PROGRESSIVE ARCHITECTURE newsletter

OCTOBER 1951

- Industrial dispersal was given a boost by the President's espousal of an NSRB report urging 20-mile separation of new industries. To Congressional and private cries that this was dictatorship, Truman immediately replied that he was merely suggesting, and that anyway the report referred to new plants, not existing ones.

- Architects interested in futures can do some arithmetic based on these figures and estimate the number of new houses, new schools, new shopping centers, etc., that are in the offing: 1½ million new families will be formed in 1951 -- an increase over 1950 of 12%; 3¾ million babies will be born in 1951 -- an increase of 15% over last year.

- Indicating how certain sections of the country are suffering under present restrictions when defense work is not forthcoming in those areas, New York State construction industry employment is 10,000 below last year's.

- A report from an HHFA research project conducted by Dept. of Labor's Bureau of Labor Statistics indicates the small business (or non-business) aspect of home building in the United States. Of the 988,880 nonfarm dwellings started in the U.S. in 1949, 270,000 -- more than a fourth -- were built by nonprofessionals who were building their own homes. Only about 1000 builders had more than 100 houses to their credit during the year. In all there were 397,330 firms and individuals who built houses that year, only 119,100 of whom were "professionals," commercially engaged in home building. This means the average professional builder put up six houses.

- Another interesting fact brought out by the survey is that the general opinion that the "custom designed" house is only a small fraction of the total -- is wrong. In 1949 472,260 dwellings were built by contract or by the owner; 495,810 were "operative" projects. How many of the individually conceived or contracted-for houses were designed by architects is another question, which the survey has not determined to date.

- Another HHFA survey, on use of materials in house construction, shows some interesting trends. Following are increases from 1940 to 1950 expressed in percentages of houses built: copper or brass pipe, 29% to 53%; metal windows, 9% to 28%; slab on ground, 0 to 22%; asphalt roofing shingles, 47% to 82%; drywall finish construction, 10% to 50%. There were decreases: fireplaces were provided in only 22% of the 1950 homes, as against 62% in 1940; average house area dropped from 1177 sq. ft. to 983. Interesting incidental point: 5% of the 1940 houses were flat-roofed; 3% of the 1950 houses were.

- All this report on HHFA research activities makes one rather sad to hear that Richard U. Ratcliffe, who has been Director of Housing Research for that agency, has left his post to go back to Wisconsin U. as Professor of Land Economics.

- C.I.A.M. (Congres International d'Architecture Moderne) held its eighth Congress in Hartfordshire, England, this year. Theme was "The Core" -- ranging in its application from centers

(Continued on page 2)

newsletter

of small villages to the central core of a metropolis. Speakers included Giedion, Gropius, Le Corbusier, Sert, Tyrwhitt. Grids -- the exhibit technique developed by C.I.A.M. -- were presented by four panels -- from students at Harvard, Yale, Illinois Tech., and Pratt.

- Eric Kebbon has resigned as chief architect and superintendent of construction for New York City schools, after 15 years.

- Dr. Edward U. Condon, physicist who has been controversial but extremely able Director of National Bureau of Standards has quit government service to take position as director of research and development of Corning Glass Works.

- News of our competitors and colleagues. Fact: Katherine Morrow Ford has resigned as Architectural Editor of "House & Garden," to head public relations for Knoll Associates. Fact: Luce organization will replace "Building" with two magazines -- one to deal with houses; one to deal with non-residential construction.

- Building Research Advisory Board will hold a meeting November 27 and 28 devoted to Laboratory Design for Handling Radioactive Materials.

- Modular co-ordination was held out by a committee representing A.I.A., P.C., and N.A.H.B., at a meeting recently with government defense agencies. Argument is that wastage of materials is particularly inexcusable at this time; could be reduced by modular methods.

- Gulf States regional A.I.A. convention will be held in Memphis, October 26 and 27. Fall meeting of Virginia Chapter will be at Natural Bridge, Va., November 1, 2, and 3.

- Brooklyn A.I.A. Chapter and Brooklyn Society of Architects have formed a Foundation to raise funds for scholarships in architecture for high school graduates who could not afford further schooling.

- Don't try to put misleading information in an application for permission to build under present regulations. A million-dollar job in New Jersey has been stopped after the site was cleared, because investigation showed statement claiming that payment had already been made for materials and services was false.

- National Association of Home Builders will again give awards at annual convention for good Neighborhood Developments. Entries must be at N.A.H.B. headquarters in Washington by November 15.

- Plumbing and Heating Industries Bureau has published an installation guide, on Panel Heating for Small Structures. Order from Institute of Boiler and Radiator Manufacturers in New York for 50¢.

- THE TOY designed by Charles Eames, consisting of stiffened paper panels that can be joined together by pipe cleaners into real structures, is most architectural plaything yet to appear. Look for it in local stores at about $3.50. Sets sent to editors for publicity purposes have had publishing fraternity building airplanes on copy-room floors all over town.

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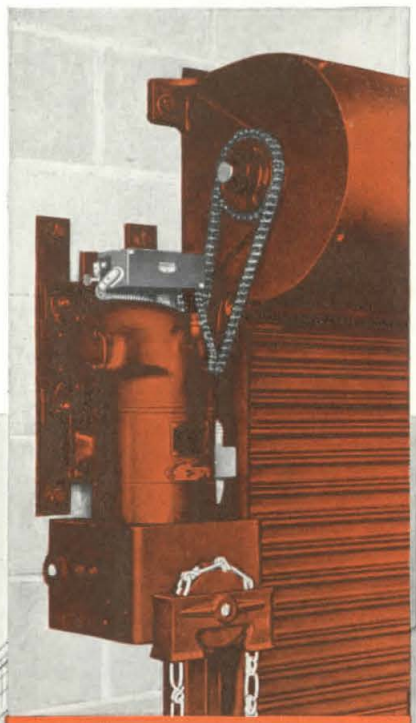
Manually, Mechanically, or Power Operated



MAHON STANDARD
POWER OPERATOR 920-P

Here again, in the illustration below, you see Rolling Steel Doors employed where no other type of door would serve the purpose . . . in six truck openings and one railroad opening in a combination inside rail and truck shipping platform arrangement in a new, modern foundry building. Rolling Steel Doors were selected because they occupy no usable space inside or outside the opening—and, because their quick-opening, quick-closing operation, by means of reliable power operators, offers many time-saving advantages. When you select a Rolling Steel Door, it will pay you to check the specifications carefully against the price tags . . . the Mahon curtain slat material is chemically cleaned, acid etched, and chromated to provide paint bond, and the protective coating of oven-baked enamel is applied prior to roll-forming. These are some of the extra value features of Mahon Rolling Steel Doors—you will find others. See Sweet's Files for complete information, or write for Catalog No. G-52.

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STRUCTURAL ENGINEERS: Barber & Magee
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1. The Nairn Linoleum floor in the new Nurses' Home of the Holy Cross Hospital at Salt Lake City, Utah,

use the 4-square features of

In a nurse's home where every precious minute of free time must be devoted to relaxation of the most restful sort, *of course* Nairn Linoleum is the perfect choice! So quiet, so resilient . . . so easy to walk on. So restful to look at. So easy to keep sparkling and spotless and sanitary. So economical to install, so economical to maintain. Here, feature strip is used for its smart decorative effect, and cove base is used throughout for extra ease of cleaning and extra beauty.

For your specifications: Nairn Linoleum—Nairn Wall Linoleum—Nairn Asphalt Tile. Congoleum-Nairn Inc., Kearny, New Jersey

NAIRN LINOLEUM

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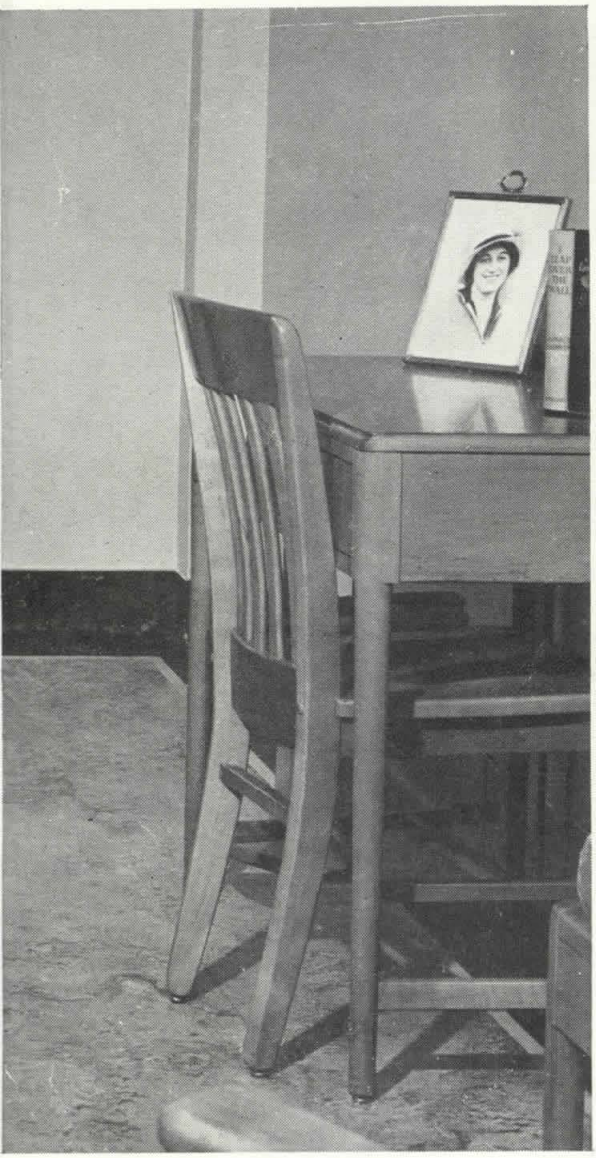
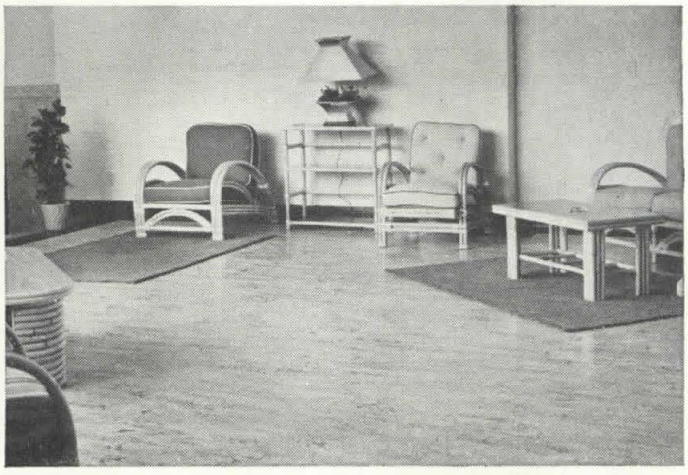


perfectly fills the requirements of resilience, restful beauty, quiet, and easy cleaning!

2. There's not a crevice in this satin-gleaming Nairn Inlaid Linoleum to hold dust or germs. And Nairn will keep its smooth beauty under the heaviest corridor traffic!



3. Beautiful, resilient, quiet, rich-looking . . . the Nairn Inlaid Linoleum floor in the lounge gives a feeling of luxury to this comfortable room.

4. Even the outside of the Nurses' Home of the Holy Cross Hospital has the look of the perfect efficiency that marks every feature inside the building—an efficiency to which Nairn Inlaid Linoleum makes a major contribution.

Nairn Linoleum!

NAIRN
SATISFACTION GUARANTEED OR YOUR MONEY BACK

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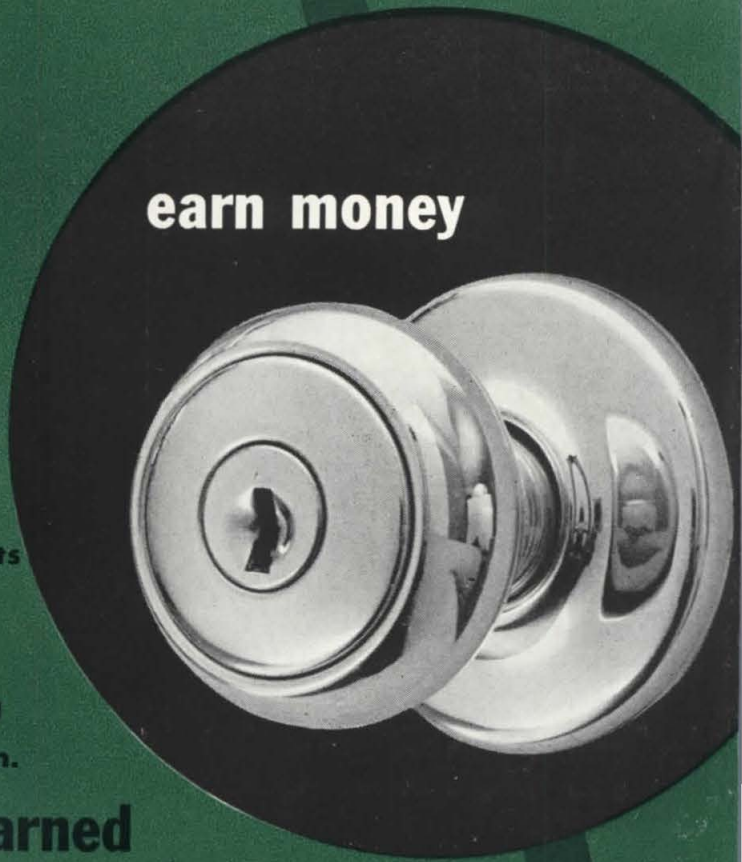

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VIEWS

ARCHITECTS ENTHUSIASTICALLY WELCOME

ANNOUNCEMENT OF interior design data TO BEGIN IN JANUARY 1952 P/A

MOST HELPFUL

Good idea—should be most helpful to the profession.

SEYMOUR R. JOSEPH
Joseph & Vladeck
New York, N. Y.

PROGRESSIVE THINKING

Heartily in favor of such a department. I'm sure it will be helpful to stimulate more progressive thinking in the profession on a phase of architecture which has been pretty sadly "glossed over" by many of us.

JAY C. VAN NUYS
Somerville, N. J.

ARCHITECTURAL VIEWPOINT

We have tried at times in the past to gain such information from the various "interior" magazines, but cannot stomach the insincere "decorating" angle prevalent in the bulk of such material now published. Proper presentation of such material from an *architectural viewpoint* might well enable us to take a greater part (which we would like) in selection of furniture, fabrics, floor coverings, and draperies in our various jobs.

GRAHAM LATTA
Graham Latta & Carl Denny
Glendale, Calif.

LOSING BY DEFAULT

It seems to me that someone should point out that architects are giving up too much design by *default*—especially interiors. Architects should show more discrimination in selections.

MAYNARD LYNDON
Los Angeles, Calif.

FINE ADDITION

Sounds like a fine addition to an already fine magazine.

ROBERT W. VAHLBERG
Vahlberg-Palmer-Vahlberg
Oklahoma City, Okla.

ARCHITECTS' RESPONSIBILITY

Our firm carries out much of our better work in complete detail, including all furnishings from carpeting to ash trays. We find several corporations who do not want to work with decorators—and look to us for original design and the equipment to carry it out. Though we often consult with a decorating firm, the control and the responsibility are ours.

DALE R. McENARY
McEnary & Krofft
Minneapolis, Minn.

NOTEWORTHY ADDITION

Congratulations on your decision to incorporate "interior design data" in your magazine. It should prove a noteworthy addition. I'd like to see, as much as possible, especially new materials with some responsible evaluation of their worth; availability (source); and relative cost.

LESTER C. HAAS
Shreveport, La.

ARCHITECT SHOULD CONTROL

Another fine addition to P/A. Interior and exterior design are one: the architect should control both, for successful architectural expression. Advertising data should be presented in a technical way, giving knowledge to architects. The "layman's approach" is a waste of time.

JAMES J. CHIARELLI
Seattle, Wash.

ALL-INCLUSIVE

An excellent idea to make P/A as all-inclusive as possible.

C. H. COLEMAN
Coleman, Greiner & Coleman
Landisville, Pa.

AUTHORITATIVE INFORMATION

It would be helpful to have authoritative information on wood finishes, the various new types of emulsified wall paints, vinyl resin flooring—and manufacturers should be encouraged to design good, simple light fixtures.

J. WILSON BROAKS
Broaks — Boy
Des Moines, Ia.

REALLY GOOD PRODUCTS

Hope it will help some of the manufacturers who are sincerely trying to market *really good* products.

L. L. RADO
Raymond & Rado
New York, N. Y.

MOST IMPORTANT PART

Splendid idea! The most important part of any work is that part of the design which has to do with putting the occupant into the proper mood or frame of mind. Interiors, therefore, either do a good job of bringing about compatibility—or leave a person standing cold. Poor choice and use of materials contribute much to the downfall of many good plans or designs.

DON HERSHEY
Rochester, N. Y.

INTERIOR OF DISTINCTION

One interior of distinction, fully illustrated, is worth a hundred interiors of only average interest.

HUBERT J. POWELL
Marsh, Smith & Powell
Los Angeles, Calif.

NEGLECTED ITEM

The idea is O.K. and needed—as this has been a neglected item in architectural magazines. I'm for it!

CLARENCE RINARD
San Antonio, Tex.

NO ONE BETTER FITTED

Stressing the fact that no one is better fitted to control interior design than the architect who designs the room or building: collaboration with the architect in control makes for the best results.

HUGO K. GRAF
St. Louis, Mo.

ARTISTIC ACHIEVEMENT

As long as the information and data are of a contemporary nature, the material based on a sound and well thought-through philosophy, the work presented not just a commercial success but an artistic achievement—then we will *all* be interested and enthusiastic.

ARNOLD A. ARBEIT
New York, N. Y.

NOT TO "OTHERS"

Excellent idea—interiors should not be left to "others."

OLINDO L. GROSSI
Manhasset, N. Y.

NOT SEPARATED

I believe that the incorporation into your magazine of "interior design data" would be most helpful to architects who do *not* separate interior design from architecture as a different field.

JOSEPH MILLER
Washington, D. C.

NO TESTIMONIALS

Please give us dimensions, sizes, colors, finishes, etc. etc.—rather than testimonials. List prices also, if possible.

M. M. KONARSKI
Akron, Ohio

INTERIOR DETAILS

Sounds like an excellent idea. We should like interior details as part of this section, as well as numerous photographs.

ARTHUR O. A. SCHMIDT
Detroit, Mich.

p/a VIEWS

(Continued from page 9)

NO FRICTION NECESSARY

Dear Editor: J. V. Pierce's letter on page 10 in the August 1951 P/A refers to the relations between architect and engineer and further assumes a spectre of competition. The professional practice laws were not written for, nor should they be interpreted as promoting friction between engineers and architects. The principle of mutual practice in the professions of engineering and architecture has been well established.

The fact that so few engineers really enter the practice of architecture is only to be regretted on the part of civilized progress. Engineering is a science and all-knowledge affair. Architecture is usually considered an art of skill. That is to say, architecture is a high state of knowledge in a special field such as buildings and landscapes. Engineering and architecture supplement each other due to assumption of various percentages of mutual practice. Knowledges and skills, being what they are, tend to work in the direction of the engineer becoming also an architect, rather than an architect becoming an engineer.

At present the schools teach "architectural engineering" but the subject of "engineering architecture" is not taught as such as yet. Appearance engineering has found favor as a division of engineering practice. The engineer definitely is an employer of architects. If he wishes or has need for further skills, he employs them. The type of engineer who does this is the consulting professional engineer.

It is well that the situation has been called to the attention of P/A. With regard to architectural engineering relations the key work is mutual.

CHARLES W. DOHN, P.E.
Glendale, L. I., New York

FRANK DISCUSSION

Dear Editor: I have just finished reading August 1951 P/A and want to say a word or two in appreciation of John Belcher's article on the Darien procedure for selecting school architects. The article itself is fine and the points it makes are excellent, but more important, it seems to me, is the desirability of discussing frankly and on a case study basis like this, common situations in professional practice. If one believes, as I happen to, that the client is a major collaborator of every architect, it also follows that the client generally gets the architect he deserves, and the caliber of work he deserves. Any procedures that will tend to separate good architects from bad clients, and vice versa, are thus invaluable.

I hope you will find some way of continuing this most difficult editorial project in reporting and analyzing such case studies.

FREDERICK GUTHEIM
Assistant to the Executive Director
American Institute of Architects
Washington 6, D.C.

STUDENT ENTHUSIASM

Dear Editor: I was surprised and pleased at the part our project played in your work on "The Architect and the Health of America." You will probably be criticized for using a student project in such a prominent role, but I assure you that it is an opportunity such as this that puts enthusiasm into the hearts of all architecture students.

Needless to say, I think the July issue was your best yet! Thank you again for this opportunity.

RORERT SAWYER
School of Design
North Carolina State College
Raleigh, N. C.

(Continued on page 12)

FOR CLEAR CLEAN COLOR THAT'S *FIRED IN FOREVER*

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When you've a problem that calls for time-proof beauty in wear-proof walls and floors, choose real clay tile. And when you specify tile remember American-Olean tile. It's famous for fine installations that satisfy the most exacting clients.

All American-Olean tiles are carefully graded for color. At these blending boards tiles are compared and sorted . . . just another reason why you can be sure of complete satisfaction with American-Olean tile.

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The most complete, most helpful tile book ever produced, 100 pages, including 30 of typical installations in full color; plus color charts of wall and floor tile, trim and hand decorated inserts. Full architectural data and ready-to-use specifications. If you have not yet received your copy, or if you need another, write today.

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p/a VIEWS

(Continued from page 10)

BEST DEFENSE—PEACE

Dear Editor: To me, the last seven words of the eighteen-page symposium on Architecture and Civil Defense (September 1951 P/A) made the only real sense in the whole debate. (Truthfully, your whole summation was excellent!)

At this stage in world affairs, it seems to me that concentration by architects upon discussion of means to solve the challenge of war by designing structures or communities resistant to the atom bomb achieves nothing but a contribution to hysteria. Suppose you achieve the atom-bombproof city and then attack comes by means of bacteria, by cosmic rays, by destructive energy from another planet, or an artificial satellite? All these, *and others*, have been presented as possibilities by scientists!! What good then your atom-bombproofing?

We brag about being scientific planners, but when it comes to applying planning techniques to the most important issues of our lives we can't see the forest for the trees. As you said, the only defense against bombs, of any type, is that none be dropped. The best insurance against fire is fire prevention. The only answer to war is peace!!

Let us not leave the decision as to whether we are to have peace or war, to the politicians or the military. It's our world as well as theirs. As citizens who devote their lives to the application of reason to building activity, why should not architects concern themselves more with international policy? If the publications of labor, industrialists, bankers etc. devote space to influence our national policy, why can't those of planners? ? ?

ISIAH EHRLICH, Architect
New York, 63, New York.

WATCHED THE MAN

Dear Editor: Your article on architect approach is interesting. The weakness apparent, lies in the inability of clients, or prospective clients to judge with consummate skill. The intricate test applied to architects cannot be controverted; but this writer believes technics of seasoned veterans transcends any such exhaustive process.

Old F. E. Edbrooke, probably Colorado's greatest manager of architects, long since departed, was never impressed by claims supplied by applicant. If help was needed, he would snap, "OK come on in, go to work right there." Thereafter friendly, he watched the new man nonchalantly, evaluating the man, by his every move and expression. His judgments were invariably superb.

L. A. DESJARDINS, Architect
Trinidad 1, Colorado

NOTICES

New Practices, Partnerships

The firm of WILLIAM R. BURK, Associated Architects and Engineers, wishes to announce that DENVRICH C. LEBRETON, MARION F. JACKSON, JR., and JAMES R. LAMANTIA, JR., are now in Association. New Offices are at 632 Pirates Alley.

PAUL D. WOODWARD, Architect, 716-A Boush St., Norfolk, Va.

LOUIS B. GOHMERT, Architect, 1434 N. Jefferson, Mt. Pleasant, Texas

"Everlastingly Yours"..

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The lasting strength of structural concrete is as essential in a roof deck as it is in the foundation of a building.

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How to Prevent Wet Concrete Floors

"High-heat capacity floors have a further undesirable feature in climates having abnormally high humidities, particularly in the summer. The concrete in contact with the ground is relatively cool, and frequently moisture condenses on the floor surface, damaging floor coverings.

"When the slab is insulated from the ground, its surface tends to follow air temperatures much more closely and is seldom below the temperature at which condensation begins to take place."

