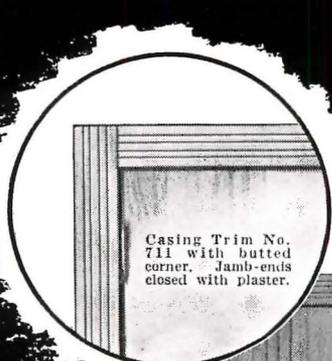
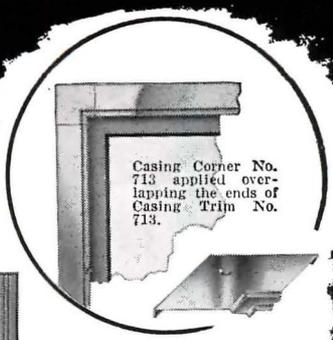


A *Progressive* *Architecture*

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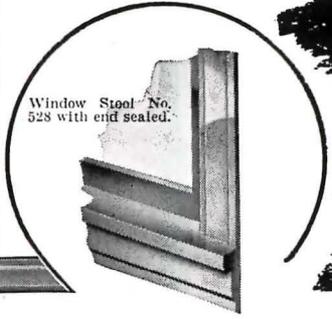
Casing Trim No. 711 with butted corner. Jamb-ends closed with plaster.



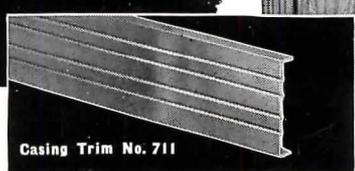
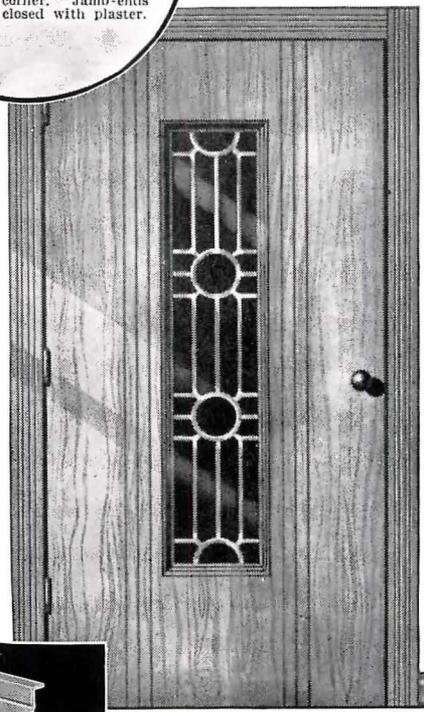
Casing Corner No. 713 applied overlapping the ends of Casing Trim No. 713.



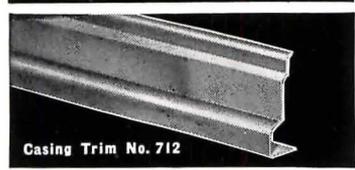
Casing Trim No. 711 with mitred corner held in place by Mitre Brace No. 7.



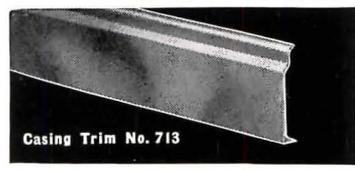
Window Stool No. 528 with end sealed.



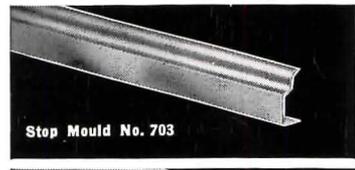
Casing Trim No. 711



Casing Trim No. 712



Casing Trim No. 713



Stop Mould No. 703



Window Stool No. 528



Base Trim No. 646

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(PENCIL POINTS)

December 1948

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→ All indications point to continuing design and construction activity ahead. Some architects and engineers are worried because many designed projects have been held up by high building costs, but over-all picture indicates unslackening activity. Backlog of proposed construction runs over 40 million dollars.

Needed construction mounts to fabulous figures; USPHS survey indicates real need for hospital construction running into billions of dollars. U.S. Census Bureau study points to school needs also in the billions.

Rumors of a "slump" in housing market are based entirely on fact that too many expensive houses and not enough in minimum categories have been built--an obvious fact. High birth rate and unexpectedly high marriage rate are adding to demand.

→ Commercial buildings and public buildings will probably show greatest activity next year. Industrial planning has lagged, but there are signs that it will be active in 1949.

→ Several interesting individual commissions are in the news. Two sizeable N. Y. office building jobs are about to be awarded. An industrial concern, ready to build a plant in Colorado, has not yet selected an architect. Gruen Watch Co.'s new plant in Cincinnati will be designed by Woodie Garber (whose Schenley Building project, illustrated in P/A in October 1945, had a strong influence on subsequent office building design).

→ Du Pont announces availability of titanium metal for industrial and university research. Of great strength and corrosion resistance and little weight, it has structural possibilities which should be developed as research grows. Du Pont will supply free small samples for serious testing.

→ A number of large cities and many smaller ones are in process of revising out-of-date building code provisions. Architects and engineers, often called on for such work, agree that important change should be from specification to performance type of code. Help in this direction is easily available from government agencies and from Building Officials Conference. It is an opportunity not to be missed to make better--and cheaper--design possible.

More architects are also being asked to serve on planning commissions. Job that could be done, as small local commissions grow in number, is coordination of planning in an area. For practical reasons--for instance, airport planning--this is being found necessary as well as desirable in many spots.

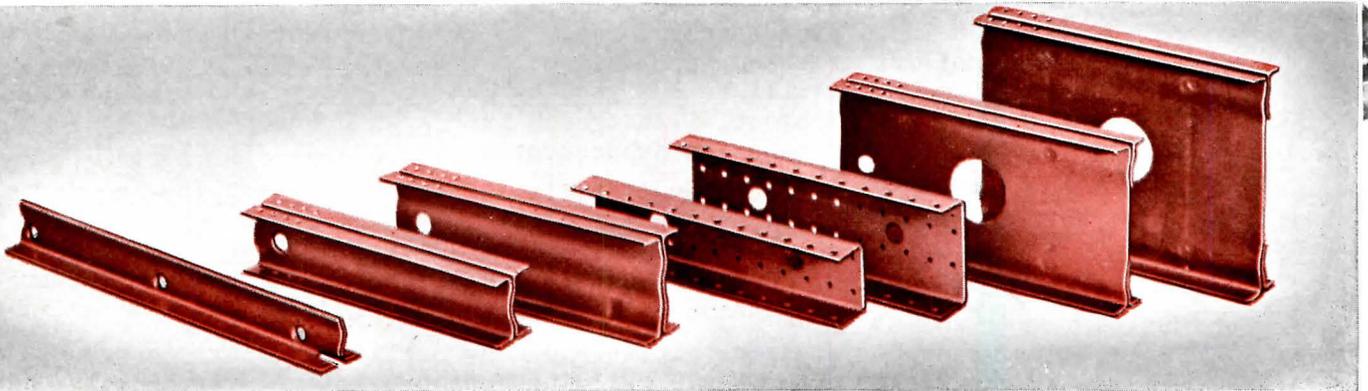
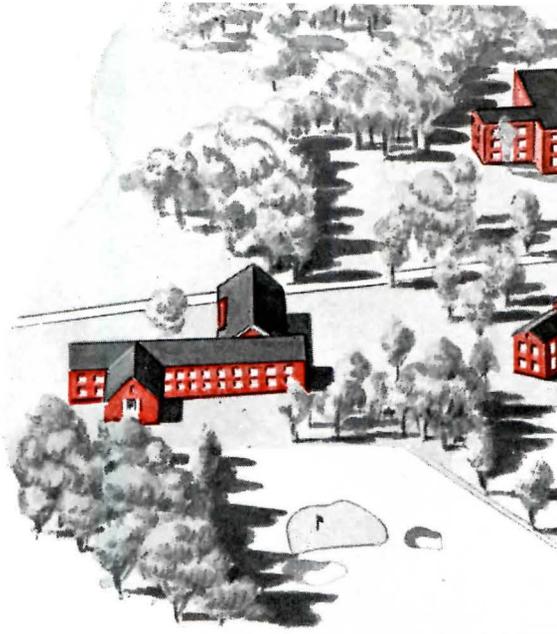
→ Armstrong Cork Company announces a sensible new policy--marking all types of linoleum with gage designation--heavy, standard, or light. This should clear away much common confusion.

→ One accomplishment of new housing bill may be stimulation of modular construction. Bill calls for research toward "use of standardized dimensions." Producers' Council, with cooperation of A.I.A. and assistance of HHFA, plans studies of modular coordination applied to multifamily rental housing.

One housing project in central N. Y. State was recently bid with alternates for modular and nonmodular brick. Modular cost less. Architects who apply modular principles correctly report increased drafting costs on first job, with real savings on their books as staff becomes familiar with methods.

**"We wanted Uniform High Quality,
Economy, Fast Erection, Fire Safety,
so we specified
STRAN-STEEL FRAMING"**

Roberts Construction Corporation
Kent Village, Prince Georges
County, Maryland



When the builder plans to retain ownership of a \$14,000,000 housing project, he takes particular care to select only the finest materials for its construction. That's why the Roberts Construction Corporation, owners and contractors, and Berla and Abel, architects, specified Stran-Steel nailable framing throughout the first two of nine blocks of buildings in the Kent Village garden-type apartment project now being erected in Prince Georges County, Maryland, near Washington, D. C.

Financially and structurally, the Stran-Steel framing system satisfied most advantageously the requirements of these builders. They wanted—and got from Stran-Steel framing:

Economy of Framing Construction—Stran-Steel framing members correctly engineered to pre-determined quantities and sizes, are shipped to the job to fit exact requirements. This simplifies assembly and eliminates costly, time-consuming cutting on the job. It reduces delays in close-in time to a minimum. The quick completion possible with Stran-Steel nailable framing means early occupancy and consequent early returns on the owner's investment.

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**Stran-Steel Framing Supplies a Backbone of Steel for
Apartments, Residences, Commercial and Industrial Buildings**

Stran-Steel nailable framing has a definite place in the modern building picture. Its superiority has been soundly established in a wide variety of structural applications over a period of many years. And today an increasing number of builders and architects everywhere are adopting the Stran-Steel framing system for quality buildings.



tion of Kent Village project similar to first two blocks of buildings now construction. Entire village, when completed, will have 1,600 family units.

r Stran-Steel framing offers advantages unequalled by other framing material. It's strong. It's fire-safe, rot-proof, te-proof. The permanently rigid Stran-Steel framework ds protection against plaster cracks, sagging doors, and damage caused by warping and shrinking. And the eng quality of a building framed with Stran-Steel members as lower maintenance costs and greater salability over ears.

an-Steel framing is available today. It can help you to better. It can help you to build faster. Where quality is nsideration, it can help you to build at less cost. So, why et our engineers show you how satisfactorily Stran-Steel ng can be applied to the job on your drafting board? our local Stran-Steel dealer for full details, or write for ime and address.



Construction view of Stran-Steel framework for first unit, Kent Village Apartments. Roberts Construction Corporation, owner and contractor; Berla and Abel, architects.

Any collateral material can be nailed directly to Stran-Steel framing members. The nail is automatically clinched as it is driven into the patented nailing groove. The holding power of this groove is much stronger than that of wood, yet nails can be easily removed with a claw hammer.

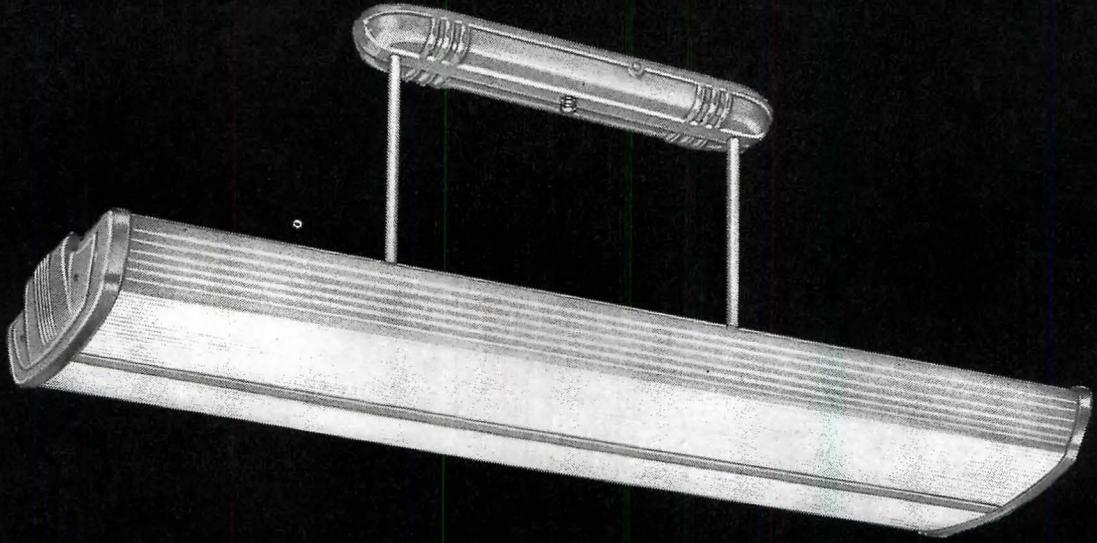


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4. Flexibility of installation methods allows for suspension or close-to-ceiling mounting; individually or in continuous rows

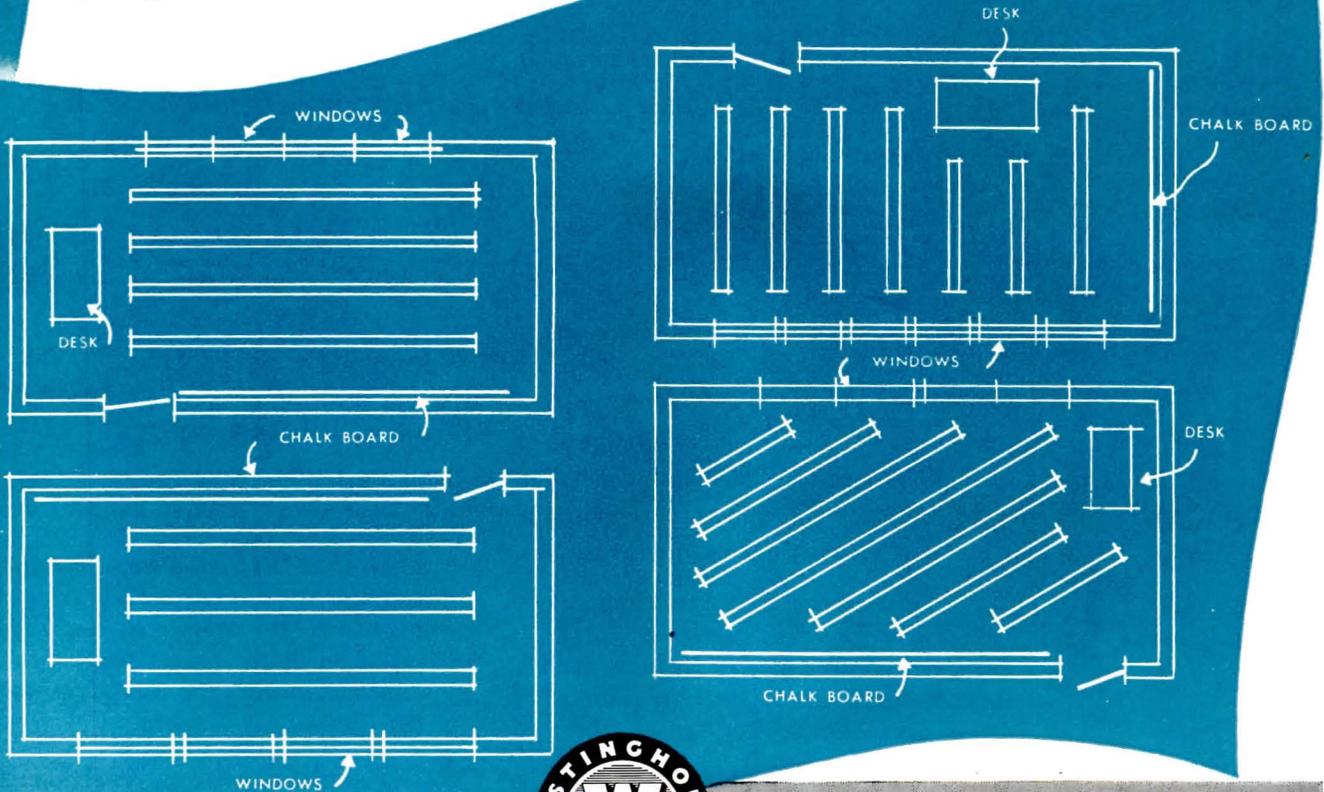
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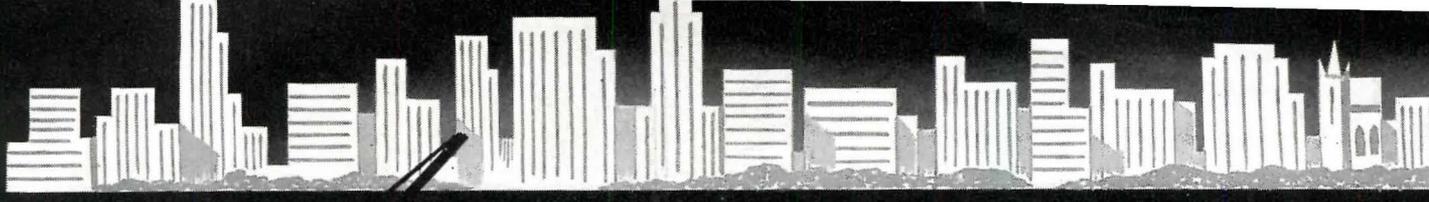
Write for the new "CD" booklet, B-4075, "Type CD Series Fluorescent Luminaires". Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pennsylvania. J-04200-A

Typical classroom layouts for "Type CD" Luminaires.



Planned Lighting Pays

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Announcing **UNITRANE—** the **NEW** Air Conditioning

Out of the Trane laboratories there comes a development that changes many long-standing notions of *what can* and *what cannot* be done with equipment for conditioning air in multi-room buildings.

This development is a device which transforms an ordinary room type unit cooler into a true air conditioner.

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An ordinary unit cooler is primarily a device for reducing the temperature of air. As a part of this operation, it may also remove moisture from the air. But moisture removal is *a part of the air cooling process*. In an ordinary unit cooler it cannot be controlled separately. The Trane development provides the missing essential— independent control of temperature and moisture.

It is now possible, with a single, compact room unit, to control both sensible and latent heat in recirculated and ventilation air.

UNITRANE

The new air conditioning system which Trane engineers have designed around this

dual purpose room unit has been named the UNITRANE System.

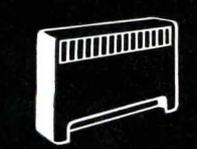
The unit itself is known as UniTrane Type MC. The symbol MC means Moisture Control.

NO DUCTS!

UniTrane—the *new* air conditioning—requires no ducts. It is a true unit system.

Each unit introduces the amount of ventilation air for which it is set— processes it—blends it with processed room air in the desired ratio— and circulates the conditioned air throughout the room.

Each room is separately conditioned in accordance with its particular requirements. Each has its own temperature control.



CONVECTOR-RADIATORS



UNIT HEATERS



HEATING COILS



PUMPS



HEATING SPECIALTIES



COOLING COILS



COMPRESSORS

INSTALLATION SIMPLIFIED

UniTrane uses water as a heating and cooling medium. The same simple piping circuit that supplies warm water to the units for heating in winter also supplies chilled water to the units for cooling in summer. Changeover from warm water to cold water is automatic.

ENGINEERING SIMPLIFIED

The UniTrane piping circuit is as simple as the piping of a straight hot water heating system for any given building.

Selection and installation of units is equally simple.

Elimination of ducts eliminates the bulk of the design and application problems.

UniTrane is quick, clean, easy to handle for old or new buildings. Careful product engineering conserves the consulting engineer's time for producing an installation that exactly meets requirements.

BROAD APPLICATION

UniTrane is for *large multi-room buildings*. It is exactly what is required for hotels, hospitals, office buildings and similar structures. Each room, office or suite has its own individually controlled air conditioning the year around.

UniTrane is for *medium-sized multi-room buildings*. Since this is a true unit system, the system may be used effectively in buildings of medium size as well as in large buildings.

The UNIT OF DESIGN is the room. Whether there are 20, or 200, or 2000 makes no basic difference.

UniTrane is for *comparatively small multi-room buildings*. Any building that contains enough rooms to warrant a central boiler and a central source of chilled water is large enough for this *new* air conditioning.

DESIGN AND APPLICATION DATA

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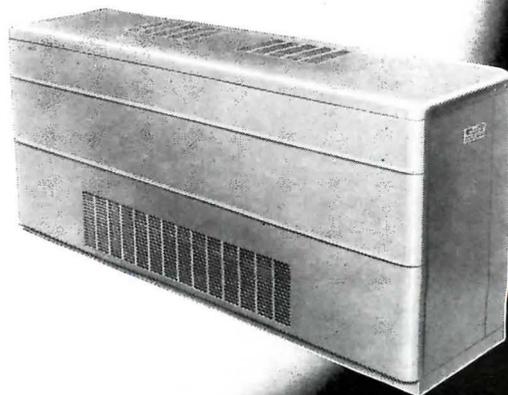
If you agree with Trane engineers that this new system heralds a new era in multi-room air conditioning, you will want us to reserve copies of the new data for you. We'll gladly do so on request.

THE TRANE COMPANY, LA CROSSE, WISCONSIN. Also: TRANE COMPANY OF CANADA, LTD., TORONTO, ONTARIO.



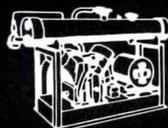
THE MOISTURE CONTROLLER. Designed around a series of compact axial flow heat exchangers, this entirely new and different device has made possible the development of a radically improved unit air conditioner for multi-room buildings. *Patent applied for.*

UNITRANE TYPE MC ROOM UNIT. The unit cooler, incorporating the new Trane Moisture Control element, becomes a true room air conditioner. It handles both room air and ventilation air. It controls moisture as well as temperature. It cleanses all air.



TRANE

HEATING AND AIR CONDITIONING



CONDITIONERS

FANS

REFRIGERATION EQUIPMENT

BLOWER UNIT HEATERS



Mitzi Solomon, sculptor, proposes "Family of Man Totem Pole" as a focal sculptural unit to be integrated with design of U.N. Headquarters buildings in New York. She visualizes the sculptural representation of Man's constructive effort as aluminum, 114 feet high. The form results from a desire to emphasize balance and gravity, and from a wish to produce an impressively great concept, the individual repetitive units of

SCULPTURE OF TODAY

Dear Editor: In view of the general interest in the architectural sculpture of our period, I would like to draw your attention to the recent work of Mitzi Solomon, the "Family of Man" (a monument to the United Nations).

Miss Solomon's brilliant version of the contemporary totem pole is, in my opinion, one of the very best examples of what may be described as an architectural sculpture of today. It has been often said that the spirit of architecture of any period is most conspicuous in the sculpture of that time, and that the clearly established interdependence of sculpture and architecture marks the maturity of the three-dimensional form. This maturity can be appreciated in the "Family of Man" with its expression of compositional tension, structural lightness, penetration of space, and modular type of relations between its elements.

Reflecting those principles of the modern architectural form, the sculpture suggests also its possible future trend. A similar problem of form solved by Brancussi in his "Column Without End" was as typical for the puritanism of architecture as the totem pole of Mitzi Solomon might be for its interest in ornament and diversity of expression.

The question for which Miss Solomon gave her personal and, it seems to me, a very successful answer is this:

What kind of diversity can be achieved within the discipline of a module?

This might be a very architectural question, and it seems to me that the importance of Miss Solomon's contribution to the problems of the contemporary form lies both in the nature of her study and in the maturity, richness, and diversity of the resulting composition.

MATTHEW NOWICKI, Acting Head
Department of Architecture
North Carolina State College
Raleigh, N. C.

PROTESTS SAMENESS

Dear Editor: I have to be careful in this letter, as your June issue published one of my jobs. What interested me in this issue was that with all the young people now producing modern houses

you were not able to find any one house which deserved the first prize.

I have noted in almost all of the magazines during the last few years that there is a general tendency towards a sameness of work and not a steady development towards advancement in design, searching for new uses of materials, and a general refinement of detailing. There seems to be no terrific urge for new facets in the field of architectural design as there was preceding World War II; nor is there anything of the terrific search for truth started by Louis Sullivan, Frank Lloyd Wright, Neutra, Gropius, etc., of the period of the late 1800's to the second World War.

I don't know the answer and I don't know the reason for this, but I do think that your magazine might go after this sameness, criticize it, and see what could be done. Once again to back-up what I am driving at, take the case of the Symposium at the Modern Museum where nothing was said except the same old chestnuts. It seemed a little bit like the Democratic convention; a lot of frosting trying to cover up a fallen cake.

I fortunately happened to be one of the judges for a series of "theses" at Princeton University, and here for the first time in about four years, I was excited and stimulated as I saw presented a whole new series of refinements, advancements, and vistas. William Lescaze and Max Abramovitz were with me on this judgment, and they can verify what I have just stated. I know that there are many architects, designers, and students who feel as I do, and they would welcome a healthy airing of this whole matter. Let's start now.

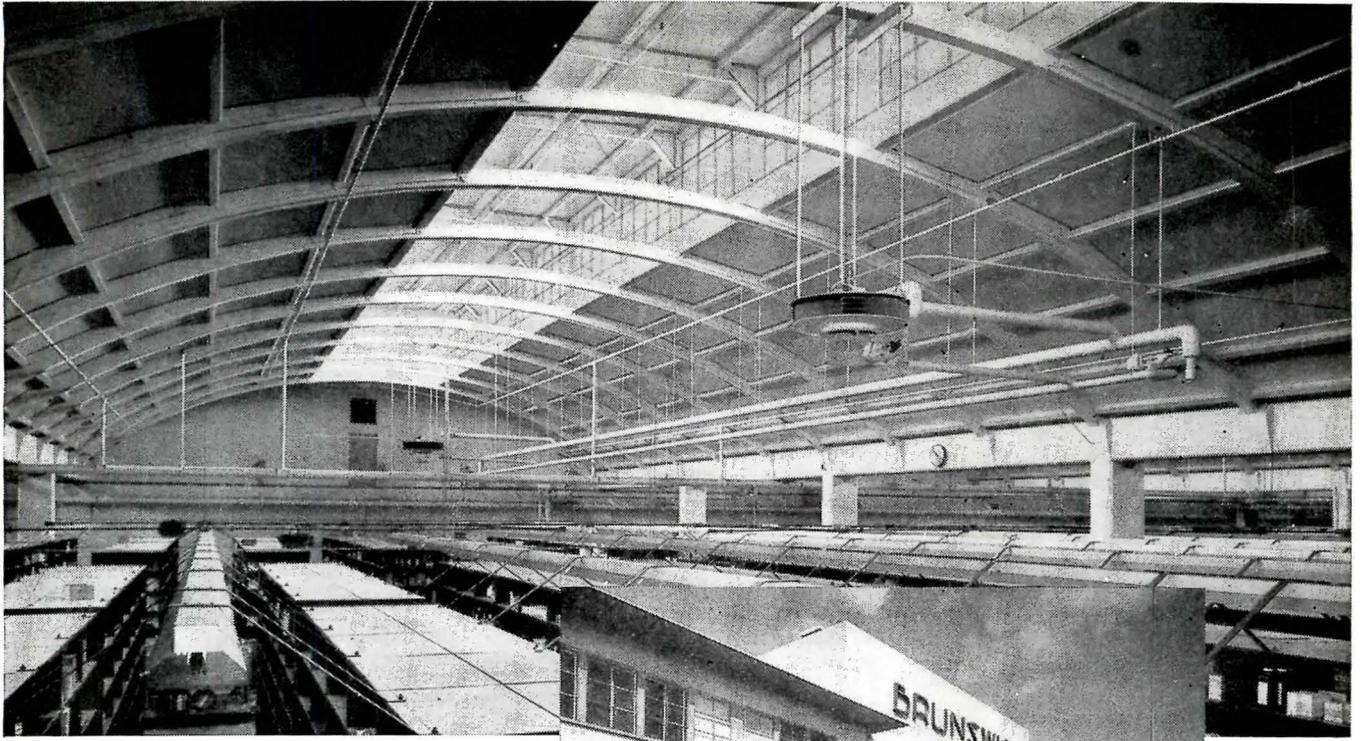
CALEB HORNBOSTEL
New York, N. Y.

FLYING FRAME

Dear Editor: In "Aluminum as a Structural Material," Weidlinger has made the technical data quite comprehensive. In his reference to airframes, I believe a good and timely illustration would have been the *Mars* flying boat which just completed a 4800-mile nonstop hop. This ship is reportedly as large as a 15-room house. One would not wish or expect a house to stand the rough usage the *Mars* must take.

R. B. GRAY, Director of Research
Reynolds Metals Company
Glen Cove, N. Y.

which can be at reasonable scale (a person could just walk under the legs of the lowest figures). Elements in the design represent Man building, Man seeing, Man talking, Man hearing. The union of handsome sculpture with modern technology and an expression of the value of unity has appealed to critics who have seen it. The model will be in Miss Solomon's one-man show at Kleeman Galleries, New York, during November.



128,000 sq. ft. of 1 9/16" Cemesto provides insulation, interior finish, and great strength with light weight — applied as structural roof deck to the curved roof of Brunswick Drug Company's new plant, Los Angeles, California.



Architects:
Albert C. Martin
& Associates

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THE CELOTEX CORPORATION, CHICAGO 3, ILLINOIS

LESSONS OF A GIGANTIC HOSPITAL PROGRAM

By JOSEPH BLUMENKRANZ

Brief History and General Comment

In 1946 Congress authorized the construction of new veterans hospitals throughout the nation, with aggregate capacity of nearly 40,000 beds. When completed these hospitals will augment the existing accommodations to a total of 140,000 beds. The majority of the new beds will be in entirely new institutions, approximately 70 of which are now projected.

There is no precedent for a hospital program of such prodigious scope and cost. Even under so-called normal conditions in the building industry such an undertaking would tax to the limit the organizational and professional skill of the country; but launching this program with the objective of immediate execution in the present chaotic and inflationary postwar period made the undertaking so much more difficult to carry out. Yet, the program was advanced well into the construction stage in a relatively short time from the date of congressional approval. It was decided that a program of such unparalleled and gigantic proportions needed a well-knit national organization, skilled in engineering techniques, to grapple with the methods and means of its execution. Such a medium was found in the Corps of Engineers of the War Department with the experience of the titanic war effort just behind it.

A most comprehensive program for planning, listing required spaces and areas, supplemented by a very detailed list of equipment and service connections, and further illustrated by numerous guides in graphic form, was prepared and jelled into a set of "design criteria." When these were made available, the program was ready to enter the design stage. The machinery was set in motion. Contracts for the design of the buildings were awarded to private architectural firms in all parts of the country. The formidable design criteria were made available to them and the hospitals were beginning to take shape on paper, for the time being.

A failing of the first edition of the design criteria was the absence of a target setting forth a maximum total square footage and cubage. The need for such limits became urgent only after some of the projects were well in the design stage.

The criteria, though extremely helpful, were in many instances too rigidly and mechanically interpreted and enforced. This applies especially to equipped rooms, the sizes of which were specified in square feet. It is felt that in these, stress should have been laid on adequacy

for the most functional arrangement of the equipment rather than on blind adherence to a mandatory square footage which ignored shape and perimeter of the space involved. Gradually, the progress bogged down and a halt was called. It was resumed only after a drastic downward revision of requirements and the establishment of gross area targets. It was then that the War Department approached me with the offer to assume the task of becoming its Hospital Consultant on the entire program. Having delved into it in detail before, and being keenly aware of the need for a flexible rather than rigid interpretation of the design criteria, I accepted the assignment with enthusiasm. My confidence in the cooperation in this respect by the staff of the Hospital Design Branch of the Corps of Engineers proved to have been fully justified.

The Program

The program comprised three major groupings: the general (medical-surgical), the neuro-psychiatric, and the tuberculosis hospitals. Each group was to be planned on the basis of separate criteria. The concept of the program, because of its immensity and repetition of units, could have led to the temptation to adopt "typical" buildings, with variations at grade to suit individual site conditions. It is gratifying that such a policy was not adopted. As a result there is now a variety of solu-



JOSEPH BLUMENKRANZ

Hospital Consultant to War Department on Veterans Hospital Program. Senior Hospital Architect, Hospital Consultant to City of New York on postwar hospital program; subsequently engaged in similar capacity on Puerto Rico's hospital program. Consultant to several architectural firms on design of veterans hospitals. Currently associated with Katz, Waisman, Stein & Weber, architects, New York.

tions which will have the opportunity to prove their respective worth in actual operation. Aside from this latitude, however, the basic organizational setup of each type of hospital was pretty well frozen in diagrammatic form, defining the number of stories and dictating which shall have vertical and which a horizontal stacking of facilities. To those who will have the opportunity to study later on the final solutions it will be clear that these vary from excellent to poor, from ingenuity to mediocrity. Each solution is, in the larger sense, the product of the effort of the respective architects, as the variety of the designs obviously suggests. While it is true that in some instances, unfortunately, radical departures from precedent were frowned upon by the sponsoring agency, there was never so much hamstringing as to veto new ideas and novel groupings. The few uniquely simple and excellent designs suggest that, if the rest had been equally as good, they too would have been approved on merit.

With some exceptions, the functional approach was adhered to by everyone. Some inexcusable slavery to symmetry can be found, but the grossest offenders to functional solutions were not necessarily the admirers of the axis. The authors of the free and sprawling schemes are occasionally as guilty of sacrifice of logical arrangement of elements, of simplicity, and of integrated thinking, as the disciples of Beaux Arts. In such instances, the product appears to me not as good architecture, but rather as a haphazard conglomeration of poorly related forms. In too many of the plans there is evidence of lack of effort to achieve a fine building as well as a functional one; of emphasis on proper arrangement of elements, but of lack of feeling for simplicity of form, for fine proportions, for harmony and rhythm, and for those pleasing contrasts which result in esthetic satisfaction, as opposed to dullness or restlessness.

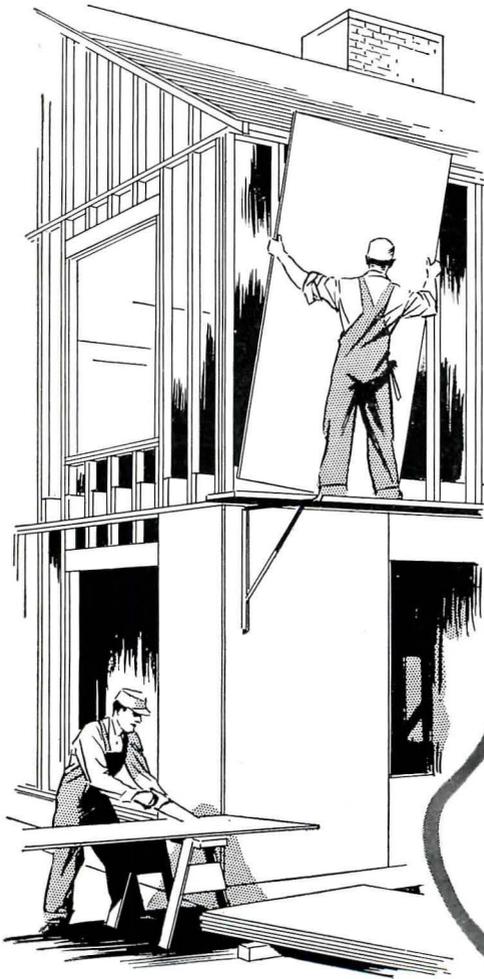
At this point it is fair to mention that most architects reacted well to critical reviews, and some of them went so far as to abandon an entire scheme to start afresh when so advised by me.

Most of the difficulties were encountered when architects failed to take into account that the width of a wing containing nursing units is too narrow to accommodate properly the surgery, X-ray, laboratories, and other highly equipped departments as well. Thus, when they tried, and many of them did

(Continued on page 12)

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11



Progress Report

(Continued from page 10)

try, to squeeze the latter services within the confining limits of the former, they ran into all sorts of makeshifts and compromises.

The program, as embodied in the criteria, was very lucid in listing the departmentalization of the components of the hospital. Nevertheless, it was in this respect that many of the architects displayed their greatest weakness dur-

ing the schematic stage of planning. It was common to encounter X-ray departments, laboratory suites, or out-patient clinics needlessly strung out or dispersed, and straddling arterial corridors. It took patience and perseverance to impress the need for, and to arrive at, a grouping of each distinct functional service in a cul-de-sac which would be devoid of cross traffic.

Insufficient attention was likewise paid by the planners to functional sequence of rooms within each service division. Consequently many preliminary plans needed not only a radical regrouping of the larger component elements, but also a reshuffling of spaces within them.

Another weakness lay in underestimating the importance, or in the total failure to follow through the lanes, of traffic-flow of the various services. Segregation or paralleling of traffic of out-patients, in-patients, food service, house-keeping, and of all the other categories, was often ignored. It was, for example, not uncommon to find the operating suite located on the same floor and adjacent to out-patient facilities, so that the traffic of both would have to collide and intermix; or an arrangement whereby visitors had to cut through an out-patient department; and other similarly confusing and interfering circulation.

There were those who insisted on their prerogative to submit and adhere to solutions which conflicted with the above-expressed sentiments. From my point of view, the results of this attitude were unfortunate and unsatisfactory. In my opinion, the best of the hospitals are simple in form such as a "T" or "H", while the ones with multitudinous offsets and haphazard wings, ranging up to radial quadruple "Y"s, appear to be the result of an opportunity missed and a challenge unmet.

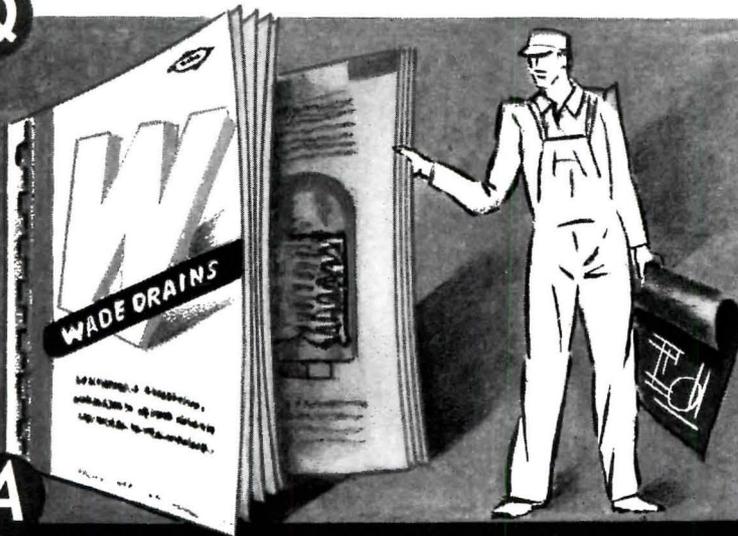
The Medical-Surgical Hospital

This unit seems inadequately defined because the acute hospital includes a neuro-psychiatric service and each of the predominantly neuro-psychiatric institutions includes a complete acute pavilion; both types are supplemented with ample isolation facilities for treatment of contagion. Hence, in line with contemporary thinking, medicine and psychiatry are to be brought closer together in the newly constructed hospitals.

As previously mentioned, the stated policy was not to standardize on any particular "type" of building; however, an effort was made to standardize the components of particular services contained within the envelope of the structure, such as nursing units, out-patient clinics, the food service, etc. Stress was also laid on the fact that veterans hospital operations and functions, both professional and administrative, differ greatly from civilian hospitals. For reasons of economy of cost and efficiency of operation multistory buildings were made mandatory. As the average length of veterans hospitalization is known to be greater than in acute civilian hospitals, certain facilities for a large percentage of ambulatories (about two-thirds) were required. The functional setup of the Veterans Administration also required the inclusion of numerous special administrative offices which are

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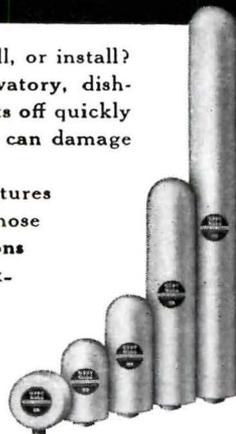


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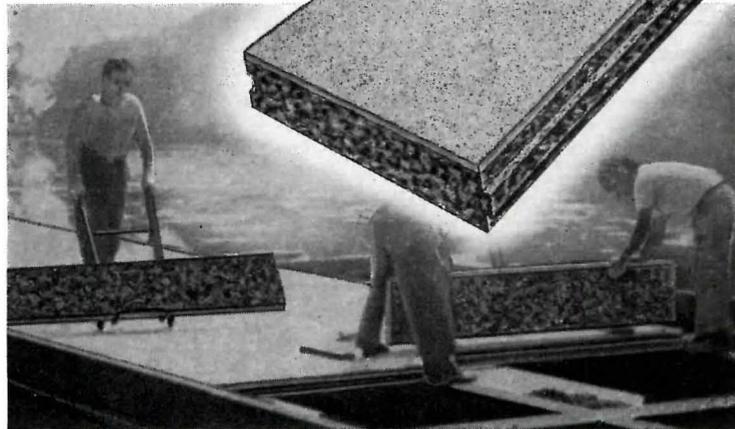
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(Continued on page 14)

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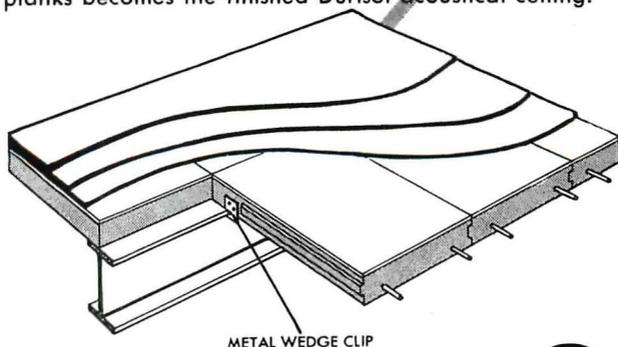
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Progress Report

(Continued from page 12)

absent in civilian hospitals. On the other hand, obstetric and pediatric departments are excluded.

Some of the mandatory features of the typical nursing units are open to question. The minimum area for single rooms was stated to be 120 square feet. This is slightly more than the recommended 115 square feet in T.B. hospitals (by the National T.B. Association). This

requirement was also inconsistent with the minimum of 80 square feet prescribed for the seclusion rooms in the neuro-psychiatric wards.

The area fixed for the examination and treatment room was 125 square feet. This seems hardly enough for the intended purpose, unless its use is to be very different from that in civilian hospitals where about twice this area is

considered conservative.

Such an examination and treatment room is included in each nursing unit; besides, the criteria call for another such room on each patient floor, in addition to those within the ward areas. Hence, on each floor with two nursing units there are three examination and treatment rooms. It would appear that one such room, of adequate size, per floor would be preferable to three small ones.

The administrative offices of each nursing unit include a separate office for the Clinical Clerk. In the light of the drive for economy in first cost it would have been possible to effect a saving by omitting this office while providing more area within the nurses' station for the work of the Clinical Clerk.

Independent spaces are called for the parking of wheelchairs and stretchers, and for the unit supply. These two spaces could be combined into one without hardship, but with resultant economy.

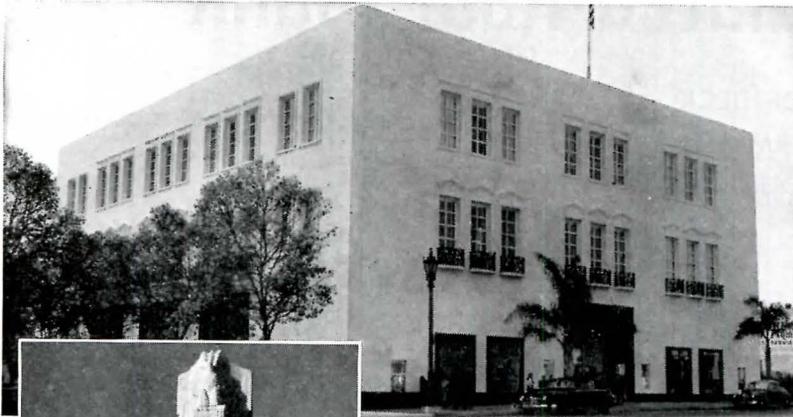
It is doubtful whether the mandatory requirement of linen chutes in all nursing units is well taken. It is known that some well-run institutions, though equipped with chutes, do not use them.

There are now, in accordance with criteria, on floors containing nursing units, spacious visitors' waiting rooms. There are also ample waiting lobbies in the entrance floors of each patient building. This is a needless duplication. It would seem that the solaria, or day rooms, in the standard nursing units (other than in the neuro-psychiatric service) could be placed at the entrance to such units, and that during visiting hours they could serve as visitors' rooms.

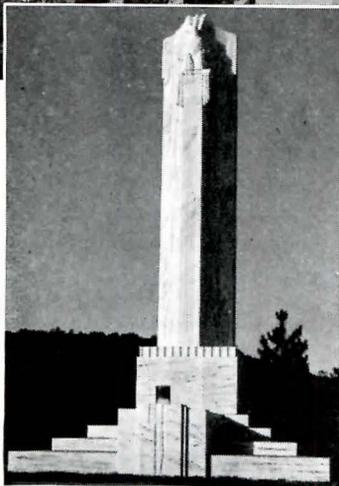
A goodly number of wheelchair cases is anticipated among veterans. Special provisions are made for these in water closet compartments, telephone booths, dining rooms, and recreational area. But, apparently, not enough attention was paid to two routine functions of these patients, namely, shaving and bathing. Showers could be so designed as to permit a wheelchair to be wheeled into the compartment without compelling the patient to get off it; special lavatories, which are available, and low-mounted mirrors could likewise ease the use of such facilities by paraplegics. Aside from the beneficial psychological effect upon such patients, an additional personnel saving could be derived.

It is needless to stress that janitor's closets should be designed for the maximum in sanitation. Yet, on the basis of the present criteria these will not differ from the disreputable "slop sink" closets. It is submitted that the service sink can be entirely dispensed with and the bulky and dirt-collecting trap can likewise be banned. The current use of the mop truck demands a deviation

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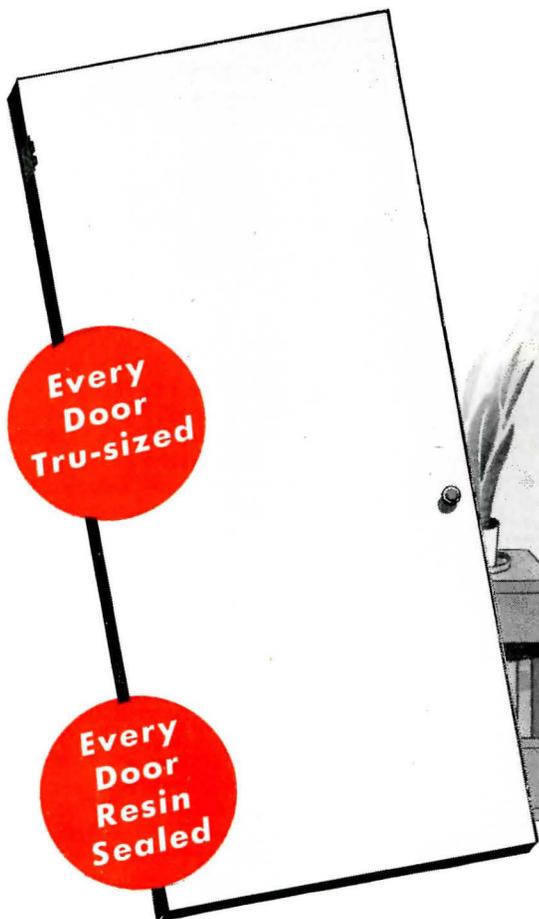
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NOVEMBER, 1948 17

Progress Report

(Continued from page 14)

from the past concept of a slop sink closet. Rather, a sanitary "garage" for the mop truck, where water can be secured and equipment cleaned, should replace it.

Influence of Nursing Unit on Shape of Building

of a patients' pavilion. In these hospitals the shape was pretty much frozen by the mandatory correlation of the component parts of the standard unit. Thus, all single rooms had to be in one group placed in a dead-end corridor with the 16-bed ward in another cul-de-sac. This arrangement was dictated by the evi-

patients' beds. The result was a nursing unit with multiple wings, rather than one with a rectilinear shape which is less costly than the former. Of course, the nursing personnel should not be victimized by the desire to keep the building simple in form. But surely there is an alternate method of conserving effort than by the mere reduction of physical distance from nurse to bed. A great economy of it can be achieved via the employment of an audible rather than a visual call system.

The other important factor shaping the hospital wing is the disposition of the

Progress Report

(Continued from page 16)

not exist, because only a maximum of two N. P. nursing units were mandatory on any floor of the N. P. service. The area taken up by the three units of the former proved to be of adequate area for two of the latter.

Recent concepts of neuro-psychiatric care demanded an about-face from the former architectural approach relative to this phase of hospital planning. The

stress was away from the "snake pit," the grilled windows, the padded cells. Security and control remained as important objectives but they had to be achieved inconspicuously and unobtrusively. The mental patient, usually ambulant, needs different accommodations than a bedridden one; sleep and daytime activity demand separation. The layout of the dormitories was relatively easy, but arrangement of other spaces

so as to permit free circulation and interflow, without a conscious sensing by the patient of being herded or controlled, proved to be a tedious undertaking which was seldom crowned with complete success.

Criteria requirements for the rest of the medical-surgical hospital presented no unusual problems. It appears, however, that considerable economies could have been effected through the adoption of various suggestions put forward from time to time as incoming bids indicated a threat to the program as a whole.

(Concluded in December)

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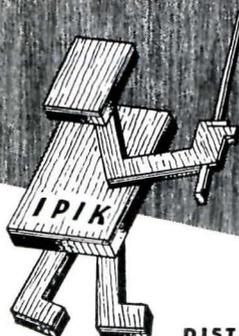
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The NINTH INTERNATIONAL HEATING AND VENTILATING EXPOSITION will be held at the International Amphitheater, Chicago, Ill., from January 24 to January 28, 1949. The exposition is sponsored by the American Society of Heating and Ventilating Engineers in conjunction with its 55th annual meeting.

COMPETITIONS

TWO ARCHITECTURAL DESIGN COMPETITIONS FOR LOW-COST SALE AND RENTAL HOUSING, open only to students at architectural schools and to draftsmen in New York State, have been announced by State Housing Commissioner Herman T. Stichman. The competitions, supplementing two similar statewide competitions, for architects (see page 122, September 1948 P/A), call for the design of a single-family house for the average wage earner to sell for about \$7,500, and for the design of an 80-family project to house families earning \$46 to \$58 weekly.

First prize in each of the student and draftsman competitions will be \$200; second prize, \$100; and ten honorable mentions. Submissions should be sent to the competition's professional advisor, William Lescaze, State Division of Housing, 270 Broadway, New York, N. Y., by November 15, 1948.

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The Roddis Lumber and Veneer Company has announced a contest to find a name for its new lightweight hollow core door, with prizes totaling \$2,000. For complete details of the contest, entries for which must be mailed by November 20, see the Roddis Lumber and Veneer Company's advertisement in this issue of P/A.

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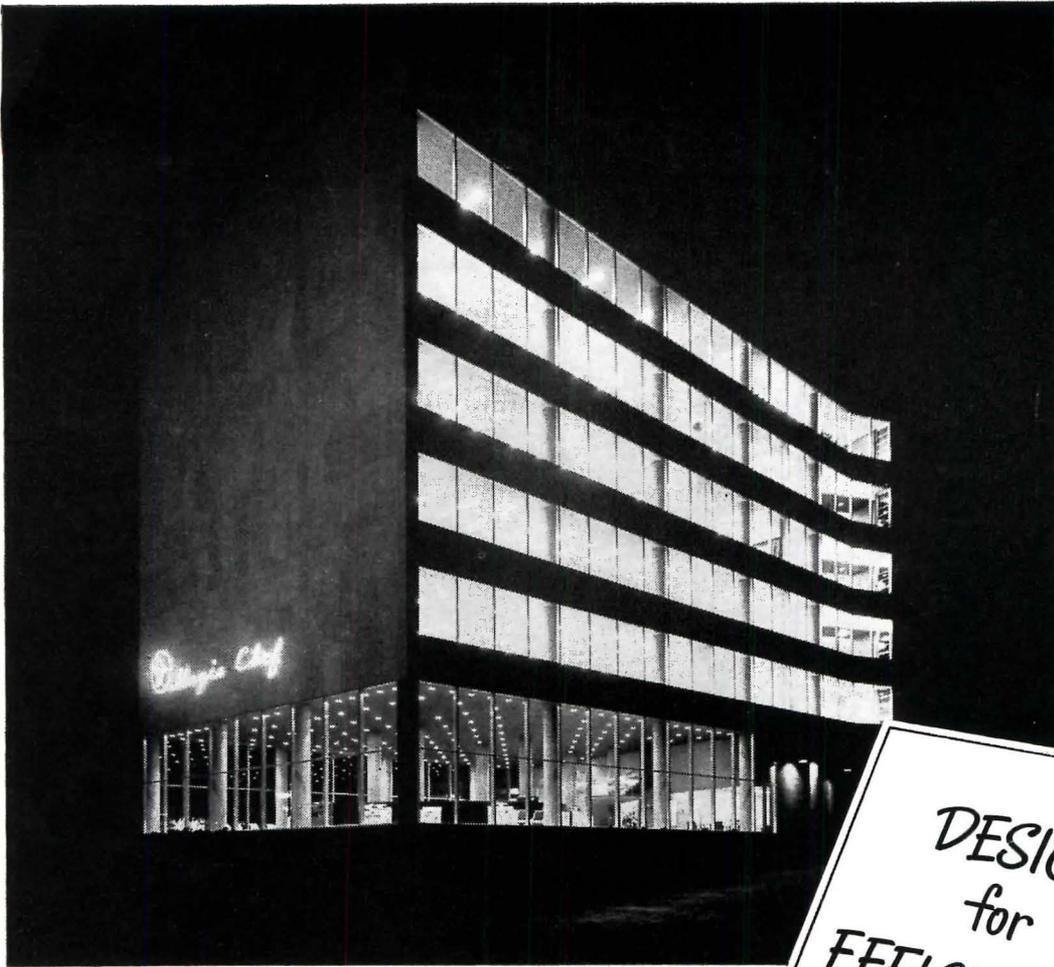
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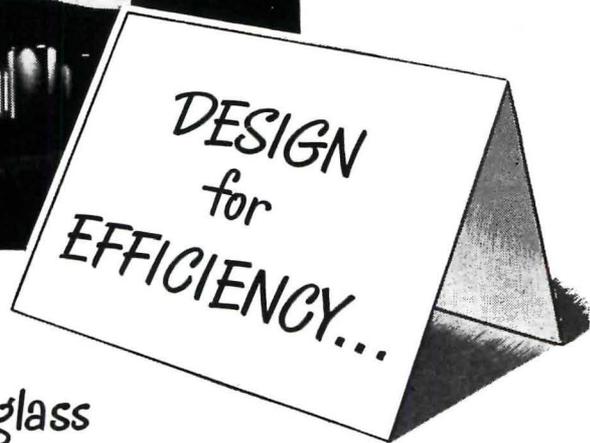
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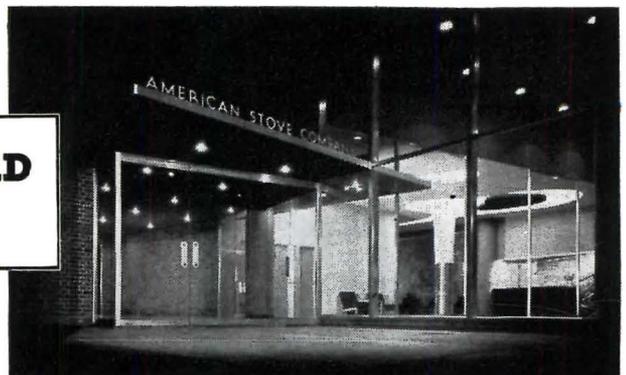
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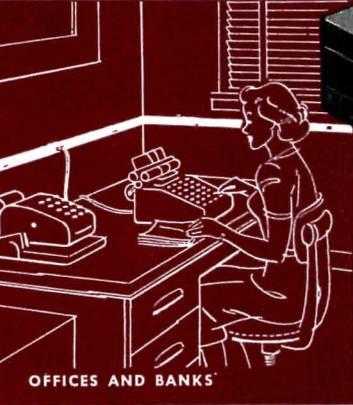


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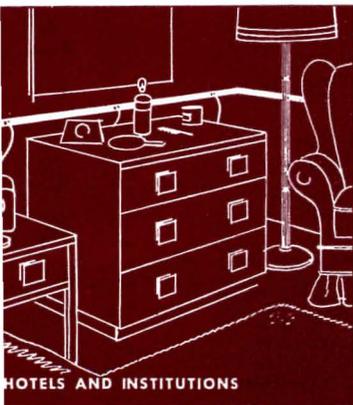
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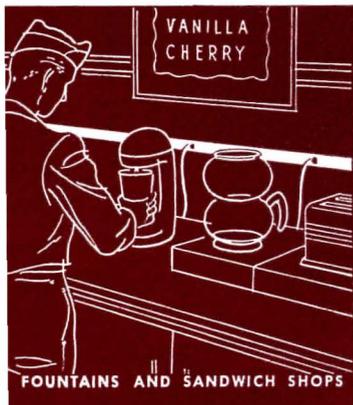
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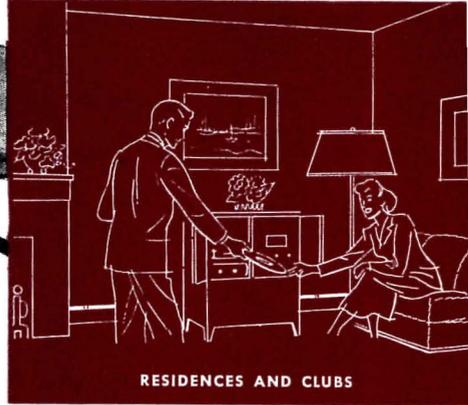
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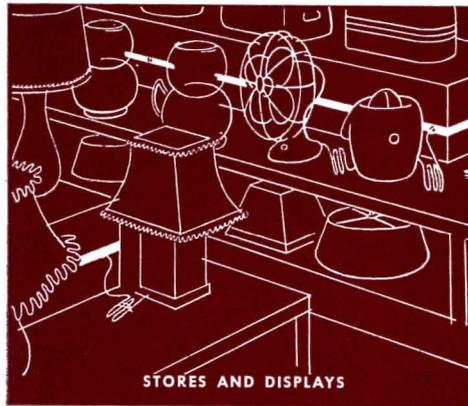
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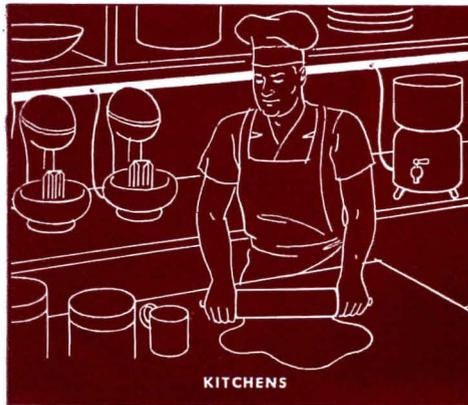
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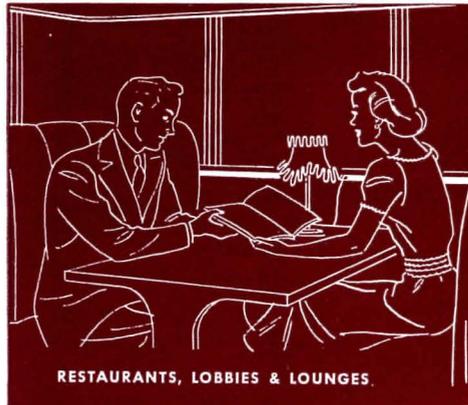
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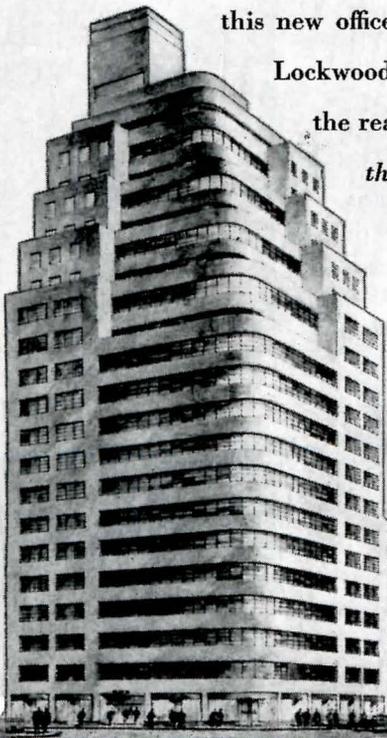


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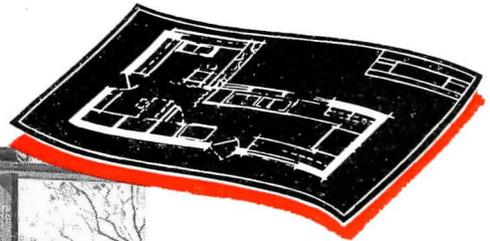
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Planned for maximum convenience, this combination utility room and kitchen is ideal for basements homes. Comfortable warmth is provided by the gas fired Wyandotte Winter Air Conditioner. The gleaming white, double compartment laundry tray is the smooth, easily cleaned Alden. And the Budget Gas Fired Water Heater stands ready to supply an abundance of hot water for every household need. In the kitchen, a dream of a sink—the Royal Hostess — puts additional luxury and convenience within reach of the homemaker.



