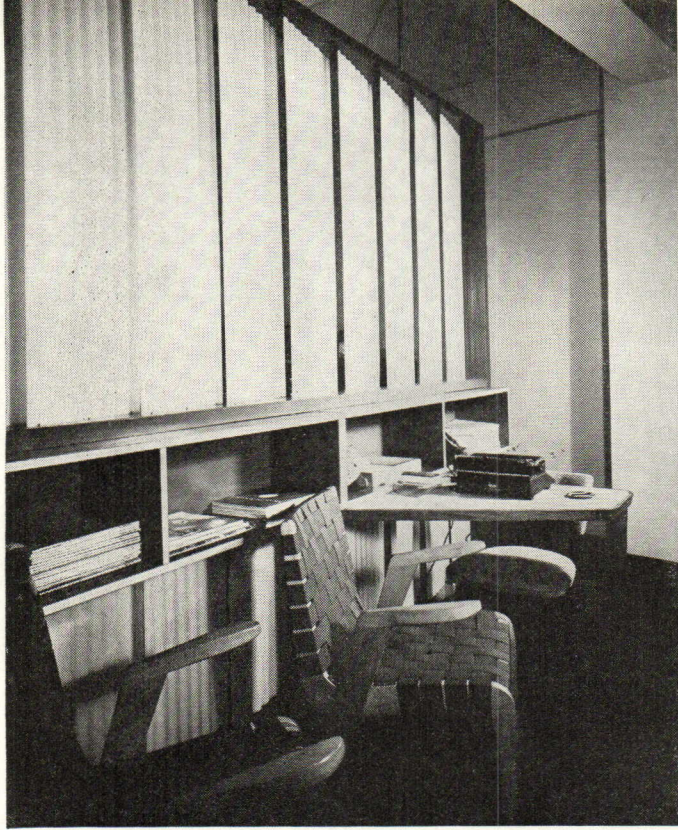
then, that his price is above the market price of the land, for he is accepting risky paper in lieu of hard cash. How does that concern the architect? Don't forget that the architect, too, has been asked to take paper instead of hard cash. If he takes paper in the actual amount of his cash contribution and the landowner, or anyone else in the deal, gets twice as much in paper as the cash value of his contribution, the architect gets only one-half of his proper share of the profits. Hence, you must be able to judge whether the other contributors to the equity are chipping in on the same basis as you.

The Builder. In many cases the man who operates under this title will be a mere assembler of bids, without standing or credit. What happens then? Since the money he will receive is limited by the mortgage, the builder depends for his profits on buying the subcontracts as cheaply as possible. You all know what this can do to the quality of a job. You will also find your specifications ignored. Sometimes there will be high pressure for the use of a given material and you will wonder why. The chances are that the builder is making the "subs" hold the bag financially and they in turn have shoved the burden back on the material man. Substantial and reputable builders frequently go into a promotion to keep their organizations active in slack times. They will do a good job, but if they have to take stock for costs above the mortgage amount, they will ask for plenty of stock. After all, they want their money available for their business and not tied up in frozen assets.

The Architect. Your motives for going into a promotion are evident. You want significant work that will buy socks for the baby. There is one difficulty in promotional work that it is well to bear in mind. Before the deal is arranged, neither you nor your associates can afford too much expense for your work; and once the mortgage loan is negotiated, interest charges may start piling up on top of taxation on the land. Hence, you will be under pressure to rush your contract drawings through to completion and it will require fortitude on your part to insist on at least enough time to do your own work creditably.

Other Participants. Depending on circumstances, you may also find yourself in business with an attorney, a real estate broker, or a mortgage broker. Their functions in the promotion are obvious. The point is that you are in business with all of those I have mentioned and it behooves you to know them, to judge their reputability and the value of their contribution to equity as compared with your own.

(Continued on page 106)



MATERIALS AND METHODS

Appearing with increasing frequency since the war, acrylic plastic has a wide range of possibilities as a builder's material. As in other materials, proper installation reflects the nature, characteristics, and appearance of the plastic, and its use as a mere substitute may prove impractical or uneconomical or both. The co-authors have discussed its application possibilities, properties and limitations, optical and safety considerations, machining techniques, and installation methods.

Acrylic Plastics in Architecture

BY FREDERICK W. TETZLAFF AND ROBERT R. RORKE*

The growing popularity of acrylic plastics in architecture, dating from the close of the war, indicates that a greater familiarity with the applications, properties, and limitations of this material may be useful to the design professions.

Applications range from corrosion-resistant glazing in chemical plants, to decorative screens and partitions in specialty shops; from skylights in small homes, to paneled ceilings and walls in hotels; and from shower enclosures to store fronts. In these and many other ways, this plastic is proving its worth as a builder's material.

Acrylic plastic, a contribution of chemistry, is manufactured by the Rohm & Haas Co., and marketed as Plexiglas; it is also manufactured by E. I. Du Pont de Nemours & Co. under the trade name of Lucite. Made in sheet (flat, corrugated, and

patterned) and in rod form, the material is transparent, translucent, opaque, and has a full range of colors. It offers the architect a combination of properties not found in any other material: light weight (48 percent that of glass), high resistance to breakage, excellent weatherability, virtually perfect transparency or ideal diffusion, the ability to pipe light, and the ease with which it is formed or machined.

Its most successful use, however, presupposes proper application, installation, and maintenance, just as in other standard materials, and should reflect the nature, characteristics, and appearance of the plastic. Normally, its use as a mere substitute for other materials can prove either impracticable or uneconomical, due to the failure of taking fullest advantage of the acrylic's inherent properties.

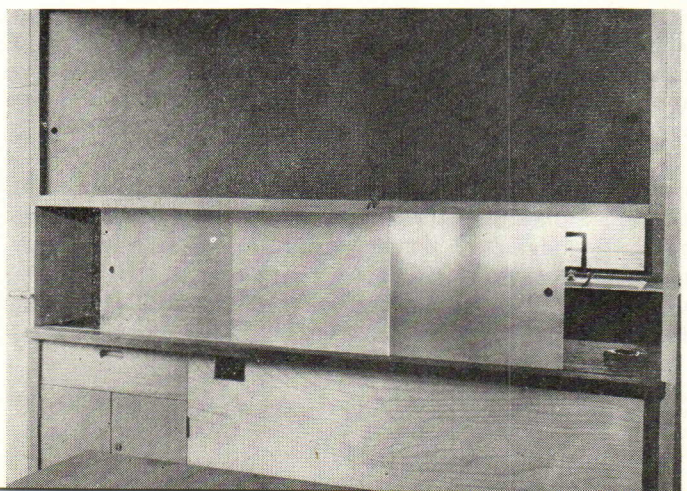
Panels, Partitions

One of the commonest and most effective uses of cast acrylic sheet is in partitions, where the architect requires strength and light-transmitting properties.

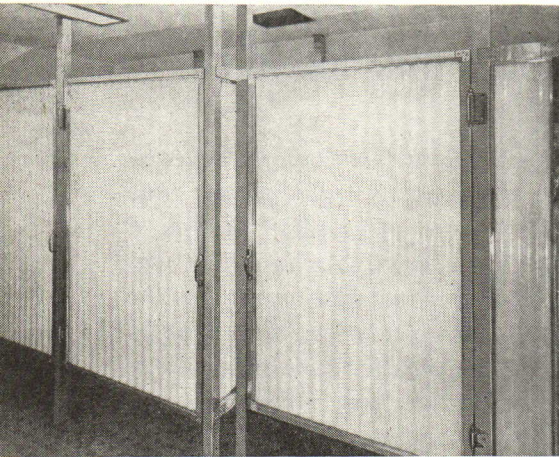
Translucent panels often are used in corrugated form to admit light while maintaining privacy. Typical examples: as entrance screens to executive offices; at switchboards and reception desks; and at credit and employment interviewing booths. In the home, corrugated sheet may form a decorative panel to separate dining room and kitchen, or to shield kitchenette from living quarters while still giving a feeling of spaciousness to small rooms.

Inside stairways enclosed by this plastic instead of the usual balustrade, may provide a light and cheerful entrance hall and reduce drafts.

* Rohm & Haas Co., Philadelphia, Pa.

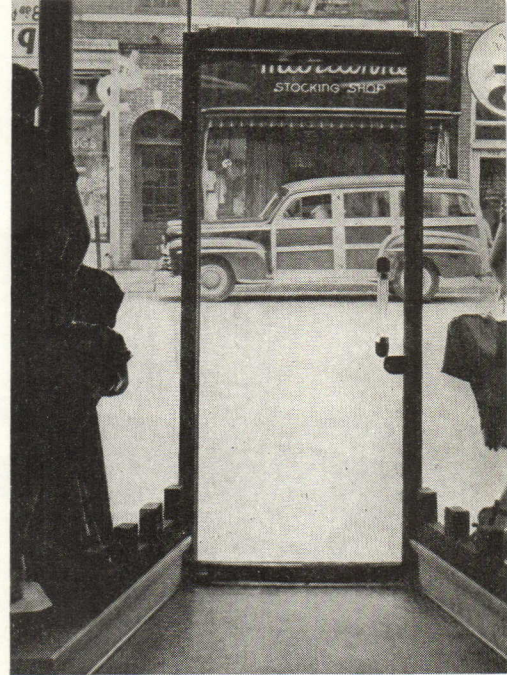


Upper left: Partition is formed by separate white translucent corrugated sheets placed in louver pattern. Left: Clear panels, sanded for translucency, are lightweight, chip-proof, and shatter-resistant. Panels slide easily and safely.



Left: White translucent corrugated sheets serve as doors and walls in these toilet booths. Center: Shower stall walls and curved front are clear corrugated sheets; base is in translucent form. Right: Plastic entrance door has advantages in weight, safety, and cost.

Photo at right: da Silva



Corrugated, Patterned Material

The corrugated material is flexible enough to be curved to a comparatively short radius, and yet retain great transverse rigidity. Strip-heated parallel to the corrugations, it can be bent to any curve or angle; also, it can be strip-heated and bent transversely without loss of the corrugated form. Although acrylic sheet can be corrugated to any desired dimensions, standard corrugations are in 1" frequency by $\frac{3}{8}$ " amplitude, and $2\frac{1}{2}$ " by 1".

Patterns can be applied during manufacture to the surfaces of both corrugated and flat sheet. In the former case, patterns are at right angles to the corrugations. Standard patterns include wide and narrow flutings, ribbed, pebbled, dotted, frosted, and cross-hatched designs. Normally, they appear on one surface only, but may be applied to both on order.

Flat sheet is finding increasing use in horizontal and vertical surfaces in schools, hotels, and other public buildings where resistance to breakage, resilience, and ease of cleaning are important.

Store Fronts

One of the recent developments in the architectural field has been the use of acrylics for store fronts. Designers of filling stations, too, are specifying this plastic for distinctive exteriors. Sometimes curved or corrugated, they have color permanence, can be cleaned easily, and require no maintenance.

Skylights

Corrugated acrylic plastic may be combined with corrugated metal roofing to provide weather-tight skylights. It does not require special framing or built-up openings. Also, it can replace broken glass panes in existing skylights.

Because of its strength and light weight, large sheets can be installed without supporting ribs. Alternately, the material may be formed into a dome, much as aircraft enclosures are made. Small formed skylights of this type have been installed in the homes of several housing developments, including the Six Moon Hill Group in Lexington, Massachusetts, and a housing project in New Haven, Connecticut.

Lighting

One of the newer and more important adaptations of architectural lighting converts large ceiling areas, in effect, into a lighting fixture. This may be accomplished with flat and corrugated sheets of translucent material, or with formed panels. In either case, this material exhibits ideal diffusing properties for producing the wide-area, low-intensity lighting desired. The white translucent material undergoes no appreciable color change under prolonged exposure to fluorescent light.

An interesting property of this plastic is its light-piping ability, familiar for its common use in signs. Virtually all the light admitted at one edge will escape only at other edges, or wherever the surface polish

is broken as by shading, sand-blasting, carving, or engraving.

Piping light around very sharp curves or angles should not be attempted; the limiting angle is 48° and the limiting inside radius of curvature is twice the thickness of the section. To carry light around sharper curvatures, layers of the plastic should be assembled in graduated thicknesses, each sheet curved to a radius three times its thickness.

A newer form of the material is fluorescent; presently available in red, green, or yellow, it exhibits this edge-lighting property in the area exposed to room lighting. Fluorescence of this material is not permanent under exposure to direct sunlight.

Optical Considerations

Even with the most advanced manufacturing methods, it is impossible to cast a transparent plastic sheet with two perfectly plane and parallel surfaces. Thus, where even slight optical deviations could be considered a defect, the line of sight should be kept as nearly perpendicular to the surface of the acrylic as possible.

At perpendicularity, 92 percent of the light is transmitted, and 8 percent reflected, but as this line moves away from the perpendicular, a higher percentage of light is reflected. At an angle of incidence of 85° , for example, the light transmission drops virtually to zero, as in any transparent material. Accordingly, the architect should keep the angle of incidence below 50° . Design-wise,

this means that curved panels should be formed with cylindrical or spherical shapes; for maximum optical clarity, such panels in store or other display use should be designed to place the observer at the center of curvature. To avoid excessive reflection losses, and as a practical fabrication consideration, the radius or curved sections should be kept at a minimum of 6 inches.

It is possible to produce a cemented or heat-welded joint approximating the material itself in strength and transparency. Generally, however, it is better to take advantage of the possibility of forming the material to avoid cemented corners. Acrylic sheet can be formed to almost any curvature while it is hot (220F. to 300F.). Between these two temperatures, it behaves like a sheet of pure gum rubber; it can be "stretch-formed" by pulling evenly on opposite edges, or shaped over a simple plaster or plywood form. In the hands of fabricators, it can be formed by vacuum, plug-and-ring, or vacuum snapback methods. Cooled to room temperature, it will retain curvature; reheated, it will resume its flat condition.

Safety Considerations

Acrylics will easily withstand a blow which would shatter glass of equal thickness; but if broken, it breaks into relatively large, dull-edged pieces. This characteristic has led to its use as glazing in children's playrooms, and in institutional wards where mental patients may become violent.

This material is particularly well adapted also to industrial glazing, especially on buildings with Robertson metal sidings—corrugated sheet iron surface-bonded with corrosion-resistant material. Many industrial oper-

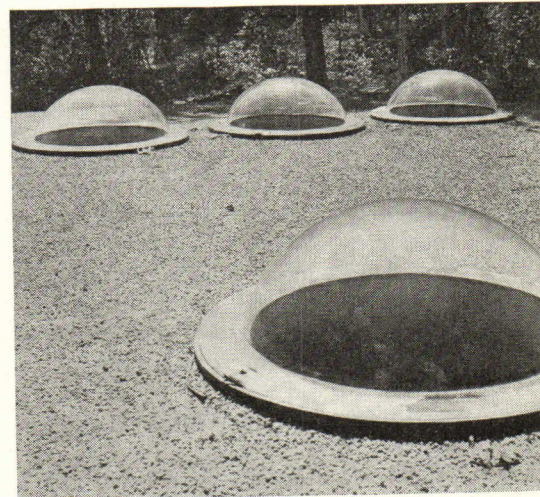
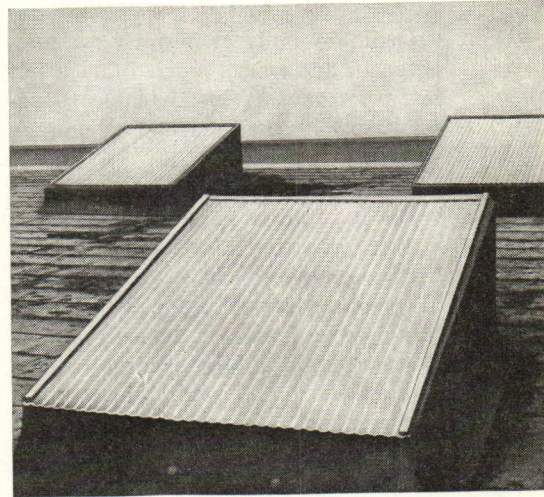
ations create severe corrosion problems; paint disintegrates and sash metal corrodes quickly. In such cases, the plastic may be corrugated to match the Robertson metal and installed to overlap the window openings. Such a "window" may be expected to be as permanent as the building itself, because it is unaffected by weather and is resistant to virtually all corrosive forms.

The importance of shatter-resistance in such glazing is emphasized in many industrial installations—as in a foundry where cutting machines throw glomerations of sand, iron slugs, and chips, resulting in a continual breakage of glass panes. Use of translucent sheet for glazing has shown another advantage—that of providing soft, even lighting in place of the contrasting glare and shadow from undiffused sunlight.

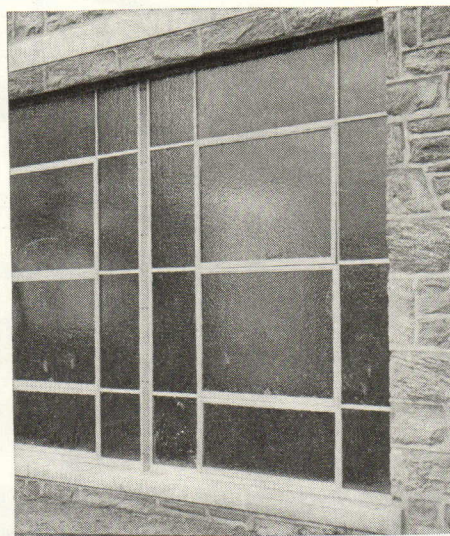
In glazing, the sheet material passes most of the therapeutic band, including the erythemic or "suntanning" frequencies, and the so-called "vital" range. If desired, dyes may be added to obtain an ultraviolet filter, though this treatment, of course, reduces transmission of visible light. Also, a special UV-absorbing sheet has been developed which will not transmit wave lengths of light that produce sunburn.

Machining Techniques

Workability, similar to that of brass and copper, includes sawing, drilling, machining, threading, routing, and swaging. Cutting edges of tools should have no rake, and should have a scraping rather than a cutting action. Tools and work should be held firmly to prevent chatter. A water or oil coolant may be used but this is not essential. Feed should be constant throughout the cut; if the work stops, it will be "burned."



Top: Large sheets, without supporting ribs, are used in these skylights. Above: Dome-shaped transparent skylights, located on roof, admit light to living room, dining room, study, and kitchen of this home. Lower left: Plastic sheets, corrugated to match metal walls, provide easy, weather-proof installation. Below: Resilient panes reduce breakage in school windows exposed to play areas.



Ordinary hand or power saws may be used, but where much fabrication is to be done, it is advisable to reserve special saws—circular, band, or scroll.

Two major precautions should be borne in mind when specifying acrylics or directing their installations. First, excessive localized stresses are likely to develop a surface pattern of tiny fissures known as "crazing," just as woods split and metals crack under similar abuse. Second, the plastic's coefficient of expansion is three to five times greater than that of metals. Hence, it must be allowed to contract or expand in relation to the contraction or expansion of any metal frame or channel into which it is fitted.

Installation

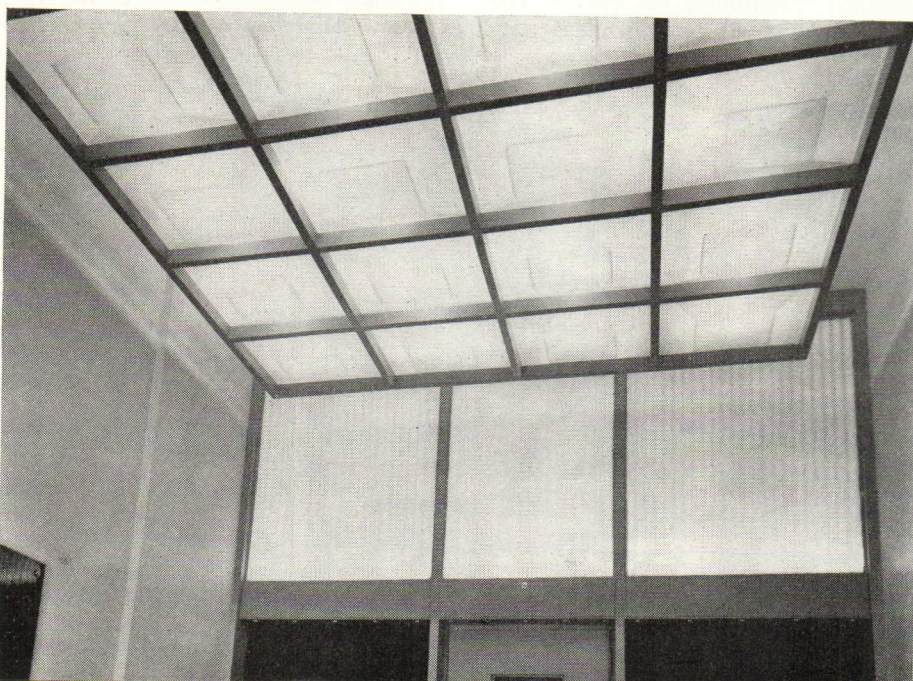
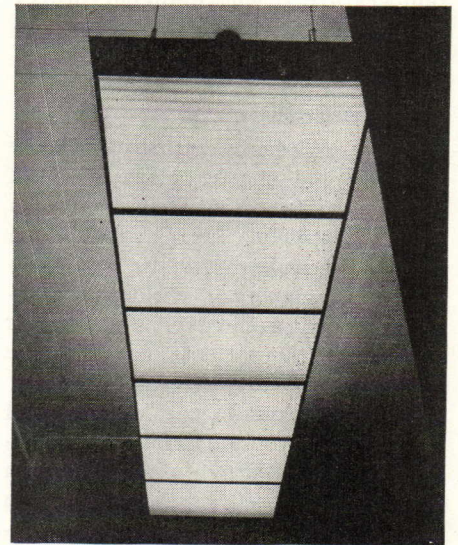
These two factors, sometimes interacting, give rise to the following general suggestions: use a simple channel or clamp mounting where possible. Where bolting cannot be avoided, a large number of bolts in oversize holes will reduce the possibility of high stress concentrations. Naturally, the more rigid the channeling used, the more effectively it will prevent the development of high compression stresses.

All too easily, a man can screw a

nut and bolt tight enough to develop more than 1000 p.s.i. pressure on the plastic, or set up high and unequal stresses by forcing a section far out of shape in fitting it into a frame. Thus, workmen should be instructed to avoid strong-arm methods, just as they should be warned against scarring its surface. Unless workmen are equipped with tension wrenches, they should be instructed to tighten each screw or nut, and then back it off one full turn.

Protection can also be afforded by using tube spacers to fit around the bolt, or by using long-shank bolts, or shoulder rivets, or cap nuts to prevent squeezing channel members too closely together.

Rubber gaskets do not prevent effectively the development of high stress concentrations. Instead, they have three main functions: to make the installation waterproof, to reduce vibration, and to help compensate for any minor thickness variations in the plastic and in the channel. The channel should be oversize to permit free expansion and contraction, and should exert a uniform clamping action over all the area clamped. Channels should be deep enough to hold the plastic securely despite flexing and thermal contraction.



Left: Large square ceiling panels, .08 in. thick, diffuse light from incandescent bulbs with great efficiency. Above: Diffusing fixture, made of corrugated sheets. Suspended in frame from ceiling.

All photos, except as noted: Rohm & Haas.

Minimum Elevator Specifications

BY PERLEY M. CLARK*

Preliminary Information

As soon as the architect determines that there will be an elevator in his building, he should call in a qualified consulting engineer who has had ample elevator experience, or a competent representative of an elevator manufacturer. The representative can make constructive recommendations regarding load, speed, and number of elevators, if these decisions have not already been made. Knowing the lifting capacity and speed desired, he can furnish space requirements, overhead reactions, electric power requirements, and other pertinent data. This information should be of such a nature that all manufacturers of comparable equipment will be able to install similar elevators under the same conditions. A reliable representative will not give information that will tend to restrict the bidding to one company.

The architect can now draw the basic features of the elevator installation on his plans. Most manufacturers can furnish typical layouts that contain much of the preliminary information required. Plans should include location, size, and type of door openings, location of guide rails,

Elevator specifications, with drawings, serve two important purposes. 1) They indicate the type of elevator equipment needed to handle properly a building's vertical transportation requirements. 2) They provide each manufacturer with sufficient data to prepare an accurate bid; a bid as free as possible from future extras, and one that can easily be compared with those submitted by other manufacturers. This article is concerned mostly with the latter purpose. Its principal attention is directed to the data that must be included in the minimum elevator specifications to prepare a complete, accurate bid. The data sheets of six prominent elevator manufacturers have been studied, and it was noted that although they varied somewhat in arrangement and in the amount of detail, all were found to agree on the minimum information needed.

location of steel, car platform size, dimensions of the hoistway, and the hoistway wall construction. Sections should indicate the pit depth, floor height, location of steel, and the vertical distance between building members to be used for rail supports. The vertical distance between rail supports is important, as intermediate supports or guide rail backing will be required if the distance is too great. It is better to omit the exact elevation of the machine room floor, the precise location of reactions, and the specific size of the machine room, until the elevator contract has been awarded. These items may vary with different manufacturers.

The elevator contractor will demand that he be given a legal hoistway, pit, and machine room in which to install the elevator equipment. Therefore, the drawings must be checked against local building codes and regulations. Unusual site conditions, such as a water problem necessitating extensive waterproofing in the pit, must be considered.

It is not desirable to use descriptions or trade names that apply to one manufacturer alone. Use only the definitions given in the American Standard Safety Code For Elevators, Dumbwaiters, and Escalators (A.S.E. Code). This code is published by the

American Society of Mechanical Engineers and is approved by the Bureau of Standards. Special requirements, if not completely described in these definitions, can usually be given a brief description without having to resort to the use of trade names.

An elevator specification that is too brief is misleading and tends to cause prices to be submitted on different bases. Those bids are difficult, if not impossible, to compare. Lengthy specifications may confuse the estimator and lead to misunderstandings or to long lists of exceptions when bids are submitted. Occasionally, longer and more detailed specifications are required. If so, they should be prefaced with a summary based on the minimum specifications. The minimum specifications contain the least amount of information required to make a proper bid.

Basic Data

The estimator will first look for the name and address of the building in which the elevator is to be installed, the name of the owner, and the name of the architect. He must know the type of occupancy, to whom the bid must be submitted, the exact date the bid is required, and whether a firm price or a budget estimate is desired.

*Application Engineer, Otis Elevator Company

Most of this information will appear on the title page of the specifications or on the request for bids.

The elevator specification section (which should be included in the index) frequently begins with reference to General Conditions, a list of Codes to be complied with, and Bond and Insurance provisions. A paragraph covering the work to be done by contractors other than the elevator contractor should follow. Example:

WORK BY OTHERS: Others to provide pit, elevator hoistway, machine room including floor, supports for guide rails and machine beams, necessary feeder wires to controller with fused outlet switch in the machine room, light outlet at center of hoistway, and current supply for starting, testing, and adjusting, all in accordance with local codes and regulations.

Minimum Elevator Specifications

After each of the following items there are blank spaces to be filled in for each elevator or each group of elevators having the same characteristics. The comments, after each item, are not part of the specification, but serve as a check list for the specification writer.

1. *Number of Elevators* Specify total number of elevators in building.
2. *Types of Elevators*
Type of Machine Specify whether elevators are passenger or freight type. If there are different types, specify total number of each. Also specify whether elevator machine is a Geared or Gearless-traction machine. A rough rule is that Geared-traction machines can be specified for car speeds up to 300 f.p.m. For car speeds of 400 f.p.m. and over, specify Gearless-traction machines.
3. *Load (Capacities)* Pounds. Specify load in pounds that each elevator will be required to lift. Load for passenger elevators is determined by car platform size in accordance of local or A.S.E. Code. Load of each freight elevator may be controlled by local codes, but is usually determined by the type of material to be handled. If a freight elevator is to carry concentrated loads, such as industrial trucks, it should be

mentioned, as the cars will then require extra heavy car platforms, car frames, and safeties. If, during loading operations, a freight elevator must support a static load greater than the lifting load, as when loading with industrial trucks, specify total amount of additional static load that the elevator equipment will be required to support during loading but will not be required to lift.

4. *Car Speed* Feet Per Minute Specify car speed on the basis of the load, number of floors to travel, height of building, traffic to handle, etc. For passenger elevators car speed should be determined by a consulting engineer or competent representative of elevator manufacturer on the basis of a building analysis. Do not hesitate to ask for assistance in solving this problem. A building analysis should *always* be made for large buildings. Car speed determines pit depth and overhead heights as well as the traffic handling capacity of the elevator equipment; therefore, any subsequent change in car speed can require changes in building plans. For freight elevators, specify highest economical speed for load according to best advice obtained from an elevator manufacturer's representative. For any given load an increase in car speed means an increase in motor horsepower and possibly an increase in machine size, with corresponding increase in cost.
5. *Operation* Specify method of operation according to definitions given in A.S.E. Code. Stay away from trade names. A common error is simply to specify push-button operation. This could be any one of a number of types of operation such as selective collective automatic operation, single automatic operation, or various others. Be exact and specific.
6. *Control* Specify type of control in accordance with descriptions in A.S.E. Code. A rough rule for passenger elevators is to specify generator field control (1) for car switch operation with elevator car speeds of 151 f.p.m. and over, and (2) for any type of

automatic operation with elevator speeds of 101 f.p.m. and over. Specify rheostat control for all car speeds less than these speeds. For freight elevators, specify control according to load and speed requirements. A good rule is to specify generator field control if leveling is required. Generator field control should always be specified when elevator motor horsepower is greater than 25 horsepower.

7. *Car Leveling Device* Specify when accurate stops are required with rheostat control. *Always* include leveling when generator field control is used. Some leveling systems will level but will not relevel to correct for rope stretch. This can be appreciable when freight elevators are loaded with heavy industrial trucks. Some systems will level only in one direction and will not return to floor level if the car should overtravel the floor. Some systems called "two-way leveling" will correct for overtravel as well as undertravel and will relevel.
8. *Travel (Rise) from* Floor to Floor, a Distance of Feet Inches. Designate the lowest floor that the elevator will travel to, the highest floor, and the vertical distance between the highest and lowest floor levels.
9. *Stops* Count one stop for each level the elevator will be required to serve. For example, if a freight elevator has a rear opening onto a trucking platform at a different level from the opening at the front of the hoistway, this is an additional stop.
10. *Openings* Give total number of openings (entrances) in each hoistway. The number of stops and number of openings will be the same if all the openings are at the front of the hoistway and specification should read "Openings (specify number) all at front of hoistway." If there are two or more openings at any one level (rear or side openings) the total number of openings will be greater than the number of stops, and specifications should read "Openings (specify number) at front of hoistway at

..... floors and (specify number) at rear (side) of hoistway at floors." Floor plans should clearly indicate location of all openings.