From "*Progressive Architecture*" research report: "*Insulation for Concrete Floor Slabs on Grade.*"

Warmth in walls and ceilings flows to cold uninsulated floors, following nature's law that heat travels from warm to cold, in any direction, in conduction and radiation. The rate of radiation and absorption is over 90%. Furniture, even people, radiate heat to the colder floor, and also conduct heat down wherever they touch its colder surface.

The warmth absorbed by the floor flows down by conduction through solids to its colder under surface which radiates the heat wastefully to the ground at a rate exceeding 90%.

Multiple sheets of accordion aluminum *underneath* the floor reflect back 97% of radiation. The air spaces restrict heat flow by conduction to 5%. There is no such thing as convection downward. With practically no heat loss, the concrete "*tends to follow air temperatures*" and remains above dew-point.

Moreover, multiple accordion aluminum has zero vapor permeability. It remains permanently in place, is cheaply installed without the need of expensive support, and does not tear where stapled because it weighs but 1 oz. to the sq. ft. and is moisture-proof and non-condensation-forming.

TECHNIQUE FOR INSULATING CONCRETE FLOORS

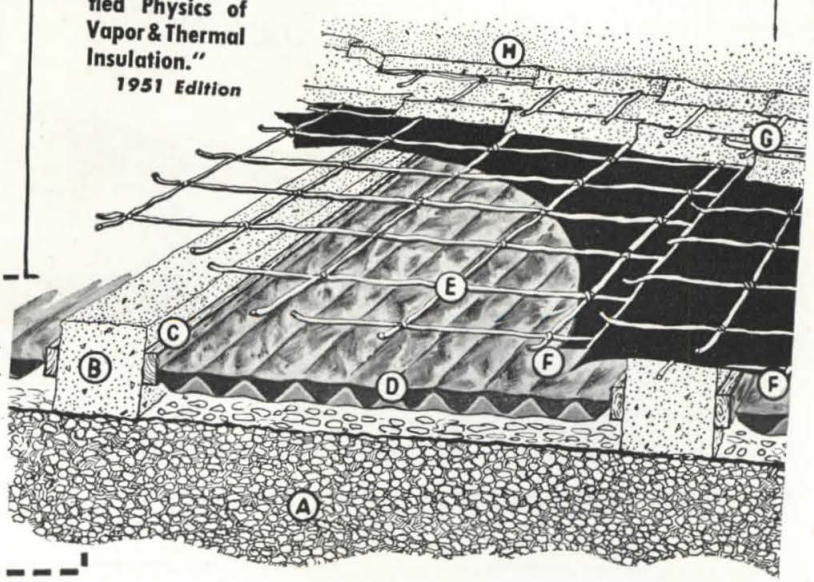
Installed over rolled gravel (A), for residences; over appropriate 4", 5", 6", etc. cement slab for factories, warehouses, hangars, etc.

(1) On 16" centers make appropriate forms for concrete joists (B), 3"x3", 4"x3", 4"x5" etc. **(2)** Pour concrete joists **(3)** After concrete sets semi-hard, **(4)** nail wood lattice or furring strips (C), **(5)** to sides of concrete joists and **(6)** staple Infra insulation (D) to them **(7)** with at least 1" space from top of concrete joist.

(8) Over concrete joists place asphalt-paper-backed welded wire mesh (E) (3"x3", or 3"x6", or 6"x6"), paper facing down, mesh facing up. **(9)** Lap *at least* 6" (F). **(10)** Mop lap with waterproofing to prevent concrete while liquid from leaking through. **(11)** Now lay down a plain welded wire mesh (G) 6"x6", No. 10 gauge, no paper attached. **(12)** Pour concrete (H) to desired thickness. While pouring concrete, lift free wire mesh with hooks a few inches.

NOTE: It is advisable to drive the nails through the furring strips before applying them to the concrete joists.

From "Simplified Physics of Vapor & Thermal Insulation." 1951 Edition



INFRA THERMAL FACTORS, DOWNHEAT

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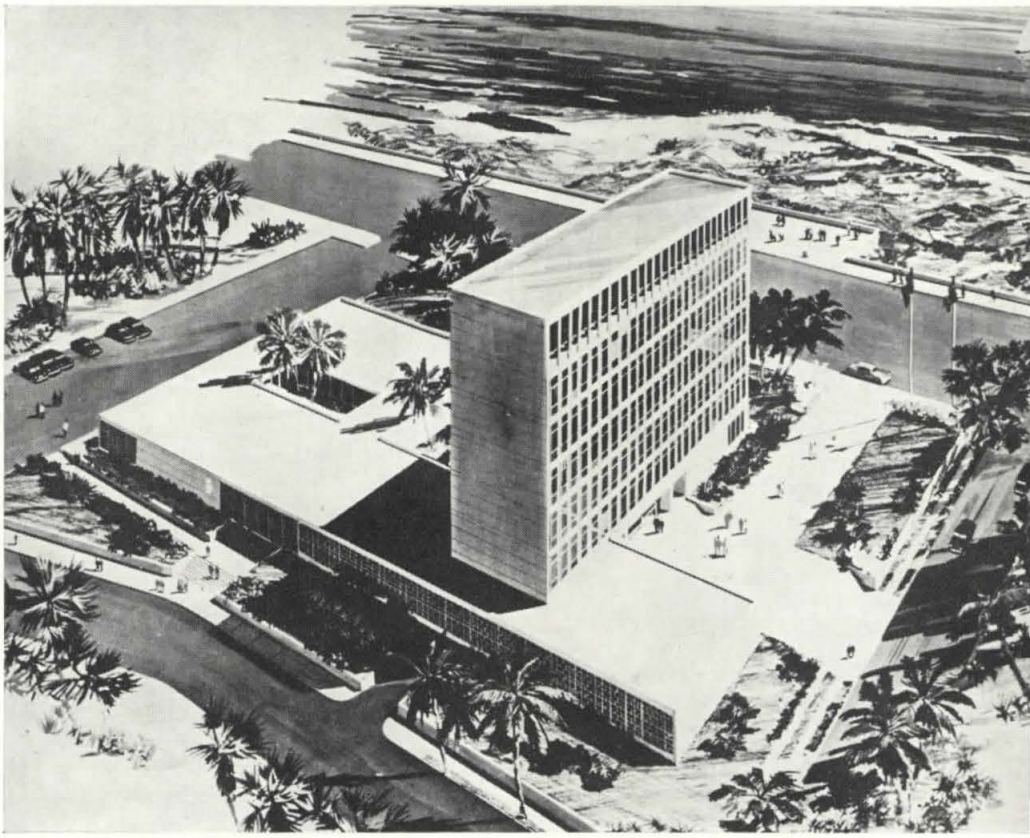
PROGRESS PREVIEW

embassy office building

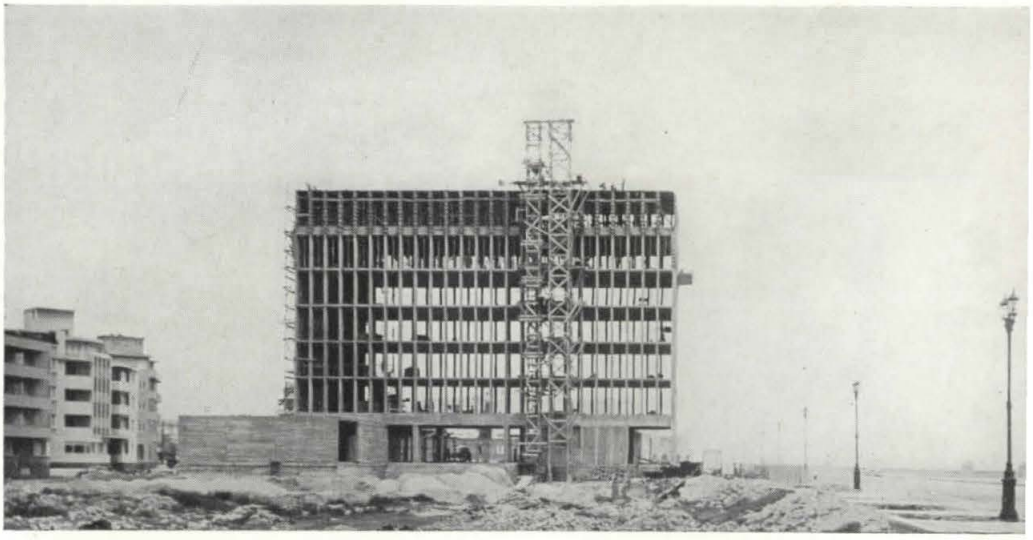
A new landmark on Havana's gulf front will be the gleaming travertine-and-glass tower of the seven-story office building now under construction for the United States Embassy to Cuba. The site is between the fashionable Paseo del Malecon and apartment-lined Calzada Street, with a public park just across from the east, or entrance, front. The new building will be visible from the sea and from a two-mile stretch of the Malecon.

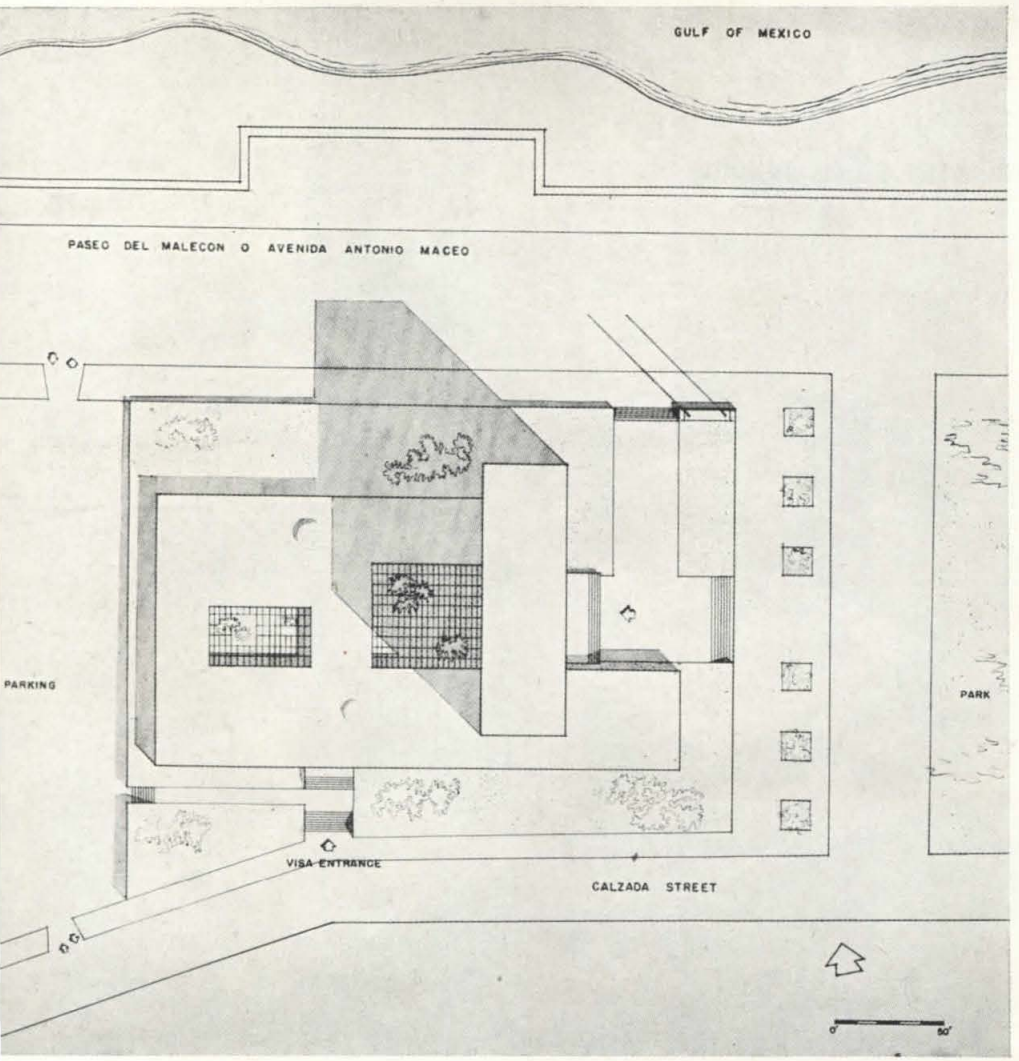
Harrison & Abramovitz, New York, architects for the Department of State, Foreign Buildings Operations (Fredrick Larkin, Chief Architect and L. W. King, Jr.), designed the building to accommodate United States Consular business in the one-story portion, with entrance on Calzada Street, and Embassy affairs in the five stories and penthouse of the tower over the main entrance. The building is placed on a raised terrace, for protection from sea water that may rise during storms. Patios introduce greenery and vistas within the building.

The building will be completely air conditioned. During winter months, however, the air-conditioning machinery, housed in the south half of the penthouse, will be turned off and the building will be cooled by ocean breezes and protected from sun heat by heat-resistant glass used for the east and west walls. Sash will be operable. The reinforced concrete structure will be faced with creamy Roman travertine, with local materials used for interiors. The 12″



On the Malecon, famed boulevard of Havana bordering the Gulf of Mexico, a seven-story office building for the United States Embassy to Cuba is under construction. Harrison & Abramovitz, Architects, New York, expect it to be completed early in 1952. ***Rendering: Robert Schwartz***



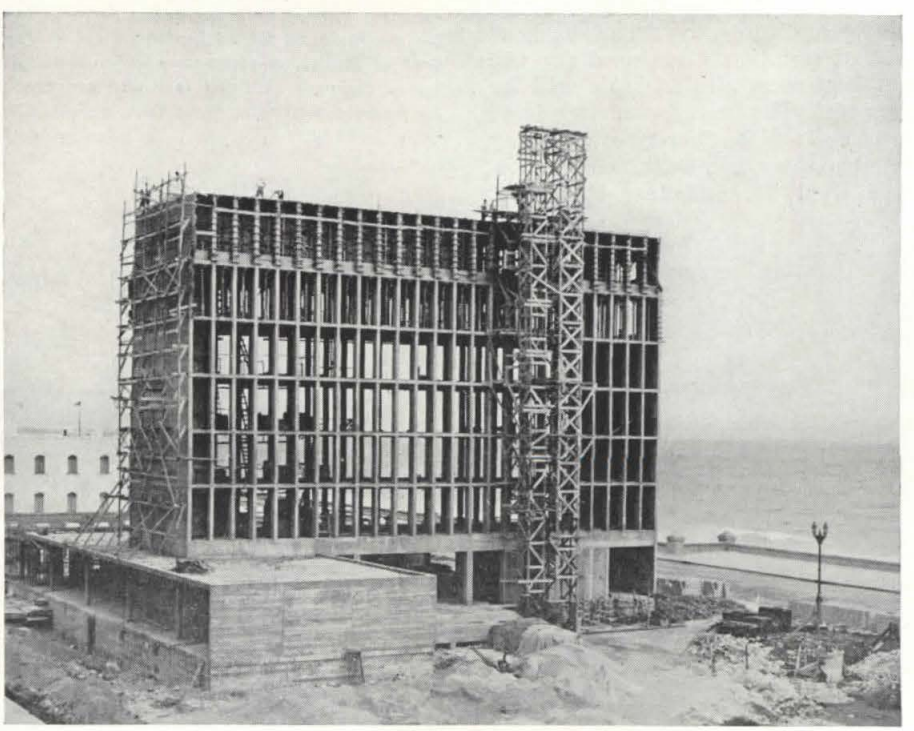


slabs spanning the 40′ width of the tower will be carried by 10″ by 24″ piers, 5′ oc. Ceiling lighting will be recessed in the slabs on the centerline of the piers.

Approaching the new building along the Malecon or through the park to the east, to be developed by the Cuban Government as an extension of the existing park near the Hotel Nacional, the patio just behind the tower will be an alluring background to the entrance lobby. As one passes through the building, this patio will afford a glimpse of the Gulf of Mexico, across the Malecon. In the heart of the Consular portion of the building, a second patio will be faced by a lounge, visa offices, and general work space.

Orientation of the tower was dictated by the prevailing ocean breezes, to which the east and west windows will be opened when the air-conditioning system is off, and by the view along the Malecon, in both directions. The architects expect the building to be completed in 1952.

Windows, of solar heat-resisting glass, will be operable, for cleaning and for use in the months when the air conditioning will be off. No fins, louvres, overhangs, or other sun control devices were thought necessary.



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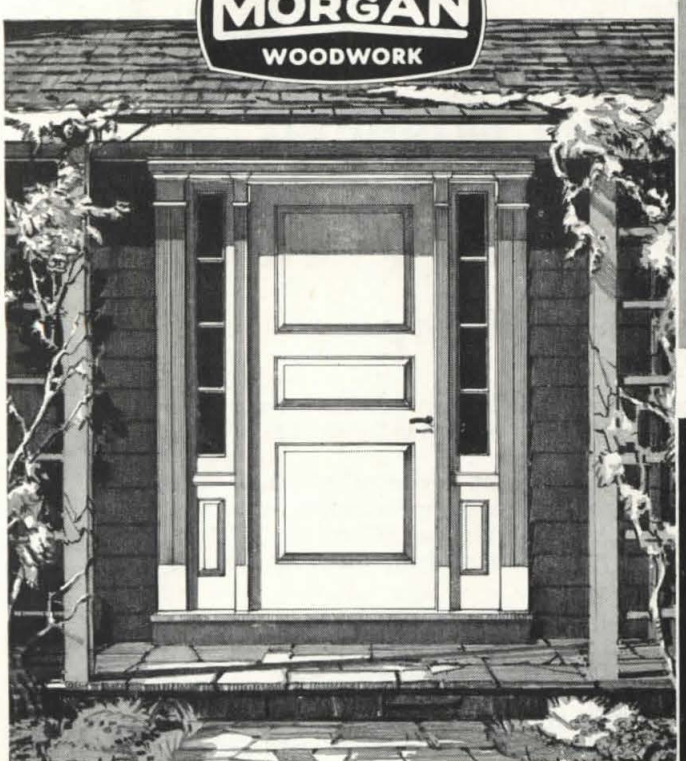
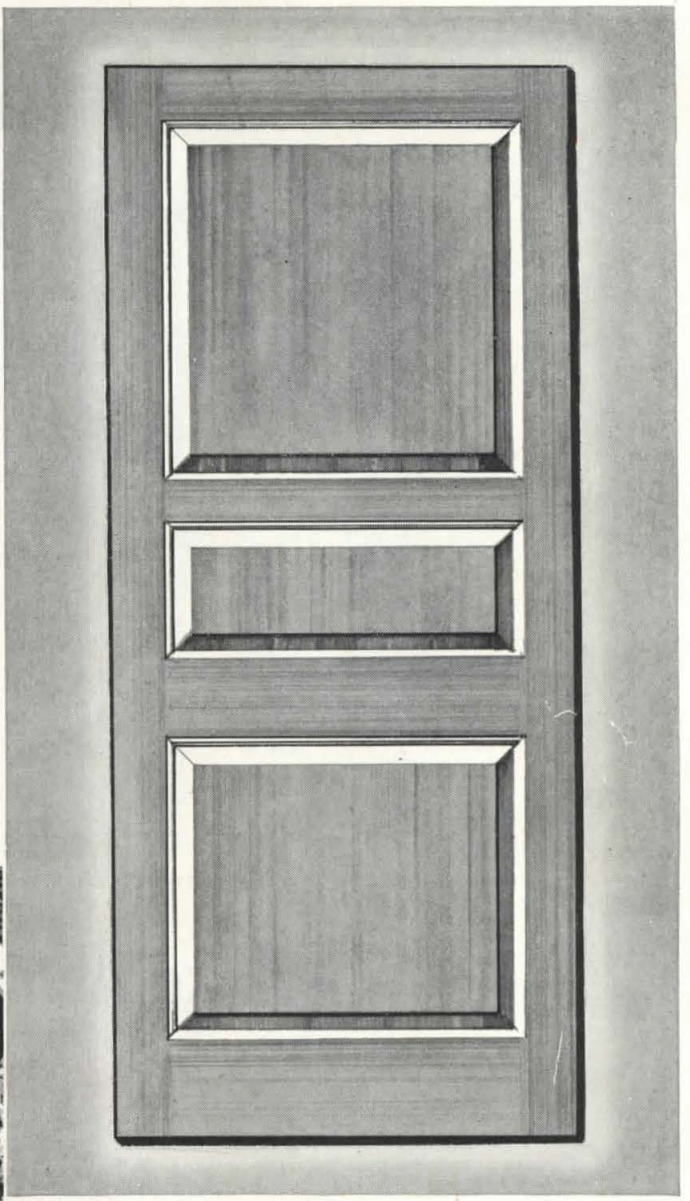
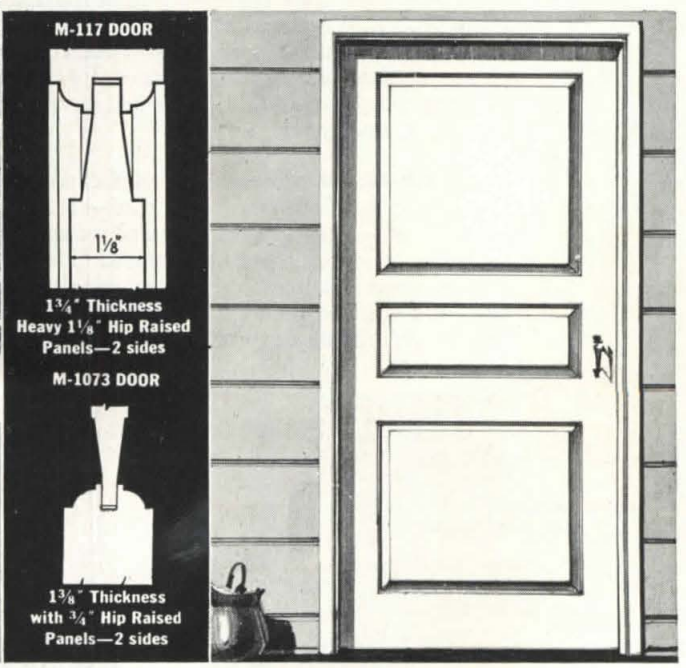


Above: Tri-Panel Exterior Door M-117 in Morgan M-14 Entrance



Above: M-117 Tri-Panel Exterior Door; Below: M1073 Tri-Panel Interior Door



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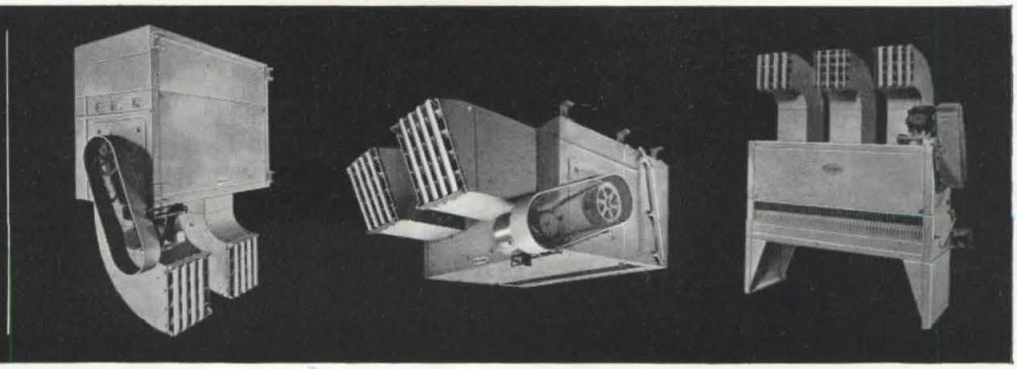

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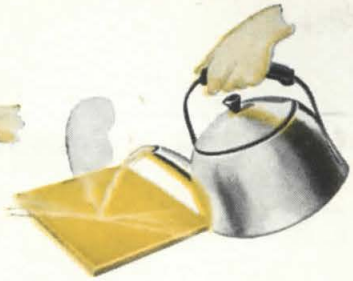

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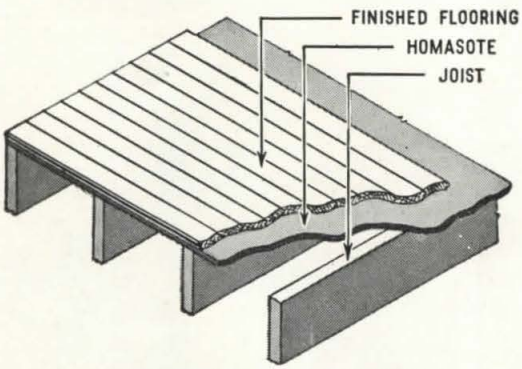
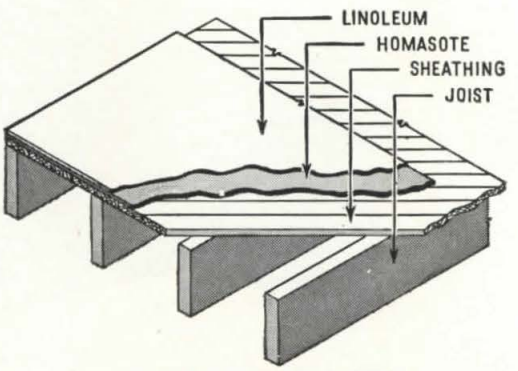