Serving home and industry

AMERICAN-STANDARD • AMERICAN BLOWER • CHURCH SEATS • DETROIT LUBRICATOR • KEWANEE BOILER • ROSS HEATER • TONAWANDA IRON



High-Quality Metal Doors

Available Now!

The fine workmanship in Fenestra Fire-shield Swing Doors is evidenced in their trim appearance.

MANY USES—attractiveness and durability make these doors suitable for many uses—for entrances, exits, stairwells, communicating doors, etc.—for apartments, stores and other commercial buildings, factories, to mention a few.

AVAILABLE NOW—standardization of types and sizes enables your building supply dealer to carry ample stocks to fill almost any building need.

LOW COST—in two ways. (1) Lower first cost because standardization results in manufacturing economies. You get a sturdy metal door for far less than many doors now on the market. (2) Installation costs are reduced because swing doors come to the job complete with frames and hardware. No mortising, no drilling, no tapping, no prime painting. You're sure of a good fit.

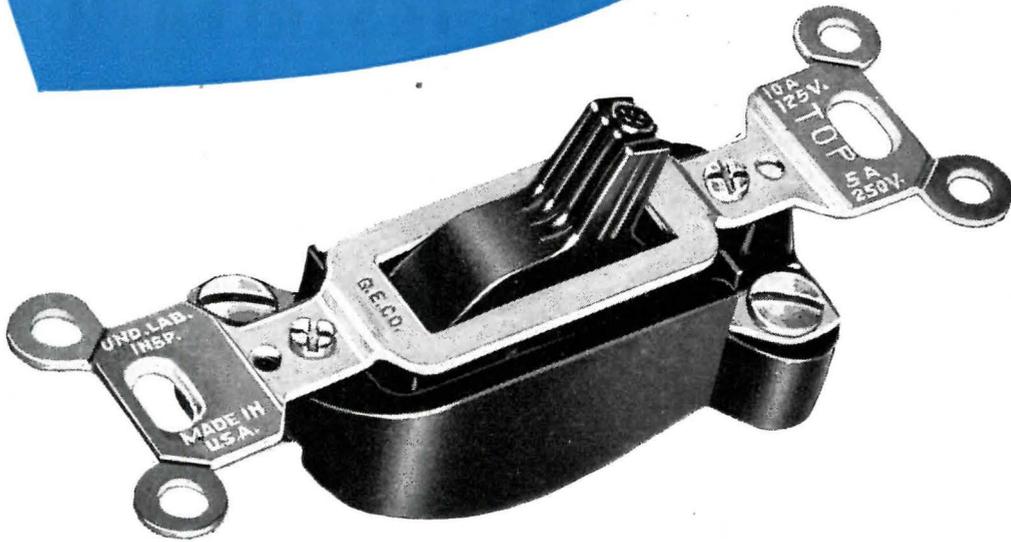
UNDERWRITERS' LABEL. Doors of same design are available with Underwriters' B Label.

For full information on these doors, as well as on counterweighted doors, call the nearest Fenestra office, or write to Detroit Steel Products Co., Dept. PA-11, 2253 East Grand Blvd., Detroit 11, Michigan.

Fenestra

**FIRESHIELD SWING AND SLIDE
METAL DOORS**

A NEW *Silent* SWITCH



NOW RATED
10 amperes
for today's heavy loads

Sure, selling a top-quality wiring job is a tough deal when clients can't tell an ampere from an ohm. But here's a brand-new focal point for your "better wiring" specifications—silence and smooth action—*features that can be demonstrated!*

With its new 10-ampere, 125 volts, T-rating, this new mercury switch opens up new fields for silent switch applications, matches quiet operation to today's heavy loads. It's a long-life, specification-grade switch, made

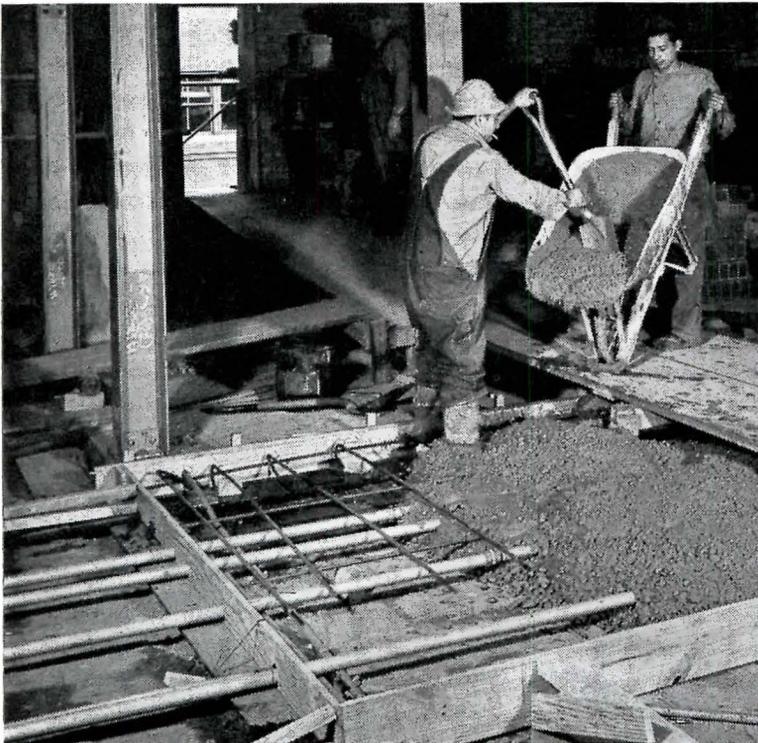
well to do its job well—*another G-E first*—to help make good wiring better.

And, when you're specifying high-quality wiring, remember the power of the General Electric name. It identifies a complete line of wiring devices which your clients know they can trust. Ask your General Electric merchandise distributor about the new mercury switch and the rest of this complete line. Section D2-1169, General Electric Company, Bridgeport 2, Connecticut.

GENERAL ELECTRIC

ELECTRUNITE E.M.T.

— MODERN STEEL PROTECTION FOR MODERN WIRING INSTALLATIONS . . .



ELECTRUNITE E.M.T. is ideally suited for installation in concrete because it requires less space than ordinary threaded-type conduit. It is fully approved by the National Electrical Code for this and many other types of installation.

● Just as modern buildings need modern wiring, so too does modern wiring need the protection of up-to-date Republic ELECTRUNITE E.M.T.—the *original* lightweight rigid steel raceway.

Unlike other types of conduit, *threadless* ELECTRUNITE E.M.T. never requires thread-cutting or turning into fittings. Hence, its tightly adherent zinc coating is unbroken at coupling or box connector . . . provides continuous, uninterrupted corrosion-protection throughout the entire raceway installation.

ELECTRUNITE E.M.T. is approved by the National Electrical Code and most local codes for installation in open, concealed and concrete slab construction. Inspection by Underwriters' Laboratories provides complete assurance that ELECTRUNITE E.M.T. meets all requirements for electrical and mechanical protection.

For complete details about the many reasons why contractors and workmen alike prefer to use ELECTRUNITE E.M.T., write today to:

REPUBLIC STEEL CORPORATION
STEEL AND TUBES DIVISION • CLEVELAND 8, OHIO
Export Department: Chrysler Building, New York 17, New York

SEE SWEET'S FILE

or write us for detailed information on these Republic Steel Building Products:

Pipe—Sheets—Roofing
Enduro Stainless Steel
Toncan Enameling Iron
Electrunite E. M. T.
Fretz-Moon Rigid Steel Conduit
Taylor Roofing Ternes
Berger Lockers, Bins, Shelving
Berger Cabinets for Kitchens
Truscon Steel Windows, Doors, Joists
and other Building Products

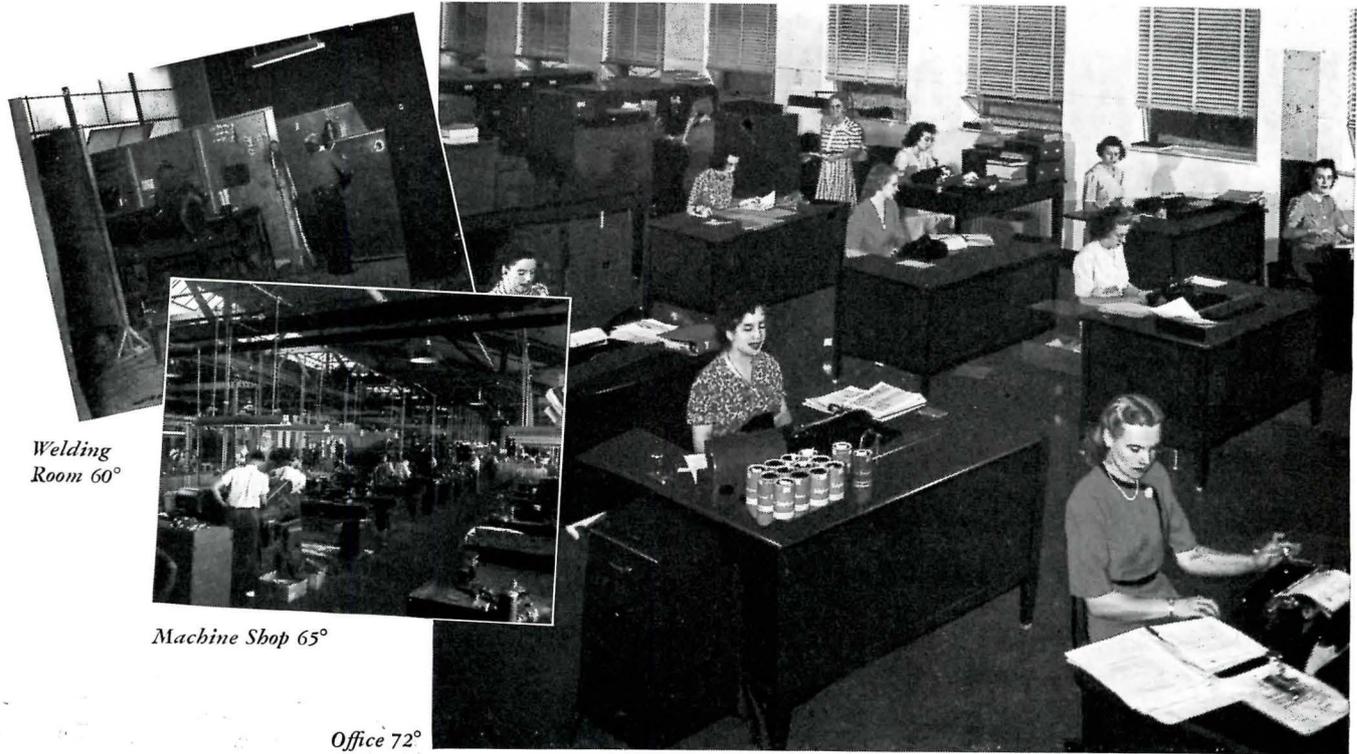


L I G H T W E I G H T T H R E A D L E S S R I G I D S T E E L R A C E W A Y

Comfort for All Employees—

B & G *Hydro-Flo** Heating

provides the right temperature for each occupational activity



Welding Room 60°

Machine Shop 65°

Office 72°

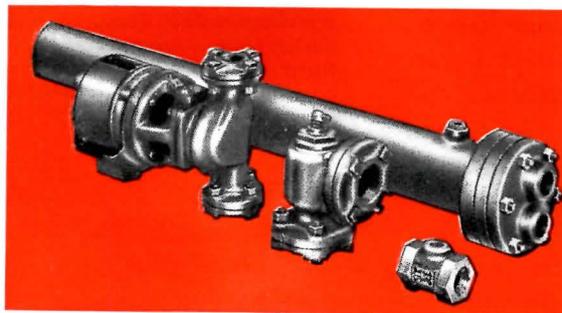
It is generally recognized that the comfort conditions under which employees work have a direct bearing on efficiency. That's why a rapidly growing number of industrial plants are installing or converting to B & G *Hydro-Flo* Heating.

This system takes full advantage of the basic superiority of *mechanically circulated* hot water as a heating medium. It establishes ideal comfort conditions because it can be zoned to deliver automatically the exact amount of heat desired in each department. It automatically changes the rate of heating to meet changes in the weather . . . saves fuel by eliminating over-heating.

The advantages of *Hydro-Flo* Heating are not limited to new installations—existing hot water or steam heating plants can be easily converted. The simplicity of B & G *Hydro-Flo* equipment is assurance of dependable operation and low maintenance.

The preferred system for homes

Hundreds of thousands of B & G *Hydro-Flo* Systems are in successful operation today . . . in homes . . . in apartments . . . and in low-cost housing developments where economy of operation is essential to owners with modest incomes.



Simple, dependable equipment

The equipment of a B & G *Hydro-Flo* Heating System can be installed on any hot water heating boiler or used with a steam convertor. Basic units consist of a B & G Circulating Pump, Flo-Control Valve, Water Heater, Monoflo Fittings.

Plus hot water for washroom or process use

The Water Heater unit of a *Hydro-Flo* System furnishes a virtually limitless supply of hot water, all year 'round. It is connected to the same boiler that heats the building, saving the cost of a separately-fired heater. Hot water is produced at amazingly low cost.



BELL & GOSSETT

Dept. AT-37, Morton Grove, Ill.

Company

*Reg. U. S. Pat. Off.

WORTHINGTON

Air Conditioning and Refrigeration Report

Worthington Pump & Machinery Corporation, Harrison, New Jersey

NEW EVAPORATIVE CONDENSER SAVES MANY COSTS

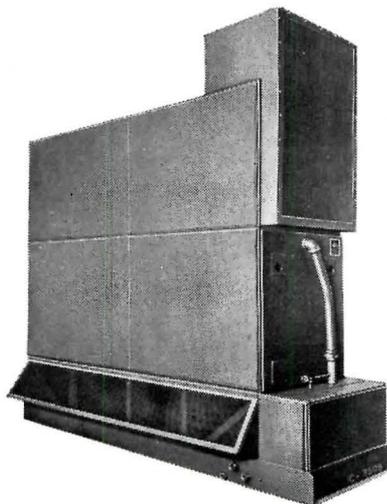
Where water for use in refrigerating condensers is expensive, high in temperature or difficult to secure and dispose of, the Worthington ECZ Evaporative Condenser saves water, equipment, space and money.

Water consumption is reduced 90% or more—only enough new water is added to make up for evaporation and keep the circulated water sweet and clean. No long line losses; and pumping costs are reduced proportionately.

Equipment such as cooling towers, water service and disposal facilities is not needed, saving investment cost, maintenance cost and space.

Prime surface coils are staggered to permit air deflection and wetting of the entire surface. Smooth surface makes washing easy and helps prevent scale accumulation.

Installation of this compact unit can be made inside or outside, in basement or on roof. Two types—Freon and Ammonia. Other features: Worthington Monobloc



Worthington ECZ Evaporative Condenser. Unit contains condenser coils, water spray nozzles, integral refrigerant piping, pump, eliminator, fan, drive, etc.

Pump, anti-corrosion fans (at slight extra cost), receivers available for Freon unit.

Write us for new Bulletin C-1100-B28, giving complete information. Worthington Pump and Machinery Corporation, Harrison, N. J. *Specialists in air conditioning and refrigeration for more than 50 years.*

AB-33



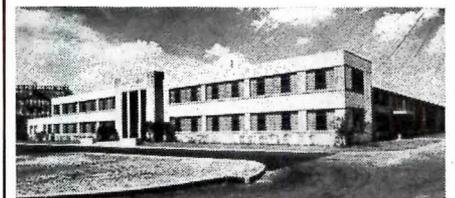
Higbee Is Ahead On Air Conditioning, Too

One of the country's greatest department stores, considered throughout the retail business as a pace-setter, is Higbee's in Cleveland.

17 years ago, a Worthington 1,000-ton carbon dioxide refrigeration plant was installed to provide air conditioning. When it recently became necessary to enlarge the installation, the success of the original equipment suggested having Worthington provide the new machinery.

The new installation provides for 2,000 tons of Worthington centrifugal refrigeration.

J. Gordon Turnbull, Inc., Consulting Engineers.



North American Mfg. Co. plant, Cleveland, Ohio.

Another Modern Plant Selects Modern Air Conditioning

When North American Manufacturing Company—manufacturer of oil and gas-fired furnaces—built its new plant in Cuyahoga Heights, Cleveland, it decided first, to install air conditioning in its offices and, second, to install the most modern air conditioning equipment.

These decisions led to the selection of a 30-ton Worthington 4-HF-6 air conditioning unit. This is the 6-cylinder W type, operating on Freon-12, with water-cooled condenser and full force-feed lubrication.

Vincent Eaton, Consulting Engineer.

Why "Balanced Air"? Why Worthington?

The ideal air conditioning or refrigeration system consists of machinery all manufactured—not just assembled—by one company. This makes more possible a perfect balance among all interrelated machinery.

Worthington is the company that manufactures all the vital "innards"—compressors, condensers, engines, turbines, pumps. The result is a completely integrated system—for more efficient, more economical operation.

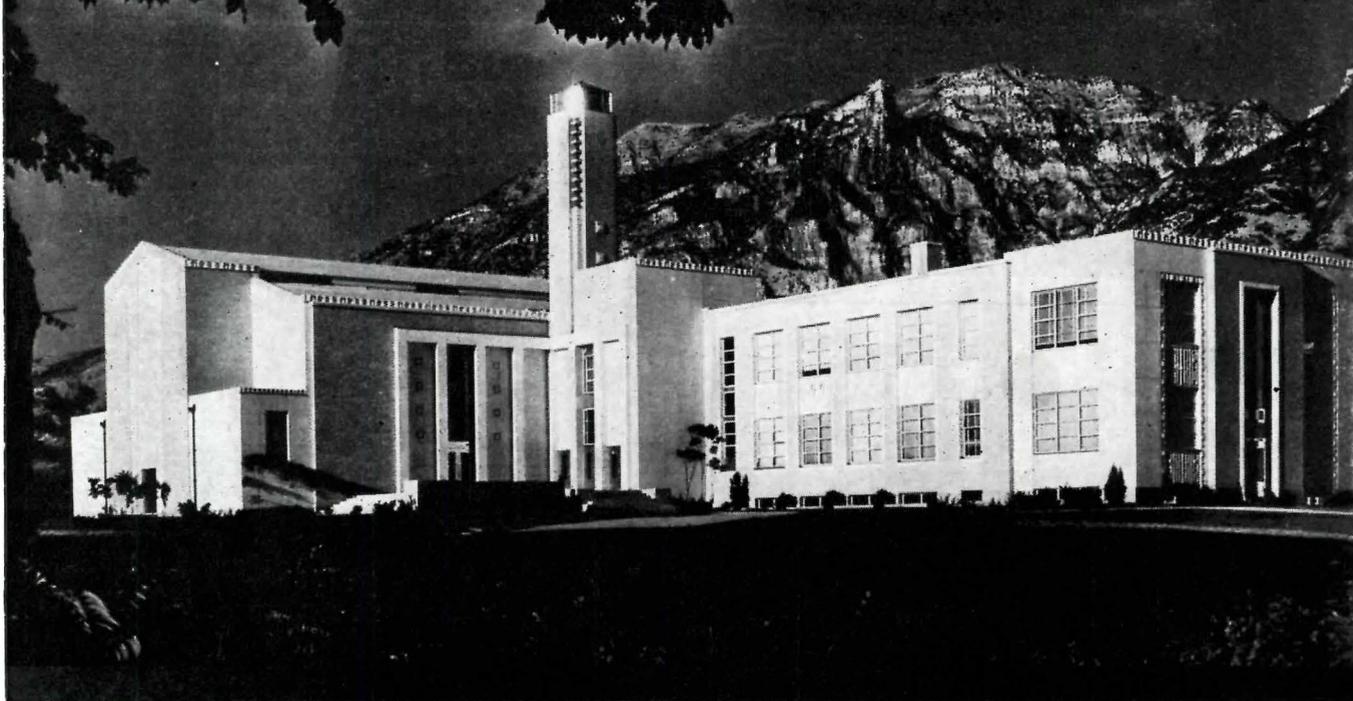
That's why there's more worth in Worthington. See your nearby Worthington distributor—in the Classified Telephone Book.

WORTHINGTON



*Air
Conditioning
and
Refrigeration*

For schools that set the pace in modern design



...It's Bruce Block Floors!

■ Fred L. Markham, whose architectural genius is evidenced by many fine Utah buildings, has the following to say about the Bruce Block Floors at Brigham Young University: "These floors are proving most successful. Structurally they are very satisfactory, and their appearance gives distinction to the rooms. We are pleased with results."

Bruce Block Floors are particularly suited for schools and colleges for these important reasons: (1) Durability that withstands heaviest traffic; (2) Easy and economical maintenance; (3) Beauty, style, cheerfulness; (4) Comfort underfoot—warmth, resiliency, quiet; (5) Safety—non-slippery, smooth, fire-resistant. Leading school architects find Bruce Blocks particularly adapted to modern functional design and concrete slab construction.

Due to heavy demand, it is not anticipated that additional orders can be taken on Bruce Blocks for at least the next 6 months. Specify on jobs being planned now for future construction. For further information, consult Sweet's Architectural File. E. L. BRUCE CO., MEMPHIS, TENN., World's Largest Maker of Hardwood Floors.

Bruce Block 
HARDWOOD FLOORS

Prefinished or Unfinished

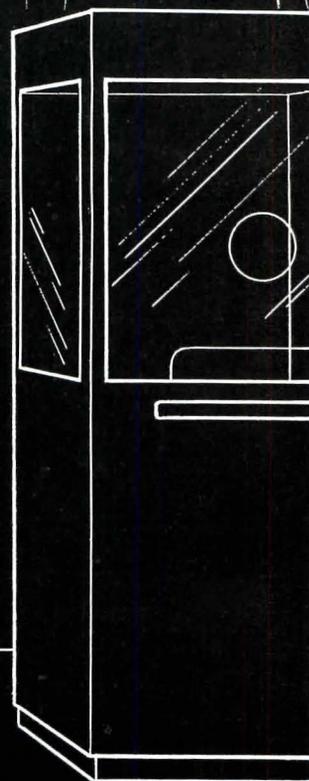


The ideal floor over concrete

Bruce Blocks are installed in mastic directly over concrete—without nails or splines. No clips, screeds or wood sub-floor used. This type of installation is simple and fast. Proved successful throughout the nation.

AIR CONDITIONING BY CARRIER

repeat
performance



Clean, cool comfort—provided by Carrier System Weathermakers—is attracting more customers and selling more merchandise for chain stores everywhere. Proof of this is the many repeat orders placed by leading chains for these dependable, efficient air conditioning units.

Dozens of prominent chains have installed them in as many as 40 to 50

stores—and some have hundreds!

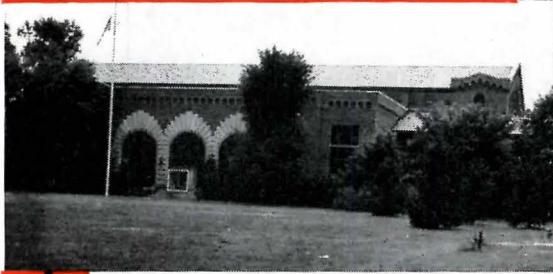
They give the client the full benefit of efficient, made-to-measure air conditioning with all the economy and convenience of a standard, factory-assembled unit. System Weathermakers can be used singly or in groups to fit the individual need. They can be fitted with heating coils for year-round service.

System Weathermakers, like Carrier refrigeration and self-contained units, bear the stamp of Carrier's pioneering research and long experience in air conditioning. Carrier engineers for years have worked closely with architects and consulting engineers to help insure peak performance on every job. Carrier Corporation, Syracuse, New York.



AIR CONDITIONING • REFRIGERATION • INDUSTRIAL HEATING

SIX MILES of **RIC-WIL** Insulated Piping



Bring **HEAT** to this **CITY OF LEARNING**

THE operation and maintenance of a large educational institution in this postwar era entails far more than the discovery and imparting of knowledge.

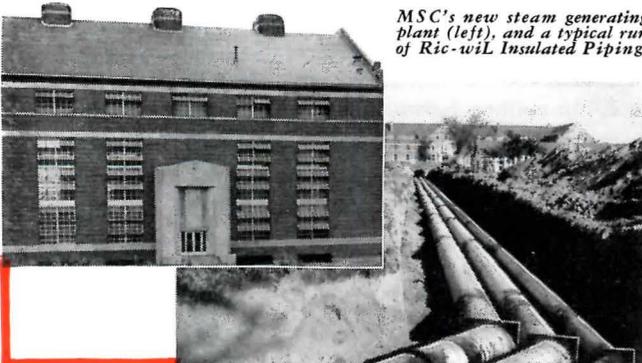
Michigan State College is a case in point.

With an enrollment of more than 15,000 students MSC provides living accommodations on the campus for more than 11,000 persons in college operated housing. This is the equivalent of a sizable city and requires all the services a modern city affords—heat, light, power, water, schools, sanitary systems, health service, traffic control, police and fire protection.

To heat the hundreds of buildings comprising this modern "city" MSC recently put into operation one of the most modern, efficient steam generating plants to be found at any educational institution in the country. Capable of producing steam at 250,000 lb. per hour, 350 psi design pressure, 550°F, the new unit increases the capacity of MSC's generating plants to more than double previous capacity and, when finally completed, will raise it to the impressive total of 615,000 lb. per hour. Significant too, we believe, is the fact that 31,994 feet—more than six miles—of Ric-wiL Insulated Pipe Units have been installed in MSC's central steam distribution system during this period of expansion.

For a case history on Central Heating for Institutions write for Booklet 4713. Address: The Ric-wiL Co., Dept. 19811.

MSC's new steam generating plant (left), and a typical run of Ric-wiL Insulated Piping.



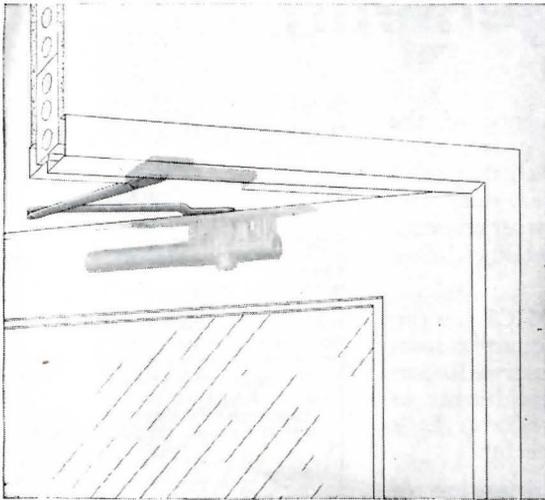
RIC-WIL
INSULATED PIPING SYSTEMS
THE RIC-WIL COMPANY • CLEVELAND, OHIO
REPRESENTATIVES IN PRINCIPAL CITIES

Now... a New

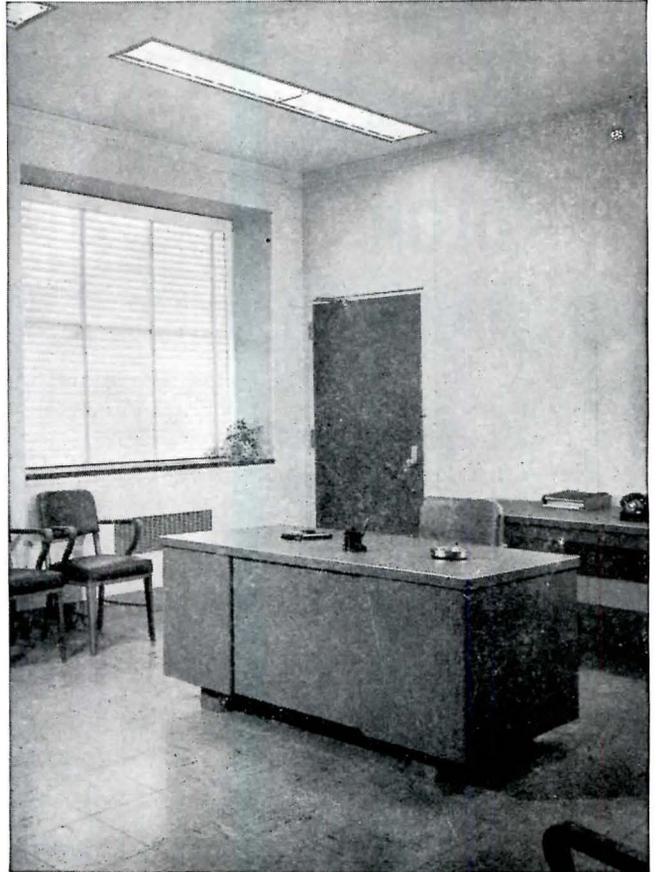
Concealed-in-Door Closer for Interior Metal Doors

The LCN 304

● In answer to the growing demand for a concealed door closer which (1) has ample power to handle all commonly used sizes of metal interior swing doors, (2) is easily and quickly installed in doors previously prepared by the door fabricator, (3) incorporates hold-open and back-check features in the closer, and (4) can be supplied at a cost but little higher than that of an exposed closer of similar capacity, LCN Closers, Inc. presents the new LCN 304.



**OVERHEAD CONCEALED, FLOOR CONCEALED
AND EXPOSED TYPE DOOR CLOSERS**



Development of this closer, begun in war-time, has included two years of testing and use in the field, with results which have more than fulfilled all expectations of the designers.

Closer is Concealed Within the Door

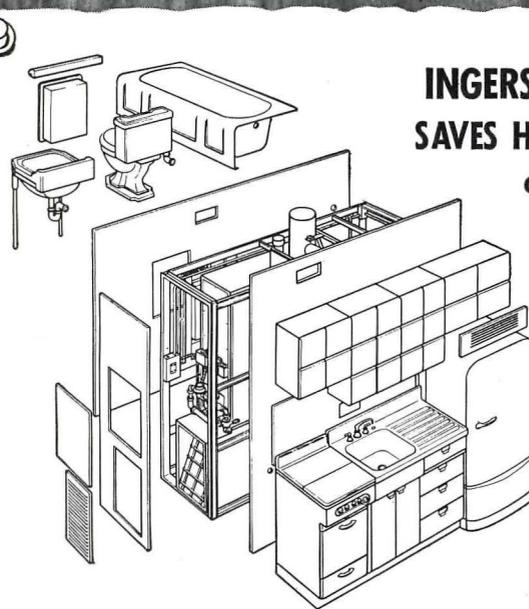
The powerful mechanism of the new LCN 304 Closer is completely concealed within the top rail of the door. It will handle any interior metal swing door up to 3' 6" x 7' x 1 $\frac{3}{4}$ " in size, and will operate efficiently under common conditions of internal draft and heavy traffic.

Installation is Simple, Low-Cost

As both door and frame are previously blanked out by the door fabricator to template details, the LCN 304 closer is easily slipped into place and secured with machine screws. On-the-job work is reduced to a minimum, and the total cost cut accordingly. A superior value in concealed door control. Descriptive folder 304-b sent on request. Address LCN Closers, Inc., 466 West Superior Street, Chicago 10, Illinois.

The PROFESSIONAL BUILDERS' BULLETIN

An "Idea Department" from the Engineers of Ingersoll



INGERSOLL UTILITY UNIT SAVES HOURS OF DETAILING

One Specification Provides All Home Utilities

The Ingersoll Utility Unit simplifies the professional builder's problem in small-home design. Exacting details are eliminated. One specification provides for all plumbing and utilities—including all fixtures, appliances, controls and fittings. It is assembled by skilled A. F. of L. mechanics. The Ingersoll Utility Unit provides a well-designed, skillfully engineered installation that makes it easy to meet building schedules.

104 LEADING DISTRIBUTORS ADDED IN LAST 3 MONTHS



Units, Parts and Service Available Everywhere

New Ingersoll wholesalers include such industry leaders as Hajoca Corp., of Philadelphia; W. A. Case & Sons, of Buffalo and Tay-Holbrook, Inc., of San Francisco. The addition of 104 firms to Ingersoll's already widespread coverage, makes the Ingersoll Utility Unit readily available from coast-to-coast and assures adequate service.



New Ingersoll Flexibility Makes Unit Adaptable to Any Code Requirement

A choice of four stack and vent assemblies and five types of undergrounds give the Ingersoll Utility Unit the flexibility necessary to meet the most exacting code requirements. Adaptability to various designs and floor plans is provided by a choice of cabinets and types of heating plants.

The Ingersoll Utility Unit now meets 96 percent of all codes. A choice of oil or gas heating plants and other variations make the Unit adaptable to any small home, with or without basements.

Ingersoll's sales engineering force of specialists in small-home utilities is ready to consult with you at any time. Ask your Master Plumber whenever you desire the advice of these Ingersoll engineers.

COSTS YOU NOTHING!

NEW DESIGN DATA MANUAL for Professional Builders



New Credit Controls Point-up Advantages of Including Appliances In Small-Home Mortgage

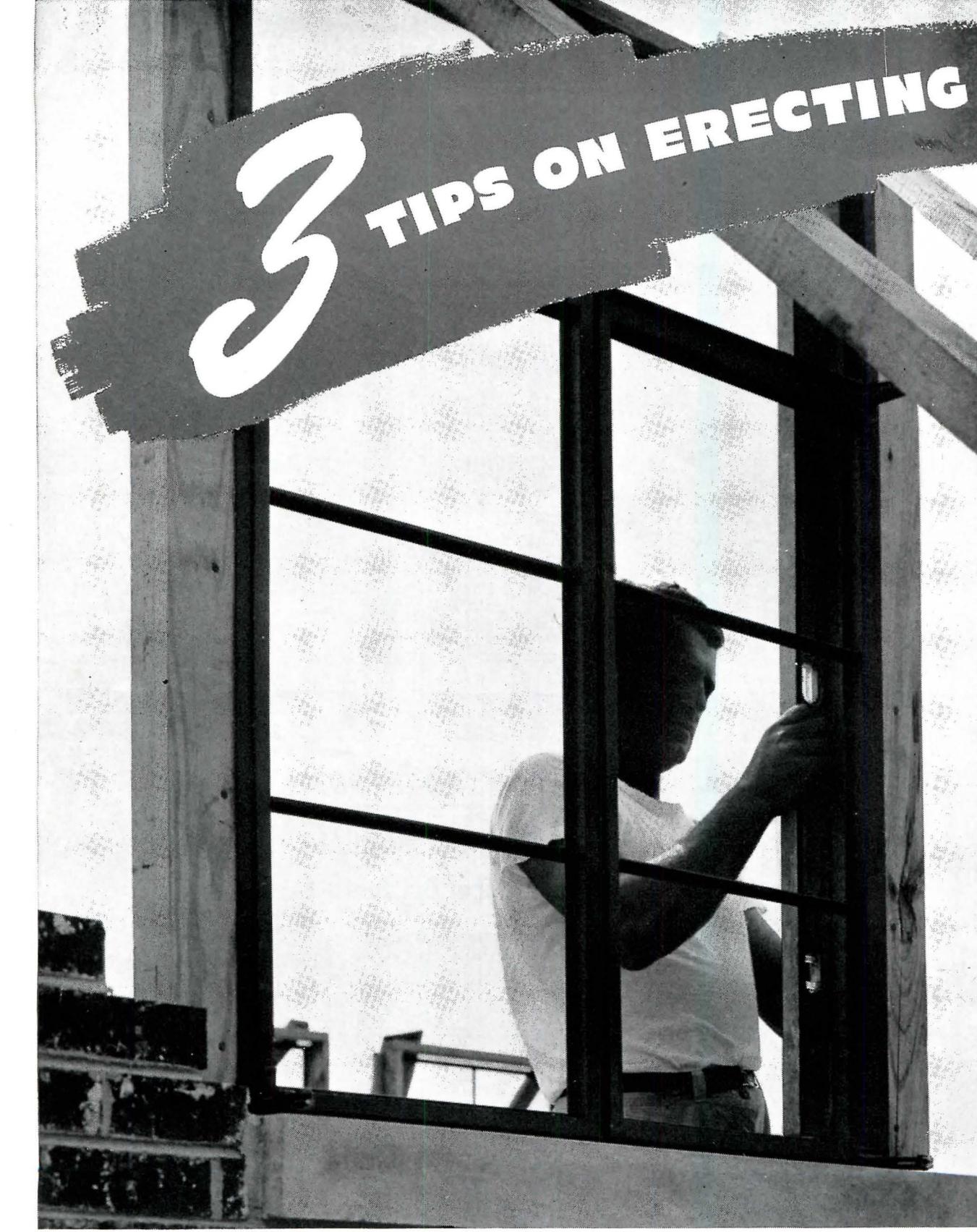
Consumer credit controls, effective Sept. 20th, have spurred investigation by home-buyers into the advantages of buying a home in which stove and refrigerator can be included as part of the mortgage.

Under Federal Reserve Regulation W, down payments on appliances may not be less than 20 percent. Balances under \$1,000 must be paid in 15 months. Credits over \$1,000 with minimum monthly payments of \$70 may be extended to 18 months.

The result of increased down payments and larger monthly payments has enhanced the sales appeal of homes with appliances already installed as an integral part of the house.

It's new and up-to-the-minute, a complete manual with more than 30 illustrations and diagrams, including floor-plans, plumbing layouts, heat-loss formulas, types of fixtures for various jobs. Compiled with the help of leading architects and builders, *Architect's Design Data* contains material you can use every day.

Write for yours today!
INGERSOLL UTILITY UNIT DIVISION
 Borg-Warner Corporation
 Dept. J11, 321 Plymouth Court
 Chicago 4, Illinois



3 TIPS ON ERECTING

In construction products **CECO ENGINEERING**

CECO

Steel Casements

It's as easy as one, two, three to install Ceco Steel Casements, because all the guess work has been removed. All the know-how you need is contained in Ceco's Erecting Manual—prepared specially for the building industry. Detailed data gives complete and necessary steps for installing steel casements. Three of the important erection tips are shown here—*"buttering" with mastic—fastening in wood construction—amount of clearance for caulking.* For complete information, send for Ceco's free Manual. Easy-to-follow instructions will help you cut costs, eliminate damage to windows, avoid loss of time. Write today. If you live in one of the western states, ask for special Pacific Coast Edition.

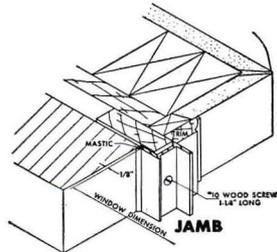
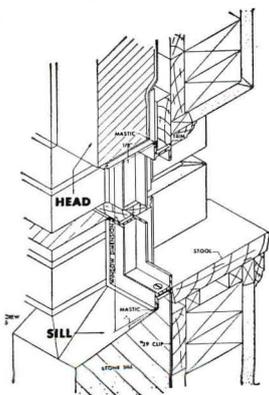
CECO STEEL PRODUCTS CORPORATION

General Offices: 5609 West 26th Street, Chicago 50, Illinois

Offices, warehouses and fabricating plants in principal cities

ONE OF MANY TYPICAL INSTALLATIONS

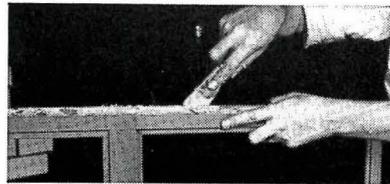
Brick Veneer Construction



CECO STEEL

makes the big difference

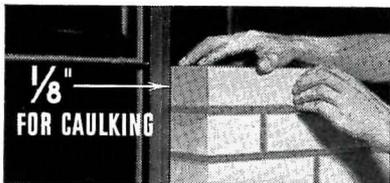
HOW TO DO IT



The outside frame and mullions are "buttered" with mastic by the window erector before the casement is placed in the rough opening. Application of mastic is not to be confused with caulking of the casement opening, which is an entirely separate operation.



If the casements are being erected in wood construction, the screws should be applied so as not to distort the casement frames. For instance, screws are never drawn tighter in one hole than in another.



If the job is masonry or brick veneer, the casement should not be used as straight-edge in "building up" an opening. Masonry units should not be forced against the steel casement frame. Instead 1/8" clearance should be left all around the casement for caulking.

FREE for you!

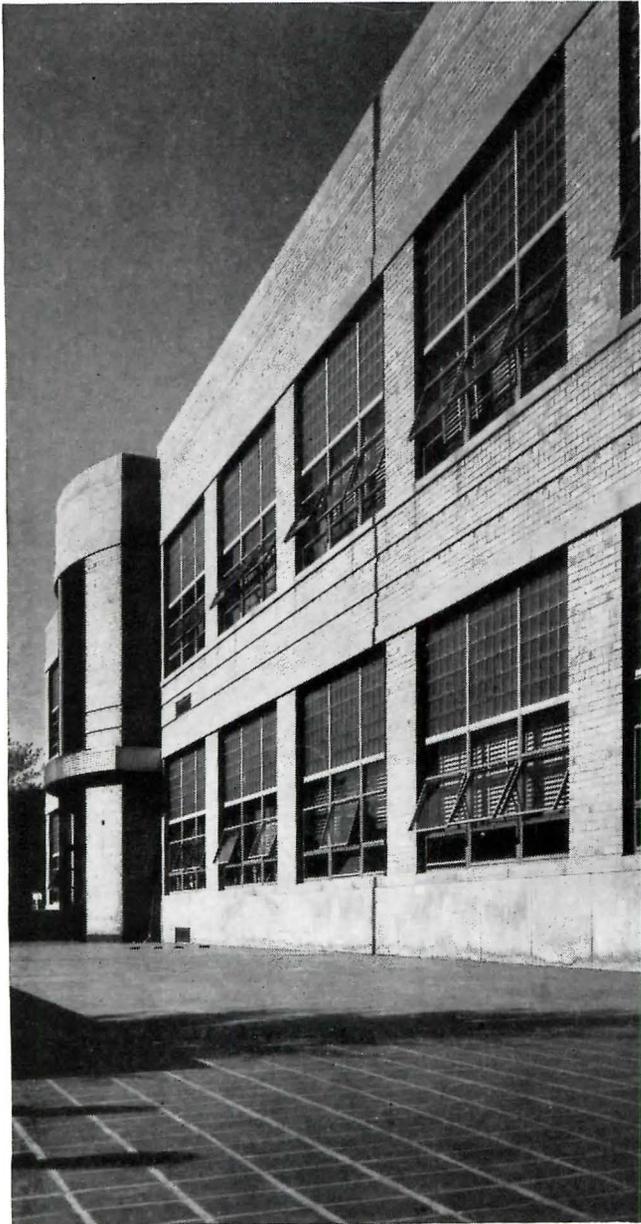
CECO STEEL PRODUCTS CORPORATION
 5609 W. 26th St., CHICAGO 50, ILL.
 Please send FREE Manual No. 1014 on how to erect steel casements.

Name _____
 Address _____
 City _____ State _____

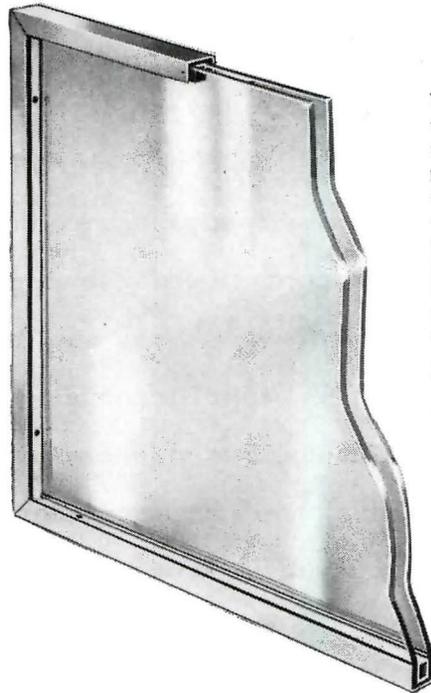
Partial List of Ceco Products

- METAL RESIDENCE CASEMENTS • INDUSTRIAL WINDOWS AND DOORS • METAL FRAME SCREENS • ALUMINUM FRAME STORM WINDOWS • ALUMINUM COMBINATION STORM WINDOW AND SCREEN UNITS • METAL LATH AND ACCESSORIES • STEELFORMS • REINFORCING BARS • STEEL JOISTS AND ROOF DECK • HIGHWAY PRODUCTS • CORRUGATED ROOFING • ATTIC AND ROOF VENTILATORS

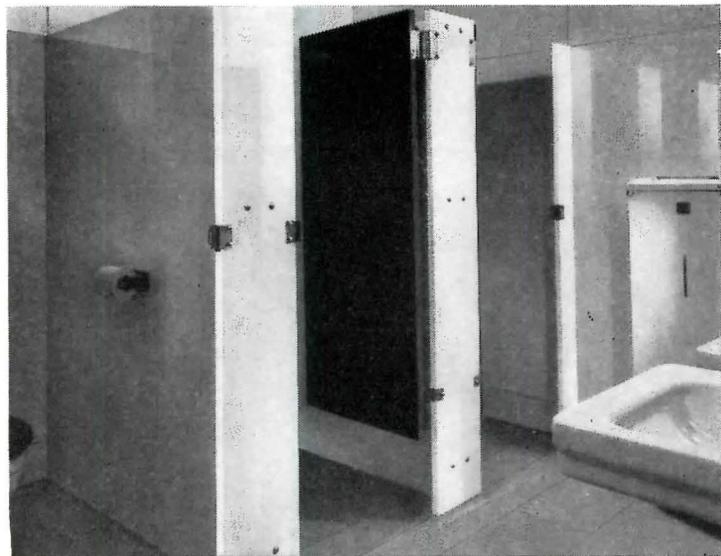
Distinctive uses of Glass



Pittsburgh Corning Glass Blocks can be used in numerous ways to add beauty and practicality to public buildings. They admit daylight abundantly while protecting privacy and shutting off unwanted views. They have excellent insulation properties. They harmonize perfectly with any style of architecture. Fourteen attractive patterns to choose from including the new Soft-Lite Prism B Blocks which facilitate light control on sun exposures. Architects: Overend & Boucher, Wichita, Kansas.



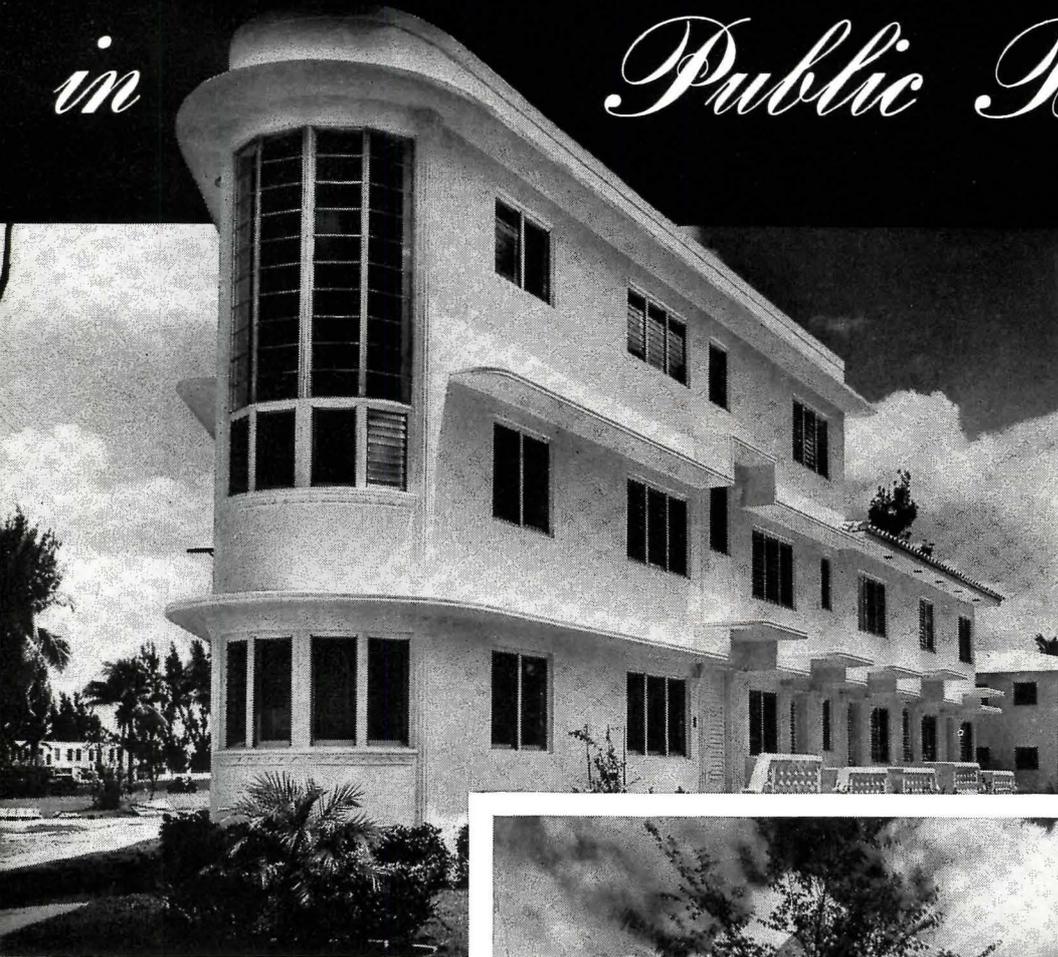
Twindow — "Pittsburgh's" window with built-in insulation, consists of 2 or more panes of Pittsburgh Glass separated by hermetically sealed air spaces, and enclosed in a protecting frame of stainless steel. The 2-pane unit cuts heat loss through windows nearly in half. With 3 or more panes, the insulating effectiveness is even greater. Twindow eliminates drafts near windows, minimizes fogging and frosting of panes. It contributes greatly to increased comfort and economy.



Every modern building has numerous places where colorful Carrara Structural Glass can add beauty and utility. In walls and partitions as shown here, washrooms . . . foyers . . . reception rooms, to name a few. The modern good looks of Carrara last indefinitely. It can be kept sparkling clean with infrequent wipings of a damp cloth. Available in 10 attractive colors. Architects: Janssen and Cocken, Pittsburgh, Pa.

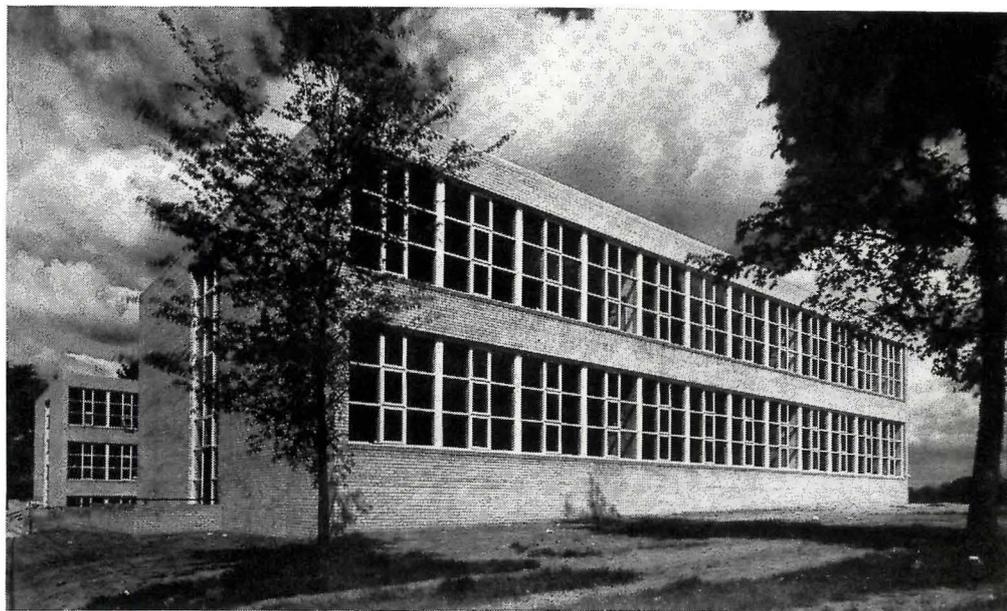
PITTSBURGH PLATE GLASS COMPANY

in **Public Buildings**



Here's a new use of Solex, the heat-absorbing glass — Solex Venetian windows! They are easily handled — easily cleaned. They do not impair vision in any way. And they are water tight and air tight when closed. You'll find this new use of Solex highly practical for buildings in warmer climates. Architect: Pamarrow Turner, Miami, Florida.

Windows glazed with Pennvernon Window Glass admit abundant daylight into this modern school building. In addition, Pennvernon provides good, clear vision—has a brilliant, reflective finish on both sides of the sheet. You can depend upon Pennvernon to meet the most exacting sheet glass requirements. Architects: Long & Thorshov, Inc., Minneapolis, Minn.



We believe you will find much to interest you in our illustrated booklet of ideas concerning the use of Pittsburgh Glass in building design. Send the coupon for your free copy.

★ Design it better with

Pittsburgh Glass



PAINTS • GLASS • CHEMICALS • BRUSHES • PLASTICS

Pittsburgh Plate Glass Company
2359-8 Grant Building, Pittsburgh 19, Pa.

Please send me, without obligation, your free booklet entitled "Ideas for the Use of Pittsburgh Glass in Building Design."

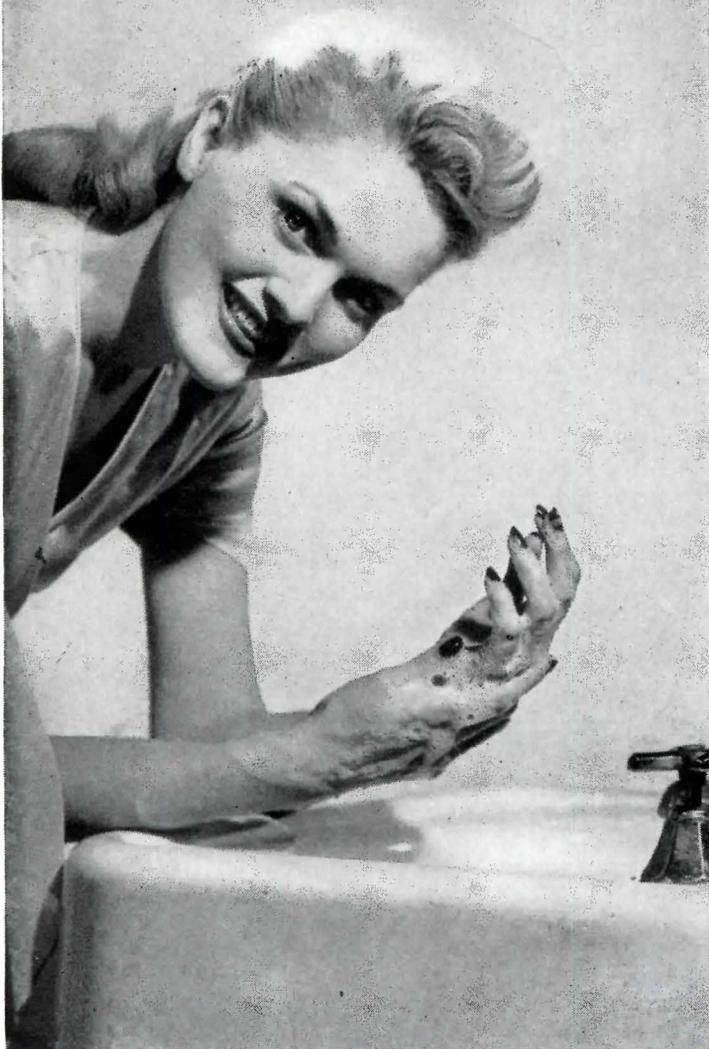
Name.....

Address.....

City..... State.....

PITTSBURGH PLATE GLASS COMPANY

Water's tempered right..... and Betsy's temper's right



Because the farsighted architect specified "oversize" steel pipe.

BIG Sister Betsy and Tommy the Tease can both luxuriate in water--hot or cold, warm or cool--evenly tempered to suit each taste.

That's because Dad and the architect and contractor saw eye to eye on piping. They agreed 100% that the steel water pipes should be "oversize"--big enough to supply all the outlets in the new house now, and big enough also to accommodate those extra outlets which might be put in later.

There's no time like the present--when a house is being built or remodeled--to make sure that water pipes are adequately sized. Undersize pipes which starve upstairs faucets, which delay you when you want water and plenty of it, are hard on the temper. And repiping a house to supply additional fixtures is always a nuisance and expensive.

So, the word to the wise is this--check water pipe sizes NOW, when that new house is being planned or built, when the old house is being modernized. Install adequately sized steel pipe for an always adequate water supply.