- 11. *Machine Location*
If elevator machine is located above, specify "overhead." This is normally the most desirable location. However, if the machine has to be placed below for some very special reason, specify exact location. Example: Machine location at basement floor at side (rear) adjacent to the hoistway on foundation by others.
- 12. *Machine Room Floor*
When machines are located overhead, specify whether the machine room floor is to be a concrete slab by others, or grating by the elevator contractor. If the machine is located below, specify grating at level of overhead sheaves by elevator contractor, instead of machine room floor.
- 13. *Car Platform Size* Feet Inches Postways by Feet Inches Front-to-back.
Specify car platform size according to building and code requirements. The car platform size is the major item in determining the elevator's traffic handling ability. Here again, do not hesitate to ask for assistance in solving this problem. Remember also that the postways dimension determines width of door opening. For freight elevators, the car platform size is determined by the type of materials to be handled and the method of loading and handling. It is imperative that the architect determine well in advance the size and type of hand or industrial trucks, pallets, skids, etc., which must be accommodated. A knowledge of these factors is absolutely necessary to a proper determination of the final platform size. They may also directly affect the load and speed. When determining the car size, make sure that sufficient space has been allowed for the car operator and freight handlers. If guide rails are located in corners of hoistways, "postways" dimension should be changed to read "width." The

width is normally the dimension taken from left to right when standing in the corridor facing the main entrance of the elevator at the main floor.

- 14. *Car Enclosure (Cab)*
Specify for passenger elevators "net cab value" in dollars or refer to some specific design by name, number, or other means of definite identification. As a matter of standard practice the cab value, when specified, will always include the car enclosure, car door(s) with hanger (or car gate), cutouts for fixtures, certificate frame, and light fixture. If handrails, forced ventilation, protective pads, natural metal entrance columns, natural metal kick plates or other car features are desired, they may also be provided for in the allowance. The competent representative will be glad to check that the cab value is high enough to cover adequately the cab design, fixtures, and extra features desired. For freight elevators a normal specification would read: "The car shall be enclosed on sides to a height of 6'-0" with sheet steel. Perforated (or solid) panels shall be provided to extend above the top of the side enclosure. A perforated (or solid) metal top and light fixture shall be provided."
- 15. *Car Flooring*
For passenger elevators state whether flooring is to be rubber tile, carpet, or hardwood. For freight elevators, state whether flooring is to be hardwood, steel diamond plate, magnesium diamond plate, or other material.
- 16. *Car Door (or Gate)* Type Feet Inches Wide by Feet Inches High
Specify car door type (single slide, two-speed, center opening, or two-speed center opening) and size of opening. For passenger elevators always specify a car door as wide as platform size and type of door will permit. If a gate is to be used on a car switch operation passenger elevator, specify a "collapsing (horizontal sliding) gate." Never specify a car gate when using automatic operation as most codes require car doors. For freight elevators specify

either a "collapsing (horizontal sliding)" or a "vertical lift counter-balanced wood (or wire mesh) gate." The latter is the most desirable as it gives the greatest amount of clear door opening, and should always be used unless limited overhead clearance at top landing requires use of a collapsing gate.

- 17. *Hoistway Doors* Type Feet Inches Wide by Feet Inches High
For passenger elevator, specify type of door (single swing, single slide, two-speed, center opening, or two-speed center opening) and give dimensions of opening. The width of opening is controlled by car platform postways dimension. Passenger doors are usually furnished complete with decorative finish and require no painting in field. For freight elevator, specify whether doors are to be horizontal slide, single or double swing, or vertical biparting counterbalanced type, and give width and height of the clear opening. Note that bucks and sills for passenger elevator doors are normally furnished by elevator contractor. However, for freight elevators, channel door bucks and sills are by others and should be noted in WORK BY OTHERS. Freight doors are normally furnished with prime coat of paint, finish coat to be applied by others in field (mention in WORK BY OTHERS).
- 18. *Car Door (or Gate) and Hoistway Door Operation*
For elevators with swing or horizontal sliding hoistway doors, specify: (a) hoistway doors manually operated or self-closing; (b) car and hoistway doors power operated; or (c) car door power operated. Where power operators are used on horizontal sliding doors the architect should specify whether a "High," "Intermediate," or "Slow" speed operator, as there is considerable difference in speed of door operation and cost between the various types. Where hoistway doors are manually operated, specify "Bar Interlocks." Where hoistway doors are self-closing, specify "Door Closers and Interlocks." For freight elevators

equipped with vertical biparting doors and vertical lift wire mesh car gate, specify manual or power operation for door and/or gate.

19. *Signals*
 Choose the signals desired from those applicable to the type of operation. Here is a check list of the signals normally available for the various types of operation: (a) *Automatic Operation*: in car—car position indicator. At landings—hall position indicators, miniature mechanical dials in push-button faceplates or "In Use" (or "Car Coming") lights. (b) *Car-Switch Operation*: in car—single (or up/down) indication annunciator. At landings—dial indicators, hall lanterns with (or without) gongs, and starter's panel at main floor. (c) *Signal Operation*: in car—car position indicator. At landings—hall position indicators, hall lanterns with (or without) gongs, various types of hall buttons, and starter's panel at the main floor.

If there are two or more elevators in one bank, some type of coordinating or supervisory system must be specified. Here again it is advisable to seek competent counsel.

20. *Painting*
 It is customary to specify that all exposed metal installed by elevator contractor shall be painted "one coat by elevator contractor."

21. *Maintenance*
 The usual specification requires that the elevator contractor shall furnish free service on the elevator installation for a period of three months.

22. *Power Supply*
Volts *Phase*
Cycles AC/DC

Specify voltage, etc., that the elevator equipment will operate on. This is important, as some buildings may generate their own power which may not be standard for the particular area. Also, some buildings furnish their own transformers to

change the power company's voltage to a desired value. Thus the elevator contractor must be told the exact voltage and current characteristics of the power circuit on which his equipment is required to operate. These characteristics may differ considerably from those of the power company's distribution lines.

23. *Inspection Fees and Permits by*

Specify if inspection fees and permits are to be obtained and paid for by the elevator contractor or by others.

24. *Special Items*:

(a) If the new elevator is to be installed in an existing hoistway, specify that the elevator contractor is to remove, retain, and dispose of all old materials. However, if the hoistway doors are being replaced they must be removed by others and should be mentioned in WORK BY OTHERS. (b) If there is occupied space under the pit of the elevator, specify that the counterweight be equipped with a safety device. (c) If guide rail backing is necessary, specify whether it is to be furnished by elevator contractor or by others. (d) If a specific delivery or completion date is required or demanded as a condition of the contract, this should be prominently mentioned. (e) If telephones are to be installed specify exact type of fixture and location. It is normal for others to wire to a point near the vertical center of the hoistway. The elevator contractor installs the phone cabinet in the car, hangs and connects the traveling cable. Others furnish and connect the telephone instrument.

25. *Special Instructions to Bidders*:

The architect should conclude his minimum elevator specification with a brief summary of any special instruction to bidders. Very often it is to the architect and owner's interest to know whether or not certain modern improvements have been included. Specifications may con-

clude with such a statement:
 "Bidders shall specify whether or not their bids include the following:

1. Roller or Slide Guides
2. Sound Insulation Under Machine
3. Sound Isolation Under Car Platform

Sample Minimum Specifications

The following is a sample minimum specification. It would normally be preceded by the information outlined under "Basic Data" and be concluded as suggested in Item 25 above.

1. *No. of Elevators*: 1
2. *Type of Elevator*: passenger—Geared-traction machine
3. *Load (Capacity)*: 2500 pounds
4. *Car Speed*: 250 f.p.m.
5. *Operation*: selective collective automatic operation
6. *Control*: generator field control
7. *Car Leveling Device*: include two-way leveling
8. *Travel from basement floor to 6th floor, a distance of 53'-6"*
9. *Stops*: 7
10. *Openings*: 7 all at front of hoistway
11. *Machine Location*: overhead
12. *Machine Room Floor*: concrete slab by others
13. *Car Platform Size*: 7'-0" postways x 5'-0" front-to-back
14. *Car Enclosure (Cab)*: \$1000 net cab value
15. *Car Flooring*: rubber tile
16. *Car Door*: center opening type—3'-6" wide x 7'-0" high
17. *Hoistway Doors*: center opening type—3'-6" wide x 7'-0" high
18. *Car and Hoistway Door Operation*: power operated by intermediate speed operator
19. *Signals*: in car—car position indicator. At landing—miniature mechanical dials in push-button faceplates
20. *Painting*: exposed metal to be painted one coat by elevator contractor
21. *Maintenance*: 3 months
22. *Power Supply*: 208 volts, 3 phase, 60 cycles, AC
23. *Inspection Fees and Permits*: by elevator contractor

**Knoll Associates Introduce
New Aluminum-Plywood
Classroom Furniture**



Aluminum school furniture, combining aluminum alloy and resin-bonded plywood to achieve strength and handsome appearance, has been introduced to the United States by Knoll Associates. Production of this furniture, by the Educational Supply Association of England, grew out of shortages of raw materials, and resulted in a new departure in the use of materials and methods. Aluminum was chosen because of its strength and weight characteristics. Casting was selected as the method of fabrication because of the latitude of design possibilities and because of the availability of alloy ingots compared with sheet and extruded sections. The furniture is produced by die casting, a method new to the manufacture of whole furniture parts. The casting requires little further treatment prior to being welded and finished for final assembly.

The present range of the furniture meets the varied purposes of the modern school building, curricular trends and teaching methods, and budget considerations in choosing desirable and easily maintained furniture. James Leonard, a Fellow of the Society of Industrial Artists, was the designer.

**Armbruster Cocktail Table
Wins Honorable Mention**

The William Armbruster metal and glass cocktail table (see PROGRESS REPORT, January 1948 P/A for Armbruster welded-steel and glass coffee table), has won the Honorable Mention Award in the Furniture Competition sponsored by the American Institute of Decorators. The Museum of Modern Art sent it to Scotland to be exhibited as representative of best American work under the sponsorship of the Scottish Committee of the British Council of Industrial Design. The table was designed for Edgewood Furniture Company.

(Continued on page 100)



THIS MONTH'S PRODUCTS

air and temperature

Window Fans: 16" and 20" adjustable panel types, equipped with extension cord and 3-speed switch; will fit window openings from 25" to 36". Also smaller 12" fan, for installation in upper window panel, designed for use in kitchens, bathrooms, etc. All models finished in baked enamel. Chelsea Fan & Blower Co., Inc., 1206 Grove St., Irvington, N. J.

Evaporative Condensers: in range of from 3 to 50 tons; improved line featuring Penta-Post frame members making possible multiple service and access panels in welded frame assembly; all prime surface coils with copper tubes hydraulically expanded at 3000 p.s.i. into copper tube sheets with ferrule collars; vibration failures at tube and sheet junction avoided. Kennard Corp., 1819 S. Hanley Rd., St. Louis 17, Mo.

Pressed Steel Forced Warm Air Furnaces: additional models in gas or oil; range of sizes up to 175,000 B.T.U.'s. Morrison Steel Products, Inc., Buffalo, N. Y.

Oil-Fired Boiler Unit: for radiant heating applications, enclosed in baked white enamel cabinet for installation in domestic kitchens; exceptionally quiet operation; tankless domestic hot water heater incorporates air expansion tank inside boiler. Unit may be used with all types of hot water heating systems. York-ShIPLEY, Inc., York, Pa.

construction

Aluminum Fasteners: 551 sizes and types, including every kind of screw, machine bolt, nut, washer, nail, etc.; approximately three times as many to pound as steel or brass; non-rusting; used with wood or aluminum construction, outside or inside installations. Central Steel and Wire Co., P.O. Box 5310-A, Chicago, Ill.

Ductube: pneumatic rubber tubing for molding ducts or holes in concrete or other mastics; tubing inflated by means of ordinary tire pump or compressed air line, then covered with concrete, then deflated and removed after concrete has set. Ductube Co., 940 Shoreham Bldg., Washington 5, D. C.

Miracle Wallboard Cement: for installation of wall and insulation boards; completely waterproof, high bonding strength. Miracle Adhesives Corp., 214 E. 53rd St., New York 22, N. Y.

doors and windows

Aluminum Screening: cut into tiny louvers spaced 1/18" apart, at angles which deflect direct sunlight, lowering room temperature by as much as 15°; protects rugs, drapes, upholstery from fading. Available in 8 widths in 50' and 100' rolls. Permanente Products Co., 1924 Broadway, Oakland 12, Calif.

Hinge Setter: precision leveling and aligning device for installing hinges on tempered glass doors. Pittsburgh Plate Glass Co., 632 Duquesne Way, Pittsburgh 22, Pa.

electrical equipment, lighting

Vis-A-Ray: new fluorescent color with heightened detail perception; recommended for applications where fine, accurate detail work is required. Available in 20w, 40w, and Slim

fluorescent lamps. Duro-Test Corp., North Bergen, N. J.

Electrical Contact Switch: for use in operation of lights, buzzers, alarms, and other applications calling for contact-making and/or breaking device of unusually small dimensions. Either A.C. or D.C., maximum voltage of 250. Sedgwick Machine Works, 60 Eighth Ave., New York, N. Y.

Hospitality Light: multipurpose dual lamp fixture for hospitals; swiveled reflector for indirect lighting, also serving as medical examination light; other unit with flexible arm for reading, controlled by pull-switch with cord; night light mounted inside housing; convenience outlet for radio, therapeutic device, or electrical appliance. Kurt Versen Co., Englewood, N. J.

finishers and protectors

Millwite: heavy, white paint for various industrial applications; fume-, mildew-, moisture-resistant; recommended for chemical plants, dyehouses, laundries, hospitals, food processing plants, etc. Stonhard Co., 500 Stonhard Bldg., 1306 Spring Garden St., Philadelphia 23, Pa.

insulation (thermal, acoustic)

Infra Accordion Insulation: improved construction of multiple sheet aluminum insulation with fiber separating partition; with elimination of glue, material will last indefinitely; additional reflective air space further resists flow of heat rays. Infra Insulation, Inc., 10 Murray St., New York 7, N. Y.

Insulrock: fire-resistive insulating building board, composed of mineralized wood fibers coated with fire- and water-resisting Portland cement and bonded together under pressure. For sheathing, roof decking, sound insulation of partitions, and other applications. Smith & Kanzler Corp., E. Linden Ave., Linden, N. J.

sanitary equipment, water supply, drainage

Vitreous China Lavatories: new line of 13 models, each in 5 different sizes; dual front overflow, extra wide anti-splash rim, metal towel-bars attached at sides. Briggs Mfg. Co., 3011 Leuschner Ave., Detroit, Mich.

Submersible Sump Pump: small, compact (9 1/2" high, 11" diameter); capable of continuous, uninterrupted operation; no float required; turn-on point easily adjustable from few inches to several feet without special tools; powered with 1/3 h.p., 115v A.C. motor. Kenco, Inc., Elyria, Ohio.

specialized equipment

Draftsman's Chair: seat-height adjustment ranges from 23 1/2" to 32 1/2"; back and footrest independently adjustable; forward-tilting mechanism allows seat and back to follow draftsman's motions. Cramer Posture Chair Co., Inc., 1205 Charlotte St., Kansas City 6, Mo.

Norge Refrigerators: 7 new models, including 3 with automatic defrosting systems. Also new freezers, gas and electric ranges, and double capacity automatic washer (18 to 20 lbs. per load). Norge Div., Borg-Warner Corp., 574 E. Woodbridge St., Detroit 26, Mich.



Manufacturers' Literature

★ *Editors' Note: Items starred are particularly noteworthy, due to immediate and widespread interest in their contents, to the conciseness and clarity with which information is presented, to announcement of a new, important product, or to some other factor which makes them especially valuable.*

AIR AND TEMPERATURE CONTROL

1-260. **Refrigeration and Air Conditioning Equipment**, 18-p. illus. brochure on water chillers, Freon and ammonia condensers (hot-dip galvanized), liquid receivers, pipe coils, oil separators, and heat exchangers. Descriptions, photos. Acme Industries, Inc.

1-261. **The Continental Air Filter** (Bul. 201-A), 4-p. illus. booklet on automatic, self-cleaning filter; continuous change of air direction through oil-coated filter cells; dirt cannot be blown off dirty side of cells, back into clean air stream. Technical description, engineering and performance data. Continental Air Filters, Inc.

Two 26-p. illus. booklets on single retort, plunger feed and underfeed stoker units for commercial and industrial installations. Descriptions, methods of operation, types of automatic regulation, application, sizes and capacities, drawings, efficiency table. Detroit Stoker Co.:

1-262. **Detroit LoStoker**, AIA 34-B-6, 30-G-3 (350)

1-263. **Detroit UniStoker**, AIA 34-B-6, 30-G-3 (600)

Three booklets on automatic oil burner and thermostatically controlled stoker. General data, operation, recommended models, advantages, photos. Hershey Machine & Foundry Co.:

1-264. **Hershey Oil Burner** (S 250)

1-265. **Motor Stoker** (S 252)

1-266. **Assured Economy in Automatic Heat** (242)

1-267. **Hoffman Heating Specialties** (Cat. 149), 12-p. illus. catalog describing equipment for hot water, steam, warm air systems, including valves, thermostatic traps, controls, condensation and vacuum pumps of various types, etc. Descriptions, sizes, capacities, dimensions, ratings. Hoffman Specialty Co.

1-268. **Multi-Vent** (Bul. 390-A), 4-p. illus. booklet on panel assembly of control plate and frame, for low velocity air diffusion; gives draft-free, uniform heating, ventilating, air conditioning. General data, installation photos. Multi-Vent Div., Pyle-National Co.

1-269. **Sectional Tubular Cast Iron Boilers** (Cat. 1817), 16-p. illus. catalog

describing boilers for commercial, residential, and industrial heating, air conditioning, processing, and hot water. Design advantages, applications, technical data charts. Also baseboard convectors and grille covers. H. B. Smith Co., Inc.

CONSTRUCTION

3-63. **Fabricated Structural Steel**, 8-p. illus. booklet showing several examples of steel construction. Advantages, research reports, listing of steel publications. American Institute of Steel Construction.

Two catalogs on insulated steel walls and steel deck for roofs, sidewalls, partitions, ceilings, and floors. Construction, thermal properties, typical details, specifications, installation data, photos. R. C. Mahon Co.:

3-64. **Insulated Steel Walls and Insulated Prefab Wall Panels**, AIA 17-A (Cat. B-47-B)

3-65. **Steel Deck**, AIA 12-C (Cat. B-47-A)

Two 4-p. booklets on prefabricated tie arches and bowstring trusses of timber construction. Description, design data, dimensions, specifications, suggested cornice details. Rilco Laminated Products, Inc.:

3-66. **Type CC-70 Tied Arches**

3-67. **Type 62 Bowstring Trusses**

3-68. **Snead Mobilwalls**, 20-p. illus. booklet showing four types of movable steel partitions for different requirements. Construction data, characteristics, specifications, drawings. Virginia Metal Products Corp.

DOORS AND WINDOWS

★ 4-184. **Fiftieth Anniversary**, AIA 16E1 (Cat. Q-49), 30-p. illus. catalog describing modular types and sizes of solid steel windows and doors. Dimensions, types and sizes, suggested window groups, specifications, installation details, vertical sections and other detail drawings. Bogert & Carrough Co.

★ 4-185. **Har-vey Rolling Door Hardware**, AIA 27-A, 8-p. illus. brochure showing working principles of rolling door equipment, including single and double tracks, hanger roller, door guide, door plate. Installation information, full and half scale detail drawings. Metal Products Corp.

4-186. **The Judd Idea Book**, 28-p. illus. brochure containing suggestions for various arrangements of window drapes. Descriptions of traverse tracks, wood cornices, swinging cranes, and

other curtain fixtures. H. L. Judd Co.

4-187. **Vampco Aluminum Windows** (Cat. 22), 8-p. illus. catalog and full sized detail sheet describing aluminum windows for glass block wall installation. General data, specifications. Also aluminum sun canopy and extruded aluminum sills. Valley Metal Products Co.

ELECTRICAL EQUIPMENT AND LIGHTING

5-189. **Guth**, seven data sheets giving descriptions, specifications, and engineering information on seven fluorescent ceiling fixtures. Illustrations, detail drawings. Edwin F. Guth Co.

5-190. **New Lytron**, 8-p. illus. catalog on suspended, flush, and wall types of fluorescent fixtures in matched designs. Brief descriptions, dimensions, wattages, specifications. Lightolier Co.

5-191. **Commercial and Industrial Fluorescent Fixtures**, AIA 31-F-23, portfolio containing 16-p. illus. brochure and 23 data sheets. General, technical data, detail drawings, sections, typical installations, specifications. Smithcraft Lighting Division.

Two bulletins describing dimmers of interlocking and non-interlocking types. Features, construction, installation, dimensions, typical specification, wiring diagrams, ratings, accessories. Ward Leonard Electric Co.:

5-192. **Vitrohm Interlocking Dimmers**, AIA 31-F-17

5-193. **Vitrohm Non-Interlocking Type**, AIA 31-F-17

FINISHERS AND PROTECTORS

6-161. **How to Beautify and Protect Concrete, Stucco and Masonry**, 8-p. illus. booklet on protective cement paint for masonry surfaces, also new rubber base coating for same application. General information, properties, where and how to use. Medusa Products Div., Medusa Portland Cement Co.

6-162. **Aquella**, 4-p. booklet on mineral surface coating for control of water seepage and dampness on all porous masonry surfaces. Description, properties, general data, typical application photos. Prima Products, Inc.

6-163. **Wesco Waterpaints, Inc.** (426), 4-p. booklet on various masonry coatings, wall paints, and other products for dry wall construction and decoration. Recommendations, specifications, color charts. Wesco Waterpaints, Inc.

INSULATION (THERMAL, ACOUSTIC)

9-126. **Alfol**, 4-p. illus. booklet on aluminum foil insulation blanket reflecting

95 percent radiant heat and providing positive vapor barrier. Brief descriptions of four types, advantages, application data. Alfol Insulation Co.

9-127. **Permalite**, AIA 21-A-7, 6-p. folder describing insulating plaster aggregate. Properties, specifications, technical data, instructions for use, fire ratings. Great Lakes Carbon Corp.

Two 6-p. booklets on weatherproof building and insulating board. Uses, properties, wood molding details, specifications and instructions, suggested ceiling designs, application as roof sheathing. Homasote Co.:

9-128. **The Facts About Homasote**
9-129. **Specifications and Instructions**

9-130. **Outstanding Insulation Products**, 4-p. folder on incombustible board made from wood excelsior bonded with Portland cement, for use in roofs and non-load-bearing partitions; insulates against transmission of heat and sound; also acoustical tile of same material and properties. Uses, specifications, isometric view, photos. New England Fibre Co.

SANITARY EQUIPMENT, WATER SUPPLY, DRAINAGE

19-396. **What's New in the Bathroom?** (Form 128-2-49), 4-p. folder and construction detail sheet illustrating several styles of lavatory-vanity dressing tables with decorative laminated plastic surface tops. Color drawings, suggested uses for decorative plastic material. The Formica Co.

★ 19-397. **Permutit Swimming Pool Equipment** (Bul. 2157), 28-p. illus. bulletin describing equipment for recirculation, filtration, chlorination, softening, and pH control. Plans, dimension tables and space requirements, specifications, descriptions of accessories (suction cleaners, heaters, etc.). Permutit Co.

19-398. **Planned for Profit** (255), 4-p. folder illustrating suggested floor plan of public washroom. Brief facts about plumbing equipment, floors, lighting, soap dispensers, etc. Scott Store Advisory Service, Scott Paper Co.

SPECIALIZED EQUIPMENT

19-399. **Intercommunicating Telephone Systems**, AIA 31-i-5, 20-p. bulletin describing inter-phone systems for commercial and industrial installations. Specifications, station capacities, dimensions, accessory equipment, wiring diagrams, photos. Auth Electric Co.

19-400. **Convair** (Bul. 102), 8-p. booklet on pneumatic conveying systems for all industries. Methods of operation, drawings, advantages. Convair Corp.

★ 19-401. **Aluminum School Furniture**, 12-p. catalog showing modern school furniture constructed of light alloy and laminated wood. Construction data, photos, brief descriptions. Knoll Assoc., Inc.

Two booklets on door beds and compact kitchen units. Descriptions of various

types, installation plans, dimensions, suggested plans, drawings. Murphy Door Bed Co.:

19-402. **In-A-Dor Beds**, AIA 28-A4 (KW-348-3268)

19-403. **Murphy Door Beds and Murphy Cabranette Kitchens**

Booklet and two folders describing theater lobby equipment, such as stainless steel and plate glass box offices, aluminum poster cases, marquees, lighting fixtures. Descriptions, dimensions, box office specifications, ordering instructions. Poblocki & Sons:

19-404. **For Patron Attraction**
19-405. **Aluminum Poster Cases**
19-406. **Poblocki**

19-407. **Smoothedge**, data file containing information about wall-to-wall carpet gripping device for all floor surface applications; tacks eliminated. Description, advantages. Roberts Co.

19-408. **Sectional Storage Units**, 8-p. folder on specially designed closets and cabinets in complete range of types and sizes; solid pine and plywood construction; for residential installations. Illustrations of seven basic units, wall and floor plans. Nasco Wood Products, Inc.

SURFACING MATERIALS

19-409. **A Life Saver for Builders** (Key 80), 8-p. booklet on finished hardwood flooring. Advantages, photos. E. L. Bruce Co.

19-410. **Non-Slip Products**, 12-p. illus. booklet describing abrasive stair treads, lightweight safety tile, plastic nosings and strips, fabric floor covering, floor troweling composition, and floor paint. Uses, styles, sections, drawings, specifications, photos. American Abrasive Metals Co.

19-411. **How to Pour Concrete** (KGB-2), folder on plastic surfacing used by plywood manufacturers on plywood concrete forms. Advantages, properties, photos. Kimberly-Clark Corp.

19-412. **Marlite** (10481), 12-p. illus. booklet on modern, plastic-finished wall and ceiling panels in plain colors, tile, wood, and marble patterns. Color photos suggesting ideas for interior finishing of kitchens, bathrooms, play rooms, laundries, etc., installation and specifications, color charts. Also moldings, bathroom accessories, installation accessories. Marsh Wall Products, Inc.

Two 4-p. booklets on non-slip material with adhesive underside, for installation on all traffic surfaces, and safety cleats for brick tile floors. Descriptions, sizes, patterns. Minnesota Mining & Mfg. Co.:

19-413. **Type "B" Safety-Walk** (W-BF)
19-414. **That's Safety-Walk** (W-FCF)

Two 4-p. folders on fabric covering for walls and ceilings, hung in same manner as wallpaper. General data, structural and economic advantages, types, application specifications, suggestions for preparing surfaces to be covered, estimating chart. Standard Coated Products Div., Interchemical Corp.

19-415. **Sanitas Fabric Wall Covering**
19-416. **Suggestions for Preparing Walls and Ceilings and Hanging**

TRAFFIC EQUIPMENT

20-242. **Sedgwick Dumbwaiters**, 4-p. illus. folder describing electric traction (multistop) dumb-waiters for installations where three or more landings are to be served; fully automatic, equipped with safety devices and signal systems. Description, door construction, standard specifications, dimensions. Sedgwick Machine Works.

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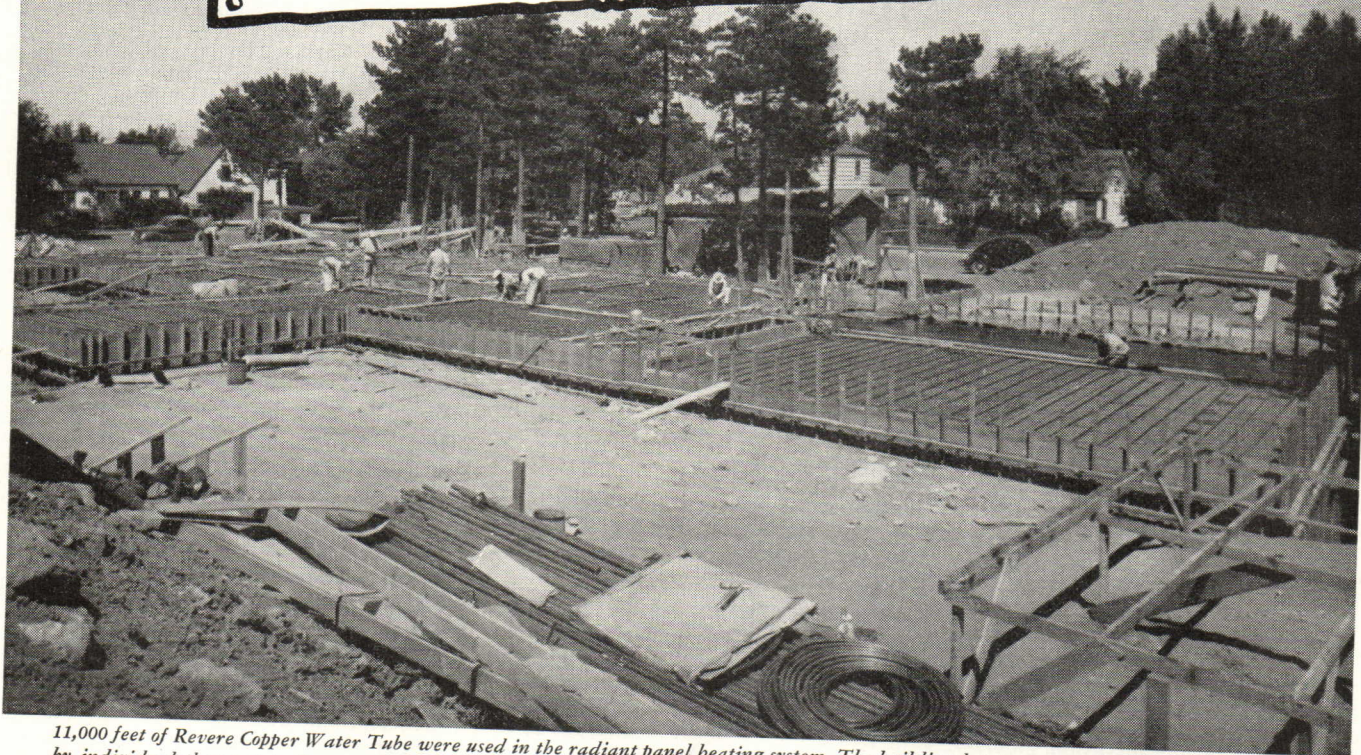
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4-184	4-185	4-186	4-187	5-189	5-190	5-191	5-192
5-193	6-161	6-162	6-163	9-126	9-127	9-128	9-129
9-130	19-396	19-397	19-398	19-399	19-400	19-401	19-402
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IT'S always a safe bet—for radiant panel heating as well as for hot and cold water lines—that Revere Copper Water Tube will provide many long years of continuous service. This tube guards against leaks, rusty tap water, inadequate flow and faulty circulation. Yet, completely installed it costs little or no more in the first place . . . and may be much less in the long run.

All Revere Copper Water Tube is stamped at regular intervals with the Revere name and the type. These marks are more than identification—they are your assurance of full wall thickness and the close dimensional tolerances so essential for tight soldered joints.