UNDER-FLOORING



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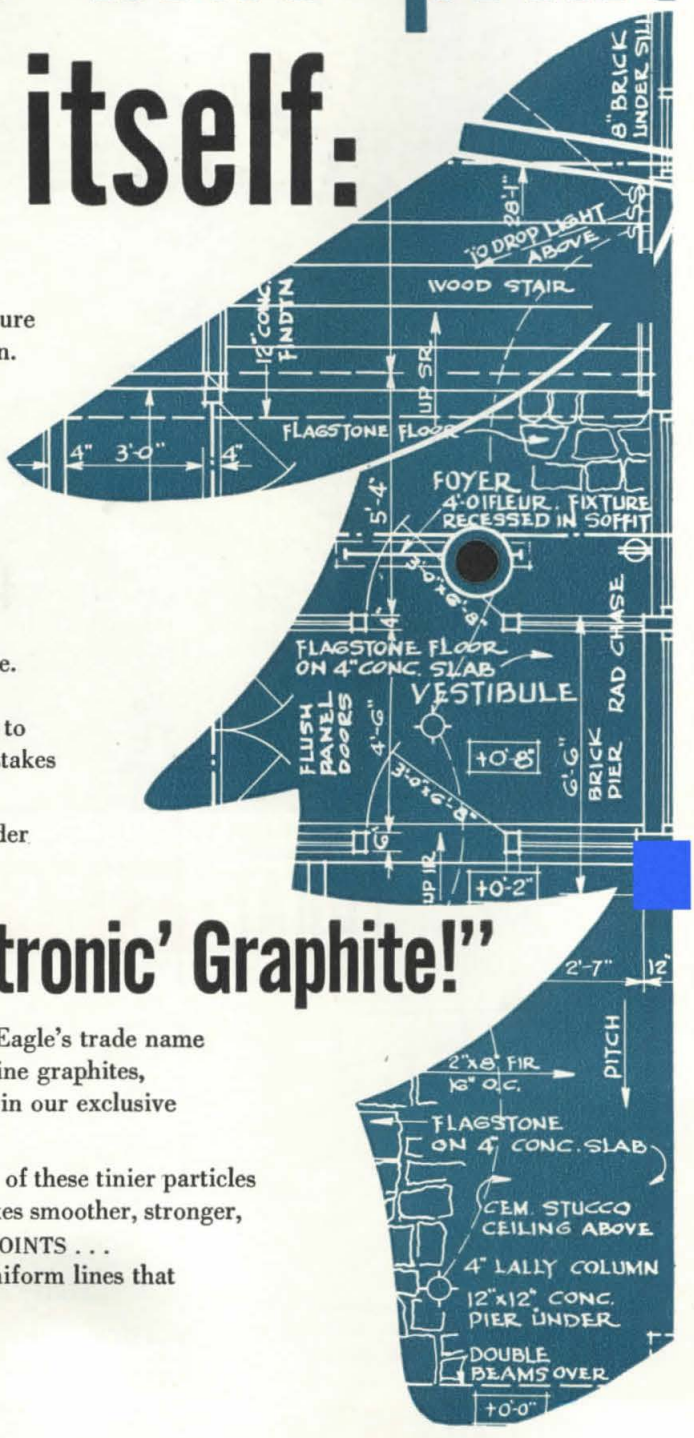

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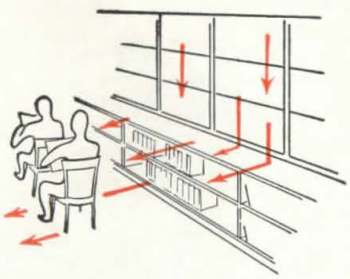

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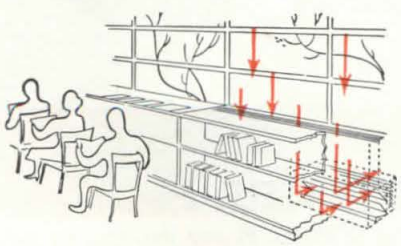

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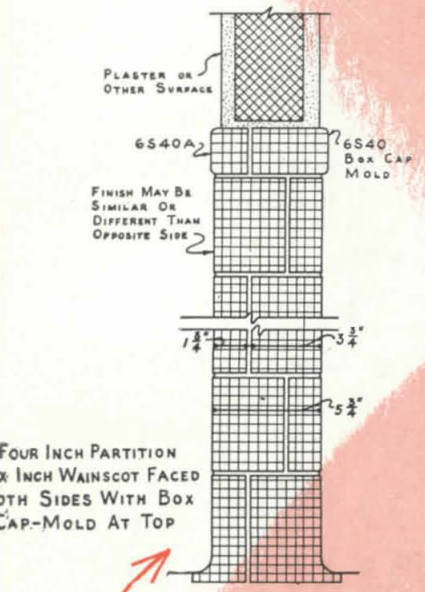
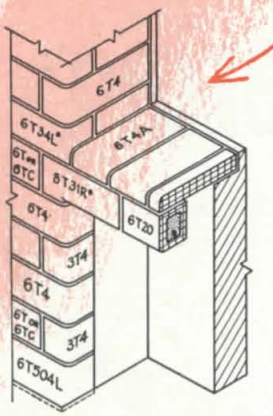
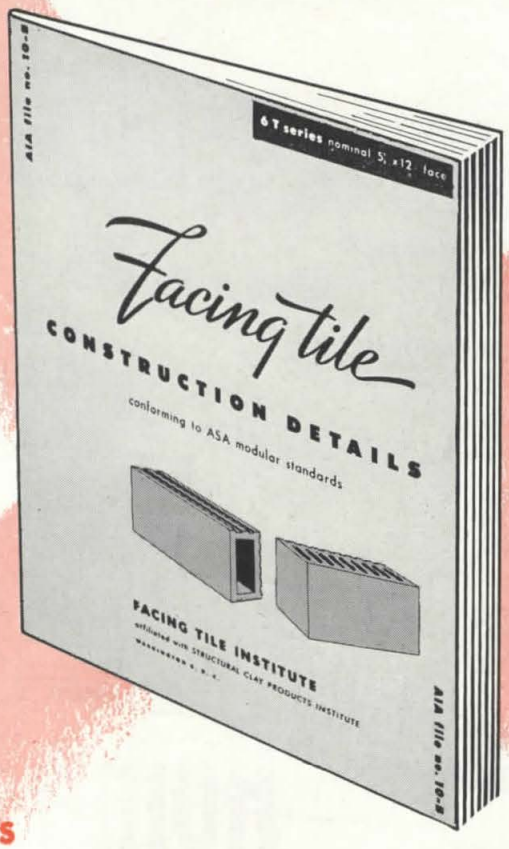


TYPICAL ILLUSTRATIONS



SUGGESTION FOR RADIATOR ENCLOSURES



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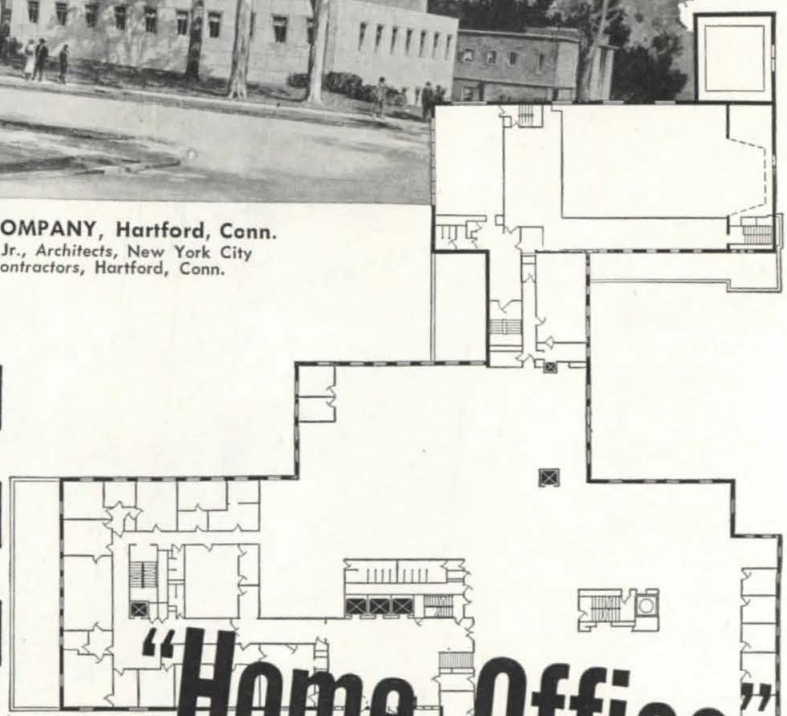

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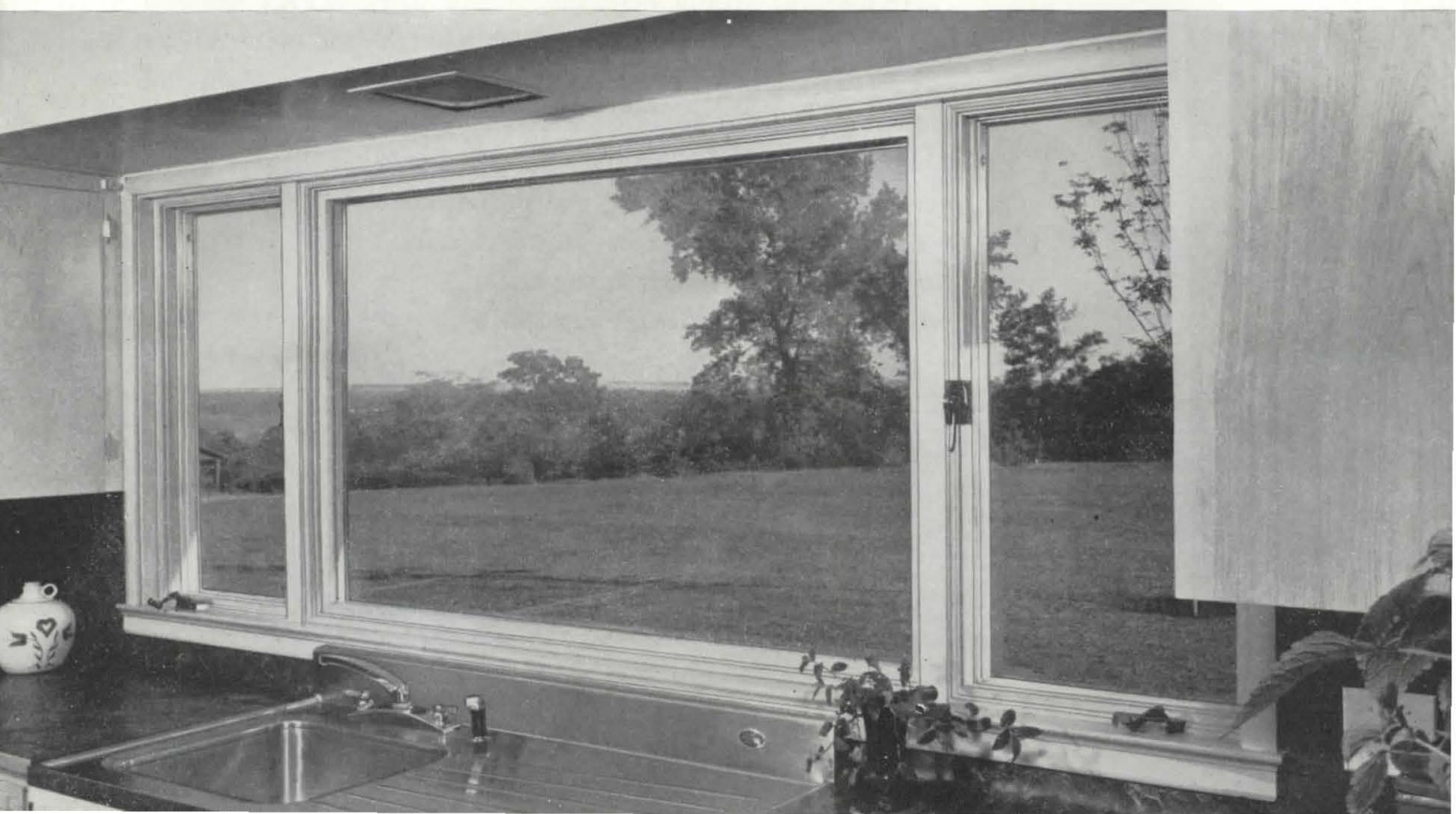
Both living room and kitchen of this hilltop home receive the treatment they deserve. Wide ANDERSEN WINDOWALLS welcome floods of sunshine and fresh air. They open a restful view. They add an extra dimension to modern living. These are Andersen Casement and Picture Window Units . . . beautiful windows made of beautiful, *insulating* wood. More than windows, they are also walls, tight barriers to unpleasant weather. They are WINDOWALLS—carefully engineered, *complete* window units.

*TRADEMARK OF ANDERSEN CORPORATION

Andersen Corporation · BAYPORT · MINNESOTA

FAMOUS FOR COMPLETE **WOOD** WINDOW UNITS

Write for Detail Catalog or Tracing Detail File; or see Sweet's files for specification data. WINDOWALLS *sold by millwork dealers.*



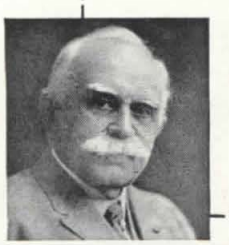
Commemorating our 60th Anniversary

THE POWERS REGULATOR COMPANY

New Factory and General Office Building: **3400 Oakton Street, Skokie, Illinois**

World's Most Modern Factory Producing Automatic Temperature and Humidity Control

. . . to meet the greatly increased demand for POWERS products and to give you better controls, better deliveries and better values . . . these advantages are possible with our large new plant and modern production facilities. With an enlarged engineering and production staff, plus 60 years experience in heating, ventilating, air conditioning and process control, we believe we can be of greater service than ever before to our many friends who have contributed to our success.



WILLIAM PENN POWERS
. . . with his invention of the first all pneumatic system of temperature control and gradual acting vapor disc thermostat made an invaluable contribution to the modern science of heating, air conditioning and industrial process control.

POWERS CONTROL — TEMPERATURE AND HUMIDITY — 60th ANNIVERSARY 1891 1951

Offices in Over 50 Cities. See Your Phone Book.

Chicago 13, Ill., 3819 N. Ashland Avenue • New York 17, N. Y., 231 East 46th Street
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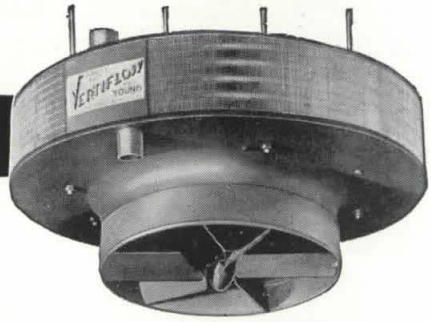
(a55)

What's Your HEATING PROBLEM?

Young "SH" Unit Heater

COLD SPOTS?

A favorite for general space heating and eliminating "cold spots" in large areas is the Young Type "SH" horizontal discharge unit heater. These non-ferrous-core units deliver maximum heat transfer . . . use quiet and efficient fans. Available in 14 sizes, with capacities ranging from 19,000 to 325,000 Btu per hour.



Young "Vertiflow" Unit Heater

EXTRA HIGH CEILINGS?

Patented "Vertiflow" design offers a rugged, compact, highly efficient unit with low hp requirement. Its exclusive motor "ventilation" feature eliminates burn-outs from core heat. Seven sizes range from 52,600 to 552,000 Btu per hour, and cover larger areas quicker, with fewer units. Diffusers, nozzles, and Anemostats provide any heat pattern desired.

Young Cabinet Unit Heater

DRAFTY AREAS?

Here's the ideal heating unit for lobbies, vestibules, auditoriums, etc. . . . wherever concentrated heating capacities are required and a compact, attractive exterior design is necessary. They are available in 3 sizes of each of 3 styles offering heating capacities ranging from 26,200 to 115,000 Btu per hour.

YOUNG

Heat Transfer Products for Automotive and Industrial Applications.

Young Quality

Reg. U. S. Pat. Off.

Heating, Cooling, Air Conditioning Products for Home and Industry.

YOUNG RADIATOR COMPANY

Dept. 621-K, RACINE, WISCONSIN

Factories at Racine, Wisconsin and Mattoon, Illinois

Sales and Engineering Representatives in All Principal Cities

THIS COUPON BRINGS FULL DETAILS ON THREE SOLUTIONS TO HEATING DIFFICULTIES

YOUNG RADIATOR CO.
621-K,
RACINE, WIS.

Rush me information on the following Young Unit Heaters:

☐ "SH" ☐ "Vertiflow" ☐ Cabinet

Name_____

Company_____

Address_____

City_____ Zone____ State_____

have you examined the upkeep expectancy of

MOSAIC TILE ?

. . . a recent survey among building owners showed that Mosaic Tile costs 53.34% less to maintain each year than *any* other material used for office building floors.

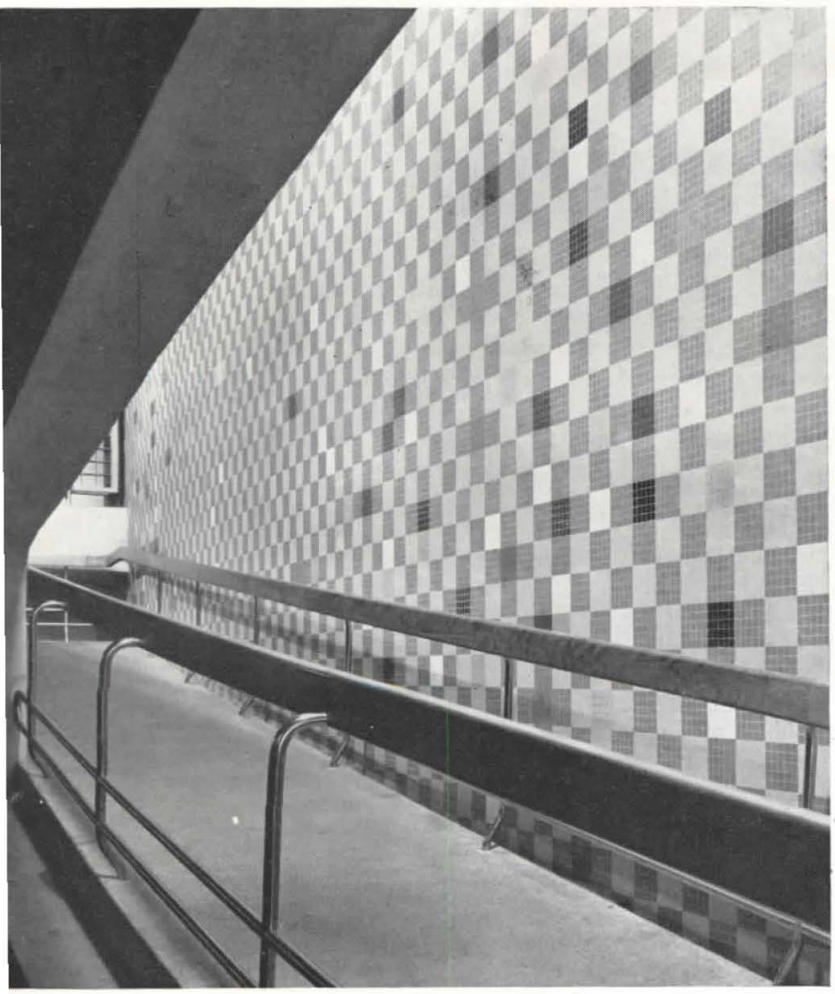
Every time you select ceramic Mosaic Tile for a floor or wall surface, you provide advantages other products have been trying to duplicate for years.

You get depth of color—beauty that doesn't wear off. You get dependable performance that lasts for many years. You provide what is probably the lowest cost of year-after-year maintenance you can find—as the figures mentioned above show.

For centuries ceramic tile has been lasting longer and wearing better than other materials. Isn't that record worth studying in this era of cost-conscious owners?

Mosaic maintains warehouses and showrooms across the nation for your convenience. Stop in the one nearest you. Or write Dept. 28-5, The Mosaic Tile Company, Zanesville, Ohio for a copy of our new ceramic Mosaic Tile Book—16 pages of full color!

look over these new MOSAIC jobs and patterns..



Don't overlook the *outstanding, life-time* protection against moisture and wear that only Mosaic Tile provides for bathrooms in homes and public buildings.

Floor, unglazed ceramic Mosaics, colors No. 28 light & dark. Wall is glazed Mosaic Tile.

.....This wall is a permanent inspiration. Its beauty can't fade. It is done in ceramic Mosaic Tile at Harvard University Graduate Center, Cambridge, Mass.

Unglazed ceramic Mosaics, 1" Squares in block design using Harmonitone colors.
The Architects Collaborative—Architects.
Walter Gropius—Job Captain.
Herbert Bayer—Designer.

Year after year this floor of ceramic Mosaic Tile keeps pace with the beauty and style of new models. Always easy to maintain—worth selecting for any floor in large or small area.

Granitex ® Mosaic Pattern No. 2180-H

.....Bathroom, Dobbs Ferry, N. Y., residence.
Velvetex Mosaic Vanity Top and Floor—Color No. 201.
Julius Gregory—Architect.

MOSAIC

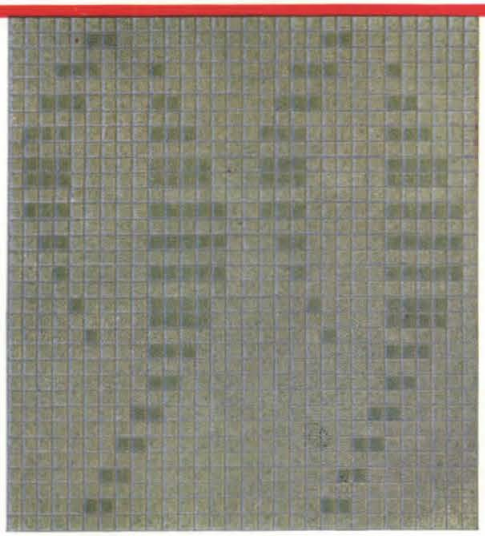
.....can't you see many wall and floor uses for them?

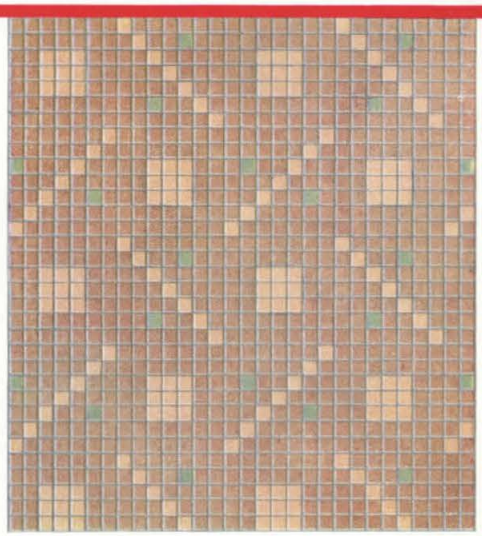
THE MOSAIC TILE COMPANY

Member — Tile Council of America

GENERAL OFFICES—ZANESVILLE, OHIO

OVER 4,000 TILE CONTRACTORS TO SERVE YOU

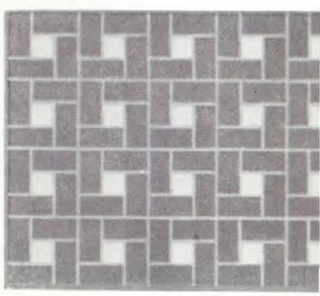




Pattern 2255-A, ¾" squares. Colors 201 and 14 Dark. ● *Pattern 2256-A, ¾" squares. Colors 28 light, 20 light and 16 light.*

Large areas require designs that are simple and open. These two new patterns in ceramic Mosaics suit wall and floor surfaces for large rooms. They are both available in many combination of colors from Mosaic's Harmonitone line.

This group of ceramic Mosaic patterns is exceedingly popular. They fill the demand for colorful, long-lasting floors in residential bathrooms and kitchens, as well as larger surfaces in commercial and institutional buildings.