FOR HAPPIER HOMES

.... INSTALL STEEL PIPING
ADEQUATE FOR TOMORROW'S NEEDS



YOUNGSTOWN

THE YOUNGSTOWN SHEET AND TUBE COMPANY

GENERAL OFFICES - YOUNGSTOWN 1, OHIO

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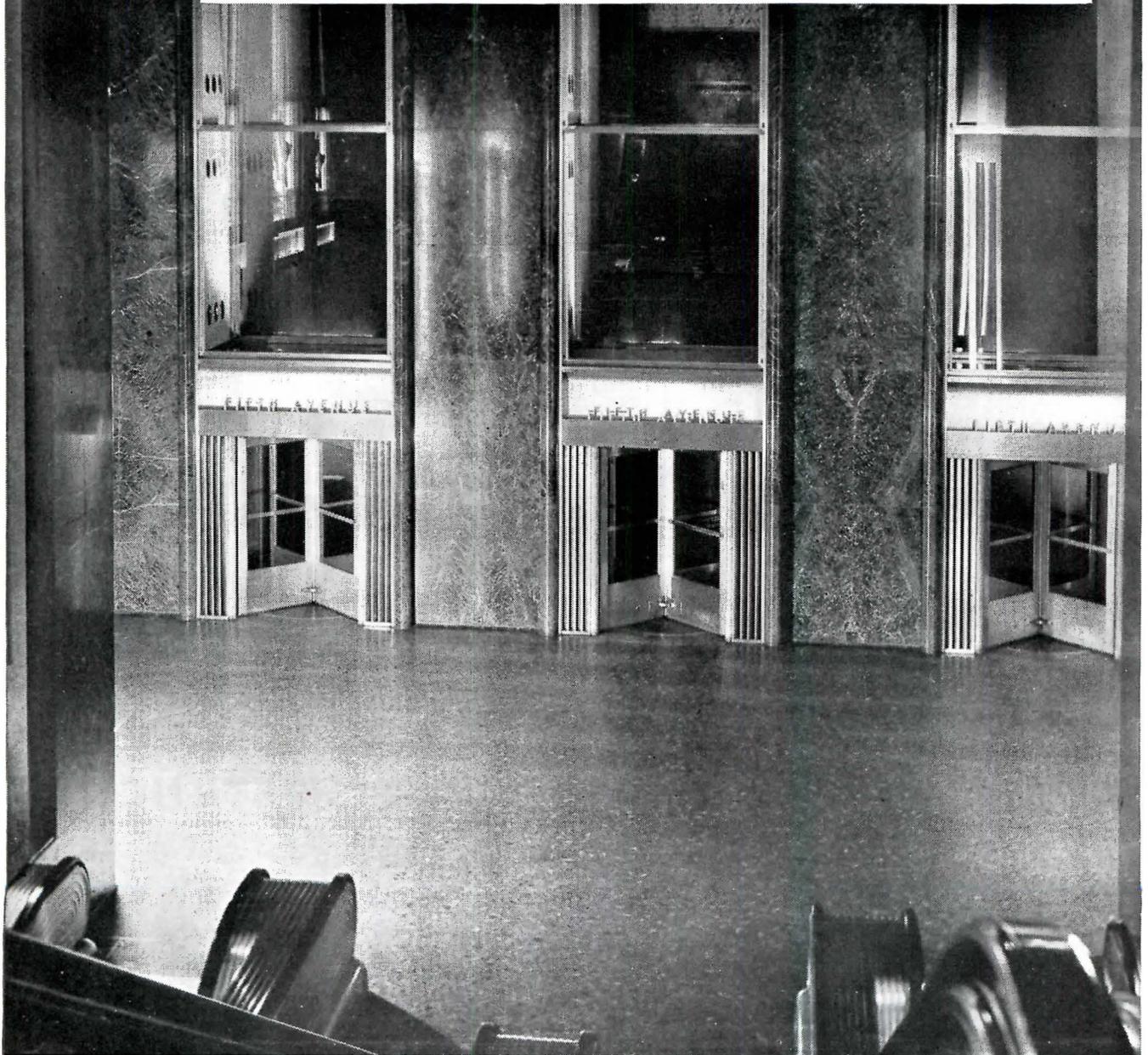
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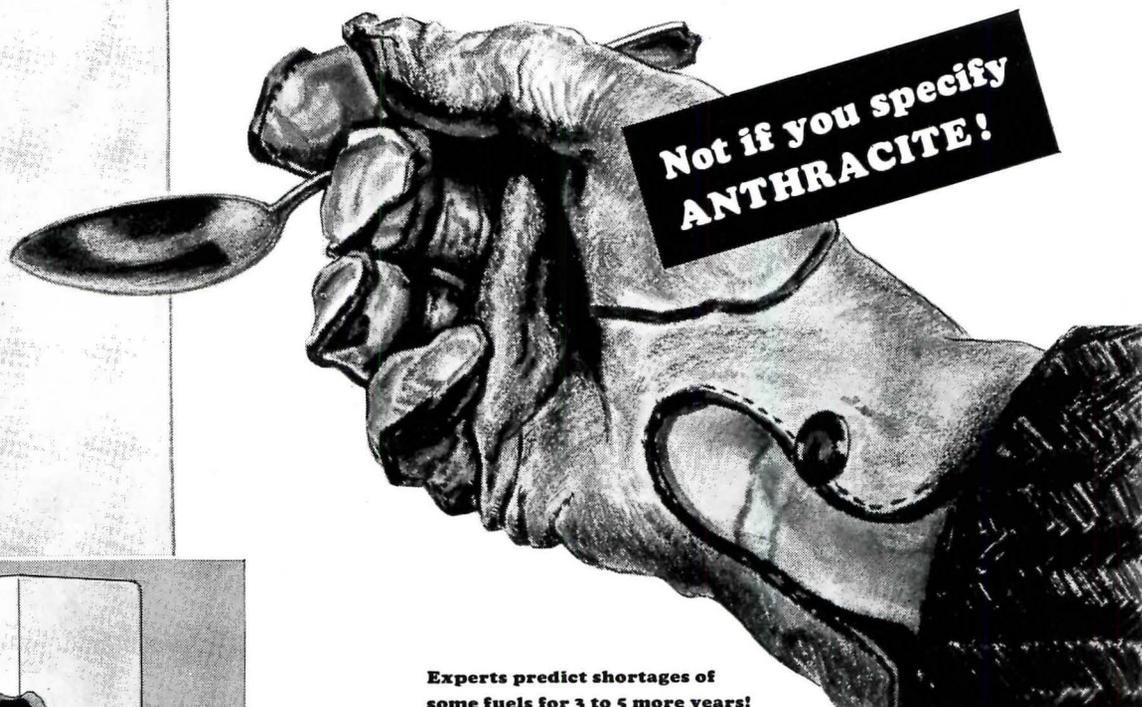
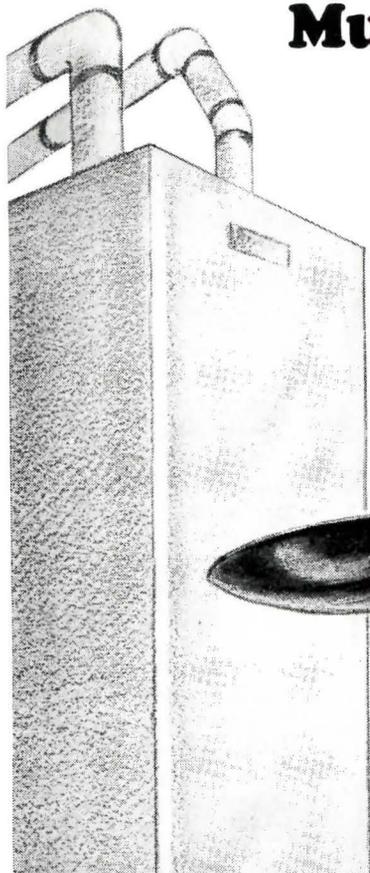
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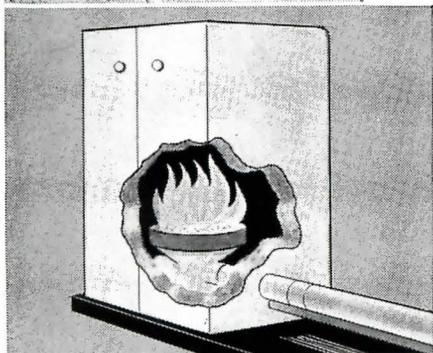
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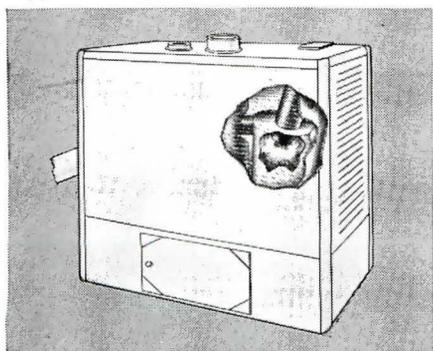
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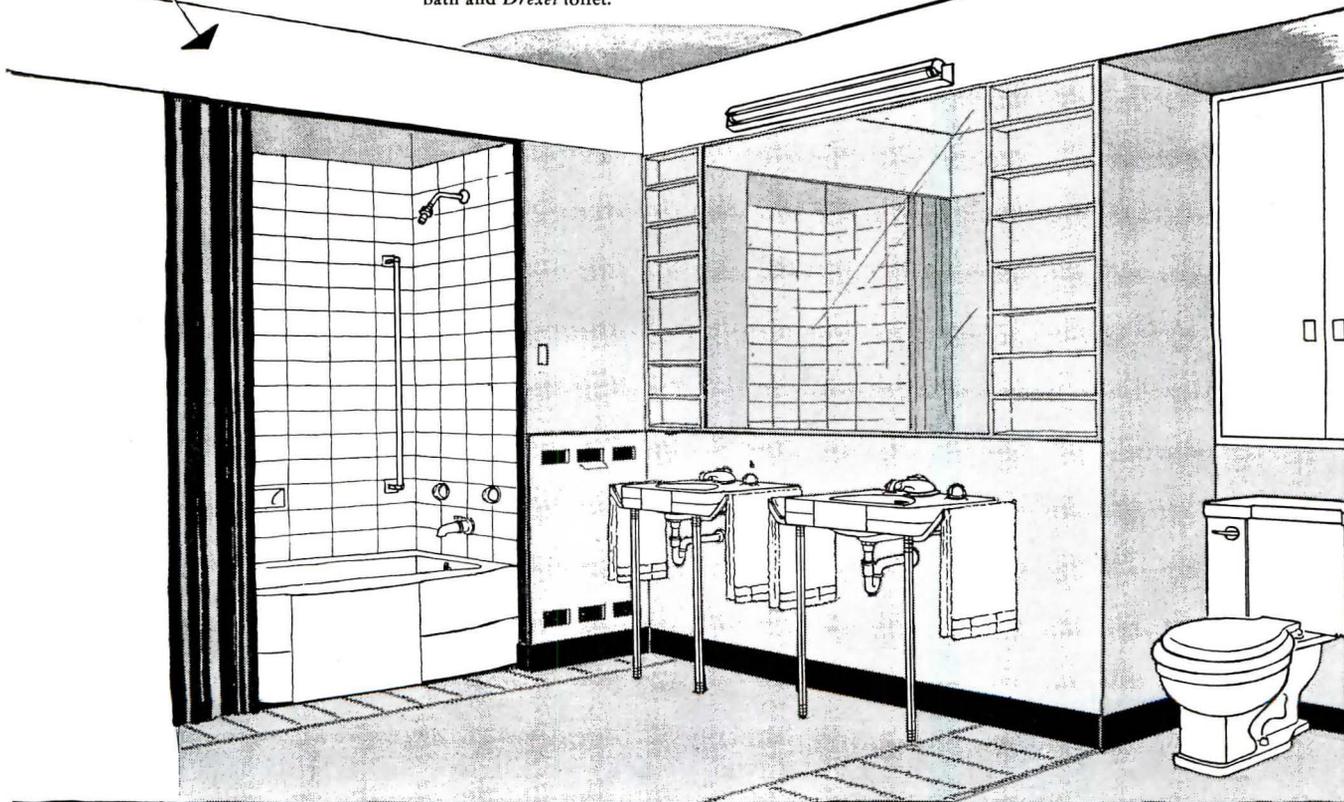
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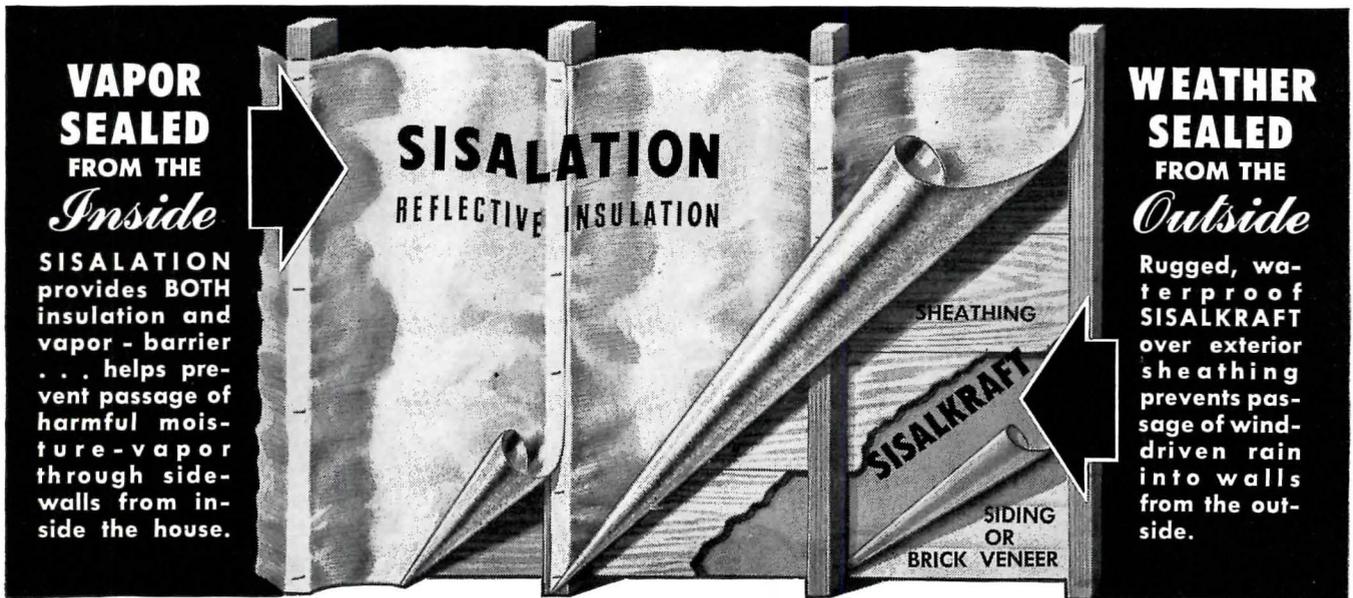
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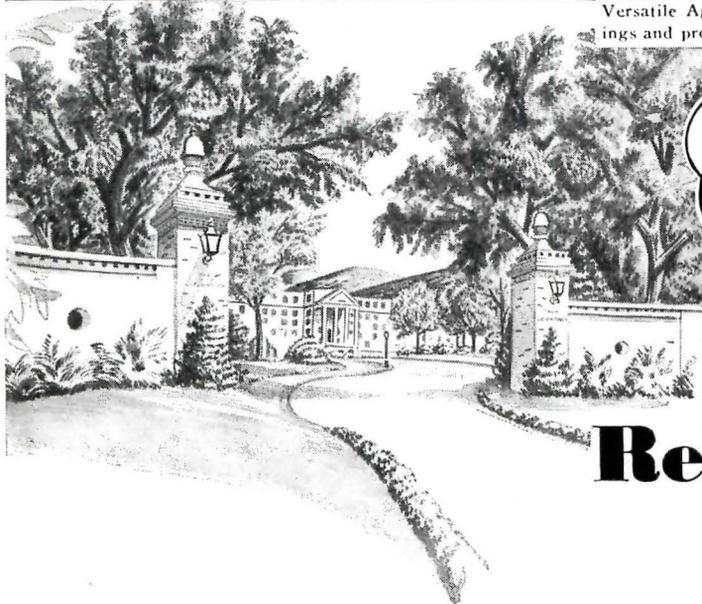
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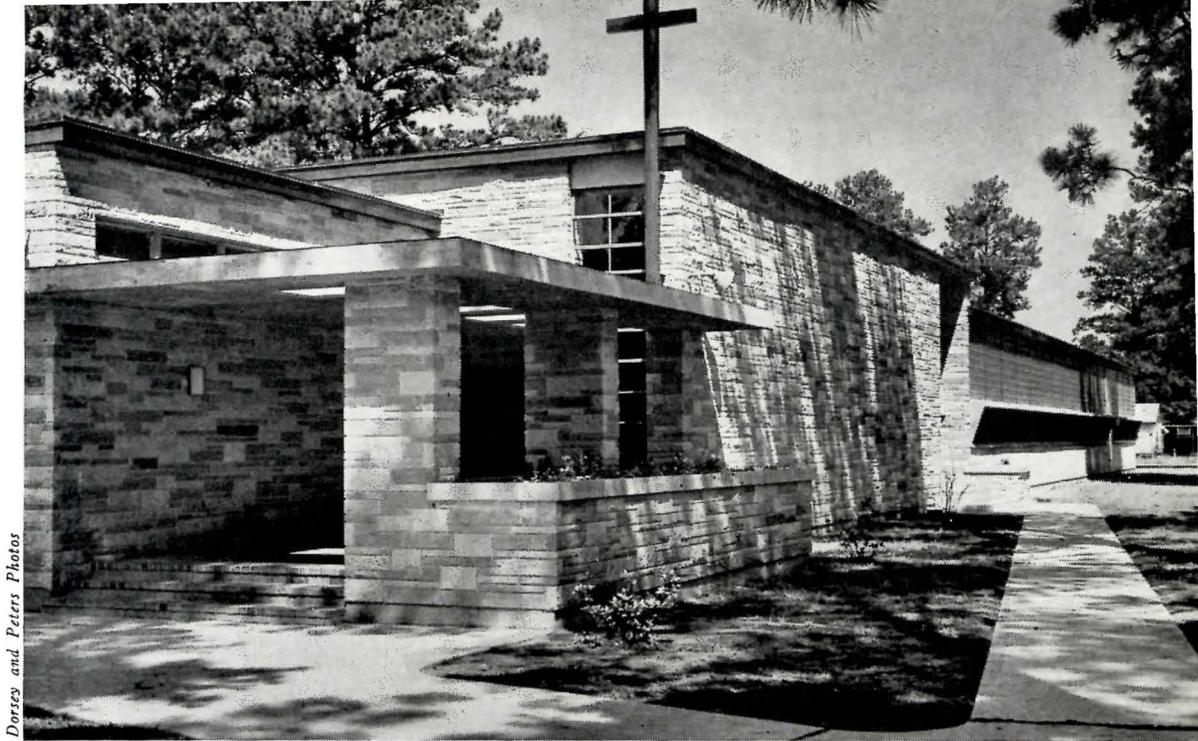
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Critique



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SCHOOL IN TEXAS (pages 52-56). Goleman & Rolfe, Architect: Darell B. Harmon, Consultant.

ELEMENTARY SCHOOLS

The school-design field is an excellent one in which to study two major trends which affect architectural practice in a day of intense specialization. On the one hand, there is the tendency toward specialized types of practice—firms that are known chiefly for their contribution in the field of school design, for instance; others that are experts in hospital work, commercial buildings, or some other design field concerned with a particular building type. Then, there are even more specialized types of specialists—architects, engineers, independent researchers, or other experts—who spend most of their time on a single aspect of school design—on classroom lighting, for instance, or air conditioning or plan flexibility. At the other end of the seesaw is the increased need and tendency toward a rebirth of the architect as the master builder, the coordinator, integrator, or whatever other word you prefer to express the idea. And similarly among the researchers, some emerge who, rather than dealing exclusively with but one aspect of school design, set the widest possible area for their investigations—the effect of environment (of which architecture is its controlled part) on the mental and physical welfare of human beings.

The three schools shown in this critique are notable instances of both ends of this dual spectrum. For within all three of the schools will be found specific progressive elements of design and construction; at the same time each job represents, in varying degrees, excellent syntheses of the various elements into organic, integrated architecture. And among the researchers who have contributed to the work shown, special mention should surely be made of the work of Dr. Darell Boyd Harmon* (Consultant on the Parochial School shown on pages immediately following) whose broad approach to finding the optimum environment for teaching and learning has affected every aspect of classroom design—its orientation; color of its walls; arrangements of its furniture; and sources and qualities of its lighting.

It should be noted, however, that no matter how excellent the work of even such a man as Dr. Harmon may be, it is still the design professional—in this case the firm of Golemon & Rolfe—who digests the findings and methods of achieving the desired goals and develops therefrom in steel and glass and masonry the finished product we call architecture. And when this wedding of the two talents is complete, the end result is the thing toward which all forward-looking professionals are striving—progressive architecture.

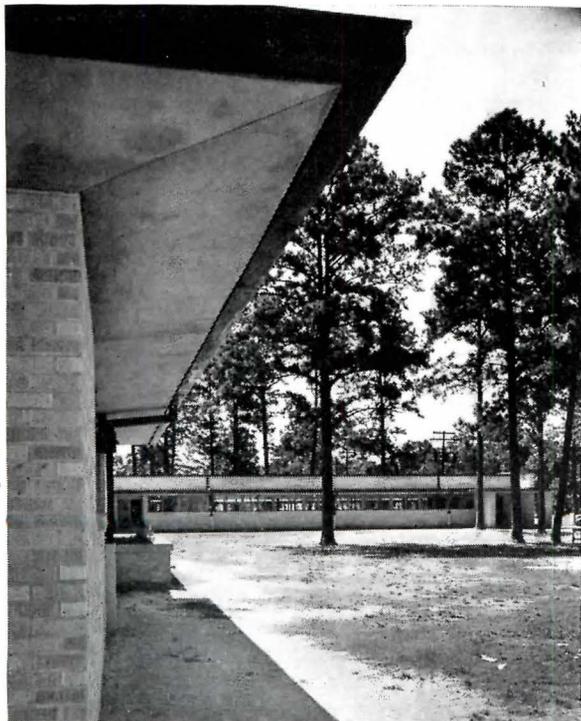
*Independent researcher-extraordinary, starting with an interest in children, first as a teacher of child development and education and educational administrator, and later as Director of the Division of Educational Services, Texas State Department of Health.



Photographic Dept., U. of Ho

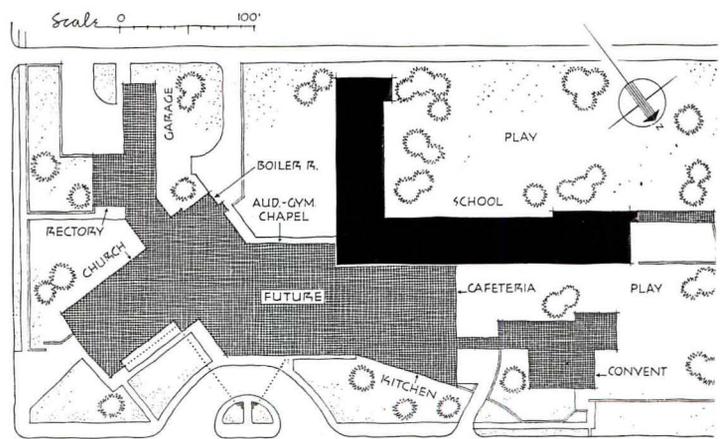
VIEW FROM THE EAST. The building is steel framed, with walls of either brick or ashlar masonry over tile backup.

1. PAROCHIAL SCHOOL, HOUSTON, TEXAS



Dorsy and Peters Photos except as noted

CLASSROOM WING at rear temporarily houses a cafeteria (left) and chapel (remainder of wing).



Plot Plan

DIAGRAMMATIC SCHEME for the eventual school-and-church plant, showing relation of present building to future units. Notice the separate play areas provided for different age groups.



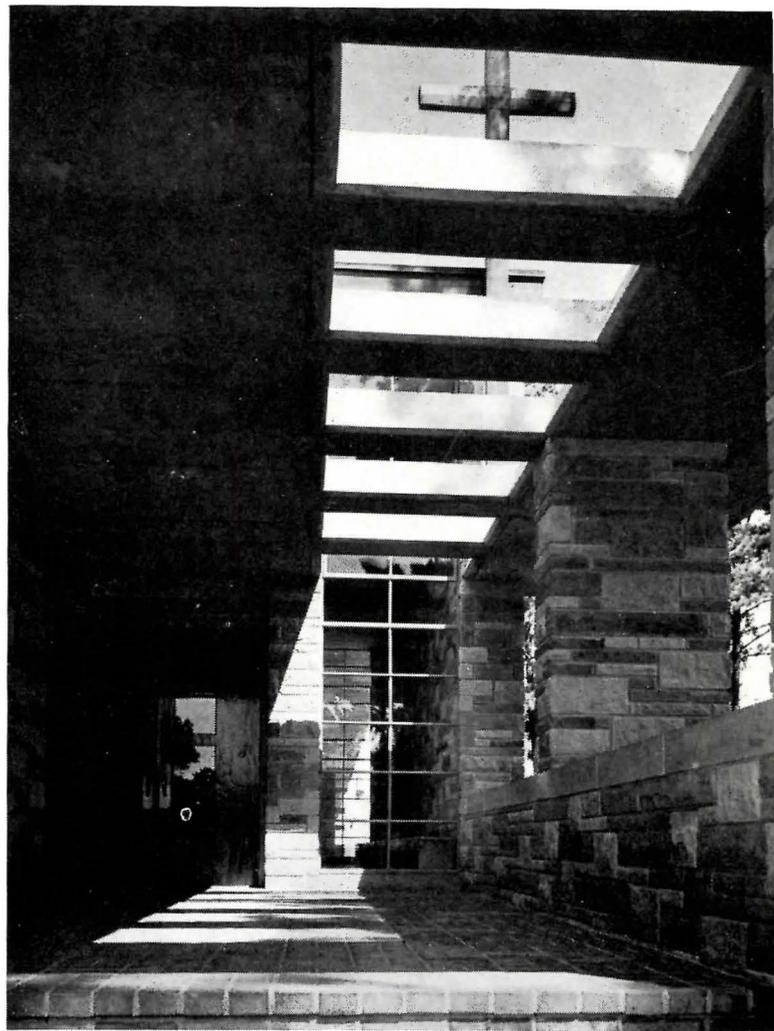
GOLEMON



ROLFE

Albert S. Golemon: B.S. Arch., Alabama Poly. Inst.; M. Arch., Mass. Inst. of Tech.; Diploma in Arch., Ecole des Beaux Arts.

Walter T. Rolfe: B.S. Arch., Kansas State Coll.; M. Arch., Mass. Inst. of Tech. Teaching: Alabama Poly.; head of Dept. Arch., No. Dak. State Coll.; Prof. Arch. (later Chairman), U. of Tex. Arch. School. Present partnership formed 1946. F.A.I.A.



ENTRANCE PORCH

GOLEMON & ROLFE, Architects

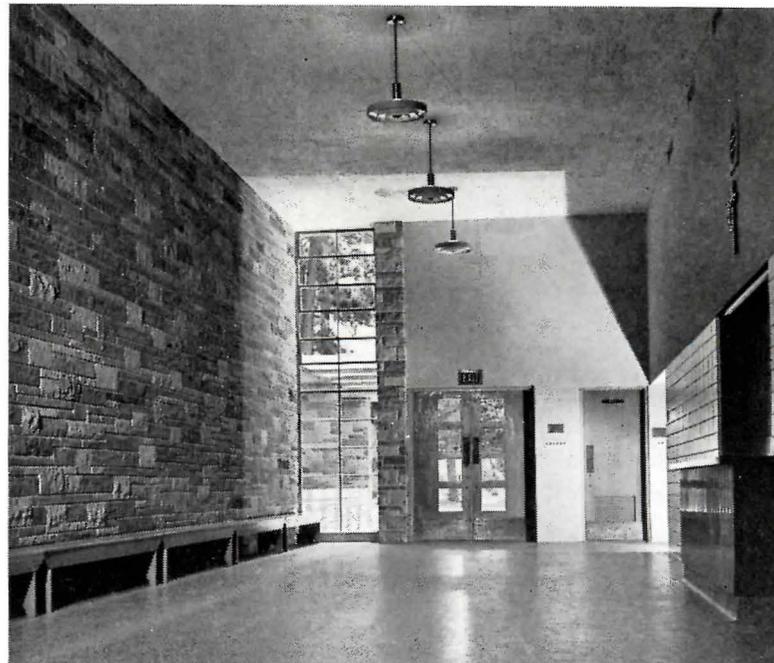
DARELL BOYD HARMON, Consultant

Developed in consultation with Dr. D. B. Harmon, whose research on the influence of architecture on mental and physical welfare has profoundly affected classroom design.

PROBLEM: To develop a seven-classroom and kindergarten school building as the first unit in a comprehensive future plant. Special advantage: a progressive client in the person of the Rev. Ralph J. Diefenbach, Pastor of the Parish of St. Theresa of The Little Flower, who told the architects he wanted "a thoroughly up-to-date school."

SITE: A heavily wooded five-acre tract.

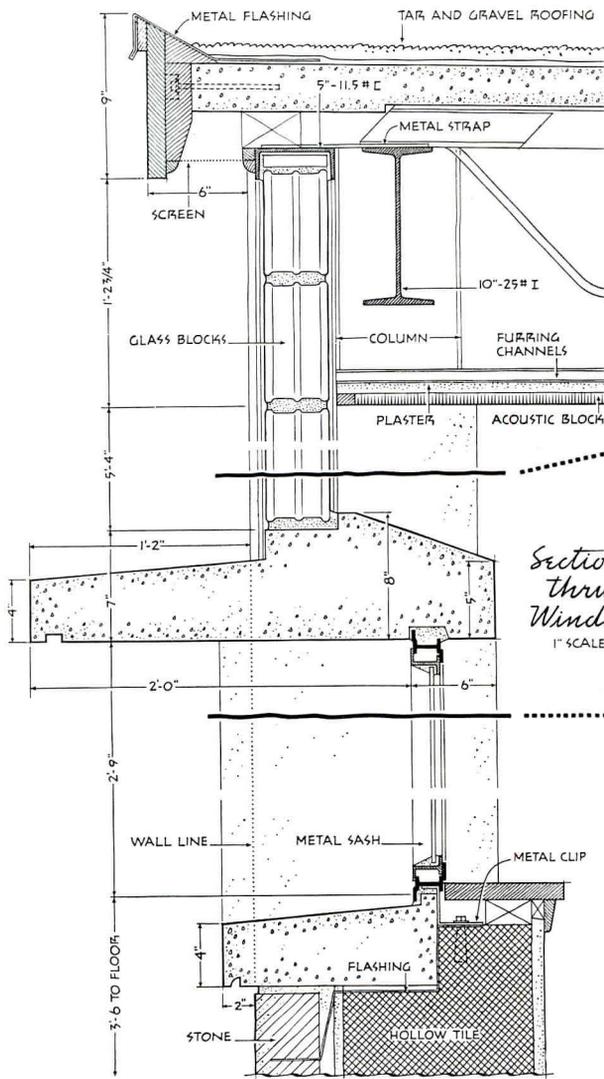
SOLUTION: An L-shaped building, with classrooms in each wing—one wing providing northeast exposure for the rooms; the other (where the cafeteria and chapel are temporarily located) having exterior walls facing southeast. Most carefully studied provisions for optimum lighting and other environmental conditions.



LOBBY. Tile wall at right is a neutral, Pompeian red.



CLASSROOM WING with northeast exposure.



1. PAROCHIAL SCHOOL, HOUSTON, TEXAS

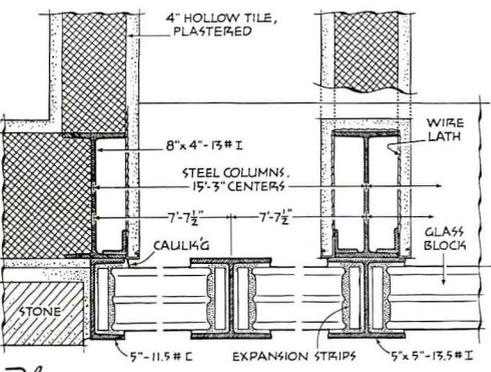
The remarkable classrooms in this school constitute what Dr. Harmon describes as "the finest interpretation of my concepts of the coordinated classroom that I have seen so far." An objective study of one of the rooms was specially made for this presentation by two leading Texas illuminationists—W. E. Folsom and H. G. Hrivnatz. The tests were conducted (in a classroom with a northeast exposure) on a cloudy day, which, in these experts' opinion, made little difference as far as light-distribution patterns are concerned, although obviously intensities would be higher on a clear day. Maximum light distribution diversity is in the ratio of 4.8:1; the average, 3.54:1. Were it not for chalk boards covering much of the inside wall, these ratios would have been even better. Compare this with distribution found in many classrooms, where diversity may be as much as 30 or even 50:1! With six 500-watt concentric-ring silver bowl incandescent fixtures turned on, there is nowhere less than 41.5 foot-candles at work height (30 is considered good). As for the balance of brightnesses within the room, the follow-

ing table compares a few of the ratios that maintain in the Houston school with those generally considered satisfactory.* In each case the Houston building is within or better the latter.

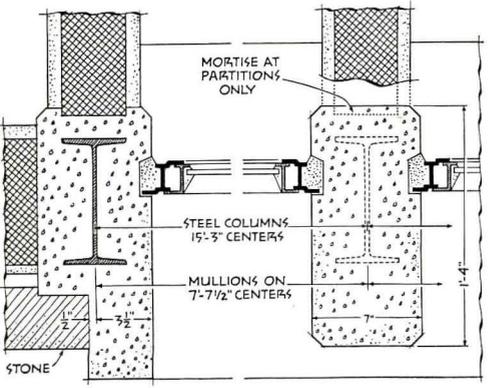
Comparison	Existing	Desirable Max.
Task to desk top	1.8:1	1:1 to 3:1
Task to floor	9.75:1	10:1
Task to max. brightness in pupil's field of vision	1:1.05	1:10

The photographs and drawings document the wall construction—the band of clear casement sash with its exterior, structural hood (to shelter against rain, sun, and sky glare), and the directional glass block panel above. The interior views show the seating arrangement, the rows laid out in arcs and the seats so placed that no window is within 50 degrees of any occupant's normal line of vision. Important contributory factors are use of light colors with high reflectivity. Flat white ceilings and walls painted in light tones of green, blue, and yellow provide reflectivity of 75 percent or more.

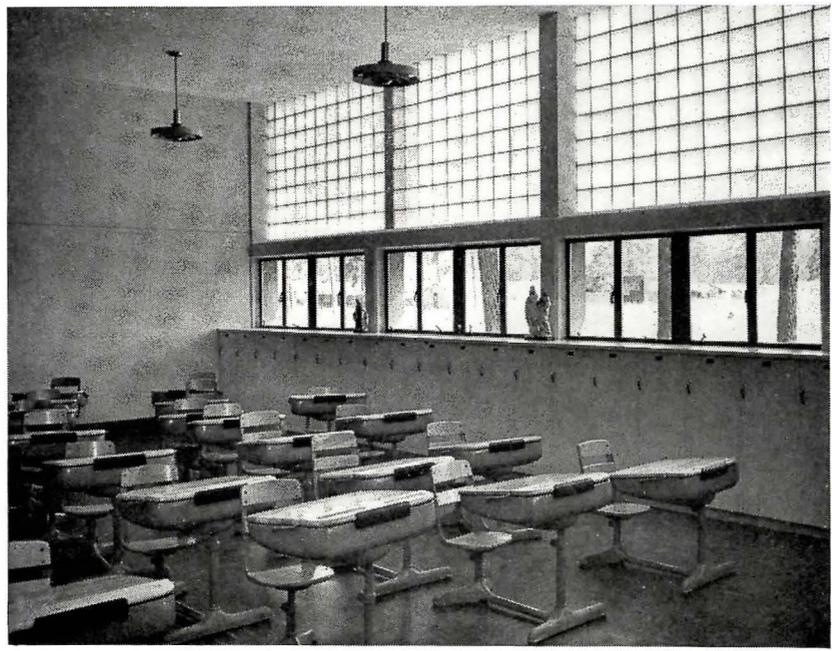
* See P/A's Research Report, *Classroom Lighting*, Aug. 1948.



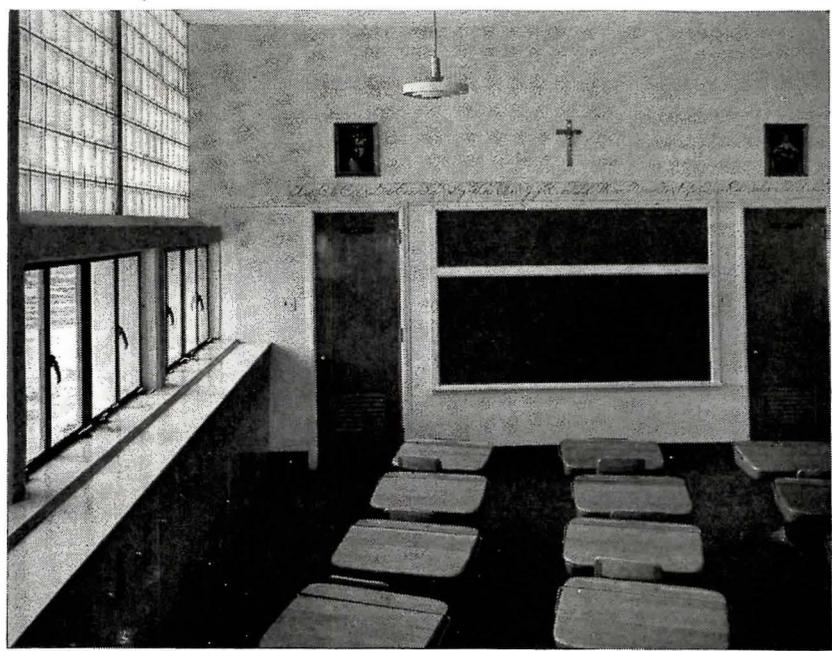
Plan



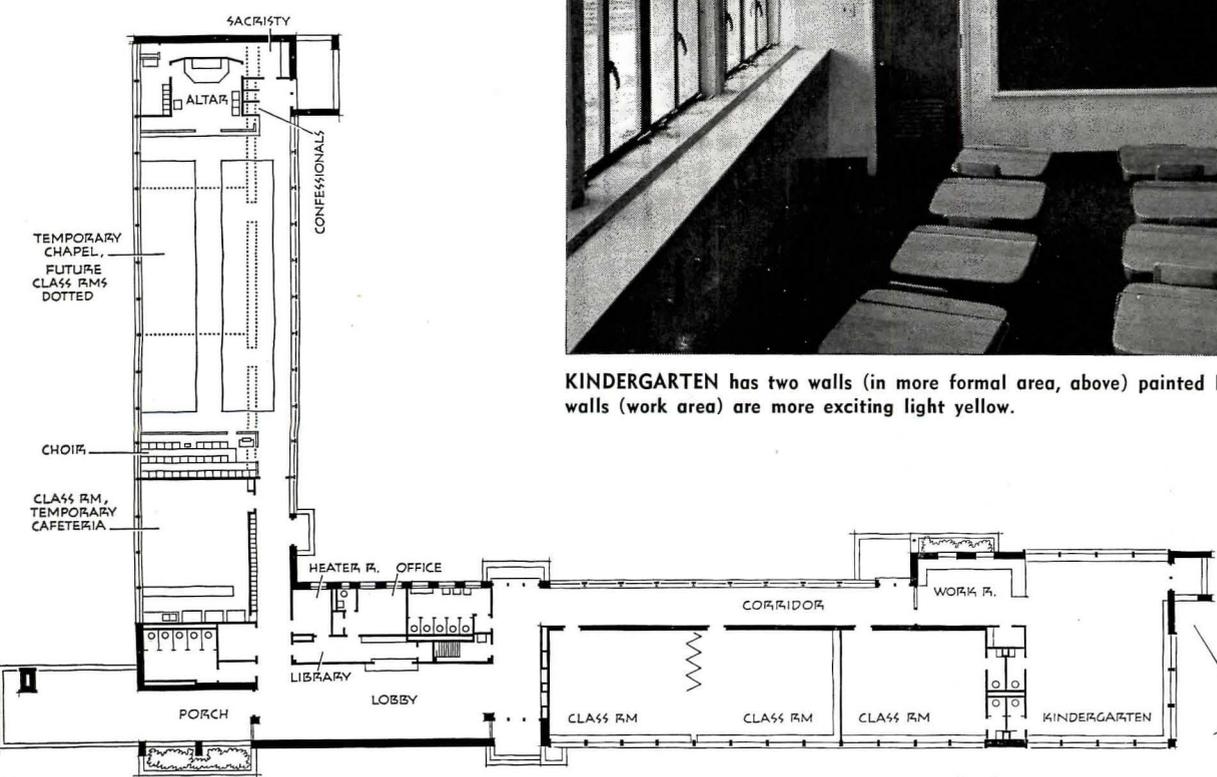
Plan 1\"/>



CLASSROOM showing the arc-lined seating and wall of light.

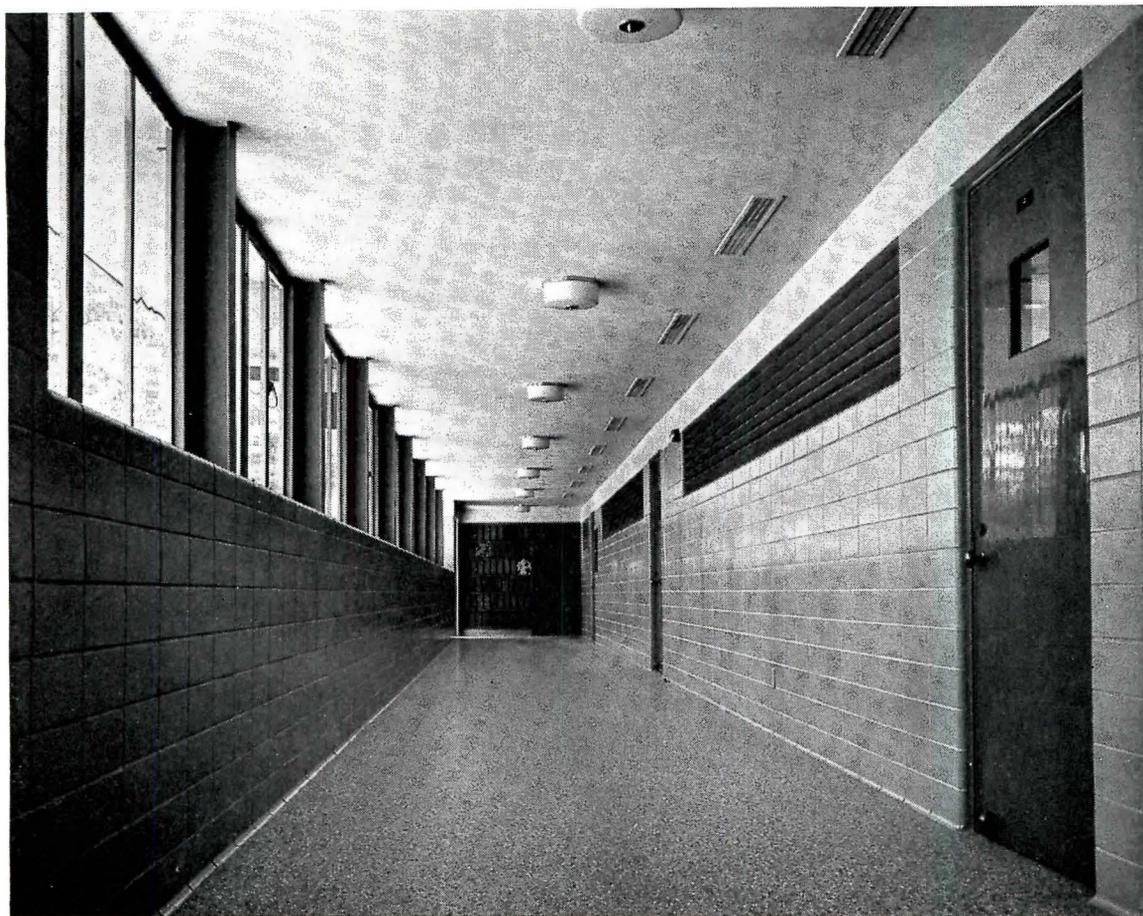


KINDERGARTEN has two walls (in more formal area, above) painted light green; other walls (work area) are more exciting light yellow.



Plan

Scale 0 25'



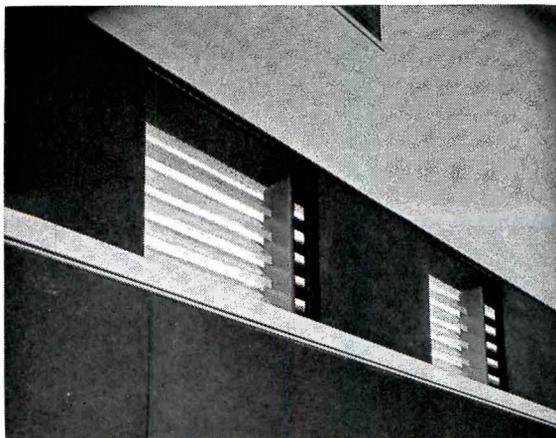
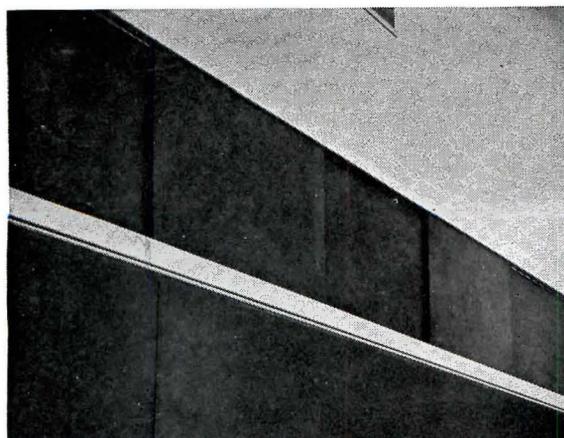
CORRIDOR. Glazed ceramic tile walls; terrazzo floor. Note exposed steel on window side.

ENGINEERING OUTLINE

1. PAROCHIAL SCHOOL HOUSTON, TEXAS

CONSTRUCTION: Framing: structural steel. **Walls:** exterior: hollow tile backup; face brick and random ashlar masonry. Interior: plaster; ceramic glazed tile in corridors. **Floors:** asphalt tile over concrete in classrooms; terrazzo corridor floors; tile in washrooms. **Roof:** 4-ply built-up gravel surfaced roofing over bar joists and reinforced concrete slab. **Partitions:** hollow tile, plastered; folding partition. **Fenestration:** steel casements; double-strength "B" glass and 8" x 8" directional glass block. **Insulation:** acoustical: 12" x 12", 3/4-in. tile; thermal: 2-in. cotton blanket. **Doors:** flush, hollow core, magnolia veneer.

EQUIPMENT: Heating and air conditioning: forced-air system (school wing heated only; chapel wing, air conditioned); gas-fired furnace; automatic controls. **Hardware:** door closers; dull bronze hardware.



VENTILATION is controlled between classrooms and corridor by bands of louvers (see corridor view, top of page), with sliding track-board panels on the classroom side which may be opened to the extent desired.



Snyder-Bell Studios Photos

NORTH FRONT (as shown in plot plan below, future wings to be added on this side). Kindergarten fireplace chimney, near end.

2. RURAL SCHOOL, ATASCADERO, CALIFORNIA

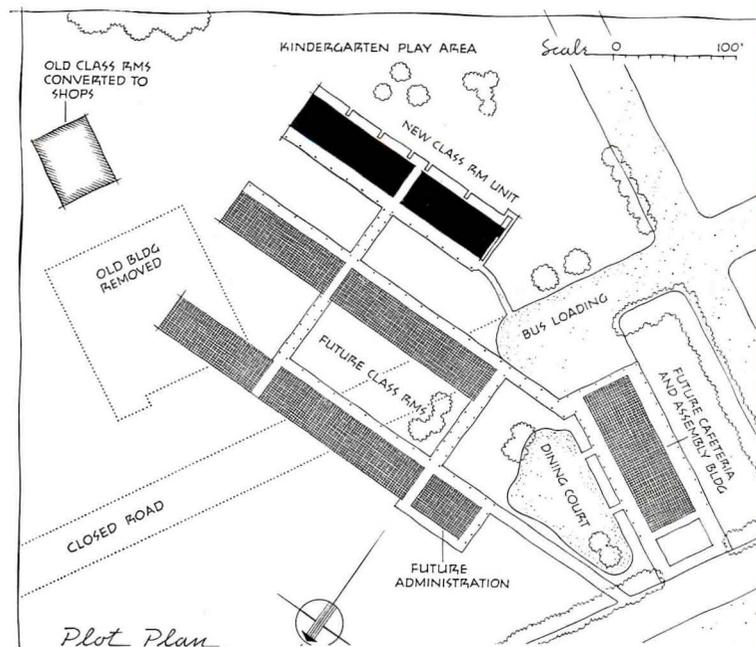
DANIEL, MANN & JOHNSON, Architects

First wing of an eventual sixteen-classroom plant, this five-room primary-school unit emphasizes construction economy, bilateral lighting, and close relation to outdoor areas.

PROBLEM: To provide, as a coordinated unit with a total school project (involving demolition of existing school building on the site) a five-room wing to accommodate kindergarten and primary-grade children.

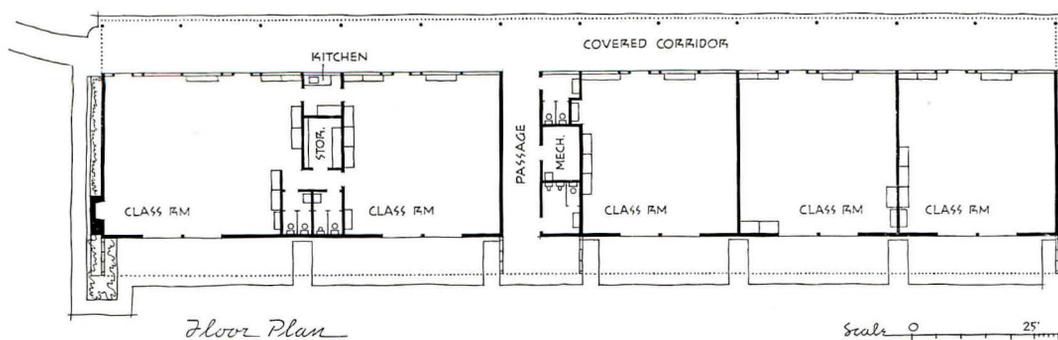
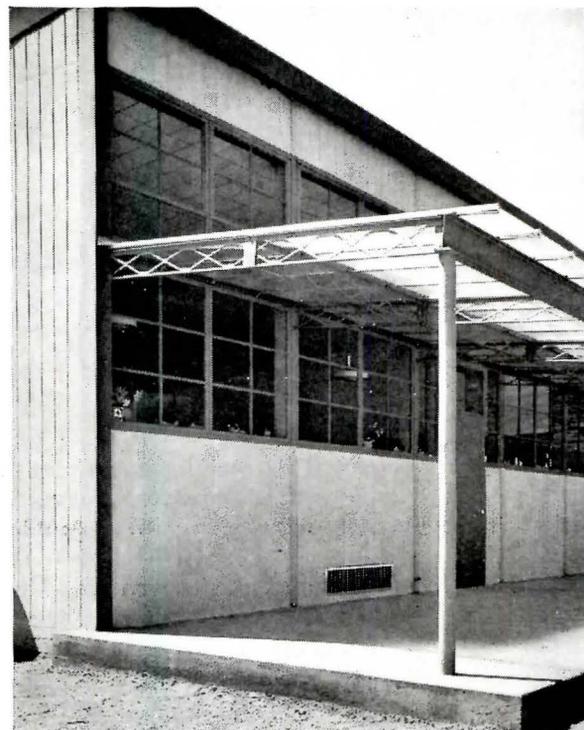
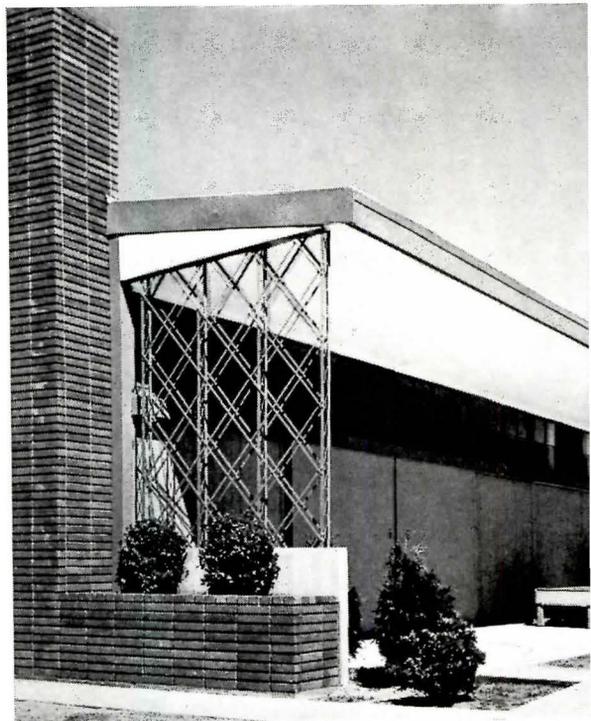
SITE: Approximately level property in an attractive wooded valley bounded by a secondary road.

SOLUTION: Alignment of the five rooms (four classrooms of approximately 1,000 sq. ft. each; kindergarten, 1,280 sq. ft.) along an east-west axis, southern walls of rooms schemed for complete opening up to 50 percent of full width of rooms to outdoor areas; outside access walk along windowed north side of building sheltered by glass roof (to preserve maximum natural light). Bilateral lighting (continuous high band in southern wall, balanced by much deeper continuous band in north wall); construction system of light steel framing with concrete filler panels laid out on a modular basis and shop fabricated into sections for joining at the site.



2. RURAL SCHOOL ATASCADERO, CALIFORNIA

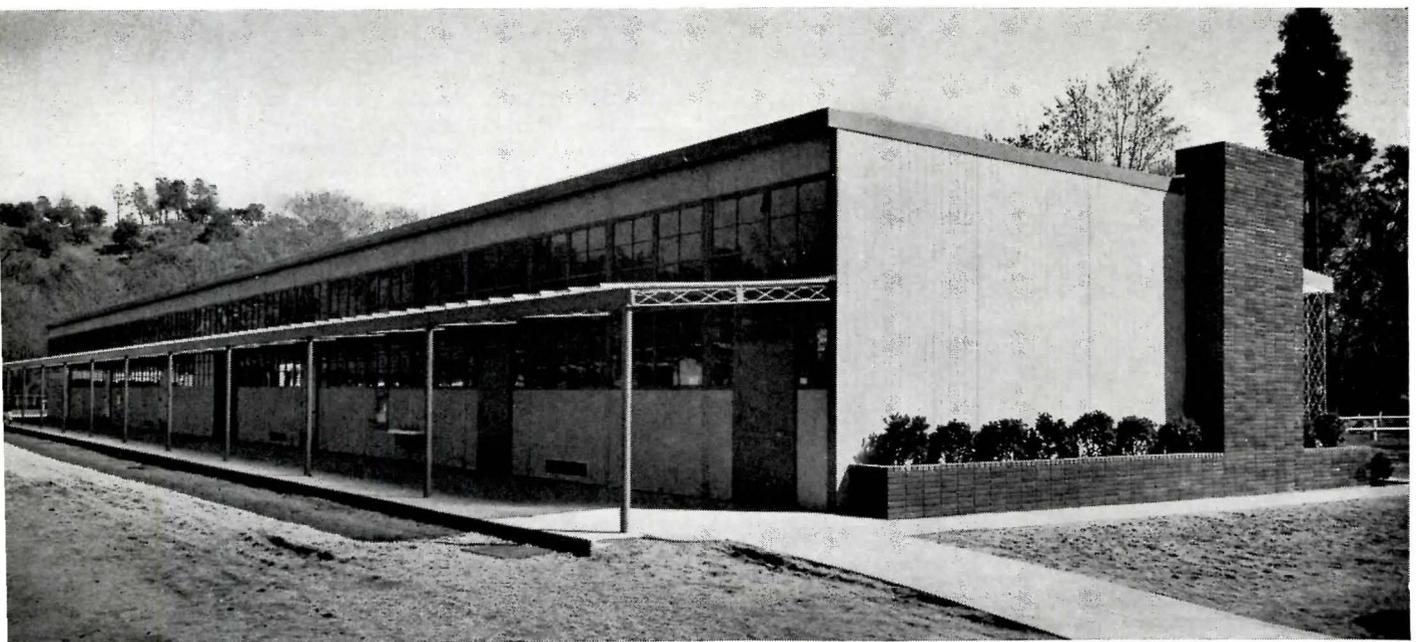
Of the three wings of the projected school plant, this primary-age unit is unique in having the access corridor along the north wall (maximum north exposure, hence window area, being preferred in this area). In order to segregate the play areas for the youngest children from the rest of the school, however, the north-wall location for the access corridor seemed the best choice, leaving the southern sides of classrooms free to open out to private southern study and play areas. Huge sliding doors in the south wall of each of the rooms permit opening up of these walls to 50 percent of their length. Even when these doors are closed, a continuous band of high southern windows provides bilateral lighting. Though concentric-ring artificial-lighting fixtures have been supplied, the architects tell us "they are seldom used, even on the gloomiest days." The building is heated by two separate systems, to cope with the very variable temperature conditions (from 6 degrees F. to more than 100). One is a typical copper-tube floor panel installation; the other consists of unit heaters and ventilators which are serviced by hot water from a storage boiler in the mechanical room and which receive fresh air directly from the north wall. These latter units were installed primarily to create cross ventilation.



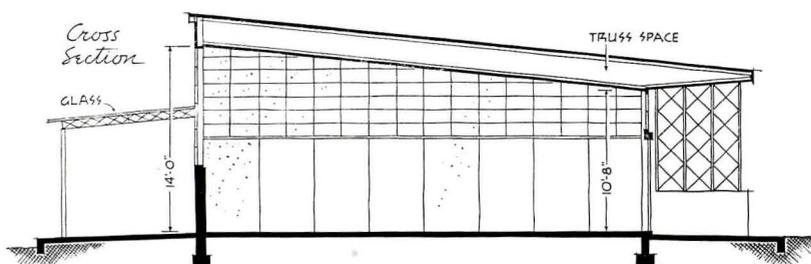
PLAN. The square classrooms contain approximately 1,000 sq. ft. each; the kindergarten, nearer 1,300. Adjoining the latter, notice separate toilets and kitchenette (for use both by the children and in connection with P.T.A. meetings).



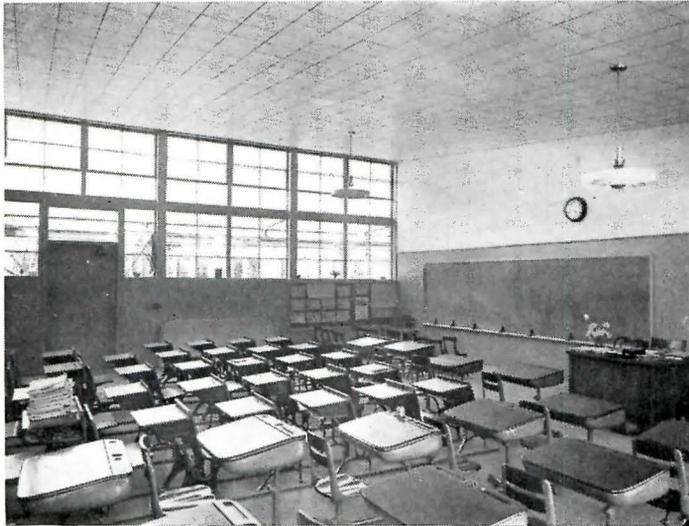
VIEW FROM SOUTHEAST. Opened sliding wall panels automatically provide outdoor classrooms. Porch roof protects against direct southern sun in windows. Across page is a view of the kindergarten end of the building, with sliding panels closed.



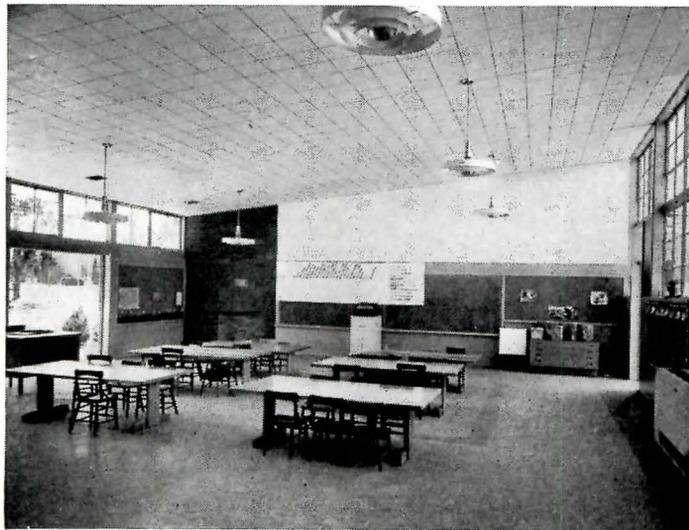
VIEW FROM NORTHWEST. Access corridor runs along the north side of the building, but, to preserve as much north light as possible, the roof of the walkway (see detail across page) is of wire glass which "permits as much light as if no roof interfered."



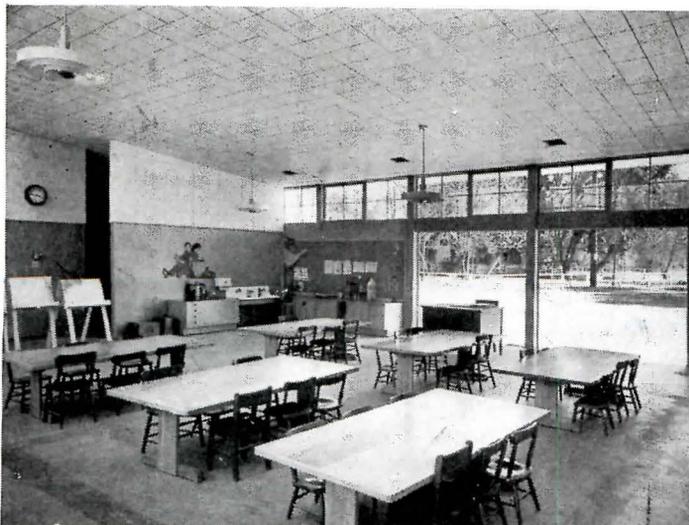
SECTION. The structural system—light steel frame, with metal fabric welded to it, surfaced with a 2-in. skin of concrete—was largely shop fabricated, while floor slab, footings, etc., were being laid at the site.