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aluminum . . . and, of course, Sheet Copper for roofing, flashing and other sheet metal construction. They are handled by leading distributors in all parts of the country.

Raymond I. Smith residence, Reno, Nevada.
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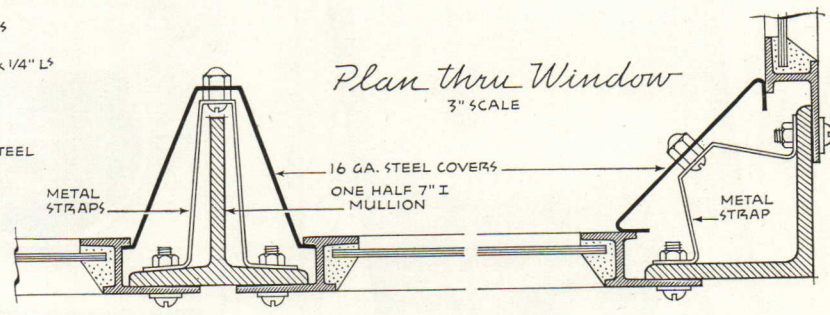
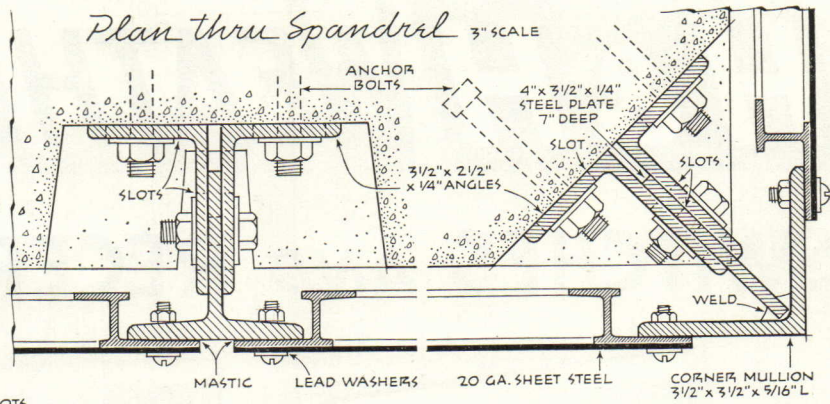
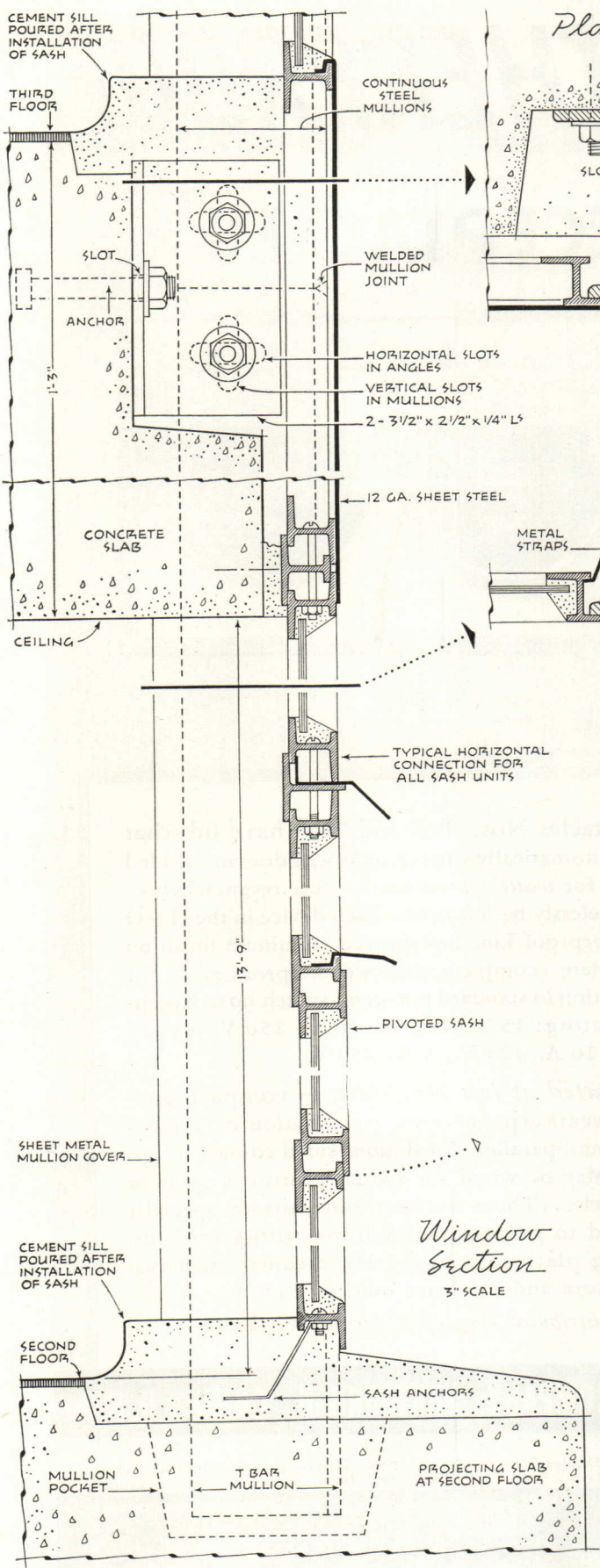
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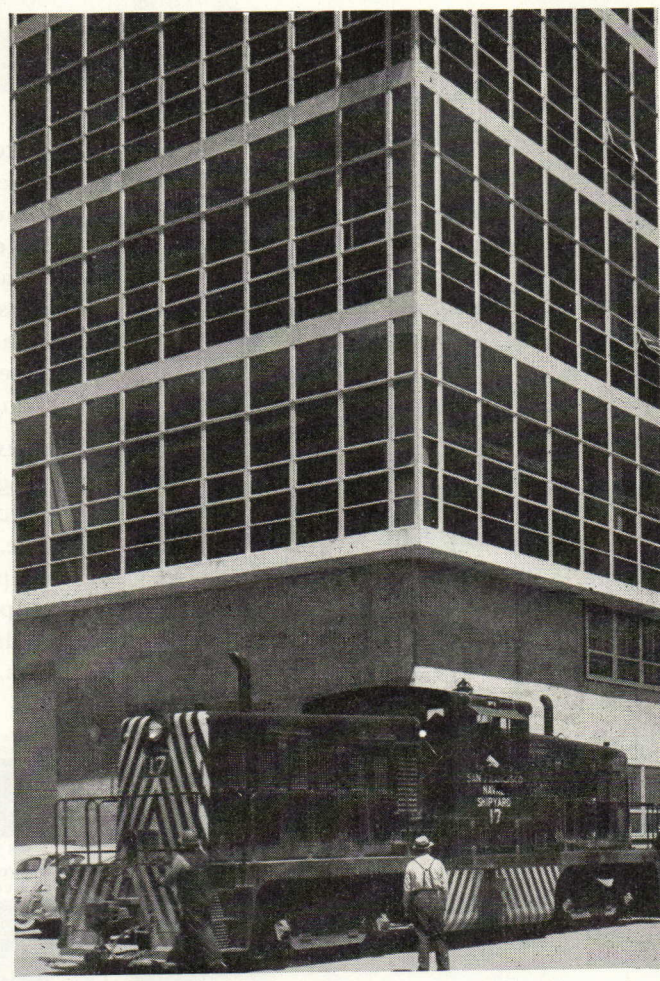
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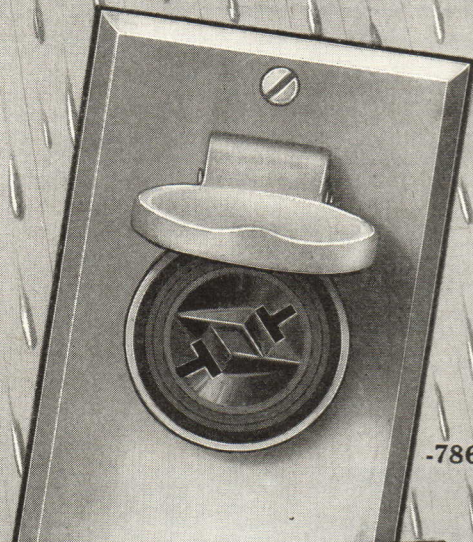


USN ORDNANCE PLANT
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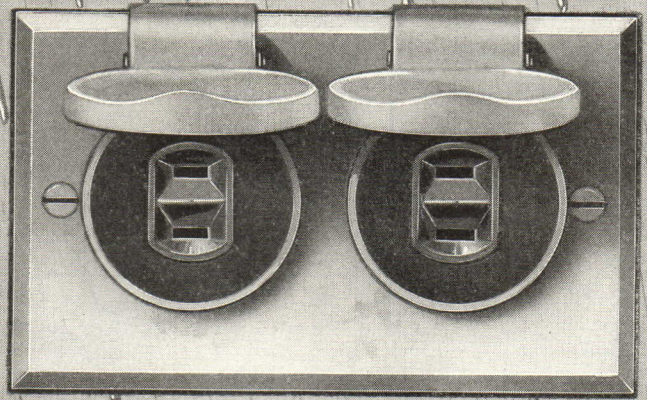
KUMP & FALK
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H & H WEATHERPROOF

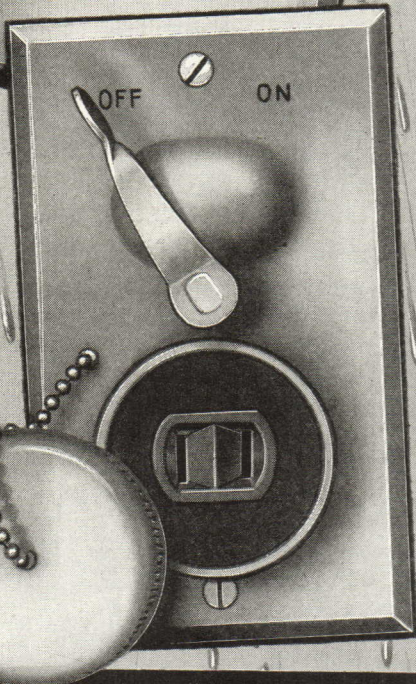
SWITCHES AND RECEPTACLES



-7868



7869



7804-

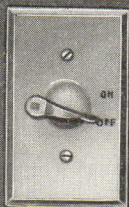
Receptacles Nos. 7868 and 7869 have lids that close automatically when plug is withdrawn... Added feature for *weather protection* because receptacle cannot carelessly be left open. Each device in the H & H Weatherproof Line has sprayed aluminum finish on brass plate (complete with weatherproof mat), for installation in standard one-gang switch box. Receptacle rating: 15 A., 125 V.; 10 A., 250 V. Switch rating: 10 A., 125 V.; 5 A., 250 V.

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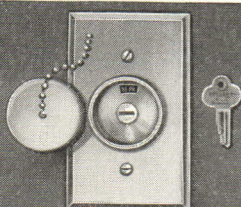
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THE ARROW-HART & HEGEMAN ELECTRIC COMPANY, HARTFORD 6, CONN., U.S.A.

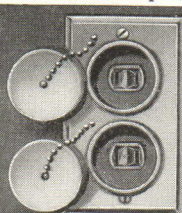
7981
Weatherproof
Flush Switch



1281-WP
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Lock Switch



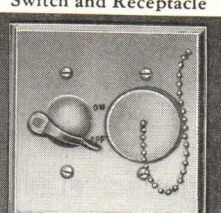
7890
Weatherproof Duplex
Flush Receptacle

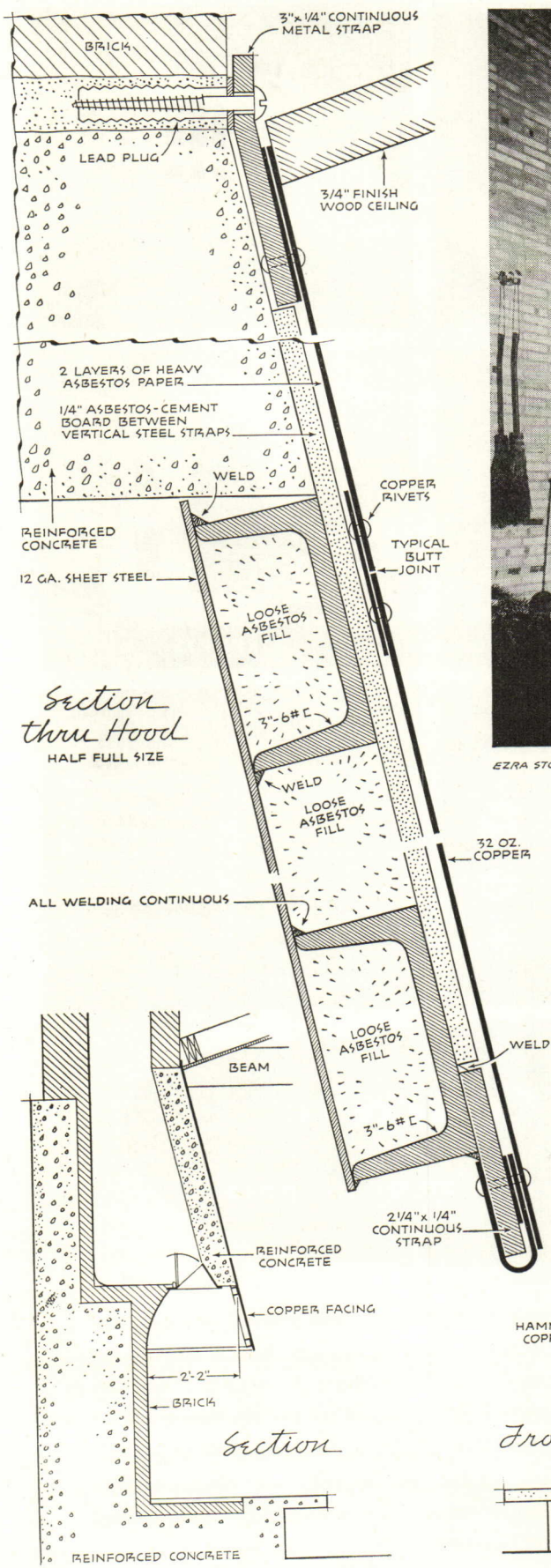


7792-FS
Weatherproof Flush
Receptacle for

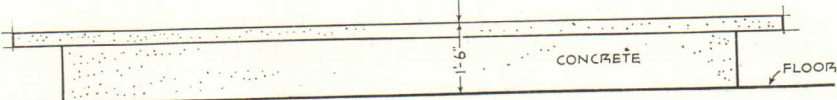
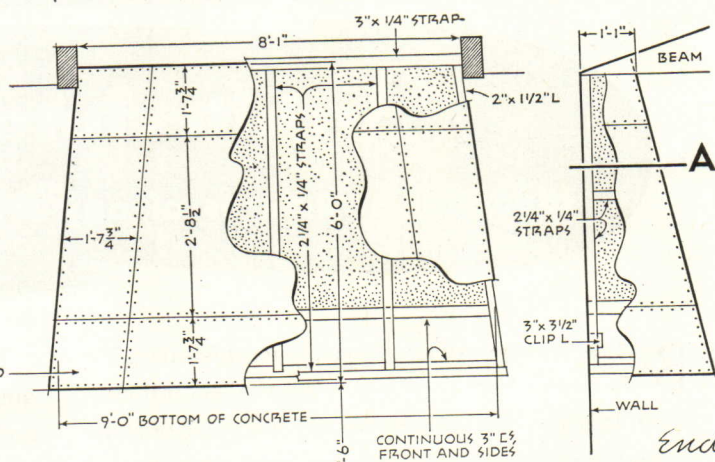
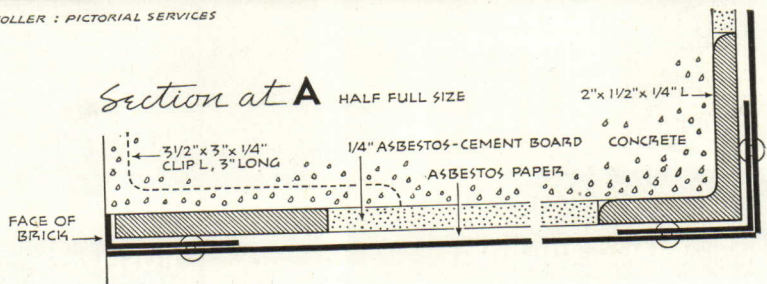


7886
Weatherproof Flush
Switch and Receptacle



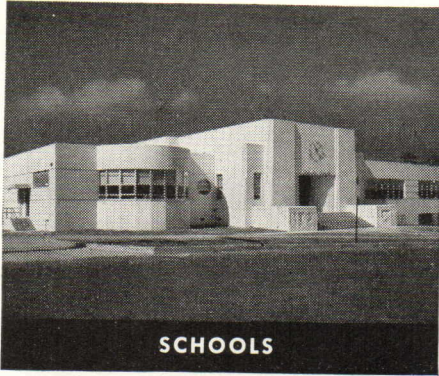


EZRA STOLLER : PICTORIAL SERVICES



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SEWAGE TREATMENT PLANTS



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PUBLIC BUILDINGS



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APARTMENT BUILDINGS

Architectural Concrete
 ideal for structures of any style or size or purpose

BETTER THAN WORDS the above photographs describe the beauty and adaptability of architectural concrete. It is ideal for buildings of any kind, size or style.

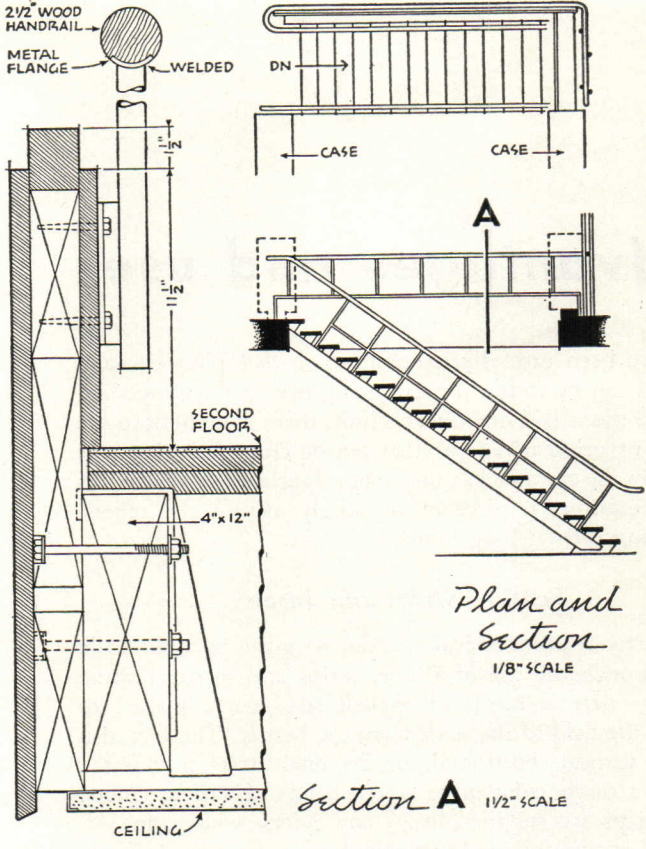
Architectural concrete possesses great strength and durability. Yet it can be molded economically into ornamentation of unusual delicacy. It meets every other essential structural requirement—firesafety, low maintenance expense and **low-annual-cost** service.

By applying the tested and proven principles of quality concrete construction, architects can design architectural concrete buildings that will resist weather conditions prevailing in any part of the country. Our 70-page booklet, "*Design and Control of Concrete Mixtures*," is available free to help you design quality concrete structures. It is distributed only in the United States and Canada. Write for your copy today.

PORTLAND CEMENT ASSOCIATION

Dept. A6-25, 33 WEST GRAND AVENUE, CHICAGO 10, ILLINOIS

A national organization to improve and extend the uses of portland cement and concrete through scientific research and engineering field work

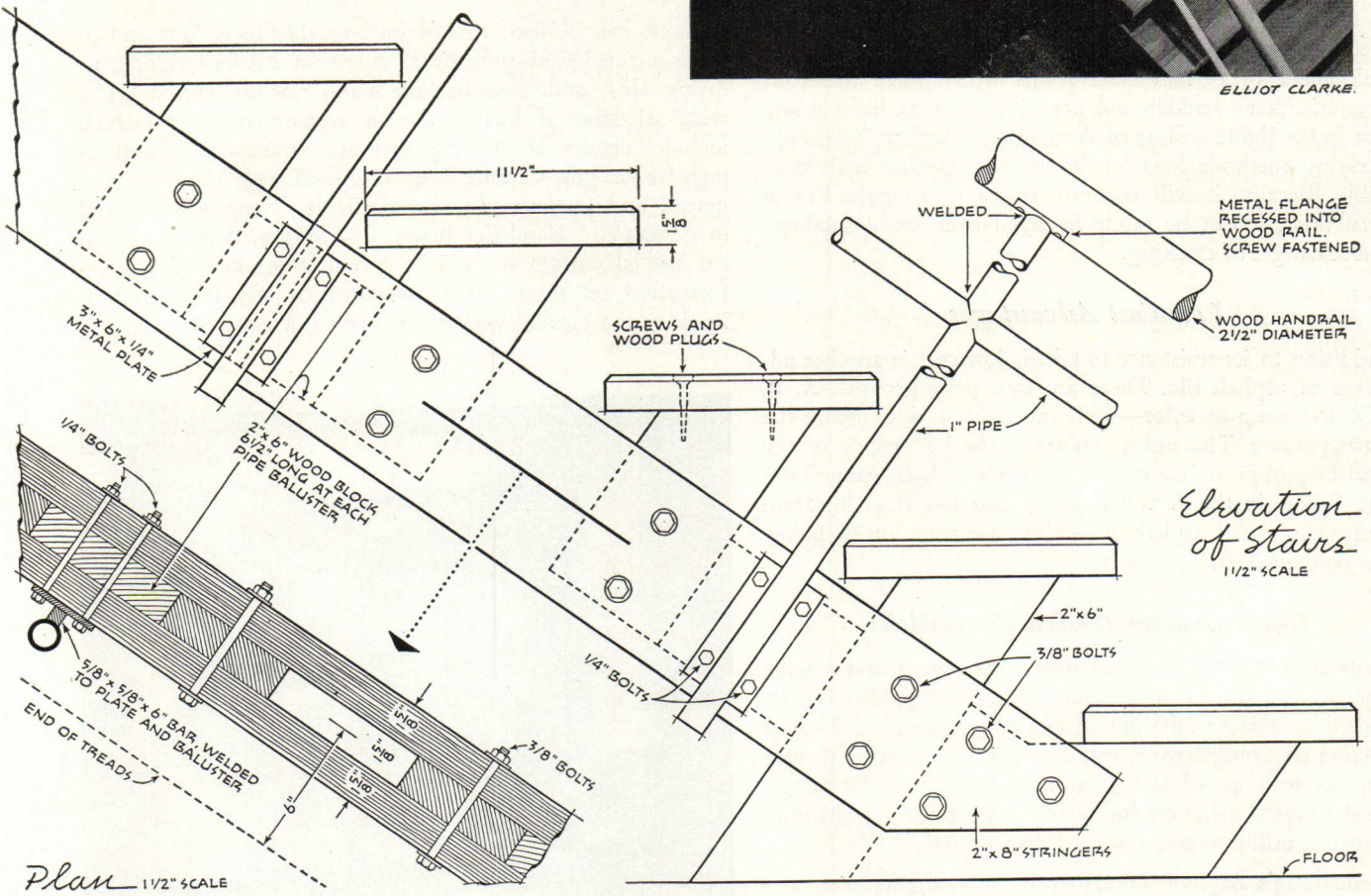


Plan and Section
1/8" SCALE

Section A 1/2" SCALE



ELLIOT CLARKE



Elevation of Stairs
1 1/2" SCALE

Plan 1/2" SCALE

BONNIER'S SHOP
New York, New York

WARNER-LEEDS
Architects

ASPHALT TILE—its advantages and uses

In recent years there has been an increased use of asphalt tile as a flooring over suspended concrete, wood, and metal subfloors. While a portion of this increased usage is due to the fact that asphalt tile was more readily available than any other type resilient flooring during and immediately after the war, a great deal of its present-day popularity lies in its improved qualities, attractive appearance, and versatility.

Asphalt tile was originally developed to solve the alkaline moisture problem found in concrete subfloors in direct contact with the ground. This alkaline moisture had a harmful effect on the binders and color pigments of other types of resilient floors. In the early stages of development, the only binder that would resist alkaline moisture was pure asphalt. This meant that only the darker, utilitarian colors could be manufactured. The tiles, too, were hard and brittle and were not suitable for use over wood subfloors.

Today, Armstrong's Asphalt Tile not only successfully resists the effects of alkaline moisture but also offers a wide variety of light as well as dark colors. This is due to the development of certain clear resins which have the same characteristics as asphalt and are now used as the binding agent in the lighter colors of Armstrong's Asphalt Tile. New processing methods have made the tile tougher and more flexible. Because it will conform to minor irregularities in the subfloor, it can be safely installed over wood subfloors without danger of cracking.

Low-Cost Advantages

In addition to its resistance to alkali, low cost is another advantage of asphalt tile. There are four price groups—A, B, C, D, according to color—with the lightest color being the most expensive. The lighter colors in the $\frac{1}{8}$ " gauge of the C and D groups are comparable in price to light gauge linoleum. Colors in the A and B group cost less than linoleum of any gauge. All asphalt tile colors are priced well below other types of resilient flooring.

Offers Greater Design Possibilities

Armstrong's Asphalt Tile has many advantages and a wide range of uses. It is a tough, long-wearing floor that can be installed in attractive designs. Asphalt tile is an ideal flooring for large shopping centers using on-grade concrete slab subfloors, as well as schools, hospitals, and public buildings. It is the logical selection for basementless homes, residential basements, utility rooms, and recreation centers.

Armstrong's Asphalt Tile is made in twenty-five colors—three plain and twenty-two marbled with Armstrong's exclusive nondirectional swirl graining. The tile is made in 9" x 9" squares and in two gauges— $\frac{1}{8}$ " and $\frac{3}{16}$ ". Eight of the twenty-two colors are also made in 18" x 24" tiles for use in borders. All the colors in Armstrong's Asphalt

Tile have been carefully harmonized so that pleasing combinations can be formed by using any two or more together. Since the tile is laid one tile at a time, there is no limit to the number of original designs that can be created. Each tile is accurately die-cut and has undercut edges and sharp corners which permit each piece to fit snugly against the others, eliminating dirt-catching joints.

Feature Strips and Insets

A distinctive custom appearance can be given to asphalt tile floors through the use of feature strips and insets. Feature strips are narrow bands of asphalt tile generally used to separate the field of the floor from the border. They are also used in vertical, horizontal, or diagonal strips to offset a floor of a single color or to accent bands of various colors. These strips are supplied in $\frac{1}{2}$ and 3-inch widths, in $\frac{1}{8}$ " and $\frac{3}{16}$ " gauges and in eleven colors.

Insets can be used to add individuality to a floor and to serve a functional purpose as direction markers, merchandising aids, and identification marks. Armstrong makes a wide selection of factory die-cut asphalt tile insets which includes letters of the alphabet and numerals as well as popular designs. Certain frequently used trade-marks, monograms, and insignia are also available. These are referred to as Standard Hand-Cut Insets. In addition, Armstrong will cut special custom designs to specification. For further information on these insets, see Armstrong's 1949 Pattern Book or the current edition of Sweet's Architectural File.

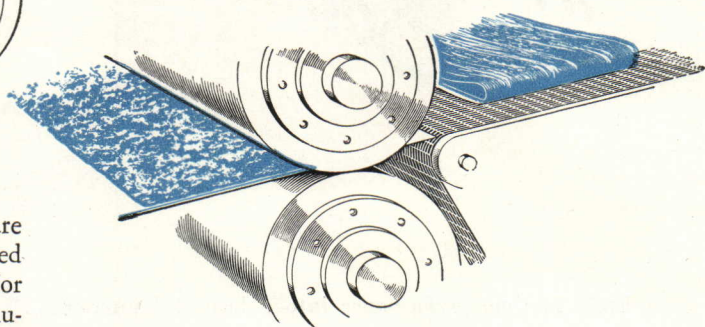


This hospital corridor is typical of the many commercial areas where asphalt tile can be used to advantage. It is a low-cost, long-wearing floor that is easily maintained. Because it is laid one tile at a time, it offers unlimited floor design opportunities.



Armstrong's Asphalt Tile is made chiefly of fibers and color pigments combined with natural and synthetic resins. Separate batches of carefully mixed ingredients are prepared for each color in a marbled pattern. The batches of the colored mix are then combined and fed between rolls, forming a sheet with a one-way graining in which all the colors are harmoniously blended. This sheet is cut off the roller, turned, folded, and run through a second set of rolls. This process produces the distinctive swirl graining. It also gives the product the two-way strength that makes Armstrong's Asphalt Tile so remarkably tough and flexible.

A giant press dies out the tiles with clean-cut edges and square corners. This assures tight joints and perfectly square seams in the finished floor design. Before it's shipped, asphalt tile is given a coating of wax to protect the mirror-smooth finish.



Special Types of Asphalt Tile

To withstand the action of greases, oils, and fats which are harmful to Standard Asphalt Tile, Armstrong has developed a Greaseproof Asphalt Tile. This tile is recommended for kitchens, restaurants, meat stores, filling stations, and manufacturing areas. The sizes, gauges, and general characteristics of Greaseproof Asphalt Tile are the same as Standard Asphalt Tile. It is supplied in seven of the Standard colors.

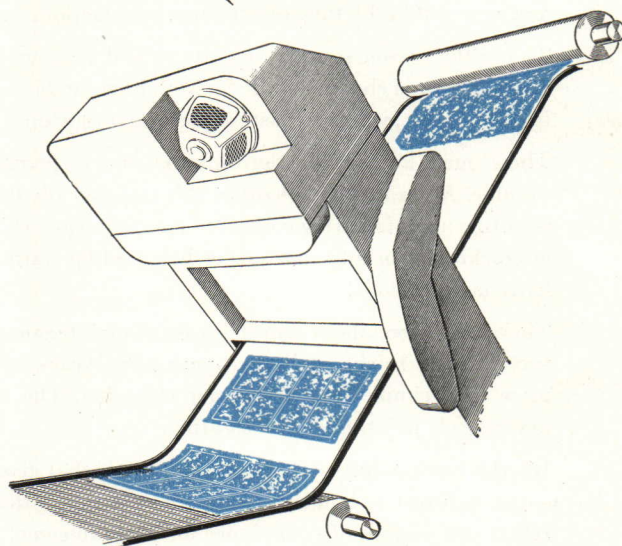
For heavy industry, Armstrong manufactures Industrial Asphalt Tile, Conductive Asphalt Tile, and Greaseproof Conductive Asphalt Tile. These products are available in 18" x 24" tiles, 1/8" and 3/16" gauges, in black only.