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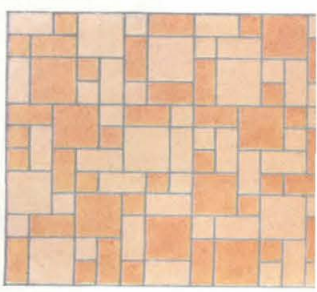

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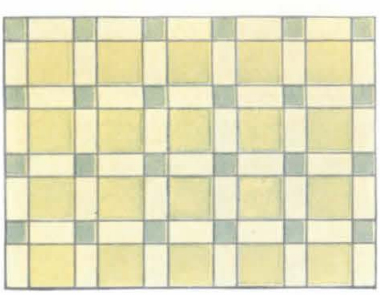

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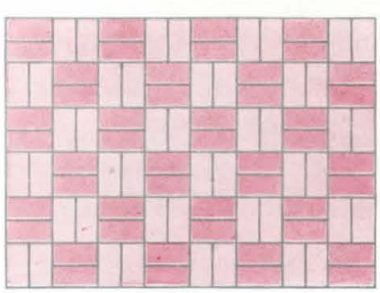

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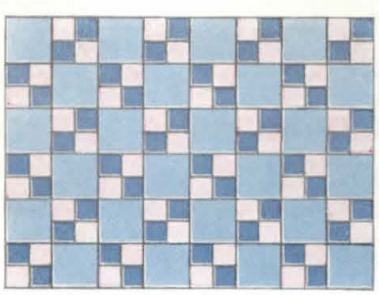

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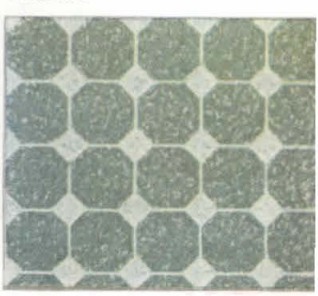


2210-A13

This housing project

WILL HAVE ECONOMICAL HEAT

Nearing completion in the photo above is the Providence (R. I.) Housing Authority's Codding Court Project. The entire project is centrally heated by two Fitzgibbons 12,100 sq. ft. "D" Type boilers, oil fired. Just another of the many similar projects in population centers everywhere, holding operating costs down by applying the fuel savings of Fitzgibbons steel boilers. Write for Bulletin PA-10.

Architects and Engineers, Creer, Kent, Mather, Cruise & Aldrich, of Providence. General Contractors, The Gilbane Building Co., Providence. Heating Contractor, Joseph P. Cuddigan, Providence.

Above, the boiler room of Codding Court Housing Project, with workmen putting in final touches on the installation of the Fitzgibbons boilers.

Men who know boilers select...

FITZGIBBONS

65th Anniversary

MOST ECONOMICAL IN FUEL — THE FITZGIBBONS BOILER — 1886

1886 - 1951

Fitzgibbons Boiler Company, Inc.

General Offices: 101 PARK AVENUE, NEW YORK 17, N. Y.

Manufactured at OSWEGO, N. Y. • *Branches in Principal Cities*

NEW WINDOW SYSTEM

Above, small home as originally designed.
Below, same home with panel window system, glazed with *Thermopane.*

Look at these two drawings. They're the same house—one with conventional window treatment and the other with the newest idea in windows, panel window frames.

Result—better-looking, bigger window areas (and you know how popular they are) achieved so economically that you should actually be able to use *Thermopane** insulating glass *throughout the house.*

Panel window frames are rabbeted and joined 2 x 6's into which you can insert *Thermopane*, made of half-inch DSA window glass, as fixed lights or in operating ventilators. With *only two low-cost, standard sizes of glass* you can glaze an entire house—every opening, regardless of area. And it's quick—a carpenter can put together the frame for an entire 9-light window wall in 20 minutes.

These panel window frames have become so popular that in some parts of the country they are now being *prefabricated* at amazing low cost, shipped in a bundle to your site for quick assembly and glazing.

*®

Why builders figure this system saves money . . . provides insulated window wall without extra cost

A number of builders have told us a *Thermopane* panel window costs no more than a conventional wall with ordinary windows.

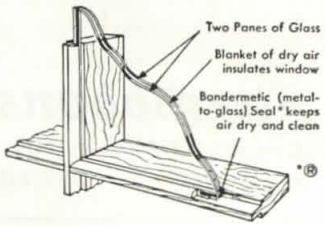
Here's how they figure it:

The frames go in quickly, saving much labor and time.

The window area replaces siding, paper, sheathing, studding, plaster and decorating—cumulatively expensive. Figure the total square-foot cost for all those items and you'll see what they represent in savings of materials.

That's economical construction—but what about the glass? These builders use economical *standard* units of *Thermopane* made with DSA window glass. They are economical in cost, easy to handle, simple and quick to glaze.

Economical construction—economical, sealed double-glazing. It adds up to more house for the money.



LOF GLASS

Thermopane

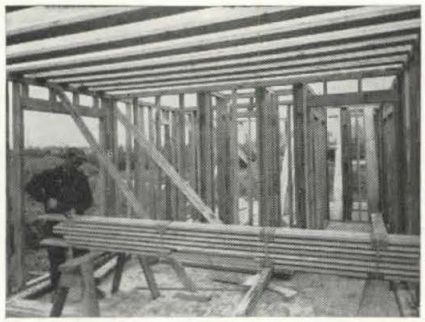
LOOK FOR THE NAME ON THE SEAL BETWEEN THE PANES

ADDS APPEAL TO HOUSES

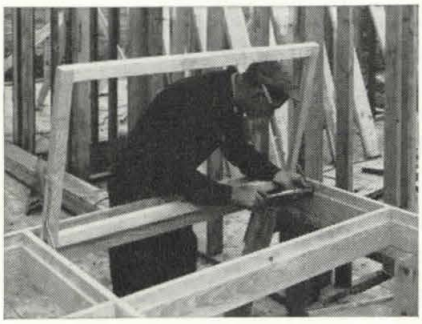
and saves time, reduces costs

Actually enables you to use *Thermopane* in every window of *low-budget homes*

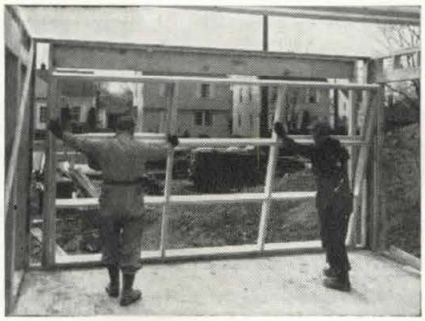
1. Frame (from one to nine lights) comes to the site as bundled 2 x 6's that are pre-cut, rabbeted, ready for assembly. Or they can be cut and rabbeted by the builder, or by a millwork supplier.



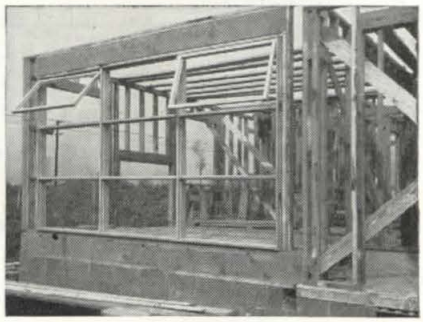
2. Carpenter simply nails the pre-cut frame together on the job. No time is taken for cutting or fitting. He can put a big 9-light window wall frame together in 20 minutes; smaller frames even faster.



3. Wood ventilator takes a standard 42½" x 22½" DSA *Thermopane* unit. Used singly or in groups, they provide excellent ventilation throughout the house. Can be screened and weather-stripped. Screened metal ventilators are also available.



4. Up it goes, ready for painting and glazing. Fixed lights take standard 45½" x 25½" DSA *Thermopane* units. Or you can insert ventilator units, of wood or metal, in as many of the window openings as you wish.



5. Panel window frames can be combined in many ways. You can provide bedrooms, for example, with horizontal strips of windows placed high for privacy and to allow more usable space around walls for furniture placement.

SEND FOR FULL INFORMATION . . . MAIL THE COUPON

FREE DETAILS

★ ★ ★

We will send you free, detail sheets showing how to make and install panel windows.

Libbey-Owens-Ford Glass Company
18101 Nicholas Building, Toledo 3, Ohio

Please send me complete information on installation methods for low-cost window walls of *Thermopane*.

Name.....
(Please Print)

Address.....

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

Would this be your choice of

for a modern INDUSTRIAL

Modern industrial buildings must be prepared to meet a host of entirely new conditions. Nuclear fission, reinforced construction, underground shelters, and massive machinery present a different set of problems.

The selection of the proper methods and materials to meet these conditions takes a great amount of study. Determining the correct plumbing drainage products, alone might take days of your time, unless you know that Josam can take this problem off your hands.

Josam's vast knowledge and experience comes through furnishing the plumbing drainage products for such modern industrial buildings as:

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and many other private and governmental industrial projects.

As a result, you can call on Josam with complete confidence that it offers a product for every drainage need, a product that has been tested and approved for the purpose. Today, you cannot afford to waste time, material, or manpower... you cannot afford to take chances on "guessing" right—you need proven experience on the job. In the plumbing drainage field—*THAT MEANS JOSAM!*

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PLUMBING DRAINAGE PRODUCTS
STANDARD OF THE WORLD

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REPRESENTATIVES IN ALL PRINCIPAL CITIES

FLOOR, SHOWER AND ROOF DRAINS • INTERCEPTORS • BACKWATER VALVES • SHOCK ABSORBERS

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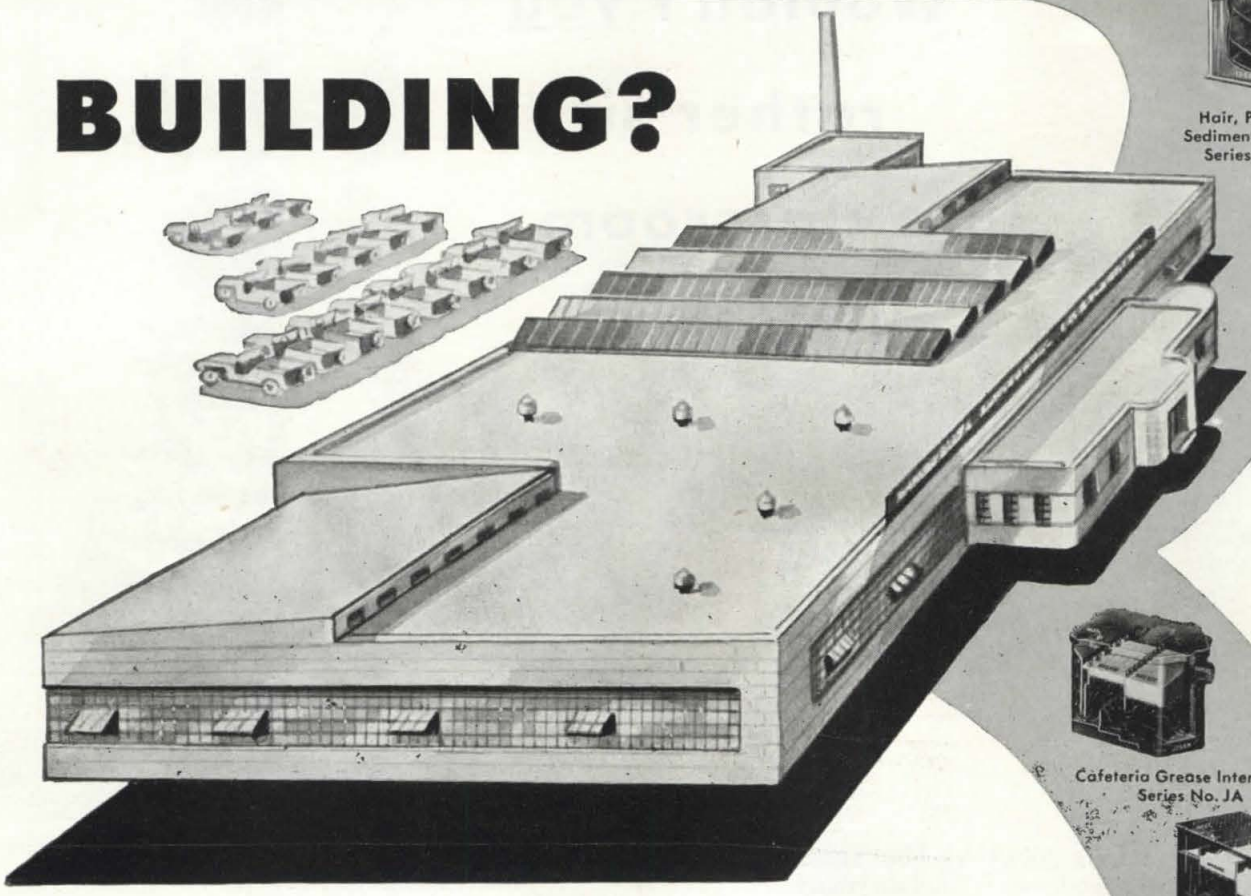
Sediment Interceptor
Series No. H-40

BUILDING?



Cafeteria Grease Interceptor
Series No. JA

Grease and Industrial
Wastes Interceptor
Series No. JNC

Backwater Control
Series No. 1170-T

● Illustrated above are a few of the many types of Josam Products developed by Josam especially for use in Industrial Buildings. For further information, send coupon.

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MANUFACTURING DIVISION
Michigan City, Indiana

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JOSAM MANUFACTURING CO.
303 JOSAM BUILDING • CLEVELAND 13, OHIO

Please send information on the following products:

- ☐ Shower Mixing Valves
- ☐ Shock Absorbers
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- ☐ Backwater Valves
- ☐ Interceptors

FIRM.....

BY.....

ADDRESS.....

CITY & STATE.....

Wouldn't you rather sit in a classroom like this?

If you were going to school again, wouldn't you rather spend *your* day and do your work in a classroom filled with fresh air and daylight . . . filled with the feeling of freedom of a wide-open view? A room alive and *alert.*

You can give your *children* that kind of study atmosphere by opening up your classrooms, as so many have done, with economical room-length, ceiling-high window walls of famous Fenestra* Intermediate Steel Windows.

HERE ARE THE EXTRAS YOU GET:

MORE DAYLIGHT—Fenestra Steel Windows offer greater glass areas—more daylight—because their frames are fashioned to be strong and rigid without being bulky!

CONTROLLED FRESH AIR—Smooth-swinging vents protect against drafts . . . permit ventilation even on rainy days.

MORE SEE-THROUGH VISION—Nothing ruins the freedom of the view.

MORE PROTECTION FROM ACCIDENTS—Sill vents keep children from falling out. Windows are washed and screened from the safe *inside* of the room.

Of course slim-lined Fenestra Steel Windows add modern beauty, too . . . inside and out. And remember—you get triple savings. *Low first cost:* volume production. *Low installation cost:* Standardized modular sizes. *Low maintenance cost:* steel lasts!

Fenestra **WINDOWS • PANELS • DOORS**

FENESTRA HOT-DIP GALVANIZING SLASHES WINDOW MAINTENANCE COSTS

Check on Fenestra Hot-Dip Galvanized Windows. Fenestra Engineers have combined the strength of steel with the super-protection of special galvanizing done in their automatically controlled new galvanizing plant. This combination puts *new* meaning in the term "maintenance-free". Fenestra Steel Windows are rugged and rigid! And painting is eliminated!

For further information, call the Fenestra Representative (listed under "Fenestra Building Products Company" in your Yellow Phone Book). And send for . . . *®

Free Authoritative Books

BETTER CLASSROOM DAYLIGHTING—Well-illustrated, simply-written, 16-page guide based on two years of research by well-known Lighting Expert R. L. Biesele.

FENESTRA HOT-DIP GALVANIZING—Illustrated booklet showing how Fenestra Hot-Dip Galvanizing makes Fenestra Steel Windows *stay* new.

engineered to cut the waste out of building

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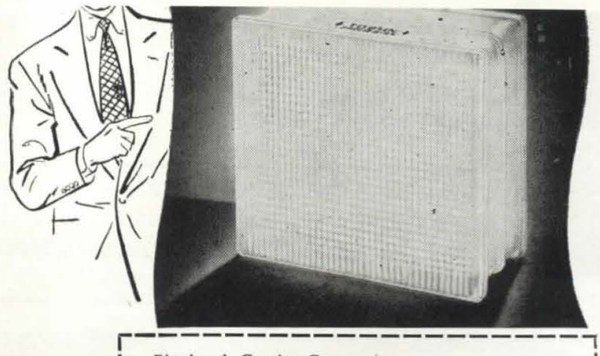
Dept. PA-10, 2253 E. Grand Boulevard
Detroit 11, Michigan
Please send me:
☐ Better Classroom Daylighting
☐ Fenestra Hot-Dip Galvanizing

Name_____

Address_____



PC Glass Blocks are immediately available . . . no construction delays. And this includes PC *Functional* Glass Blocks, especially designed for precision work. These glass blocks contain such features as light-directing prisms on the interior faces of certain patterns, light-spreading corrugations on outside faces, a fibrous glass insert to diffuse still further the light transmitted by the block itself, and the PC Soft-Lite* Edge Treatment, which creates a better, more comfortable "eye-ease" panel appearance. The new "Clean-Easy Face Finish" prevents mortar and installation scum from adhering to the panels during construction, thereby reducing costs by cutting in half the time required for on-the-job cleaning. *T. M. Reg. applied for.

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PITTSBURGH 22, PA.

Pittsburgh Corning Corporation
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Without obligation, please send me your FREE booklet on the use of PC Glass Blocks in industrial, commercial and public structures.

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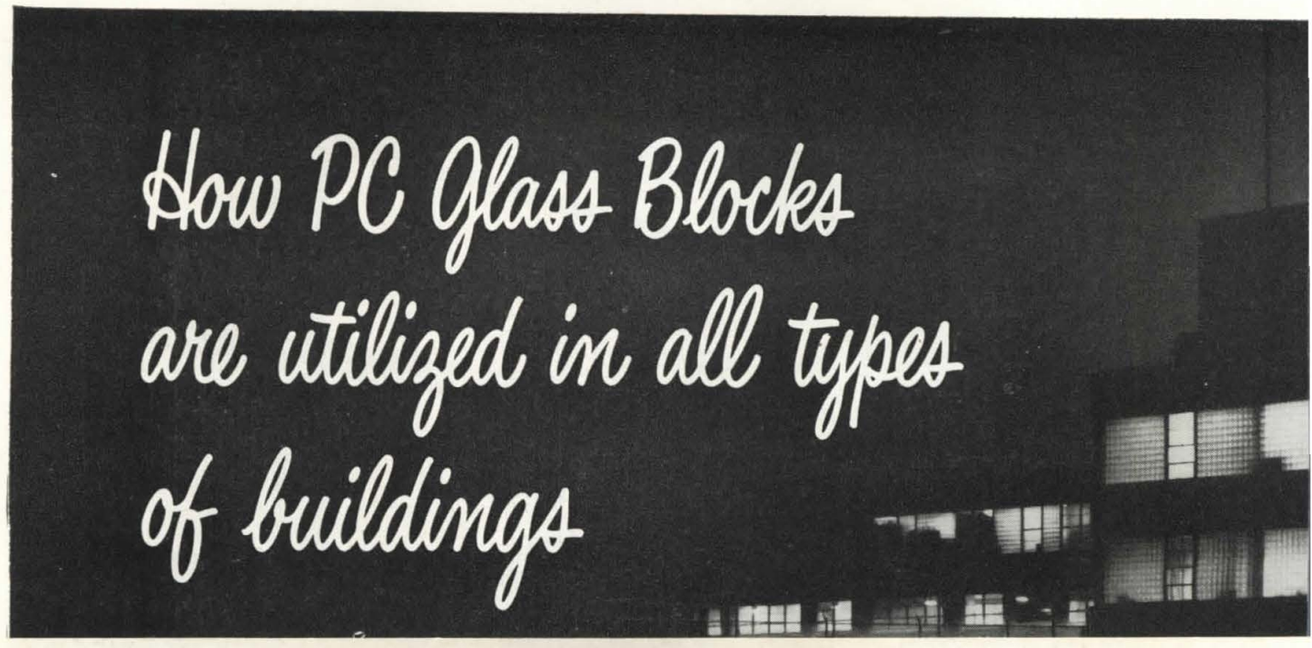
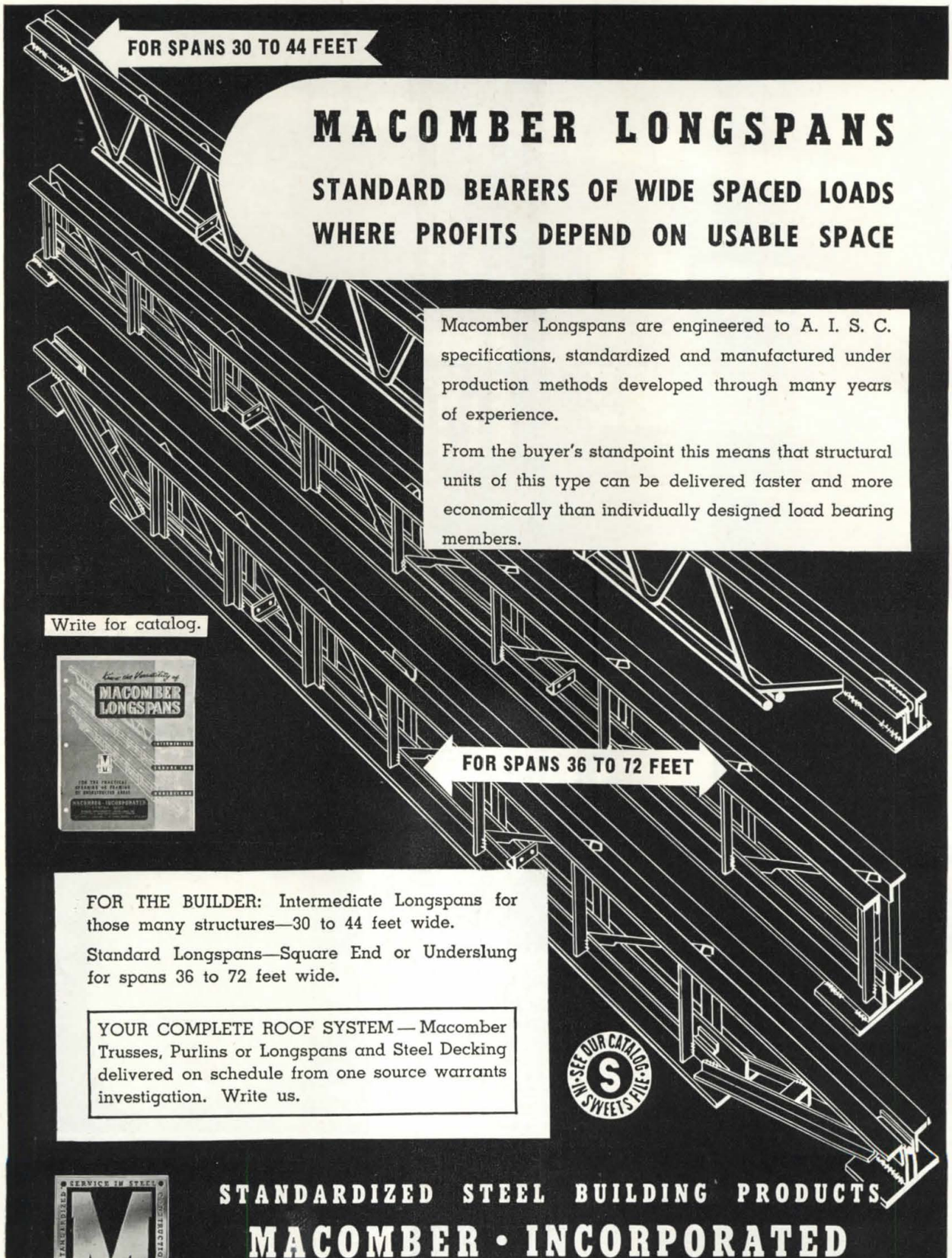
Address.....

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

The mark of a modern building

How PC Glass Blocks are utilized in all types of buildings





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STANDARD BEARERS OF WIDE SPACED LOADS WHERE PROFITS DEPEND ON USABLE SPACE

Macomber Longspans are engineered to A. I. S. C. specifications, standardized and manufactured under production methods developed through many years of experience.

From the buyer's standpoint this means that structural units of this type can be delivered faster and more economically than individually designed load bearing members.

Write for catalog.

FOR THE BUILDER: Intermediate Longspans for those many structures—30 to 44 feet wide.

Standard Longspans—Square End or Underslung for spans 36 to 72 feet wide.

YOUR COMPLETE ROOF SYSTEM — Macomber Trusses, Purlins or Longspans and Steel Decking delivered on schedule from one source warrants investigation. Write us.