TYPICAL CLASSROOM, looking toward north wall.



KINDERGARTEN. Note fireplace in southwest corner.



KINDERGARTEN, looking toward opened southern wall.

2. RURAL SCHOOL

ATASCADERO, CALIFORNIA

ENGINEERING OUTLINE

CONSTRUCTION: Framing: patented light-steel system. **Walls:** 2" precast concrete panels (unfinished on exterior; surfaced up to 7' indoors with plywood, with fiber board above). **Floors:** asphalt tile over 4" concrete slab. **Roof:** steel deck over steel roof trusses; surfaced with plank-type insulation, finished with composition roofing; roof of corridor: patterned wire glass on aluminum bars. **Doors:** birch plank, mainly; sliding doors of special steel design. **Fenestration:** steel sash; "A" double-strength glass. **Insulation:** acoustical: 12" x 12" ceiling tile; thermal: batt-type insulation in ceilings; plank-type in roof construction. **Partitions:** wood studs, surfaced with plywood and fiber board.

EQUIPMENT: Heating, etc.: copper-tube panel system in concrete floor slab; warm-air unit heaters; controls. **Electrical:** concentric ring-type fixtures, germicidal lamps.

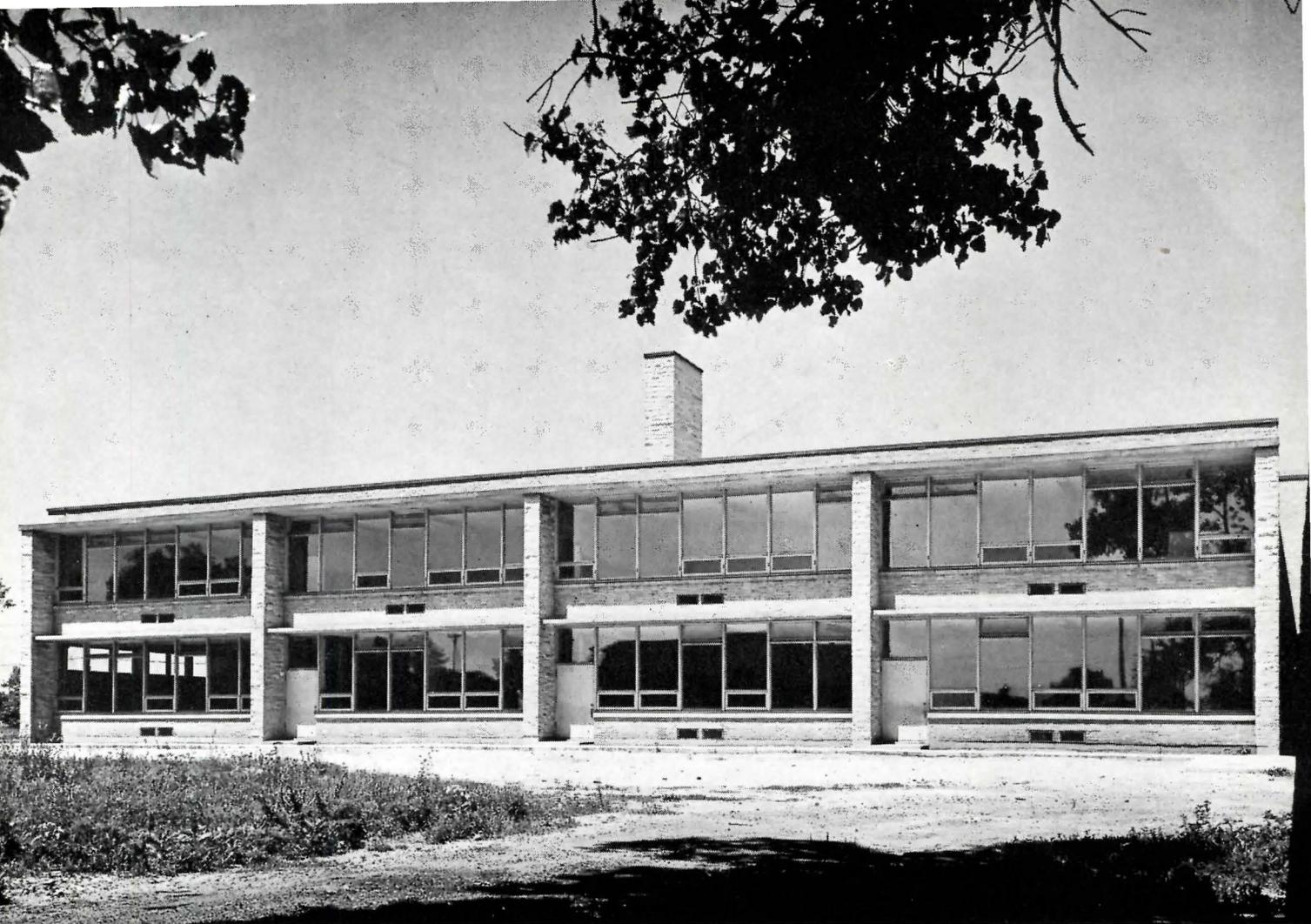


DANIEL MANN JOHNSON

Phillip J. Daniel: B. Arch., U. of So. Calif.; with Louis N. Crawford in school and public work design until 1941; worked on design of Kaiser Steel Mill.

Arthur E. Mann: Los Angeles Atelier; worked in various local offices. Production work for Roosevelt Naval Base; chief architect, Kaiser Steel Mill.

S. Kenneth Johnson: Los Angeles Junior Coll.; U. of So. Calif. Architect for National Park Service and Chief Structural Engineer for Pollock-Stockton Building Co. Formerly with Ernest J. Kump Co.



REAR. A direct, simple scheme combining large window areas with overhangs and structural jibs to control the southern light.

3. SUBURBAN SCHOOL, CICERO, ILLINOIS

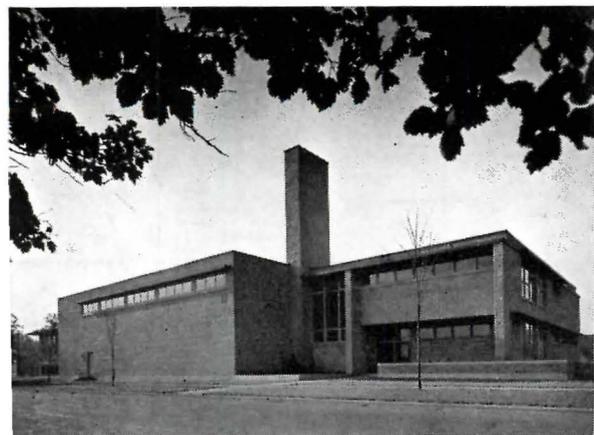
PERKINS & WILL, Architects

One of the first two-story schools yet to appear embodying progressive principles of design. An addition to an old building, it is actually the first element of an eventual, totally rebuilt plant.

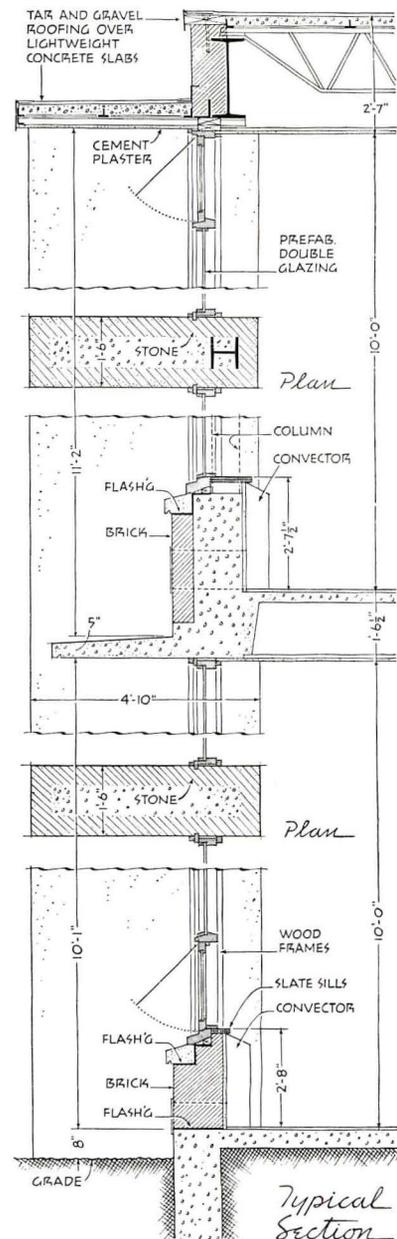
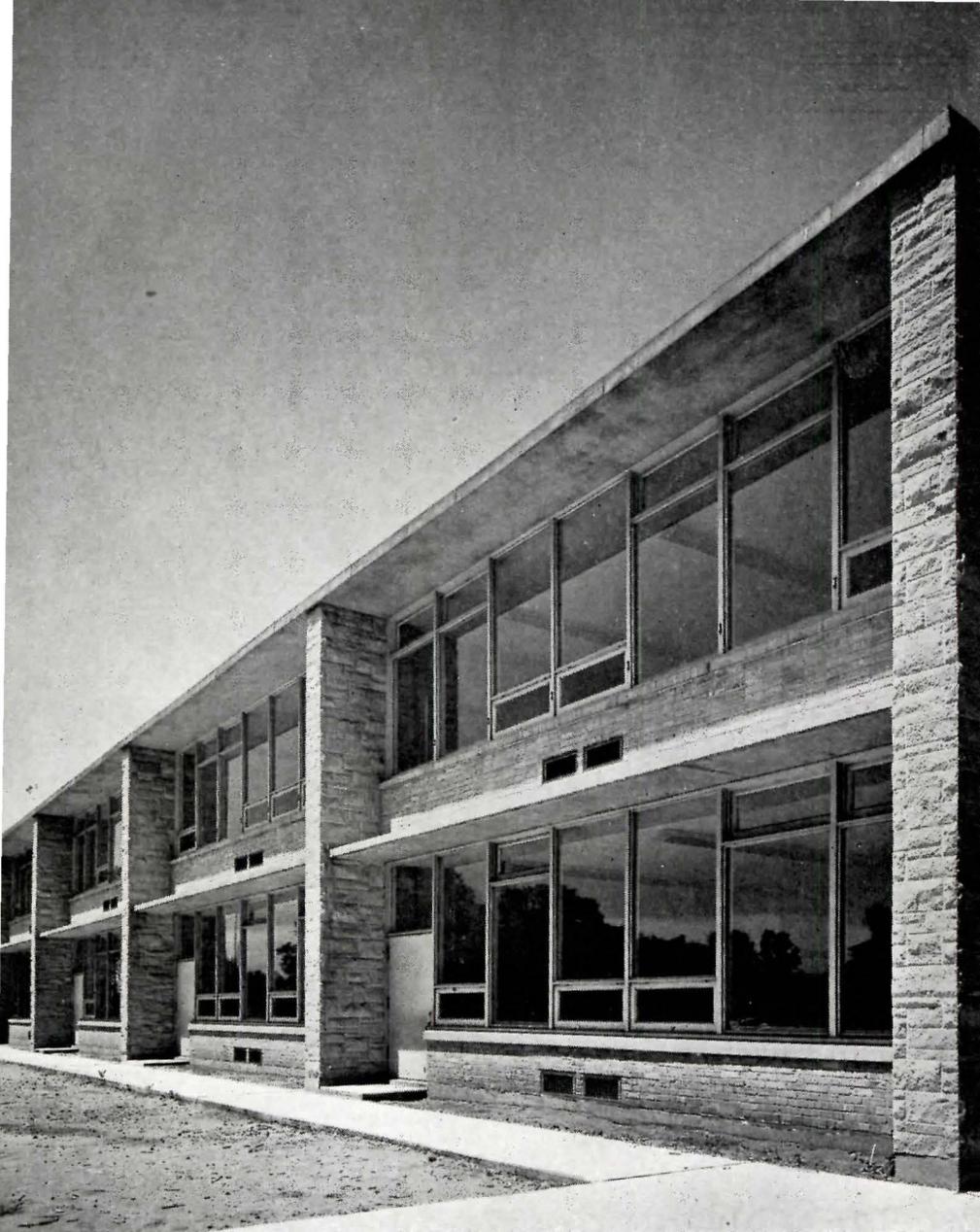
PROBLEM: To provide kindergarten and classrooms for the first six grades, a gymnasium-auditorium and office space as an addition to an existing structure, on a site whose limitations dictated a two-story scheme.

SITE: Some 125 allowable building linear feet along a street, on the south side of the street, so that the finished building faces north and looks out to the south at the rear.

SOLUTION: Arrangement on two floors, with kindergarten and first and second-grade classrooms on the ground floor (each, with direct, outside access); the four upper-grade classrooms upstairs—all aligned along the south front with wall-to-wall fenestration. Gym-auditorium, placed at front of building, immediately accessible to public and acting as sound buffer for classrooms.



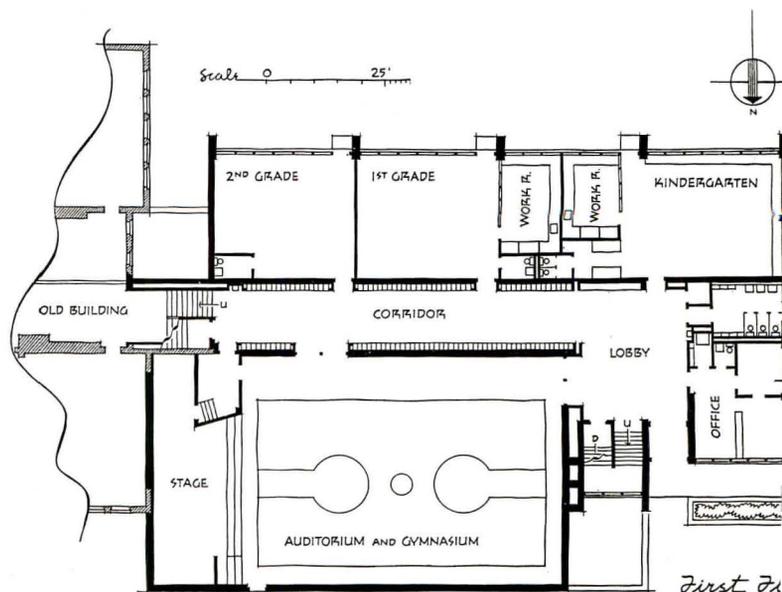
FRONT. Gym, left; offices, etc., right.



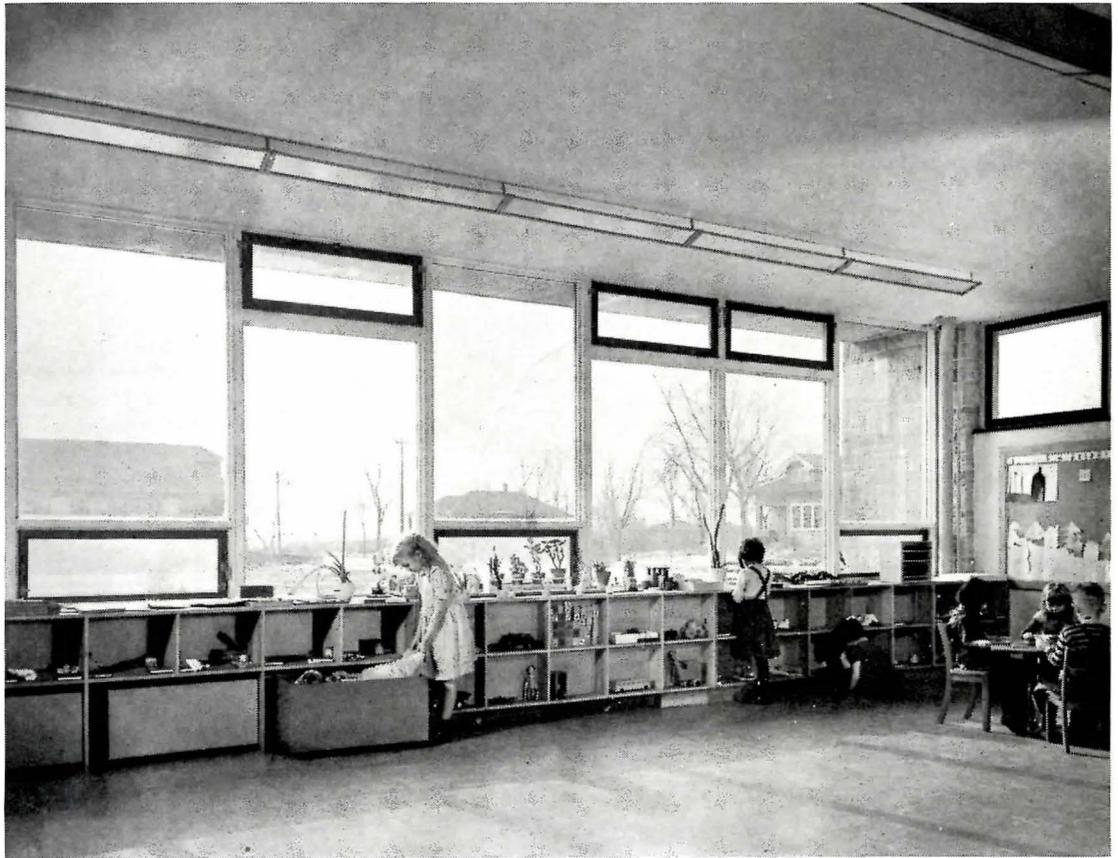
RANDOM PLACEMENT of the operable window panels provides design variety.

3. SUBURBAN SCHOOL, CICERO, ILLINOIS

Commenting on the design of the southern classroom wall, the architects say: "The design takes advantage of south light and uses overhangs and jib walls to mitigate glare effects. Room dimensions with respect to height, depth, and length are a partial step toward the low ceilinged, artificially lit, deep classroom which is an objective of this office. These windows separate the functions of ventilating and light by the use of fixed lights and unit ventilation. Windows themselves serve more of a psychological than utilitarian function."



KINDERGARTEN.
Equipped with own work-room and toilet. Flooring is asphalt tile. Notice how the masonry piers are continuous from indoors to the outside.

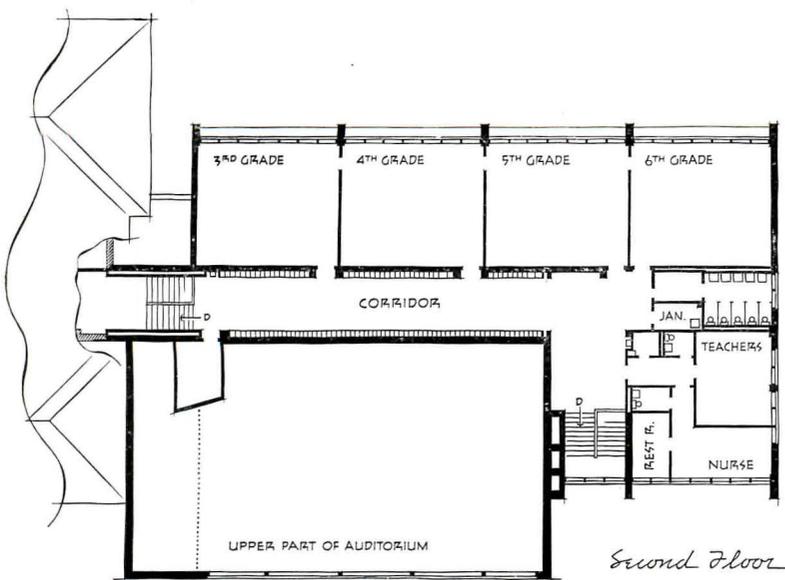


PERKINS

WILL

Lawrence B. Perkins: B. Arch., Cornell. Prior to 1935, with Perkins, Chatten & Hammond, and General Houses, Inc. Chairman, Evanston Planning Commission.

Philip Will, Jr.: B. Arch., Cornell. Shreve, Lamb & Harmon Fellowship. Director, Chicago Chapter of A.I.A.



ENGINEERING OUTLINE

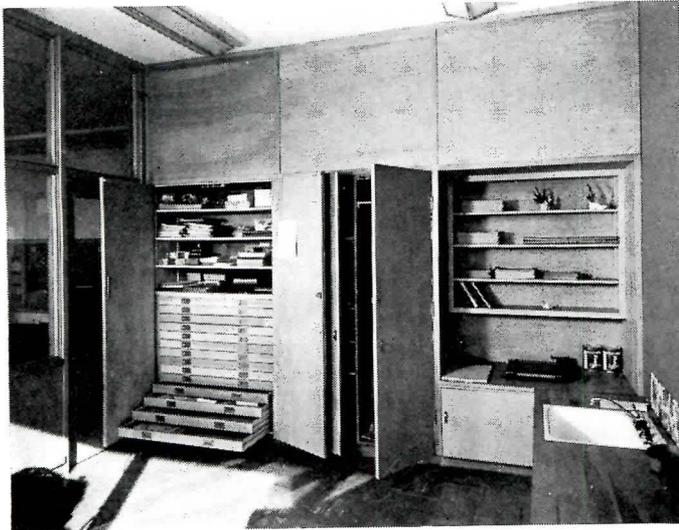
CONSTRUCTION: Framing: reinforced concrete up to and including second floor; steel frame, second story and roof. **Walls:** exterior: brick, over hollow tile; reinforced masonry piers; cut-stone trim. Gym walls: reinforced brick masonry. Interior: glazed tile wainscot; acoustical plaster. **Floors:** asphalt tile over concrete. **Roof:** gypsum fill over steel bar joists; 4-ply tar and gravel roofing. **Fenestration:** wood sash; crystal plate and double insulating glazing. **Insulation:** acoustical: plaster walls and ceilings; thermal: 1-in. rigid board on roof. **Doors:** flush, hollow core.

EQUIPMENT: Heating and air conditioning: low-pressure 2-pipe vacuum system; oil-fired steam boiler (in basement); unit ventilators and convectors; automatic controls. **Lighting:** surface-mounted fluorescent.

3. SUBURBAN SCHOOL, CICERO, ILLINOIS



MODULAR storage cabinets allow flexibility of arrangement.



KINDERGARTEN work room has specially designed storage wall.



DEEP STEEL GIRDERS span the auditorium-gymnasium.



Critique

ELEMENTARY SCHOOLS

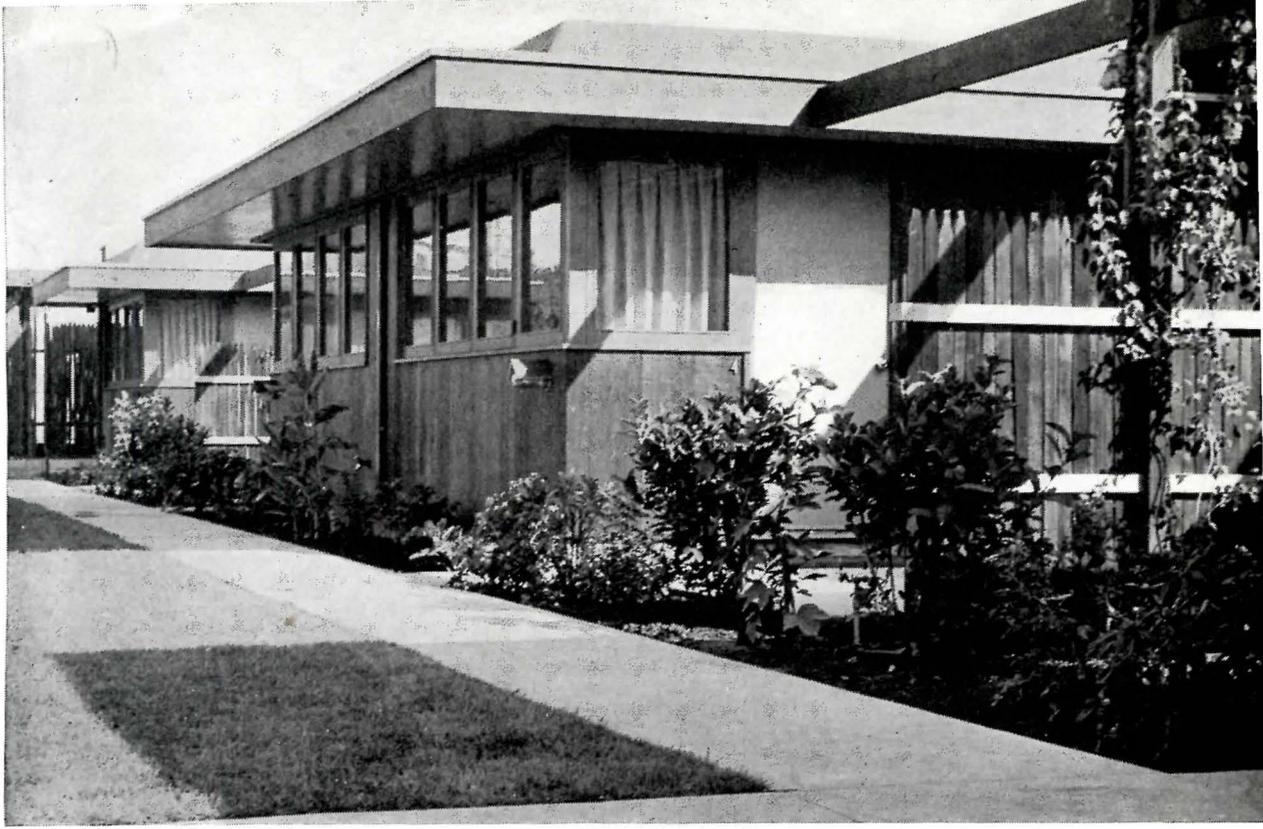
(conclusion)

Better than any amount of argument, these three schools indicate how far along the road to good school architecture we have come. Though they are quite different in concept, scope, and detail, they all have certain progressive common denominators. In all of them, the classrooms are carefully oriented for the best light; furniture in all the rooms is movable, hence adaptable to changing needs of curriculum or teaching method; they are all schemed as instruments to assist the educational process as well as possible, rather than as monuments. Access and circulation are convenient and direct; light, air, and sun are an integral part of each of the plans.

It is worth noting, however, that no matter how precise our researches and specialized knowledge may be, there is still room for—indeed, there must be—endless variety of detailed handling and design expression. In the Parochial School in Texas, for example, the individual classroom seems to have reached a new high in the way of controlled environment for teaching and learning, and this accomplishment and the principles involved in it are sure to have wide influence. But the school as a whole is a particular job for this particular site. It is the first unit of a proposed large scheme which at once sets it apart as specialized; then, too, it is built on a beautiful wooded site, and it had a budget that many communities could not afford. All of these things give the job highly individual characteristics. For entirely different reasons, the Rural School in California has qualities—among the most obvious ones being the regional allowances of a mild climate—which make the school very nice for Atascadero, but most impractical for Auburn, Maine. The Cicero, Illinois, Suburban School has an approach to its classroom design and fenestration very different from that of the Parochial School. But, in every case, the architects were aiming at creating better environments for learning and teaching, and in every case they have met with more than a little success. This is, of course, the main thing, that the goal remain constant. One may only conclude that the avenues toward this goal are numerous.

Add to these generalizations the everyday, local limitations that are placed on any sort of objective research into ideals of architecture—money limitations, site disadvantages, client demands, code restrictions, etc., etc.—and it is small wonder that no single standard of universal application is likely to appear. And how fortunate this is. For what we find instead is a host of new, improved possibilities—with plenty of room at the top for improvement still. Thus does architectural progress come—in bits and pieces, and coordination of the pieces, with each new finding of objective research adding new phrases to our architectural vocabulary.

Leo Salkin Photos



A SERIES OF PROJECTING PAVILIONS set apart semiprivate living patios between rental units.

MOTOR HOTEL LONG BEACH, CALIFORNIA

WILLIAM T. DREISS, Designer

A Special Citation in this year's Progressive Architecture Awards program, this motor-court project provides informal hotel-like accommodations for rent by the day, week, or month.

PROBLEM: A better-than-average group of rental units designed to appeal to couples or families who prefer the convenience of a motor court but for whom few first-class court facilities are available.

SITE: 100' x 150' flat site just off U.S. Highway 101, with additional space available for car parking to the north of the site. An avenue on the west boundary; through alley (access to carports) on the east.

SOLUTION: Two wings of units organized at either side of a central, landscaped mall. Semiprivate fenced patios provided for outdoor living. Simple furniture, built-in wherever feasible; ease of maintenance a factor.

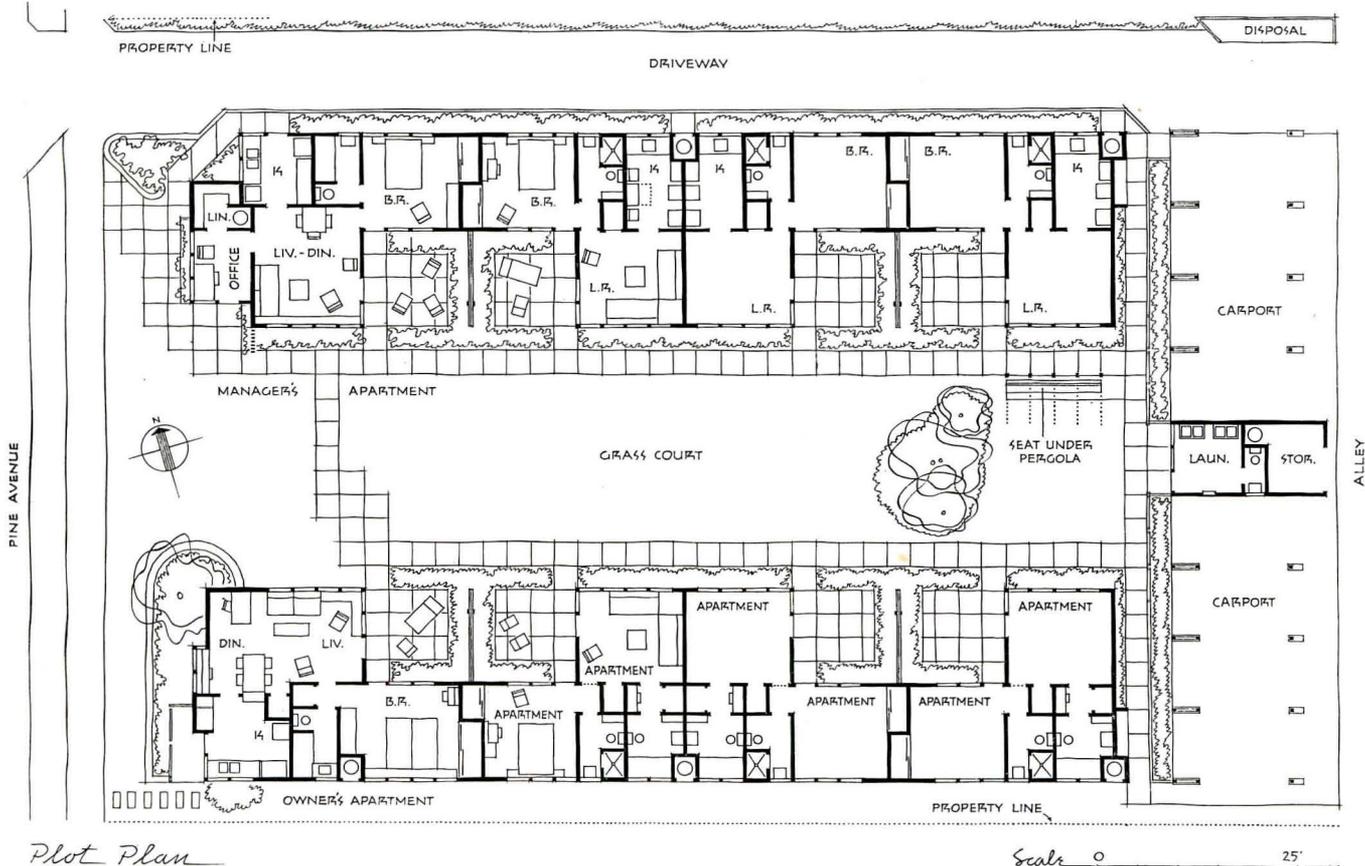
ENGINEERING OUTLINE

CONSTRUCTION: **Framing:** post and girder system on north and south walls, 4" x 4" posts 6' o.c.; standard wood frame on other walls. **Walls:** exterior: 1" x 12" redwood siding applied vertically over felt; interior: redwood boarding; striated, redwood plywood; gypsum plaster. **Floors:** concrete slab, integrally colored surfacing; rush matting and incidental rugs. **Roof:** composition with 85# mineral cap sheet. **Ceiling:** fiber-board tile. **Fenestration:** wood casement sash, mill made; double-strength and ribbed glass. **Partitions:** frame, with building board or plywood surface; insulating plaster board in all party walls. **Doors:** flush, birch-veneer, hollow-core.

EQUIPMENT: **Heating:** individual, gas-fired unit heaters. **Kitchen:** gas stove; electric refrigerator.



END OF ONE WING—containing the owner's apartment. Interior photos in this presentation are of this unit.



Plot Plan

Scale 0 25'

THE NORTH WING represents the compromise plan to meet FHA requirements; THE SOUTH WING is the final scheme.

MOTOR HOTEL, LONG BEACH, CALIFORNIA

At the time construction commenced, FHA rulings required kitchens (as shown in plan of north wing), but with relaxation of controls these were no longer necessary, and all interior units were changed over to the bedroom-bath arrangement (to be used singly or in pairs) indicated in the plan of the south wing. At the avenue end of each wing is an apartment—one for the owner; the other, for the manager.



DREISS

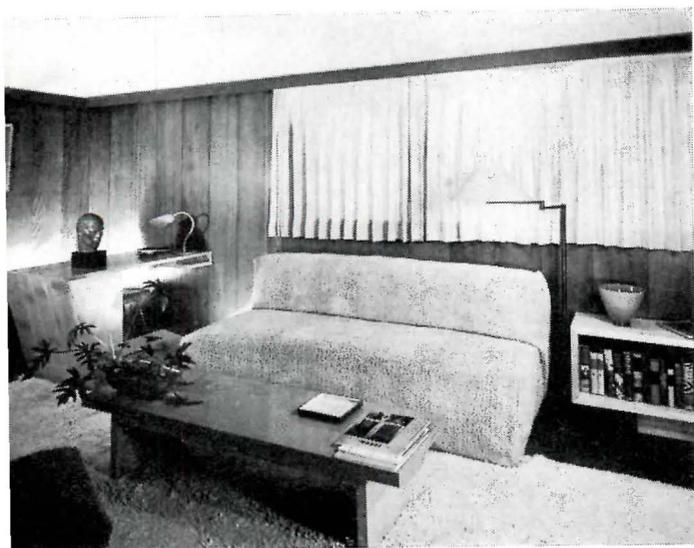
William T. Dreiss attended the Art Center School in Los Angeles. After medical discharge from the Army, he undertook mechanical engineering research with Lockheed Aircraft. Subsequently, while working in the office of Harwell Hamilton Harris, he continued his design studies at the U. of California. Mr. Dreiss opened his own office in Los Angeles in 1946.



NATURAL REDWOOD with yellow-green or sage green detail.



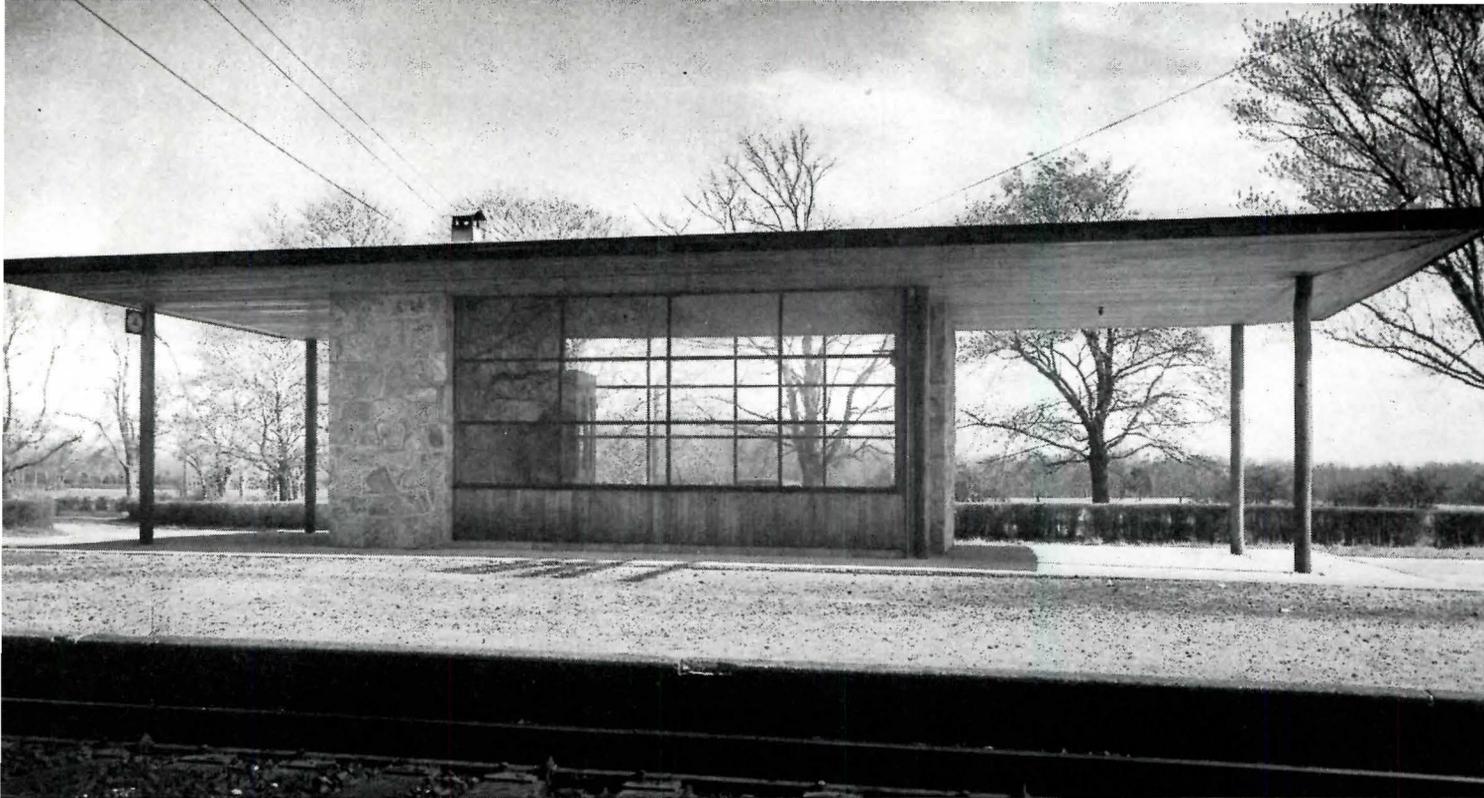
WOOD WALL is shellacked and waxed.



BUILT-IN FURNITURE is widely employed.



BEDROOM FURNITURE, natural cedar plywood.



VIEW FROM THE TRACKS

RAILROAD STATION, GREAT RIVER, NEW YORK

Good architecture comes to a field that seldom sees it.

PROBLEM: An all-weather shelter to serve a comparatively small number of railroad passengers in a prosperous rural area.

SITE: Typical flat space alongside the Long Island Railroad.

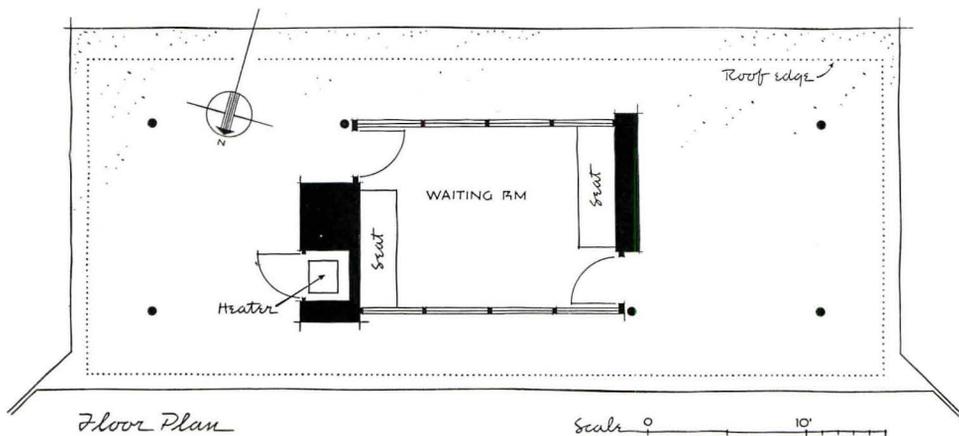
SOLUTION: A many-windowed enclosure, with a covered platform at either end. The simplest of local materials imaginatively used.

In addition to its handsome design, this little building is distinguished for the handling of sturdy, unornamented structural elements for maximum ease of maintenance and resistance to vandalism.

ANTONIN RAYMOND &

L. L. RADO, Architects

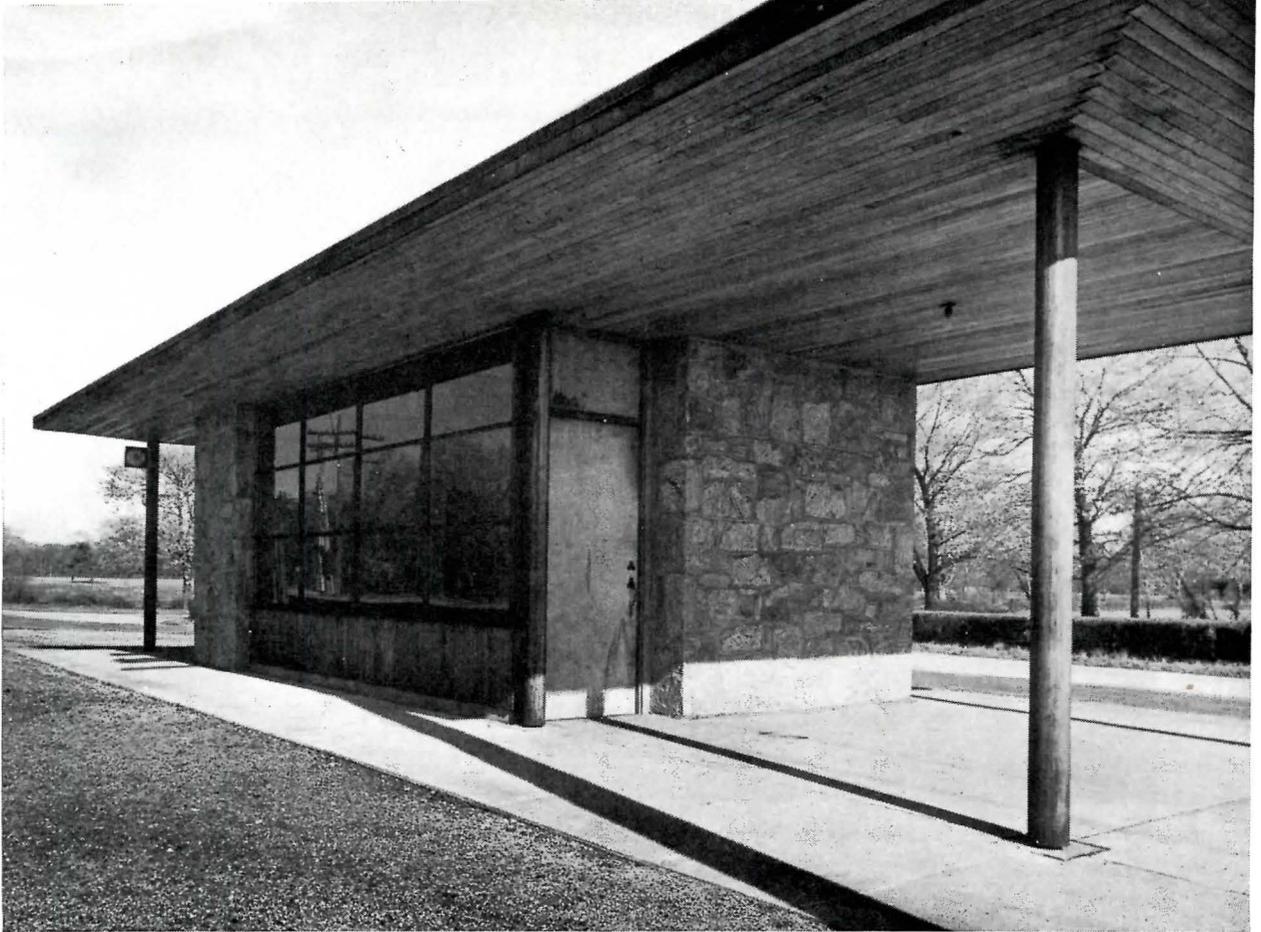
Biographical notes on Antonin Raymond and L. L. Rado appeared in the January 1948 issue of P/A.



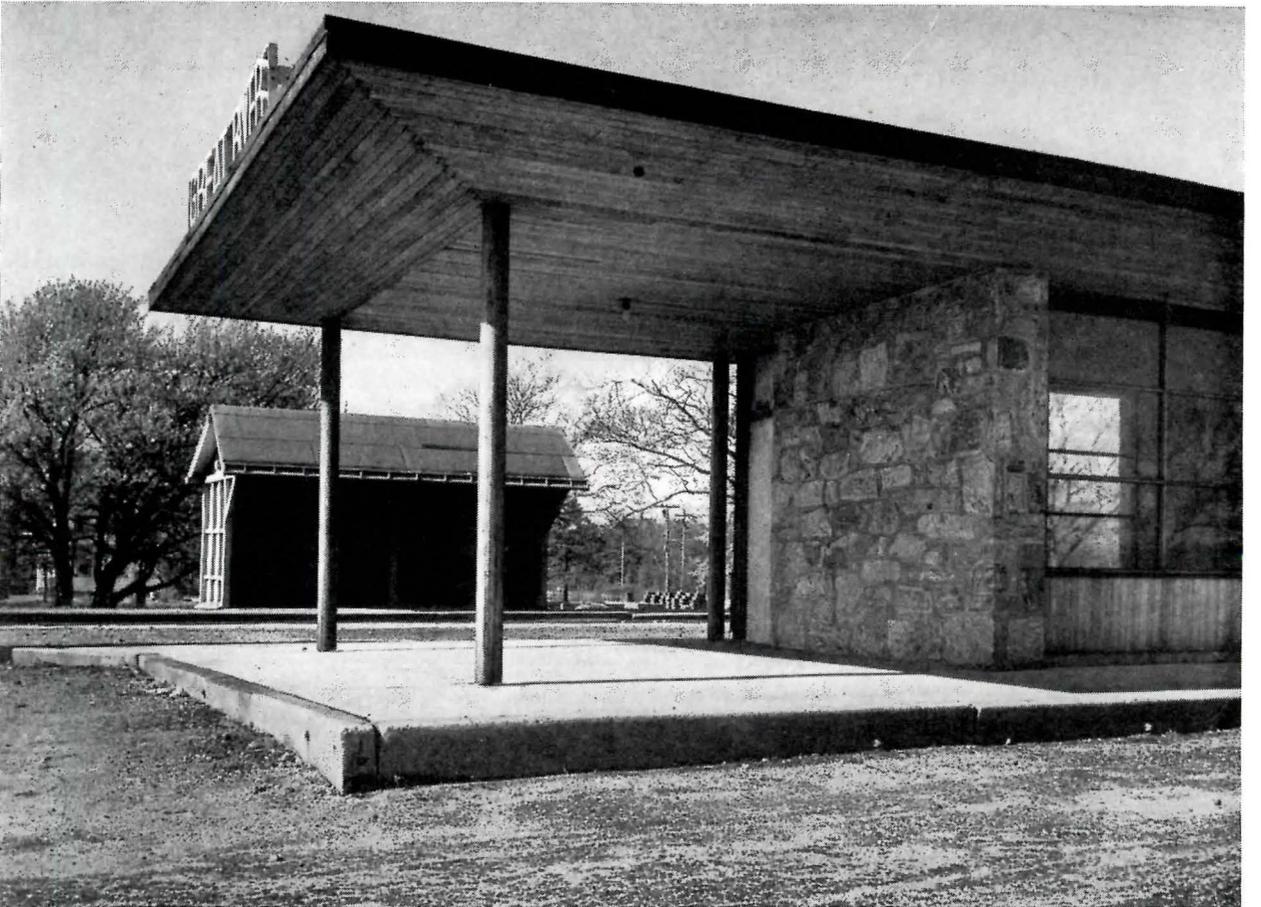
ENGINEERING OUTLINE

CONSTRUCTION: Walls: stone masonry or frame surfaced inside and out with T & G cypress. Floors: cement topping over concrete slab. Roof: 5-ply built-up roofing over 7/8" sheathing on wood joists; underside surfaced with T & G boards; supporting columns: 6-in.-diameter redwood posts. Fenestration: wood sash. Doors: flush panel, hollow core.

EQUIPMENT: Oil-fired, warm-air furnace.

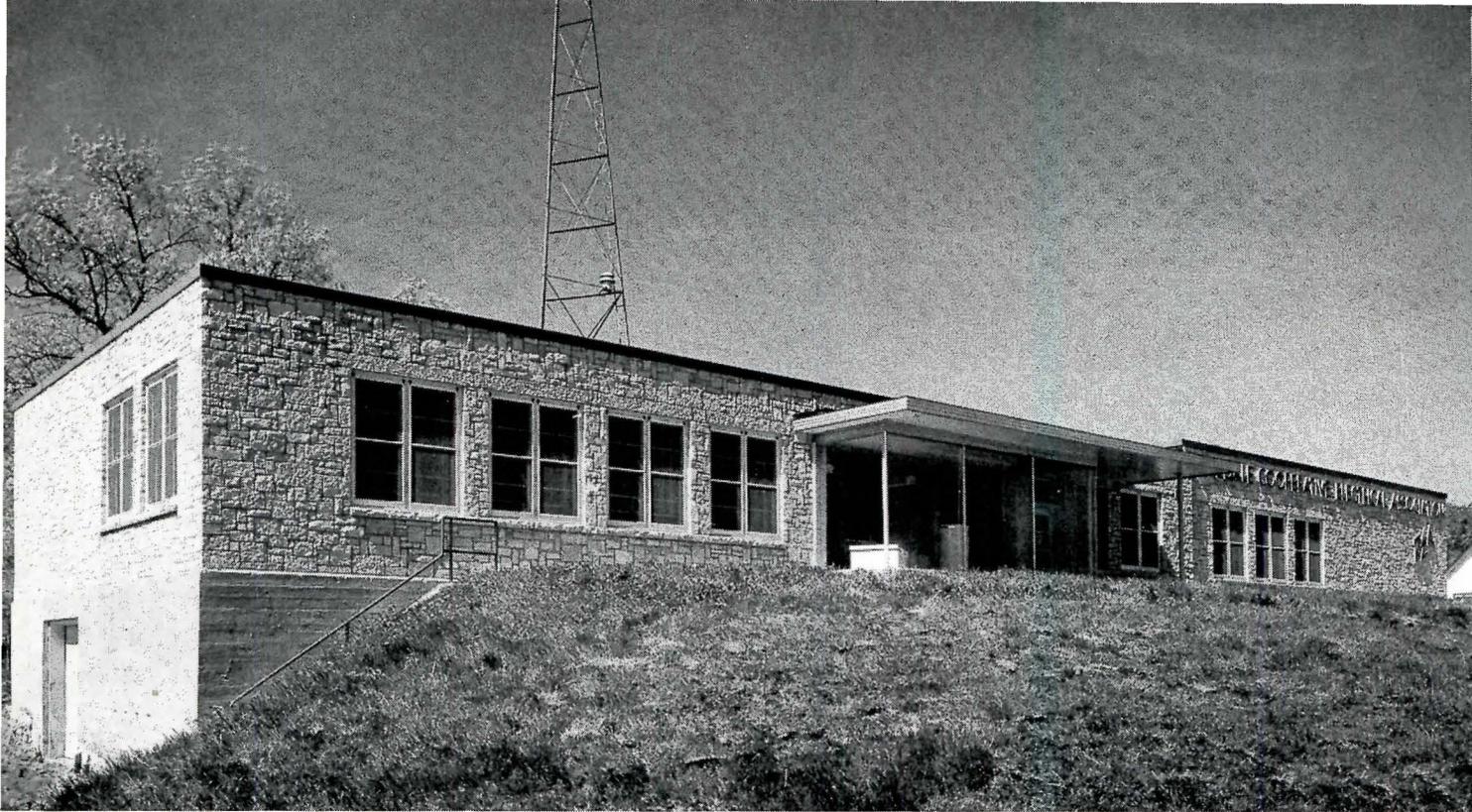


CLOSE-UP OF PLATFORM AREA



Richard Garrison Photos

VIEW SHOWING RELATION TO TYPICAL SHELTER ACROSS TRACKS



THE PROMINENT SITE extends along a heavily traveled highway. Local stone is the exterior surface of the building.



WEILER



STRANG

The firm of Weiler & Strang was formed in 1944. Joseph John Weiler, architect-engineer in charge of structural and mechanical design and supervision of construction; U. of Ill. Coll. of Eng. (B.S.); Grad. School (M.S.). Allen J. Strang is responsible for architectural design and coordination of the firm's work. U. of Wis.; U. of Pa. (B.Arch.).

TWO RURAL OFFICE BUILDINGS

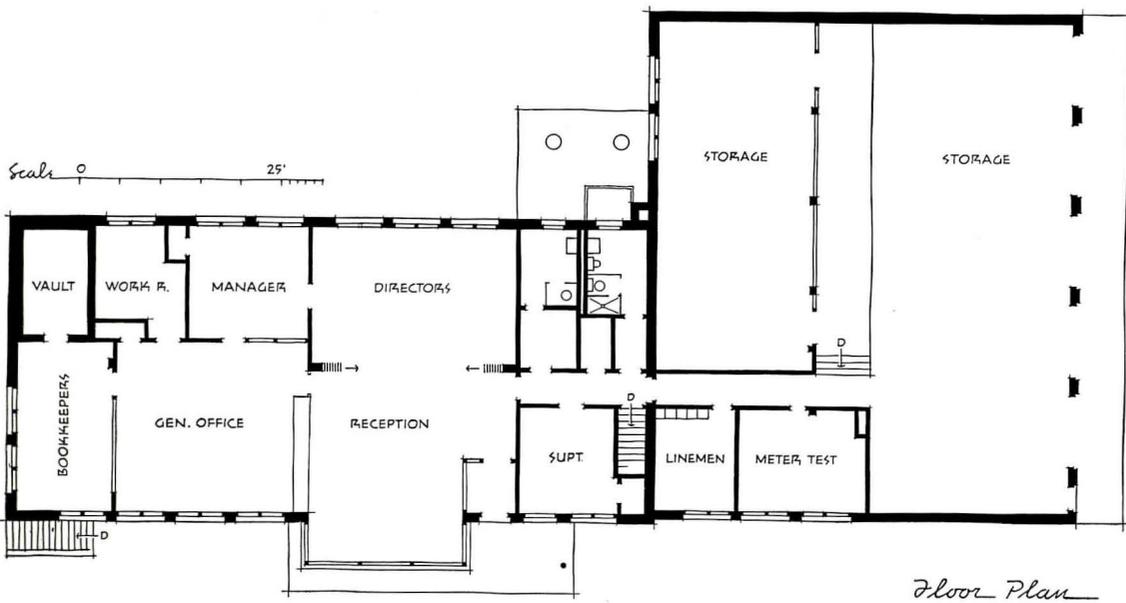
WEILER & STRANG, Architects

The two buildings shown on these pages are headquarters buildings for rural electrical cooperative associations in Wisconsin, developed in cooperation with the Rural Electrification Administration in Washington. Design requirements were almost identical—housing of office activities, storage space for trucks and line equipment, and a flexible space to be variously used as entrance lobby, display space for electric equipment, or—thrown together with adjoining space—a general area to accommodate annual meetings of members. Since facilities required were so very parallel, it is interesting to compare the solutions as worked out on two distinctly different types of sites—in the one case (Oakdale), a wide plot of modest depth bordering a highway, and in the other (Gays Mills), a comparatively deep, narrow site.

ENGINEERING OUTLINE—for both buildings

CONSTRUCTION: Concrete foundations. **Walls:** exterior: native stone over concrete block back-up; interior: 1" furring, lath, and plaster. **Floors:** reinforced concrete surfaced with 1/8" asphalt tile. **Roof:** 4-ply built-up roofing over wood joists and decking, supported on steel beams. **Insulation:** acoustical: 1/2" wood fiber tile ceiling finish; thermal: 4" mineral wool in ceiling construction; 1/2" blanket-type material in walls. **Partitions:** wood stud, with plaster over gypsum lath, fabric-covered, accordion-type folding panels. **Fenestration:** double-hung wood sash; store-front moldings for display-window areas; double-strength glazing; plate glass. **Doors:** flush panel (birch) hollow core.

EQUIPMENT: Heating: oil-burning boilers; steam system (Oakdale); forced warm air (Gays Mills); automatic controls. **Lighting:** fluorescent.



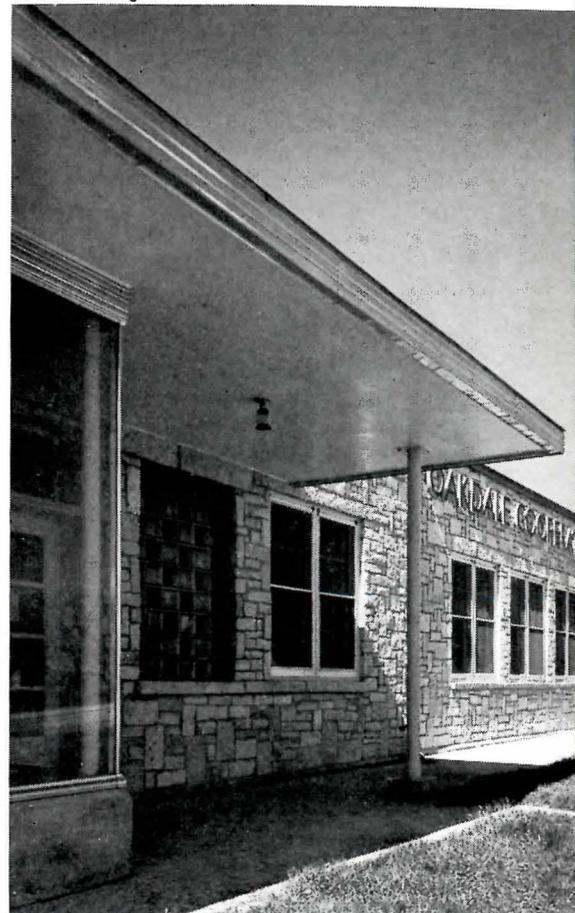
1. HEADQUARTERS, ELECTRIC COOPERATIVE, OAKDALE, WISCONSIN

All main facilities are arranged on one floor, but advantage was taken of the site slope to place the boiler room and some storage space on a lower level. The site borders the main highway between Chicago and Minneapolis. The entrance space is so schemed that by closing folding-panel partitions, a private room for directors' meetings is created at the rear end, or, with the doors open, the entire space can be used for meetings of the cooperative's full membership. When neither of these activities is taking place, the space is a combined lobby and display-sales space for electrical equipment.

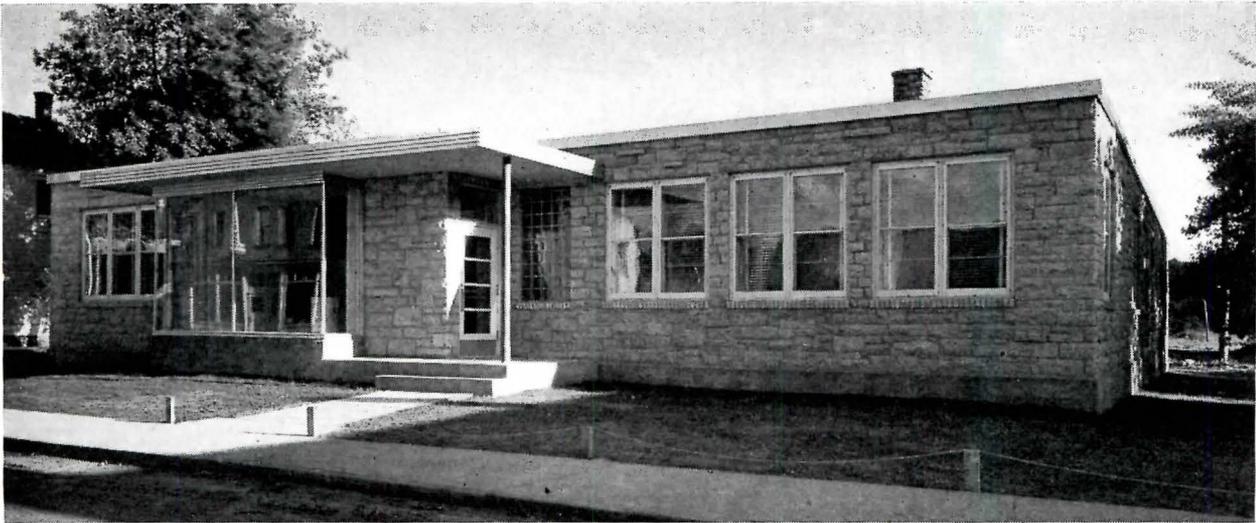
Hedrich-Blessing Photos



LOBBY, looking through folding partition from directors' room.