Limitations

While asphalt tile can be installed over almost any type of suspended subfloor—concrete, wood, metal—it has some limitations which should be considered. Asphalt tile is the hardest of all the resilient floors. Although less quiet underfoot than other resilient floors, tests indicate that it is 90% quieter than hardwood. Its resistance to indentation (25 pounds per square inch) though adequate for most installations is not comparable to linoleum which has an indentation resistance of 75 pounds per square inch or Linotile®, Corlon® Tile or rubber tile which resists up to 200 pounds per square inch. The concentrated weight of furniture will cause indentation in any resilient floor. This indentation can be prevented by the use of Armstrong's Furniture Rests.

Availability

Armstrong's Asphalt Tile is now freely available and is carried at 133 warehousing points across the country.



Architects who wish to see actual floors of asphalt tile in their own localities are invited to contact their local Armstrong floor contractors. For samples, literature or additional information on asphalt tile or any other Armstrong resilient floor, write direct to Armstrong Cork Company, Floor Division, 2407 State Street, Lancaster, Pennsylvania.

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Consult your classified telephone directory for the name of an Authorized Suntile Dealer. He may be listed. For detailed information on color, shapes and sizes, see Sweet's Catalog, or write Dept. PA-6, The Cambridge Tile Manufacturing Company, Cincinnati 15, Ohio.



Residence, Henderson, Texas. Designer, Robert Barber, Marshall, Texas. Authorized Suntile Dealer, Jeter & Jeter Tile Co., Marshall, Texas.

COLOR BALANCED

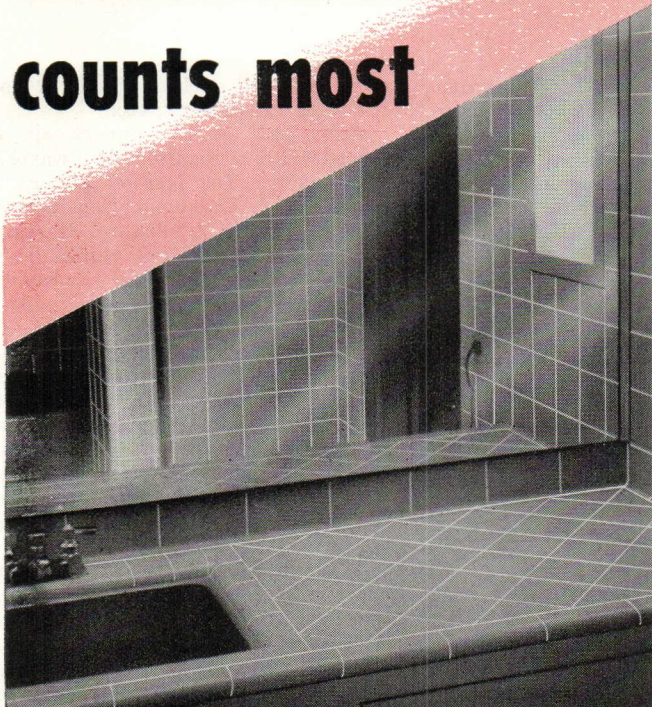
Suntile

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..... Bright with color
..... Right for life



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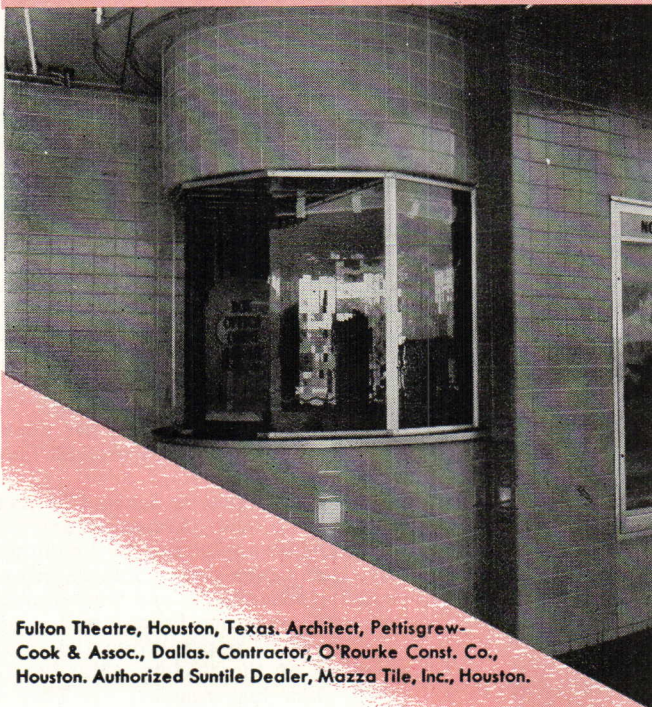
is the choice counts most



Residence, Shreveport, La. Architects, Peyton & Bosworth. Contractor, L. R. Elder. Authorized Suntile Dealer, Dixie Tile & Marble Co., Shreveport.



Christ the King School, Dallas, Texas. Architects, E. J. Schulte, Cincinnati, M. C. Kleuser, Dallas. Contractor, Cowdin Bros. Authorized Suntile Dealer, J. Desco & Son, Dallas.



Fulton Theatre, Houston, Texas. Architect, Pettisgrew-Cook & Assoc., Dallas. Contractor, O'Rourke Const. Co., Houston. Authorized Suntile Dealer, Mazza Tile, Inc., Houston.



Residence, Tulsa, Okla. Builder, De Witt Const. Co. Authorized Suntile Dealer, Midwest Marble & Tile Co., Tulsa.

• BETTER INSTALLATION

FROM THE TECHNICAL PRESS

By JOHN RANNELLS

WOOD

The Forest Products Research Society's second yearbook consists of a remarkable group of papers read before its annual three-day meeting in March 1948. The first yearbook (reviewed in P/A, August 1948) was lean by comparison—strong enough in papers on

techniques, but lacking the full scope achieved in this one. The Society takes in the whole field of wood from the forest to all its multitude of products and related chemistry and machinery. A considerable amount of its membership comes from schools and govern-

ment agencies, such as the U. S. Forest Products Laboratory, etc.

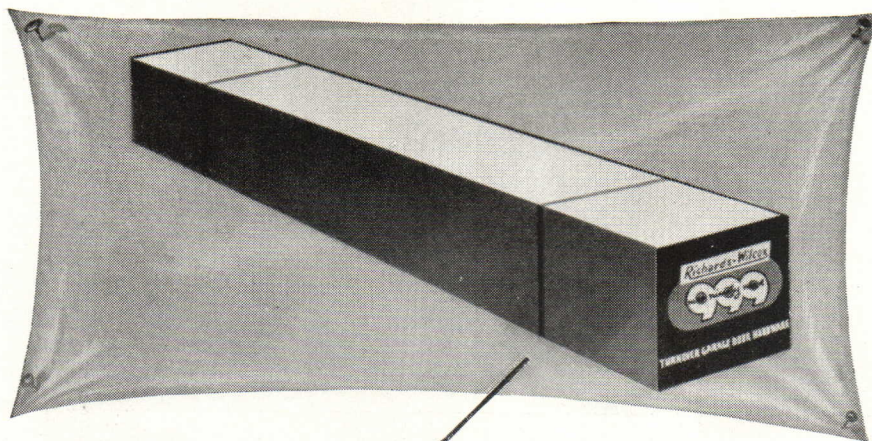
Fully half of the papers are concerned with utilization of "waste" or by-products. The lead-off paper, "Importance of Economic Considerations in Wood-Waste Utilization Research," is a model of straight thinking. One region's waste may be the raw material in another region for a valuable by-product. Wastes are not shipped. They are used or not, depending on many factors peculiar to the region concerned. The amount of unutilized material in the various producing regions should determine the emphasis of researchers. Many of the by-products which they develop will become part of the arsenal of materials and methods of construction with which we shall attack our building problems. (Sandwich panels cored with glue, corrugated paper and synthetic board materials as core stock for veneer panels, are already familiar. Better knowledge of the structural qualities of such panels is developing rapidly.)

The "Wood Award" for outstanding research in the field of forest products went to Nicholas V. Poletika, a graduate student at Yale University, for "A New Method for Studying the Elastic Behavior of Wood." The Wood Award thesis, published in the yearbook, outlines this method in detail. Using ordinary principles of mechanics, the effect of grain at various angles was studied by scarfing short lengths into test beams made up with longitudinal grain. The general purpose of the study was to determine the fundamental elastic behavior of wood. It will have the further value of providing more precise design methods. One would have thought that all the useful knowledge on timber physics had found its way into the textbooks long ago, but Poletika's paper shows again that there's still plenty of field for application of good sense to theoretical knowledge.

A large section is devoted to dielectric heating, both theoretical and practical, and its application to the gluing of panels and edge gluing. Papers on wood-working machinery, and wood finishing are also concerned largely with gluing.

A sheaf of papers from the current meeting of the Society (May 2, 3, 4, 1949) has just reached us. They are mostly about techniques for utilization of wood products—shop talk—with a couple of good papers on structural use of wood. One describes Wej-Weld Frames, by which ordinary dimension stock can be combined effectively with heavy structural plywood.

(Continued on page 98)

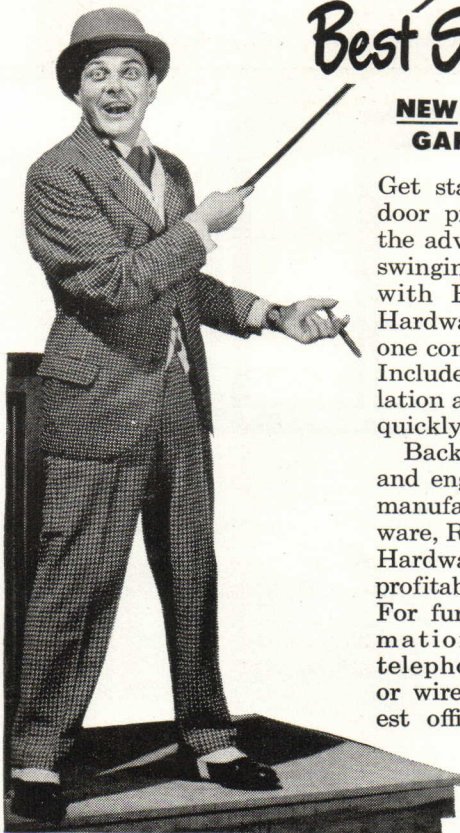
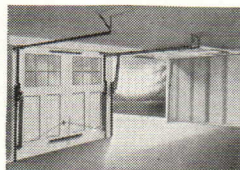


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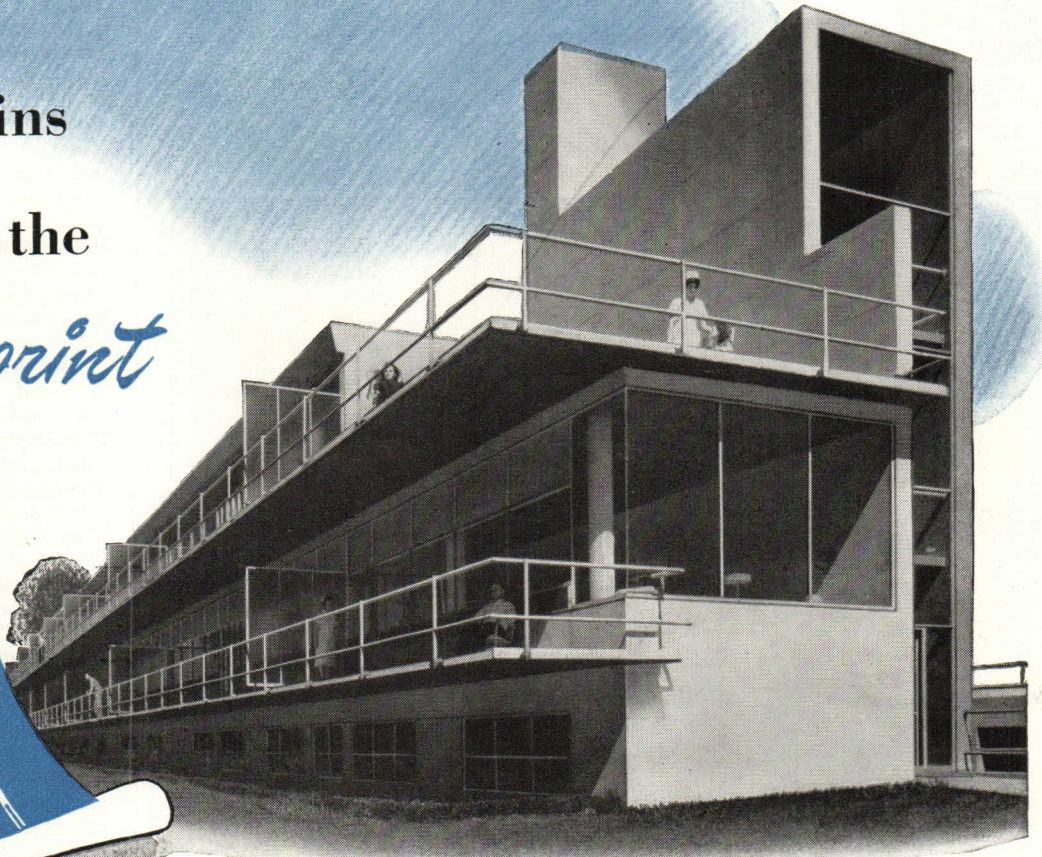
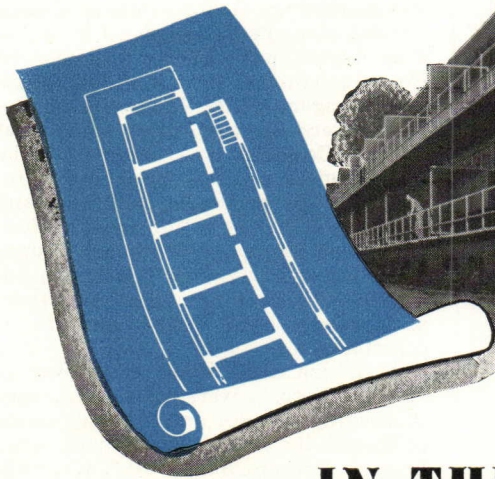
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73 BRANCHES FROM COAST TO COAST WITH SUBSIDIARY COMPANIES IN: TORONTO • LONDON • STOCKHOLM • AMSTERDAM • BRUSSELS • ZURICH • MEXICO CITY

(Continued from page 96)

It's a little strange that so few architects are connected with the Forest Products Research Society. Its organization and methods might well serve as prototypes for studying the improvement of building methods by A.I.A. and Producers' Council and others concerned. Of course, the building industry is a more complex affair than the wood industry, but there are parallels. Both are made up mainly of small businesses. Both require for the solution of their complex problems an association of all concerned who will work for improvement of the industry as a whole. So far, wood, an important component in building, is 'way ahead.

The over-all magazine of the industry is *Wood*, a lively monthly where current developments can be followed. Proceedings of the Society are reported but the emphasis is more on production and marketing. A fine example of commercial manuals is *Douglas Fir of the Pine Region*, published by the Western Pine Association, Yeon Building, Portland, Oregon. (The Western Pine Region covers all the forest areas east of the Cascades and Sierras.) The manual gives a lot of good, usable information on properties and uses and is distinguished by a full series of full-page photographs showing ten boards in each grade, with the description opposite—an arrangement that tells more at a glance than whole chapters of description.

A British book, *Wood Adhesives*, by E. H. Pinto, covers this field very thoroughly. One of an attractive series published by E. E. & N. Spon, Ltd., London (180 pp., 5½" x 8½", 12s. 6d.), it describes the history, manufacture, application, machinery, as well as the various types of glues. The bibliography is thorough.

Harry Parker has filled a big gap in his "simplified design" series with *Simplified Design of Structural Timber*. Like the others, it is concise, thorough, with a great deal of tabular information. The sample problems and solutions are spread out clearly for easy following by the novice or rusty practitioner. (220 pp., 5" x 7¾", John Wiley & Sons, Inc., New York. \$3.25.)

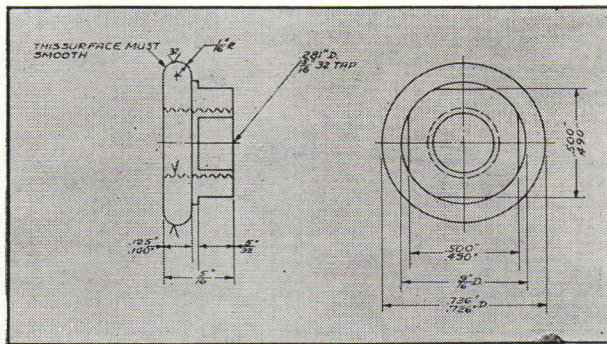
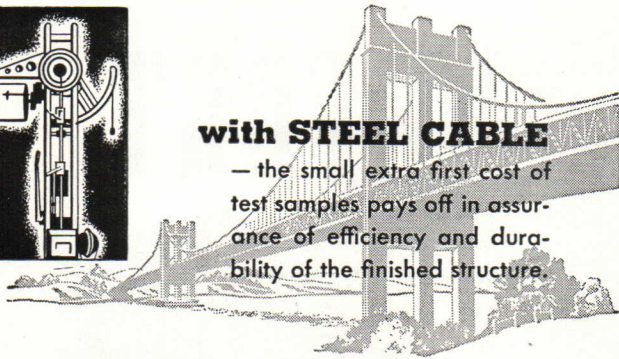
The A.I.A. Technical Guide No. 3 (January Bulletin) condenses an address, "Wood in an Industrial World," given by Dr. J. A. Hall, Director of the Pacific Northwest Forest Range and Experiment Station, USDA, before the Centennial Celebration of the A.A.A.S. last September in Washington. It is a very brief, illuminating history of wood in this country—ranging from the original unlimited supply of lumber to the present scarcity of the better grades and the development of other products from formerly unused portions of the tree.

A very good bibliography on structural wood is appended.



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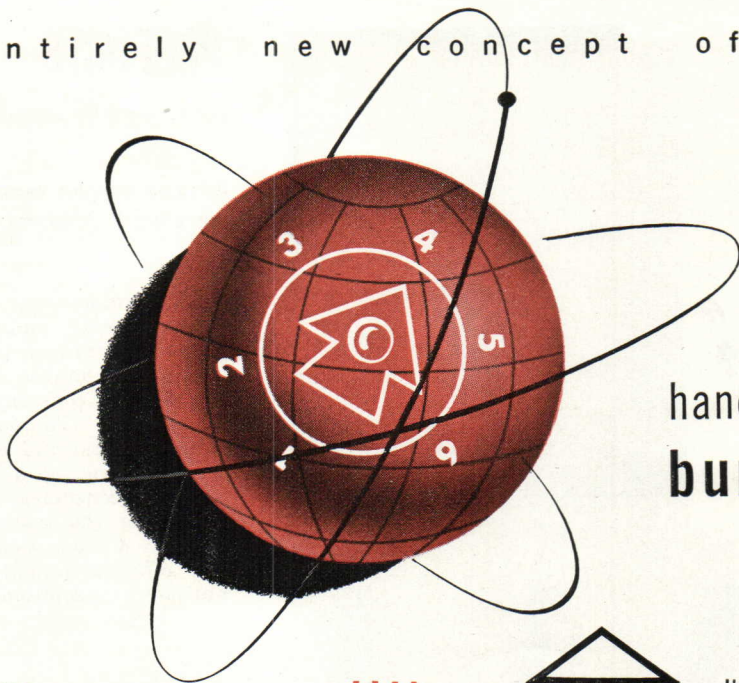
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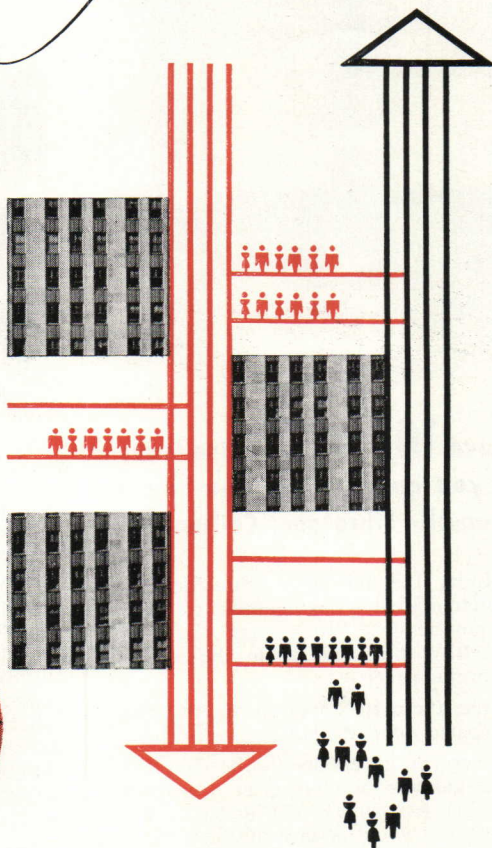
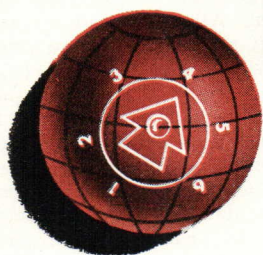
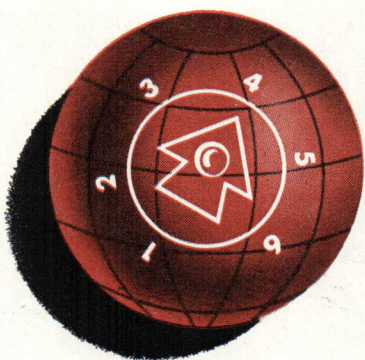


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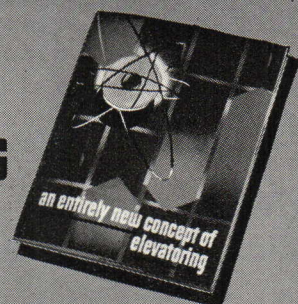
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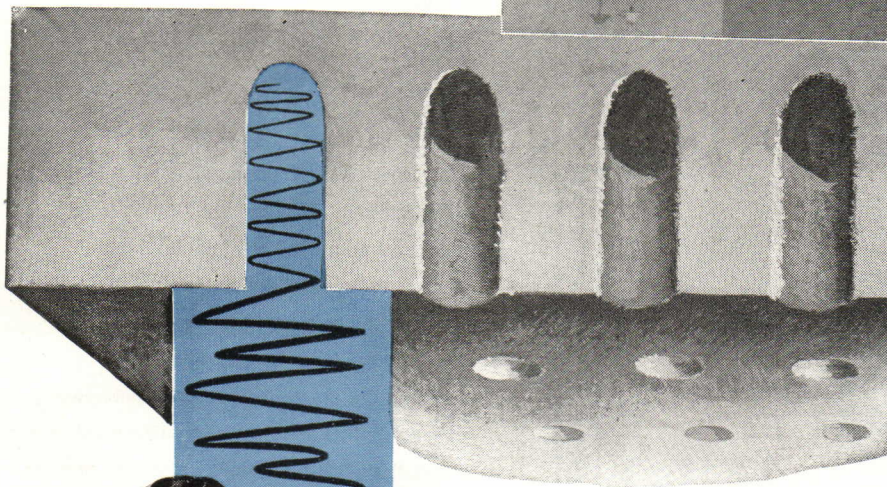
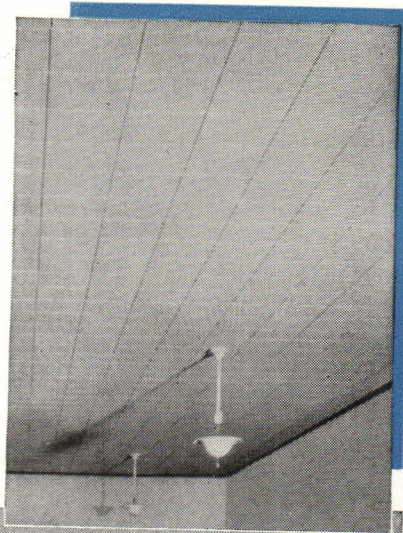


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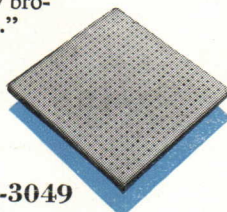
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PRODUCTS

(Continued from page 83)

Patented Marquee Reduces Operation, Maintenance Costs

Most contemporary theater marquees present costly maintenance problems and are hazardous to operate. Attraction board changes are expensive both in electrical consumption and in lamp replacement. To assemble changeable letters, lamps, and cleaning materials, usually stored at a distance from the marquee, consumes valuable time. By converting the marquee into a room, Poblacki & Sons Company of Milwaukee, offer a patented inside-serviced marquee as a solution to these problems.



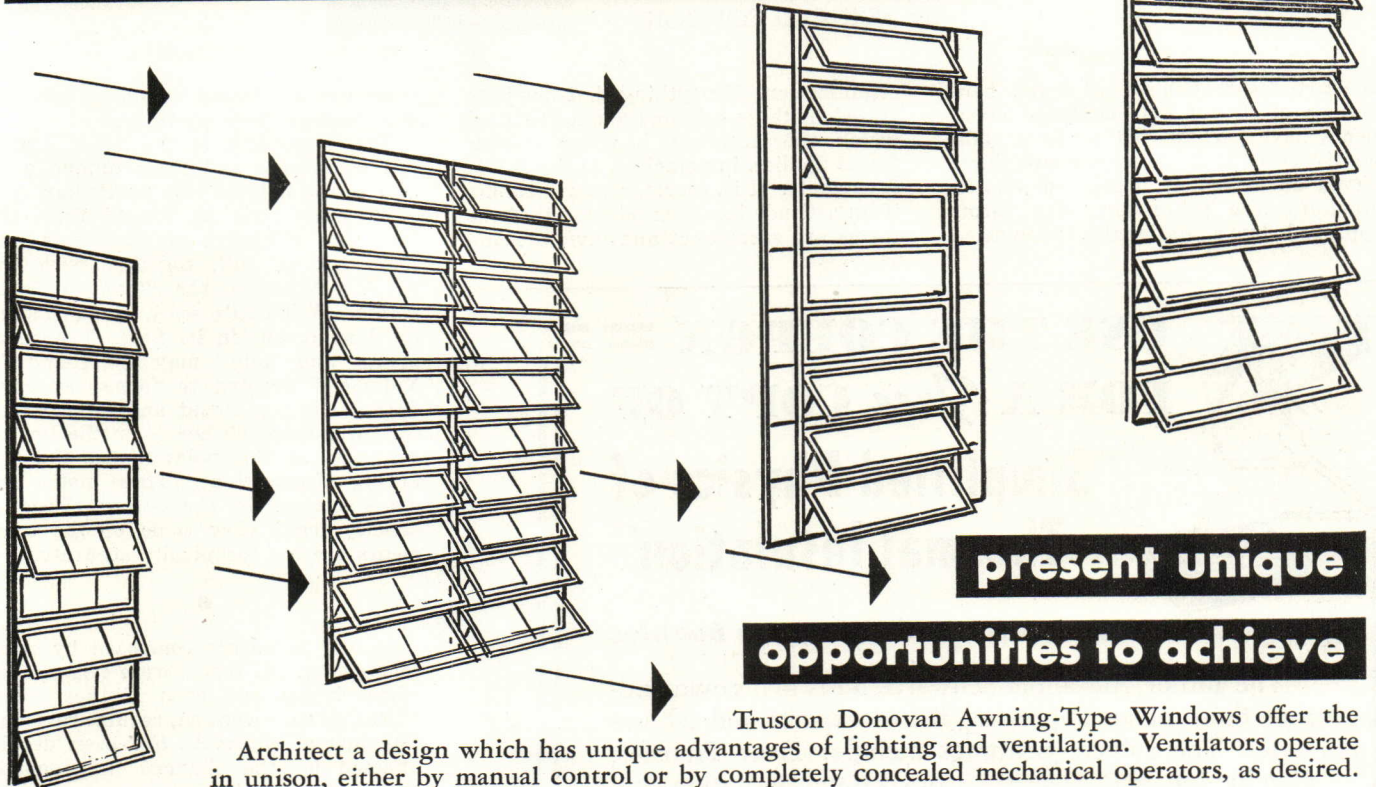
Sliding or hinged-type window panels permit letter changing and bulb replacement from the inside. The hazardous use of ladders is eliminated and storage space is provided within arm's reach. All work can be accomplished in any weather. Because attraction sign lights are placed three or more feet away from the glass panels (see photo), a man can easily stand in front of them and make the needed changes. Industrial-type Holophane reflectors give even light distribution over the entire sign face. As all electrical equipment is located within the marquee, wear and tear is substantially less than when it is exposed to the weather. An access door must be incorporated into the plans for a new theater. As such a door is not always possible in a renovation, a scuttle hole can be placed in the roof of the marquee.

As individual panels must be removed from most attraction boards in order to be washed properly, this time loss prohibits many theater owners from operating their attraction boards at top efficiency. Inside-serviced marquees greatly help to reduce this loss.

A color changer can be installed within the marquee. Also a new-type stereopticon machine can be used to project images onto the attraction boards for arresting effects.

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present unique

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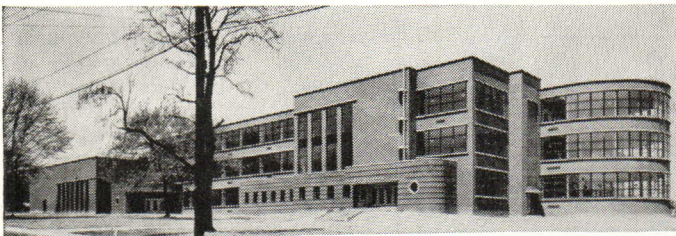
Truscon Donovan Awning-Type Windows offer the Architect a design which has unique advantages of lighting and ventilation. Ventilators operate in unison, either by manual control or by completely concealed mechanical operators, as desired.

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Fixed panels may be located wherever you wish.

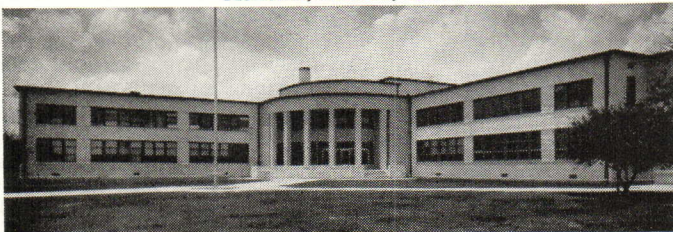
The Donovan design completely eliminates all unsightly exposed connecting arms, screws, racks, etc. These Truscon Steel Windows are sturdily built

distinctive institutional structures



Above: Hillman Junior High School, Youngstown, Ohio. Excellent use of Truscon Donovan Awning-Type Windows.

Below: Truscon Donovan Awning-Type Windows used in Ripley Memorial, Houston, Texas.