SEE OUR CATALOG IN SWEETS FILE

STANDARDIZED STEEL BUILDING PRODUCTS

MACOMBER • INCORPORATED

CANTON, OHIO

Lane Bryant's new Brooklyn Store, equipped with Brasco Stainless Steel Store Front Settings.
Architects: Sanders-Malsin-Reiman, N. Y. City.

STAGING THE FRONT FOR SALES APPEAL . .

SHOWMANSHIP in advanced store front architecture is widely recognized as important for greater customer attraction and increased sales volume. Show windows with all the sparkle and glamour of modern stage settings do more than attract favorable attention . . they stir active interest in the store and its merchandise.

Well-known stores everywhere utilize Brasco Store Front Settings to frame their show windows so beautifully and effectively. The ever increasing popularity of Brasco is a tribute to the stamina of the construction, its classic simplicity of line and rich and enduring finish.

With many attractive and versatile assemblies to choose from, Brasco Construction is remarkably adaptable to the varied demands of current design treatment. In either heavy gauge stainless steel or anodized aluminum it is outstanding for all 'round, all weather store front satisfaction. *Write Dept. P 110* for complete catalog and full size details portfolio.

see our CATALOG in SWEET'S FILE ARCHITECTURAL

★ ★ A COMPLETE LINE FOR EVERY DESIGN ★ ★

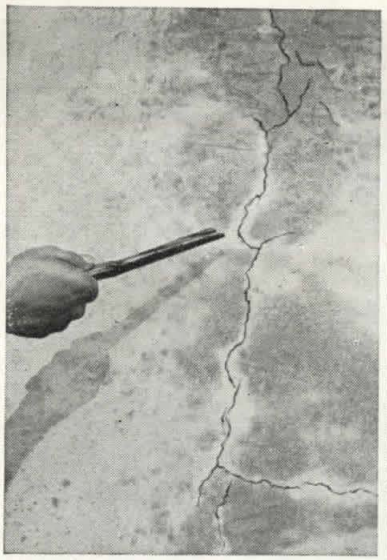
Brasco SAFETY-SET STORE FRONTS

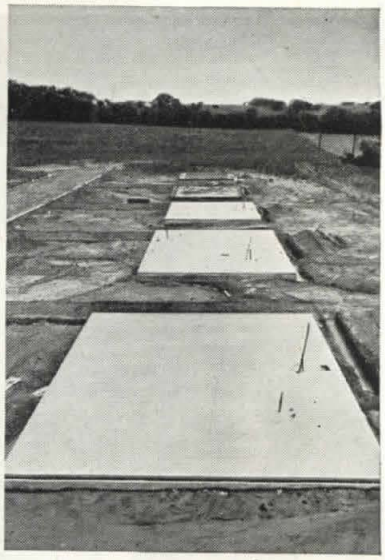
BRASCO MANUFACTURING CO.
HARVEY · (Chicago Suburb) · ILLINOIS
Specialists in Metal Store Front Construction for more than 40 Years

TWO BUILDING DEVELOPMENTS

TWO DIFFERENT TYPES OF SLABS ON GRADE

Two very different results!

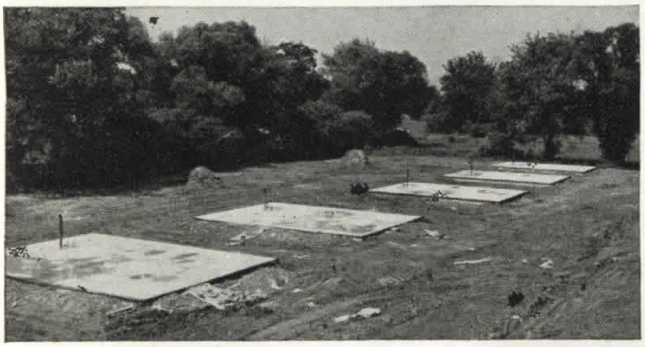




• This happened! On two adjacent real estate developments, concrete slabs were being poured in very hot weather. The two photos at the right tell the story of Development A. The photo below tells the story of Development B.

Six-man crews were used in both cases. On Development A the crew poured two slabs in a full working day. On Development B—four slabs *in half a day*. But that's not the whole story!

On Development B— where Nova-I.P.C methods were used



—the concrete developed no cracks or crazing such as in Development A. And when it rained the next day, the water stayed on top of the slabs.

It costs less to use Nova-I.P.C methods—than not to use them. There is only one water rise—which eliminates overtime. You use only bank-run sand and gravel under the slab —no membrane or washed gravel. And no paper covering for final curing! There will be no musty smell in any room or closet—the flooring and floor coverings will not rot out.

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SHORTAGES

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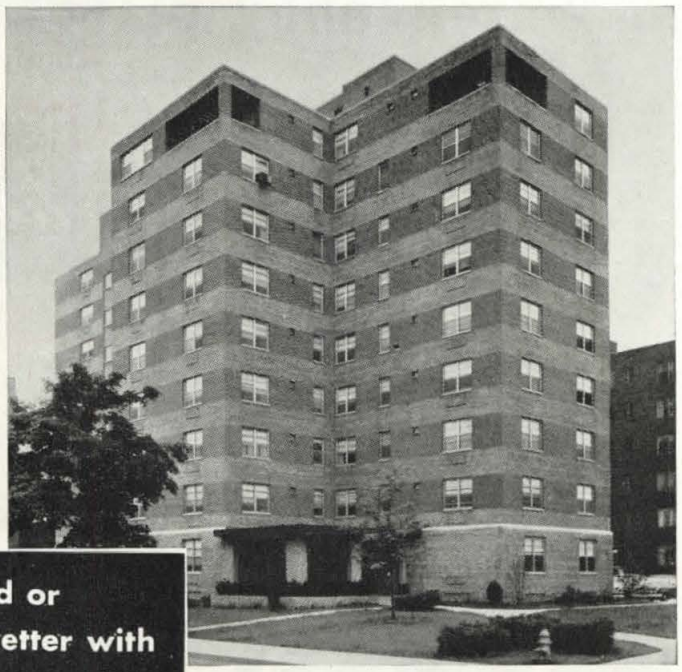
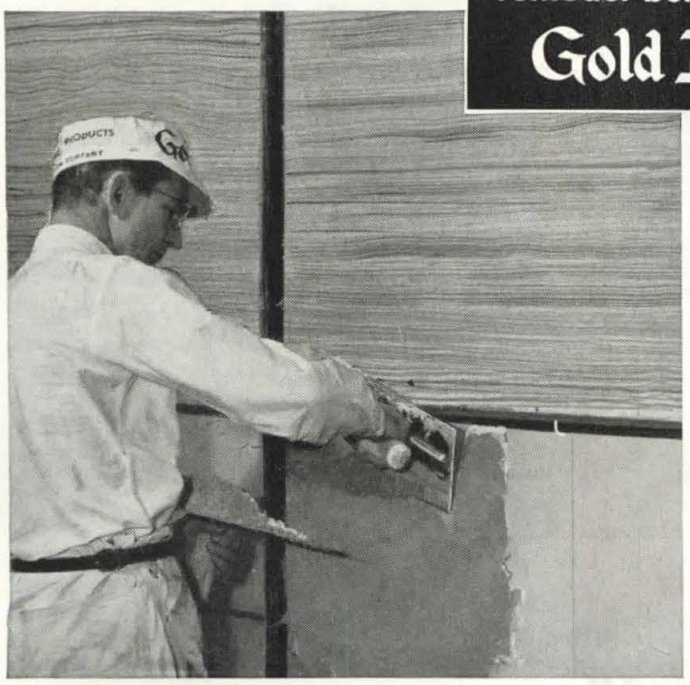
NON-CRITICAL MATERIALS are used in the Gold Bond 2-inch Solid Gypsum Lath and Plaster Partition System. And here are more advantages: it has earned fire resistance ratings of 1 and 1½ hours; it saves up to 7% of usable, rentable space wasted by wood stud, or masonry and plaster partitions. This Gold Bond System is adaptable to any type of building for non-load-bearing partitions not exceeding 12′ in height.



The Sherwood Apartments, Indianapolis, Ind.
Architect:
Paul I. Cripe, Indianapolis, Ind.

You'll build or remodel better with Gold Bond



FAST AND SIMPLE TO PUT UP. The Gold Bond 2-inch Solid Gypsum Partition consists of long-length gypsum lath secured to the floor, ceiling and vertical intersections by a unique system of metal attachments. An equal thickness of gypsum plaster is applied on each side of the lath to bring the finished thickness to 2 inches.

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COMPLETE DESCRIPTION AND SPECIFICATIONS

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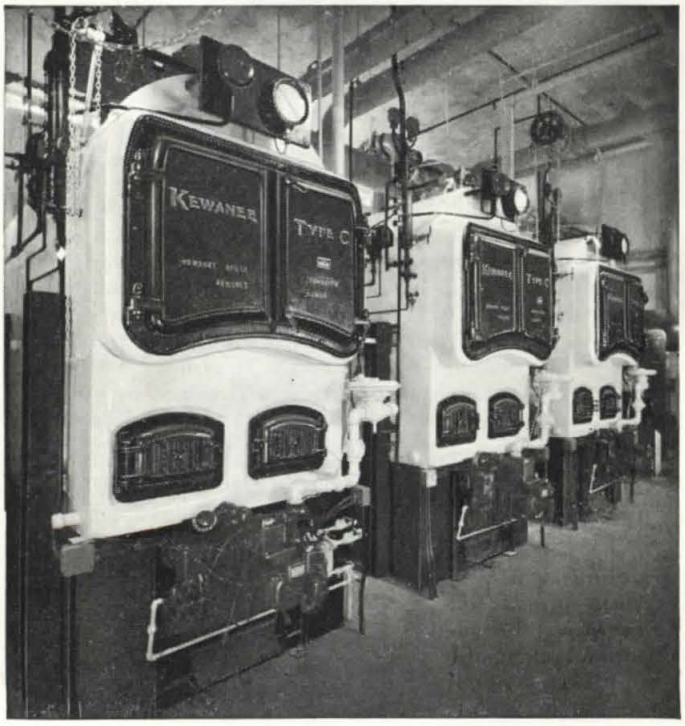
STEEL BOILERS

The PARK MERCED Apartments, San Francisco, Calif.
THOMSEN and WILSON, Architects
THOMAS B. HUNTER, Engineer
SCOTT-HASTORF-NETTLES, Inc., Heating Contractor



One of the 11 Boiler Rooms in the Park Merced . . . each equipped with 3 Kewanee Type "C" Boilers. Each of these Kewanees is rated at approximately 2,500,000 Btu hourly. . . a total of more than 80 million for the entire project.

11 Boiler Rooms—3 Boilers in each—33 Boilers . . . all of them *KEWANEES* . . . were selected to heat this modern group of apartments erected by the Metropolitan Life Insurance Company. Here is the second large project in San Francisco's famous Lake Merced Section which has choosen Kewanee for dependable economical heat.

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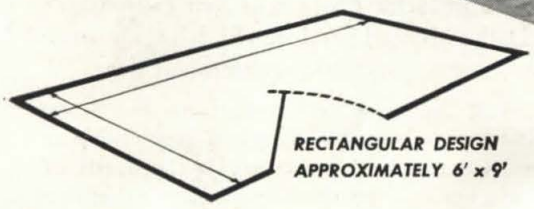
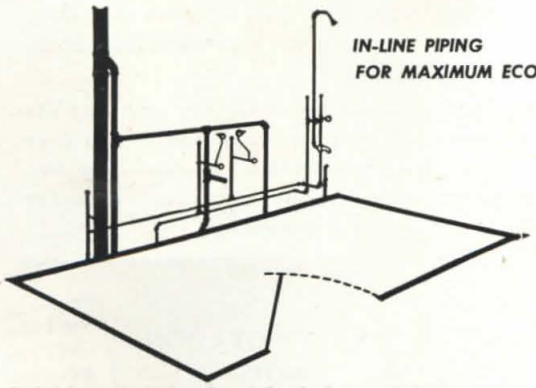


RECTANGULAR DESIGN
APPROXIMATELY 6' x 9'



IN-LINE PIPING
FOR MAXIMUM ECONOMY

For reasons of economy and all-round good planning, this bathroom is hard to beat. But whatever plan you prefer, always depend on Crane quality plumbing to assure its complete success. The fixtures shown here are particular favorites for medium-priced homes. They have a modern, simple styling, a solidness of construction and such refinements as *Dial-ese* controls that operate at a finger's touch.

The closet is the Crane *Oxford*—glistening vitreous china with efficient reverse trap whirlpool action with self-draining jet to assure complete sanitation. The lavatory is the Crane *Oxford*—highest quality vitreous china with spacious rectangular basin and handy shelfback. Completing the group is the Crane *Neuday* bathtub—porcelain enameled cast iron with flat bottom and sloping back. These fine Crane fixtures are available in white and eight Crane colors. Consult your Crane Branch or Crane Wholesaler for complete details.

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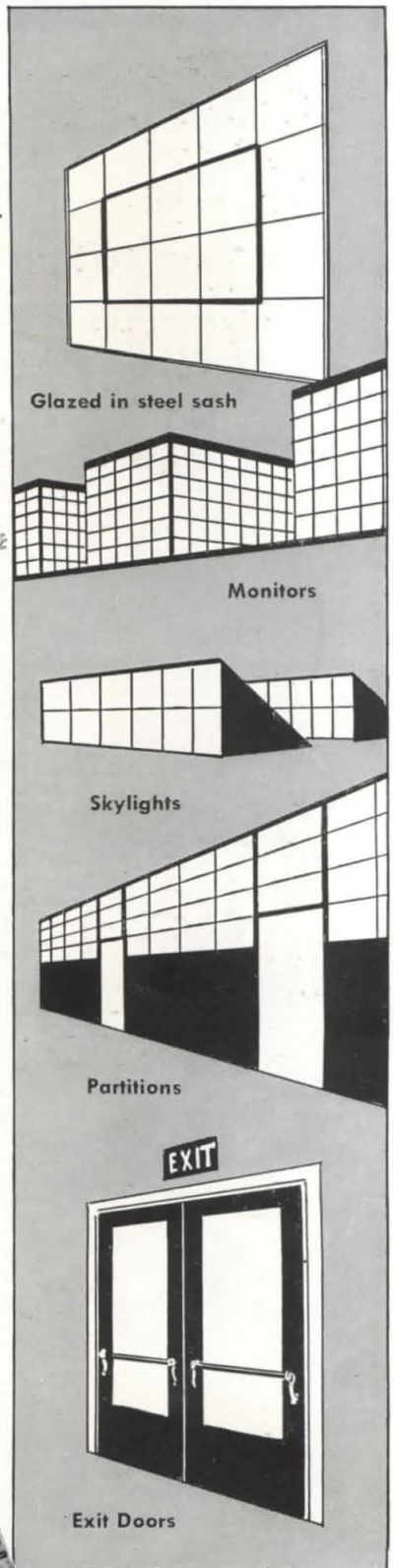

This seal identifies Mississippi Wire Glass

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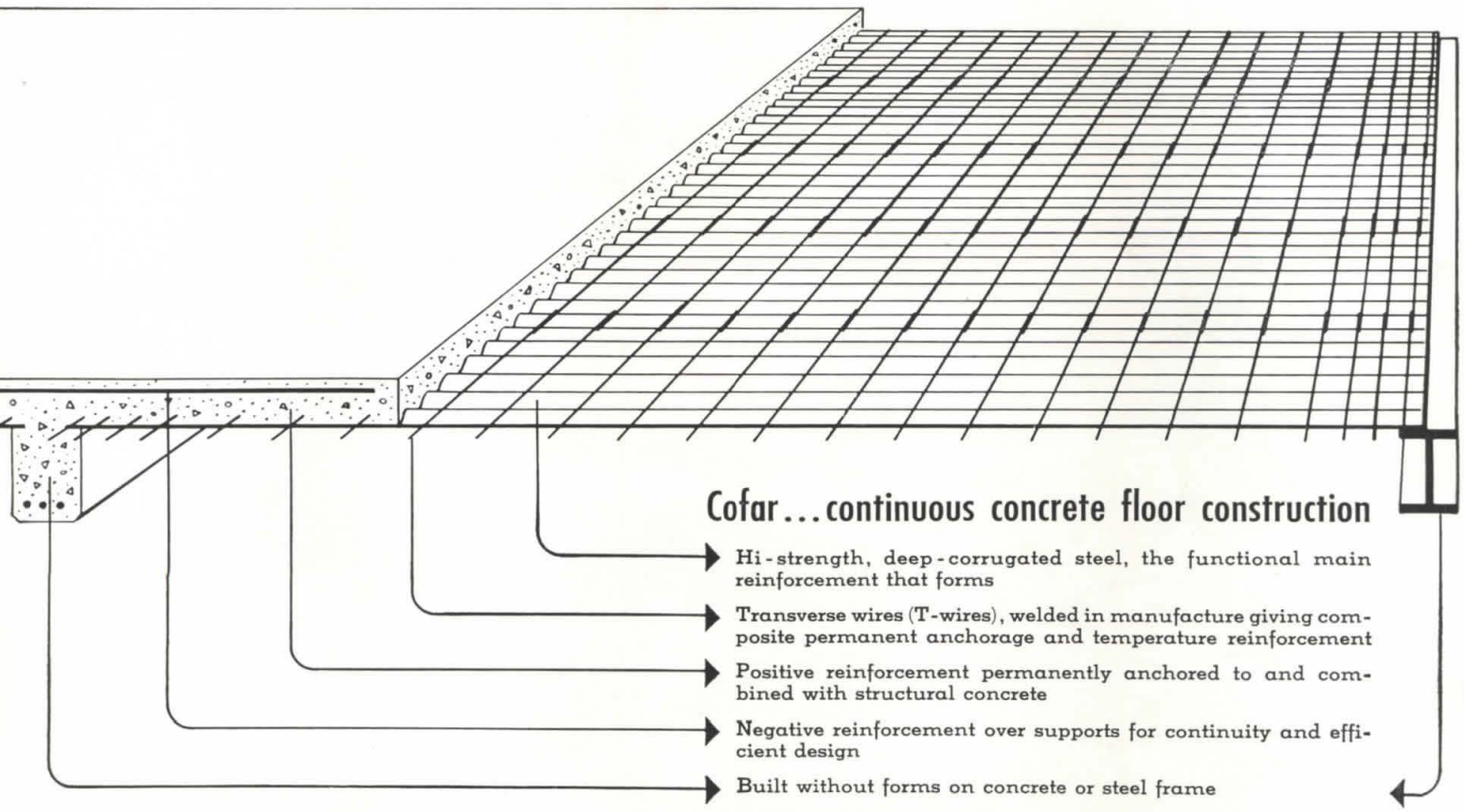

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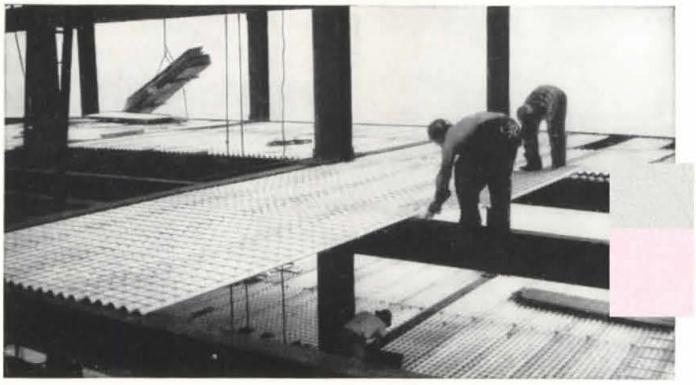

GRANCO STEEL PRODUCTS CO. (Subsidiary of Granite City Steel Co.) GRANITE CITY, ILLINOIS

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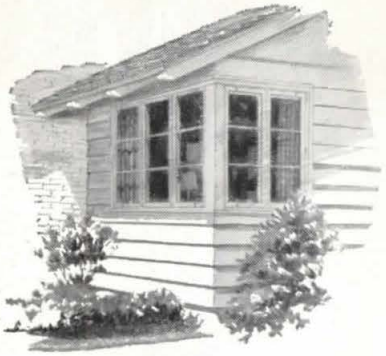
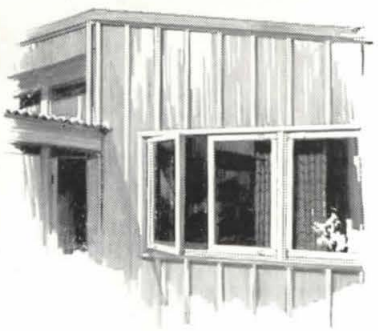
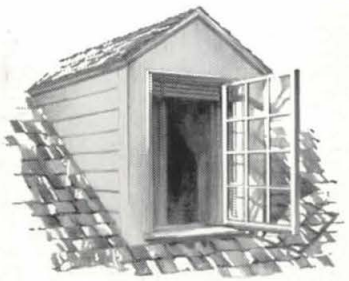


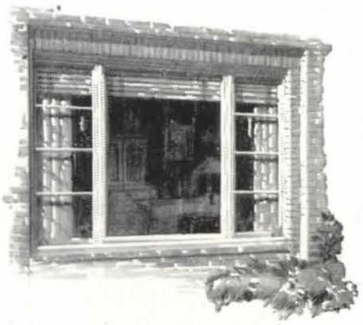
Pella Casements are available with vertical and horizontal muntins, horizontal muntins only as shown above, or without muntins.



This French-type Pella Window provides generous sash opening. Ideal for kitchens and bedrooms. Glass openings up to 60" high.



Only Pella offers a 28" wide ventilating unit with full 24" glass width. Patented hinge design, stronger 1¾" wood sash and steel inner frame combine to make it possible.



Homeowners never tire of praising Pella's built-in Rolscreens and Dual Glazing features . . . both great time and labor savers.

Create exciting window effects *without* special millwork costs! Do it by combining stock-size Pella Casement units into attractive angular or circular bays, dormers, picture, corner and ribbon windows. Pella Windows also save money on the job because they are completely assembled and pre-fitted at the factory. Investigate Pella Casement units *today!*

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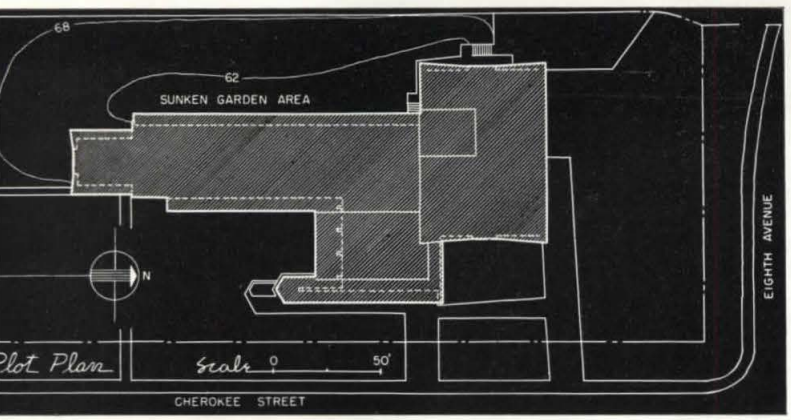
3 ATTACH INSIDE FINS — To complete the installation, apply the inside metal fins at jambs. Fins fit under the lip of the steel frame and are nailed to the studding. This provides an additional weatherseal and helps to position the window in the opening.