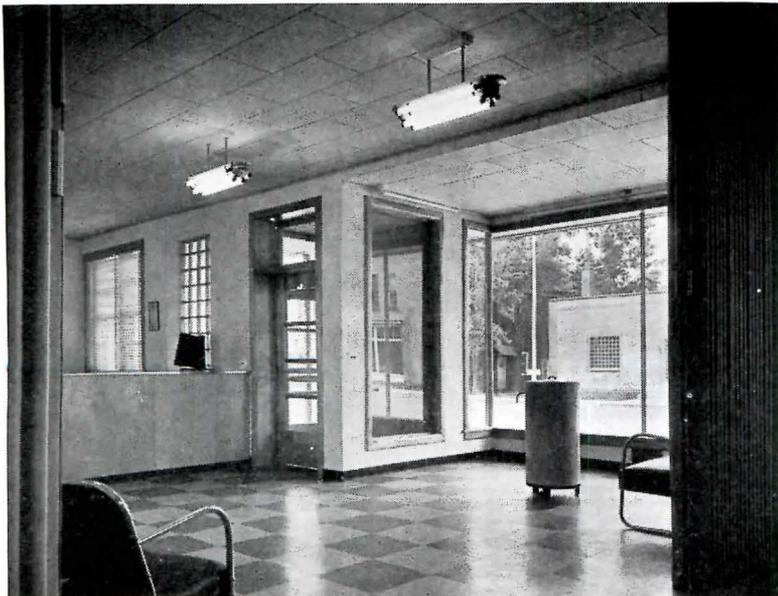
DETAIL of entrance.



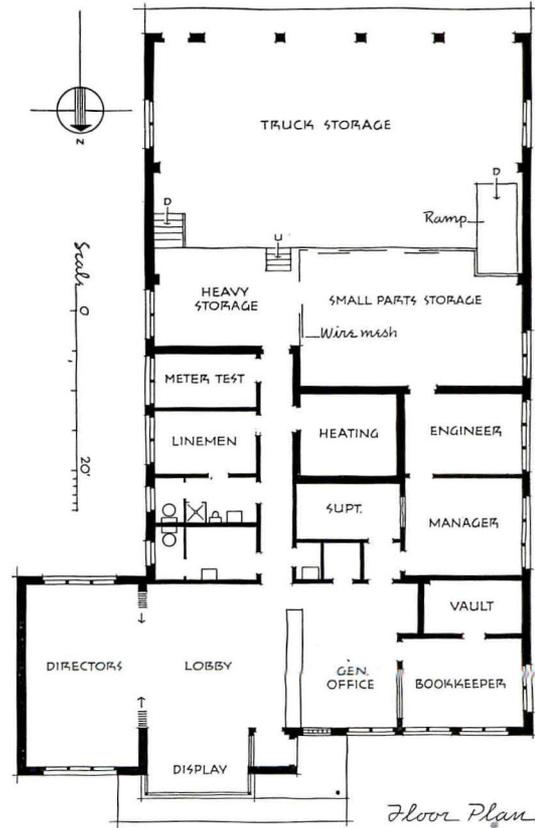
THE PUBLIC AND SEMIPUBLIC AREAS of the plan are clearly reflected in the exterior design.

2. HEADQUARTERS, ELECTRIC COOPERATIVE, GAYS MILLS, WISCONSIN

A somewhat smaller structure than the Oakdale building, the Gays Mills cooperative includes almost identical facilities. Organized on a deep lot, the plan places offices and the combined lobby-display-directors' area at the front and the storage platform and truck-storage room at the rear, accessible from both side and rear alleyways. To avoid flood danger during high water stages of the near-by Kickapoo River, most of the building is on a single floor, with only a small basement area (underneath the loading platform) which is used for storing heavy equipment.

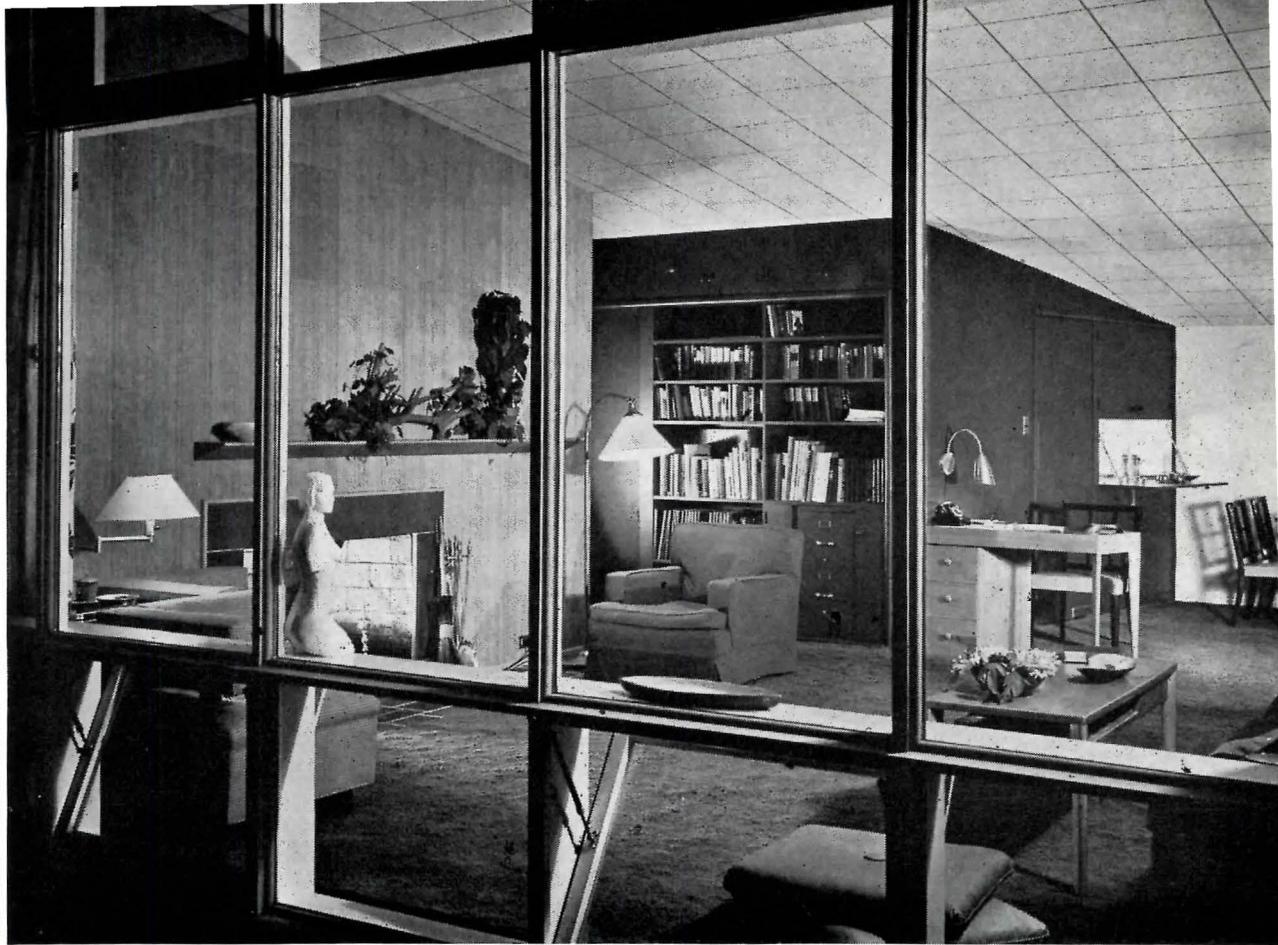


LOBBY; counter to general office, left.



Floor Plan

Exra Stoller—Pictorial Services Photos



VIEW THROUGH LIVING ROOM WINDOW (fixed glazing in center; operable panels top and bottom).

HOUSE, NEW CANAAN, CONNECTICUT

SHERWOOD, MILLS & SMITH, Architects

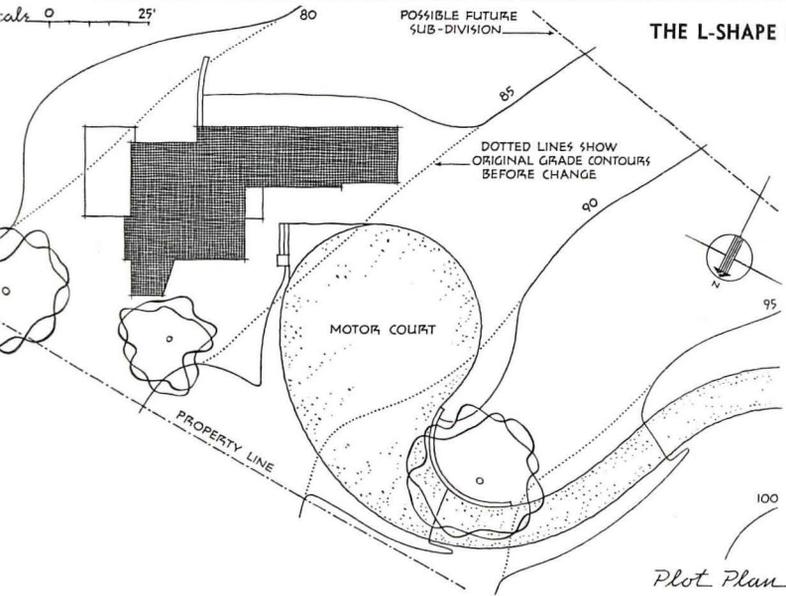
For a larger-than-average family, this economically planned house incorporates numerous labor-saving elements.

PROBLEM: To provide a comfortable, efficient home for a household including parents, three children, and a nursemaid within the 1,500-square-foot-area limit which maintained at the time plans were filed.

SITE: Open, country hillside sloping away to the south-east.

SOLUTION: A house spread out to provide desirable southeast exposure for main living rooms; centrally placed heater room; temporary partition making a nurse's room and baby's bedroom out of what will later be a single, good-sized bedroom. Numerous built-in storage units, two-way pass shelves, drop-leaf tables, and other space and labor savers. Radiant-heating system in concrete slab floor; solar principles used in design of fenestration and roof framing.

SKETCHES like this helped visualize planning ideas. This corner of the room shows at right, rear, of photo above. In the original, the caption read: "Dining corner showing two-way cabinets and open counter to kitchen, built-in desk and bookcase. Note that lowered counter top serves as bar during cocktails."

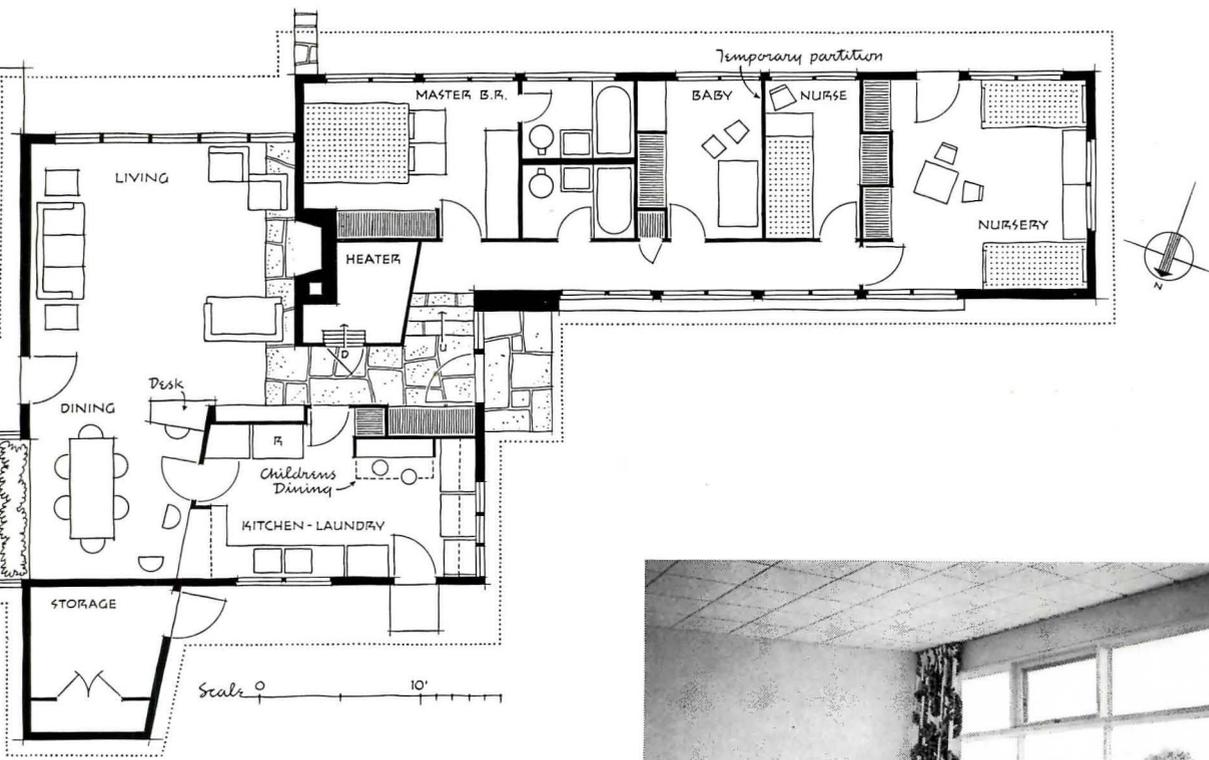


THE L-SHAPE PLAN both respects the lay of the land and separates use areas.

**HOUSE
NEW CANAAN, CONNECTICUT**

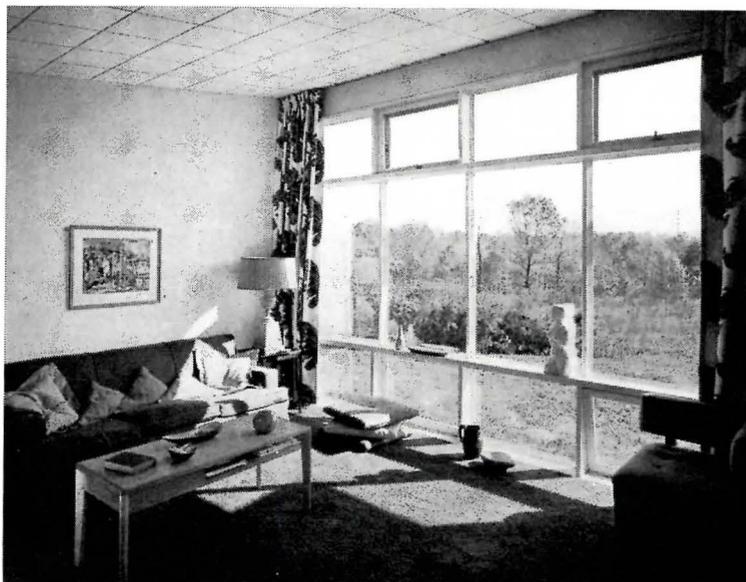


A 2½-FOOT ROOF OVERHANG controls southeastern sun. The door at left opens from the children's bedroom.



Floor Plan

The point that the owners, Mr. and Mrs. Talbot Rantoul, feel is particularly successful about the house is that "it is extremely easy to operate . . . and to maintain." A few of the elements that produce this reaction are the plan organization that "gives ready access to everything without crowding"; all of the "gadgets"—a built-in file case, pass window through to kitchen, wood-storage box, planting bay, etc.—"work efficiently and are well planned." The greatest invention in the house, they say, is the drop-leaf table: "It is used four times (kitchen-dining room; children's eating table in kitchen; an over-the-toilet baby-bathing table in the children's bath, and play table in children's bedroom), and is a wonderful space saver."



INTEGRATION of viewing, light, and ventilation elements.



DINING ELL of living room; drop-leaf counter, right.

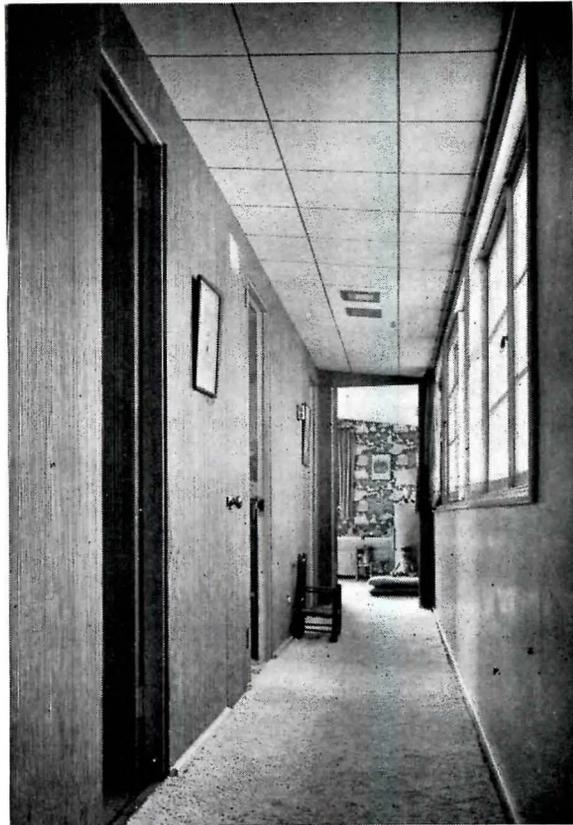
Following war service, Sherwood, Mills & Smith formed their firm in 1946. **Thorne Sherwood:** Williams Coll.; Columbia U. School of Arch.; graduate study, N. Y. Structural Institute. **Willis Nathaniel Mills:** U. of Pa.; graduate work at Columbia U., N. Y. U., Queens College, Trinidad. **Lester Wickham Smith:** Princeton U. and Princeton Arch. School.

HOUSE, NEW CANAAN, CONNECTICUT

ENGINEERING OUTLINE

CONSTRUCTION: **Framing:** #1 common fir. **Walls:** exterior: $\frac{3}{8}$ " waterproof painted (wiped finish) striated plywood, outside wood sheathing; local stone; interior: $\frac{3}{8}$ " gypsum-filled board, with recessed edge filled, taped, and painted or papered; plywood. **Floors:** 2" concrete slab; 8" precast concrete joists surfaced with honed slate (hall); linoleum (bath and kitchen) or carpeting. **Roof:** composition over plywood sheathing. **Ceilings:** wood-fiber acoustical tile. **Fenestration:** horizontal sliding wood sash; double-strength B glass or (in large window area) 1" insulating double glazing. **Partitions:** 2" x 2" wood stud, wallboard glued to studs for rigidity. **Doors:** two-panel fir veneered with striated plywood. **Insulation:** acoustical (see ceilings); thermal: 3" mineral wool blanket in roof; $\frac{3}{4}$ " dead air space between $\frac{3}{16}$ " plywood sheathing and siding in exterior walls.

EQUIPMENT: **Heating and air conditioning:** radiant panel system in concrete slab floor; wrought iron pipe; oil-fired, cast-iron, sectional boiler; automatic controls; exhaust fans in kitchen and interior bathroom. **Water piping:** copper tubing.



BEDROOM HALL. Wall-to-Wall carpeting "reduces floor cleaning to vacuuming once a week."



DINING AREA. The radiant-heating system "operates at low temperature with comfort and without drafts. . . . We feel that this is the healthiest place in which we have ever lived."



How good is your OFFICE ORGANIZATION ?

by THOMAS H. CREIGHTON

Architectural office organizations vary from the smallest possible unit—one principal and one draftsman—to those few with hundreds of employees. Whatever the size of the office, the basic organization must be similar in all cases, since the same routine must be followed either on a small alteration or a large new building. There are, of course, many ways to set up an organization, and a survey of the profession indicates that few firms follow the same methods. However, certain fundamental things are true in all cases. In general, these factors are important:

An efficient, well-planned, smoothly functioning organization within the office is *necessary*. The profits which make it possible to stay in business can slip away too easily in a haphazard operation, no matter how much fun it may seem to be working that way. And good work can't be done in a sloppy way.

The organization must recognize the facts of the planning and building operation, and provide for each step to be accomplished smoothly. Responsibilities and duties must be clear with regard to job getting, preliminary conversations, preliminary studies, working drawings, details, specifications, bids and contracts, approvals, supervision, and payments. In addition, the office organization must arrange for the proper handling of records and files, bookkeeping, office callers and other miscellaneous activities.

Engineering and consultation services must be worked into the organizational procedure as smoothly as work *within* the office. The contact responsibility and the follow-through responsibility must be clearly defined and integrated with the rest of the design and construction progress.

Some method of following progress through a

job operation—some form of office progress chart—must be kept up-to-date and posted where all concerned can see it.

5. A growing tendency in recent years has been the addition of "associates" to the staffs of the larger and medium-sized firms. In some cases this is merely a device to hold onto good key men and, as such, it seldom works. In other instances it is a sincere wish to allow men who are contributing more than routine work to the welfare of the office to participate in whatever profits there may be above normal needs. In the larger offices the move is often toward general profit sharing.

6. Regular staff meetings to review work in progress and to check on the efficiency of the organization are advisable no matter what the size of the office.

To determine how successful offices which are accomplishing good work solve these organizational problems, P/A has made several surveys in recent months. In general, it appears that the offices consciously operating under a procedure which recognizes and follows the design and building sequence fall into two main groups. They might be called the horizontal and the vertical methods of organizing the staff.

In one case—the horizontal (Figure I)—there are "departments" within the office, which handle specific duties at all times, on all jobs. There is, for example, the specification department, the outside supervision department, even in some cases the "design" department—although the separation of one aspect of design from planning and consideration of materials is not a recommended practice—and there is, of course, the drafting room, turning out working drawings and details on whatever jobs are active, under the guidance of a chief draftsman.

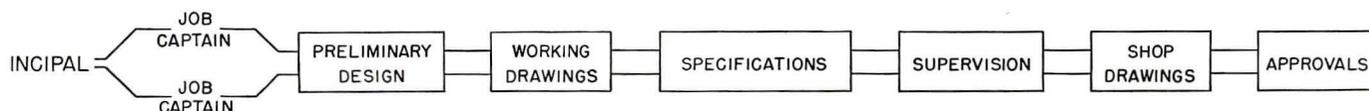


FIGURE 1

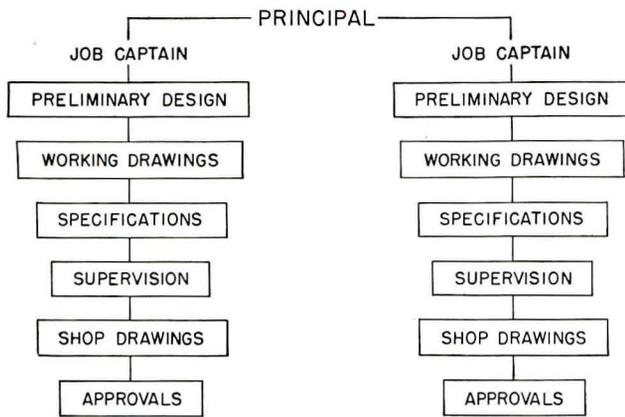


FIGURE 2

As a job comes into such an office, it is assigned to a "job captain"—who may or may not be one of the principals in the firm—and he guides it through the various departments. His activities, in this case, are those of a coordinator, processor, and expeditor. Obviously, this system is used most often in large firms, although its counterpart might be found in the small firm with one designer, one specification writer, one draftsman, one "outside" man.

Advantages of this method of operation are that each employee becomes thoroughly familiar with his job, standardization of oft-repeated details is possible, and a regular system of operation and flow of work can be maintained with little lost time. Disadvantages are that men become stuck in perhaps unpleasant routines, design methods tend to become stereotyped and repetitive, and—most important in a business sense—a slackening up of the flow of work can throw the whole organization out of whack.

The other—the vertical—method of doing work (Figure 2) tends to recognize each "job captain" as an architect handling his own job with the office personnel at his disposal and the advice and counsel of the other principals and job captains always available. The job captain actually runs the job, drawing into his staff whatever personnel for preliminary design, drafting, detailing, specification and supervision he finds necessary to supplement his own efforts. The "chief draftsman" is, in this case, the coordinator of work in his jurisdiction, which is directed by several "captains."

Advantages of this system are that job captains develop more rapidly into fully responsible and completely capable men—and take a great deal more interest in their work, since their responsibilities are greater. In some firms queried, it appears that the person running a job operates very nearly as an independent architect—with frequent staff meetings coordinating activities in the office and maintaining standards. Another advantage lies in the fact that an office so organized can expand or contract

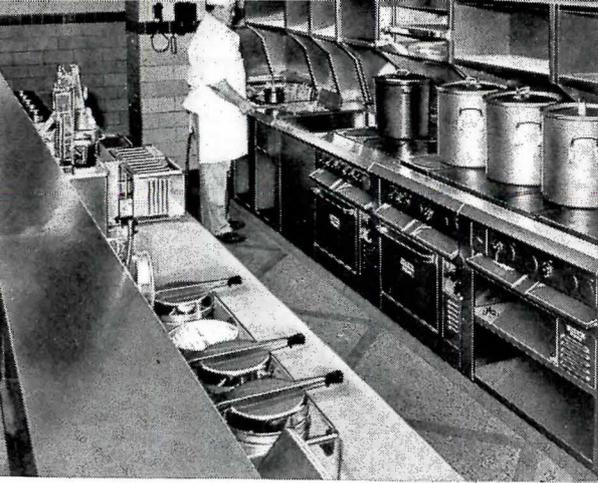
more readily as volume of work varies—personnel tends to become more flexible in its adaptability to situations. The disadvantages of this system are that control by the principal or principals may be lost—the quality of design (in the broad sense) on any particular project may depend to an extent on the person running it, and work turned out by the office may be spotty. Also one "captain" may be efficient as a job organizer and another relatively inefficient, and such constants as office overhead and drafting time may vary greatly from job to job, making budgetary control difficult.

Not all offices, of course, follow rigidly one or the other of these main patterns of organization. In some instances successful architects have indicated that they find it best to have some work departmentalized while the main drafting room and some other phases of the work may be divided into smaller groups operating under the direction of the individual job captains.

Another deviation from the two principal methods of organizing is often found: the separation of residential design from other work in the office. In order not to involve this work with the overhead charges of the rest of the operation, many of the offices queried said that they have set up a different operational procedure for it (see the *FIELDS OF PRACTICE* study in the October *P/A* for discussion of how this work can best be handled) in some instances amounting to a separate office under the control of one or two men who do everything from client contact to supervision.

Apparently there are many personal variations possible in the method of organizing the office. However, all of the successful offices agree on certain things. First, of course, that some method of operating efficiently and consistently is needed. Second, that all employees must be given a feeling of contributing to a complete design process, with some degree of responsibility, rather than being cogs in a mechanical wheel. Third, that discussions, group decisions and cooperation must be fused into whatever method of producing the work is decided on. (One survey indicated that 64 percent of the offices arrived at important decisions after group discussions; in less than eight percent of the firms, one man was the dictating "boss.") The old days of all important decisions coming from the front office, with the drafting room merely a mechanical drawing and tracing department are almost gone, our survey indicates. As an example, an attempt to determine how many individuals have some part in decision on use of materials and items of equipment indicated that men working on preliminary designs, men working on details, specifications, or even checking shop drawings, and men supervising construction at the site all had some say, as their turns came and in group conferences, in this important matter.

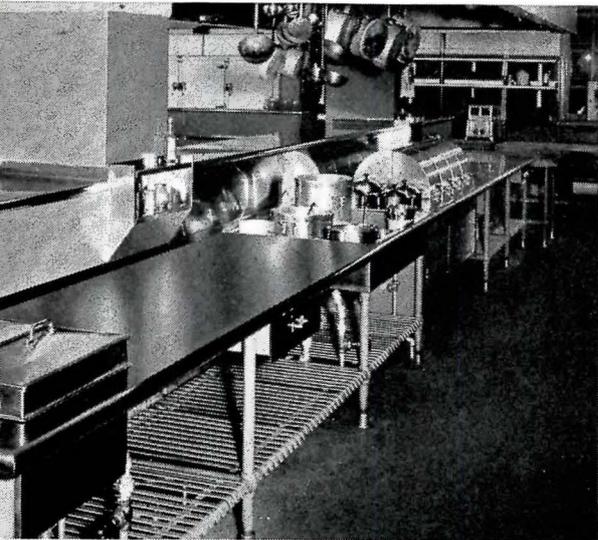
Note. Articles which will follow in this series will deal with the architect's organizational relation to consulting engineers and other consultants, with the use of "associates" in many offices, with questions of partnership, and various other phases of the office organization. The surveys of the profession referred to in the article above are continuing; contributions to the discussion will be welcome from firms which have worked out procedures from which others—and architecture in general—might benefit.



1

SPECIFYING KITCHEN EQUIPMENT

for mass feeding

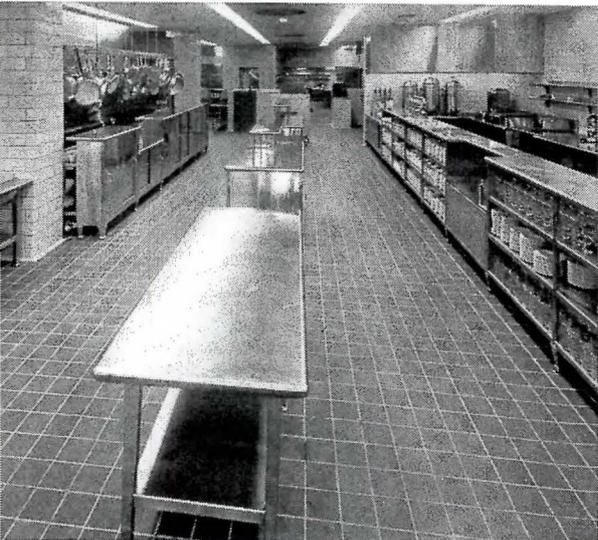


2

THE PROBLEM. Many types of buildings now require kitchens and eating spaces for the feeding of groups of people. Among the structures which an architect may be called on to design, and which will require some knowledge of the layout and equipment involved, are hospitals (see P/A, November 1947), schools, prisons, industrial plants, church meeting halls, community centers, and, obviously, restaurants and hotels. The problem will vary greatly among these diverse types. Institutional buildings will have an emphasis on health and comfort; while the budget must be kept in mind, hospital feeding arrangements, for example, will be considered primarily from the point of view of patient care and recovery. Commercial installations, on the other hand, may be concerned above all with efficiency and the most careful use of space. In all cases, ease of maintenance will be an important factor.

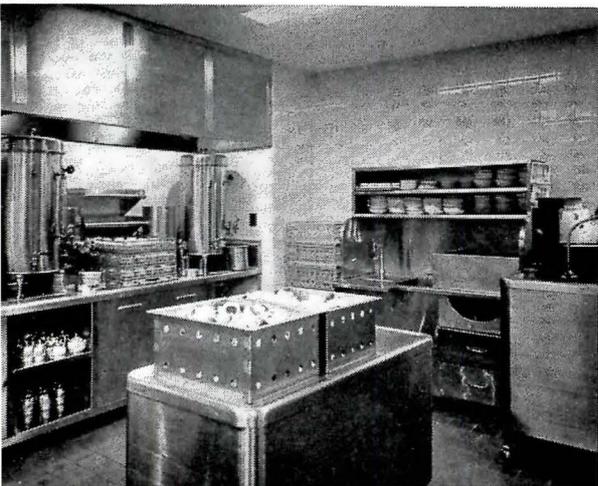
The type of equipment selected for *cooking* will be influenced largely by the method of *serving*. Cafeterias and other self-service arrangements require one sort of kitchen equipment; dining rooms with full service another. Short-order equipment is a field in itself. Food served at a distance from the preparation space (as at a hospital patient's bedside) raises special problems in cooking, serving, and dishwashing.

Location of the food-dispensing unit in relation to supply of goods is another factor which will influence selection of equipment; not only the obvious items such as storage racks, refrigerators, etc., but even the pieces of equipment which are used in final preparation are affected if not determined by such matters as whether meat is



3

1. Cooking space of the kitchen in the Dan Clark Restaurant, South Bend, Indiana, Andrew A. Toth, architect. Fryers and ranges are Edison Hotpoint equipment, electrically operated as is miscellaneous cooking equipment on stainless steel counter at left.

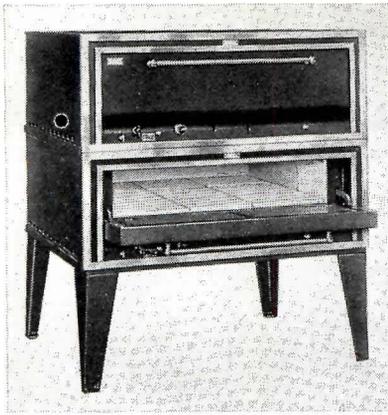


4

2. Serving area in hotel kitchen, with bain marie set into stainless steel counter top. Installation by John Van Range Co., Cincinnati, Ohio.

3. Main kitchen in the Terrace Plaza hotel in Cincinnati, Ohio, serving both hotel dining room and Skyline dining room. Skidmore, Owings and Merrill, architects. The installation, 100 percent stainless steel, is by the John Van Range Co. of Cincinnati, Ohio.

4. Coffee service, Mayflower Hotel, Washington, D. C. Stainless steel installation by Nathan Straus-Duparquet, New York, N. Y.



Vulcan Multiple Heat Conduit bake oven. Each deck is a complete oven, tile lined, with flow of gas-fired heat directed by multiple conduits to all parts of oven. Standard Gas Equipment Corp., Baltimore, Md.



Electrically heated bake oven. Hotpoint, Inc., Chicago, Ill.



Bank of four #959 Blodgett roasting ovens, at Hunter College, N. Y. (Used originally as a Waves' Training School, then for U. N. meetings, now to feed students.) G. S. Blodgett Co. Inc., Burlington, Vt.

delivered in bulk and stored until it needs to be cut or whether it is delivered processed.

As in the case of any other design problem, the designer must study his program carefully (in many instances develop the program for his client) before he begins planning, thinking of equipment, or even seeking specialized advice.

THE FUNCTION. No matter what the particular requirements of a problem are, there is a certain routine of operation which must be followed in the storage, preparation and serving of food in quantities. These functions are telescoped in the case of a short-order restaurant (most efficiently concentrated, perhaps, in railroad dining cars) and clearly marked apart from one another in space allocation for a large institutional kitchen-dining room.

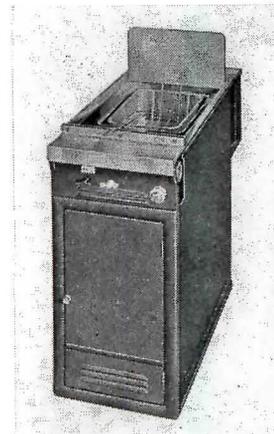
The principal functional divisions are:

- | | | |
|--------------|----------------|----------------|
| 1. Receiving | 2. Preparation | 4. Serving |
| and storing | 3. Cooking | 5. Dishwashing |

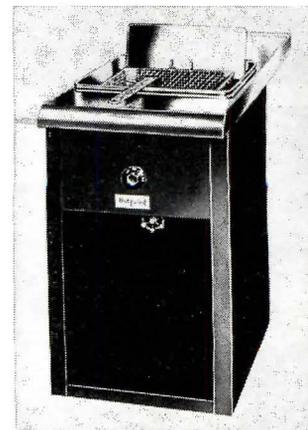
There are many subdivisions and variations possible within these main categories. One institution may require careful weighing, checking and sorting and separate storage of goods received; another facility may make this operation a very simple one. There is often a distinction between bulk storage and day storage. Preparation spaces may mark a distinction between vegetable and meat preparation, and may even add special preparation spaces for salads, desserts, baked goods, or such things as special diets. Cooking may be of such quantity that separate spaces—or at least equipment—must be set aside for frying, broiling, stewing, etc.

Service space will depend entirely on the method of delivery of the food to the consumer, and may vary from the direct chef-to-diner method of small restaurants to the complicated process which requires bain maries, steam tables, or even heated food trucks. Dishwashing may range equally in scope; it is important to note that even in the smallest and simplest installation this function should be kept separate from the preparation of food and should include convenient storage for clean utensils.

CONSULTATION. Unless the architect has had enough experience to consider himself an expert—and recent enough experience so that he is thoroughly familiar with improvements in operational methods and available equipment—he should obtain advice from an expert at the preliminary planning stage. Any of the large kitchen equipment manufacturers will give objective advice and there are several independent food service consultants whose advice can save the architect many times their fee. For an inexperienced designer, any rule of thumb space allocation is dangerous—the actual space needed for the proper translation of the program may vary several hundred percent because of special requirements, need for



Vulcan fryer. 18 gage sheet steel body, multiple gas burners. Standard Gas Equipment Corp., Baltimore, Md.



Hotpoint electrically operated fryer. Equipment is now made for installation in tight-fitting bank with base adaptable to floor condition architect designs.

flexibility, location, shape of available space, or other factors. Only an actual layout, with the required equipment spotted, can determine the space needed.

EQUIPMENT. There are literally hundreds of items of kitchen equipment for mass feeding. In general, there are those items of equipment which are loose, or which require only the simplest fastening in place or building in—such things as mixers, choppers, tables, etc. Then there are the major items which are delivered to the job complete, but which require additional construction to make them function properly. Ranges, fryers, broilers and steamers, for instance—the most important pieces of cooking equipment—require not only utility connections for their operation, but proper provision for drainage and for ventilation. Finally there are many pieces of equipment which can be completely built-in—detailed and specified by the architect. Such items might include fixed tables, some sinks, storage racks and shelves, counters, cabinets, walk-in refrigerators, etc.

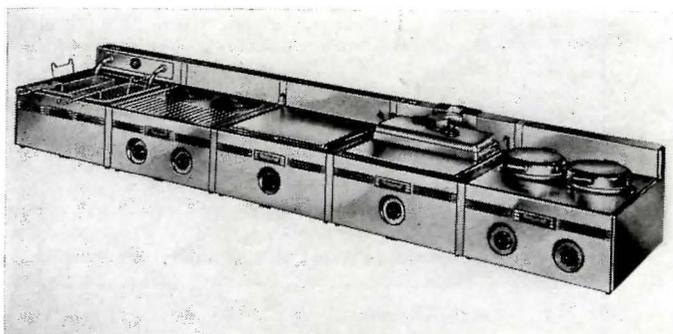
SPECIFICATION. Manufactured items which will be delivered to the job ready for installation can well be specified by brand name. The architect should remember that this procedure (recommended now by Small and other advocates of the "streamlined" specification method) does not relieve the specifier of his responsibility to his client—it is not a way of avoiding the need for technical knowledge, but rather it is an implied statement that the architect has satisfied himself that the brand he specifies is the best available item within the budget requirements, and will, if properly installed, fully meet the requirements of the program. Substitutions should then be allowed only if it can be demonstrated that the suggested alternate brand does its job equally well for the same cost.

Other specified items, however, must be covered in detail. Equipment which will be made on the job or in the shop can make or break a good kitchen, and the specification is important. The following specification example by Ben John Small for the office of Alfred Hopkins and Associates (a firm which has had long and extensive experience in kitchen design) covers some of those items which must be specified in detail.

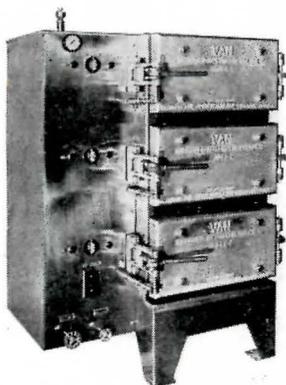
Not illustrated in the sample which follows are paragraphs dealing with **WORK INCLUDED**, **QUALIFICATIONS OF BIDDERS** (Mr. Small recommends a five year demonstrable experience in the field), **SHOP DRAWINGS** (for all work; if services have been roughed in, shop drawings must show actual measured conditions), **VERIFYING CONDITIONS**, **DELIVERY AND INSTALLATION**, **CUTTING AND FITTING**, **IDENTIFICATION**, **TESTING**, **INSTRUCTIONS FOR OPERATING EQUIPMENT** (dimensional prints, data sheets, instructions, demonstration if required), **CERTIFICATES**, **FINAL CLEANING**, **ETC.** Nor do the specifications which follow include standard manufactured items which may be named safely by brand.



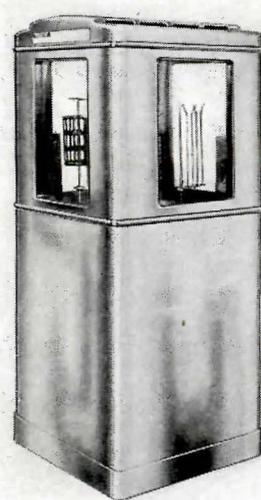
Bank of Vulcan ranges in Sheraton Belvedere Hotel, Baltimore, Md. Heavy-duty equipment comes in black "Vulcador" finish on sheet steel; restaurant equipment is available in stainless steel. Standard Gas Equipment Corp., Baltimore, Md.



"Short-order" electrically operated makes it possible to have many cooking surfaces in small space. Hotpoint, Inc., Chicago, Ill.



Pressure type steam cooker, manufactured by John Van Range Co., Cincinnati, Ohio. Furnished in hot-galvanized boiler plate or stainless steel. Electric time clock system controls time of cooking, lights indicate steam in compartments.



New piece of restaurant equipment is the Vulcan "Flavorizer", designed for visible cooking. Radiant heat surfaces seal and cook foods which revolve on various types of spits and holders as they broil or roast. Standard Gas Equipment Corp., Baltimore, Md.



EQUIPMENT FOR LARGE KITCHENS

By BEN JOHN SMALL

Associate, Alfred Hopkins
& Associates, Architects

Another in P/A's series of examples of streamlined specifications, these constitute a portion of the complete kitchen spec for an actual job, a large institution in New York City. They have been edited to make them generally applicable to large kitchens of all types. The presentation here deals only with items that are ordinarily specially built-in for each job; lists of schedules of standard manufactured items are omitted because they vary widely from job to job. For a discussion of manufactured equipment see preceding pages.

MATERIALS, WORKMANSHIP AND INSTALLATION

Space for notes, addenda, changes

1. MATERIALS

- (a) **General—Materials:** new. **Sheets:** free of buckles, warps, surface imperfections.
- (b) **Stainless Steel**—Republic Steel Corporation's "Enduro 18-8" or United States Steel Subsidiaries' "U.S.S. 18-8" or American Rolling Mills Company's "Armco Type 302." **Finish:** 4, unless otherwise specified. **Hand ground finishes:** not acceptable. Protect ss until ready for use. Remove protection when directed.
- (c) **Monel Metal**—Where ss is specified herein, monel metal containing approximately 2/3 nickel and 1/3 copper may be used in lieu thereof, excepting where food is actually in contact with it during cooking. **Thickness and finish:** same as ss.
- (d) **White Metal**—Where specified, white metal (nickel silver) casting is intended; of corrosion resistant quality, to contain not less than 30 percent nickel. **Castings:** rough ground, polished, buffed to bright lustre, free from pit marks, runs, checks, burrs; other surface imperfections. Low nickel-content white metal turning yellow on exposure to atmosphere: not acceptable. In lieu of 30 percent nickel alloy white metal casting, "18-8" ss castings: acceptable.
- (e) **Cast Stainless Steel—Contain minimum of:** 18 percent chromium, 8 percent nickel, with maximum of 0.12 percent carbon; rough ground, polished, buffed to bright finish, free from pit marks, runs, checks, burrs; other surface imperfections.
- (f) **Galvanized Iron**—American Rolling Mill Company's "Armco Ingot Iron" or Republic Steel Corporation's galvanized "Toncan Iron."
- (g) **Color of equipment of any nature:** as selected.

2. WORKMANSHIP

- (a) **General—Workmanship:** best of respective kinds. Labor: performed in thorough, workmanlike manner by skilled mechanics of trade. Unless otherwise specified, joints in ss work: electrically welded, ground smooth, polished.
- (b) **Stainless Steel Pipe And Tubing**—Seamless or welded, of gage specified, of true roundness; thoroughly, properly annealed, pickled, ground smooth. **Welded tubing:** thoroughly heat-treated, properly quenched to eliminate carbide precipitation, drawn tube to size and roundness; ground as required. **Tubing exposed to view:** give final grind, of 180 grit emery.
- (c) **Welding:**
 - 1. Do in thorough manner, with welding rod of same composition as sheets or parts welded. **Welds:** strong, ductile, with excess metal ground off; grind, polish joints smooth to match adjoining surface; make welds free from imperfections, such as pits, runs, spatter, cracks; have same color as adjoining sheet surface. **Joints in fixture tops, tables, drainboards, exposed shelving, sinks and the like:** weld in watertight sanitary manner by any accepted process, excepting carbon arc-welding.
 - 2. **Butt welds:** made by spot welding straps under seams, filling in with solder; grinding: not acceptable. It is intention that welded joints be homogeneous with sheet metal itself. **Any form of welding permitting carbon pick-up:** not acceptable. Where sheet sizes necessitate joint, weld such joint. Fabricate fixture tops in factory with welded joints to reduce field joints to minimum. Where fixtures join, fabricate such fixture tops continuously with welded joints, except in case of field joints. Closely butt field joints; pull together, neatly, closely rivet. Place counter-sinks on top of drilled holes; fill in with riveted shank; grind smooth to present finish continuous with adjoining material.
 - 3. **Fixture tops:** of maximum length, with welded factory joints to permit bringing fixtures to final positions in order to reduce field joints to absolute minimum. Wherever welds occur on surfaces not finished by grinding or polishing, coat such welds and accompanying discoloration in factory by means of metallic base paint to prevent possibility of progressive corrosion of such joints.

INSTALLATION

Space for notes, addenda, changes

- (a) **Bumpers**—Provide movable equipment with two 3" long, 1¼" diameter, 12-gage ss tubing spacers, weld to back; provide live rubber bumpers.
- (b) **Electrically Operated Equipment**—Submit in triplicate, within 90 days after Contract award, list of electrically operated equipment proposed to be furnished, installed. Give equipment name, installation location, voltage, control type, and any other information required to permit Electrical Contractor to provide proper wiring. In event improper wiring is installed due to failure of Contractor to submit correct data, provide proper wiring at no extra cost to Owner. List shall state if electrical control is mounted on machine or equipment, built in as part of equipment, or for wall mounting.
- (c) **Motors ½ hp and above:** 208 volt, 3 phase, 60 cycle. **Motors below ½ hp:** 110 volt, single phase, 60 cycle.
- (d) **For kitchen equipment,** motors may be of manufacture other than required for balance of Contract. Provide motor-operated kitchen equipment with proper starting equipment, overload protection, disconnecting means. Disconnecting means and starting equipment may be combined; of toggle switch type, have thermal overload protection if motor is less than ½ hp or designed for across-line starting without injury. For motors ½ hp and above or if not especially designed for across-line starting, control: consists of resistance starter, push button station, De-Ion circuit breaker; mounted in one cabinet, externally operable. Use standard cabinets, as approved. **Portable equipment:** have ground wire, plug for receptacle type installed.

REQUIRED SAMPLES

- (a) **Submit samples** of materials described herein as determined.

DESCRIPTION OF EQUIPMENT

SINKS

- (a) **Sinks:** Except as otherwise specified, 12-gage ss, having front, bottom, rear, splash-back, of one sheet of material. **Front:** extend up 3" higher than drainboard lines; fit with 1½" rolled sanitary curb, running full length, with sink ends constructed for welding to drainboards. Where drainboards are required, make right angle weld to sink body.
- (b) **Where sink is free standing unit without drainboards:** continue rolled edge around both ends with corners of rolled edge rounded to conform with radius of inside vertical sink corner. Weld corners.
- (c) **Extend rear or splash-back** to 12" height above drainboard line, with 2½" return to wall, with top edge bent at 30 degree angle.
- (d) **Weld sink ends to sink body** with all vertical and horizontal corners formed on 1½" radius. Construct top edge terminating at drainboard line so that drainboards may be welded at this joint and work appears as integral unit.
- (e) **Construct splash-back** so that work appears as integral unit. Crease sink compartment at center; fit with 2" quick opening lever handle poppet-type waste outlet, of best grade brass, chrome-plated. Fit waste outlet top with removable, perforated, ss strainer. **Waste outlet bottom:** construct with boss at rear, properly thread for reception of male connection for connecting to overflow. Furnish overflow with sinks, and as specified herein. Construct waste outlet bottom with 2" standard size male thread.
- (f) **At top center of rear sink,** 2" below drainboard line, provide brass, chrome-plated overflow strainer, elbow.
- (g) **Connection between overflow and waste outlet** will be furnished by others. Where overflow strainer is screwed into elbow between sink back and elbow face, provide gasket white leaded, to make tight sanitary connection.
- (h) **Where waste outlet is specified:** pass to underside of sink bottom with gasket similar to that specified herein; hold in place with countersunk 3/16" ss bolts, lock washers, nuts; in manner to make waste outlet easily removable.
- (i) **Where steam injector is specified:** supply to each compartment, ½" brass, chrome-plated manifold, with brass, chrome-plated angle trough for control. **Manifold:** consist of necessary nipples, T and elbow, with connection at rear and front, extending to sink side; connect to fitting, weld to sink proper, which shall have male thread on exterior for above connection and female thread on interior with plug and orifice to allow steam to enter sink compartment.
- (j) **Fit sink undersides at corners** with 12-gage ss gusset plates, stamped out by die in one operation for reception of legs. Weld gusset plates to sink bottom.
- (k) **Where chair carriers are specified for sink supports:** provide 12-gage ss channel, 2" wide, 1" high, extending from front to back of sink underside with ends totally enclosed with same material; weld corners. Weld this entire channel to sink bottom so that it will be scribed to creased bottom and have one level line; weld tight to sink bottom.

- (l) **Where gusset plates are required:** furnish necessary 1¼" pipe size ss tubular legs, fitted at bottom with cast, white-metal, chrome-plated, adjustable feet, having adjustment of at least 1". Where adjustment is made, hold same in place with Allen-head screws.
- (m) **For two- and three-compartment sinks:** construct each compartment as individual bowl, each having separate ends welded in. Cover spaces which remain open at front, bottom, and rear with 12-gage ss band; weld to sink body. **Where sinks are required to set into counter tops, sinks:** have raw edge around top; cut out counter top or table to receive sink, which shall be welded thereto.
- (n) **Where sinks are specified to be kept 3" away from walls:** extend splash-back at sink rear up to height of 3" above drainboard line; provide rolled sanitary curb running full length around entire unit perimeter identical to that specified for front so as to line up with roll on drainboards; when assembled work shall appear as integral unit.
- (o) **Where sinks are specified to be mounted:** install carriers of "Zurn" type. **Exposed chair carrier surfaces:** construct of rugged design, extra-heavy, cast iron, to properly support units. **Chair carriers:** ground smooth, copper nickel chrome-plated, to match ss unit it supports. **For large two compartment sinks:** provide set of chair carriers under each unit or compartment; mount sink on carriers to allow 3" clearance between units and walls, where specified.

2. DRAINBOARDS

- (a) **Drainboards:** 12-gage, ss, 3" turned up edge at all sides except where shown adjacent to walls. In such cases turn up 12" with 2½" return; top beveled at 30 degree angle, similar to that specified for "Sinks." **Balance:** have rolled sanitary curb extending length of top with interior and exterior vertical bends and corners rounded on 1½" radius; weld joints. Corners, where not adjacent to building walls: rounded on radius to conform to corners specified above.
- (b) **Where above is adjacent to walls:** provide splash-back same as specified for "Sinks." Drainboards: weld to rolled edge splash-back and sink body.
- (c) **Support drainboards,** where required, on "Zurn" carriers, or ss tubular legs, as specified herein.
- (d) **Where shelves are required under drainboards:** support on 1¼" pipe size, ss tubular legs, same as specified for "Sinks." Furnish and set undershelf 12" above floor. **Undershelf:** adjustable, of 1¼" pipe size ss framing, extend around undershelf perimeter, weld to vertical pipe legs to form cross bracing. Weld these to bosses of bushings, construct to fit over vertical legs. Weld bosses or bushings to cross framing. Fit with Allen-head set screws to make undershelf adjustable. Running from front to back, provide 1" pipe size, ss shelf stretchers fitted, welded to 1¼" frame around frame board perimeter. Space ss stretchers 4½" on centers.

3. METAL TABLES

- (a) **Table Tops:** 10-gage ss, with 1⅞" rolled sanitary curb extending around top perimeter; corners: bull-nosed or on 2½" radius where indicated or specified; continuous weld at joints. **Where indicated or specified with splash-back:** provide 1" return at top, with ends closed in same material; weld joints. Finish off splash-back end with end, even with roll. Mount top on 1½" by 1½" by ⅝" ss angles. Extend around top perimeter; weld joints; provide cross braces running from front to back of same material; weld space 2'-6" on centers.
- (b) **Where drawers are indicated or specified:** framing for supporting drawers may constitute reinforcing angle from front to back. **Table top:** held in place with ¼" ss threaded bolts set into angle framing. **Angle framing:** drill, tap, set bolt into rolled edge, tighten, lock in place with ss nuts. On underside of this angle framing, provide ss bushings depth of roll, weld to this frame to receive tubular legs. **Bosses or castings:** weld, drill for reception of Allen-head screws to hold legs in place.
- (c) **Provide 1¼" diameter pipe size ss tubular legs** fitted at bottom with cast, white-metal, chrome-plated adjustable feet, with adjustment of at least 1". **Where adjustment is made:** hold in place with Allen-head screws. **Legs:** cross braced 1'-2" from floor by means of outside framing, of 1¼" diameter ss legs similar to those specified for vertical legs, weld to bosses or bushings of ss; construct to set on exterior of vertical tubing so that they may be held in place with Allen-head screws, be adjustable. Provide 1¼" ss pipe stretchers from front to back, weld to cross bracing; space 4½" on centers. **Tubing:** weld to 1¼" frame, make so that entire table unit is integral part of same, of rigid construction and identical to undershelf specified under "Drainboards."
- (d) **Each Drawer:** 1'-10" wide, 2'-0" deep, 5" high. **Drawer bodies:** 18-gage ss with horizontal, vertical bends on 1⅞" radius; weld joints. **Drawer front:** 10-gage ss with bodies spot welded to fronts. Furnish drawer fronts with cast, white-metal, chrome-plated off-set pull handles. Provide drawers on interior with stop at rear to prevent drawer from falling out of slides. Provide each drawer with flush type Yale, Corbin, Eagle or approved equal lock, with three keys to each drawer; total of 6 master keys.
- (e) **Construct drawers** to operate on 18-gage ss channels full drawer height, fasten to angle iron frame work. **Drawer:** operate on roller bearing sheaves.

FOOD AND DISH WARMERS

Space for notes, addenda, changes

- (a) **Tops:** 10-gage ss, with rolled sanitary curb $1\frac{7}{8}$ " around entire top perimeter. **Corners:** bull-nosed or on $2\frac{1}{2}$ " radius as specified in individual items; weld joints. Where unit is specified to set against wall and provided with splash-back, install 1" return to wall at top, ends. Terminate ends even with roll; weld joints.
- (b) **Support tops on body enclosing front and ends;** construct of 18-gage ss to conform to perimeter of inside roll of top. **Where ss sliding doors are specified on one side only:** enclose rear with 18-gage ss. **Where $2\frac{1}{2}$ " radius is specified:** round body to conform to top radius; weld joints, corners. Cover exterior or body joints with 12-gage ss band with concealed construction. **Tops:** in one piece. If field joints are required, weld on job.
- (c) **Fit unit interior with bottom and intermediate shelf** of 16-gage ss. Construct to set into $1\frac{1}{2}$ " by $1\frac{1}{2}$ " by $\frac{1}{8}$ " ss angles extending around perimeter so that shelves are removable. Turn down shelves $1\frac{1}{2}$ ". Provide $\frac{3}{4}$ " diameter perforations spaced $3\frac{1}{2}$ " on centers. Warmer bodies only shall not have bottom on any part of this fixture; shall remain open only when unit is furnished with legs. Where unit is to be mounted on masonry bases: furnish 16-gage ss bottom.
- (d) **Furnish heaters or food-warmers with sliding doors,** of pan-type, roller bearing. **Doors:** 16-gage ss with indented cast Corbin or approved equal chrome-plated door pulls. Mount and support on roller bearings, overhead type. Operate rollers of roller bearing type on ss bands, securely fastened to warmer inside top section. Fit doors with $\frac{1}{2}$ " return all around; weld corners. In bottom, provide ss bands with ss spacers securely fastened in tight, workmanlike manner; provide guides or tracks at bottom of doors which shall be open at bottom to allow dirt to fall thru.
- (e) **Warmer Interiors:** unless otherwise specified, fit underneath bottom shelf with 4 strand $\frac{3}{4}$ " brass seamless steam coil each provided with Robert-Shaw model TS or approved equal chrome-plated thermostat, high pressure type, for pressure which will be used in this area, complete with necessary lock washers, nuts, with connections from thermostat to coil which shall be furnished by this Contractor.
- (f) **Where specified, provide pipe space for valve compartments** as part of fixture, 1'-4" wide by full depth, enclosed at rear and both sides; construct as integral part of unit, fit on front with 16-gage ss pan-type door, having 1" return and $\frac{1}{2}$ " return forming channel; weld corners. Construct to set flush with fixture face when assembled. Fit door with chrome-plated Bommer or approved equal spring hinges and Maritime drop-chrome-plated brass eyelet pull for opening. Valve compartment bottom: entirely open.
- (g) **Mount unit on masonry bases** furnished and installed by others.
- (h) **Where Bainmarie and sinks are specified to set into table tops:** cut out such tops for proper sink size or Bainmarie. Weld Bainmarie or sink to table top.

CONTAINER TABLES (SOILED AND CLEAN DISH BATH)

- (a) **Construct top** of 12-gage ss, with vertical, horizontal corners having $1\frac{1}{8}$ " radius; weld joints. Turn up edge 3" at all sides with $1\frac{1}{8}$ " rolled sanitary edge extending around entire table top perimeter with rolled edge rounded on radius to conform to radius of corner; weld. Where entering machine it shall be turned down $1\frac{1}{4}$ " into machine in such manner as to make tight, sanitary job.
- (b) **Where specified, cut out top,** fit with swill sink extending full table width, 12" wide, 12" deep. Furnish welded sink to this cutout in table. Construct sink of 12-gage ss having horizontal, vertical corners welded on $1\frac{1}{8}$ " radius. Fit sink in bottom with 2" brass, chrome-plated, waste outlet, securely fastened to sink underside in tight, sanitary manner. Fit sink interior with 18-gage ss, perforated swill baskets having 1" legs at bottom; weld corners; vertical, horizontal corners: $1\frac{1}{8}$ " radius. **Top edge:** hem over $\frac{1}{8}$ " by ss band extending around perimeter of this basket, spot weld to same. Fit sink interior with two ss drop panels. **Sink:** have $\frac{1}{8}$ " diameter perforations, space 1" on centers. For top, provide slotted removable 12-gage ss top to match table thickness, with slot 1" wide, extending from front to back, with 1" blank space at each end. **Top:** be removable, construct to set flush with table top proper.
- (c) **Cut out table where specified;** furnish rubber scrapping coppers. **Where cutout in table is specified:** fit with 1" high 12-gage ss collar; weld to cutout in table top.
- (d) **Except as otherwise indicated,** construct tables to set approximately 2" clear, away from walls.
- (e) **On table underside,** weld channels 5" wide, having 1" webs, with edges filed smooth, running from front to back, of 12-gage ss, similar to those specified under "Sinks." Provide ss gussets, $1\frac{1}{4}$ " ss pipe legs with cast, white-metal, adjustable feet, same as described under "Metal Tables."
- (f) **Cross brace tables** with $1\frac{1}{4}$ " ss tubing, with cutout for garbage cans. **Bracing:** welded.
- (g) **Except for specified differences,** construct tables in same manner as described under "Metal Tables."