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It's the Law



By BERNARD TOMSON

The articles that have appeared here critical of the A.I.A. contract documents have perhaps not made it sufficiently clear that the documents have served an extremely useful purpose in providing the profession with forms approved by a nationally recognized

organization. Everything that has been stated in these columns about the need which the architect has for similar forms applies, in principle, to the A.I.A. documents. It is, therefore, unfortunate if an attitude has been adopted that the forms are sacrosanct and inviolate and

must not be altered. Such an attitude will destroy their usefulness.

The importance of the A.I.A. standard documents and their unique position in the field of this particular type of contract may be judged from the fact that *Williston on Contracts* sets them out in full, together with the A.I.A.'s *Notes on the Standard Documents*. Williston's work is considered the leading one in its field. The documents and notes may be found in Volume 7 devoted to forms, at page 5918. It is significant and typical that this prominent authority on the law of contracts at this point makes the following observation: "These notes are not sponsored by the author. From a strictly legal view some of the comments are not technically accurate."

Like all documents composed by mortals, the A.I.A. forms were not perfect when drawn and even if they were, would, as time went on, require revision. The law of contracts has been deeply affected by the changes in economic conditions and the increasing complexity of our industrial society. Some of the fundamental tenets of contract law are under re-examination by the courts and by the state and federal governments. Many common law doctrines have been modified by statute or by court interpretation. These doctrines have been adapted and altered by the courts and legislatures to meet the problems of our economic and social system. Many of the most fundamental principles of contract law, such as the need for consideration, the effect of mistake, the problem of the illegal and void contract, etc., are still developing concepts. The law moves rapidly and it is just as necessary for the technician who draws legal documents to keep up with this change as it is for the physician to keep informed on new developments in medicine.

The failure on the part of those responsible for the A.I.A. documents to recognize this fact will have the unfortunate consequence of abandonment of their use by the profession. This will be unfortunate for the individual architect who feels the need for these standard documents and unfortunate for the profession as a whole which has the need for uniformity in practice. There is an increasing number of architects who feel that some of the present forms have outlived their usefulness and who have abandoned them in part, or altogether. There are others who are sincerely troubled by the problem. That

(Continued on page 104)



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- C.052 Heat Flow Down, equals 6" Rockwool.
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TRIANGULAR REFLECTIVE AIR CELLS
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Please send "Simplified Physics of Thermal Insulation" to

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- One order covers the complete piping system
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- Durability pre-tested and proved by 40 years of experience
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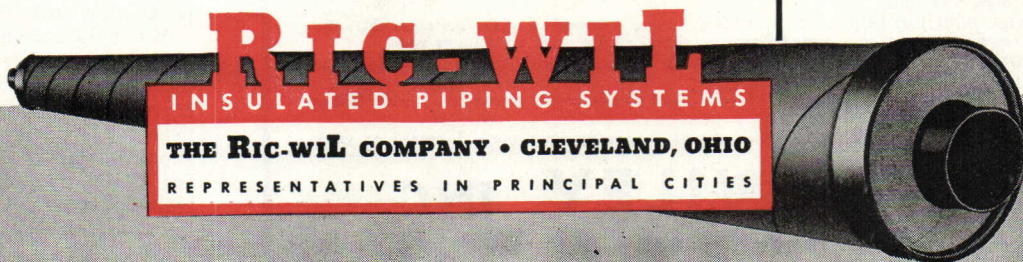
**Bellevue Apartments Typify Scores of Centrally Heated
 Housing Projects Using RIC-WIL Insulated Piping**

THE RECORD of postwar housing construction in the District of Columbia and its environs is an impressive one—particularly with respect to the many thousands of new rental apartments that have been made available.

An outstanding feature of these projects is the widespread use of Central Heating . . . providing "ready made heat in its most convenient form" . . . making them as truly modern in this respect as they are in all others.

Equally significant is the fact that so many of these centrally heated projects use factory-prefabricated and pre-tested Ric-wiL Insulated Piping . . . additional evidence of the generally acknowledged superiority of this efficient method of insulating and protecting distribution piping.

● For more information on Central Heating and Ric-wiL Insulated Piping, write for "Housing America," Form 4804, to: The Ric-wiL Company, Department 19L.



PLANNED LIGHTING WITH WILEY RECESSED TROFFERS

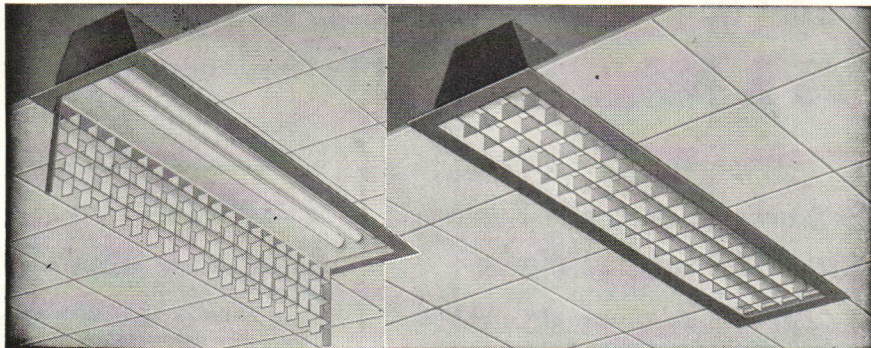


Wiley Recessed Troffers
in unusual patterns

Wiley stock model Recessed Troffers provide custom-made results both in lighting requirements and flexibility of arrangement to fit any architectural plan *without* custom-made costs.



Wiley Recessed Troffers Combined with "Spots"
in continuous runs.



Only Wiley has the
E-Z SERVICER
Pat. #2427084

One-man service . . . No Tools.
Raise one side, slide sideways
and drop open. Unhook to com-
pletely remove.

FEATURES, UNIVERSAL UNIT:

- Adaptable to any position.
- Individual or continuous runs or patterns.
- Open, louvered or glass.
- May be combined with Wiley Spots.
- 2, 3 or 4 lamps—Starter or Instant Start.
- Underwriters Approved.
- I.B.E.W. Label

Other WILEY Fixtures:

SEMINAR FLEUR-O-LIER: Especially designed for schoolroom lighting. 2 or 4 lamps, louvered bottoms. May be suspended or flush-to-ceiling, mounted singly or in continuous runs.

NIAGARA FLEUR-O-LIERS: 2, 3, 4 or 6 lamps, louvered or glass bottoms. May be suspended from or mounted flush to ceiling, singly or in continuous runs.

NIAGARA BEAM: 2, 3, or 4 lamps, louvered or glass. Flush to ceiling—Singly or continuous runs.

SPOTS: Adjustable or fixed lens. May be used individually or combined with Wiley Commercial or Troffer models.

INDUSTRIAL FLUORESCENTS: Complete high quality line; open, louvered or glass bottoms.

R. & W. WILEY, INC.

Dearborn at Bridge Street

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Buffalo 7, N. Y.

It's the Law

(Continued from page 102)

the problem exists is something which the committees responsible for the contract documents should recognize and move to solve.

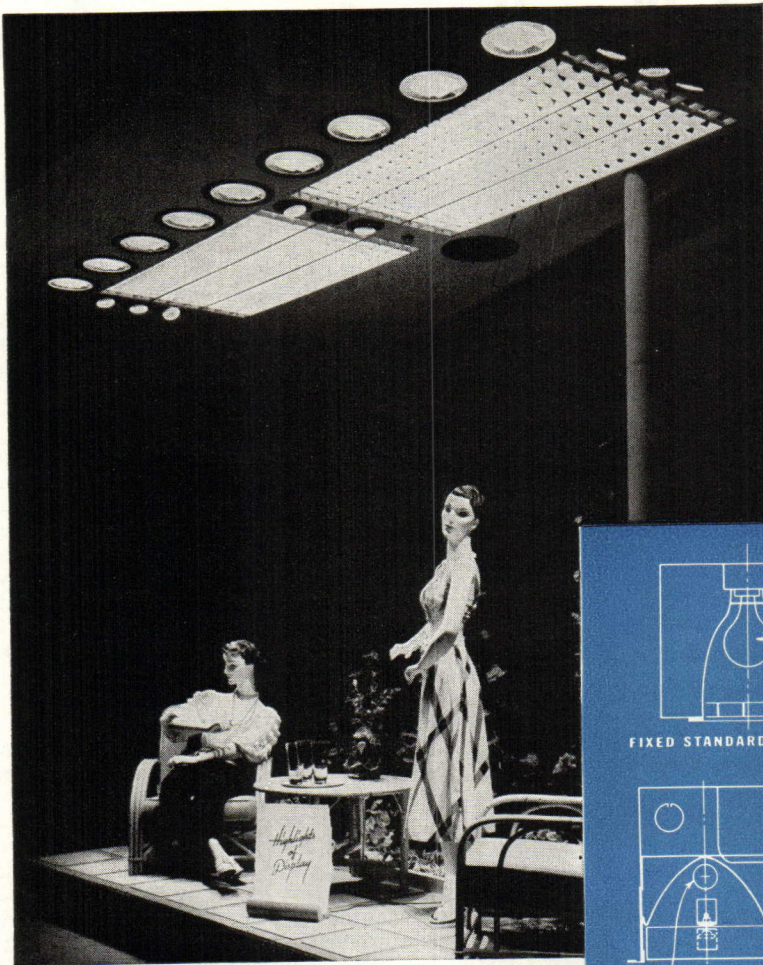
The solution attempted should consist not merely of a line by line examination of the documents as they now exist. The analysis made should first consider what kind of documents would best serve the architect. In previous issues there was urged the necessity for (a) a simple short form of architect-client contract which could be used without significant alterations; (b) a separate comprehensive set of terms and conditions and general rules which could be "incorporated by reference" into the short form; (c) a brochure in simple lay language for the client which will indicate in detail the probable extent of his commitment. This, of course, will require an approach *de novo* for the architect-client agreement. A similar approach should be made to the other documents. Only after the general nature of the documents is determined, should there be considered what the contents of each form should be. This would require a comprehensive review of the present contract documents, paragraph by paragraph, and a further consideration as to whether additional matters should be added.

A further problem to be considered was well stated by William Stanley Parker, chairman of the A.I.A. Committee on Contract Documents in his letter which appeared in May P/A. There he stated: "A standard clause must try to fit all states as accurately as possible, but in certain matters it may be necessary for the local Chapters to develop standard additions or amendments to conform to local controlling statutes."

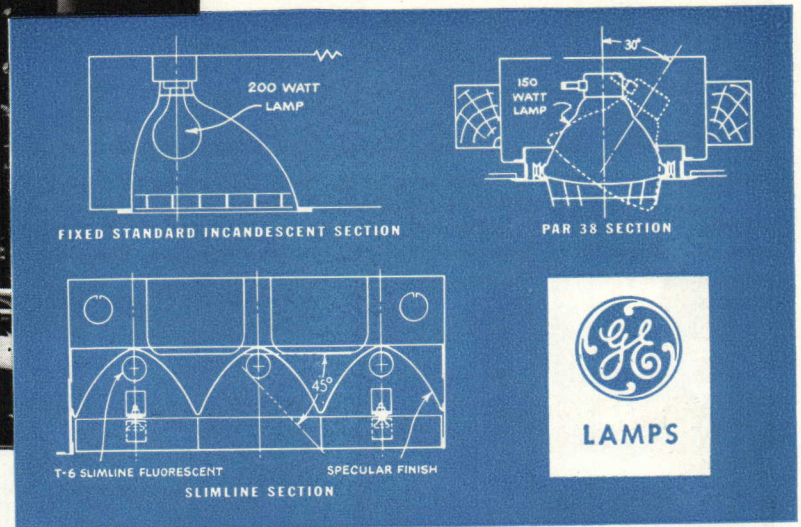
Ideally, this would mean that there should be prepared by the A.I.A. a comprehensive revision of the contract documents which could be used in those states where the chapters do not further amend or modify the documents issued by the national organization. In those states where the local chapter is able to devote the necessary attention to the problem, the documents put forth by the A.I.A. should be treated as a set of recommendations which can be revised to conform to local needs. This would permit such local chapters as do make revisions to publish forms for the particular state in question.

What is strongly urged here, however, is that affirmative action be taken—and soon. Something more than the desire to accomplish the revision is necessary. The local A.I.A. chapters should place the matter on their agenda for early meetings. It would be extremely unfortunate if, as the result of inaction on the part of either the A.I.A.

(Continued on page 106)



HOW TO MAKE A WINDOW SHINE



TO catch a customer's eye and show him the merchandise at its best, a show window needs a complete, flexible lighting system—like the one above.

General Electric slimline fluorescent lamps in parabolic reflectors bring out color, texture and details of the display. They have high efficiency and provide cool lighting. The G-E incandescent lamps raise the over-all brightness of the window to draw more attention. And the G-E PAR-38

projector spot and flood lamps in movable fixtures put highlights right where the display man wants them.

Whether you're designing a show window or a complete store, an office, factory or home, be sure to specify General Electric lamps. That's the easy, sure way to specify quality. General Electric makes a lamp for every lighting need, all constantly improved by research to **STAY BRIGHTER LONGER.**

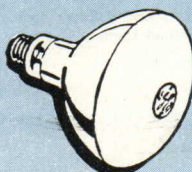
You can put your confidence in—

GENERAL ELECTRIC

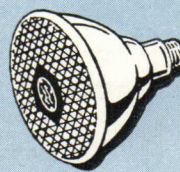
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FLUORESCENT
Many types, sizes, colors
now available.



REFLECTOR
Spot or flood lamps.
Built-in reflector directs
light where needed.

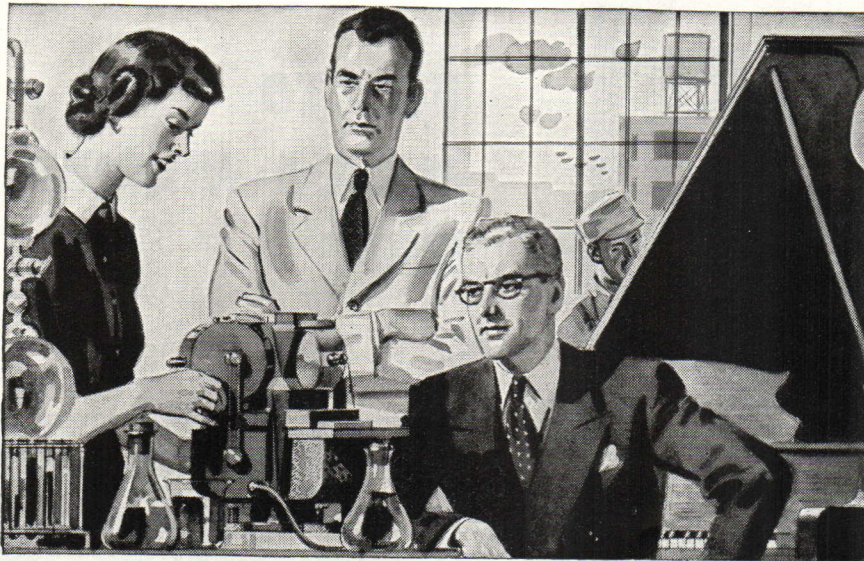


PROJECTOR
Spot or flood. Rugged
moulded glass permits
attachment of accessory.



SILVERED BOWL
Indirect lighting at low cost.
60 to 1000 W.

How SPEED helped catch "bugs" in the lacquer



Final finish on pianos mysteriously going "sour." Production halted. Lab needed X-ray diffraction camera to identify impurity. At 9 A.M., 10-lb. camera Air Expressed from 1100 miles away, delivered by 4 P.M. *same day*. Cost, only \$3.58. Company uses Air Express as routine method to get supplies fast, keep inventory low.



That low \$3.58 figure was total cost for Air Express and included door-to-door service. That makes the *world's fastest* shipping method exceptionally convenient, complete, and easy to use.



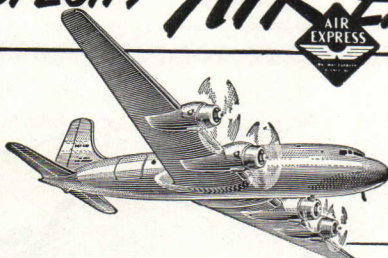
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It's the Law

(Continued from page 104)

or the local organizations, the contract documents fall into disuse. The near future may very well find most individuals using their own forms or forms put out by agencies not affiliated with the profession. This will happen if the architect's needs cannot be adequately supplied by the A.I.A. It is playing the part of the ostrich not to appreciate that this trend is already recognizable.

Again it is emphasized that the question should be squarely put to the profession as to whether the standard documents are satisfactory in their present form. If not, what revisions are required? Obviously, the answer to the second question would require a comprehensive study on the part of a committee adequately advised so that the result of its deliberation would be "strictly legal" and not subject to Williston's criticism quoted above.

There is a vital need for the revisions. If the national organization does not proceed, the local chapters should. It should be determined whether, considering the necessity for complying with what Parker called "local controlling statutes," it might be best for the local chapters to draw their own forms, with appropriate reliance, of course, on the recommendations of the national body. If neither the national body nor the local chapters proceed, commercial suppliers of forms could, and probably will, enter the field. The need for revision of the contract forms in the profession is great.

OFFICE PRACTICE

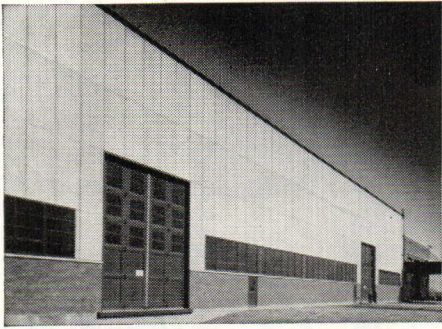
(Continued from page 74)

In what I have told you so far you have doubtless observed the tendency toward inflated cost of the total project. There are other elements which may inflate the cost. For example, if mortgage money is scarce you may find that, as frequently occurred in the past, the lending institution may demand a discount on the loan. Loan discounts used to range from 6 percent to 10 percent. A discount simply means that you have to pay back to the lender the money he never gave you.

Why worry about inflated cost? The reason is simple: To be economically sound a building must not cost more than its value. This brings us to the question: "What is value?"

There are those who hold that the value of an income-producing building is the cost of the land plus the

(Continued on page 108)



Unique beauty of Cemesto in a curtain wall. Curtiss-Wright Corp., Louisville, Ky. Architect: Albert Kahn Associates, Inc., Detroit, Mich.



Modern residence of Berkeley, California. Architect: Richard J. Neutra.



42,000 square feet of Cemesto used for roof deck and curtain walls. B. F. Goodrich Co., Marietta, O.

CEMESTO . . .

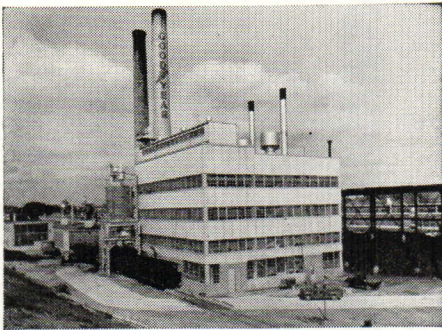
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**Celotex Cemesto is first choice for fast,
permanent, low-cost construction of every kind**



U. S. Navy residence building of Cemesto and brick masonry built in 1939 at Brooklyn, N. Y. Contractor: White Const. Co., New York, N. Y.



Attractive and economical use of alternate bands of glass and Cemesto for power plant at Good-year Tire & Rubber Co., Jackson, Mich.

Light steel framing for 53,760 sq. ft. of Cemesto for Watson Terminal Warehouse Company, Youngstown, Ohio.

More and more architects are specifying Cemesto* for *insulated* structural roof decks, curtain walls, and partitions of every type. Because the unique properties of this amazing multi-function monowall material make possible important economies in design, erection, and maintenance.

This has been proved by 19 years of outstandingly successful use in industrial, commercial, and residential construction of all types . . . in all climates . . . all over the world!

Cemesto is a rigid structural panel made of Celotex* cane fibre board to which cement-asbestos board is bonded on both sides by a moisture-

proof bituminous adhesive. It has remarkable structural strength . . . high insulation value . . . its cement-asbestos facings are incombustible and weather-resistant. Its hard, durable, light-reflecting surfaces provide both interior and exterior finish.

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Caulking joints between Cemesto panels. Carolina Asbestos Co., Marshville, N. C. Contractor: Interstate Const. Co. Architect: A. G. Ulrey.

Asphalt roll roofing applied over Cemesto. Pittsfield Township School, Washtenaw, Mich. Architect: C. Nobel. Contractor: DeKenning Const.

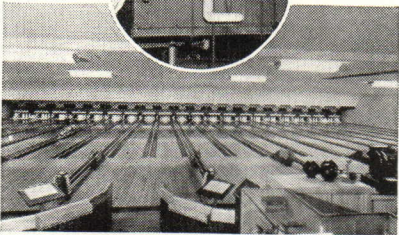


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FOR BUSINESS . . .

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. . . OR PLEASURE

"YAC" Air Conditioning Units and Coils provide comfort for active indoor recreation at Luby's, Racine, Wis. *Architect:* John Topzant, Milwaukee, Wis. *Heating Contractor:* Smollen Heating Co., Racine, Wis.

● To meet the complexities of today's air conditioning installations, specify "YAC" Units by Young. Young Air Conditioning Units provide the following service requirements . . . Cooling, Heating, Filtering, Humidifying, Circulating, and Dehumidifying . . . in any combination! Eight vertical or horizontal type units have ratings from 450 to 15,750 cfm; custom installations with Young coils handle larger capacities. The sturdy "YAC" cabinets, of heavy gauge galvanized steel, are shipped in sections and quickly installed. Write for details.



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Sales and Engineering Offices in All Principal Cities

OFFICE PRACTICE

(Continued from page 106)

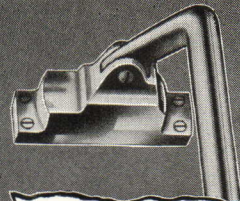
cost of the structure plus the carrying charges. Having determined this total you set your rental schedule at a level that will pay the operating costs, the taxes, the mortgage charges, and a reasonable profit to you. It is a simple method and perhaps one of the best—to lose your shirt! Who says that people will be willing to pay the rentals that result from this neat little process? The method is no good since it starts at the wrong end.

The proper approach starts with a careful study of how much people will be willing to pay for your product at the present time. Next you must assume that as the building ages the rental return will decline. The rate of a decline must be estimated year by year; this will give you a series of annual benefits to be derived from the property, expressed in terms of the net income after operating costs and taxes. These recurring annual benefits are all that create value. Those that are remote in time are today worth less than their full amount; when discounted to the present date the sum of these annual benefits is the value of the property, regardless of what it cost to produce. If cost is less than or equal to the value, the deal is sound; if more, it is unsound. Value of a property, then, is the amount of money that a prudent investor may be assumed to be willing to spend with the predicted annual benefits as an inducement.

I cannot attempt to go into the mathematics of this process; suffice it to say that value is usually expressed as so many times the indicated net income at the end of the first year's operation. This multiplier is called the capitalization factor. Depending on an appraisal judgment of the neighborhood in which the property is situated, the likelihood of competition, and similar factors, it may vary considerably; for sound projects it frequently falls in the range between 12.0 and 14.0.

This method establishes the total amount that may be spent on land, buildings, fees, and carrying charges. That's all there is—there isn't any more! As architects, it is to your advantage to have just as much of this total as possible available for construction cost. Hence, inflated land cost is your enemy; indeed, at a certain price of land there is no money left for the construction of the building that is supposed to earn the money. Architects should always in-

(Continued on page 110)



Specify

MONARCH

*instant
Exit*

PANIC DEVICES

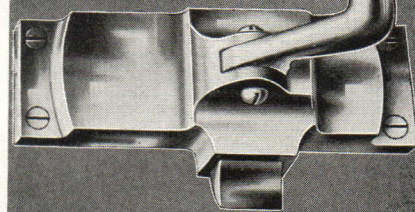


Mortise, Rim and Vertical Rod Types, that deliver steadfast *instant exit* service in heaviest traffic use, through untold years of service.

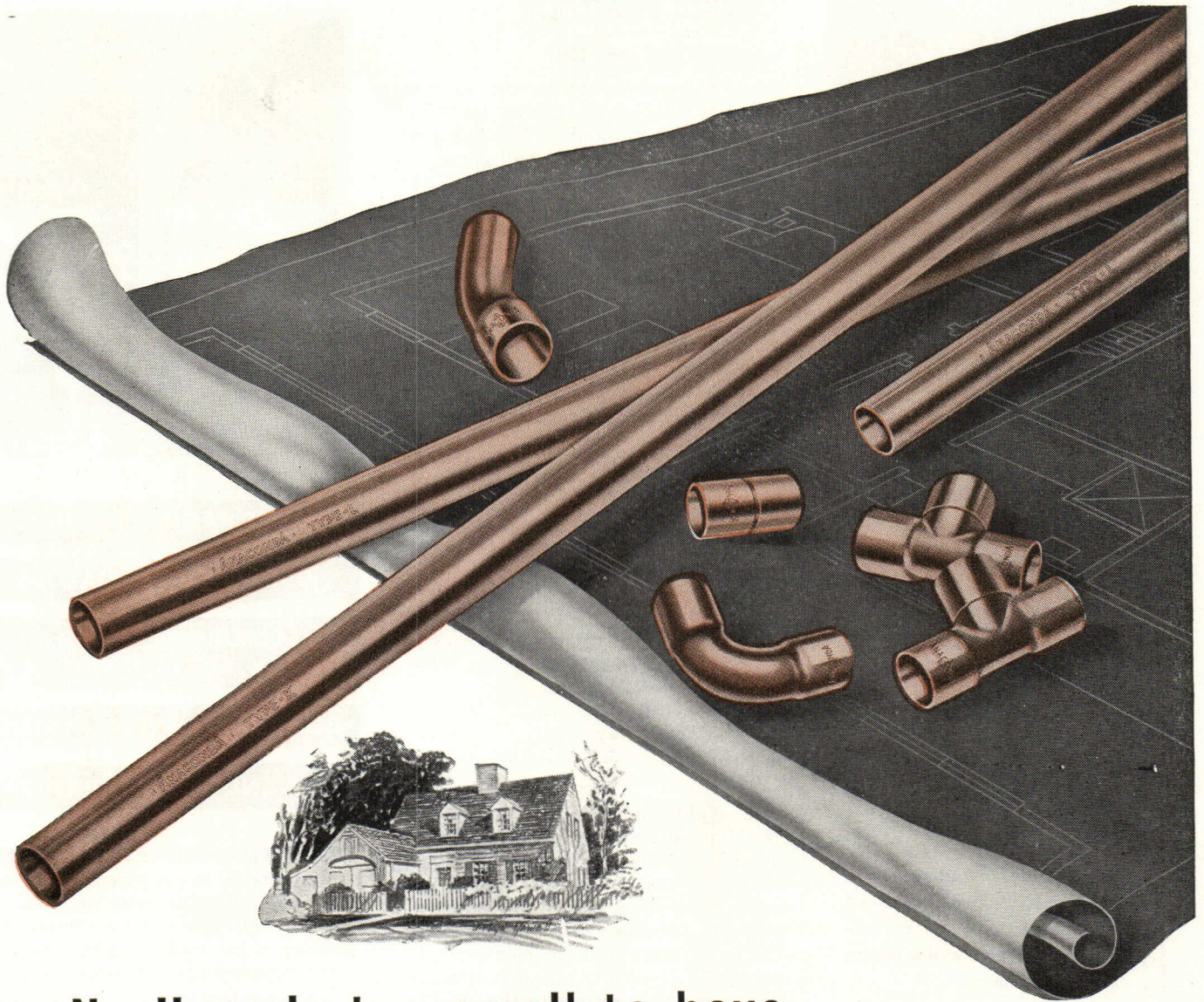
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Full Details
in Sweet's
Catalog



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No Home's too small to have
Non-Rust Piping . . .

... not when it's possible to install Anaconda Copper Water Tubes with solder-type fittings at a price usually competitive with rustable piping.

Copper Water Tubes are fast becoming the standard for hot and cold water and forced circulation heating lines. For such piping we recommend you specify tubes no lighter than Types K and L. Type M tubes in sizes 1 1/4" to 12" are made only for waste, drain and vent lines . . . wherever codes permit.

Today there's no end to the uses for copper tubes in homes, in industry and on the farm. Of course 85 Red Brass Pipe is still considered the *ne plus ultra*. But it's reassuring to know that wherever copper tube is installed, the owner is getting outstandingly sound value for his money.

Anaconda Copper Water Tubes, together with Anaconda Fittings, both solder and flared types, are carried in stock by leading plumbing supply houses.

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THE AMERICAN BRASS COMPANY

General Offices: Waterbury 88, Connecticut
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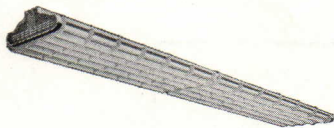


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In addition to the units pictured, Kayline Slimline is available in Channelite. For details on Slimline lighting, send for a Kayline Catalog Supplement.

Kayline Catalogs cover our three fields—commercial, residential, industrial. They are designed to help you plan more and better light. Send for one or all of them today!



For over 55 years

KAYLINE



THE KAYLINE CO.
2480 E. 22nd ST.
CLEVELAND, O.

OFFICE PRACTICE

(Continued from page 108)

form themselves as to the market value of the land. If it is too high or seriously inflated in the financial set-up, there will be no ball game.

How shall we judge whether or not a proposed income-producing building is economically sound? This is done on the basis of the financial statement, usually called the "set-up."

This statement consists of two parts, arranged in parallel columns. The column on the left is a statement of cost. In essence, it says: "Here is what the job will cost and this is where we expect to get the money."

RESOURCES

Land	\$.....	
Cash	\$.....	
Other Equity	\$.....	
Total Equity	\$.....	\$.....
Mortgage Loan proceeds	\$.....	
Total Resources	\$.....	\$.....
Working Capital	\$.....	

ESTIMATED REQUIREMENTS

Land Improvements	\$.....
Construction Costs	\$.....
Carrying Charges	\$.....
Cost of Land	\$.....
Total	\$.....

The right-hand column is labeled "Estimated Annual Operating Statement." It tells the expected rentals, operating cost and taxes, the net income after these costs, how much of this net income must go to satisfy the requirements of the mortgage, to corporate income tax, and how much may remain as return to the owning corporation.

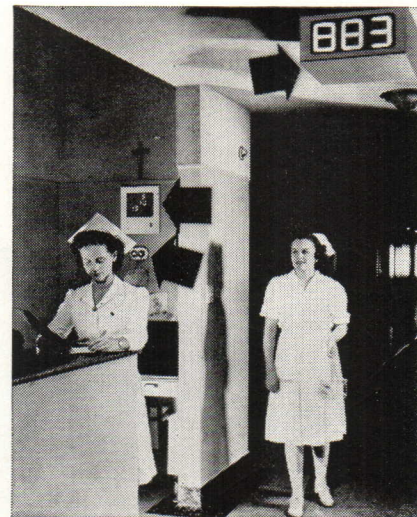
ESTIMATED ANNUAL OPERATING STATEMENT

Rental Income	\$.....
Vacancy Allowance	\$.....
Gross Income Expectancy	\$.....
Operating Expense	\$.....
Taxes	\$.....
Net Operating Income	\$.....
Fixed Charges, (Interest Amortization, etc.)	\$.....
Cash Available for Income Tax, Dividend, and Surplus	\$.....