Public Welfare Building: Denver, Colorado

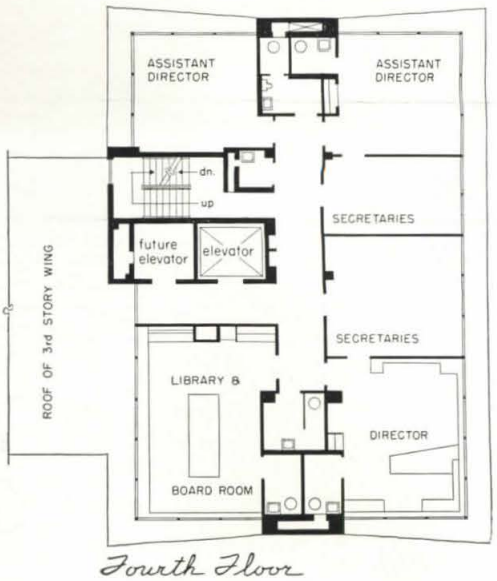
Victor Hornbein, Architect
H. B. Miller, Structural Engineer
Marshall & Johnson, Mechanical and Electrical Engineers
Mellwin Construction Co., General Contractor

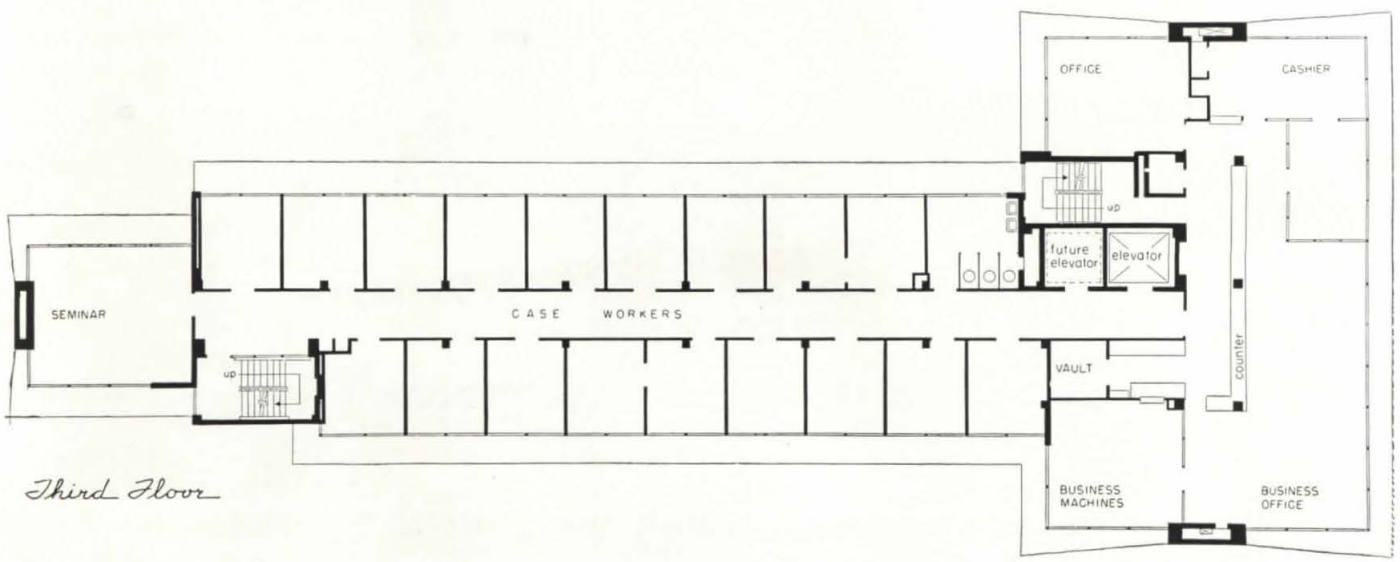
General view (above) of the new headquarters of the Public Welfare Department of the City and County of Denver, Colorado, and (left) entrance and administrative block.

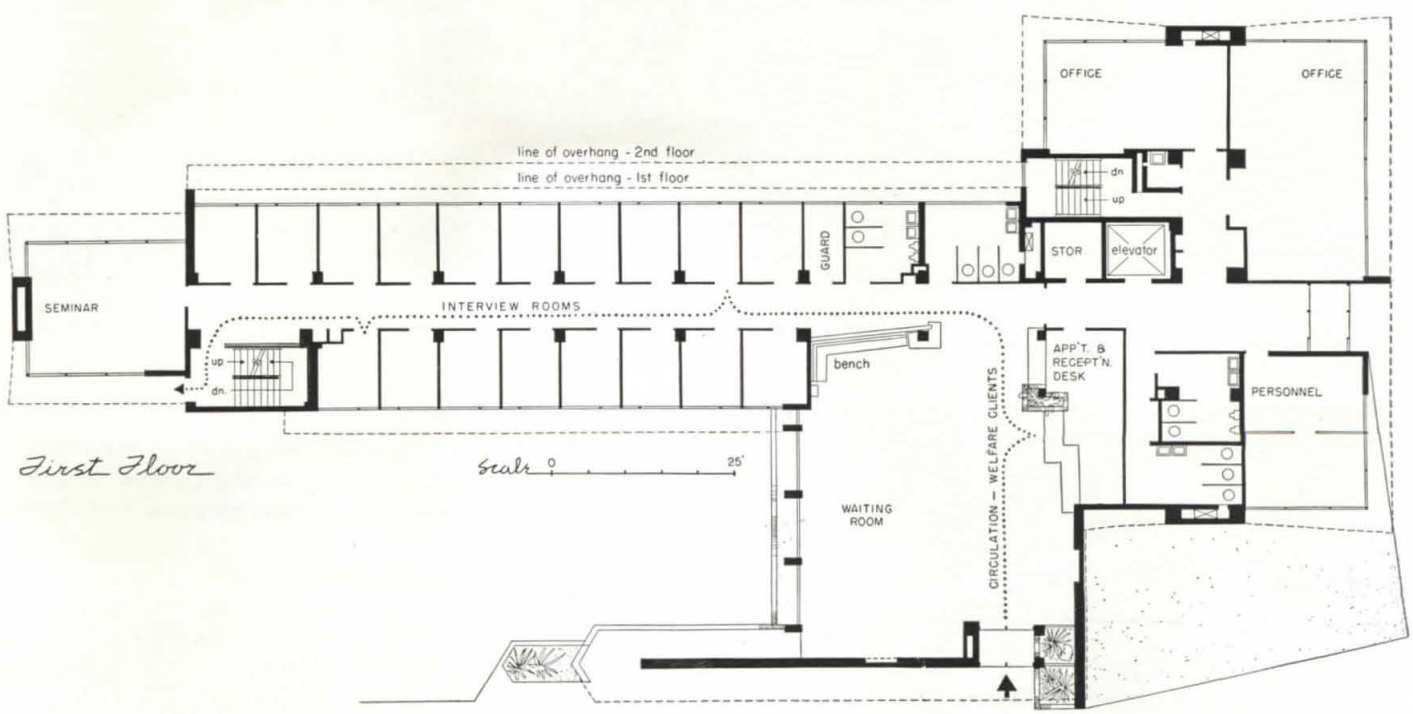
Photos: Marshall Brooks



PUBLIC WELFARE BUILDING: DENVER, COLORADO







View from the northeast. Entrance element is in low block in front of administrative and executive-office block.

program Headquarters for the Department of Public Welfare of the City and County of Denver, which controls all city welfare funds and disburses state and federal pensions and benefits. Four major elements required—a waiting room and interviewing rooms; offices for case workers; administrative and executive offices; general file space.

site A long, narrow site—125′ x 500′—with the longer dimension in a north-south direction, near the Denver General Hospital, from which the new building would obtain steam for heating.

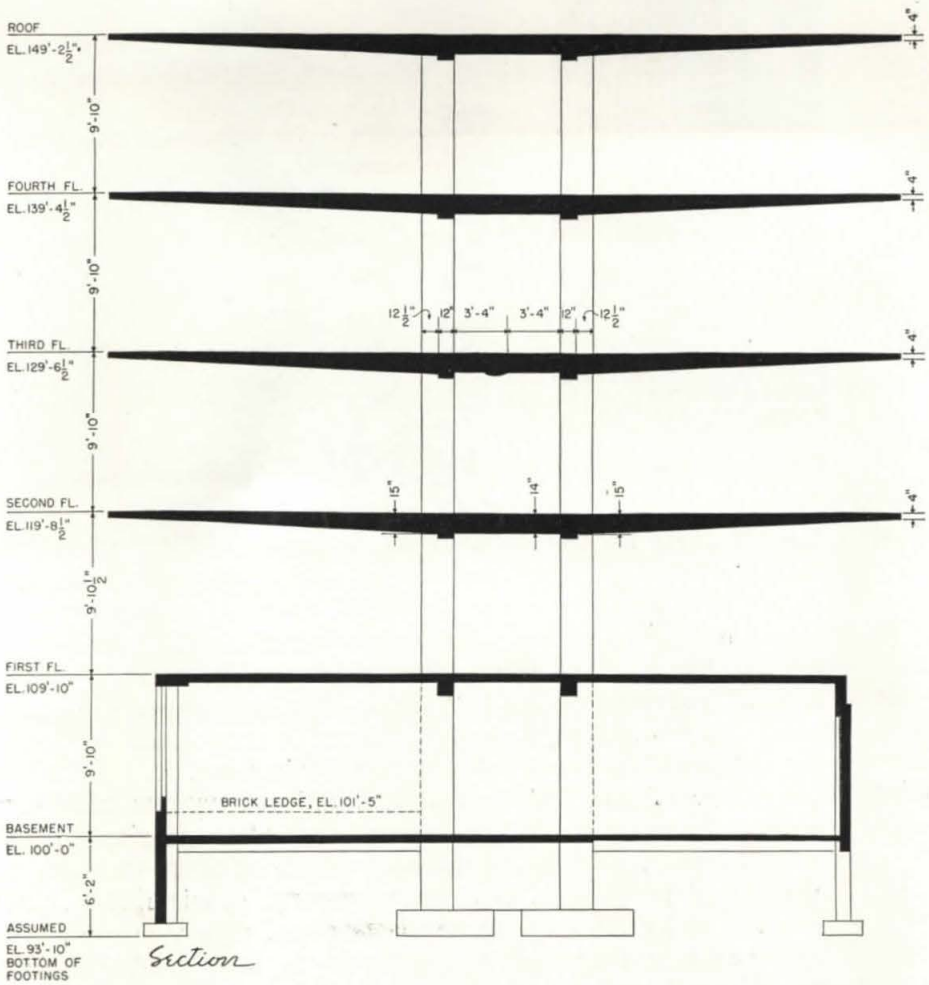
solution The shape of the plot necessitated a long, narrow plan organized around the north-south axis, which automatically orients most offices east and west, reflected in the deep slab overhangs that are a strong element of the design. Basic arrangement consists of a three-story wing in which offices for interviewers and case workers are located, terminated by a broader, four-story block for the administrative and executive offices.

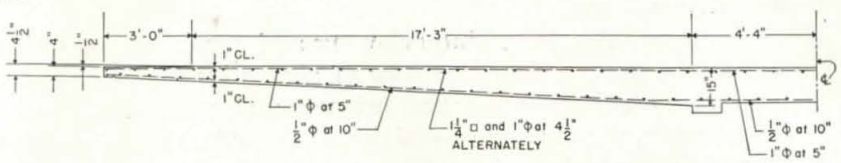
The rooms devoted to interviewing and counseling of welfare clients are on the ground floor, for ease of access by the aged and infirm. To gain the required maximum privacy and minimum space for each interviewer, the offices are shallow, more or less square rooms at either side of the central corridor. The second floor (not shown) is very similar to the third, with the exception that, in place of the large general business office at the north end, there are a stenographic pool and three private offices. Case workers are in the field for about half of their time; and the small, almost square offices can accommodate as many as four workers each. In the basement there is a general file room that occupies most of the space under the long wing; mechanical rooms and storage space occur under the administrative block.

Structurally, the building is a reinforced concrete, cantilevered floor-and-roof system, with all floors, except the first, carried on two longitudinal beams supported by columns (in the corridor walls) that are placed approximately 16 feet on center. Underfloor ducts for electric and telephone outlets are installed in grid pattern; all heating pipes are run horizontally in steel channel chases, built into the spandrel walls and covered with removable plates. The architect feels that, esthetically, the spandrel-wall areas appear rather heavy when surfaced with brick, but this material was used to meet a city building ordinance for fire safety requiring a 4-hour spandrel wall.

The chief difficulty with the new building derives from factors over which the architect had no control. Budget cuts made it necessary to eliminate a lecture room originally planned off the main lobby, made it impossible to construct space that was schemed with a 20 percent increase in staff in mind, and required that everything be kept to a minimum. The inevitable result has been overcrowding, and even the rooms planned for seminars now are offices for case workers.

Hornbein





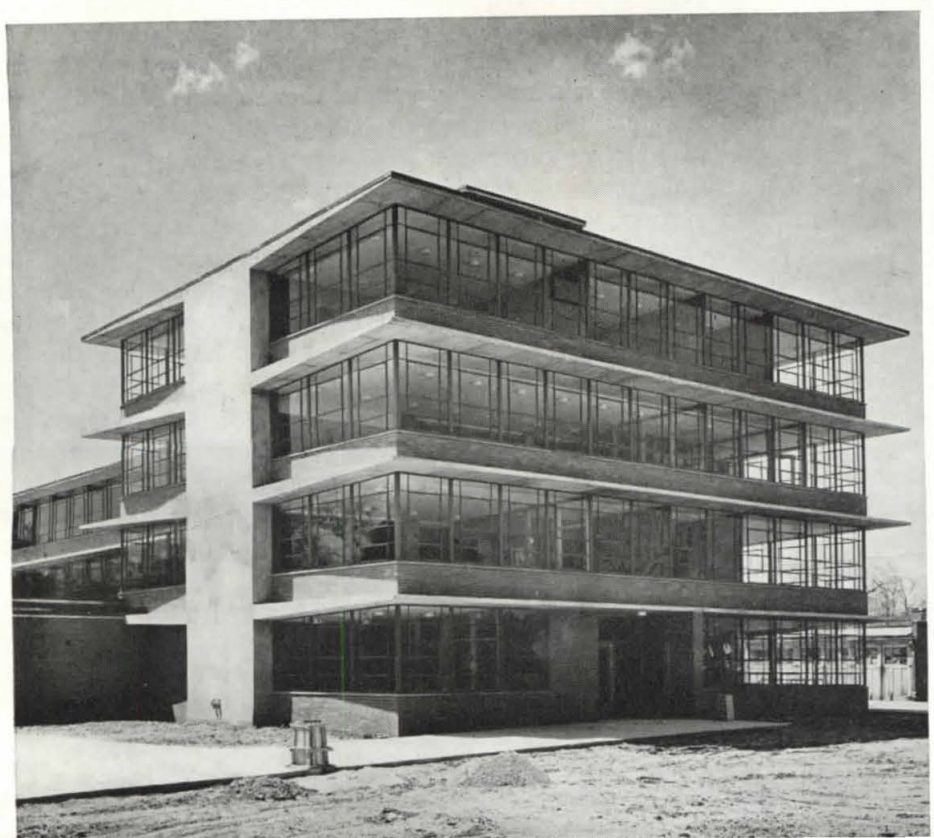
Half Section thru Floor Slab (SECOND FLOOR TO ROOF, INCL.)

CONSTRUCTION

Foundation: reinforced concrete spread footings. **Frame, floors, roof:** reinforced concrete. **Walls:** brick. **Waterproofing:** hot pitch. **Insulation:** acoustical: perforated tile of loblolly pine fiberboard—Armstrong Cork Company. **Floor surfacing:** asphalt tile—Tile-Tex Division, Flintkote Company. **Roof surfacing:** insulating board—Johns-Manville Company; coal tar pitch, tarred felt, gravel over insulation. **Roof drainage:** cast iron drains—Josam Manufacturing Company; galvanized steel downspout pipe. **Partitions:** interior: brick; flush type toilet partitions—Fiat Metal Manufacturing Company. **Windows:** steel projected sash—Truscon Steel Company. **Doors:** interior: slab, with white pine core—Farley & Loetscher Manufacturing Company; elevator doors—Dahlstrom Metallic Door Company; wood entrance doors. **Hardware:** locksets—Schlage Lock Company; door closers—LCN Closers, Incorporated, Oscar C. Rixson Company; panic exit—Vonnegut Hardware Company. **Paint:** exterior and interior—Kohler-McLister Company, McMurtry Manufacturing Company.

EQUIPMENT

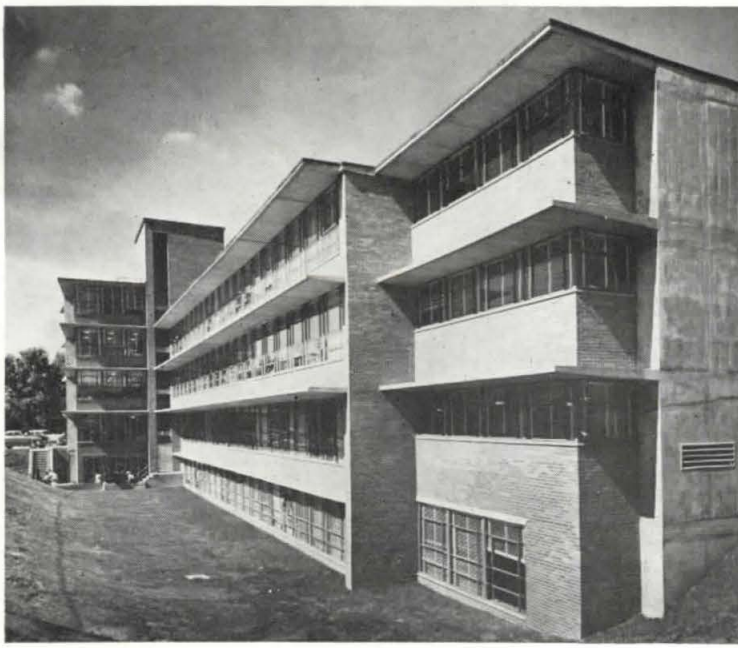
Elevators: Westinghouse Electric Corporation; cab—Globe-Van Doorn Corporation. **Lighting fixtures:** Sechrist Manufacturing Company. **Electric distribution:** service entrance switch, panelboards, multibreaker—William Young Manufacturing Company; duct system, wiring—National Electric Products Corporation; cable—Rome Cable Corporation. **Plumbing and sanitation:** water closets, lavatories, toilet seats—American Radiator & Standard Sanitary Corporation; flush valves——Sloan Valve Company; copper pipe and water supply system; ceramic tile and brick interior walls of restrooms. **Heating:** hot water; generator—Kelly Patterson; ventilators—American Blower Company; controls—Johnson Service Company.



Detail of the structural system is demonstrated in the sectional drawing and under-construction photograph at left. ***Photo: D. L. Hopwood***

Above—detail of south window wall and side door to the main waiting room—planned to seat up to 100 clients at a time.

Right—rear (west) of the building, showing how the site slope allows above-grade windows in the basement area (chiefly the general file room) on this side.

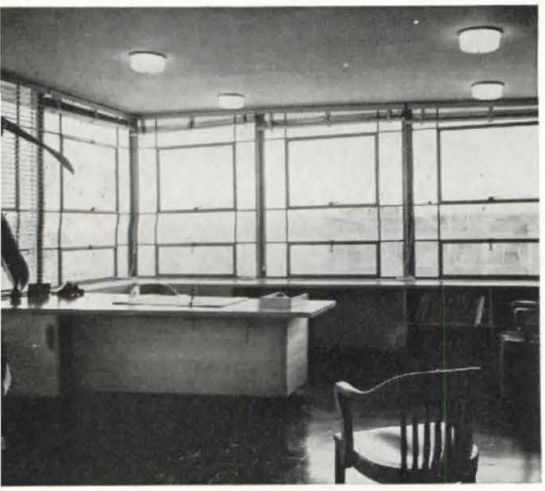


PUBLIC WELFARE BUILDING: DENVER, COLORADO

Left—the main waiting room; appointment and reception desk at right. Asphalt-tile flooring; acoustical-tile ceiling.

Right—the Board Room, in the southeast corner of the fourth floor of the administrative-executive wing.

Below—Director's room, immediately adjoining the Board Room, in the northeast corner of the fourth floor.



PUBLIC WELFARE BUILDING: DENVER, COLORADO

The Client's Point of View

By CHARLES LUCKMAN*

The following article is excerpted from a talk made before the Producers' Council Convention in Chicago, May 8, 1951.

I choose as my subject, "The Client's Point of View" because I have had the opportunity of *buying* buildings, of every type, from coast to coast—and in the widely divergent eras of depression, post-depression, prewar, wartime and postwar. From this reservoir of personal experience comes a positive conviction, that when a client builds—be it a house or a hospital—he wants four things:

First: The cost to be within his own predetermined budget; or to be within the estimate submitted by the architect.

Second: The plan to meet his requirements in the most efficient manner.

Third: The building, when completed, to have some artistic merit.

Fourth: The designing and building to be done in a manner which will protect him against his own inexperience.

This is what the client wants—but in all except isolated instances—it is not what he gets.

It is in the area of point 1—having the finished building stay within the estimated cost or budget—that the construction industry could do with a little soul-searching. In this regard, the blame for failure must be borne equally by the architects, the producers, and the contractors. During my own experience as a client, I have heard every possible excuse and justification as to why the final cost of the buildings was so high, and, may I hastily add, some of the blame rightfully falls upon my own shoulders. Until recently, we tried to justify our combined failure to keep within the estimate, by the use and re-use of all the old, moss-covered excuses.

No one can deny the inherent difficulty of keeping the cost of a building comparable to the estimate—but it can be done! It only requires a point of view—the client's point of view.

Complete honesty compels us to admit that if we *personally* were paying the bills we would keep the designers within reasonable bounds—we would restrain the engineers from developing unduly complicated or overloaded solutions—we would persuade the contractors and subcontractors to diminish the amount of "water" placed in the bids for "insurance purposes," and finally—if we were *personally* paying for the building—we would demand accurate cost reports at frequent intervals.

The adoption of this "client's point of view" could have prevented a major tragedy which is being enacted almost daily. I refer to the hundreds, and perhaps thousands, of buildings that are being put on the shelf because the bids exceed the estimates by about the same percentage that Joe DiMaggio bats each year.

And now, many of us are engaged on war work. Even here, I predict, without fear of contradiction, that nine out of ten of the finished plans will be sent out to bids with "deductible alternates." Of these, I predict almost 100 percent will be built with one or more of the alternates having been deleted from the original program, this being the only way to keep the cost of construction anywhere near the original budgets.

What a grave responsibility is ours!

In 1950, in all forms of advertising, American industry spent $7.2 billion. In the same year, for the promotion and sale of its products, American industry spent $9.5 billion. In the same year, for its building program, American industry spent $18.1 billion. Therefore, we who are the architects, producers, and builders for this enormous mass of brick and mortar, have vested in us a far-reaching responsibility.

To discharge this we need to do a gigantic job of air conditioning the construction industry. We need to circulate fresh air through the cobwebs of habit. We need to rededicate ourselves to the principle which made our country great—"better products for more people, at lower prices."

We need to stop philosophizing that simply because we have the highest living standard in the world, our people have everything they need. Some of us have become complacent through reading statistics about the number of bathtubs and vacuum cleaners, refrigerators and radios owned by Americans compared with the people of other nations.

I do not believe the average American is interested in the number of cars in Ecuador, or in the telephone situation in Sweden. What he wants to know is: "When am *I* going to get modern plumbing?" and "When can *I* afford a home of my own?" He is interested in the future, as Kettering said, "because from now on I have to do all my living there."

With this in mind, we might take a moment and listen to some shocking statistics:

(1) Twenty-seven million Americans have no kitchen sinks.

(2) Seventeen million American families lack indoor laundry facilities.

(3) Twenty-two million Americans lack indoor toilet facilities.

(4) One million American families need new homes this year.

(5) Forty million Americans have neither bathtub nor shower.

These are only a few items from a long, long list. So, let's not talk about what we *have* got. Let's be more concerned with what we *haven't* got. We must be concerned for two reasons: first, because these are human needs that should be met; and second, because these needs provide dramatic illustration of the fact that we have not *finished* our economic growth — we are only *beginning*. Yes, we in the construction industry have an almost unlimited horizon—bounded only by our capacity to see, and our determination to do. I sincerely believe that, together, we can do more for our country than any other single industry.

Now, I do not mean to imply that we should adopt a social concept wherein we become our brother's keeper. The obligation of people to earn money is entirely their own. Our responsibility is to see that they get more for their money when they *spend* it. Let us remember, the immutable law of supply and demand is reflected in the simple phrase "if bathrooms were cheaper, more people could buy them." We have today an unparalleled opportunity to demonstrate the degree of our resourcefulness. Courage, faith, and vision will speed our progress.

In the years that lie ahead, we need "togetherness" as we've never needed it before. If we have a togetherness of the spirit, a communion of purpose, the material strength will come.

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* *Architect, partner, firm of Pereira & Luckman, Los Angeles; formerly president, Lever Brothers.*

the architect and his community:

a p/a case study

HAROLD SPITZNAGEL, ARCHITECT: SIOUX FALLS, SOUTH DAKOTA

This profile of the office of Harold Spitznagel is Number 6 in **P/A's** *series of studies of offices that have had such a profound effect on their communities that one cannot visit the towns without being aware of their contribution at practically every turn. Sioux Falls has a population of slightly more than 50,000—a community of a size which is frequent and in which, as a rule, architectural performance is not notable. To see a firm such as the one highlighted here enter a town of this type, work on a consistently high level through the years, and reach the point, as Spitznagel himself describes it, of having done "everything from Sunday schools and churches to bars and penitentiaries," is heart-warming. It also should encourage some practitioners to enter the smaller communities and make distinctive contributions, rather than heading for the big cities to end as just more names in the classified telephone directory.*

SIOUX FALLS

Some time after the Spitznagel office opened, John A. Schoening came to work there for six weeks, but he has stayed on for the 15 years the office has been in existence and is now listed as associate on all of the work the firm turns out. In addition to the obvious inference that the boss is a good man to work for, it also suggests that Sioux Falls is a good place in which to practice architecture. And so it has proved in this case.