Air Photos & Aerials, Inc.

EXTERIOR shows building just before completion.

UMBRELLA ROOF TRUSS*

Reduces Cost, Increases Bay Dimensions

FRERET & WOLF, Architects

WILLIAM H. CREIGHTON, Structural Engineer

In designing a new warehouse and manufacturing plant for the Ware Cotton Batting Co., of New Orleans, the architects and engineer were faced with the problem common to all building construction today: how to keep cost to the minimum. At the same time, larger bays than usual would solve some of the owner's difficulties, and as high a natural lighting intensity as possible was desirable. The illustrated one-story building, which has concrete block walls, steel framing, protected-metal roofing, corrugated glass skylights, and is equipped with a complete sprinkler system, cost approximately \$170,000 (total). It was completed early this summer and contains 39,000 sq ft of floor space; construction cost approximately \$3.75 per sq ft.

The chief saving was in structural steel; about 5 lbs per sq ft were used as compared to a customary 7 to 10 lb. For this, the roof truss design* was largely responsible; but in addition, truss design was studied in conjunction with end wall design and with the type of roof surfacing employed. To quote the designers:

"A sloping roof is less expensive than a flat roof. In most sloping roofs with any appreciable span, however, the end walls of the building attain greater average heights than corresponding walls of a flat-roof building and the cost of these walls partially offsets the saving in the roof. In the case of the balanced slopes of the 'Umbrella' pattern it is considered that the average area of the end walls more nearly

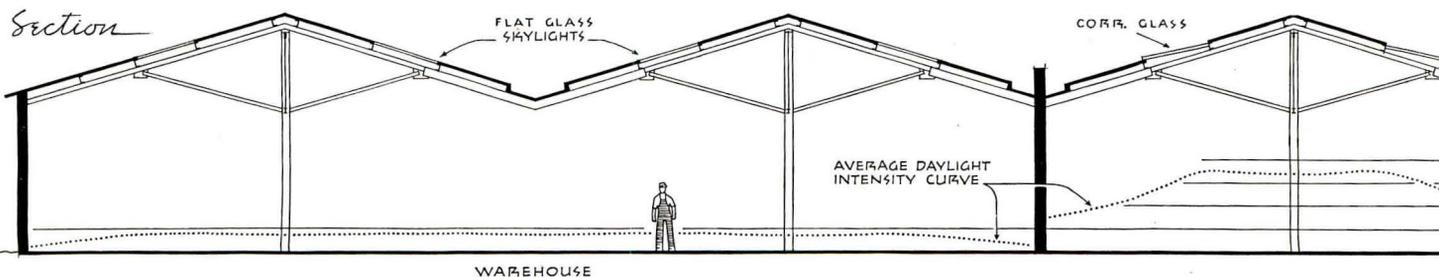
approaches the area and the cost of the end walls of a flat-roofed building. With added height of a parapet for a flat-roofed building the end walls for the 'Umbrella' pattern may even have less area.

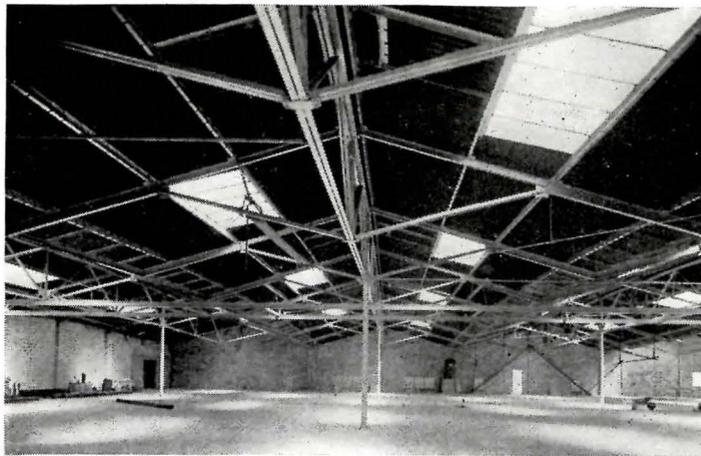
"All skylights are incorporated in the same plane as the corrugated roofing; thus the roof area has been held to the minimum.

"Of special significance is the column spacing. The normal span of the 'Umbrella' truss is about 43 ft. The span of the Warren truss (which runs at right angles to and supports the 'Umbrella' trusses) may be 80 ft or more. 'Umbrella' trusses, therefore, more than double the customary 20 ft between conventional trusses, with consequent reduction of interior column obstructions and lowered cost for column footings; and the over-all weight of structural steel is reduced by eliminating practically half the conventional number of longitudinal trusses as well as the greater part of the cross-bracing.

"For a commercial or industrial building this roof structure provides controllable ventilation, a heat-insulated and fire-resistant roof covering, liberal roof drainage, abundant natural interior lighting, unusually wide column spacing and at the same time it requires minimum quantities of building materials—and the materials used are economic in today's conditions."

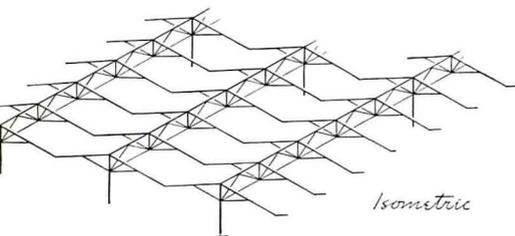
*PATENT PENDING





Chas. L. Franck

INTERIOR, manufacturing section.

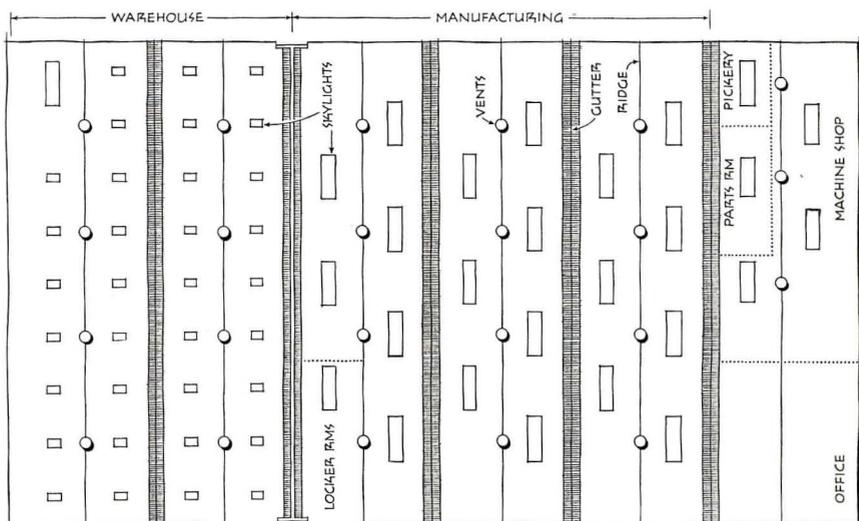


Isometric

"Umbrella" roof illustrated was designed for the following conditions:

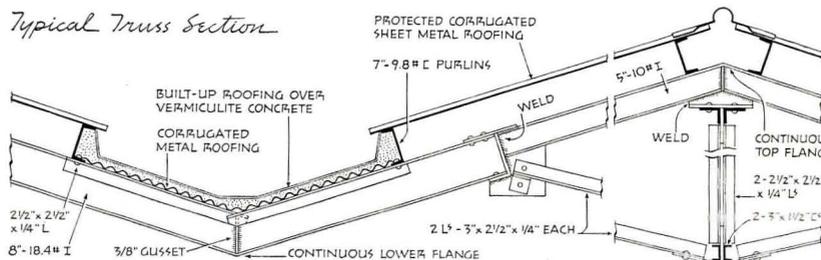
- Load*20 lb/sq ft horiz. projection
- Loads:
- of Sheeting.....5 lb/sq ft roofing area
- Corrugated Glass.....9 lb/sq ft glass area
- Inkling System.....5 lb/sq ft horiz. projection
- ventilators.....200 lb each
- Height of purlins
- Height of 5" and 8" I-beams
- Gutter (concrete at gutter purlins)
- Corrugated sheeting.....5 lb/sq ft sheeting area
- Vermiculite.....Average thickness 2"
- Waterproofing or
- Composition roofing.....6 lb/sq ft
- Water.....Average 1" depth over gutter area
- Special Loads.....Crane rails to carry moving load of 3000 lb

* Live load was principally wind load, allowable steel stress was used by 33 percent.

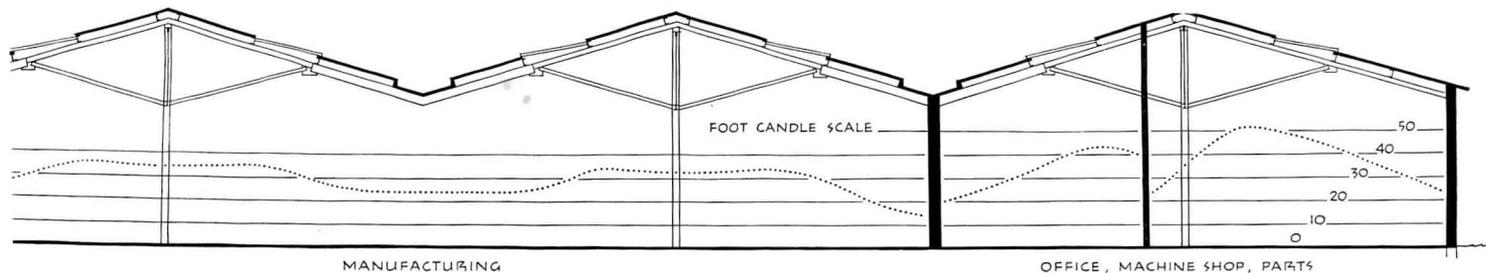


Roof Plan

Typical Truss Section



Lighting calculations are based on a source brightness of 1000 foot-candles per sq ft at the inside surface of the glass in the skylights; this would be produced by an outdoor sky brightness of approximately 1000 foot-candles. Ventilation, using wind vents, is designed to produce 5 air changes per hour throughout the plant.





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

1-205. **The Agitair** (Bul. RTC101), 6-p. bulletin describing a flush-type air diffuser for use in acoustical tile ceiling. Installation charts, patterns for air distribution problems, data. Air Devices, Inc.

1-206. **Dry Type Electronic Air Filter** (Bul. 257) (100H-48-C), 12-p. bulletin on an electronic precipitator; ionizing unit eliminated; electrostatically charged Airmat paper increases cleaning efficiency. Design features, voltage requirements, specifications, installation, capacity and dimension chart. Other types of air filters. American Air Filter Co., Inc.

Two 8-p. booklets on advantages and properties of radiant glass heat panels with thermostatic control. General data, installation cost, operation, maintenance. Continental Radiant Glass Heat Corp.:

1-207. **The Birth of a New Sun.**

1-208. **The Birth of a New Sun.**

1-209. **Even-Ray Coil Mat**, loose sheet on radiant heating system claimed to save 75% labor now required to install customary sinuous coils. Advantages, comparison chart, typical installation, layout diagram. Even-Ray Co.

Two illus. catalogs on heating and cooling coils with new plate type ripple-fins. General, detailed data, dimensions, specifications, ratings, pipe selection chart, steam pressure tables. McQuay, Inc.:

1-210. **McQuay Heating Coils**, AIA 30-C-4 (Cat. 300).

1-211. **McQuay Cooling Coils**, AIA 30-C-4 (Cat. 400).

Three loose sheets on gas circulators and heaters: fan, wall types. Sizes, capacities, dimensions, specifications, safety features. Peerless Mfg. Co.

1-212. **Peerless Gas Circulator**, AIA 29-D-2 (C48ARCH).

1-213. **Peerless Fan Type Gas Unit Heaters**, AIA 30-C-1 (UH48-ARCH).

1-214. **Peerless Wall Type Gas Radiant Heaters**, AIA 29-D-2 (WH48-ARCH).

1-215. **Young Heat Transfer Products** (Cat. 148) (FA-10M-348), 20-p. illus. catalog describing line of industrial heat transfer products, including con-

vectors, unit heaters, air conditioning equipment, radiators, etc. Descriptions, general data. Young Radiator Co.

CONSTRUCTION

3-24. **One Metal Roof for the Life of Your Building**, AIA 12-C, 25-p. booklet on Monel roofing sheet. Description, advantages, installations. International Nickel Co., Inc.

3-25. **Dry Brick Walls**, AIA 5-A, 16-p. booklet on workmanship and proper design required to insure dry brick walls. Photos, directions, bibliography. Louisville Cement Co.

3-26. **Metlwall** (19a/6), 16-p. illus. catalog on movable steel partitions and panelings for interiors. Typical installations, sections, elevations, specifications. Also standard accessories. Martin-Parry Corp.

3-27. **Teco Split Rings**, 4-p. bulletin on split ring connectors. Advantages, cost comparisons. Other products include shear plates, toothed rings, spiked grids, framing anchors, etc. Timber Engineering Co.

DOORS AND WINDOWS

4-146. **Insulation by Reflection**, 8-p. booklet on aluminum venetian blinds. Description, advantages. Aluminum Venetian Blind Co.

★ 4-147. **Wright-Roller Door**, 4-p. folder, including three loose sheets, on new sliding door, with plywood or asbestos fiber board paneling, for closet or cabinet. Drawings, sections, dimensions, comparative cost, advantages. Bowers Bros., Inc.

4-148. **Stainless Steel Ventilating Window**, circular on window to be used with glass block. Advantages, stock sizes. Modern Electric Laboratory.

4-149. **Cupples Aluminum Windows**, 12-p. illus. brochure on double-hung and picture windows manufactured in stock sizes with various glass arrangements. Specifications, dimensions, diagrams, sections, typical installations. Cupples Products Corp.

ELECTRICAL EQUIPMENT AND LIGHTING

★ 5-144. **Progress Toward Improved Classroom Environment**, 16-p. booklet on basic principles of new methods and techniques in development of classroom environment; analyses of light and vision, reflectivity, etc. Also description of desk with nonglare surface adjustable to three slopes for different work requirements. List of reference books. American Seating Co.

5-145. **Cold Cathode Fluorescent Lighting Guide** (June 1948), 7-p. bulletin on properties and uses of cold cathode lighting. Typical installations, photometric data for standard cold cathode lamps. Fluorescent Lighting Assn.

★ 5-146. **Pry-Lites**, AIA 31-F-231 (Cat. 6-25-48), 4-p. illus. catalog describing ten new recessed lighting fixtures, and illuminated house numbers. Features, light curve diagrams, wattages. Pryne & Co., Inc.

5-147. **Five Lines of Electrical Products**, AIA 31-F-23 (Form 7148), 41-p. illus. catalog on fluorescent luminaires and other lighting products. Installations, dimensional sketches, mounting diagrams, candlepower distribution, specifications, shipping data. Spero Electric Corp.

5-148. **Portable Package Power** (SECO Form 11471), 6-p. folder on small power unit for industrial use. Types, ratings, prices. Other products include transformers, theater dimmers, etc. Description, operation. Superior Electric Co.

5-149. **But You can be Protected** (Form A194), loose sheet on emergency power plants for protection to residential and industrial buildings against power line breakdowns. Capacity chart, typical installations, photos. D. W. Onan & Sons, Inc.

5-150. **I E S Lighting Handbook**, 850-p. standard reference encyclopedia containing all technical facts about lighting, from basic theories to practical application of lighting techniques to modern problems. The Illuminating Engineering Society. (\$7.50 per copy; make check or money order payable to the Illuminating Engineering Society.)

FINISHERS AND PROTECTORS

6-134. **101 Hints**, 28-p. booklet on proper care of wood, maintenance of floor covering materials, effective use of wax and finishing. Index. Huntington Laboratories, Inc.

6-135. **How to Decorate Classrooms in the Harmon Technique**, 8-p. brochure enabling architects to select tested classroom color combinations, depending on orientation and function of rooms. Description of Harmon method formulas and specifications for ten color combinations. National Chemical Mfg. Co.

6-136. **Prufcoat**, 4-p. folder on protective coating that bonds firmly to masonry, wood, metal; proof against acid alkalis, alcohol, etc. Advantages, typical applications. Prufcoat Laboratories, Inc.

6-137. **Lapidolith** (BP 1806), 6-p. pamphlet on liquid concrete hardener for protection of terrazzo and concrete floor surfaces. Advantages, test table, typical applications. L. Sonneborn Sons, Inc.

★ 6-138. **Duramite pH**, 6-p. folder on plastic resin finish with high resistance to substances that attack normal paints. Advantages, application, types available, general data. Mortel Chemical Co.

6-139. **Gypsum Plaster**, AIA 21-A-2, 14-p. illus. booklet on base coat and finishing plasters, gypsum and stucco finishes. Descriptions, uses, specifications, mixing, application. U. S. Gypsum Co.

INSULATION (THERMAL, ACOUSTIC)

9-103. **Korfund Vibration Control**, AIA 37-H (Cat. G-101), 4-p. folder on sound and vibration isolating mountings for all types of equipment. Isolation selector chart, detailed descriptions, photos. The Korfund Co.

9-104. **PC Foamglas**, AIA 37-B (G7670), 4-p. brochure on cellulose glass insulation for low temperature installations, such as cold storage plants, etc. Description, general, detailed data, typical wall, roof, and floor construction. Pittsburgh Corning Corp.

SANITARY EQUIPMENT, WATER SUPPLY, DRAINAGE

19-269. **Norge Electric Water Heaters** (Form ES-648-8), 4-p. folder giving specifications, roughing-in dimensions, and features. Borg-Warner Corp., Norge Div.

9-270. **Hoegger, Incorporated**, 8-p. illus. catalog on line of bathroom cabinets (with or without fluorescent lighting) and accessories. Sizes, dimensions, suggestions for convenient mounting heights. Hoegger, Inc.

9-271. **Handy Data on Brass Fittings** (Circular 352), folder on various types of tube fittings. Sizes, views, cross sections, price listings. Imperial Brass Mfg. Co.

★ 19-272. **Jacobsen Pumps & Water Systems** (Cat. 46), 24-p. illus. catalog on jet pumps, home water systems, and accessories. Data on types and designs, engineering information, water requirements, tables, charts, index. Jacobsen Mfg. Co.

9-273. **Key Safety Hand Hole Caps** (Bul. 142), 12-p. illus. bulletin on one-piece closures for round hand holes in

water tube boilers. Pressure-temperature chart, typical installations, dimensions, price list. Other products include buffing tools, wire brushes, brass mauls, etc. Key Co.

SPECIALIZED EQUIPMENT

★ 19-274. **Durant Insulated Pipe** (Cat. 5), 41-p. catalog on insulated pipe for use in underground and exposed locations. Advantages, handling suggestions, specifications, temperature charts, weights tables, typical installations, index. Durant Insulated Pipe Co.

★ 19-275. **The William Armbruster Collection**, 12-p. catalog and portfolio describing new line of modern furniture designed by an architect; built for heavy wear in public spaces, such as hotels, lounges, stores, offices, etc. Photos, data sheet. Edgewood Furniture Co., Inc.

Two loose sheets on timesaving architectural and fixture drafting indicators, made of translucent plastic composition. Graphic Indicator Co.:

19-276. **The Cassel Fixture Indicator** No. 101.

19-277. **The Cassel Handy Indicator** No. 105.

19-278. **Splendante**, 6-p. pamphlet describing new carpeting entirely woven of nylon. Description, advantages. Nye-Wait Co.

19-279. **Bevelite**, portfolio of photos showing use of plastic letters on marquee. General instructions, quotation estimate sheet, price list. Theatre Specialties, Inc.

SURFACING MATERIALS

19-280. **Moonglo** (Form 111), 4-p. folder on new laminated plastic sheet of great density and hardness, for sink tops, other working surfaces; unharmed by alcohol, fruit acids, cleaning alkalis, etc. Description, advantages. Formica Co.

★ 19-281. **Terraflex** (FL-37A-7-48), 4-p. illus. folder on new plastic asphalt floor tile; can be used where linoleum, or even asphalt tile, fails. Description, general information, installations. Johns-Manville Co.

19-282. **Streamline Tile Jobs** (120-W.P.S.), 8-p. illus. brochure on thin setting bed method of installing ceramic tile. General data, typical installations. Also line of medicine cabinets, shower doors, bathtub enclosures, room heaters, and fans. Mosaic Tile Co.

(To obtain literature coupon must be used by 1/1/49)

PROGRESSIVE ARCHITECTURE, 330 West 42nd Street, New York 18, N. Y.
 I should like a copy of each piece of Manufacturers' Literature circled below.
 We request students to send their inquiries directly to the manufacturers.

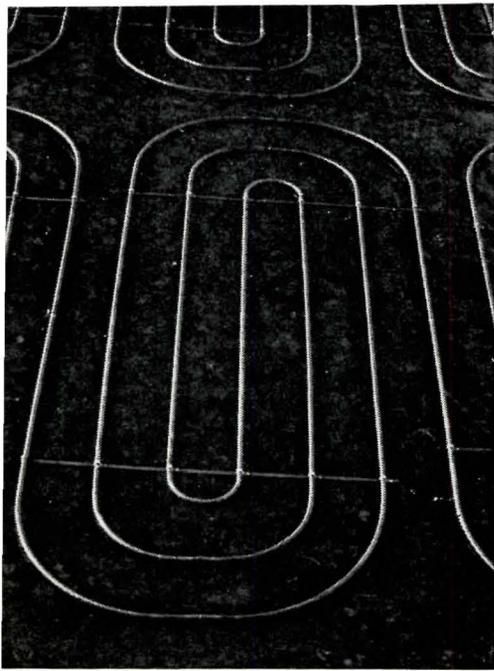
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4-147	4-148	4-149	5-144	5-145	5-146	5-147	5-148
5-149	5-150	6-134	6-135	6-136	6-137	6-138	6-139
9-103	9-104	19-269	19-270	19-271	19-272	19-273	19-274
19-275	19-276	19-277	19-278	19-279	19-280	19-281	19-282

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11/48



EVEN-RAY COILS BEING INSTALLED: left, single coil, showing spreaders; right, auditorium floor.

FACTORY-MADE RADIANT HEATING COILS

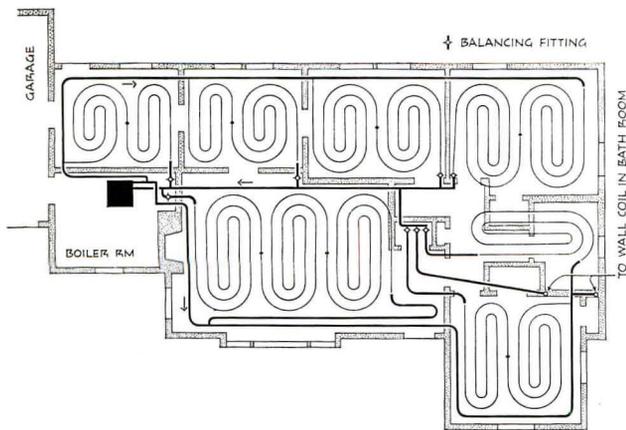
Trade Name: Even-Ray Coils. **Material:** Hard copper tubing, Type L. **Manufacture:** Machine-formed, eliminating irregular or kinked bends. **Factory-made joints** silver brazed. **Coil Design:** Method of winding balances "return" portion of coil against "supply," assuring even heat distribution over entire coil area; also reduces number of sharp bends which cause frictional resistance to flow of heating fluid. Coils mounted on metal spreaders or spacers which level them over a rough floor slab, or can be used to attach to ceiling joists. With spreaders, coils attain great rigidity, preventing distortion during shipping or construction. **Installation:** Supply mains, returns, fittings, controls job-installed according to requirements (manufacturer will supply engineering services if wanted). Prefabrication of coils is claimed to cut installation labor by 75 percent. Even-Ray Co., 879 Broadway, Newark, N. J.

A most important step in development of central heating systems in the United States was quantity production of standardized radiation. Without it, steam or hot water heating systems are inefficient and expensive. Up till now, lack of comparable units for radiant heating systems has been responsible for a large share of the high cost of radiant heating; each job has had to be virtually handmade during the construction process.

It is no wonder, then, that the Even-Ray Co., of Newark, N. J., finds business excellent: it is producing factory-made coils for radiant heating. The company makes only the coils; it does not compete with established manufacturers of tubing, fittings, controls, or heating boilers. It will supply engineering services if desired, but expects to abandon this nonmanufacturing field when independent heating engineers have learned enough about radiant heating, and about the company's products, to permit.

Even-Ray coils, though factory-made, are not yet standardized. Although the company has been in business long enough to establish the soundness of its operations and the great demand for its product, it is still accumulating the experience necessary before this next step can be taken. At present it appears that 25 sizes of coils, in two or three diameters of tubing, will meet all needs; the company expects to standardize on this basis within the next few months. To date installations have been made in many types of buildings ranging from houses to auditoriums to chicken-houses. While most of these are in the New York metropolitan area, inquiries have come from as far as Des Moines and Milwaukee. Distance between factory and job matters little because the coils' weight is so small that shipping costs are low.

The patented Even-Ray coil, in addition to reducing field labor substantially, is designed to increase heating system efficiency by causing less frictional head, or internal resistance to flow, than the sinuous type of coil; and, since even length of tubing in the cooler return half of the coil is flanked by warmer supply tubing, to maintain an even pane surface temperature.



EXAMPLE, EVEN-RAY COIL LAYOUT; heavy lines show field work; light, Even-Ray coils. Supply mains follow outside walls (doubled or tripled at severe exposures), returns down center. Coil in bathroom wall, nonstandard, is for auxiliary heat.

THIS MONTH'S PRODUCTS

AIR AND TEMPERATURE CONTROL

Heat Regulator Set: unit includes thermostat (sensitive to 1°F temperature changes), damper regulator, warm air, steam, and hot water limit controls; also accessory kit. Automatic Products Co., 2450 N. 32nd St., Milwaukee, Wis.

Smokeless Furnace: new process in which combustion gases are forced downward and burned as fuel. Uses low-grade soft coal; operation costs claimed to be 20% to 30% lower than conventional hand-fired furnace. Welded steel, gas-tight, leakproof construction. Lennox Furnace Co., 400 N. Midler St., Syracuse, N. Y.

Circulating Pump: can be mounted in horizontal or vertical position. Oilite bearings; vibration reducing mountings. Pump available with either 1¼" or 1½" pipe; 1/6 hp motor. James P. Marsh Corp., Skokie, Ill.

Three-Fuel Steam Generating Unit: gas, light or heavy oil can be used; only 10 minute change-over from one fuel to another. Modulated flame-volume control maintains constant steam pressure as demand varies. Safety shut-offs in case of flame failure. Orr & Sembower, Inc., P. O. Box 1138, Reading, Pa.

Three New Home Heating Units: gas boilers with built-in hot water coil; completely assembled horizontal gas winter air conditioners; oil winter air conditioners. All units finished in white enamel. Richmond Radiator Co., 19 E. 47th St., New York 17, N. Y.

CONSTRUCTION

Adjustable Steel Shore: new device will support considerably more than collapsible weight of handmade timber shore; adaptable to sway bracing and scaffolding. Four heights range from 5' 7" to 11', adjustable to 15' when extended. Acrow, Inc., 155 Washington St., Newark, N. J.

Plastic Blocks: of transparent polystyrene, weighing about 1/5 as much as glass. Blocks interlock; no need of adhesives, clamps, or wood strips. Primarily for interior use. Columbia Protoktosite Co., Carlstadt, N. J.

Aluminum Rain-Carrying Equipment: rust-, corrosion-proof unit includes eaves-trough,

conductor pipe, and fittings. No soldering required. New Holland Metals Co., Div. of New Holland Machine Co., Mountville, Pa.

Metalwall: simplified system of metal wall partitioning and paneling providing all-flush surface from floor to ceiling. Units are standard and interchangeable. Available in variety of enamel colors and natural wood-grain finishes. Martin-Parry Corp., Fisher Bldg., Detroit 2, Mich.

DOORS AND WINDOWS

Operating Hardware for Jalousies: factory assembled unit with weatherstripped brackets for wood or glass slats. Exposed parts are of nonferrous materials. Casement Hardware Co., 406 N. Wood St., Chicago 22, Ill.

Locking Hardware: new, solid bronze locking handle with concealed latch and keeper, for open-in ventilators; operates by hand or window pole. Michael Flynn Mfg. Co., 700 E. Godfrey Ave., Philadelphia 20, Pa.

ELECTRICAL EQUIPMENT AND LIGHTING

Enclosed Branch Circuit Breaker: mounted with independent screws to facilitate removal or capacity changes of breakers. Ample wiring space, conveniently located knock-outs. Available for flush or surface mounting. Frank Adam Electric Co., 3650 Windsor Pl., St. Louis, Mo.

Lennox 2 and 4: two new commercial fluorescent fixtures; low brightness ratios and simple installation. All-metal construction,

press welded, interlocking louvers; "A-J" hangers in two standard lengths supplied on suspension mounted continuous installations. Day-Brite Lighting, Inc., 5411 Bulwer, St. Louis, Mo.

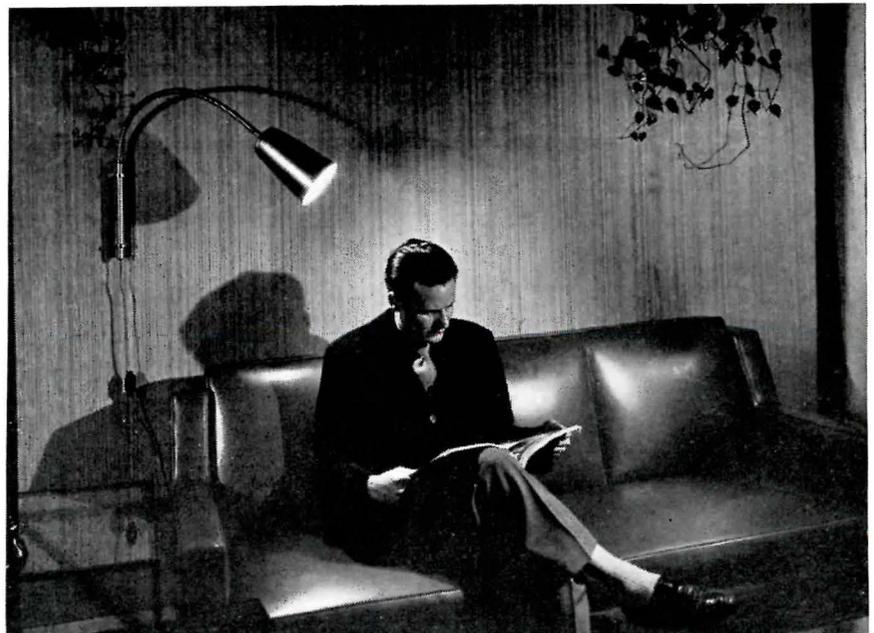
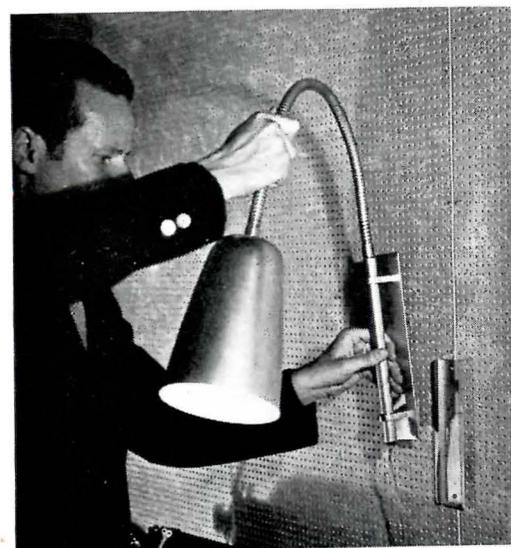
Gooseneck Pin-up Lamp: unusual swivel arrangement and extra-long gooseneck enable user to turn lamp into any required position. Wall socket unnecessary; wood screws, lead shields, toggle bolts furnished, depending on type of wall construction. Lamp and bullet shaped shade made of aluminum, gold Alumilite finish; gooseneck conduit brass-plated. Edgewood Furniture Co., Inc., 208 E. 27th St., New York 16, N. Y.

FINISHERS AND PROTECTORS

Marva-Seal: waterproof permanent sealer, oil base with pigment and asbestos fiber. For cement, concrete, brick, stucco, stone wall surfaces; claimed not to peel, discolor, or flake. American Asbestos Products Co., 8001 Franklin, Cleveland, Ohio.

Carbo-Kote: corrosion and moisture resisting coating for rubber, wood, fiberglass, and miscellaneous surfaces. One brush coat from eight to thirty times the thickness of one coat of paint. Carboline Co., 502 N. Taylor St., St. Louis 8, Mo.

Shingle-Seal: decorative, weatherproof finish for asbestos siding and shingles. Available in bright white, oyster white, stone gray. Applied by spray or brush. Dewatex Mfg. Co., 424 W. 42nd St., New York, N. Y.



GOOSENECK PIN-UP LAMP, designed by William Armbruster, is becoming available from the Edgewood Furniture Co., Inc., New York 16, N. Y. Design and construction of this sturdy lamp eliminate the common wall outlet box. Depending upon type of wall construction, wood screws, lead shields, or toggle bolts are furnished for installation (see left photo). The lamp has a longer-than-usual gooseneck and a unique swivel in the base, not available elsewhere, which multiply its uses. Suitable for a wide range of interiors, from commercial to residential, the lamp can be swiveled into the exact position where there is need for illumination, direct or indirect. Shade is aluminum with gold finish, gooseneck brass plated to match.



Galvo-Line: magnesium ribbon anode to protect buried metal structures from corrosion. For high resistivity soils, or in conjunction with cast anodes, to increase efficiency of cathodic protection installations. Standard lengths: 1,000, 2,000, and 5,000 ft. Dow Chemical Co., Midland, Mich.

PREFABRICATED BUILDING

Kaul Cottage: factory-built vacation house; four rooms, 14 windows; extra strong fire resistant plywood walls treated against rot, termites. Rigid aluminum studs set outside walls for "paneled" appearance. Two-layer aluminum roof, can be painted any color. Designed for erection by owner. United Industrial Associates, 611 Washington Bldg., Washington 5, D. C.

SANITARY EQUIPMENT, WATER SUPPLY, DRAINAGE

Bathroom Cabinets: new line in several styles and mirror designs, equipped with fluorescent light fixtures; single outlet box serves fixtures, switch, and convenience plug. Easy-to-change bulbs. Philip Carey Mfg. Co., Miami Cabinet Div., Middletown, Ohio.

Timesaver Sink: complete with dishwasher, disposal unit, encased in white enameled steel cabinet. Chrome controls and spray

attachment. Pressure stabilizer optional, for areas where water pressure is low. Kaiser Fleetwings Corp., 1924 Broadway, Oakland 12, Calif.

SPECIALIZED EQUIPMENT

13 Tube AM-FM Chassis: custom-built features at line production prices. AM and FM RF stages arranged into integral subchassis tuning unit; three-point balanced shock-mounting of chassis to cabinet; microphonism considerably reduced in H.F. oscillator circuit. Improved radio detector circuit. Two ranges of audio response (normal, high-fidelity) provided by "fidelity" control. Capitol Radio Corp., 100 Metropolitan Ave., Brooklyn, N. Y.

"Triple Purpose" Flofilm Camera: flow camera, flow enlarger, or continuous flow printer for producing positive film duplicates from microfilm negative. Microfilms tracings or drawings with copy in motion; will project enlargements to full size or any scale reduction of original. Special construction eliminates vibration. 16mm or 35mm may be used. Feeding speeds 30 or 60 ft per min. Diebold, Inc., 1411 Fifth St. S. W., Canton, Ohio.

Flex-O-Pic: new cadmium-plated tool for hard-to-reach parts; cable encased in flexible shaft; expanding and retracting fingers work around corners or S-turns, will hold firm to anything. Emco Enterprises, 6750 Stony Island Ave., Chicago 49, Ill.

Harco Rods: Tenite coated; for clothes closets, shower curtains, etc. No nails or screws; will hang in any space having two side walls. Two telescoping sections, rubber-capped end flanges grip walls without marring. Simple height adjustment. Hang-It-All Rod Corp., 1519 Dime Bldg., Detroit 26, Mich.

"Family Hospitality": bathroom cabinet designed to hold magazines, ashtrays, newspapers, cigarettes, matches, toilet tissues. Heavy gage steel construction: "Family Hospitality Jr." identical except for absence of magazine compartment. House of Hospitality, Box 254, Dept. A-12, N. Hollywood, Calif.

Aluminum Cabinets: new line of easily assembled "knocked-down" wall, base, and sink types, all featuring adjustable shelves, ball bearing rolling slides. For kitchen instal-

lation. Hotpoint, Inc., 5600 W. Taylor St., Chicago 44, Ill.

Splendante: carpet with pile entirely woven of nylon. Said to have remarkable durability; non-inflammable; may be easily cleaned with soap and water. Wilton construction; available in beige, gray, pastel green, used in single shade or in two of same color. Nye-Wait Co., Auburn, N. Y.

No. 40 Circle Template: 39 circles in progressive sizes with increments in 64ths, 32nds, 16ths, and 8ths of an inch. Matte finish, cellulose nitrate sheet. Size: 4" x 7 1/4". Rapidesign, Inc., P. O. Box 592, Glendale, Calif.

Acoustical Booth: new, stainless steel phone booth, modern design; walls, ceilings surfaced with laminated plastic panels. Outside sounds eliminated by sound-absorbing cells of plastic material. Sherron Metallic Corp., 1201 Flushing Ave., Brooklyn, N. Y.

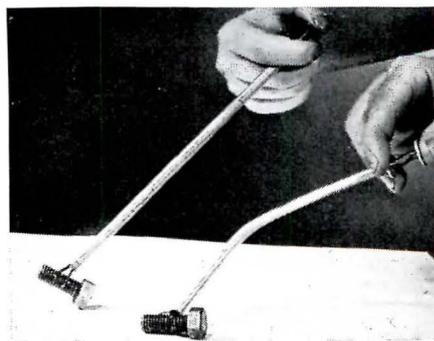
MS-24 Store Sound Equipment: paging, announcements, transmission of radio, recorded music to as many as 24 stations at one time. Two-way communication between master station and others. Inputs for external microphone, phonograph, radio; built-in intercom speaker. Mark Simpson Mfg. Co., Inc., 32-88 49th St., Long Island City 3, N. Y.

SURFACING MATERIALS

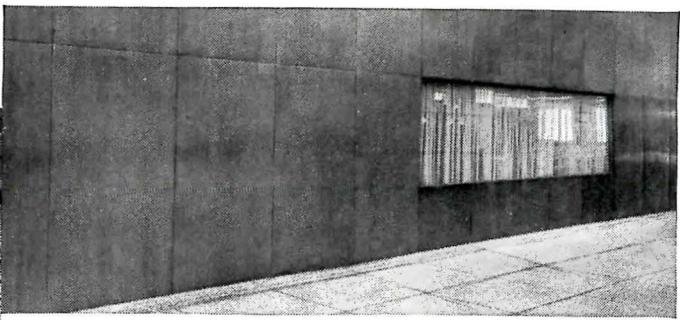
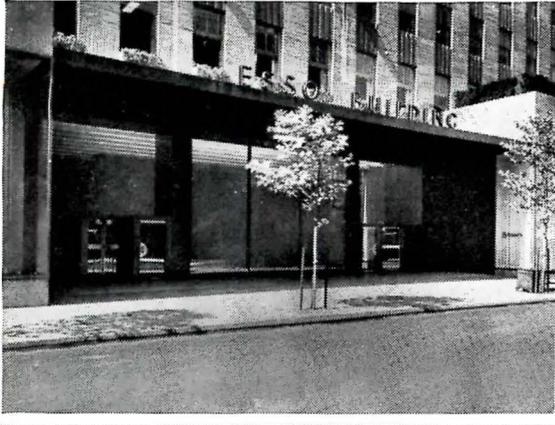
Castle-Square Flooring: parquet flooring; hardwood boards 1" wide, 1/2" thick, insulated by latex-filled fibrous material. Cut into 6", 9", or 12" squares. Can be glued to any base without use of nails. Newcastle Industries, Inc., 300 W. 56th St., New York 19, N. Y.

Stair Treads: made of especially compounded rubber, bonded to steps with cement. Reinforced rounded nosing overlaps lip of stair tread for added safety. U. S. Rubber Co., 1230 Sixth Ave., New York, N. Y.

Plastile: laminated plastic floor tile with cork base; resistant to alkalis, oil, grease, alcohol, acids; noise-, shock-absorbing; can be laid over wood, steel, concrete. Wide range of solid colors and marbled patterns. U. S. Stoneware Co., 60 E. 42nd St., New York, N. Y.



Left, Sherron Acoustic telephone booth, stainless steel and plastic, has optional vent fan and light, automatically operated. Walls and ceiling, of laminated Textolite, contain sound-absorbing cells for acoustic efficiency. Center, Flex-O-Pic (Emco Enterprises, Chicago): new flexible tool whose flexible shaft (like speedometer cable) picks up small objects in hard-to-reach locations. Right, semistructural blocks, much like glass blocks, of transparent or translucent polystyrene; Columbia Protektosite Co., Carlstadt, N. J. Advantages: light weight, integral color, resistance to shattering. Not yet standardized, these are expected to be on the market soon.



70,000 pounds of Revere Architectural Bronze sheets were used in the lobby and entrances of the new Esso Building at Rockefeller Center. Photos above show both entrances and a section of the wall inside the lobby.

bronze magic

● A striking effect of spaciousness and beauty was achieved in the lobby of the new Esso Building at Rockefeller Center by continuity of line and material from indoors to outdoors.

Along the entire length of the two-story lobby the walls are faced with large panels of Architectural Bronze. These walls continue, in an unbroken line, past the glass entrance walls to form a part of the bronze frame around the entrance. Thus indoor and outdoor areas seem to merge into a vast hall, penetrated only by the banks of elevators in its center.

Architectural Bronze panels provided the ideal material for this unusual installation because of their suitability for use indoors or outdoors. In addition, they will facilitate any future alterations which might require changes in the location of the doors along the lobby walls. And, of course, Architectural Bronze with its warm golden color, fits into the overall architectural pattern of Rockefeller Center, where

this metal is used generously on all of the buildings.

Revere Copper and Brass Incorporated supplied these bronze panels—more than 70,000 pounds in sizes up to 48" x 114", all 10 gauge. Architects: Carson and Lundin, New York. General Contractor: John W. Harris Associates, Inc. Ornamental Metal Contractor: General Bronze Corporation, New York.

REVERE

COPPER AND BRASS INCORPORATED

Founded by Paul Revere in 1801

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Mills: Baltimore, Md.; Chicago, Ill.; Detroit, Mich.; New Bedford, Mass.; Rome, N. Y.—Sales Offices in Principal Cities, Distributors Everywhere.



Economics Laboratory, Inc., Lyndhurst, N. J. Walter Kidde Constructors Inc. of New York City, Engineers and Builders.

The makers of "Soilax" selected Lupton Architectural Projected Windows to obtain all the benefits of modern window design in their new plant at Lyndhurst, N. J. which exemplifies the modern trend in industrial construction. Here, Lupton Metal Windows add graceful appearance, give a greater abundance of daylighting, and controlled, year-round ventilation. Smartly-designed operating hardware is an added feature of Lupton Metal Windows. Low initial cost and outstanding durability make Lupton Architectural Projected Windows ideally suited for school, office or commercial buildings. Bronze wire screens can be furnished with open-in or open-out ventilators. There is a Lupton Metal Window for every type of building. Write for our catalog or see it in Sweet's.

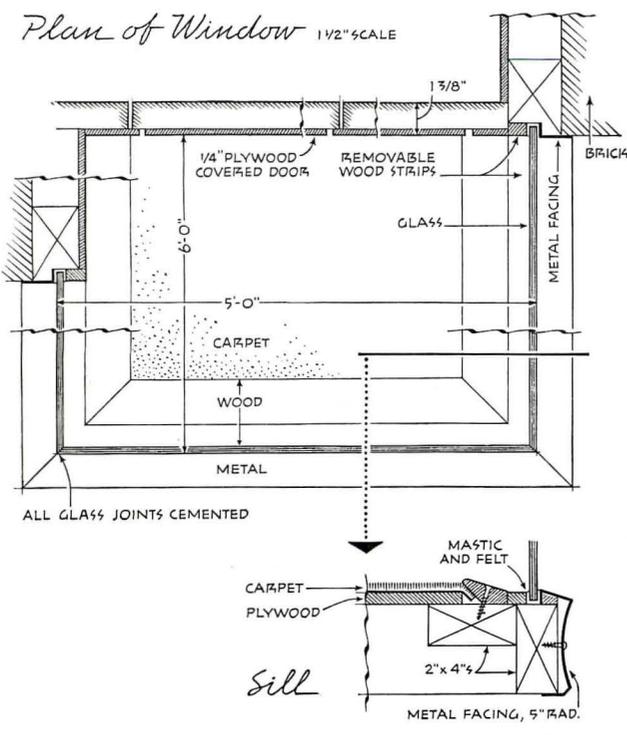
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LUPTON METAL WINDOWS



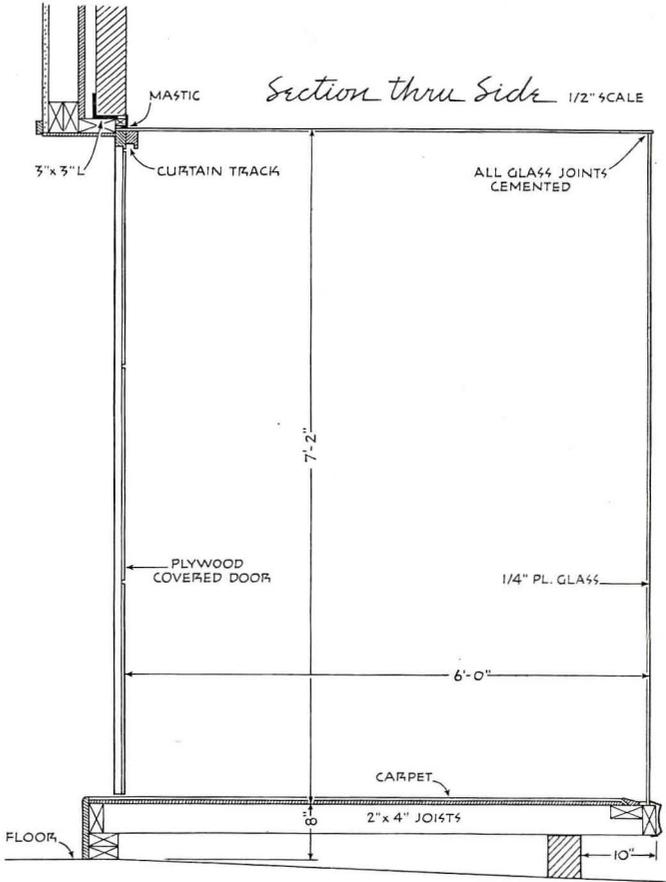
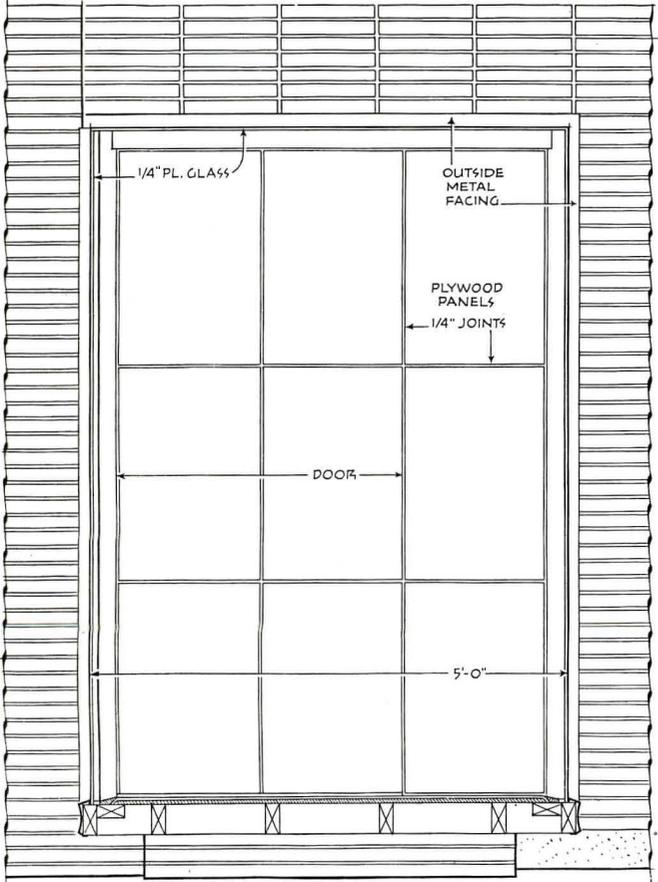
STORE: EXTERIOR SHOWCASES

Plan of Window 1/2" SCALE



Floyd Ray

Section thru Front 1/2" SCALE



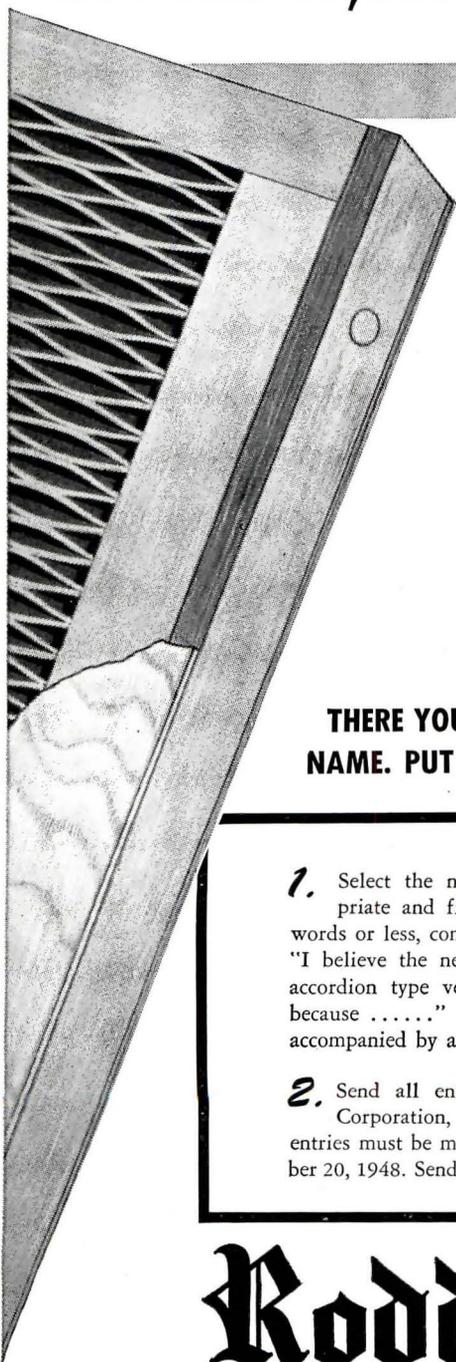
IRENE BURKE SHOP
Long Beach, California

KENNETH S. WING
Architect

HURRY! HURRY! HURRY!

Contest Closes Midnight Saturday, November 20, 1948

Name the New Roddiscraft Door 1st Prize \$1,000 – 2nd and 3rd Prizes \$500 each



All you have to do is name the new Roddiscraft Door with the accordion type veneer core and follow the directions listed below.

About the Door Here are some facts about the door to guide you in selecting a winning name.

The new Roddiscraft door has a core made up of selected strips of veneer. These strips are spot-glued at intervals and stretched within the rails to form an accordion core design. This is a radical departure from the conventional core. The accordion core creates the strength and rigidity of a solid core with 50% less wood content.

Veneer strips are spaced 2" apart at points of greatest core-strip bending. This provides maximum support to the face panels and protects against puncture from abuse.

Face panels and rails are hardwood throughout. The whole assembly is pressure bonded with the finest glues obtainable and seasoned in specially constructed kilns for permanent straightness.

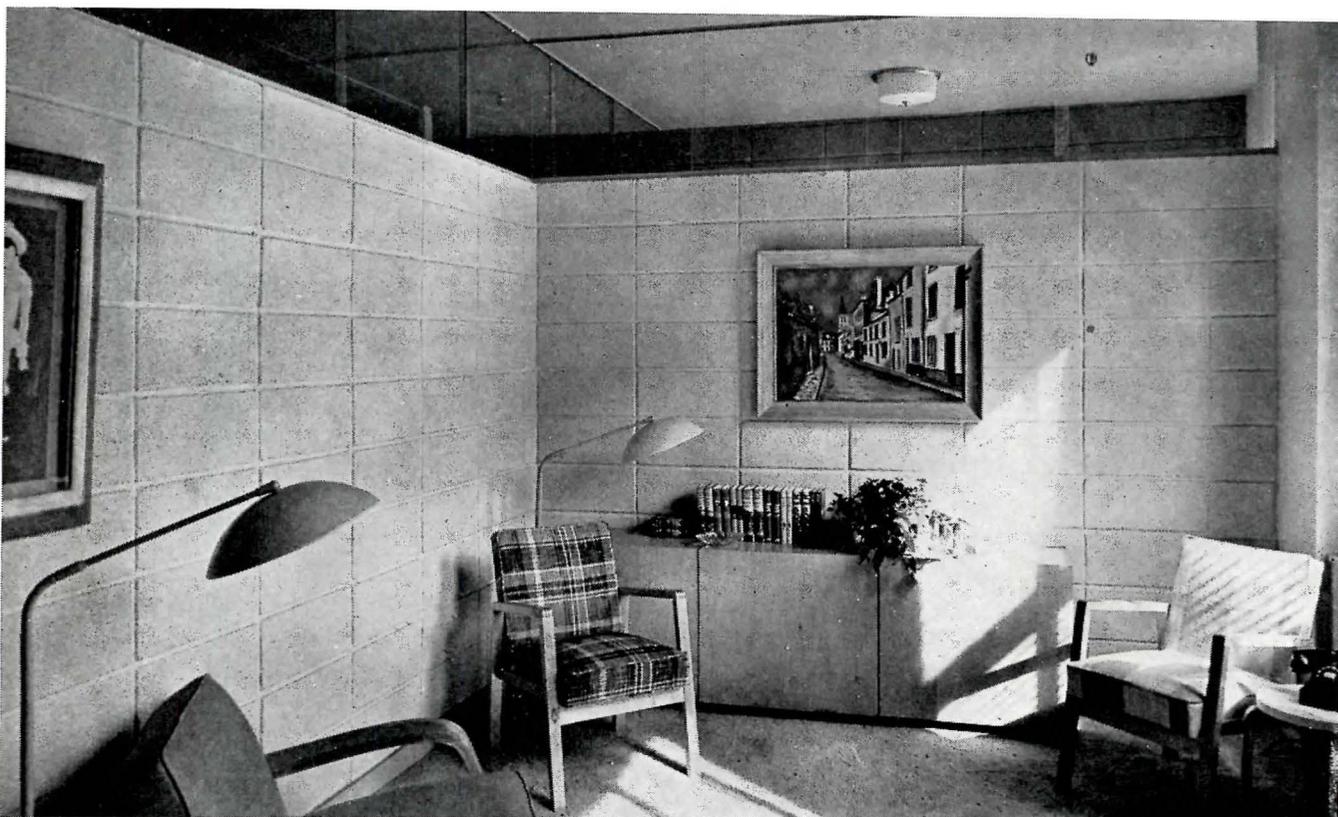
THERE YOU HAVE ALL THE FACTS YOU NEED TO THINK UP A PRIZE-WINNING NAME. PUT ON YOUR THINKING CAPS AND FOLLOW THESE SIMPLE DIRECTIONS:

1. Select the name you believe most appropriate and fitting. Then, in 25 additional words or less, complete the following statement: "I believe the new Roddiscraft Door with the accordion type veneer core is a superior door because" Each name submitted must be accompanied by a statement.
2. Send all entries to the Roddis Plywood Corporation, Marshfield, Wisconsin. All entries must be mailed before midnight, November 20, 1948. Send as many entries as you please.
3. Entries will be judged on the basis of originality and aptness of thought by a panel of expert judges. All entries become the property of the Roddis Plywood Corporation. The judges' decision will be final. In the event of a tie, duplicate prizes will be awarded.
4. The first prize winner will receive \$1000; the next two winners will receive \$500 each. All winners will be notified by registered mail.
5. This contest is open to lumber dealers, architectural firms, millwork houses and their employees.

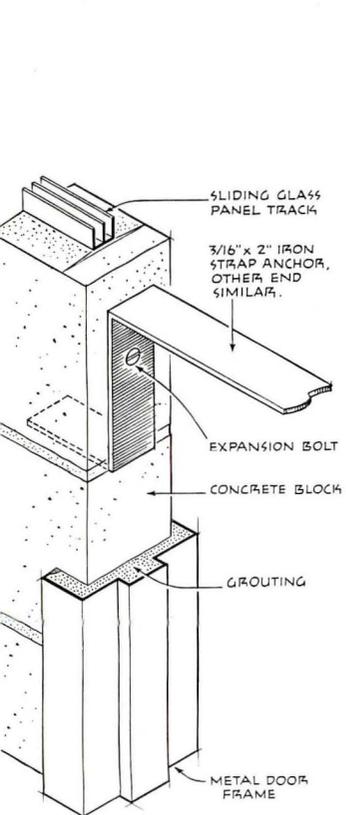
Roddiscraft

Roddis Plywood Corporation

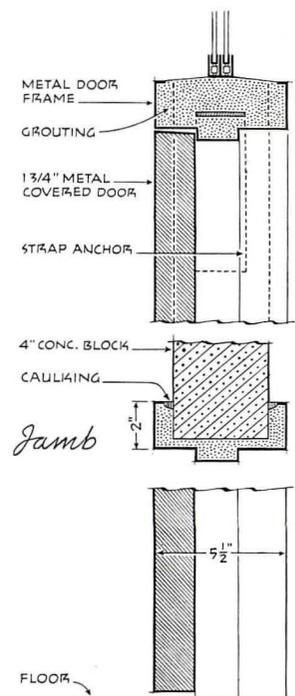
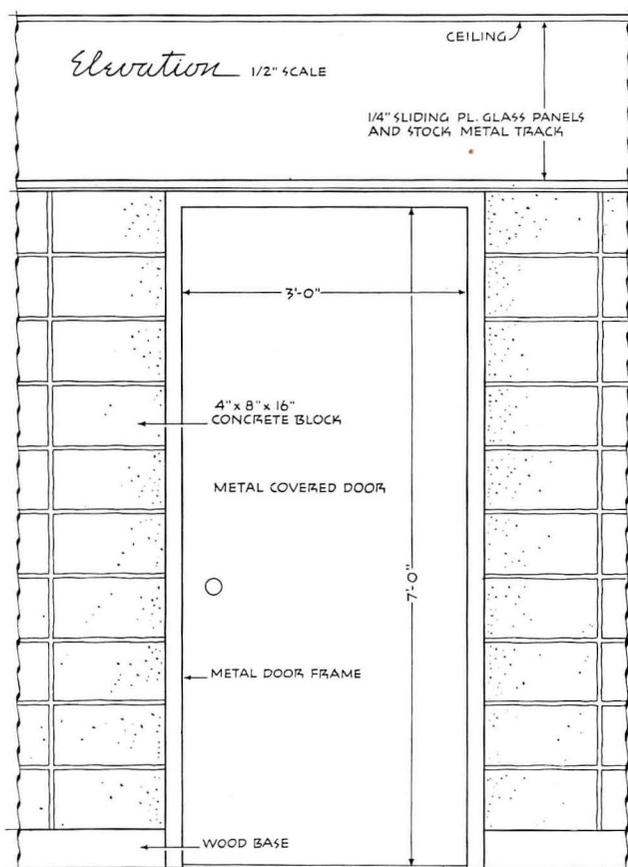
Formerly Roddis Lumber & Veneer Co.
MARSHFIELD, WISCONSIN



P. A. Dearborn



Doorhead Anchor

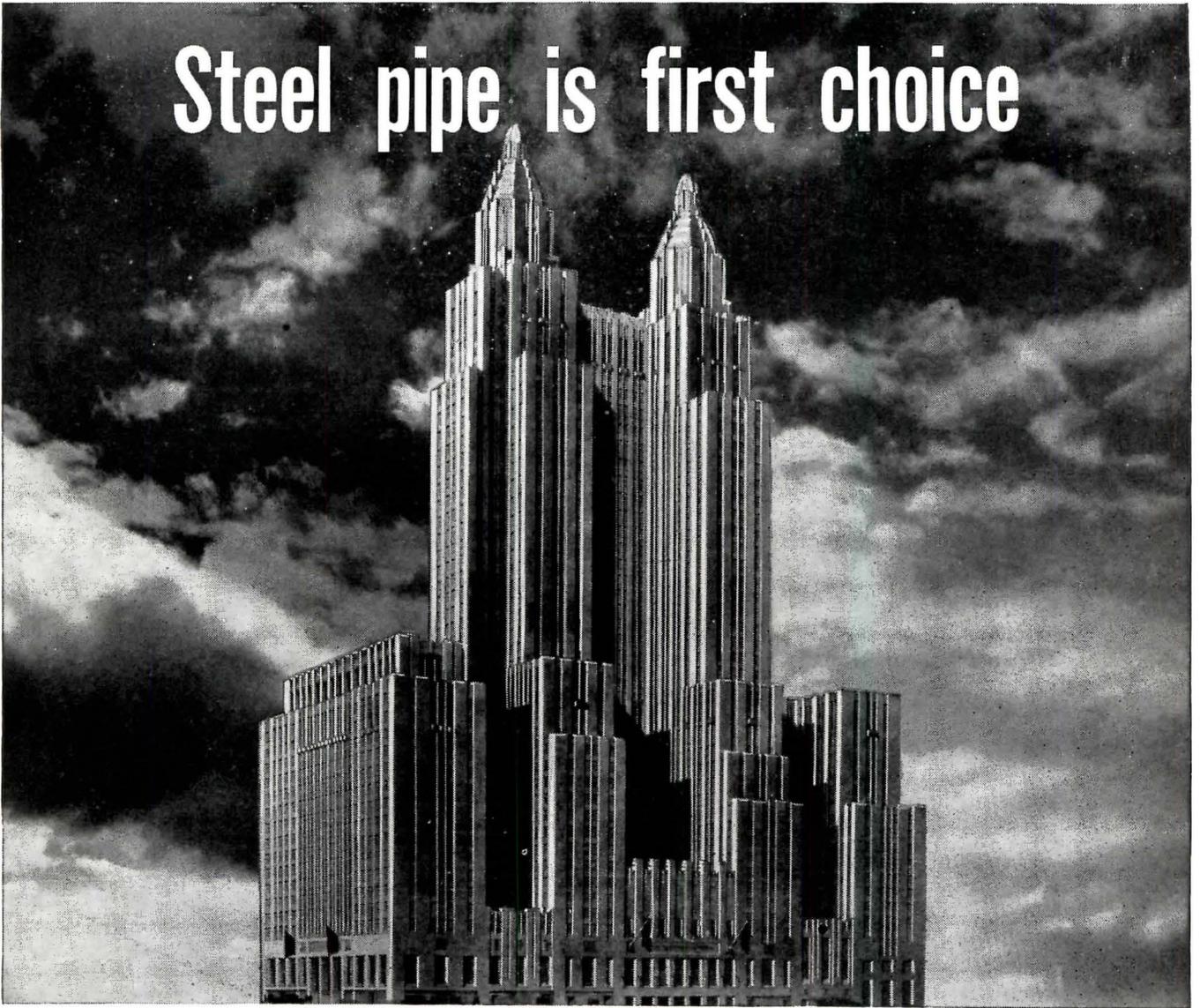


Door Section 1/2" SCALE

DIAL PRESS
New York, New York

REISNER & URBANH
Architects

Steel pipe is first choice



—for the great hotels of the world

Forty-seven floors of luxury, occupying an entire city block, the famous Waldorf-Astoria has no equal in the hotel world! Into the building of this dream hostelry went the finest architectural and engineering experience in the land . . . and the most modern and appropriate materials and equipment that money could command.