I have omitted many of the details, but this will serve to illustrate the principles involved in judging the soundness of the deal. Let me attempt to explain them briefly:

a. Assuming that the estimate of requirements is reasonable, it is obvious that resources and requirements must balance; and since land must have the same value in both parts of the statement, it follows that the owners must have in cash or its equivalent enough to pay the rest of

(Continued on page 112)



SILENT PAGING SYSTEMS

VISUAL ANNUNCIATORS

CORRIDOR, DOOR & AISLE LIGHTS

BEDSIDE CALLING STATIONS

IN-AND-OUT REGISTERS

COMPLETE HOSPITAL EQUIPMENT

that meets all the requirements of the modern hospital is made by Cannon Electric, with more than a quarter of a century of successful manufacture. It's the equipment your hospital needs.

Additions to the line include: Electro-Static Grounding Intercoupler for hospital operating rooms, and new locking pushbutton for bedside calling stations; use of the plastic prism lens Utility Pilot Lights for door and corridor light, if desired.

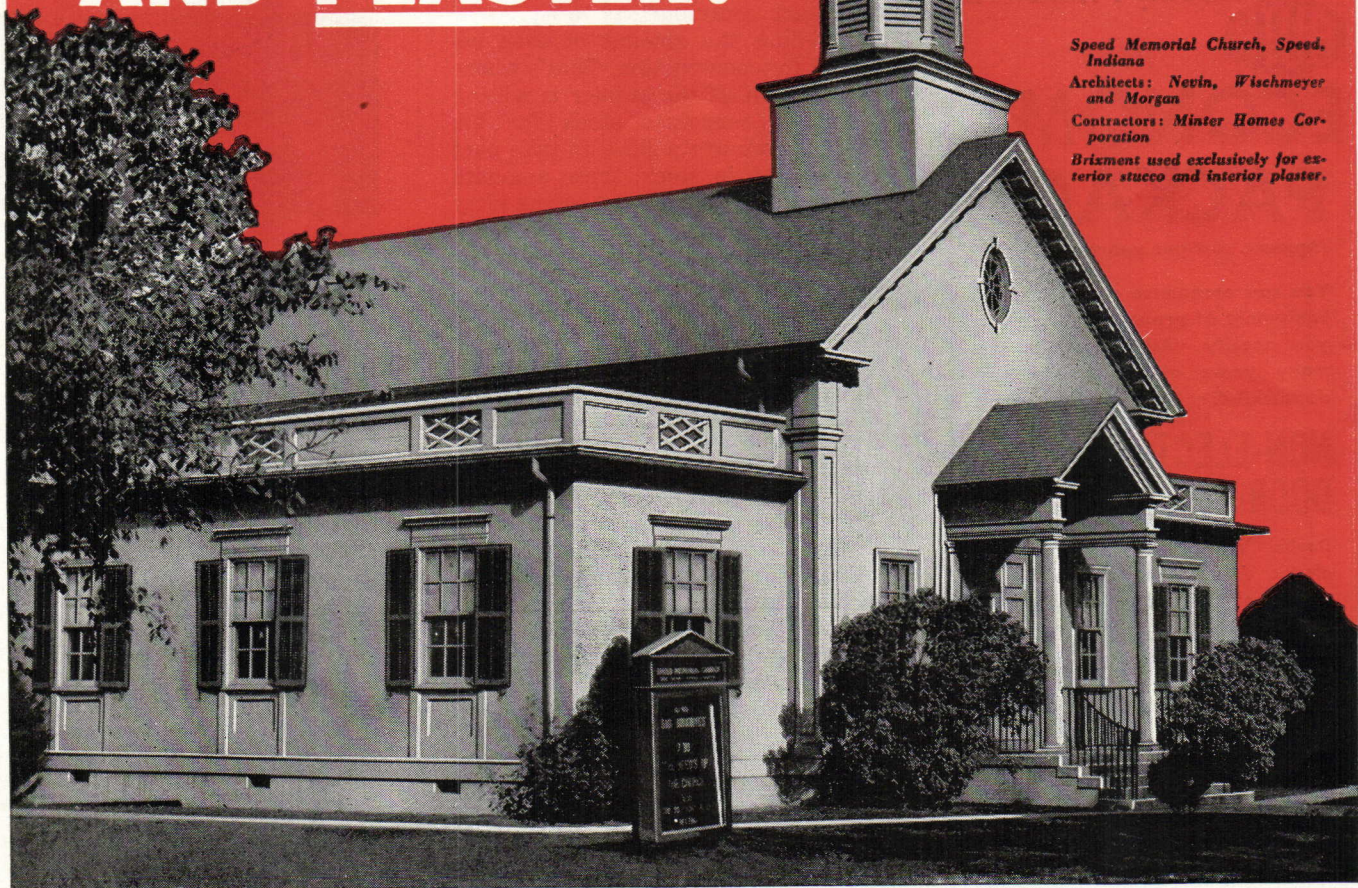
Basic Bulletin H-2 will be supplemented, if you choose, with HG-3 on the Intercouplers, FA-1 on Fire Alarm Boxes and Relays; TP-1 on Program Bell Controls; HLS-1 on Locking Pushbutton. Address Department F-293. Representatives located in principal U. S. A. cities.



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*Speed Memorial Church, Speed,
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Architects: Nevin, Wischmeyer
and Morgan
Contractors: Minter Homes Cor-
poration
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terior stucco and interior plaster.*

This beautiful little church was stuccoed and plastered with *Brixment* — in 1924!

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permits leaner mixes, it eliminates or greatly reduces hair-checking and crazing. It is mixed and applied like Portland-cement stucco *except that no lime is required.*

If you are one of the thousands who know and prefer *Brixment* for *masonry*, we enthusiastically recommend *Brixment* to you, for *stucco and plaster*. Ask your dealer, or write us direct, for a copy of the handbook, "*Brixment for Stucco and Plaster.*"

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FOR APARTMENT HOUSE PROJECTS



ECONOMY PACKAGE

(Approx. cost per apartment \$9.00)

You can economize with Standard Equipment of proven quality when you specify "AUTH". There are many years of experience and dependability behind that name.

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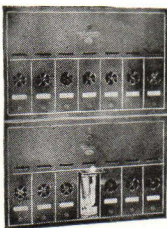
Double note non-electric door chime with lookout and card-holder. Saves labor and materials. Used on many outstanding projects.



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OFFICE PRACTICE

(Continued from page 110)

the bill. If the obtainable mortgage is 80 percent of valuation, then whatever additional cash is needed must be supplied by the promoters. If there is an existing mortgage on the land, they must be prepared to clear it, for the land must be bought into the deal free and clear. "Cash" in this statement means United States dollars on the barrel head. "Other Equity" is a term that should be understood; frequently promoters attempt to set up a claim for good-will promotional fees, etc. Such a claim is useless since it does not produce cash or its equivalent; hence, there would not be enough money to complete the job. What is the "Equivalent of Cash?" Only such contributions to equity as will reduce the amount of cash required for construction. That's where you come in. If the builder is willing to accept corporate stock for his profit or you are willing to take part of your fee in stock, these amounts will not have to come out of the kitty in the cash. Since your acceptance of stock reduces the amount of cash that must be paid, you are contributing the equivalent of cash. Working capital is additional money that must be available to pay expenses of operating the building before rents start coming in, such as advertising, rental agent, etc. It is not part of the equity. The first principle then is: *Be sure the money is there.*

b. I have explained how the value of the property is determined by multiplying the net income by a capitalization factor. If the result is not enough to equal or exceed costs, promoters sometimes jack up the expected rentals or purposely underestimate the cost of operation. The rosy picture thus created is pretty sure to fade out when the operation of the building starts and lower rents and higher expense threaten default and complete loss of equity. Hence, principle No. 2 is: *Be sure the estimate of rental is conservative and the allowance for operating costs ample.*

c. The third important thing to scrutinize is the estimate of construction cost. This is sometimes greatly inflated. Why? If a promoter can induce a mortgagee to accept a high estimate of cost, two things happen: He is protected against unforeseen costs, and he has the opportunity, by buying the job cheaply, to have a surplus of cash which will permit him to pay back to himself all of the money he originally furnished and sometimes even put something additional into his pocket. *Study estimated cost in conjunction with the estimated net income.*

How to Capture the Weathered Charm of Old New England



Architect: R. H. Dana, New Rochelle, N. Y.

Cabot's weathering brown and gray Creosote Stains produce the charming appearance of old New England houses, within six months after application! These stains penetrate deeply, bring out all the natural beauty of the wood... give a mellow weather-beaten effect after a short exposure to the elements!

WRITE TODAY for color card and complete information!

Besides weathering grays and browns, Cabot's Stains come in a variety of brilliant hues which maintain their true color, even after long exposure. Cabot's Creosote Stains are inexpensive... cost only *one-third* as much as good paint!

SAMUEL CABOT, INC.

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CABOT'S CREOSOTE STAINS

Builder of 150 Homes Reports:

**"25%
Labor Savings
with
Plyscord Sheathing"**



"Plywood Sheathing and Subflooring is Stronger," says Fred P. Tosch, Buffalo, New York

Above: Workmen placing PlyScord sheathing into place on one of the Tosch houses built in Buffalo. Below: A group of the completed homes—stronger, more rigid, more durable because of PlyScord sheathing and subflooring.

"It helps meet the demand for better homes at lower prices!"



PLYSCORD—the sheathing grade of Douglas fir plywood—is easily identified by this "grade-trademark" stamped on the back of every panel. For a handy pocket folder, "PlyScord for Better Construction," write the Douglas Fir Plywood Association office nearest you: Tacoma Bldg., Tacoma 2, Wash.; 848 Daily News Bldg., Chicago 6; 1232 Shoreham Bldg., Washington 5, D.C.; The 500 Fifth Avenue Bldg., New York City 18.

BUILDERS:

Cut costs and speed construction with PlyScord sheathing and subflooring.

ARCHITECTS:

Specify PlyScord for stronger, more rigid construction.

DEALERS:

Be sure you have adequate stocks of PlyScord—the sheathing grade of Douglas fir plywood.

"WE HAVE USED Douglas fir plywood PlyScord for wall and roof sheathing and for subflooring in about 150 houses built during the past two years," says Fred P. Tosch, housing developer of Buffalo, New York. "Cost records show that we have effected a 25% saving in labor. Construction has been speeded too, making it possible to eliminate many of the problems arising from a partially completed building being open to the weather.

"Plywood is stronger, it eliminates the need for corner bracing, further cutting costs. Our crews like plywood because it is real wood, easily worked.

"I am firmly convinced that the use of Douglas fir plywood results in a superior structure. When I built my own home, I used plywood for sheathing, roof decking and subfloors. It is one of the outstanding new homes in Buffalo."

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LIGHT,
STRONG





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SEVERAL INSTRUCTORS—in architectural design and related courses will be needed at schools of architecture. Those interested in a career in the teaching profession should apply to Professor Paul Weigel, Chairman of the Committee on Employment for the Association of Collegiate Schools of Architecture, Kansas State College, Manhattan, Kansas.

ARCHITECTURAL DRAFTSMAN — thoroughly capable to prepare working drawings of schools, churches and commercial buildings. Good opportunity in small organization for right man. Phone 7384 or write 825 Jefferson Building, Greensboro, N. C.

LEADING FIRM OF ARCHITECTS—in large Southern city needs architectural draftsman who can turn out working drawings. College graduate or equivalent education. Must have experience in architect's office on important work. Give references, experience and age. "Floaters" need not apply. Box 223, PROGRESSIVE ARCHITECTURE.

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ARCHITECT-ARTIST AND DELINEATOR—of long experience, offers services for free-lance architectural renderings and perspectives; bird's-eye-views of real estate developments, city-planning projects, engineering structures, highways and bridges. Instruction in Perspective and Rendering. Theodore A. De Postels, A.I.A., 644 Riverside Drive, New York 31, N. Y., Audubon 3-1677.

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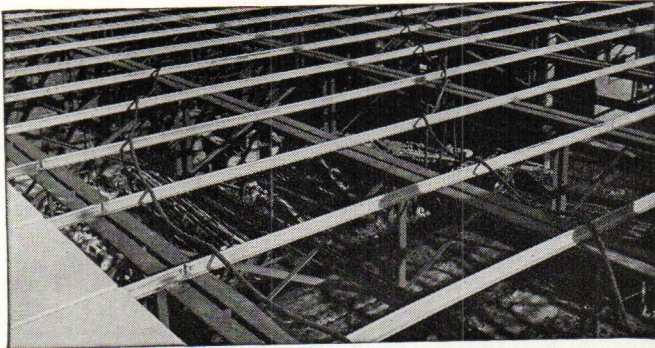
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Kaylo Roof Tile is a structural material that combines thermal insulation and structural strength. Its insulation value equals that of an inch and a half of standard insulating board.

It is also lightweight (less than 6 pounds per square foot). This means less steel in construction and easy handling of the tile.

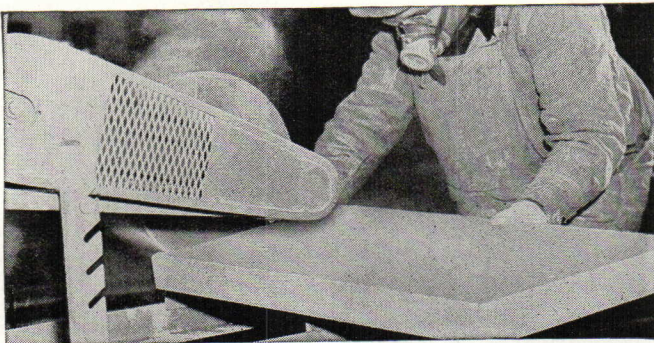
Kaylo Roof Tile does not burn. The tile itself withstands building fire temperatures (as defined by the standard A.S.T.M. fire curve) for more than one hour without permitting a temperature rise on the cold side great enough to constitute failure. Send the coupon today for complete data.



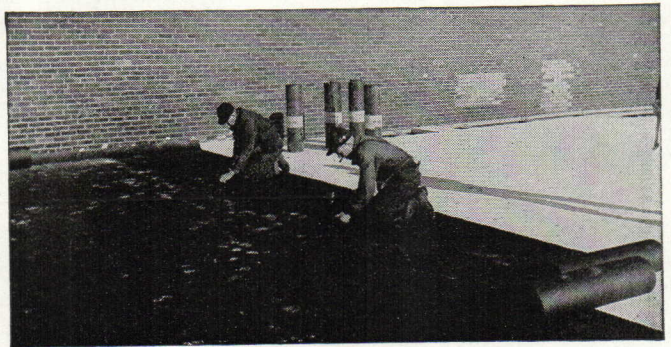
Kaylo Roof Tile can be laid on properly spaced standard structural shapes, or on rail-type sub-purlins attached to purlins, as shown.



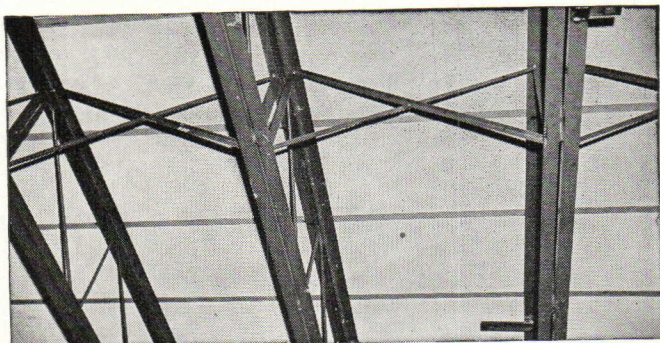
Ease of handling is seen here, as lightweight Kaylo Roof Tile is slipped into place on sub-purlins.



With ordinary power or hand tools, Kaylo Roof Tile can be cut on the job to fit around skylights, stacks or other constructions extending through the roof.



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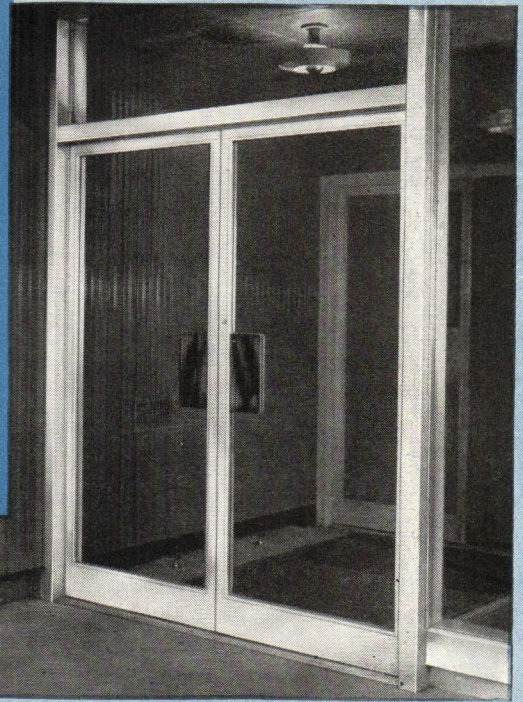
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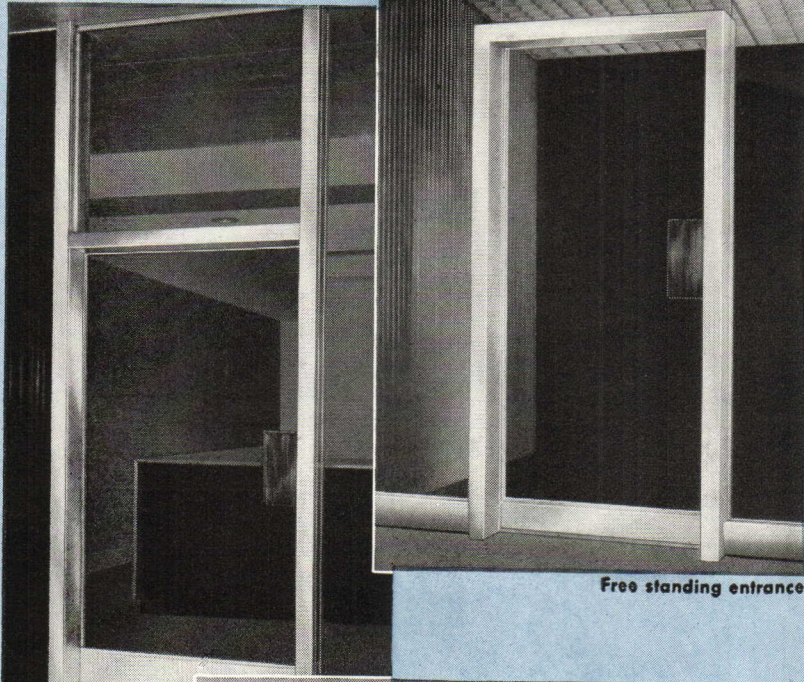
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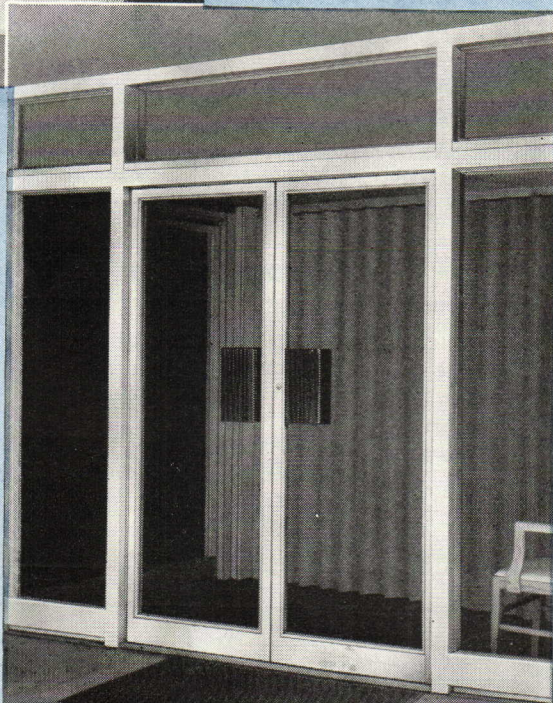
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		.70	3/4"		
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		.70	1"	12" x 12"	
				12" x 24"	
				16" x 16"	
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		.70	3/4"	12" x 12"	
				12" x 24"	



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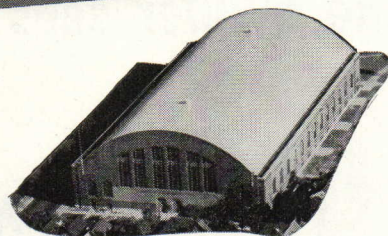


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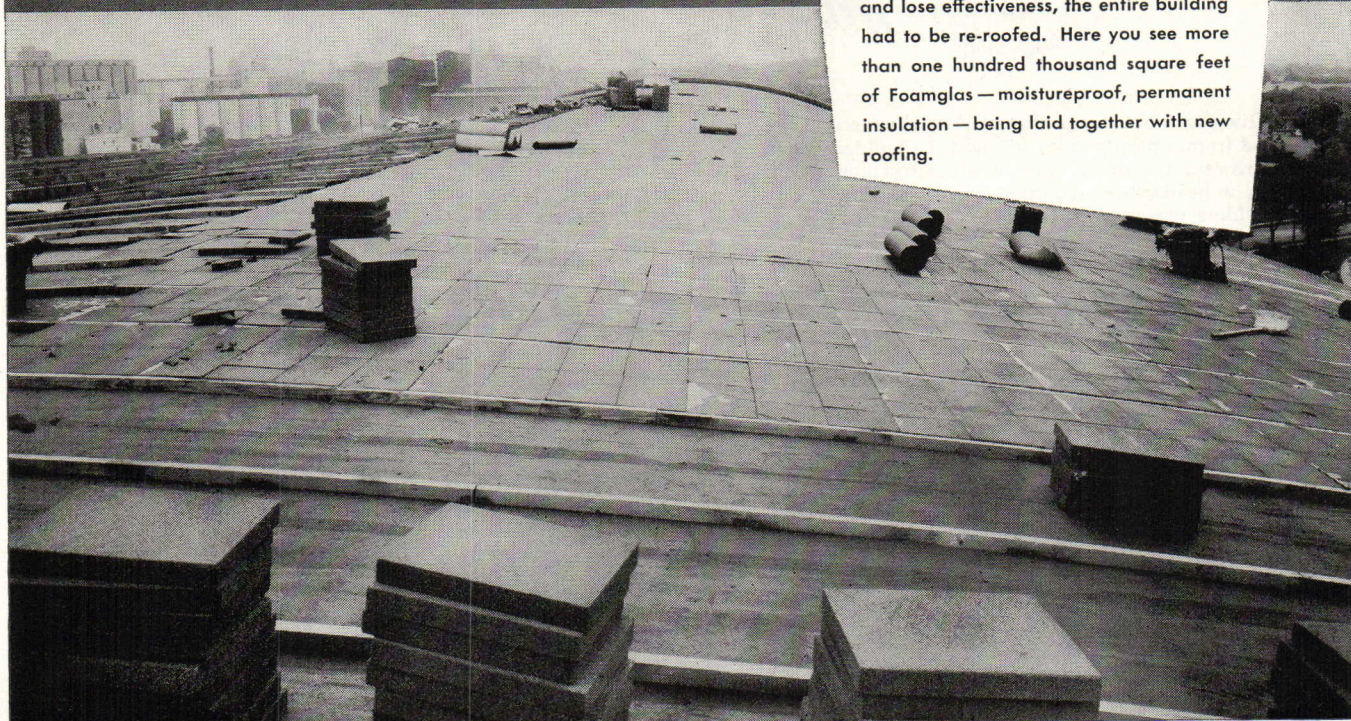


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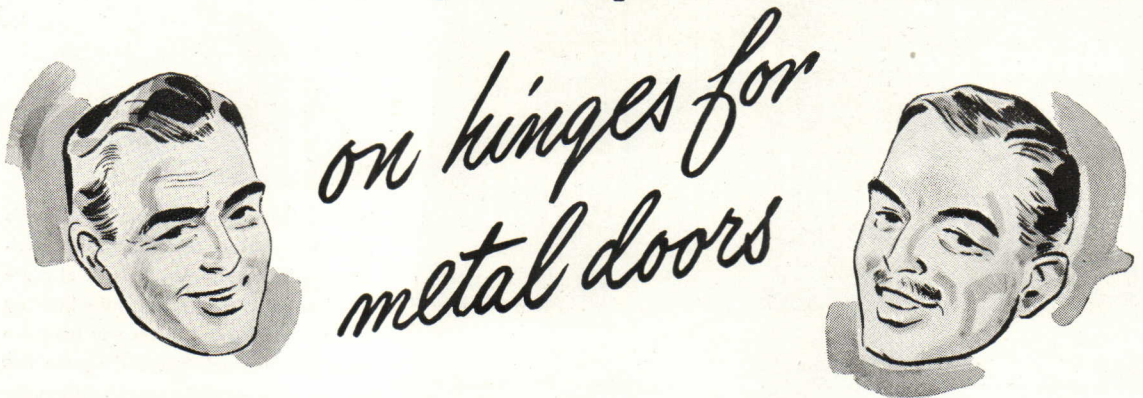
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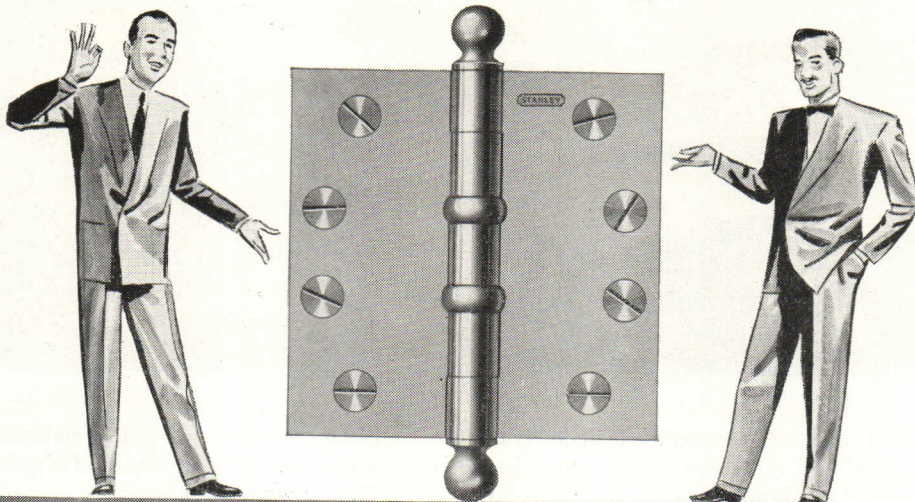
The builder sees eye-to-eye with the architect



"Give me a butt hinge that fits into the metal doors and frames prepared for it", says the builder. When hardware for these types of openings doesn't fit, it's a headache—and mighty costly. That's why builders prefer to work with

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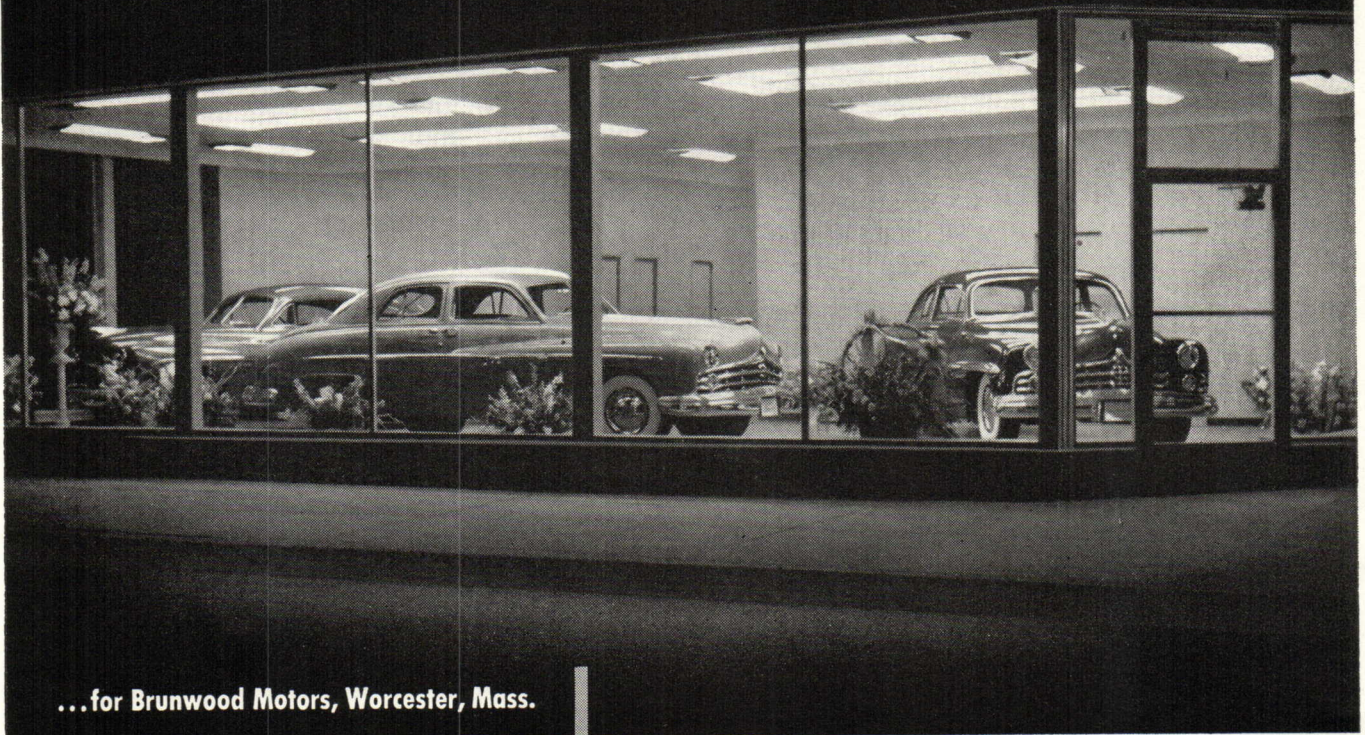
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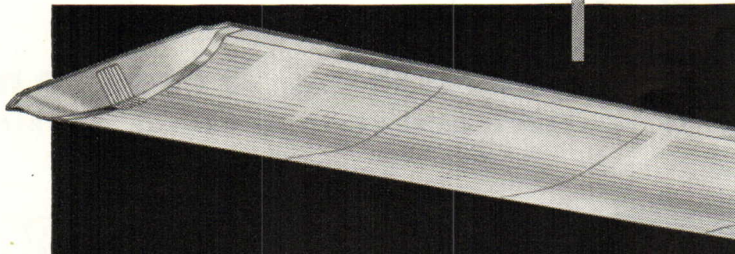
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Consulting Engineer: R. E. Lupien . Electrical Contractor: Coghlin Electric Company . Lighting Equipment: Litecontrol No. 9134 recessed lens fixture with 3 lamps and supplementary 250 watt accent lights . Lamps: 40 watt, 3500 degree, white, fluorescent; 250 watt incandescent . Wattage per fixture: 150-fluorescent; 250-incandescent . Total Wattage: 7,600 . Watts per Square Foot: 5.4 . Footcandles: 80 Initially.