As Spitznagel tells us, "I am fortunately not too often handicapped by design prejudices." Admitting that clients sometimes caution him "not to get too wild on this or that," there is no great clinging to tradition, "possibly because there is little, if any, tradition to cling to, other than examples of the early Victorian or late Pullman schools of design." Besides the Spitznagel firm, there are two other long-established architectural offices in Sioux Falls.

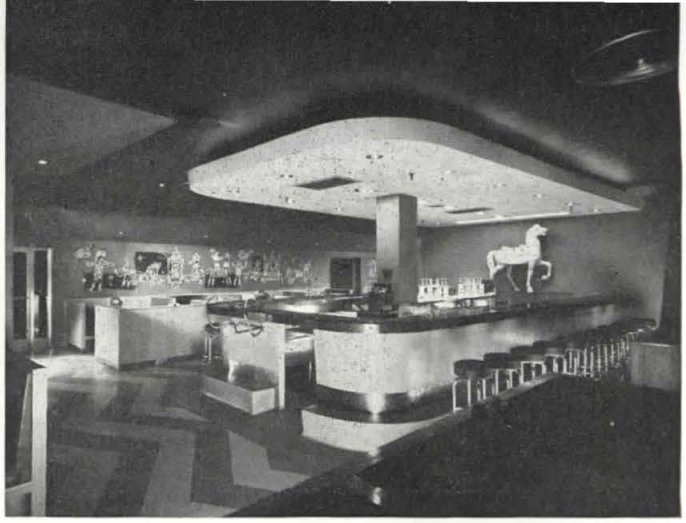
Spitznagel comments that it would be a precarious undertaking if one's practice were confined to the city itself, although a fortunate factor is that the city has grown from 33,362 in 1930 to its present-day population of 52,161 (Schoening's decision to stay on accounts for the final digit). Actually, work by Spitznagel has been built over a wide area—400 miles southeast, 260 miles northeast ("invading the lair of our friends in the Twin Cities in so doing"), 90 miles south, 200 miles north and 400 miles to the west of Sioux Falls.

Some difficulties derive from conducting a practice in a small and somewhat remotely located community. For one thing, they find it more difficult to obtain technical information, particularly when it involves a new product. This usually means a great deal of correspondence or communication by phone. In this connection, Spitznagel says, "I have always envied the metropolitan practitioner who has but to dial a number to check up on a product or method." But, he goes on, "I have also found that this barrier quite often makes one all the more eager to obtain the required data."

BACKGROUND

After two years of study at the Art Institute at Chicago and graduation from the University of Pennsylvania (with the A.I.A. and Arthur Spade Brook Medals), Harold Spitznagel worked for a short period in Indianapolis and, thereafter, for four years, in various offices in Chicago. Then, as a result of the depression of the 30's, he reports, he was "more or less forced into the practice of architecture" in his native Sioux Falls. He recalls: "I saw my friends with degrees of Master of Architecture running elevators and working in cafeterias in Chicago; and as I drifted from one firm to another, only to have the work terminate on completion of the job, I decided it would be best to come back and starve at home." And, he testifies, he very nearly did starve professionally, until "my first commission appeared in the form of a residence." Moreover, he almost lost even this job by enraging his client. Determined to prove that the available headroom would not permit passage across a stairway, "I drew a section through the stairs, with the owner neatly decapitated, with her head attached to the

(Continued on page 76)



Top—Cataract Hotel Lobby (left): replaced old tile floor, ornate light fixtures, and beamed ceiling (1947). Cataract Hotel Bar (right) originally a bank (1947).

Photos: Everett Kroeger

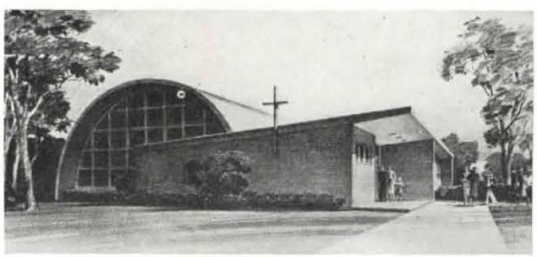
Above—Hollywood Theater (left), Spitznagel's first theater job (1938). Russell Cole house, Brookings, South Dakota (right): the combined living-dining room.

Photos: Hedrich-Blessing
Warren Reynolds, Photography, Inc.

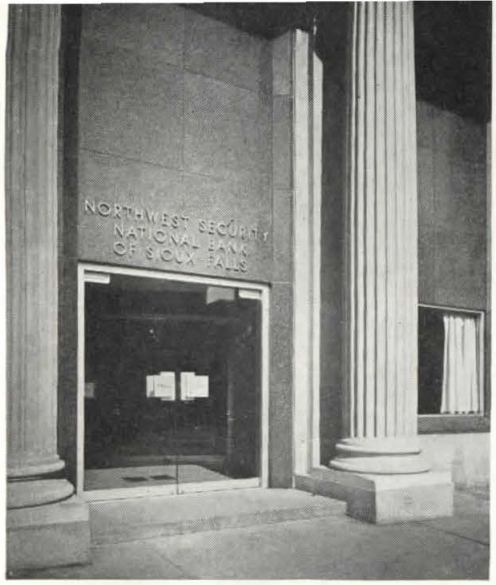
Below—rendering of Church of Christ the King (1948); designed to meet the needs of a new parish.

Bottom—unit for John Morrell & Company (left), Sioux Falls packers who employ about 4000 persons (1946). The windowless building "has worked out to the entire satisfaction of the owners." Cafe for the Morrell Company (right) for the use of employees, truck drivers, etc. (1946). Brick wall; terrazzo floor; rigid plastic counters.

Photos: Warren Reynolds, Photography, Inc.



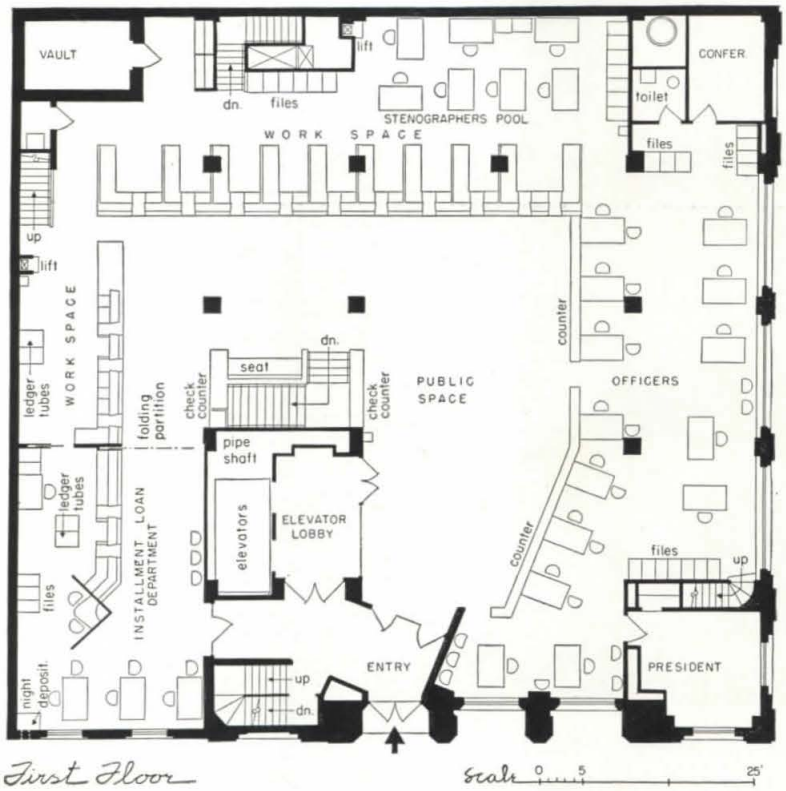
Bank: Sioux Falls, South Dakota



On this page—street entrance, entrance lobby, and main banking floor.

Acrosspage—the installment-loan department, separated from the main floor by a folding partition. Rear walls of this area are covered with a grayed-cocoa plastic fabric; the wall on the right is gray-blue-green; and the sofa is yellow.

Photos: Hedrich-Blessing



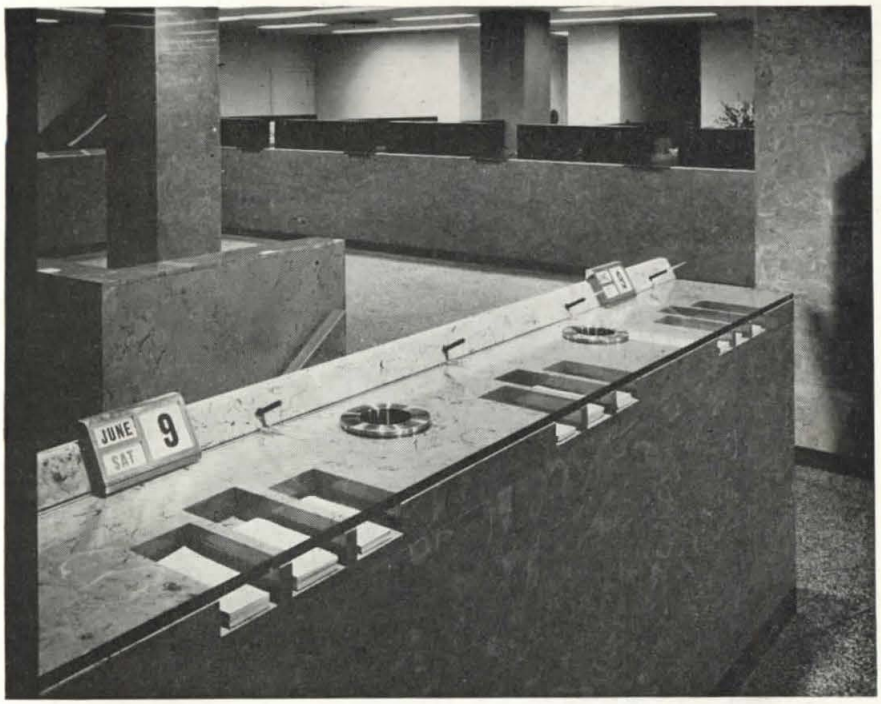
The architect was confronted with the problem of completely remodeling the interior of an existing bank, but with the expressed client wish that no more than necessary be done to the exterior of the building. Hence, the imposing Roman columns, time-honored hallmark of the temple concept of bank design, remain. And the three wall areas between the columns, save where doors or windows occur, were simply refaced with polished squares of gray processed granite. Otherwise the outside of the building remains essentially as it was.

Inside, a total floor, wall, and ceiling face-lifting operation took place, plus an extension of the mezzanine space and an addition at one side of the bank that just about doubled the work area.

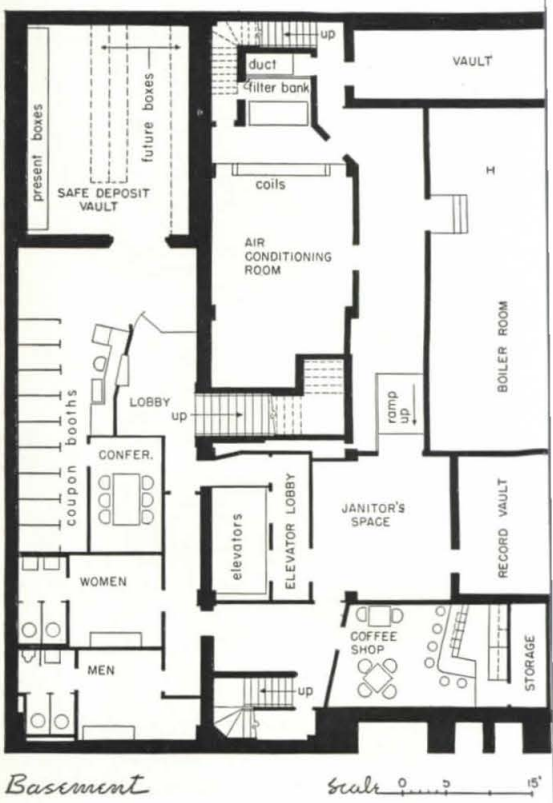
An important plan detail is the folding partition provided between the main banking room and the installment-loan department, and the separate entrance to the latter from the entrance lobby. Thus, this department may be used after hours, although it functions as an integral part of the bank during regular banking hours. The entire bank is air-conditioned. All interior color schemes, selection of fabrics, furniture, and incidental decoration were handled by the architect's office, which, as Spitznagel tells us, "is the case with most of our recent work."

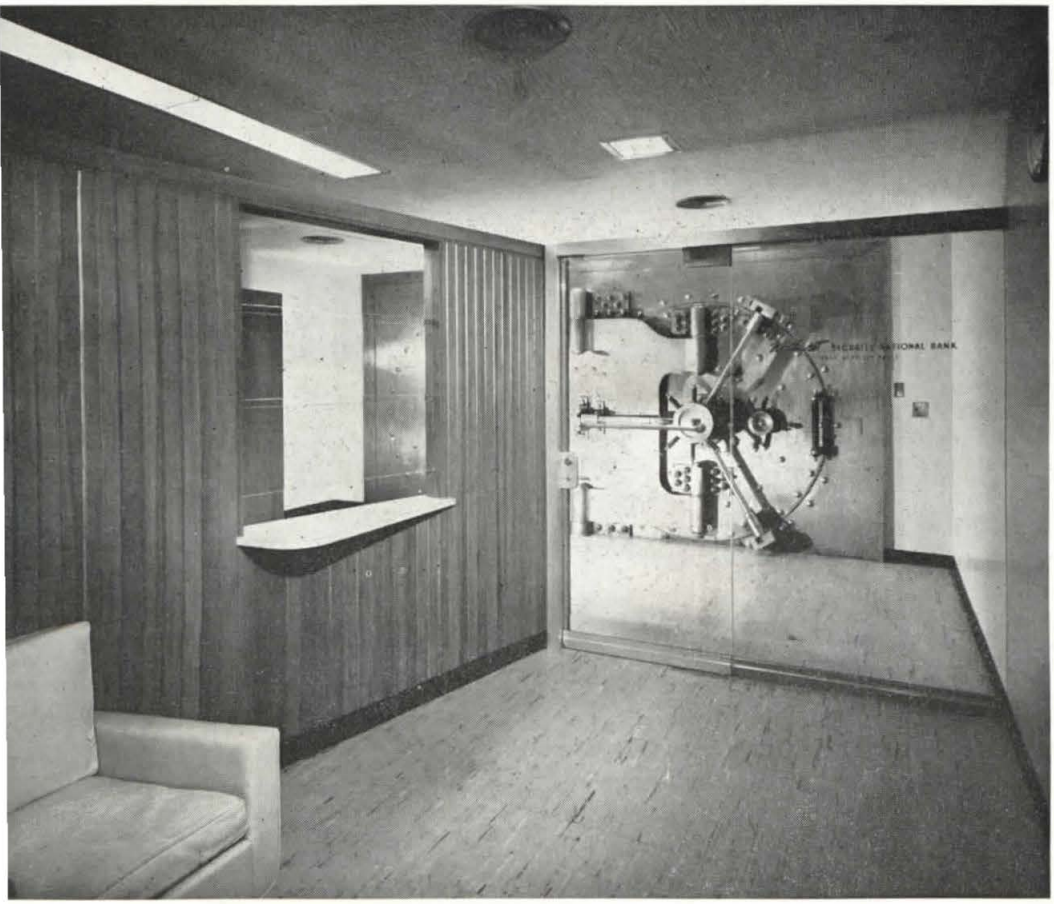
All ceilings are acoustically treated. Flooring in public areas is terrazzo; in work areas, asphalt tile; and in the officers' space, vinyl-type flooring. Interior walls are covered with plastic fabric, marble being used on counter fronts. Tellers' wickets are surfaced with black leather, with rigid, black plastic tops and edges. Fenestration consists of double-insulating glazing, set in aluminum extruded sections. The glass curtains at the windows are of glass fiber, and the draperies are in varying shades of beige and gray-earth tones. Ceilings throughout are white; small areas of dark, paneled wood are walnut. The clock face, mounted on the light-gray rear wall of the main area, has red numeral indicators at the quarter points, blue-green marks at the five-minute points and black hands.

"As to conditions which are necessary for a healthy practice, I would say that friends, ambition, a growing community, attention to detail and—not the least of all—a good climate, would be desirable . . . Weather conditions greatly restrict the latitude of the designer, and I am very much of the opinion that if a young man were selecting a place to practice, he should not overlook this factor." H.S.



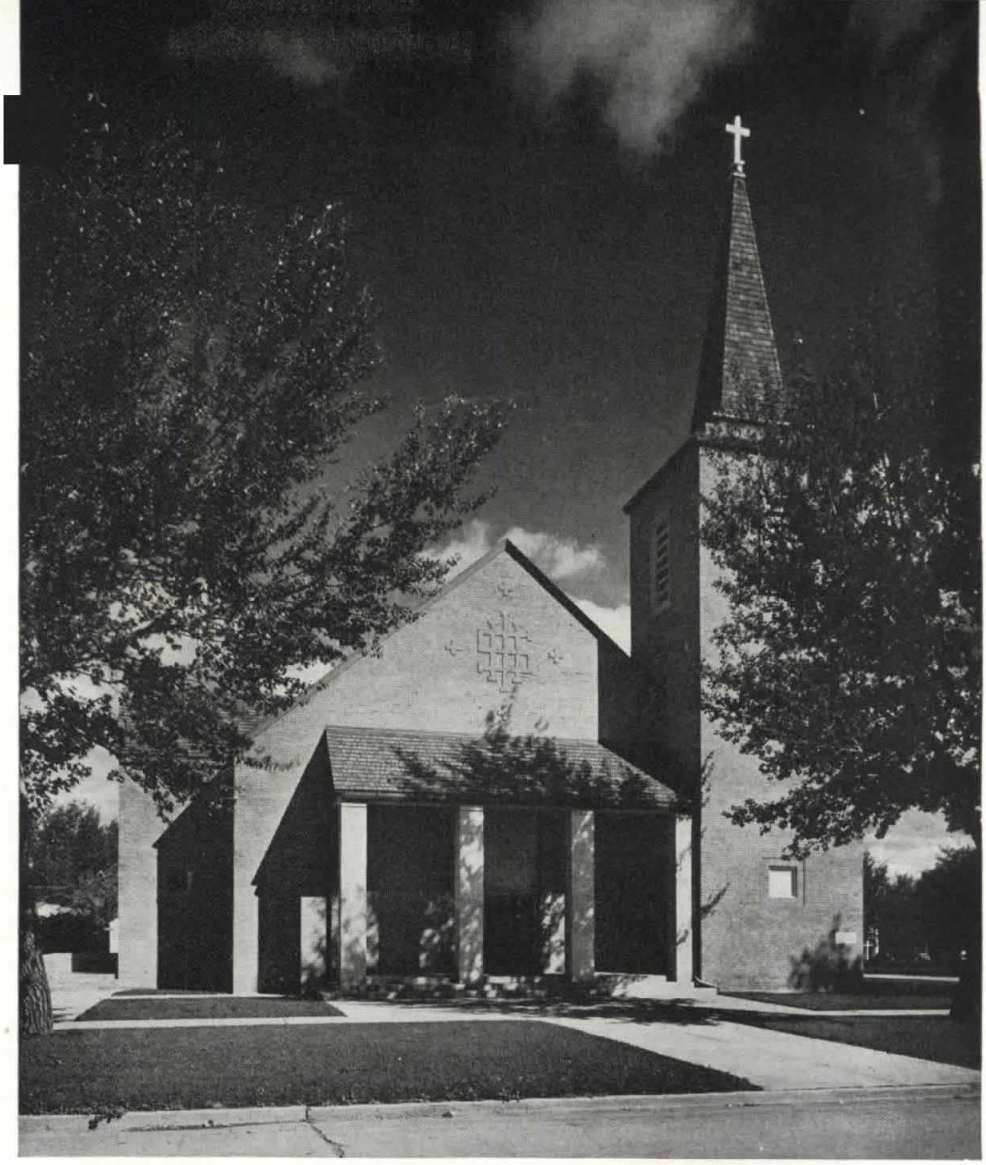
BANK: SIOUX FALLS, SOUTH DAKOTA

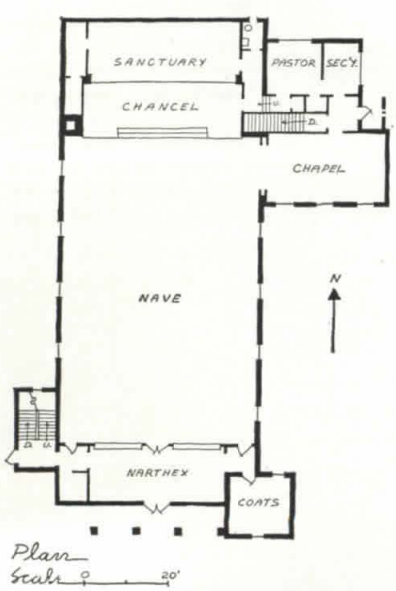




Top—detail of check desk, bordering stairway down to the safe-deposit department: stainless-steel calendar frames and recessed, counter-top waste-paper containers.

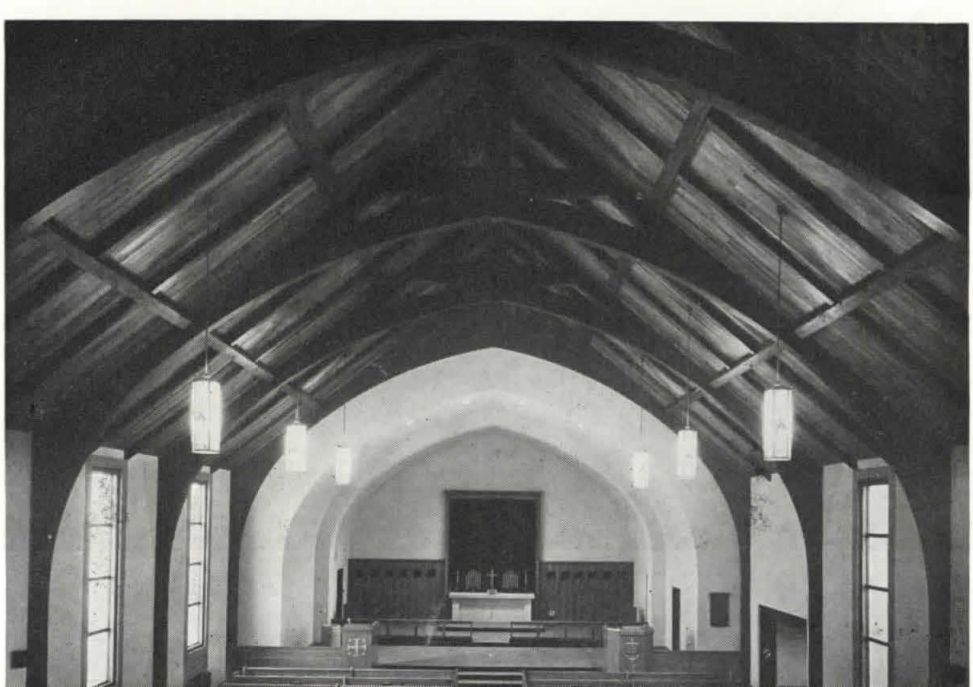
Left — the safe-deposit department, with custodian's window at left. Removal of the vault from the upper floor to this level was part of the remodeling job.