The Waldorf-Astoria's great labyrinth of *steel piping*, for the heating lines, soil, waste and vent lines, fire, air conditioning, and vacuum lines, can be measured in terms of hundreds of miles and thousands of tons!

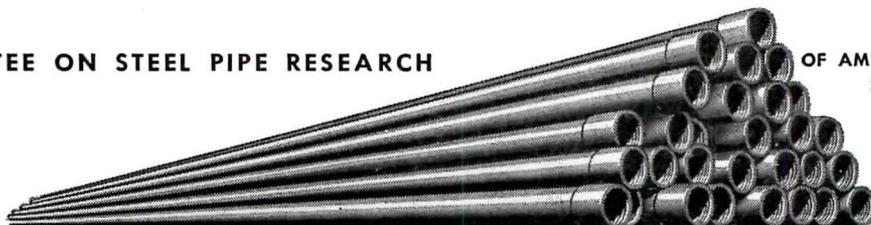
For such vital services, *steel pipe is the first choice* of technical men who judge the qualifications of every material and product in terms of adaptability, serviceability, durability, and cost. These qualities of *steel pipe* which made it the predominant choice for this cathedral of comfort are the same qualities that have made it the predominant choice for all types of buildings the country over.

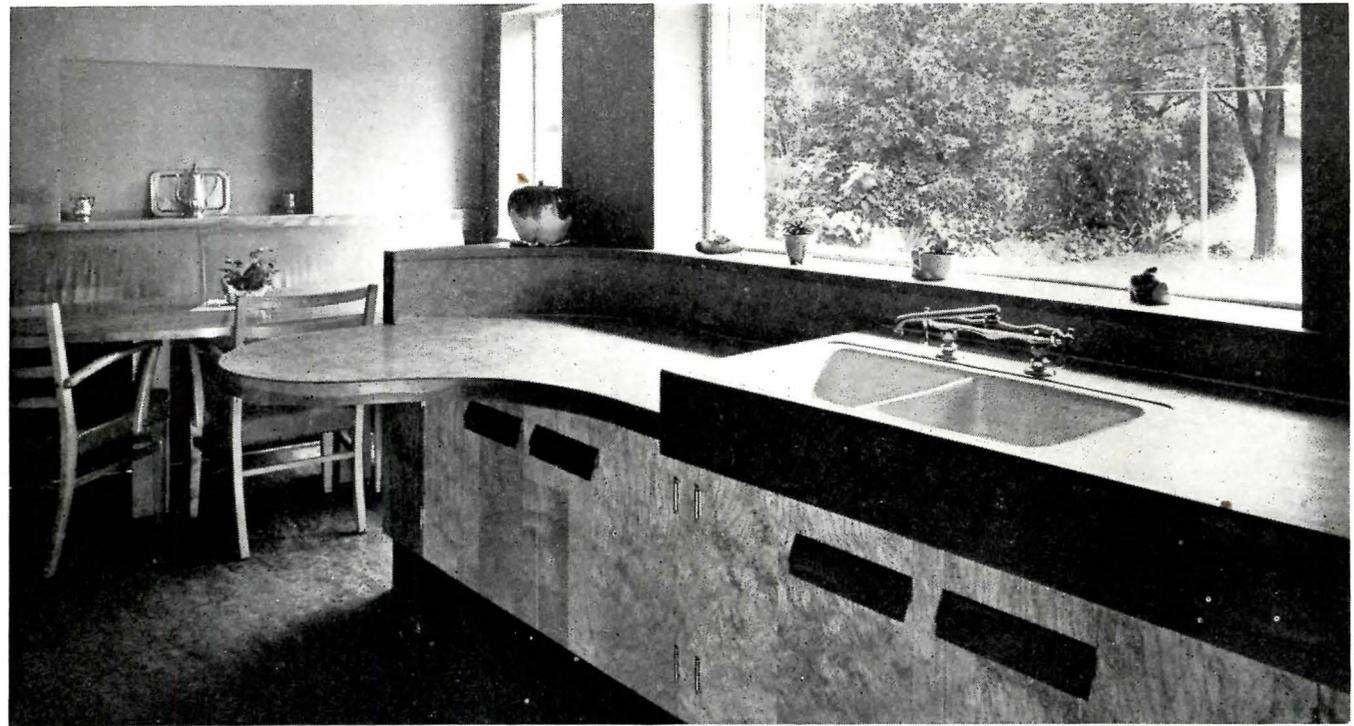
Yes, steel pipe is first choice!

The interesting story of "Pipe in American Life" will be sent upon request.

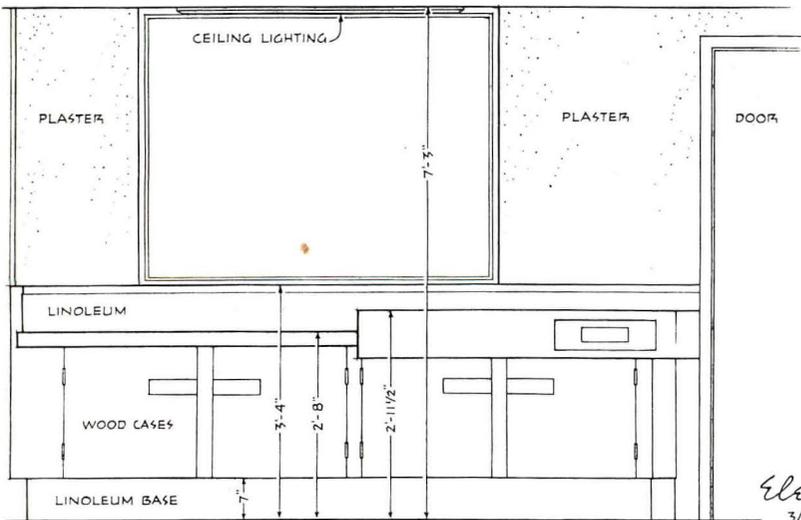
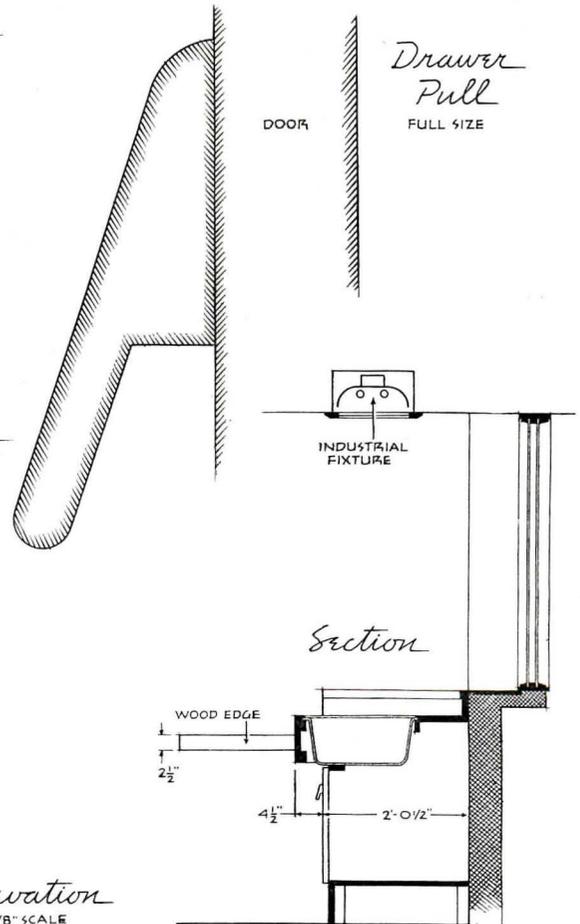
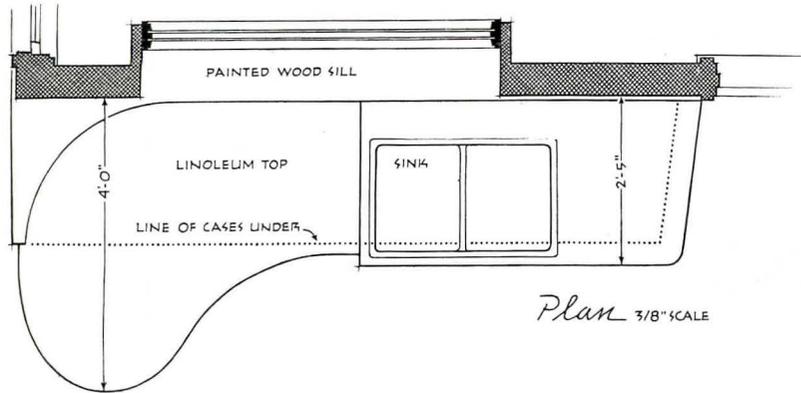
COMMITTEE ON STEEL PIPE RESEARCH

OF AMERICAN IRON AND STEEL INSTITUTE
350 Fifth Ave., New York, N. Y.





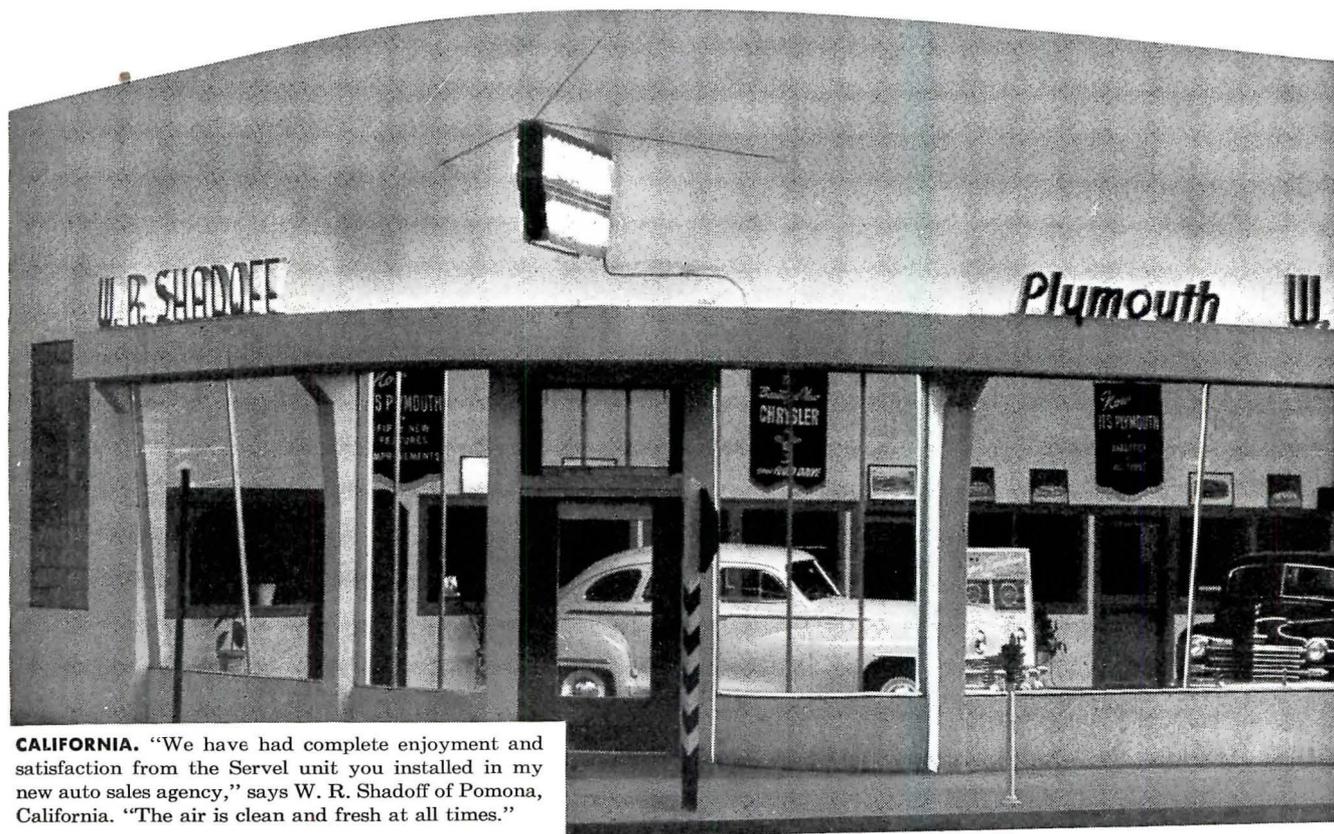
Gilbert Ash



SHADD RESIDENCE
Fayetteville, New York

WILLARD B. SMITH
Designer

"Promotes sales, builds



CALIFORNIA. "We have had complete enjoyment and satisfaction from the Servel unit you installed in my new auto sales agency," says W. R. Shadoff of Pomona, California. "The air is clean and fresh at all times."

Servel All-Year Air Conditioning wins praise from store owners the country over

The four stores pictured here have widely varied sales problems and are located in different parts of the country. But the owners are unanimous in their praise of the way Servel *All-Year* Air Conditioning has helped their business. And their statements are typical of hundreds of letters sent in by other business and professional men, testifying to the business-building benefits of this amazing year-round air conditioning system.

With a "flick of the finger," the Servel unit supplies cool, dehumidified air in summer . . . and warm, properly humidified air in winter. In between seasons, the same single unit provides independent air circulation at prevailing temperatures. Year round, it filters dust, dirt and irritating pollen from the air. Every

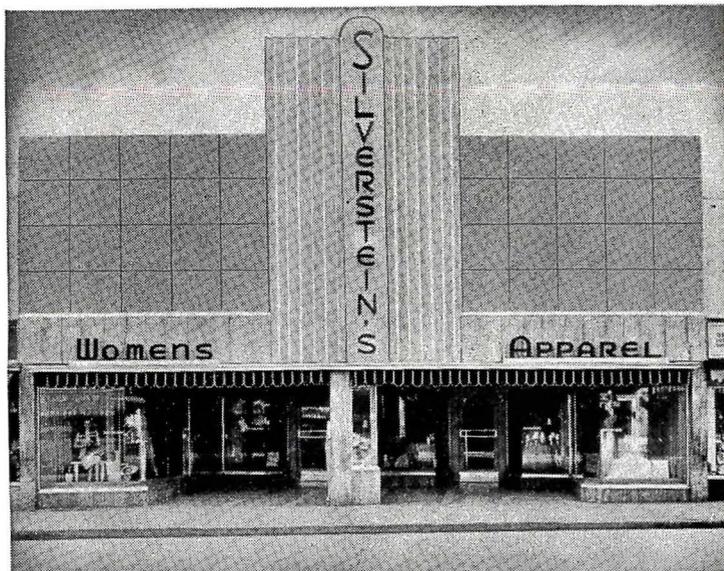
Servel unit is covered by a 5-year factory warranty.

In a Servel-conditioned store, stocks remain fresh and new-looking . . . customers are more comfortable . . . personnel more efficient and energetic. Many merchants feel that the Servel *All-Year* Air Conditioning Unit will "pay for itself" in a very short time through these benefits.

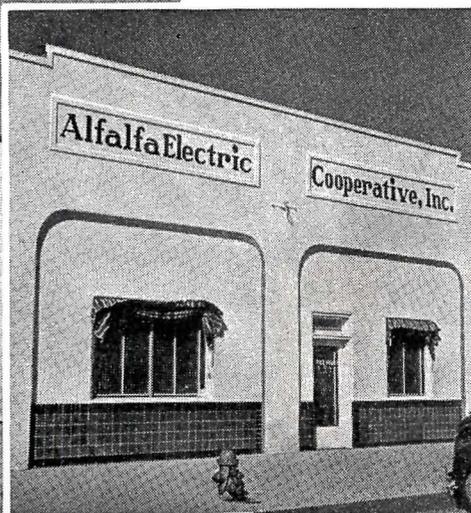
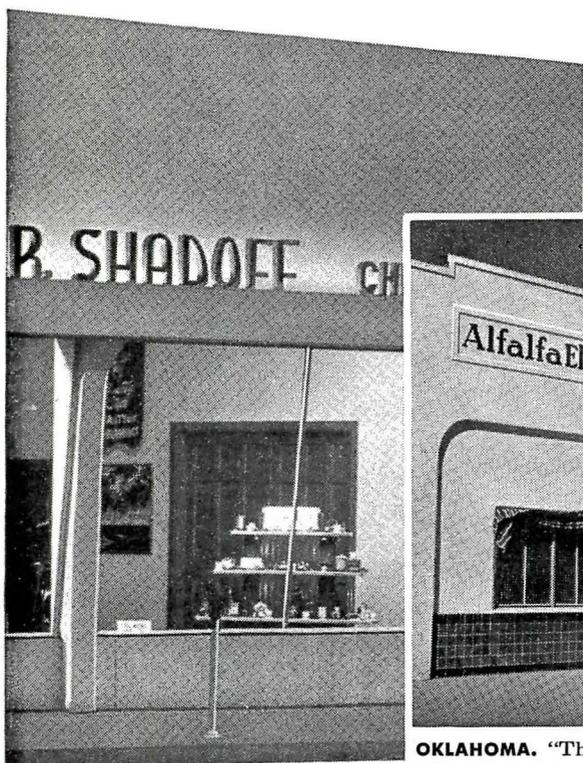
Do you have clients or prospects who would benefit from the year-round comfort and business-building advantages of Servel *All-Year* Air Conditioning? Your local gas company will be glad to give you detailed information on specifications, installation, etc. Or, write direct to Servel, Inc., 4811 Morton Avenue, Evansville 20, Indiana.

profits,"

say business men



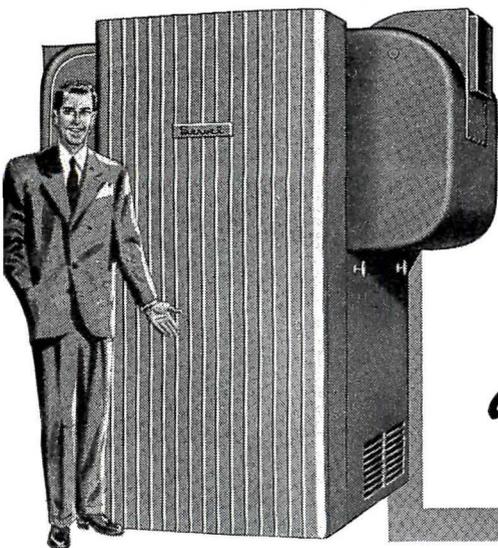
LOUISIANA. "We have used Servel All-Year Air Conditioning for more than six years and consider the original cost repaid many times over," writes David C. Silverstein, of Silverstein's Women's Apparel, Monroe, La.



OKLAHOMA. "The Servel installation has contributed much toward the efficiency of our staff," reports Clarence R. Green, Manager of the Alfalfa Electric Cooperative, Inc., of Cherokee, Okla.

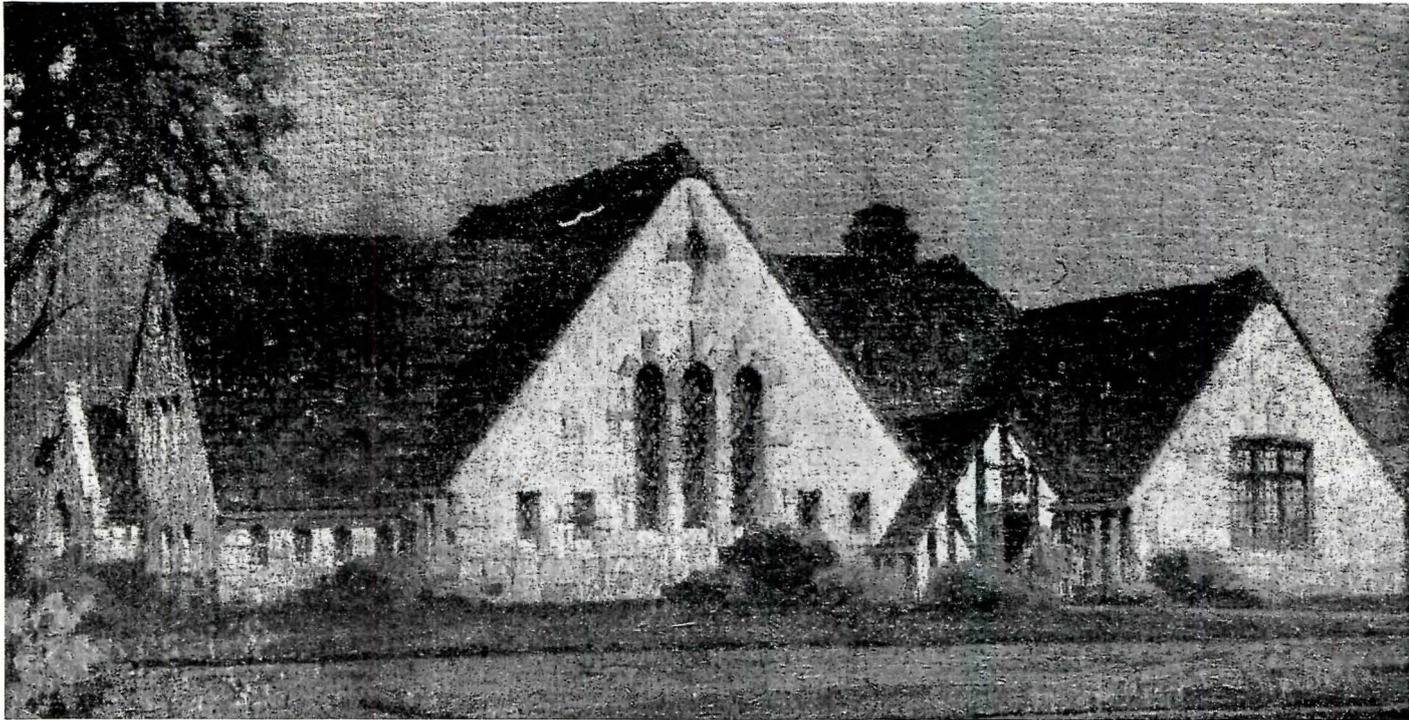


TEXAS. "I am well pleased with my Servel unit," states J.W. Hetherington, jeweler, of Texas City, Texas. "People prefer to shop where the temperature is normal and the air pure and clean."



Servel
All-Year AIR CONDITIONER

Now in its Fifth Printing!



Color in Sketching and Rendering

by Arthur L. Guptill

25,000 copies of this popular book have already been sold, and demand is greater than ever. So we're going into our fifth printing. Here's your chance to join those who have found in this volume a complete and thorough course on representative painting in water color and related media.

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Part I, "The Elements of Water Color Painting," is devoted to a thorough grounding in the fundamentals of water color painting as well as consideration of

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many advanced essentials. Chapters in this section deal with materials and equipment, pigment acquaintance exercises, color facts vs. color theories, color harmony, indoor and outdoor sketching in color, treatment of reflections, etc.

Part II, "Architectural Rendering in Color," aims to help architects, landscape architects, and interior decorators in their particular problems of color representation. Some of the chapter headings: The Residence and Its Setting; Treatments of Larger Buildings; Sketching and Rendering Interiors; Furniture and Lighting Fixtures.

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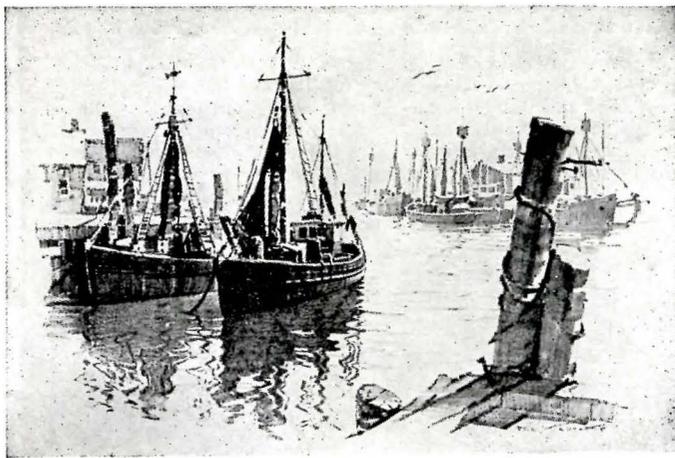
Pencil Pictures

by Theodore Kautzky

The subject matter for this text is that found in nature. Landscapes of the seashore, farming country, mountains and woodlands—with fishing boats, barns, village streets, and country homes—are illustrated and analyzed with attention to the arrangement of picture elements and line and value to produce pleasing design pattern. Examples of the author's drawings reproduced in gravure, provide inspiring examples from which to learn.

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by Theodore Kautzky

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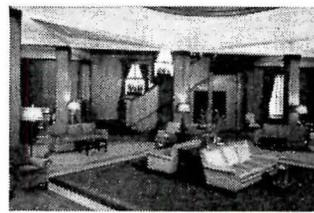
OFFICES. Birch Weldwood combined with wallpaper. Valance is decorative and practical — it conceals drape and blind attachments, and provides space for indirect lighting fixtures at the same time.



BARS & RESTAURANTS. This beautiful Claro Walnut Weldwood bar front was made for the Cardinal Richelieu Hotel, San Francisco. Walls and columns were covered with the same paneling.



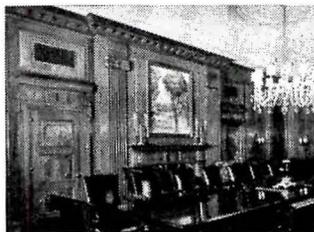
INSTITUTIONS. Mengel Flush Doors and trim of Ribbon Grain Walnut Weldwood set off the diamond-matched bleached Walnut walls and railing. Recessed panels over doors are of Stump Claro Walnut.



HOTELS. Your first impression of the Ottaray Hotel lobby, Greenville, S. C., is one of richness and good taste. Guinea Wood Weldwood in a handsome treatment of walls, columns and stair-rail.



STORES. Window-dress the whole store! Graceful curves and smooth-flowing lines provide an eye catching background for display in this I. Miller shoe salon, New York. The wood is oak Weldwood.



BANKS. Dignity and stability are the keynotes of this luxurious installation of Figured Mahogany paneling in the Conference Room of the Long Island City Savings Bank, L. I. City, N. Y.

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Douglas Fir Weldwood
Mengel Flush Doors
Douglas Fir Doors
Overhead Garage Doors
Molded Plywood
Armorply* (metal-faced plywood)
Tekwood* (paper-faced plywood)

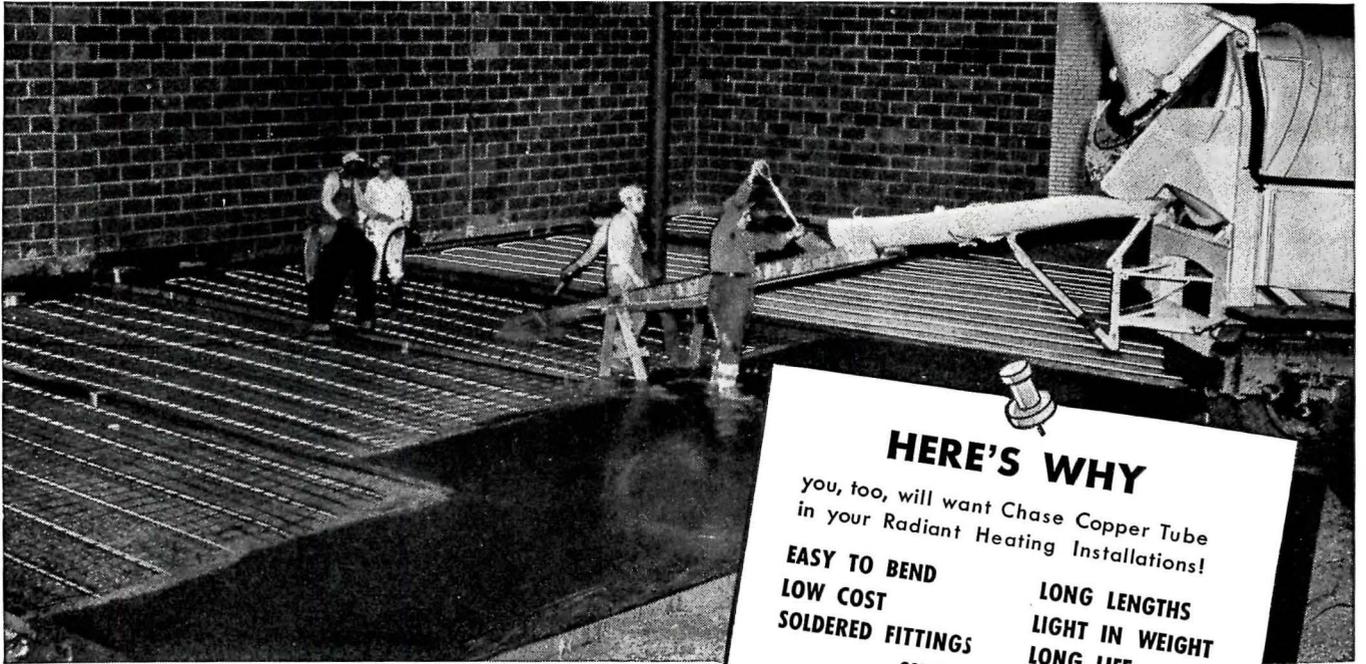
Flexmet
Weldwood Glue* and other adhesives
Weldtex* (striated plywood)
Decorative Micarta*
Flexwood*
Flexglass*
Firzite*
*Reg. U. S. Pat. Off.



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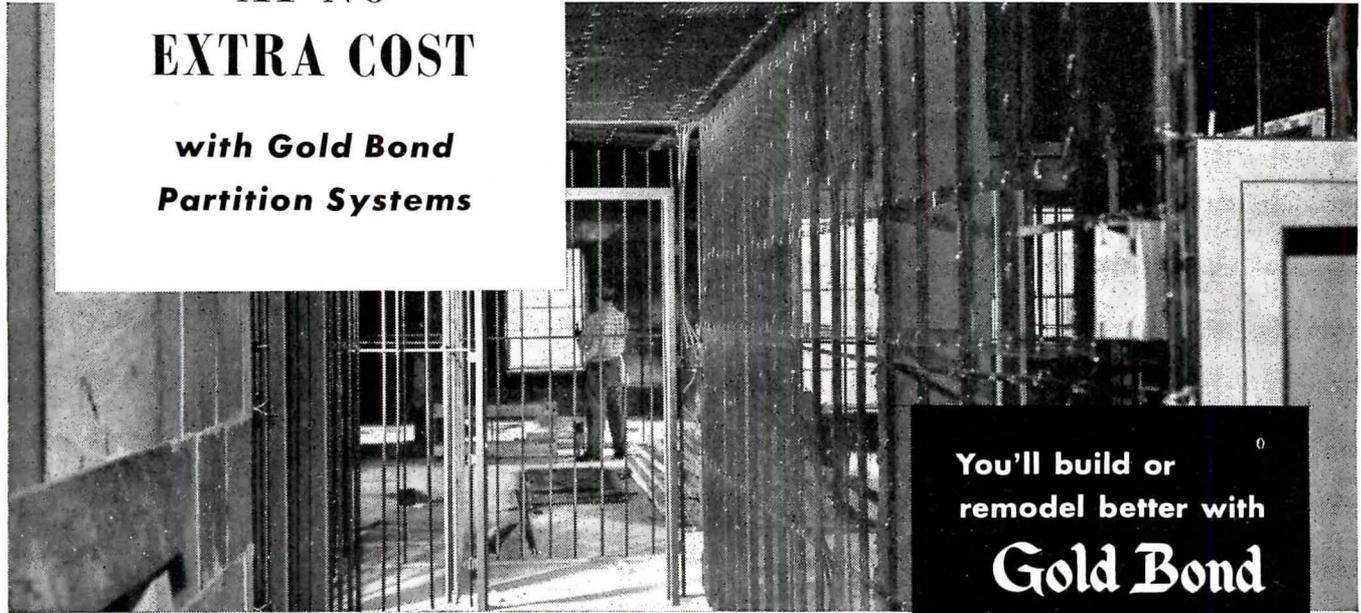
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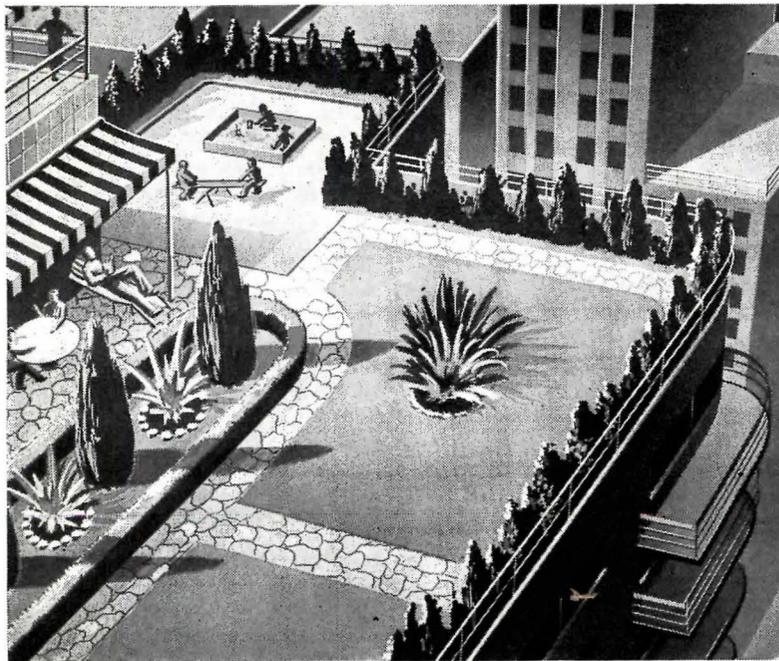
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FROM THE TECHNICAL PRESS

By JOHN RANNELLS

MANUALS, PAMPHLETS

Fifty Questions and Answers about Radiant Heating. *A. M. Byers Co., Pittsburgh, Pa.*

A lot of good information, presented in easy conversational style, compiled

from the questions most frequently asked by architects, engineers, contractors, and private individuals. Rather thorough coverage, without getting too involved in the technical aspects.

TECHNICAL LIGHTING DEVELOPMENTS
The Illuminating Engineering Society

continues to develop theories and practices for more adequate, more "human" lighting, and to re-evaluate the current materials and methods. The following brief abstracts (papers presented at the I. E. S. Technical Conference in Boston, Sept. 20-24, to be published in *Illuminating Engineering*) show how closely their studies affect architecture:

An Appraisal of Kitchen Lighting Elements. *Janet Reynolds and A. W. Kalkily.*

Kitchen lighting is frequently dismal. Fixtures are very generally purchased on the basis of their appearance in the dealer's window. To make an analysis of the effectiveness of various fixtures the authors had kitchens, sinks, and cabinets built so that incandescent and fluorescent lamp combinations and types of fixtures could be studied in their proper surroundings under laboratory conditions. It is hoped that this paper will point the way to satisfactory answers on the kitchen lighting problem.

Performance Analysis of Available Lighting for Reading in Bed. *Myrtle Fahsbender and Priscilla Presbrey.*

A study of results produced by a group of selected luminaires typical of those used for reading in bed. An analysis is made of 17 diversified installations, including both incandescent and fluorescent equipment.

Applied Brightness Engineering from the Consulting Engineer's Viewpoint. *Wm. G. Darley.*

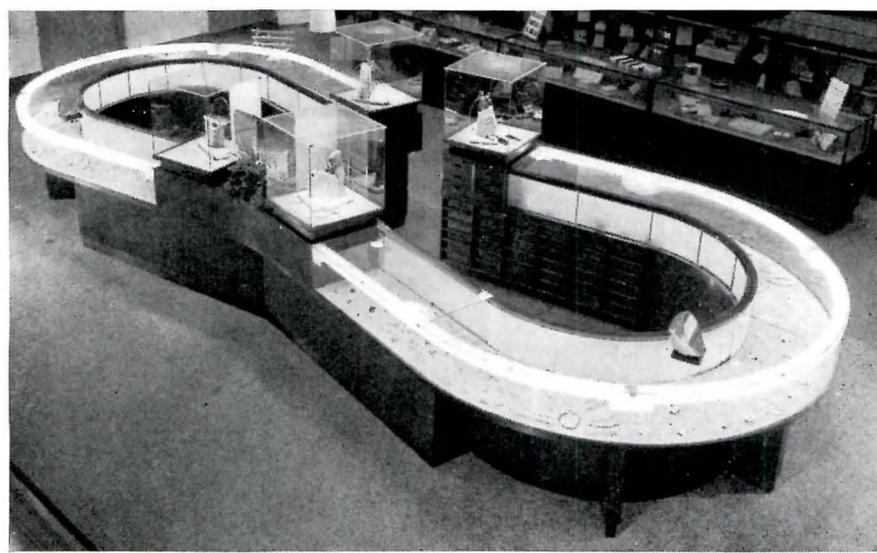
The author was one of the early advocates of a new approach to lighting—the approach based on the provision of a comfortable visual environment and dealing with *all* of the brightnesses in the visual environment. It has been called by some "Brightness Engineering," to differentiate it from the old "Illuminating Engineering" approach.

The author pursues the idea of proving the acceptability of the new approach in practice. The paper relates some of the progress which has been made and some of the problems encountered. It makes an appeal for a less confused approach to the subject of "brightness ratio" and suggests ways of eliminating some of the current confusion in brightness thinking.

The Construction of Interfection Tables for Specific Luminaires. *R. A. Coradeschi and Leinmis.*

The interfection method is a relatively new means of predetermining both the

(Continued on page 112)



Not All Pioneers Used Covered Wagons...

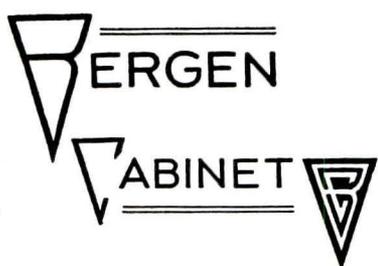
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Reviews

(Continued from page 110)

illumination and brightness resulting from a lighting installation, forecasting the brightness of wall, ceiling, and floor.

This paper has carried out for the first time a method for the construction of interfection tables based on the actual light distribution of a specific luminaire. The tables published with this paper cover two luminaires. It is hoped that the method will be applied to other

types so that the lighting engineer will be able to insure not only the quantity but also the quality of his lighting design.

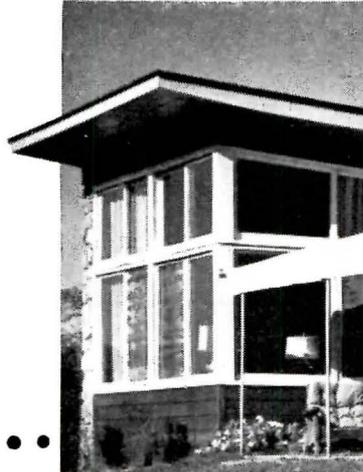
The Practical Mechanics of Designing Optimum Lighting Patterns. H. L. Logan.

The paper explains the steps to be taken by the engineer in designing all the elements of the lighting system and

the interior environment so as to arrive at the perfection of artificial light to match natural daylight and provide what may be broadly described as a "biologically correct lighting environment."

A range of lighting patterns, taken from optimum natural fields of view, shows how artificial lighting can be arranged in these same patterns in artificial interiors. If an executive wants the lighting effect in his office to give about the same feeling as natural lighting on a golf course at 4 o'clock on a pleasant June afternoon, this method can be used to give it. (This I want to see.—J. R.)

Create Striking Effects..



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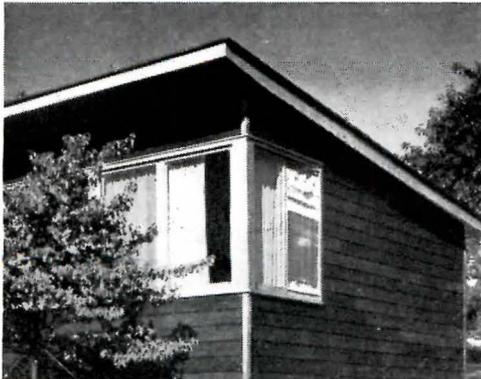
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Is Lighting Application a Lighting Problem? J. S. Hamel.

The author urges that lighting application could and should be a part of the standard engineering services of an engineer or architect. The manufacturers should pull out of the engineering phase of lighting application insofar as furnishing free design and layout service is concerned. The manufacturers should concentrate on supplying technical data which the architect or engineer can apply.

Important Concepts Underlying Lighting for Critical Seeing. Matthew Luckiesh.

A science of seeing is evolving which encompasses specific sciences of lighting, vision, typography, etc. Critical seeing is being appraised from two major viewpoints—visibility and ease of seeing. Suprathreshold visibility levels have become definite measurable concepts which provide a basis for recommended foot-candle levels or compromises between threshold and ideal foot-candle levels. Brightness levels of tasks are assuming more importance as basic concepts (of sensation and seeing) become recognized. In fact brightness engineering now encompasses a large portion of illuminating engineering, for it largely determines visibility levels, ease of performance, and the effect of the entire visual environment.

Only the last two of these papers reached P/A in time for this issue. When they are published in *Illuminating Engineering* they will have attached the critical discussions that make the work of the I. E. S. so alive.

Concrete Floors for Basementless Houses. University of Illinois Bulletin, Circular Series F 4.3. August 1948

After listing nine different types of floor slabs the University recommends (1) good drainage (4 inches of crushed rock or gravel under the slab), (2) a vapor barrier over the fill, extending to the outside edge of the floor, (3) at least 2 inches of rigid waterproofing insulation along the exposed edge of the floor and extending 2 feet under it.

Uninsulated floors in existing basement-

(Continued on page 114)

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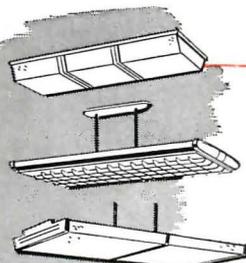
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(Continued from page 112)

less houses can be made warmer by placing 2-inch rigid waterproof insulation on the outside from floor level down to at least 12 inches in the ground, with flashing over the top.

With panel heating, insulation of the outer edge of the slab is needed and insulation under the entire heated floor area is recommended.

REPORTS

Meeting the Needs of Mankind By Scientific Research. *The Thirty-Fifth Annual Report of the Mellon Institute, Pittsburgh, Pa.*

The Mellon Institute has had a close basic part in the industrial development of research-made branches of manu-

facture (synthetic organic chemicals, coal chemicals, plastics, etc., as well as chemical physics, medicinal chemistry, etc.). Emphasis is placed on fundamental research in chemistry, physics, and biology.

The bulk of this report covers development work subsidized by various industrial firms. One of the oldest industrial fellowships (30 years) developed bituminous coatings for Robertson Protected Metal and led eventually to the development of Q-Floor and Hubelite. Others have developed heat insulating and roofing materials.

The cover of the report displays prominently a much-retouched photograph of the imposing Ionic portico behind which the scientific and industrial work is carried on. Of course this sort of architectural extravagance was in style when it was built some 20-odd years ago, but it does make one wonder. Did the researchers move into an outworn Bourse, or is this a temple of our own civilization, after all?

Things to Consider in Planning Educational Plants. *By the Committee on Educational Buildings and Equipment, American Council on Education Studies, 744 Jackson Pl., Washington 6, D. C., 13 pp. with bibliography. 1948.*

Fifth of the series of reports being issued by this Committee to promote research in the elementary and secondary school field, this pamphlet points out major items to be considered by the planners responsible for the educational buildings so urgently needed for the immediate future.

C. M.

BOOKS

MAN AND HIS ART

Search for Form. *Eliel Saarinen. Reinhold Publishing Corp., 330 W. 42nd St., New York 18, N. Y., 1948. 354 pp., illus. \$4.50*

This 350-page dissertation on art is no book for infants. *Search for Form*, to be appreciated and of benefit to the reader, should have as a prerequisite some years of earnest work in one or several fields of the fine arts. We have within the covers of one book an amazingly thoughtful and profound presentation of the efforts of man to create art, written by one of our most original and instinctive artists. We have the observations of 50 years of earnest effort, by one man, to solve problems of art and form, to his satisfaction. The serious artist will be amazed by the comprehensive character of this book. This reviewer, as an architect, has often found himself attempting to develop a

(Continued on page 116)

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(Continued from page 114)

thought or a connected series of thoughts relative to creative work, usually in the piecemeal manner of a busy man. Saarinen has picked up the same thought, has traced it back to its beginning, compared it with other natural manifestations and explored the subject in a keen effort to discover what makes it tick. One is continually surprised by the skill with which the author

analyzes a movement or trend and studies it from all angles.

What could be more simple than a division of our art struggle into three stages, "the subconscious, the conscious, and the self-conscious":

"The *subconscious* stage represents that stage of art development where primitive man, because of an inner drift, acted subconsciously in accordance with

the laws of nature and produced unintentionally genuine art—because of an inherent gift.

"The *conscious* stage represents that stage of art development where advanced man, consciously aware of the important place of art in human society and subconsciously sensing the fundamental laws of art, produced—and produces—indigenous art of such quality as is of constructive avail in the evolution of human culture.

"The *self-conscious* stage represents that stage of art development where civilized man, because of esthetic speculation, dogmatic doctrines, or otherwise, has closed the instinctive channels of creation and has produced art that is 'fine', but rootless."

Saarinen is impressed with the logic of nature. The simple direct solutions of problems in nature are to him ideal. He develops the thought of the growth of art beginning with man's primitive existence when whatever he attempted was instinctively genuine. He traces man's gradual progress into higher civilized development. During the long climb man was creative. Later he lost his touch with nature, became self-conscious, and believed that he could produce art with his intellect rather than with his instinct. He built for himself "ivory towers of self-made doctrines, formulas, and theories. His form became lacking in vitality, superficially decorative, realistically imitative, or dryly practical." Presumably man acquired a creative or artistic inhibition much in the same manner that men today all have come to wearing the same kind of clothes and to some extent thinking the same kind of thoughts.

Throughout the whole book runs a thread of deep appreciation of nature's beauty. This beauty intrigues Saarinen. He speculates upon it. He dissects it and he enjoys it. He tries continually to find its secret and to incorporate it in his own designs. He calls attention to the integrated picture and to the beauty of all of its parts; and the wondrous correlation which blends nature's work into a unit. He calls attention to the well-known but seldom followed "organic order—the fundamental principle of architecture in all of creation".

Architects who read this book carefully and thoughtfully at home will find that it kindles half-dead fires of inspiration. They will find themselves racing to the office in the morning to try new ideas of simplicity and organization. They may even find themselves looking with new and envious eyes at the technical perfection of nature's architecture.

In a fascinating, if somewhat detailed, manner the whole fabric of art endeavor, sculpture, painting, and architecture is developed before us and its downward slide through Tiepolo and Fragonard and Canova and Thorwaldsen is pictured, to the inevitable downfall of taste. Then we are shown the slow but determined gathering of forces

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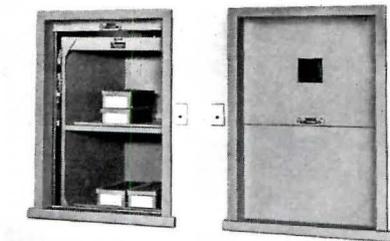
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(Continued on page 118)

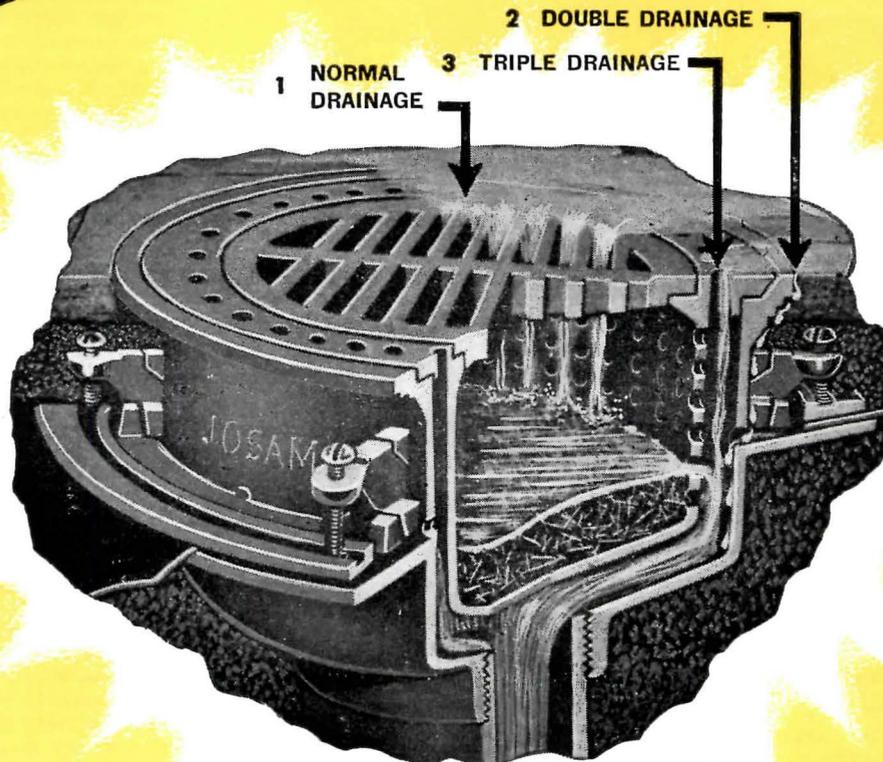
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(Continued from page 116)

for the upward climb; the Impressionists of France; the pioneers of central and northern Europe, Austria, Holland, Finland, Sweden; the gathering enthusiasm supplemented, a bit later, by Louis Sullivan and Frank Lloyd Wright in this country. Material, function, honesty, were again words to be reckoned with. Expressionism follows impressionism; Picasso follows Gauguin. The struggle comes closer to our time. We remember the controversy and some of the actors. We realize again how important art is to all. We move into the machine age with its machine-made products and find that the architect has been dealt a whole handful of strange cards to play. "As for machines, we are now very much in the position of a *nouveau riche*. We look upon things through the spectacles of the machine. The machine is an achievement of our era, and we are proud of this achievement. Machine-making is so new, so stimulating, and so immensely exciting!"

We are told that after the excitement has died down, the machine will be looked upon as normal matter. We are reminded again, as we already know, that the present trend of mechanization will do strange things to us; that our design and our form will be affected. "As regards the cultural significance of our form it can be short and concise. For if form is to have cultural significance it must first be creatively vital and honest. The rest follows automatically."

This reviewer is not entirely certain whether Saarinen is optimistic or pessimistic about tomorrow. He certainly has laid down the facts all through our yesterdays and into our todays. The last paragraphs are devoted to art education and they speak of what art and art education should be. There is an indication that he feels that architectural education is not doing its job. This may be true throughout the country. It is not true of all schools. There are some now conducting their programs in line with Saarinen's principles. More power to them!

This book, coming as it does out of years of thinking and achievement in the fine arts, with particular emphasis on architecture, deserves careful consideration by those designers who are laboring to express today's life through the medium of their own talents and imagination. The book carries a challenge to American architects to produce architecture worthy of our time.

LORIMER RICH

(Continued on page 120)



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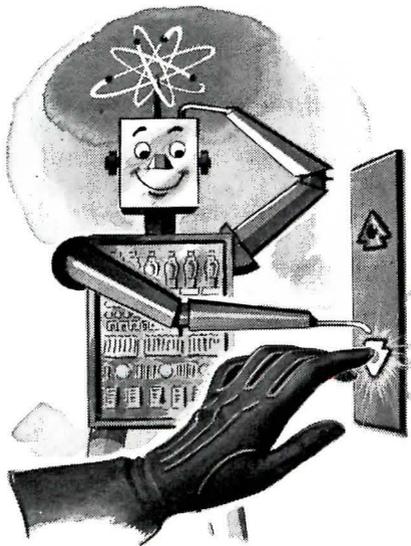
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Reviews

(Continued from page 118)

DURHAM CATHEDRAL

Cathedral Books: 2. *Introduction by W. A. Pantin. Lund Humphries, London, England, 1948. 32 pp., illus. 3s. 6d. (75 cents)*

The great fortress-cathedral at Durham, monument to monastic industry and an example of Anglo-Norman architecture that fortunately escaped "restoration" by such late Medieval zealots as those who restyled Canterbury and Winchester, is the subject of the second in the series of Cathedral Books. (See December 1947 P/A, page 84.) Durham is notable as the first cathedral designed and built as a completely rib-vaulted church, initiating the "stony skeleton" which later was to characterize wide and lofty Gothic structures.

C. M.

STRENGTH OF HOUSES

Application of Engineering Principles to Structural Design. *U. S. Dept. of Commerce Building Materials and Structures Report BMS 109. 8" x 10 1/4", illus., tables, index. Supt. of Documents, U. S. Govt. Printing Office, Washington 25, D. C. \$1.50*

Exhaustive analysis of factors affecting structural strength of houses, with particular attention to snow and wind loads based on Weather Bureau data. For each element of a house, compressive, transverse, and racking loads are computed for typical one and two story frame houses in several locations in the United States representative of extreme wind and snow loads.

It is hoped that the engineering approach developed in this book will open the way for designers to introduce unconventional materials and unusual methods of fabrication, especially for prefabricated houses.

J. R.

HANDBOOK UP-TO-DATE

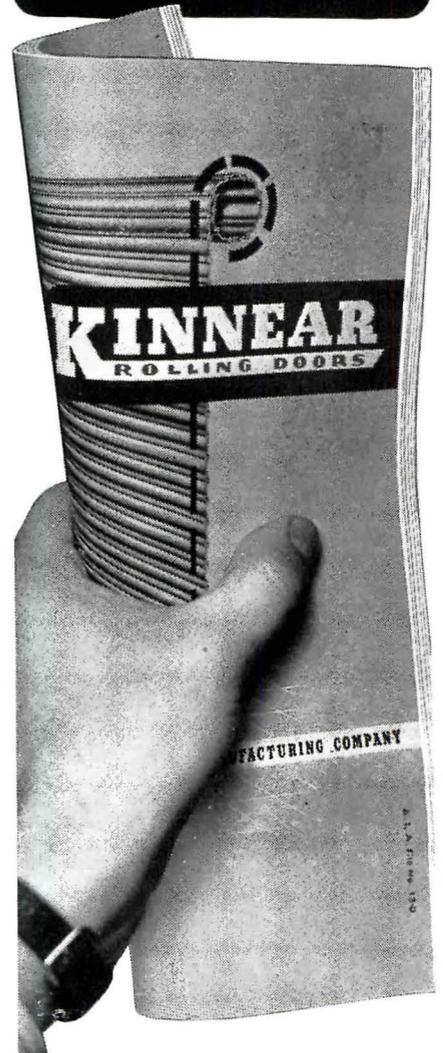
Modern Applications of Sheet Copper in Building Construction. *Copper and Brass Research Ass'n., 420 Lexington Ave., New York 17, N. Y. 144 pp., 8 1/2" x 11", tables, illus., index. \$3.00*

A new and considerably enlarged version of the old familiar "Sheet Copper Handbook," designed as a "Handbook for Architects and Sheet Metal Contractors, Draftsmen and Artisans, Students and Apprentices."

Extensive research by the industry has been fully utilized in making up this

(Continued on page 122)

Your Guide to Lower Door Costs



You'll want to have this data in hand when you're considering doors! The 1948 Kinneare catalog gives you complete, fully illustrated details on highly efficient, space-saving doors for every need. It tells why the many advantages of coiling upward action have made Kinneare Rolling Doors world-famous for longer service at lower cost. Includes full information on Kinneare Motor Operators—the key to easy, time-saving push-button door control. Also gives details on Kinneare's various sectional-type doors and other closures, for all types of industrial, commercial and residential installations. Write for your free copy of this complete door guide today!

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Reviews

(Continued from page 120)

manual. New recommendations are for the use of cold-rolled instead of soft temper in many locations because of its greater strength and the use of heavier, thicker sheets, except in few instances. New principles are given for designing copper linings for built-in gutters, the weight of sheet being related to length, width, depth, and side angles. A new "Table of Tempers, Weights, and Sizes" for various uses serves as a graphic table of contents, with cross references to the illustrations and discussion in the text.

A general chapter on various properties and methods of working copper covers typical fastenings, seams, preparation of surfaces for laying, etc. The body of the text consists of 35 plates with explanatory text on facing pages. The drawings are extremely concise and clear, with a proper distortion of scale and omission of unnecessary details to emphasize the main points. The discussion and drawings so complement each other that they must be taken together for full understanding. Coverage is even more complete than the old handbook, with new details for roof panels for cooling, structural expansion joints, and many others.

Sections on roof drainage, specifications, and miscellaneous data (strengths, tolerances, roofing estimates, etc., complete the book.