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9134	3-40W	48"	13 1/4"	5 1/4"	49 1/2"	14 3/4"	51 lbs.

End Cap — No. 9100-3. Suspension Strap — No. 9100-6



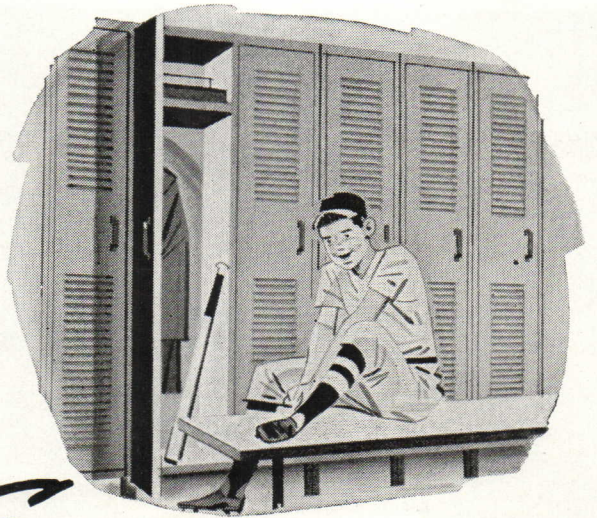
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Fixtures

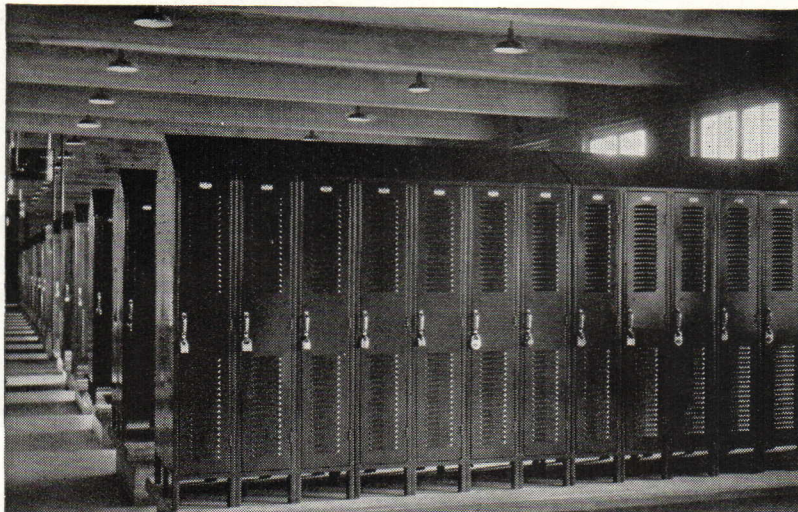
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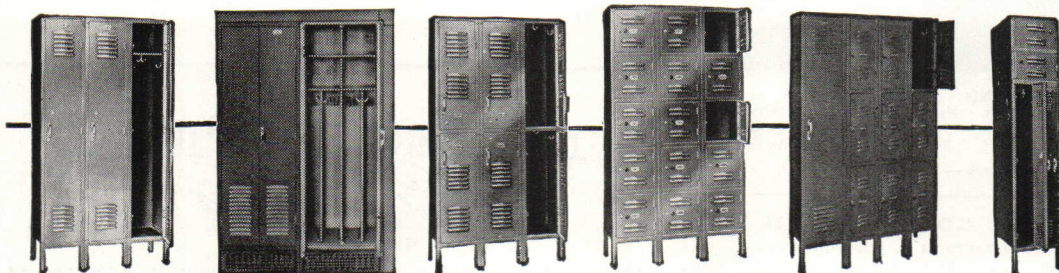
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Manufacturing Division

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Anthony Spoodis OF HERMAN NELSON

Anthony Spoodis, a graduate in mechanical engineering of the University of Wisconsin, has been associated with The Herman Nelson Corporation for more than a quarter of a century. Now manager of Herman Nelson's Branch Office in Minneapolis, "Tony," as he is familiarly known, has amassed a wealth of experience in all phases of the heating and ventilating industry. Starting as a draftsman, designing heating layouts when Herman Nelson sold a system of steam circulation known as "Moline Heat," Mr. Spoodis soon joined the sales department. Since that time he successively served as District Manager in the Unit Heater Division, Manager of Unit Heater sales throughout the country and Manager of the Moline Branch Office before being transferred to Minneapolis. The territory served by the organization he now heads includes Minnesota, North and South Dakota and western Wisconsin.



ANTHONY SPOODIS OF MINNEAPOLIS is but one of the more than 75 skilled Herman Nelson Product Application Engineers. Each of them will furnish you with concise, easy-to-use engineering data and specifications . . . practical information on how to solve heating and ventilating problems for industrial, commercial and institutional buildings of all types.

Whether your heating or ventilating problem calls for unit heaters, unit ventilators, propeller fans or centrifugal fans, you'll find that the nearest Herman Nelson Product Application Engineer knows exactly how they should be installed to provide most efficient operation and maximum operating economy.

Yes . . . Herman Nelson Product Application Engineers take pride in their work. They know that even Herman Nelson products — recognized for their superiority for nearly half a century — can't provide the results you have a right to expect unless they're installed properly. That's why each member of Herman Nelson's nationwide organization has studied the practical as well as the technical side of heating and ventilating.

Working closely with Herman Nelson's Branch Managers and Product Application Engineers are more than 200 carefully selected Distributors and Stocking Jobbers with personnel trained in the selection, application, installation and servicing of our products.

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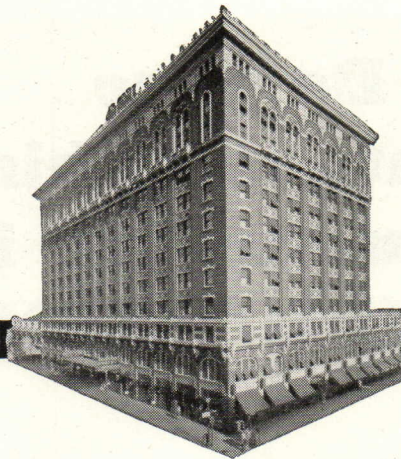
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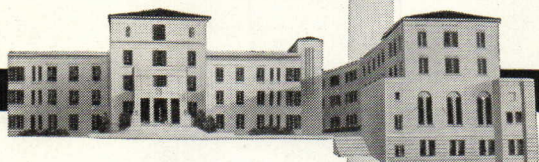
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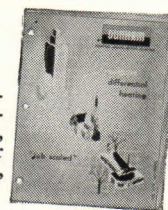
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Because of recent engineering advancements, this remarkable heating system is now adaptable to any size structure... from a one-story garage to a 2400-family housing project.

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Bulletin 509, gives you complete information on "Job-scaled" Vari-Vac Heating; tells you what it is, how it operates, how it may be fitted exactly to your clients' needs. Write C. A. Dunham Co., 400 W. Madison St., Chicago 6, Ill.



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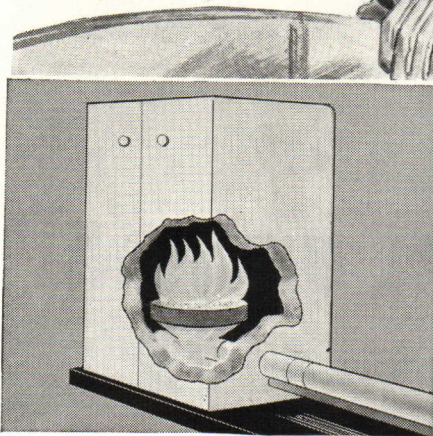
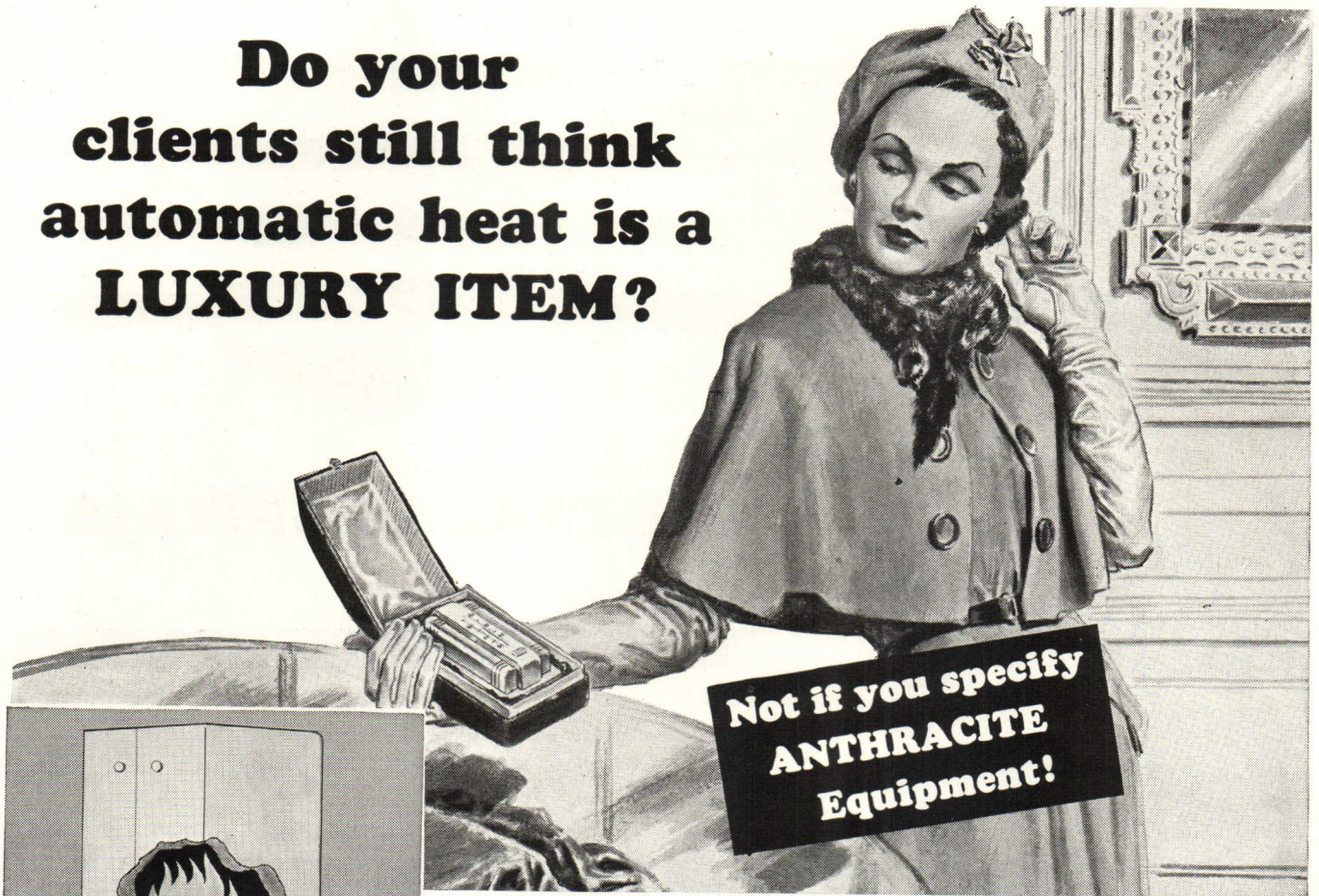
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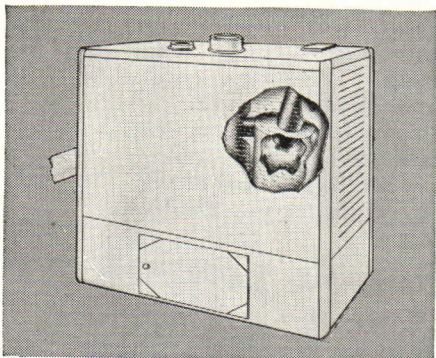
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Why this Omaha Veterans Hospital is using 1,659 FENCRAFT WINDOWS

Filling this big hospital from stem to stern with daylight and a constant flow of fresh air is a job Fenestra* Fenecraft Windows are designed to do.

They bring in *extra* daylight simply because they have more glass area than most windows the same size. Swing leaves reach out to bring in breezes. Open-in sill vents provide controlled ventilation even in bad weather . . . and guard against drafts.

Staff people like Fenecraft because window operation is so easy. Even for a nurse with one hand loaded down.

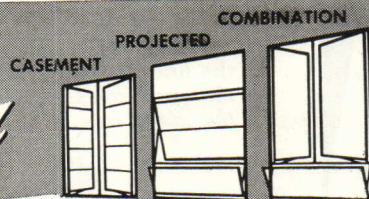
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For further information, see Sweet's Architectural File, section 16a/13, or mail the coupon. * ®

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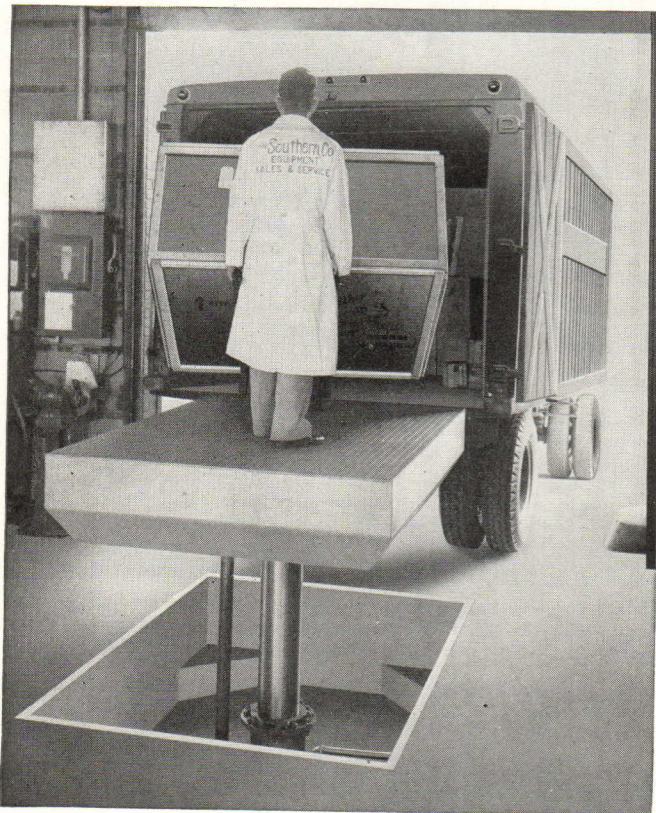
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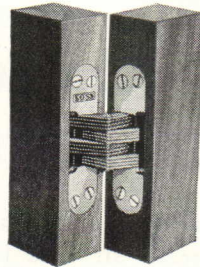
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 The Architects—BUCKLER, FENHAGEN, MEYER & AYERS—Baltimore, Md.



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"SOSS HINGES were used on this project as an experiment with Glynn-Johnson overhead door holders on flush wood doors and heavy pressed metal door bucks.

The hospital has been in use now for over a year and the installation has proven itself a success."

These sentiments are typical of architects who have used these, modern, rugged, precision built, weight-rated SOSS HINGES. The only hinge of its kind that is mortised in the door where it is completely out of sight. Smooth and quiet in operation, with no protruding hinge butt, SOSS HINGES provide the missing link for the architect who demands dependability PLUS the flush, smooth, streamlined surfaces that are so necessary to modern architecture.

There's a weight-rated SOSS HINGE for every type of installation. Whether it's a small cupboard door or a heavy entrance door, you can be assured there's a SOSS HINGE, operating on hardened steel roller bearings, ready to do that particular job.

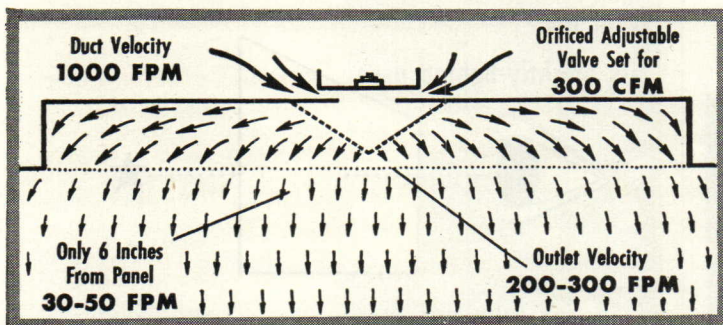
All SOSS HINGES are manufactured from only the finest of materials. Write for FREE Catalogue that gives complete details, blue print templates, and the many uses of this modern hinge to—



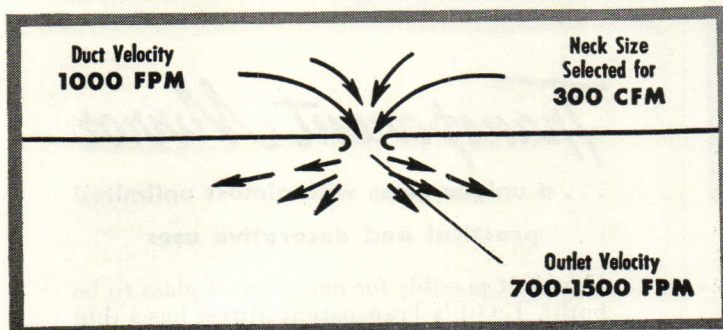
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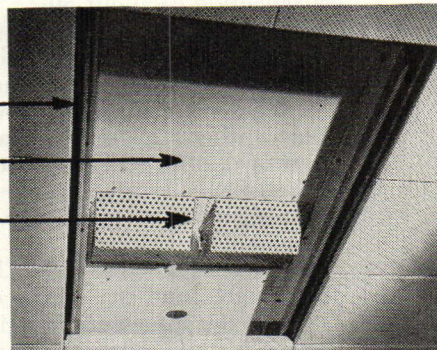


Concealed Multi-Vent Panel
exposed by removal of six squares of metal acoustical ceiling.

Panel Frame . . . installed in the bottom of air supply duct.

Control Plate . . . supporting one or more valves per panel, is hinged in panel frame providing ready access to duct above for cleaning.

Pressure Displacement Air Valve . . . single adjusting screw raises, and lowers a valve plate above opening in control plate to regulate volume of air flow from duct into dual V-shaped primary distribution sections, the design of which insures a perfectly even distribution of air over the entire perforated area below panel.



*Pyle-National Multi-Vent's unique principle of low velocity, pressure displacement air diffusion through perforated metal is fully protected by U.S. and foreign patents. Only with Multi-Vent can you enjoy its benefits.

1 No Strong Air Streams to Direct! *Only with Multi-Vent* are duct velocities so radically reduced (within the diffuser itself) . . . diffusion so rapid, thorough and widespread . . . that no air movement in excess of ASHVE comfort zone requirements exists more than six inches away from the perforated distribution plate.

2 No Deflection Problems to Restrict Location or Capacity of Outlet Panel! *Only with Multi-Vent* can the location and the capacity of the diffuser be determined solely by load considerations assuring maximum effectiveness and efficiency. The proximity of seating locations or the relative positions of partitions and lighting fixtures—which must be a major consideration in locating high velocity diffusers to avoid drafts—need not be considered with Multi-Vent regardless of ceiling heights.

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4 40% Higher DTD Will Meet Comfort Zone Requirements! *Only Multi-Vent* will permit raising the usual 15° Diffusion Temperature Differential to as high as 25° (with an eight foot ceiling for example). Thus 40% less air need be used to handle a given load making possible substantial economies in ducts, fans, filters and coils.

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Write for complete specifications and selection data to THE PYLE-NATIONAL COMPANY, Multi-Vent Division, 1379 W. 37th St., Chicago 9, Illinois. Sales engineers and agents in the principal cities of the United States and Canada.

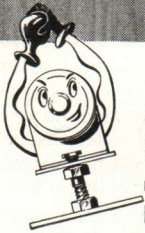
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Please send me your free folder on rolling doors & Har-Vey Hardware

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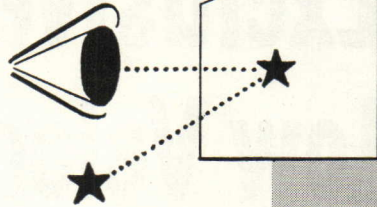
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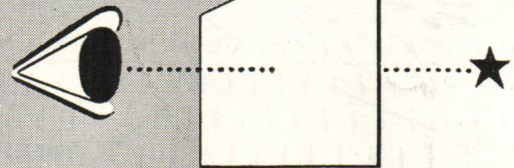
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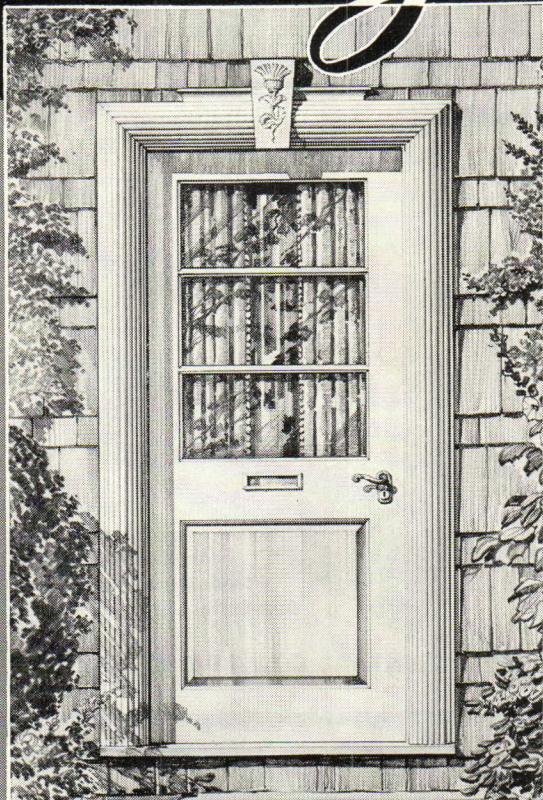
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because Morgan Doors are precision made from selected woods, and assembled with care to minimize installation and finishing time, inspected at every step in manufacture, and delivered with a respected guarantee.

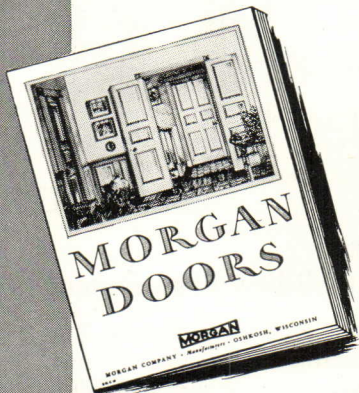
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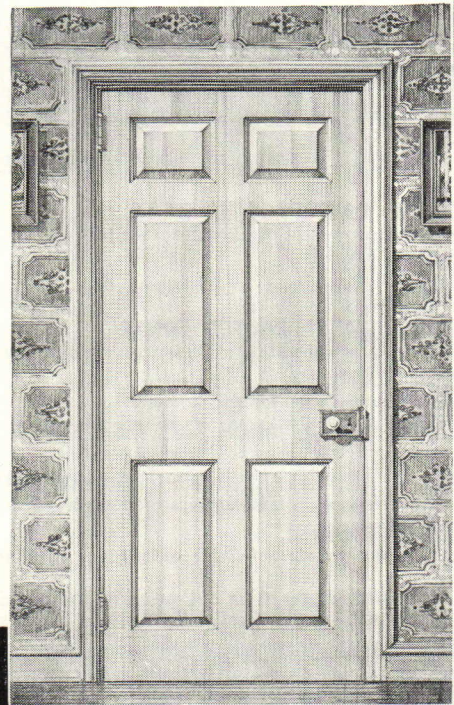
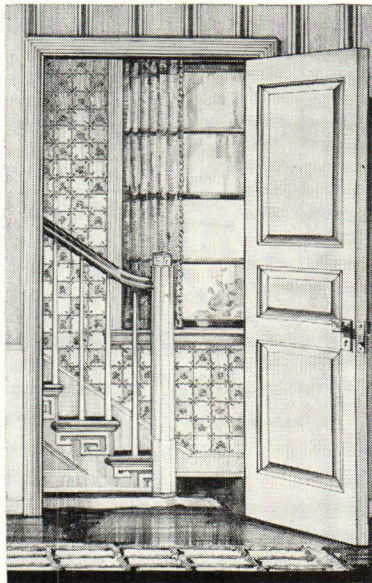
Authentic Designs. Morgan Door designs are evolved after careful study of contemporary homes by a group of nationally known architects. There is a Morgan Door for every architectural style. Morgan Doors at a glance show symmetry and perfect proportion . . . good for a lifetime of service.

*Every installed **MORGAN** Door is a reminder that the man who specified it knew his business!*

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 . . . a design and size for every opening.



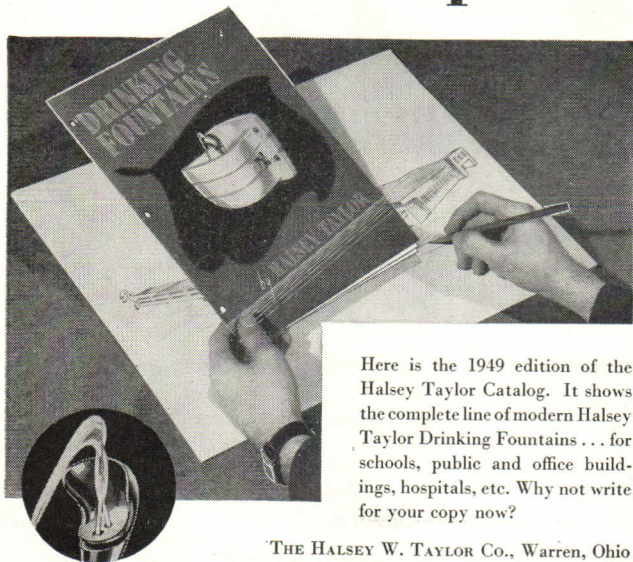
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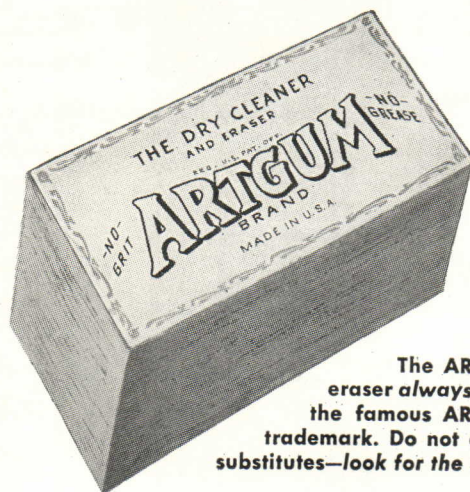
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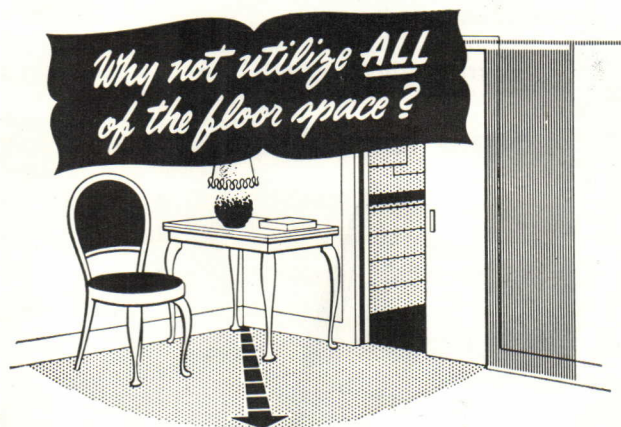
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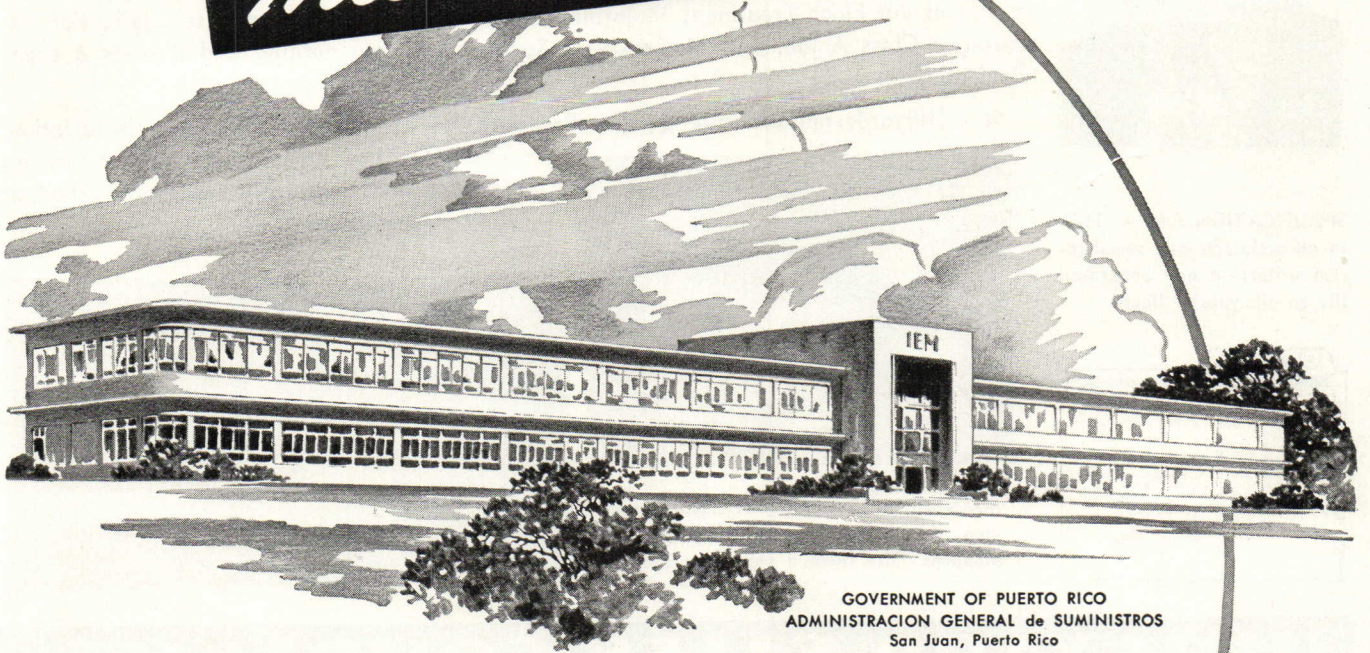
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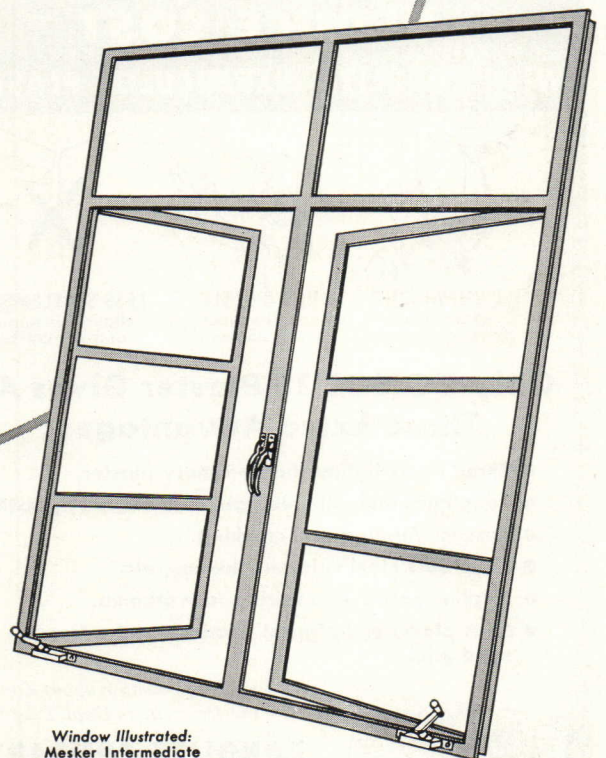
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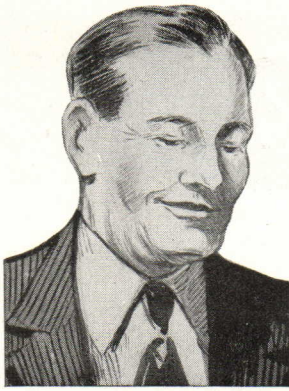
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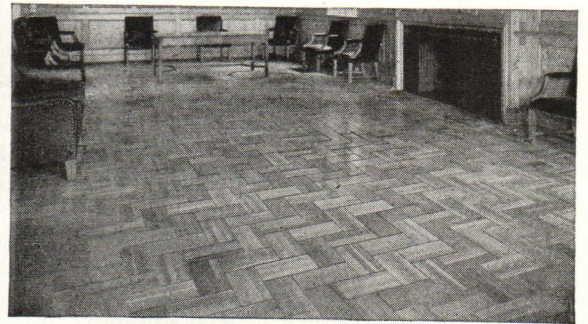
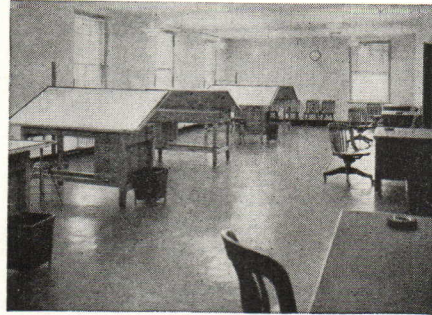