J. R.

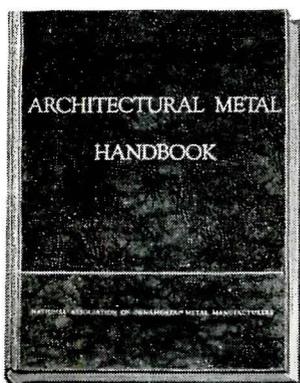
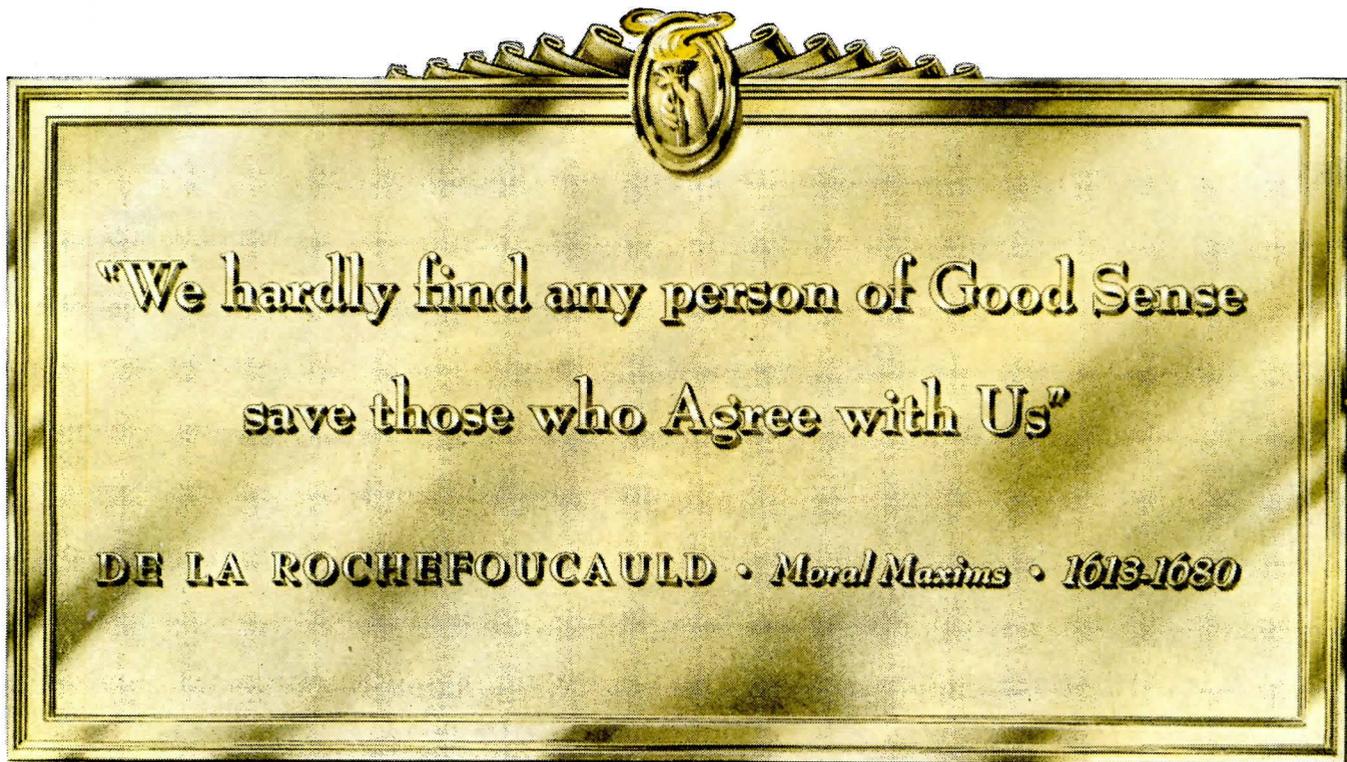
FURNITURE FOR TODAY

The Herman Miller Collection. *The Herman Miller Furniture Co., Zeeland, Mich. 72 pp., 11" x 8½", illus., index. \$3.00*

A very handsome book, displaying to the best advantage the products of the Herman Miller Furniture Company. The great majority of the pieces are the work of George Nelson; a dozen or so are by Eames, two by Noguchi, and three by Lazlo. It is the individually styled pieces of Lazlo and Noguchi, apparently, that make this a "collection." Presumably there will be other such pieces added from time to time, for it is the policy of the Herman Miller organization to produce items they believe in.

The work of Lazlo and Noguchi is not particularly suited to production for a broad market, though it is good to see such fine individual designs made available. It is in the work of Eames and Nelson that the machine is really put to work by the designer. It would be

(Continued on page 124)



PERMANENCE, strength and beauty of the copper alloys make them ideal for architectural uses," write Earl P. Baker and Harold S. Langland in the *Architectural Metal Handbook*

recently published by the National Association of Ornamental Metal Manufacturers. "A list of these uses would comprise many of the products of the Architectural Metal Industry, especially those whose value lies in beauty of material and the ability to grow old gracefully.

"The alloys of copper and tin, with occasional additions of zinc, or lead (*the 'brass' of scripture*) better known to us as bronze, is *architecture's noblest metal*. The works of sculptors of ancient times have been preserved to us through having been cast in bronze.

"A material of such distinguished tradition is a constant stimulus to the architect, the sculptor and the craftsman to high endeavor lest his creation be unworthy of so noble a material.

"Since the intrinsic value of the metal in any bronze installation is very small as compared

with the value of the skilled labor required to fabricate it, it would be unwise not to select the most suitable and most durable metal for the specific purpose. Architectural designers and specification writers should be familiar with the many copper alloys that are available and their uses and limitations."

Almost a century of service to architects, designers and specification writers assures us that the profession is widely informed and duly appreciative of the "noblest metal." Brief reference data on Anaconda Architectural Alloys (with which no busy man need tax his memory) will be found in 1948 Sweet's, File 6B-1. More detailed information may be had on request.

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Reviews

(Continued from page 122)

impossible for the metal and plywood Eames chairs to be produced except by quantity production methods, while interchangeable shelves and cabinets by Nelson are a grand demonstration of the variety (and unity) which can be achieved with a relatively small number of well thought out components.

The great virtue of Nelson's interchangeable pieces is their ability to make backgrounds, pulling a whole room together, as built-in furniture can do in the hands of a skilled designer. Line diagrams of available sizes supplement the lush photographs of a rich variety of combinations. Thus the book is a manual with suggestions and data for new arrangements.

The book itself is a very fine piece of design (also by Nelson) printed by Rudge. It will be a sure prize winner in the "best book" awards in the field of manufacturers' literature. The company has showrooms in New York, Chicago, and Los Angeles.

J. R.

THE FURNACE WAS O.K.

Warm Air Heating and Winter Air Conditioning. Prepared and published by the Engineering Depts. of the Lennox Furnace Co., Marshalltown, Iowa, 1948. 320 pp., 8½" x 11", illus., tables, index. Available through Lennox dealers.

If the old-fashioned warm-air furnace does not come back into its own it will not be the fault of this book. After all, the troubles with the old "family Moloeh" were generally caused by faulty layout of the duct work or air-leaky houses. With more generally widespread knowledge of all the factors making for intelligent design there should be no difficulty in eliminating the faults and gaining the benefits of this most economical type of heating.

The book is a very thorough treatment of the whole subject of warm-air heating in typical house constructions. The material on design and theory is written in easy, nontechnical style with a great number of illustrations. It has the special virtue of describing many actual installations and alterations in a way that conveys the results of experience on the job. Making this piled-up experience available should do much to help improve the work of the warm-air heating trade.

"Winter Air Conditioning" amounts to little more than filtering and humidifying the air. These are desirable but hardly worthy of being called air conditioning unless it is being done as sales argument.

J. R.

THIS
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INSTALLATION

AFTER

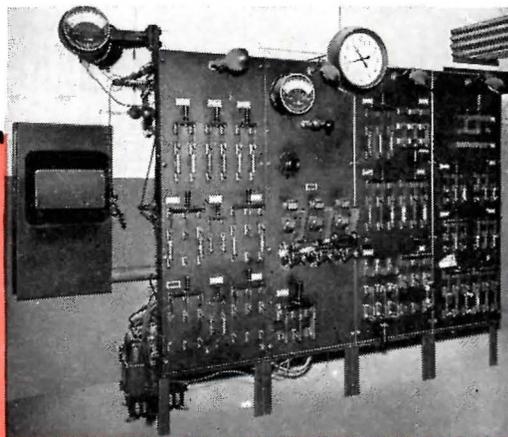


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It's the Law

By BERNARD TOMSON

This article begins a new monthly column by Mr. Tomson on the legal aspects of architecture, engineering, and building construction. "It's The Law" will deal with current legal interpretations and decisions, and the commentary, based on the author's knowledge and experience, should become "must" reading for practicing

professionals. Bernard Tomson is not a stranger to readers of P/A. A lawyer who has made a special study of the law as it affects architecture and building, he has already contributed two articles to the Office Practice series—"You and Your Client," in February, 1948; and "Licensing Requirements," in August, 1948.

Commercially minded yet-well-intentioned builders of homes in developments of varying sizes have attempted to reassure prospective purchasers that the neighborhoods they were buying into would not deteriorate in the foreseeable future. To accomplish this, they have set up restrictions in the deeds which "run with the land" and are designed to prevent any builder of the future from indulging his taste to the detriment of the neighborhood.

A recent case involved Long Island's "University Gardens," a development which was advertised as "the most beautiful in this part of the United States." The advertisements further emphasized that future homes would be "in harmony with our scheme of affairs," 15 model homes having been completed to "show prospective purchasers of sites what type of construction is expected" and to assure "against inharmonious or bizarre styles of architecture in the community" and "annoying encroachments."

The deed designated the Board of Directors of the Property Owners' Association to enforce the admonition that "no dwelling house shall be erected upon any of said plots . . . except in harmony with the present standards of said development insofar as such standards are consistent and compatible with conditions as they exist at the time such erection . . . is contemplated." This restriction is remarkable for the fact that no hard and fast guide is stated (viz. no flat roof, minimum size, minimum plot, etc.). The yardstick is esthetic standards, to be reviewed at the time plans are filed.

To fortify its position in approving or rejecting plans, the Association engaged the services of a well-known architect who set up minimum standards for new construction, in conformity with the high standards current in the community.

One owner of a building plot, Schultz by name, was stubbornly determined to build the type of house that he desired and went forward with his construction despite disapproval of his plans. The Association then instituted suit to enforce its standards.

In this particular instance, the standard which was the subject of dispute was that of size. The University Gardens Property Owners' Association, Inc., had set as a desirable standard a minimum cubage of 29,250 cubic feet above grade. The majority of homes in this project exceeded that minimum. However, Mr. Schultz contended that the dwelling he planned would be in harmony with this



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With Weisway Cabinet Showers you have flexibility. The number of units in each installation is determined only by the size of the job. Built by the pioneer of the cabinet shower idea, Weisways are quality products that will please your clients with long and dependable service. For full details write

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(Continued on page 128)

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For further information on the uses of Atlas White Cement, see SWEET'S CATALOG, Section 4B/2 and 13B/8, or write to Atlas White Bureau, Universal Atlas Cement Company (United States Steel Corporation Subsidiary), Chrysler Building, New York 17, N. Y.

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IT'S THE LAW

(Continued from page 126)

standard of the development, because there were two other similarly detached houses in the immediate vicinity, which were smaller than his, and there were 10 row houses which also were smaller. The Association explained the 12 smaller houses by stating that they were on the perimeter of the development and served to hide other, less attractive homes outside the community.

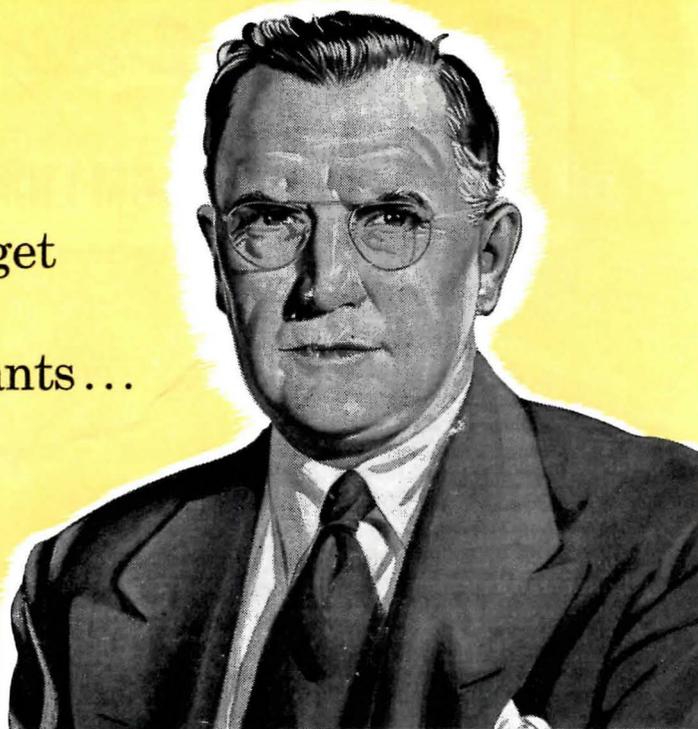
Within a short time and by the end of the trial, Mr. Schultz succeeded in completing the construction of his home which totaled a cubic footage of 8,000 feet less than the minimum set by the Association as necessary for a dwelling to be in harmony with other homes in the development. The trial court came to the conclusion that the minimum size requirement was a reasonable one, in that this standard was not based on the larger homes in the development nor even on an average of the homes located there, but on one of the more modest homes which was used as a yardstick by the Association in its desire to facilitate more rapid development of the project. The trial court therefore ordered the owner to remove the structure within 30 days or to enlarge it to conform with the requirements of the Association, ruling: "As the court abhors waste and not because it believes the defendant has proven himself worthy of any sympathetic consideration, an opportunity will be given the defendant to satisfy the reasonable demands of the plaintiff by agreeing with the latter upon a suitable addition or enlargement of the present structure within 30 days after the service of a copy of the judgment to be entered herein. If the defendant remains adamant and shows no desire to enlarge the structure, then, if the building is still owned by him at the end of 30 days, it will be removed."

The owner appealed this decision and the higher court reversed the judgment of the court below. The Appellate Court refused to enforce the restrictive covenant, calling for the construction of a dwelling in harmony with the standards of the development, on the ground that the Association had been too slow to invoke the processes of the court so as to preserve the status quo. The court asserted that the inaction of the Association during the time elapsed between the commencement of construction on October 18, 1946 and the institution of suit on November 16, 1946 (during which time the dwelling was 50 percent completed was inexcusable; and would not be countenanced in an action for injunctive relief.

The Appellate Court in this case avoided a discussion of the validity and enforce-

(Continued on page 130)

If this customer could get
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HE: *Every woman knows aluminum kitchenware! Millions will want my building products...*

WE: *That's why saying NO is so tough...*

There is no mystery in the reasons. We have talked aluminum, aluminum, aluminum, for sixty years.

Manufacturers, and Americans in general, during the war, learned what aluminum could do. As it fought America's battles in the sky, they saw it win other battles against great stresses, against corrosion, against old-fashioned manufacturing methods. Hundreds of thousands of skilled American hands learned to work with aluminum...

All of these facts, put together, caused a kind of postwar revolution. A manufacturer of building products, or appliances, or irrigation systems, redesigned his

line to take advantage of aluminum's usefulness. *Suddenly, thousands of such manufacturers were clamoring for aluminum!*

So many that—with aluminum as with countless other products—the world demand exceeded the supply. And America's new aircraft program subtracts its large and necessary share.

That is why, right at this enthusiastic moment, events force us to learn to say NO. We must say a flat NO to those who want aluminum because they can't get their regular metal. A milder NO to new aluminum users with ideas that are economically sound. We will endeavor to supply them with the small amounts

needed for experimental use. Very drastic NO's to many of our own fabricating plants, which, for some time, we have operated at only a fraction of their capacity.

Every time we have to say NO to a customer, it will be the fairest NO we know. Our first obligation is, of course, to the host of old customers who have put all their eggs in the aluminum basket.

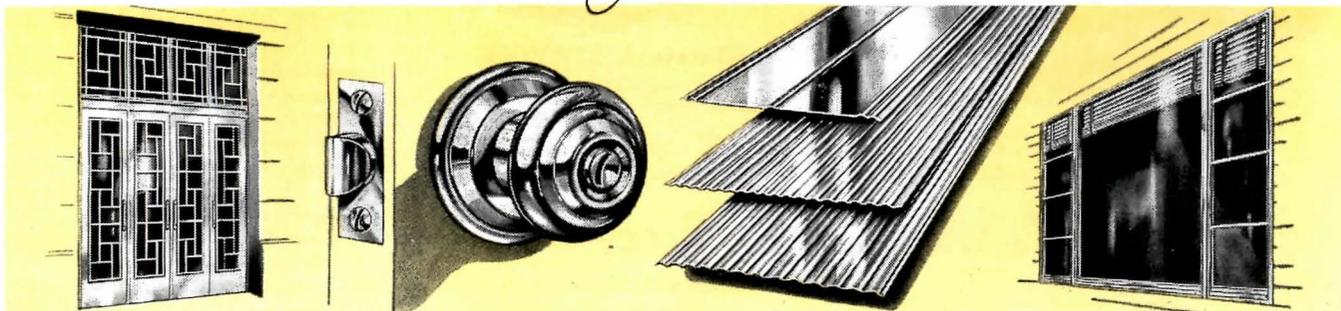
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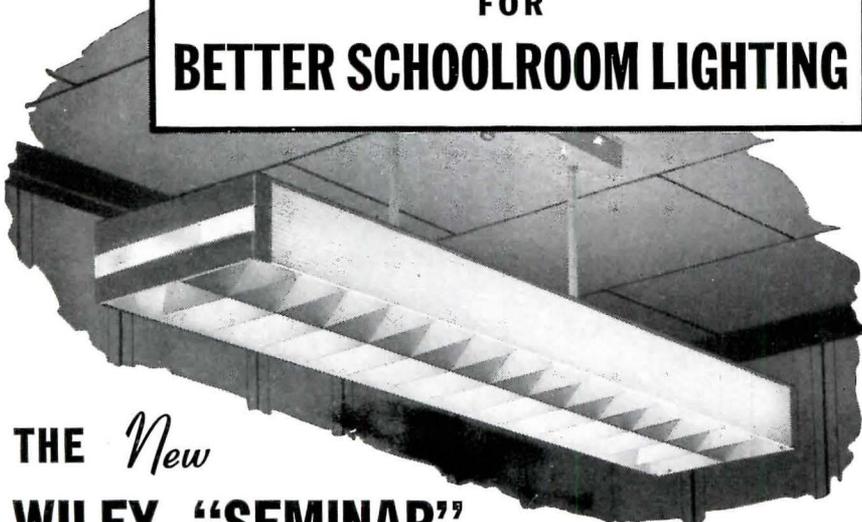
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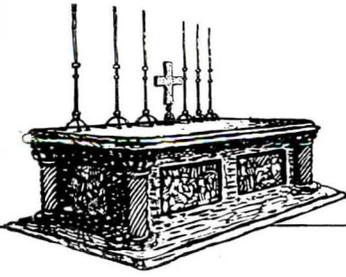
(Continued from page 128)

ability of the restrictive covenants. Since this case was not further appealed, the validity of the restrictive covenant calling merely for the erection of a dwelling "in harmony with the standards of the development" was not finally determined. However, assuming that this restriction is validly drawn so as to provide an adequate standard and guide, the important fact remains that this standard was circumvented by taking advantage of an "inexcusable delay" by the Association seeking to enforce it.

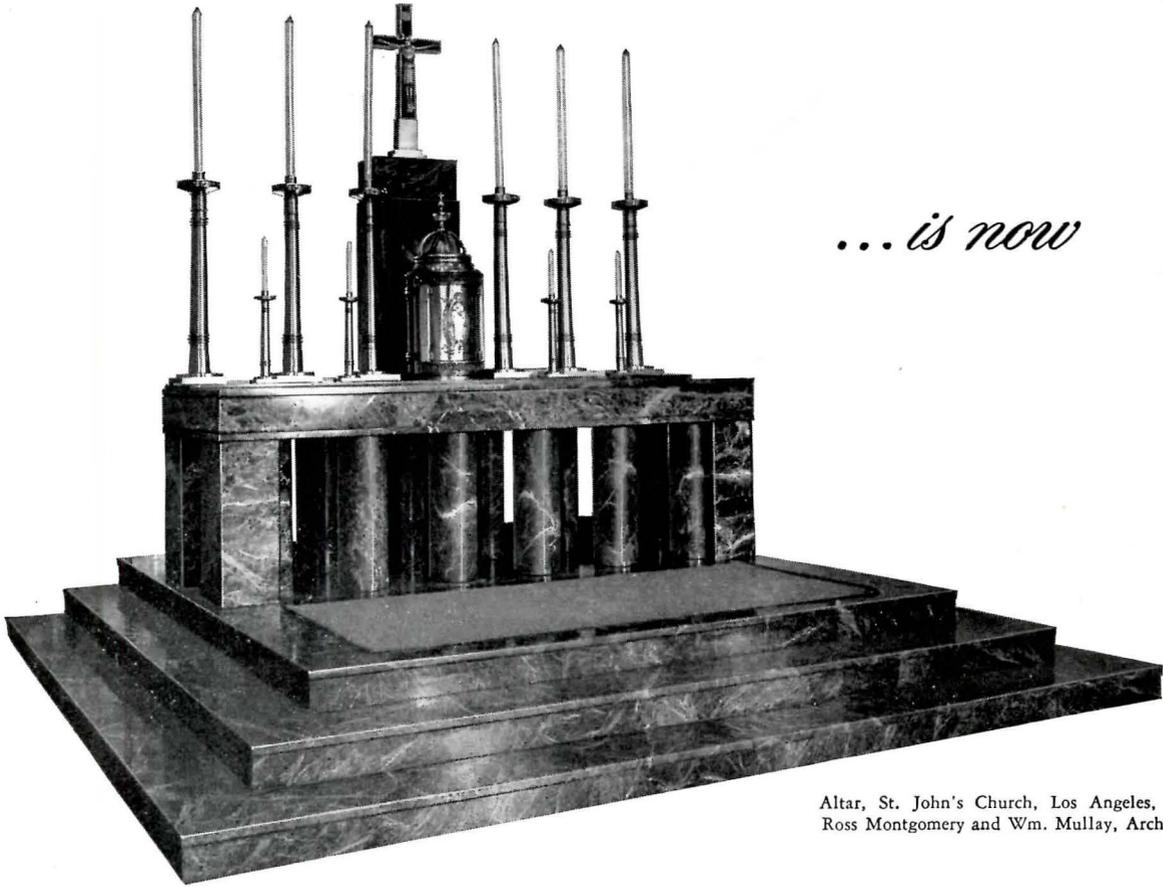
The Association had promptly informed the owner that his proposed plans were unsatisfactory and when notified of his defiance had promptly retained counsel. Only three weeks elapsed between the commencement of construction and the institution of suit. Despite the necessity of preparing and drawing the papers which are necessary to commence an action, the court nevertheless held that this three-week period of time (perhaps also the Associations' failure to seek a temporary injunction during the litigation) was sufficient to bar the Association from the relief to which it might ordinarily be entitled. This case was followed by a case, *University Gardens Property Owners' Association, Inc. v. Crawford Homes, Inc.*, in which the court held affirmatively that the restrictive covenant in question was "valid and enforceable." In that case it granted a temporary injunction since the Association had "moved with celerity" against Crawford Homes, Inc., which sought to circumvent the restrictions.

The importance of prompt action is again brought out in another New York case, *Sahn v. Poushter*. The property involved here was located in the City of Syracuse. The defendant was the owner of a tract of land which had a building restriction providing that no part of any building, except steps or bay windows and other similar projections, might be erected upon any part of the premises within 30 feet of the nearest line of the street on which it faced. The defendant's house was substantially in line with other neighboring houses. However, his dwelling was within 30 feet of the street, whereas in the case of the other homes their porches or sun parlors projected within this distance. The plaintiff seeking the injunction was an individual and had not taken any action in reference to the defendant's house until after its completion. The court decided that since the defendant's house did not interfere with the plaintiff's view, light, and air

(Continued on page 13)



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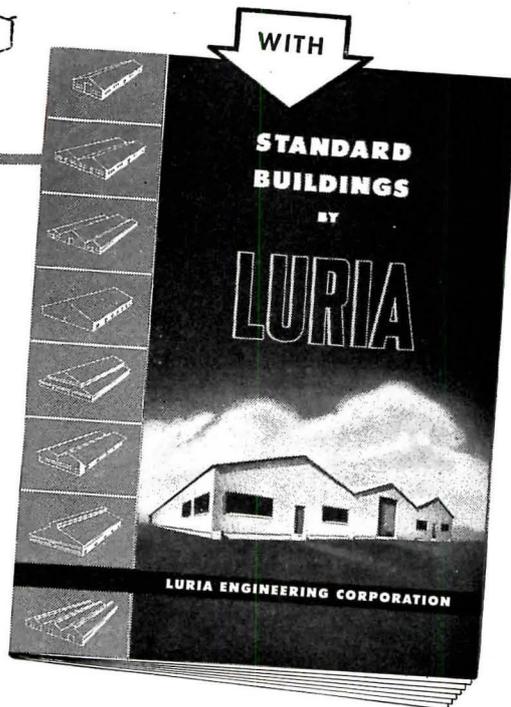


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IT'S THE LAW

(Continued from page 130)

and because she had delayed in seeking relief and had seemingly acquiesced in the building of the defendant's dwelling, it would be oppressive to grant an injunction. However, a contrary conclusion was reached in another New York case entitled *McCain Realty Co., Inc. v. Aylesworth*, where the court did not believe that the conduct of the plaintiff, in failing to take action against other dwellings which were built in violation of a restrictive covenant, was sufficient to invalidate or waive his right to enforce the restrictive covenant against the defendant.

From the foregoing and other similar cases, no definite and clear-cut rule may be drawn to designate the point at which lack of action on the part of the person seeking to enforce or maintain esthetic or other standards will cause him to be deprived by the courts of his right to do so. The greater the cost and the greater the effort expended by the infringing builder before an attempt is made to stop the violation, the greater the reluctance of the courts to interfere with the *fait accompli*. The only safe course is to take immediate legal action when an owner has definitely committed himself to build in violation of a standard which it is desirable to maintain.

A municipality, in enforcing its zoning laws, is not in quite the same position as an individual seeking to enforce a restrictive covenant. As a rule, the courts will not permit the action or inaction of a municipal officer or employee to constitute an estoppel against a municipality or a waiver of its right to enforce its own laws. In a recent New York case entitled *Town of Clarkstown v. Hantman*, a builder had erected, in an area zoned for 1-family dwellings, a 10-family dwelling. The town building inspector knew of the construction from the beginning and had even promised that a permit eventually would be issued. The court held that despite this inaction by an administrative officer, the municipality was entitled to an injunction, on the ground that the court will not recognize any attempt to condone, or afford immunity from a law violation.

Since no appeal was taken, the result of this determination was to restrict this 10-family dwelling to occupancy by 1 family only. Unless the zoning law is modified, this bizarre situation perhaps might be resolved by the removal of the building to an area zoned

(Continued on page 134)

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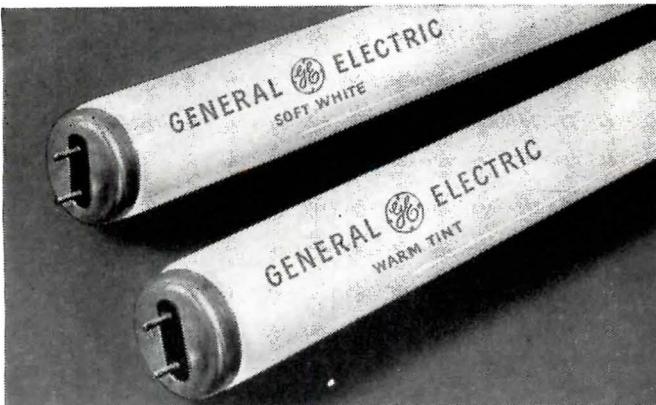
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IT'S THE LAW

(Continued from page 132)

to permit its use for the purpose for which it was designed.

All this leads to the following conclusions:

1. Community-wide "esthetic" restrictions in a deed, if properly drawn, are probably valid and enforceable.
2. The community association must exercise eternal vigilance in promptly enforcing its restrictive covenants or run the risk of approving deviations by inaction, even temporary.
3. Inactivity on the part of a governmental body or officer, as distinguished from a private body, may be prolonged and yet not excuse lack of compliance even when substantial hardship results to a builder.

NOTICES

APPOINTMENTS

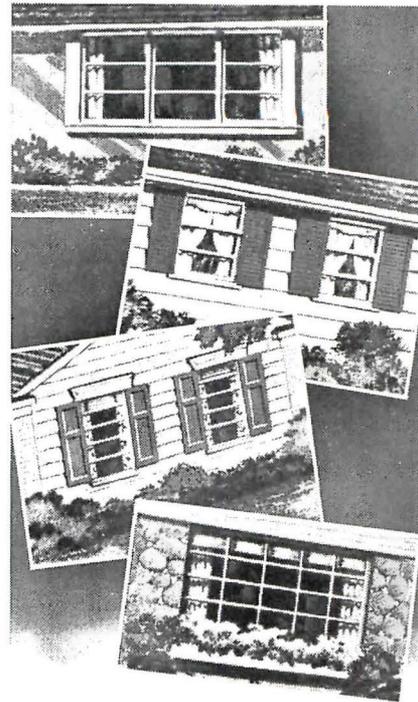
HENRY L. KAMPHOEFNER, former professor of architecture at the University of Oklahoma, has been named the first dean of the newly created School of Design, North Carolina State College. Two departments are now a part of the new school. The Department of Landscape Architecture will be headed by EDWIN G. THURLOW, the staff also including Professors LAWRENCE B. ENERSEN and MORLEY J. WILLIAMS.

MATTHEW NOWICKI, Polish architect and design consultant for the United Nations, has been designated professor of architecture and acting head of the Department of Architecture. Other faculty members are Associate Professors JAMES W. FITZGIBBON, EDWARD W. WAUGH, and DUNCAN STUART; Assistant Professor GEORGE MATSUMOTO; Visiting Assistant Professor STANISLAVA NOWICKI; Instructors JOHN C. KNIGHT, JOHN H. MOEHLMAN, and MARGARET CROSBY FITZGIBBON; and Graduate Assistant DAVID GEORGE.

LEWIS MUMFORD will serve as visiting professor of architecture. Professor ROSS SHUMAKER, Associate Professor WILLIAM L. BAUMGARTEN, Assistant Professor ALEXANDER CRANE and Visiting Associate Professor F. CARTER WILLIAMS, who were members of the faculty before formation of the new school, will continue on the staff.

Announcement has been made of the appointment of RICHARD P. LISCHER,

(Continued on page 136)



Do You Know...

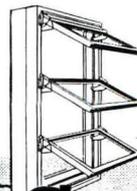
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designer, of New York and Milford, Conn., as professor of industrial design at Bard College.

LOUIS I. KAHN, of Philadelphia, Pa., and ELIOT F. NOYES, of New Canaan, Conn., have been appointed critics in architectural design, Department of Architecture, Yale University, for the year 1948-49. Five architects appointed to serve as visiting critics, each for a five-week period, are SVEN MARKELIUS, of Sweden; EERO SAARINEN, of Bloomfield Hills, Mich.; PIETRO BELLUSCHI, of Portland, Ore.; JOHN SLOAN, of New York; and HUGH STUBBINS, of Lexington, Mass.

ERIC MENDELSON, architect, has been appointed lecturer at the University of California School of Architecture, Berkeley, Calif.

FELLOWSHIPS

FOURTEEN FELLOWSHIPS FOR STUDENTS AND ARTISTS capable of doing independent work in architecture, landscape architecture, sculpture, painting, history of art, musical composition, and classical studies have been announced by the American Academy in Rome. The fellowships, to be awarded on evidence of ability and achievement, are open to any citizen of the United States for one year beginning October 1, 1949, with possibility of renewal. Each fellowship carries a stipend of \$1,250 a year, round-trip transportation between New York and Rome, studio space, residence at the Academy, and an additional travel allowance. All applications must be received by the Executive Secretary, American Academy in Rome, 101 Park Ave., New York 17, N. Y., by February 1, 1949.

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FREDERICK G. NOBBE, Architect, R.D. Box 98, Long Branch, N. J.

LEON HYZEN, Architect and Industrial Designer, 1129 N. Dearborn St., Chicago 10, Ill.

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GARDNER A. DAILEY & ASSOCIATES, Architects, 442 Post St., San Francisco 8, Calif.

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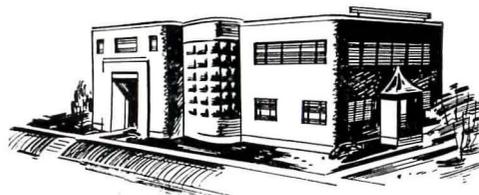
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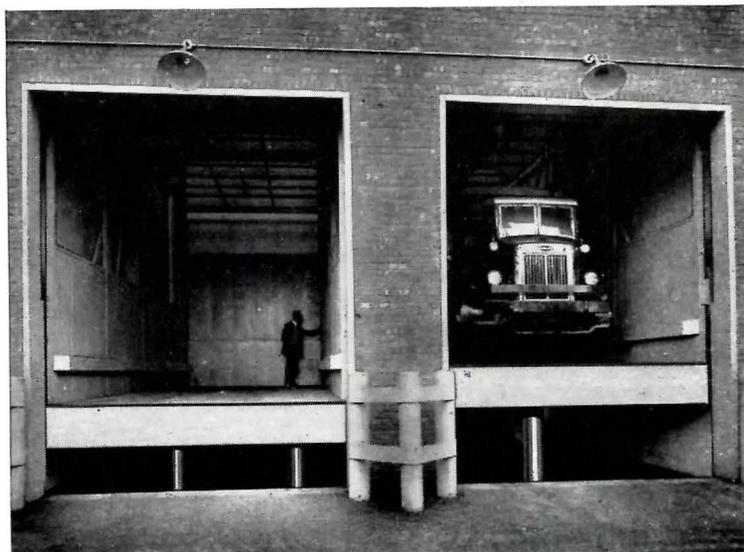
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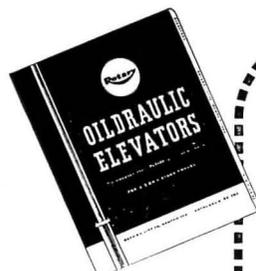


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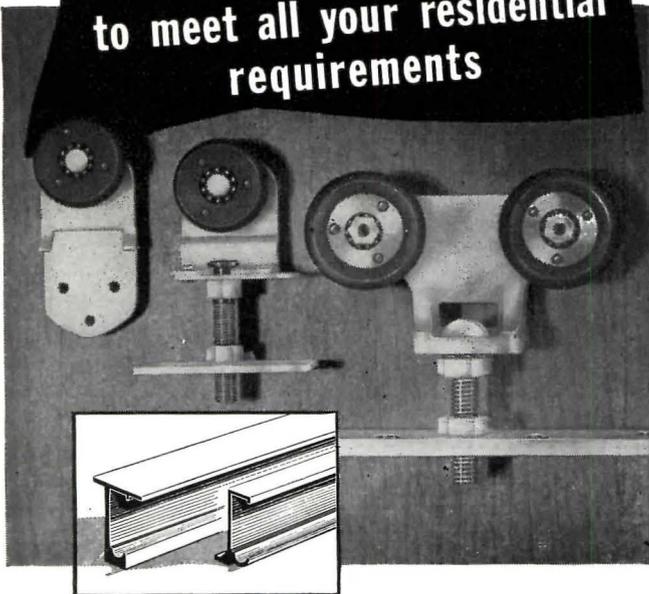
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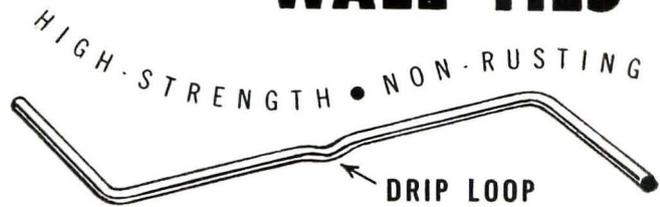
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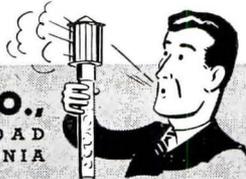
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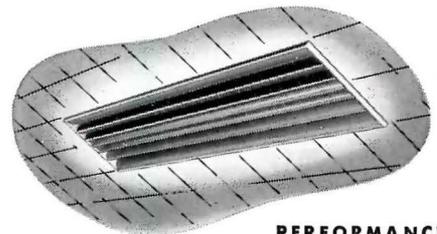


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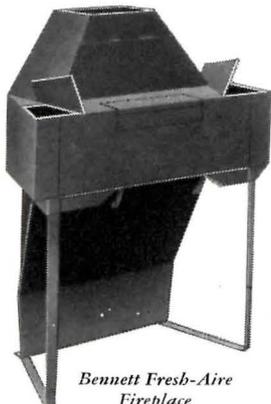
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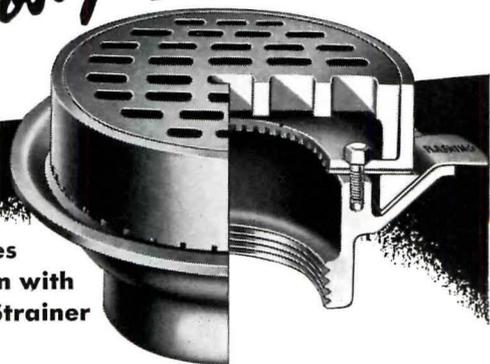
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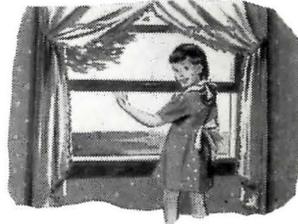
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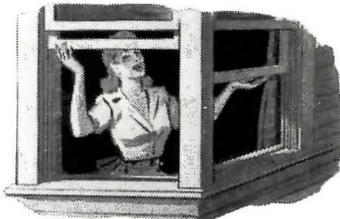
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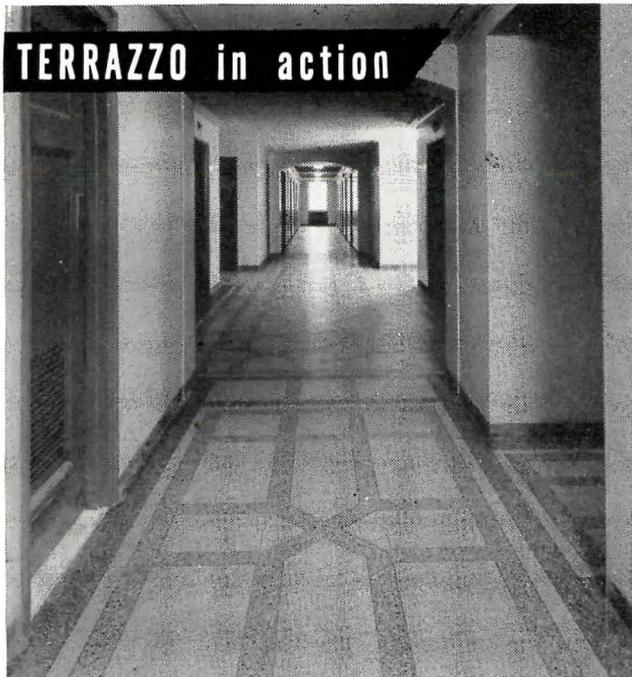
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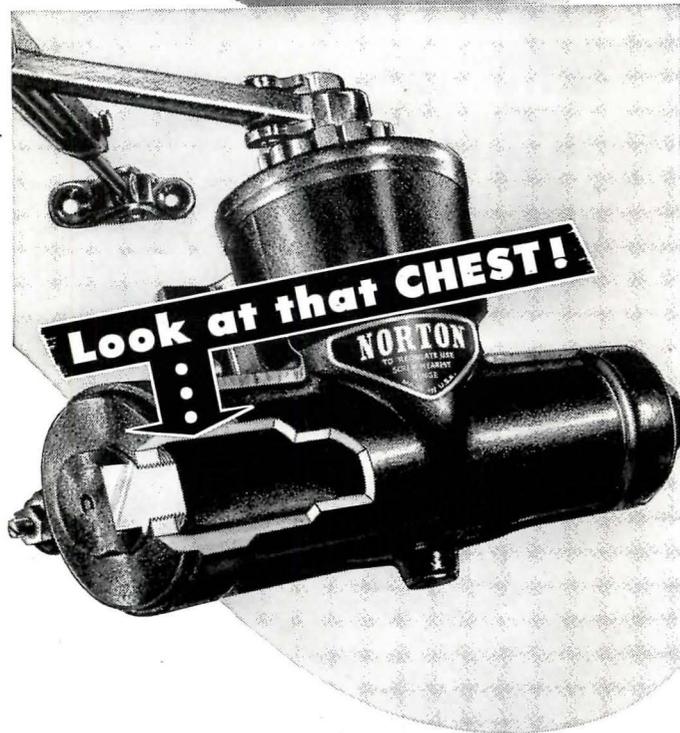
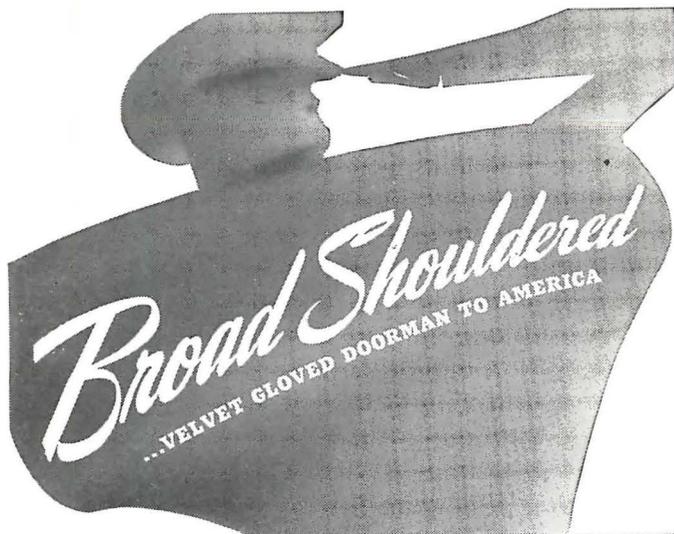
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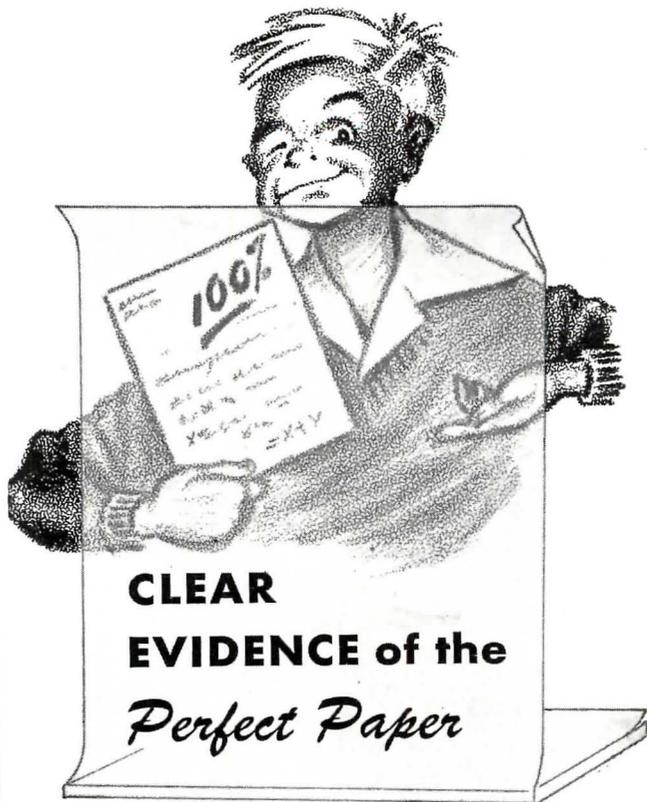


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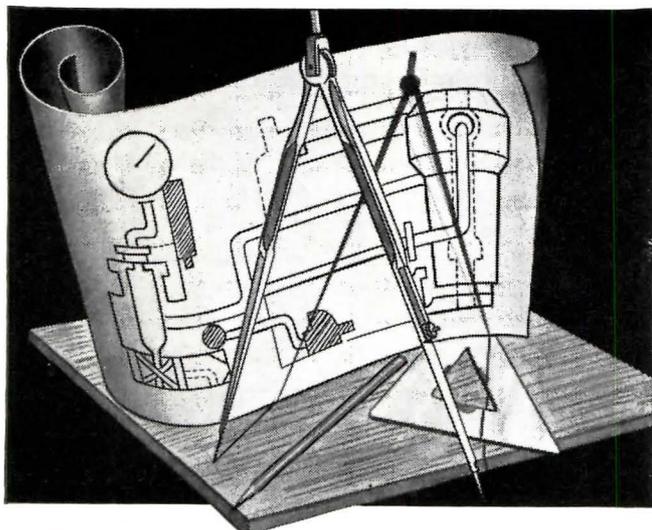
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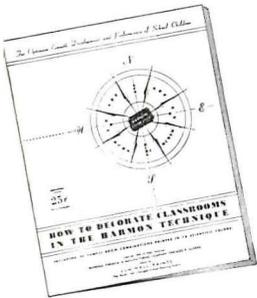


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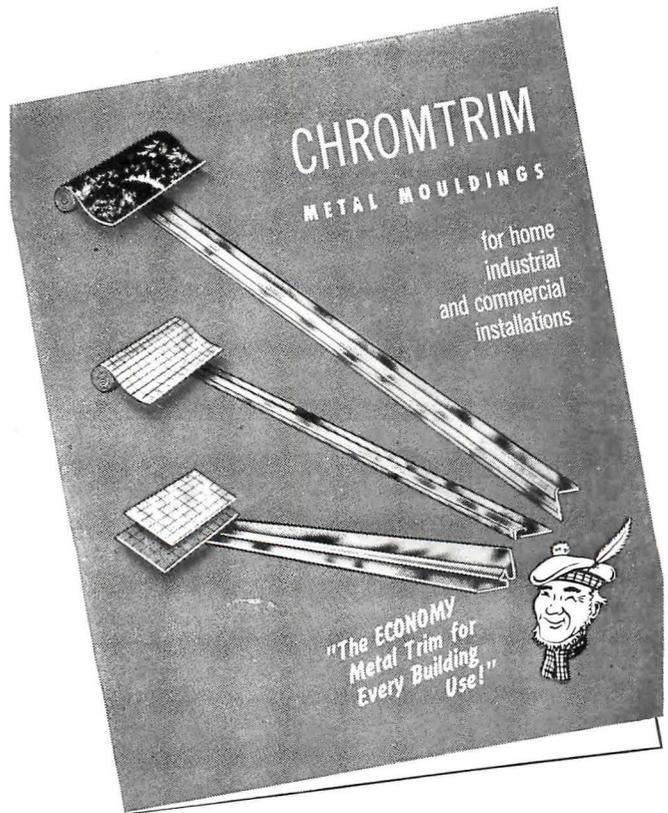
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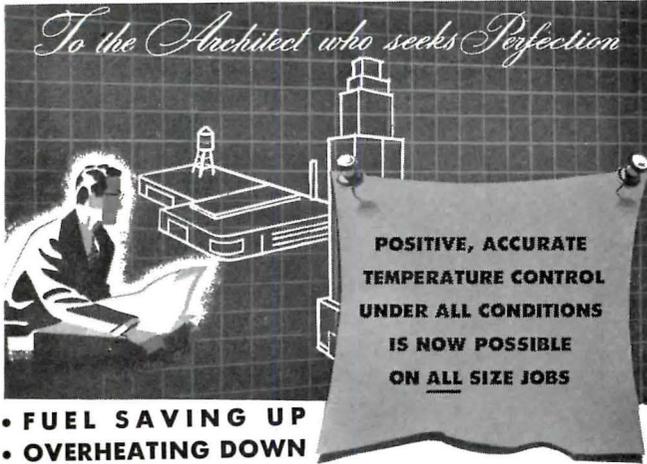
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Before me, a Notary Public, in and for the State and County aforesaid, personally appeared John G. Belcher, who, having been duly sworn according to law, deposes and says that he is the Publishing Director of the Corporation publishing PROGRESSIVE ARCHITECTURE and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Act of March 3, 1933 and July 2, 1946, embodied in section 537, Postal Laws and Regulations, to wit:

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JOHN G. BELCHER,
Publishing Director.

Sworn to and subscribed before me this 13th day of September, 1948.
(My commission expires March 30, 1949.)

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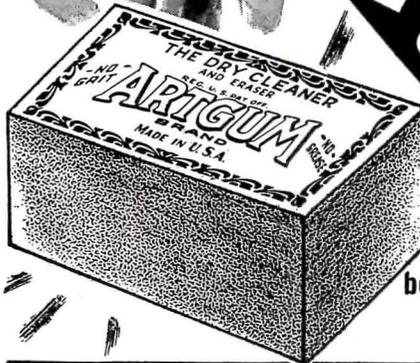
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Product Report . . . November, 1948 ACOUSTICAL SURFACING

A. S. Bennett & Associates, a New York research organization, has just completed a nationwide study to learn how building products get into buildings. In this and subsequent issues, we will discuss the study, giving details and comments about the 24 classes of products which were investigated. By observing the ways in which representative firms specify products, you will have a better idea of how nearly your own operations are geared to those of your contemporaries in the architectural profession.

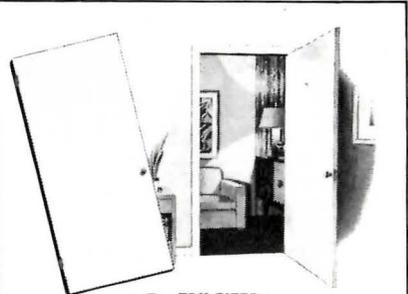
ACOUSTICAL SURFACING

Because the sample was small, no definite conclusions can be drawn on the degree of preference shown by architectural organizations for acoustical materials of construction or structural characteristics. Suffice to say that, from the actual figures, when it came to selecting an acoustical material, fibre installations outnumbered plaster and metal almost two-to-one. When it came to the structural characteristics, however, the split between pierced and solid installations did not seem too large—pierced outnumbering solid by about three-to-two.

The actual specification of acoustical surfacing was done only after careful thought and planning by the architectural organizations involved. Of primary interest, naturally, was the range of acoustical performance possible with the various types of materials available. If we disregard the first and second place votes cast for various factors which affected the choice of materials, and instead go by total votes cast, the picture looks like this: 1st . . . range of acoustical performance; 2nd . . . color and texture (very few 1st or 2nd place votes, large total vote); 3rd . . . fire resistance and ease of maintenance (tie); 4th . . . initial cost and light reflectivity (tie).

When it came to actual brand specification, however, the picture changed. 2nd and 3rd place factors remained the same, but 1st and 4th were reversed. This time initial cost was the deciding factor, with acoustical performance a weak fourth. If we can draw conclusions from these results, it appears to be pretty much of a toss-up in the minds of specifiers as to brand selection, and thus cost comes up as the deciding factor. But it is important to notice that the type of surfacing is selected first, and thus brand choices are narrowed down to such an extent that a specifier is given few manufacturers from which to choose. For instance, if

(Continued on next page)



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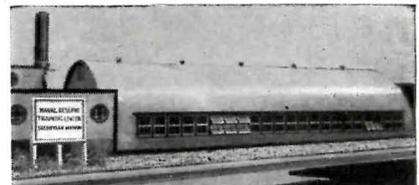
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(Continued from previous page)

it has already been decided to use a pierced fibre acoustical surfacing, the field is narrowed to those manufacturers supplying such a product.

Incidentally, most architectural organizations decide on the *type* of acoustical installation before final working drawings are begun—and by the time it

comes to detail drawings, minds made up. *Brand* decisions are made a little later, availability often being a deciding factor.

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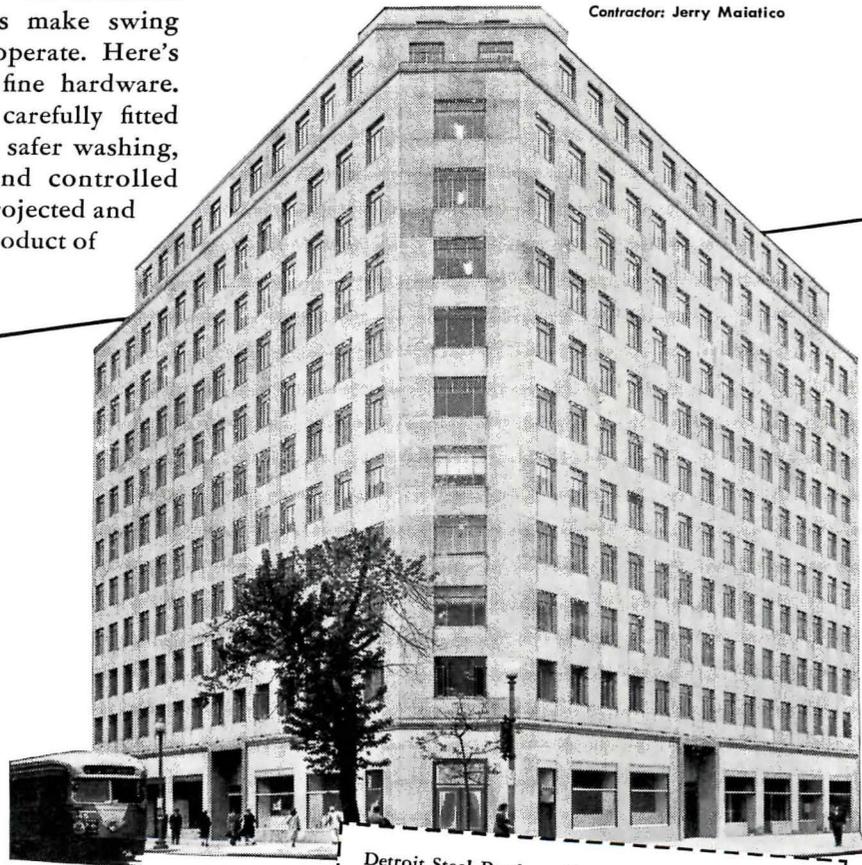
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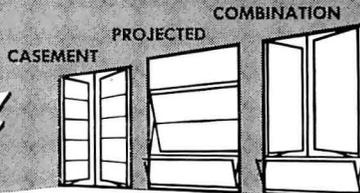
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P.S.

I WANT TO CALL YOUR ATTENTION TO THE NEW REGULAR COLUMN ON LEGAL QUESTIONS which begins in this issue. We consider ourselves and our readers very fortunate in having Bernard Tomson as a regular contributor. His knowledge and experience, his interest in the design professions, and his good common sense make his commentaries well worth reading—and keeping.

A REQUEST FROM A MUSEUM FOR PERMISSION TO USE MATERIAL THAT APPEARED IN AN EARLY ISSUE of *Pencil Points* recently sent me chasing through some back numbers in our library. I found myself turning page after page, fascinated by both differences and similarities in the practice of the profession then and now. For the sake of those who haven't kept bound volumes through the years, and for the younger readers, suppose I pick out a few highlights from selected points in the past.

25 YEARS AGO

The November 1923 *Pencil Points* devoted 22 of its pages to full-page reproductions of formal renderings. Included in these plates were *Portion of Competition Design for New York Public Library* by Carrere & Hastings; *Portion of Competition Design for State Library, Sacramento, California* by Francis S. Swales; *Landscape Fantasy in Pencil* by Theodore T. De Postels. The lead article was *The Embryonic Sketch* ("esquisses as they are sometimes called") by Henry Oothout Milliken.

Results of a competition for "The Best Design of a House to Cost Not More Than \$5,000," held in Santa Barbara, California, were announced: first prize, Walter A. Moody; second prize, A. McSweeney; third prize, Leffler B. Miller.

It was noted that Jones, Roessle & Olschner and Samuel G. Wiener had formed a partnership in Shreveport, Louisiana; that a new visiting student named Frederick J. Woodbridge, of Amherst and Columbia, had registered at the American Academy in Rome; and that Atelier Cairns in Memphis, Tennessee (Everett D. Woods, Massier), had held a party.

On the employment service page, a typical item read, "General architectural draftsman wishes position. Sixteen years' experience. Salary \$65 a week."

20 YEARS AGO

In November, 1928, the leading article was on "Draftsmanship and Architecture, as Exemplified by the Work of Paul P. Cret." There followed a piece on "the new manner" in theater design, which "consists in creating the impression that the audience is seated in a great amphitheater that is open to the sky and surrounded by a romantic setting . . . usually Italian, Spanish, or Moorish." The various professional organizations were apparently much concerned with athletics. It was reported that the New York Architectural Club baseball league winners (office of Walter C. Martin) had defeated the Philadelphia title holders (office of Ritter & Shay) 7 to 4; that the Inky Racers had won the St. Louis Architectural Bowling tournament, and the office of Donaldson & Meier, the one in Detroit; that George Kayser of James Gamble Rogers' office had won the Architectural Tennis Tournament in New York; and that Warren & Wetmore's office had held an outing, at which a prominent figure was "Math" Arnaud.

The magazine, its contributors, and its advertisers were interested in the new design movement, although little of it was illustrated beyond the restrained classicism of Paul Cret. Harvey Wiley Corbett was quoted as saying that, "The trend will be more and more away from petty decorative details, and toward the skillful distribution of masses and the use of color." H. A. Kennison (then of Downers Grove, Illinois, now of Fort Wayne, Indiana) contributed a poem which began:

*This Modern Style is best achieved
When in majestic grace conceived;
Details with due thought foreseen,
A gigantic mass, withal serene.*

I'm glad Kennison kept on with architecture instead of poetry.

The new book by Paul T. Frankl—*New Dimensions*, with an introduction by Frank Lloyd Wright—was reviewed with caution: "The so-called Modern Style is here to stay, say its adherents . . . The designs shown are not all to be considered beautiful, but they are all interesting." An ad for store-front materials featured a "New Art" design, by a "Modernistic architect."

15 YEARS AGO

In November, 1933, the profession of architecture was debating the question of unionism, and several pages of *Pencil Points* were given over to a discussion of the merits of several existing organizations that were competing for the draftsman's attention. H. Van Buren Magonigle contributed a piece on "A Half Century of Architecture," full of wonderful stories about Charles Coolidge Haight. ("Like everyone else he cribbed freely and when the original source of one of his designs was dis-

covered the men would say, 'Too bad! The old man has been anticipated again!'")

Hubert Ripley's recipe for fish chowder ("Since fish is not only an economy these hard times, but also has a reputation as a brain food, we suggest the slogan for architects, 'Eat more fish and improve the scale of your architecture.'") was followed by an article on Wrought Metalwork. The Comparative Details (predecessor to the current Selected Details) dealt with *Exterior Steps* "Prepared for *Pencil Points* by the Architects' Emergency Unemployment Committee."

In the Personals column, a number of architectural students, including Morris Lapidus, asked for manufacturers' literature. The employment columns listed many Positions Wanted, but no Men Wanted.

I ATTENDED AN INTERESTING DISCUSSION ON THE PROBLEM OF REDUCING COSTS OF CONSTRUCTION

at the convention of the American Hospital Association in Atlantic City recently. After the subject had been covered by various speakers, with no conclusions reached of course, a health commissioner from one of the important states got up and complained about "trends" in hospital design. "We thought we were going to save some money," he said, "when this new theory of early ambulation came in. Patients occupy beds for shorter periods; therefore, more patients in the same number of beds. But now there's talk of 'recovery suites.'" He hesitated, sighed and went on, "Damn; I suppose those beds are going to cost as much as any other kind!"

Isadore Rosenfield gave some statistics on the difference in cost between ward beds and private-room beds—less than half as much, in some instances he cited. Bob Cutler of Skidmore, Owings & Merrill's office cited possible savings in construction methods and materials.

A GOOD GROUP OF ARCHITECTS ATTENDED THE A.H.A. CONVENTION,

although some of the familiar faces were missing. I was sorry to hear that Al Aydelott, of Memphis, had been seriously ill. Al works too hard. Among other things, he's helping to arrange a Southern States conference on hospital planning for next spring, at which I understand Frank Lloyd Wright will speak. Your editor is assisting in the preparation of a small hospital competition in connection with that meeting. Ed Stone, who with Rosenfield is doing a handsome new hospital for Great Neck, near New York, will boss the jurors. I hear that Biloxi, Mississippi, where the affair will be held, is pretty nice in the spring.

Thomas H. Creighton