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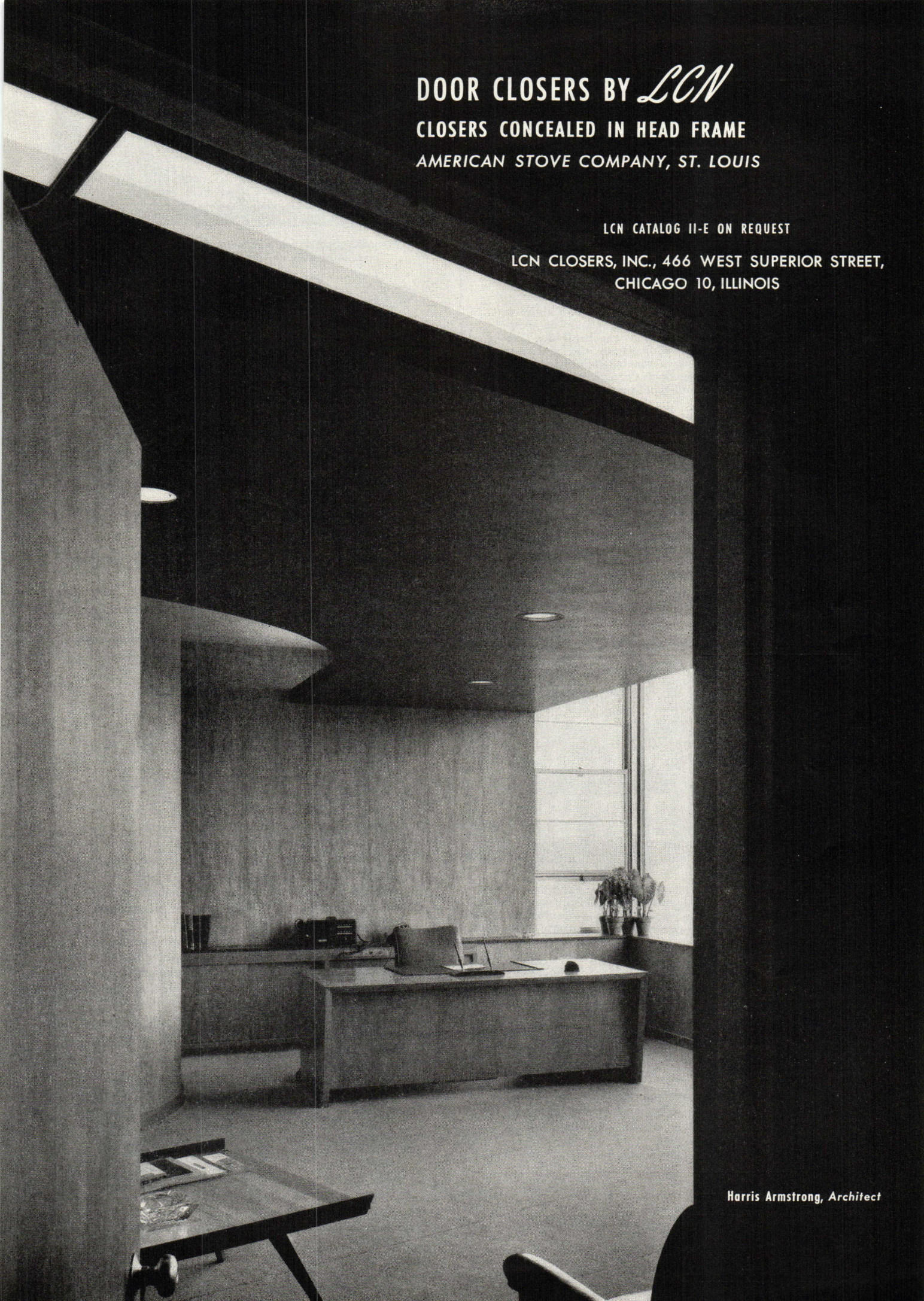
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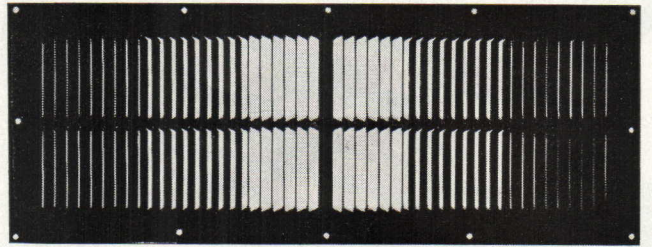
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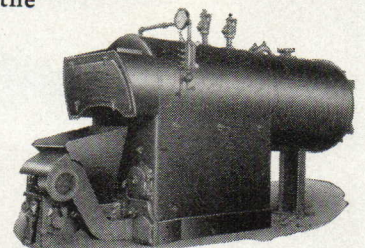


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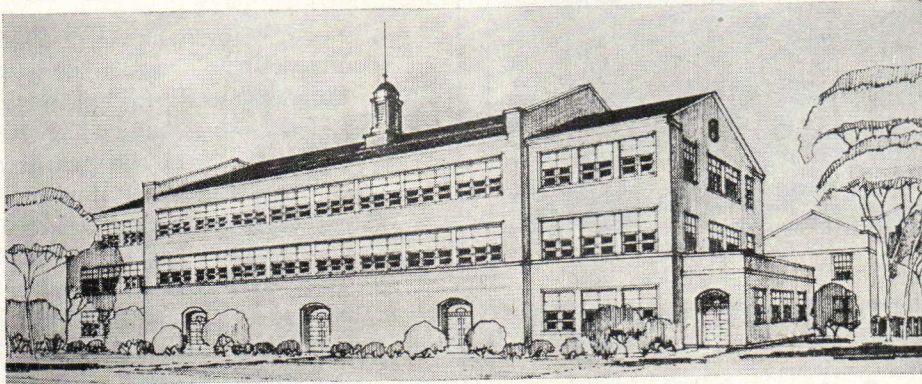
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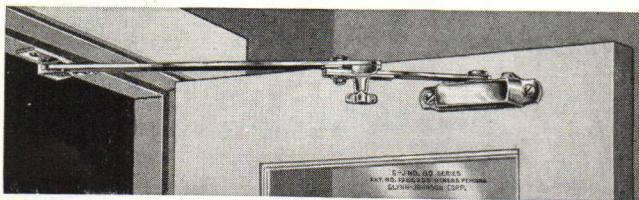
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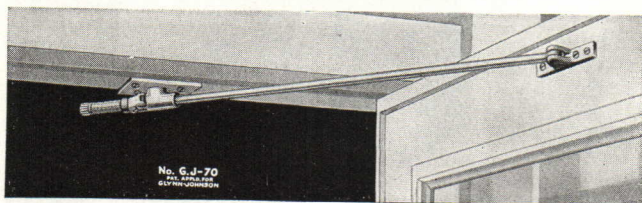
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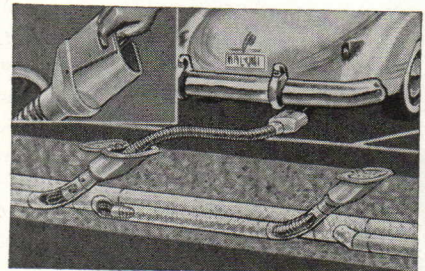
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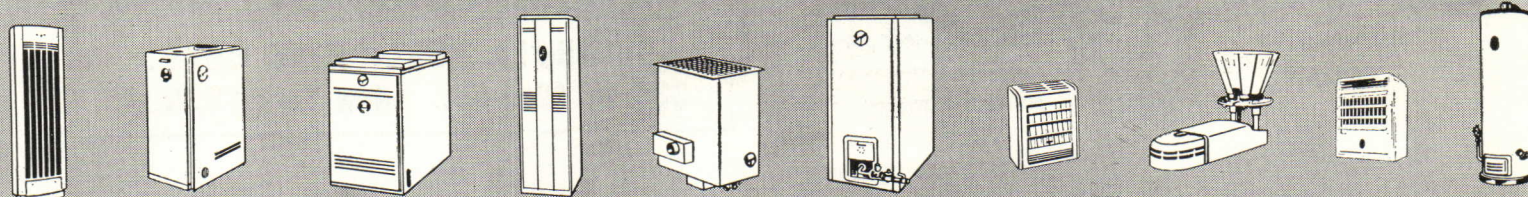
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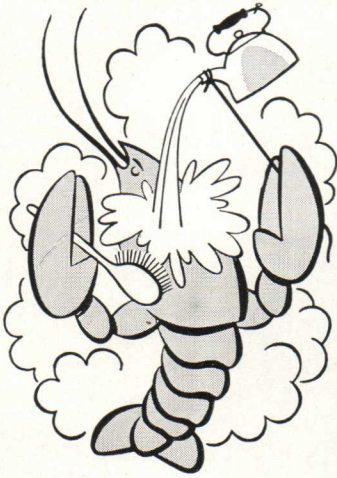
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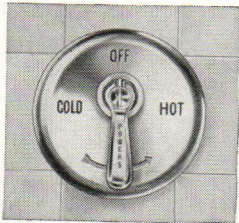
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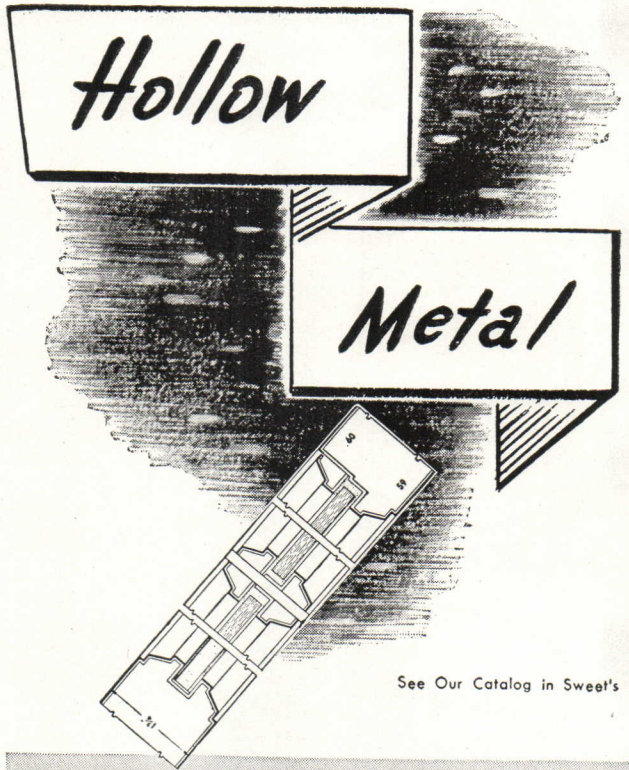
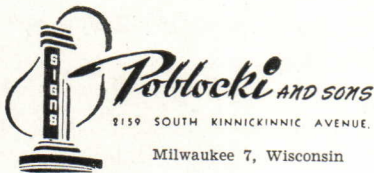


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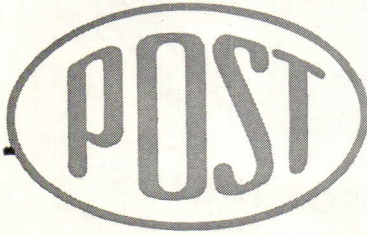
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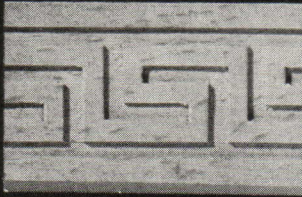


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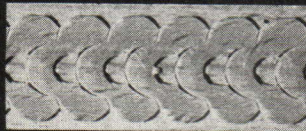
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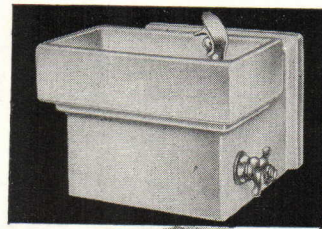
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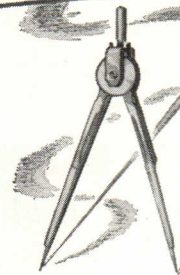



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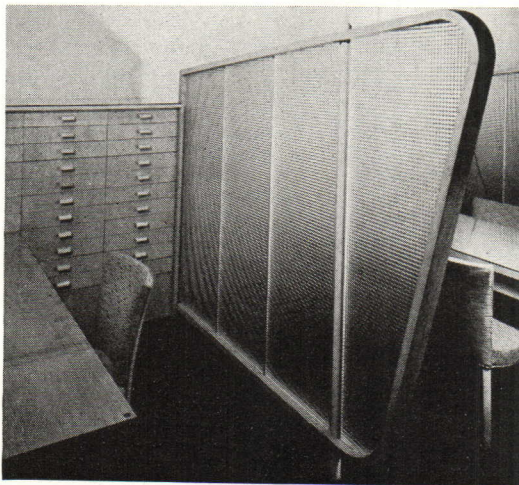
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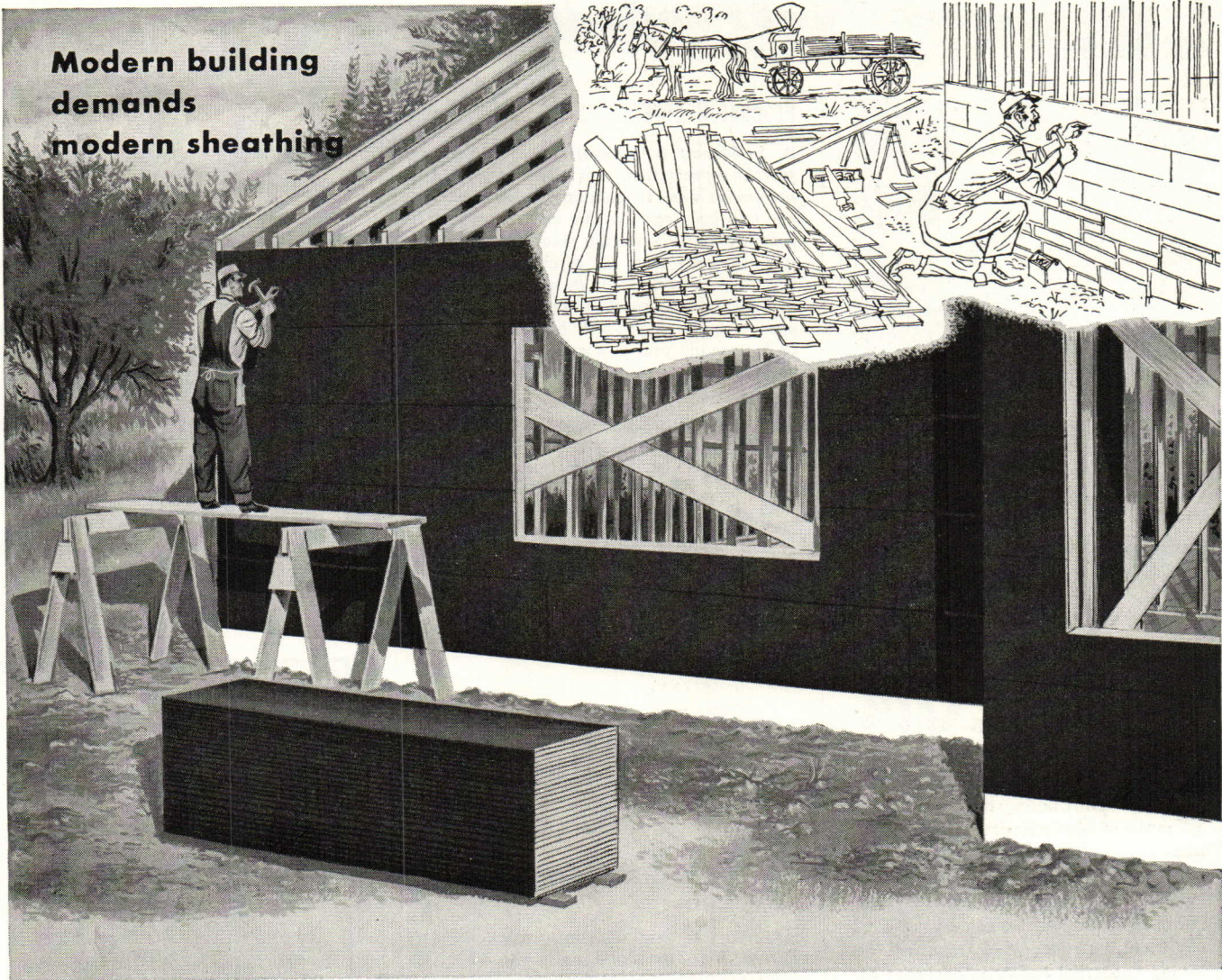
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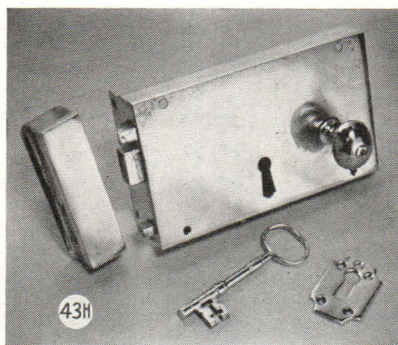
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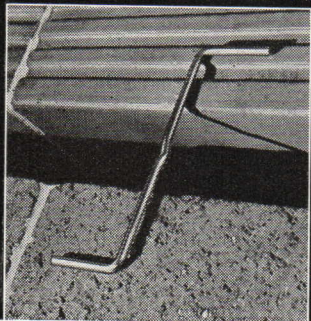
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- 21 asphalt tile
- 5 rubber tile
- 1 roll linoleum
- 1 cork

Masonry:

- 7 terrazo
- 5 concrete
- 2 quarry tile
- 1 brick
- 1 stone
- 1 ceramic tile

Wood flooring:

- 1 preassembled and prefinished
- 1 block

You will note that there were 45 different floor installations in the 36 buildings studied, indicating that in many buildings two or more different types of floors were used.

The reasons for the selection of a particular type of floor surfacing were concentrated in "maintenance" (26 mentions, 9 first-place votes), and "appearance" (23 mentions, 8 first-place votes). The respondents gave a total of 11 different reasons for selecting a certain type of flooring, and cast a total of 116 votes for these different reasons. Thus one architectural firm might have listed "maintenance" as its first reason for selecting a flooring, "appearance" as its second reason, and "availability" as its third reason.

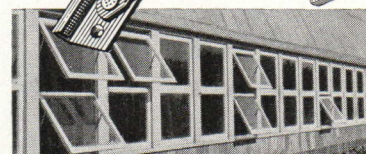
Here is the exact breakdown of the reasons given by the respondents for their selection of a particular type of flooring: (in order of importance)

1. Maintenance
2. Appearance
3. Initial cost
4. Resilience
5. Resistance to unfavorable conditions on the job
6. Cost of installation
7. Availability
8. Acoustical properties

(Continued on next page)

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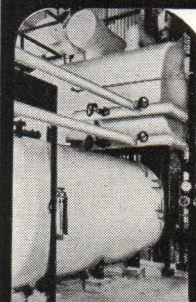
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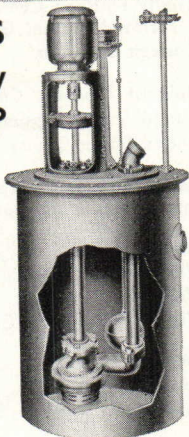
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(Continued from preceding page)

9. Capability of contractor
10. Preparation of sub-floor
11. Cost of finishing

The reasons for the selection of a particular brand of flooring centered about the cost factor, with availability a controlling influence. Thus, if a flooring was the cheapest, but was not available, the cheapest available flooring was used. There were 16 votes for *initial cost* as the reason for selection, and 11 votes for *availability*. Scattered votes were cast for *appearance, maintenance,* etc.

In 27 out of the 36 buildings studied, decisions on the type of flooring to be used were made during preliminary drawings and specifications. The indications are clear that most architectural firms make such decisions early in their design work.

When it came to deciding which brand of flooring was to be used, the selection was made later, and in most cases during final design stages or during construction.

The type of flooring to be used was picked by the architectural organization alone in 13 cases, and in conference with the client in 18 cases. The brand of flooring was picked by the architectural firm alone in 13 cases, and in conference with the contractor or sub-contractor in 10 cases. Thus it is apparent that the architectural firm is an important factor in selection of not only the *type* of flooring, but also the *brand*.

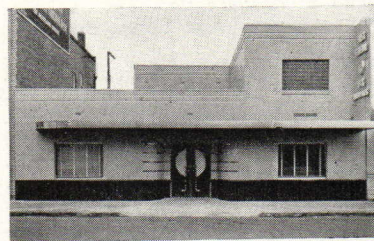
Further investigations of the way in which flooring materials are selected for use in construction are now underway, and results will probably be published during the Fall. We hope that they will give you an even clearer picture of the way in which your contemporaries are operating in their specification of such materials.

New Market Study

This year, as in 1948, we are again going out into the field and investigating the specification procedures of architectural firms. We plan to talk to building owners, contractors, engineers and building product salesmen, as well as to members of architectural firms.

The purpose of the study will be to obtain a clearer picture of the way in which building products get into buildings. In this way, manufacturers will be able to plan their sales program so that they can sell more effectively, wasting less of their own time, and less time of the men in architectural firms. It will be of great benefit not only to manufacturers and their sales representatives, but to architectural firms as well.

(Continued on next page)



First Federal Savings & Loan Ass'n., Albany, Oregon; Ramuc Enamel (blue and black) used on dark cement surface.
Cleo H. Jenkins, Architect

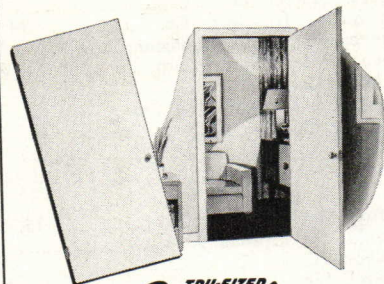
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(Continued from preceding page)

We quote from a letter by Walter A. Taylor, Director, Dept. of Education and Research of the A.I.A.: "The Department of Education and Research of the American Institute of Architects

has assisted this year, as in 1948, in the preparation of the general program and of the questionnaires for the 1949 PROGRESSIVE ARCHITECTURE Market Study. The Department commends the

project to the architects whose buildings will be selected for study and suggests that they collaborate by granting interviews and providing information."

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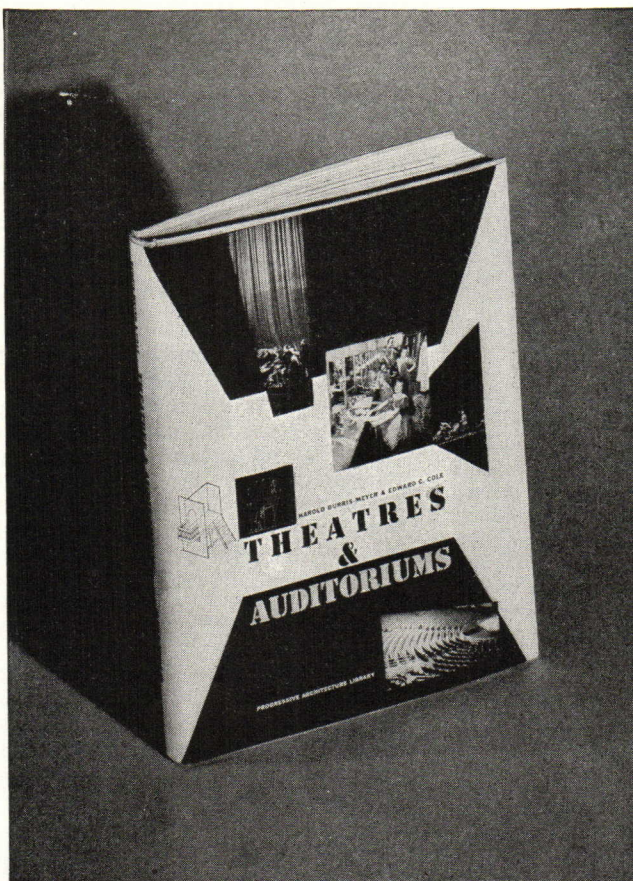
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P.S.

IS IT WRONG TO SUGGEST THAT RE-EXAMINATION OF THE A.I.A. DOCUMENTS IS IN ORDER, and that some of them—notably the contract between architect and client—should be basically revised? I agree fully with Bernard Tomson, who makes the point in his article on page 102 that these forms serve such a useful purpose it would be most unfortunate to have them abandoned by the profession because they had become out of date. I am left completely cold by the argument on page 28 of the March A.I.A. Bulletin that “the standard provisions have stood the test of time and practical application, as all but a few of the clauses have remained unchanged since the publication of the Second Edition of the Standard Documents in 1915, and there have been no revisions since 1937.” That seems to me to be the strongest argument that could be made for a careful re-examination of all the documents, if only to establish fully the fact that they are still in order.

I should also like to support Tomson’s observation that “there is an increasing number of architects who feel that some of the present forms have outlived their usefulness and have abandoned them in part or altogether.” On several recent trips I made a casual and admittedly inconclusive survey of this matter, and found that just about half of the architects I talked to were not using the A.I.A. architect-client contract form. Of those who used it, a number said that they made drastic revisions of their own. As further evidence, at a recent meeting of the N.Y. Chapter, A.I.A., those present were asked how many found the existing contract form fully satisfactory, and the response was almost unanimously negative. This is a serious situation, and it concerns the whole practicing profession. I think Tomson is right when he predicts that inaction on the part of the Institute would result in the ultimate use of “forms put out by agencies not affiliated with the profession.”

THE N.Y. CHAPTER IS MEETING THIS PROBLEM. (Sorry to keep referring to the home town.) Suggested revisions to the standard contract are being prepared—the inclusion of a retainer fee, a revised arbitration clause, and now a study of the desirability and possible form for a short architect-client contract, incorporating lengthier clauses by reference, and intended to take the

place of the letter method of agreement now relied on precariously by a number of architects. These are all matters that Bernard Tomson has discussed in recent P/A articles. I’m sure that Clarence Litchfield, chairman of that chapter’s Committee on Contracts and Fees, would be glad to hear from anyone who’s interested in the committee’s work.

AS I ATTEND MEETINGS OF ARCHITECTURAL GROUPS IN VARIOUS PARTS OF THE COUNTRY, it’s interesting to note the recurrence of certain personality types (as well as certain comments and questions in any discussion of professional matters). It amused me, therefore, to run across an article in *Architektura*, the Czech publication, which I gather from the illustrations discussed this phenomenon. The accompanying picture of an architects’ meeting repays study. I’m perfectly sure that all of you can find counterparts of the characters illustrated in your own local groups—the romantic, the jolly boy, the sentimentalist, the hard-boiled business

of his work.

Kump’s Award, third time in a row, is an astounding thing. He has won on three totally different building types, and through the decisions of three totally different, though always hard-working, objective juries of distinguished professionals. The point isn’t that P/A has three times honored Kump—we simply collect the material and present it without comment to the jury. The great honor which has come to Kump and Falk through these judgments is that Eliel Saarinen, William Wilson Wurster, C.-E. A. Winslow, Morris Ketchum, Fred Severud, Joseph Hudnut, Douglas Orr, Henry Churchill, Paul Weidlinger, Antonin Raymond, Louis Skidmore, Edward D. Stone, Robert Kennedy, and Talbot Hamlin have, in one year or another for three successive years, decided that that firm deserved the award.

However, I hereby announce, as professional advisor, that Kump and Falk are not eligible for next year’s judgment. It’s time someone else had a chance. That’s an arbitrary decision, and probably totally unfair. Go ahead and sue me, Kump.



man, the intellectual, and (bane of all speakers) the bored old gent who falls asleep as soon as coffee has been served.

I'M OFF SOON AFTER THIS IS WRITTEN FOR THE P/A AWARD PRESENTATION DINNER, which is in Portland, Oregon, this year, under the sponsorship of the Oregon Chapter of the A.I.A. Ernie Kump will go up from San Francisco to receive his award, and Dick Aeck is again making a long trip to pick up his Mention. It will be a great pleasure to honor Pietro Belluschi in his home town, for the handsome Menefee house and for the general inspiring quality

THIS IS THE SEASON FOR AWARDS AND COMPETITIONS, APPARENTLY. From Portland, I’m going down to Los Angeles to serve on the jury for the Southern California Chapter’s Award judgment, from there to Biloxi, Miss., to act as professional advisor for the student competition in connection with the Southern Conference on Hospital Planning, then back to N.Y. to help run a competition for a war memorial on Staten Island, and soon thereafter to Colorado Springs to represent the magazine at the Junior Chamber of Commerce competition judgment. Competitions are a healthy method of discovering and rewarding good design, and I hope the trend keeps up.

Thomas H. Wright