Church: Rapid City, South Dakota

Trinity Lutheran Church, with seating for 500. In basement: dining room for 300 (also to serve as Sunday school room (temporarily), kitchen, choir room. Exposed, laminated wood arches support the roof; bar joists and concrete slab for first floor. ($9.43 per sq. ft.) *Photos: Dearborn-Massar*



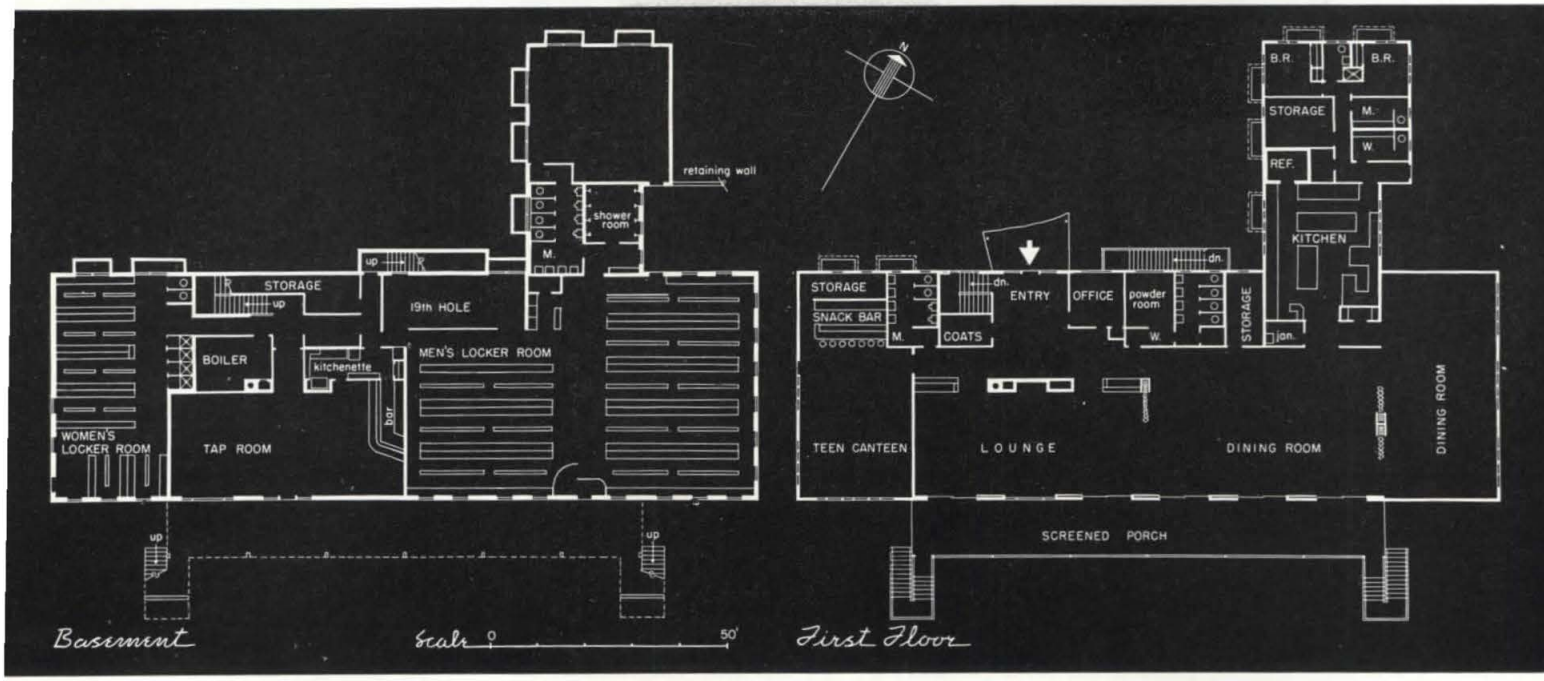
Two views of the golf-course side of the club (left and at bottom of page) showing the screened porch upstairs, outside the main rooms, and the recessed loggia, at grade.

Below—detail of entrance, on the one-story side of the club. The vertical redwood boards are stained Driftwood gray; entrance door is Chinese red with white trim; and the roof overhangs have white soffits and Swedish red edges.

Acrosspage—detail of entrance vestibule.

Photos: Hedrich-Blessing

Country Club: Ottumwa, Iowa



"One thing that I have learned is to have no hesitation about admitting your mistakes and—perhaps of even greater importance—correcting them as soon as they are discovered. For I have found out that unless this is done, the error gathers momentum and size like the proverbial snowball." H.S.

The program for the Ottumwa Country Club called for provision for 275 men's and 125 women's lockers; a large room to be used as a dining room, preferably planned so that it could be subdivided into smaller rooms for private parties or opened into one large room for dancing; a pro shop; a caddy house; a small area for employees who would live at the clubhouse; and a swimming pool. The pool has now been built, but budgetary limitations did not permit inclusion of the caddy house or pro shop, which continue to be housed in a temporary building. The site slopes away fairly abruptly toward the south, and the fact that the course is immediately adjacent to the site meant that a building larger than the one designed would be a practical impossibility.

Taking advantage of the site slope, the architect organized the club in a two-level scheme at the rear, with one floor on the approach side. On the lower level are the tap room and 19th Hole room, in addition to the locker rooms. On the upper floor, the main lounge, and dining areas are aligned in such a way that they can be used as one large entertainment area or, by means of sliding, folding partitioning, divided into lounge and two smaller private dining rooms.

Original schemes called for a building with a pitched roof; but cost estimates quickly erased this aspiration, and what Spitznagel calls a "mono-pitch roof" was substituted. "There was considerable wailing and gnashing of teeth," he recalls, "but *we* felt that the design was improved by the more direct solution."

A particular request was that the main rooms be adequately lighted. As a result, "I fear that we rather overlighted them . . . only a portion of the overhead fixtures are used in the dining room, and the floor and table lamps are generally used in the lounge area."

The club is built on a concrete foundation, with brick and steel for the lower floor, and a combination of steel skeleton and wood frame, with exterior vertical wood siding, enclosing the main floor. Ceilings are surfaced with acoustical tile, and both walls and roof are insulated. The heating system is a combined hot-water and forced-air system, with most of the installation consisting of baseboard radiation. Natural gas is the fuel. For fire precaution, the building is completely sprinklered. Cost of the building itself came to $13.74 per sq. ft. Furnishing, including draperies, lockers, important furniture, etc. came to $1.63 per sq. ft.

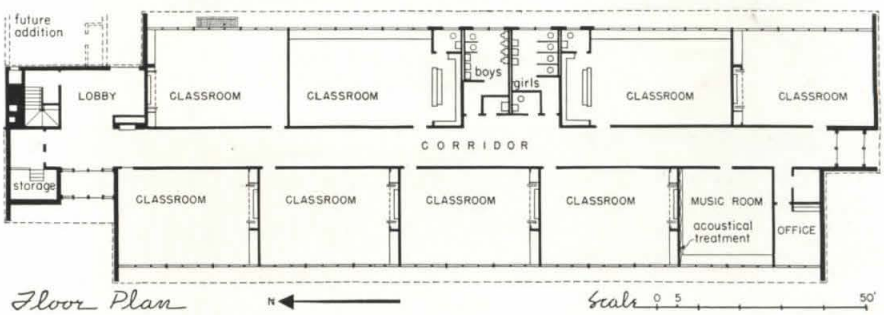
COUNTRY CLUB: OTTUMWA, IOWA

Above—the front desk of the club. Clerestory windows provide cross-lighting. Architect wishes they were hinged to permit cross ventilation as well.

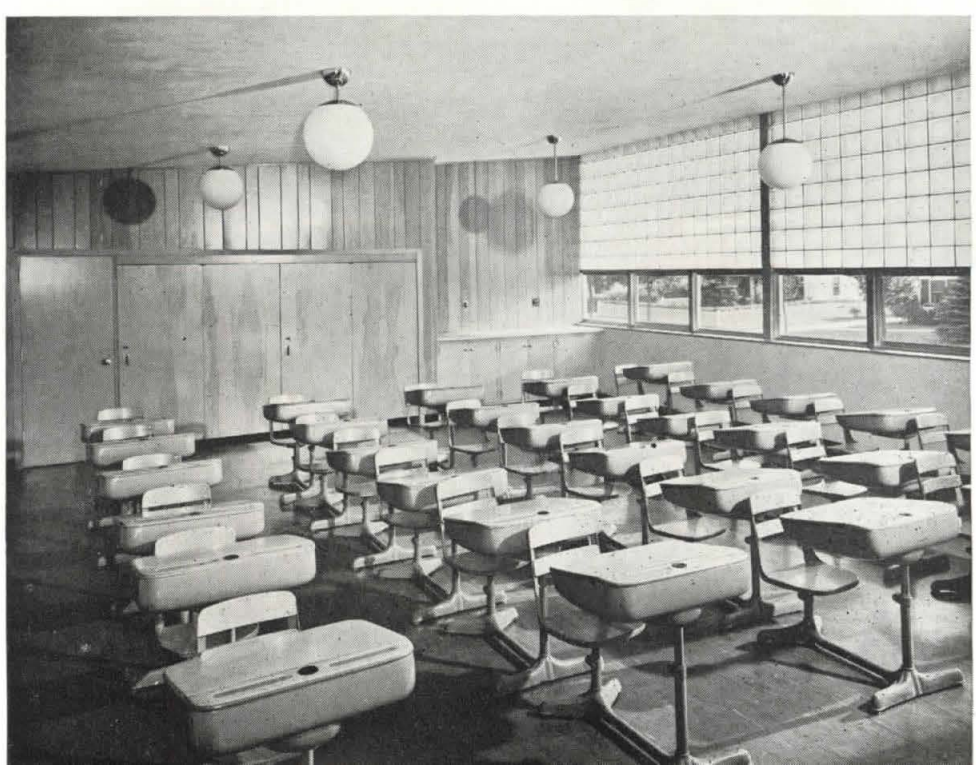
Left—lounge fireplace. As in most Spitznagel jobs, the architect designed or selected all interior elements.

Below—two views of the lounge-dining areas of the club, showing subdivisions made possible by folding partitioning. Sliding doors open room to the south porch, whose roof excludes summer sun from the rooms.

School: Sioux Falls, South Dakota



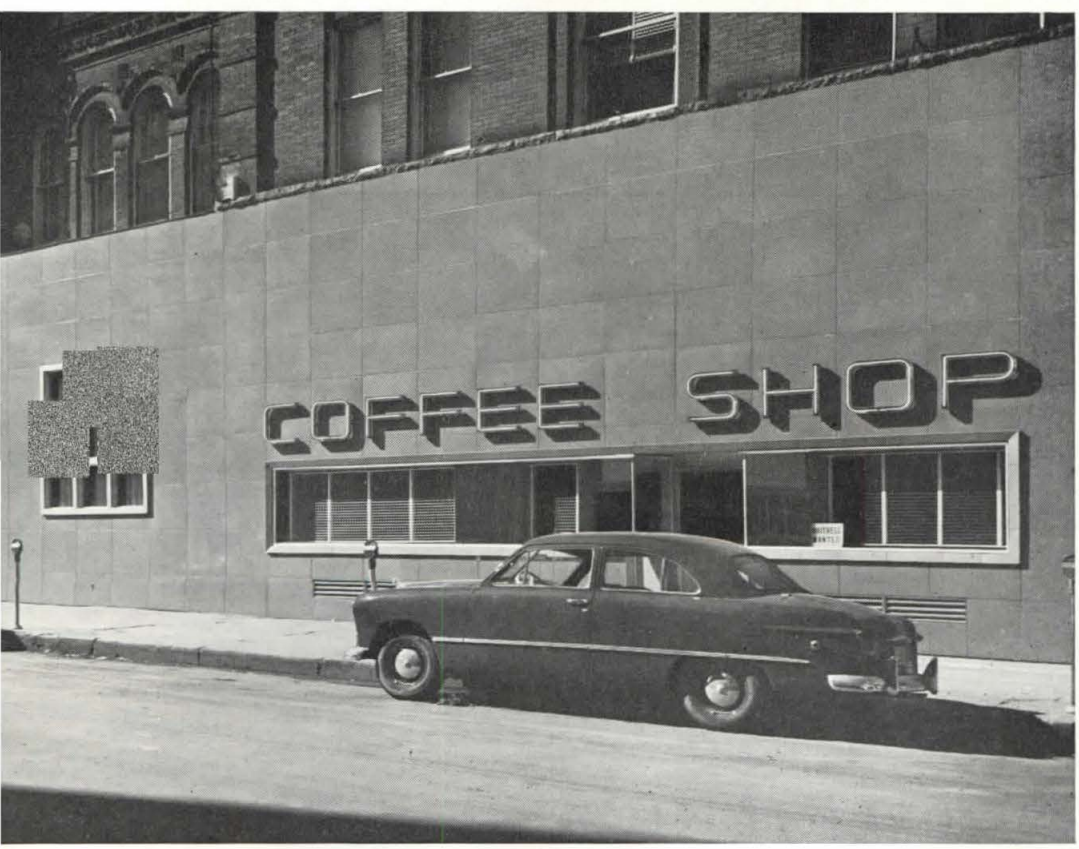
St. Mary's Parochial School: first unit of a convent group. Client was most receptive to non-traditional design, so long as it was logical. Structural steel frame; face brick walls with lightweight concrete block backup; butterfly roof of bar joist construction. Building radiant heated with ceiling coils; ventilation provided by exhausting tempered fresh air, fed from the corridor which serves as plenum; exhausted by fan built into cabinetwork at exterior wall line. $10.55 per sq. ft.
Photos: Warren Reynolds, Photography, Inc.



Johnson's furniture store (1945) was developed from an old one-story building that was doubled in width and depth and to which a second story was added. "As you can see, the front was used for an enormous billboard."

The Coffee Shop (1947) is part of an extensive remodeling of the entire ground floor of the old Cataract Hotel in Sioux Falls. "This room, used by patrons of the hotel and the public, supplanted an antiquated restaurant that was being operated at a loss. The new room has proved to be a good investment for the owner." *Photos: Dearborn-Massar*

commercial



"Quite often the chap just out of school will attempt to solve a problem by contriving a dramatic solution in elevation, without regard to the requirements of the program. Obviously, unless the problem is solved in plan, the most exotic elevation cannot possibly save it; but this factor does not always occur to the recent graduate, who is hell-bent on sprinkling an assortment of rubber-stamp cliches on the drawings. . ." H.S.

"As to advice to the starting practitioner, I would say that you should keep your overhead low, do everything as well as possible, and make sure that your fees are in line with those being charged in your community. Cut-price work may attract some business, but you will eventually be forced to curtail the amount of time spent on the drawings, which will all add up to disaster." H.S.

The owner of the E. C. Olson men's wear store wanted a quality shop, but wished to avoid "upstaginess" that would discourage his rural trade. The new wall facing is of granite.

Barkalow's candy and tobacco store (the remodeled Cataract Hotel may be glimpsed through the window, across the street) was one of several shop spaces that were left after four stories had been removed from an antiquated fire trap to leave a two-story taxpayer.

Photos: Warren Reynolds, Photography, Inc. Dearborn-Massar

Above—an office for John Morrell & Co., well known Sioux Falls meat packers, for whom the architect has done much work.

Left—B. A. Ladoux residence, Spirit Lake, Iowa. *Photos: Everett Kroeger Warren Reynolds, Photography, Inc.*

(Continued from page 64)

stair well and the headless body continuing on downstairs." The client failed to find this amusing and departed for Europe in a huff. But, as Spitznagel concludes, "like the movies, this episode had a happy ending in that she later returned, and we finished the plans."

As the practice thrived, work drifted from houses to small commercial alterations, and later, to the "usual run of projects." Among the latter was a municipal building "which was probably the first local public building designed without a cornice—and it received considerable adverse criticism." However, that the Spitznagel office has by now pretty well won the day for clean simple design thereabouts, is suggested in a recent editorial in a Sioux Falls paper (some 15 years after the building's completion) wherein the editor comments on the fact that heavy, projecting cornices are "a menace to the community."

PRESENT OFFICE

In the 21 years of its existence, the office has grown from two (Spitznagel and Schoening) to its present staff of six in the drafting room, one in the field, and a secretary. Spitznagel, Schoening, and W. E. Bentzinger are A.I.A. members.

"In a way," Spitznagel reflects, "I have always felt that I have been conducting a school for fledgling architects, inasmuch as, with the exception of Schoening, all of the fellows are relatively young." Describing the method of working in his office, he says: "I have always assigned a job to an individual and had him follow through on his own—possibly at some loss of time to the client . . . I have found that this gives the employee a great sense of personal responsibility, with the result that he is in large measure responsible for the job which he is assigned, and pride in the work results in a better solution to the problem." While he claims that the men often consider him a damper on their enthusiasm, "I act as a sort of critic so that the design of the office has a sense of continuity; and because of the fact that I write the checks, they probably pay more attention to me than would be the case if this were a purely academic venture."

PHILOSOPHY

"At the risk of making statements that border on the pontifical," Spitznagel says that, in his opinion, "the architect is not justified in conducting questionable experiments at the client's expense." While recognizing the fact that architectural progress cannot be made without a certain amount of calculated risk, "I am definitely of the opinion that the client should be fully informed as to the extent of his gamble—and not be blindly led into a dramatic (even though photogenic) architectural experiment in which not only was the operation a failure, but the patient died, at least financially . . . It is a sad but true fact that many buildings that attract the greatest attention at the time they are completed result in a lifelong headache to the owner, because they are impossible to maintain."

This is not to say that Spitznagel's work is in any way routine or conventional, but "to a certain extent, I feel that the architect should give the client what he wants, as long as the designer feels it is architecturally acceptable. However, if the owner insists on details which, in the designer's opinion are not 'good architecture,' he should so advise the client, and if they are bad, refuse to incorporate them in the design, even at the risk of losing the commission."

In this connection, he testifies that he is "one of the waning school raised on the eclectic traditional bottle and weaned on contemporary design. "As a result," he says, "our work is probably not sufficiently 'hairshirt' for the more progressive boys, and quite as offensive to the confirmed traditionalist . . . we have simply attempted to solve the problem as straightforwardly as possible and leave the client with the fewest number of headaches."

An interesting sidelight, in a practice that ranges from "Sunday schools to bars and penitentiaries" is that a great deal of time is given in the Spitznagel office to research. "One cannot afford to slight this phase of the work, and I believe that if the job is well studied at this stage, the fresh approach that is gained by this method quite often results in a better job for the owner than would be the case had he engaged a so-called specialist."

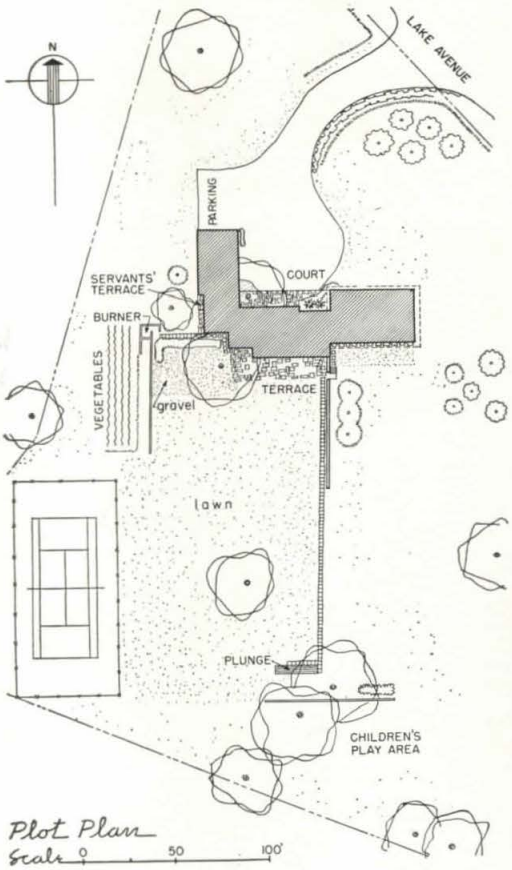
House: Baltimore, Maryland

ALEXANDER S. COCHRAN, ARCHITECT

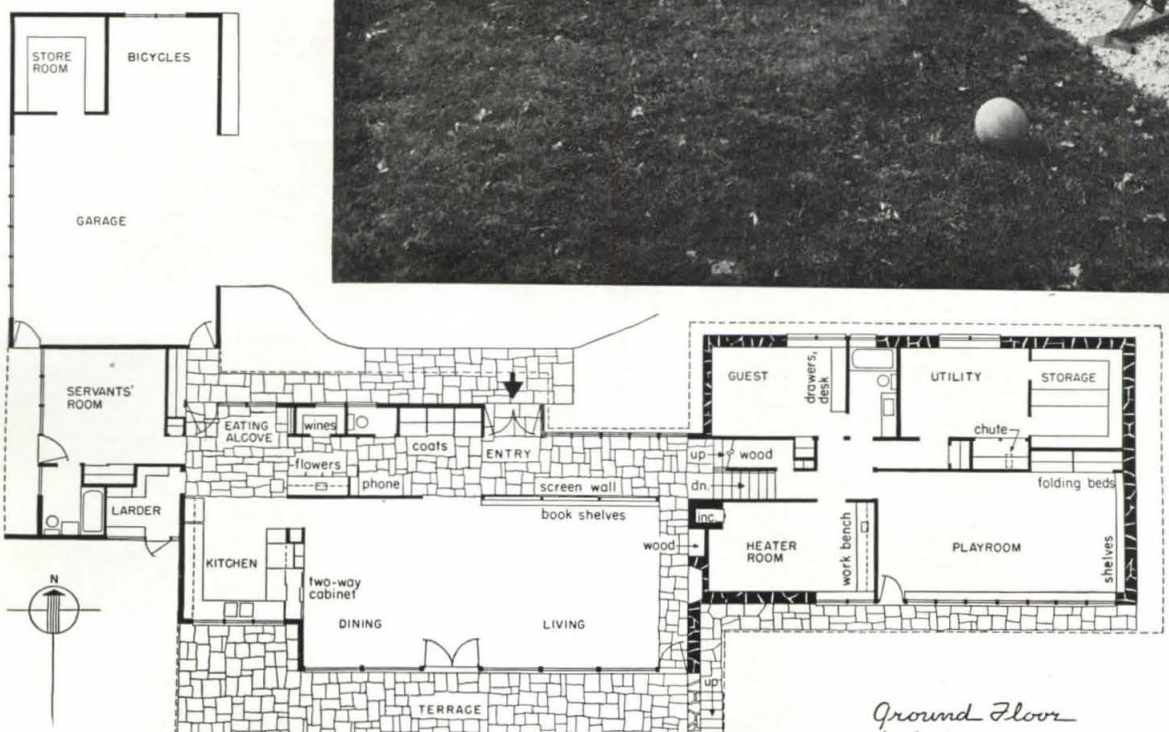
Home for the architect, his wife, and their four young children—three boys and a girl. The general view (above) is from the south, away from the street; "manicured lawn" for grownups at left of retaining wall; open fields and meadows at right for endless outdoor activities of the young.

Right—detail of front door. Just above the door, note the clerestory that is part of an ingenious "light plenum" above the north wall of the living room *(see section, page 79).*

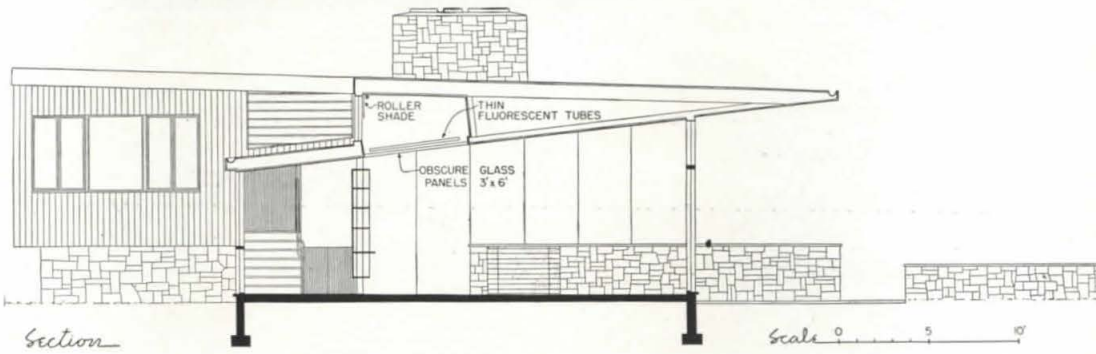
Photos: Andre Kertesz



Plot Plan
Scale 0 50 100'



Ground Floor



program

Home for the architect's own family—the parents, and four energetic youngsters. A conscious wish was to provide separate spaces, both indoors and out, that would enrich a child's world but that could readily be adapted to adult uses later on.

site

Large, squarish, rolling lot just 1000 feet from the end of the city bus line, with the tree-shaded upper corner (toward the north) nearest the approach street, and a pleasing country view south and east.

solution

The house is placed well up in the north corner of the site, requiring only a short entrance drive and shaded from the west by a stand of maples. Taking advantage of the slope eastward, a tri-level scheme was a logical solution, with the main family living rooms on the intermediate grade (at the west end of the house), family bedrooms up half a flight, and children's playroom, guest room, laundry-store room and heater-work room on the lowest level. All main rooms, including the playroom, are organized along the south wall of the house, with ample window areas sun-shaded by roof overhangs and the cantilevered upper floor. For additional guests, a closet for two fold-up beds is included in a corner of the playroom. Among the considerations for possible future shifts are a removable wall between the middle two children's bedrooms (north wall); a closet in the southeast child's bedroom that can later be removed and joined to the parent's bath room; and (eventually) the playroom might become the architect's drafting room.

materials and methods

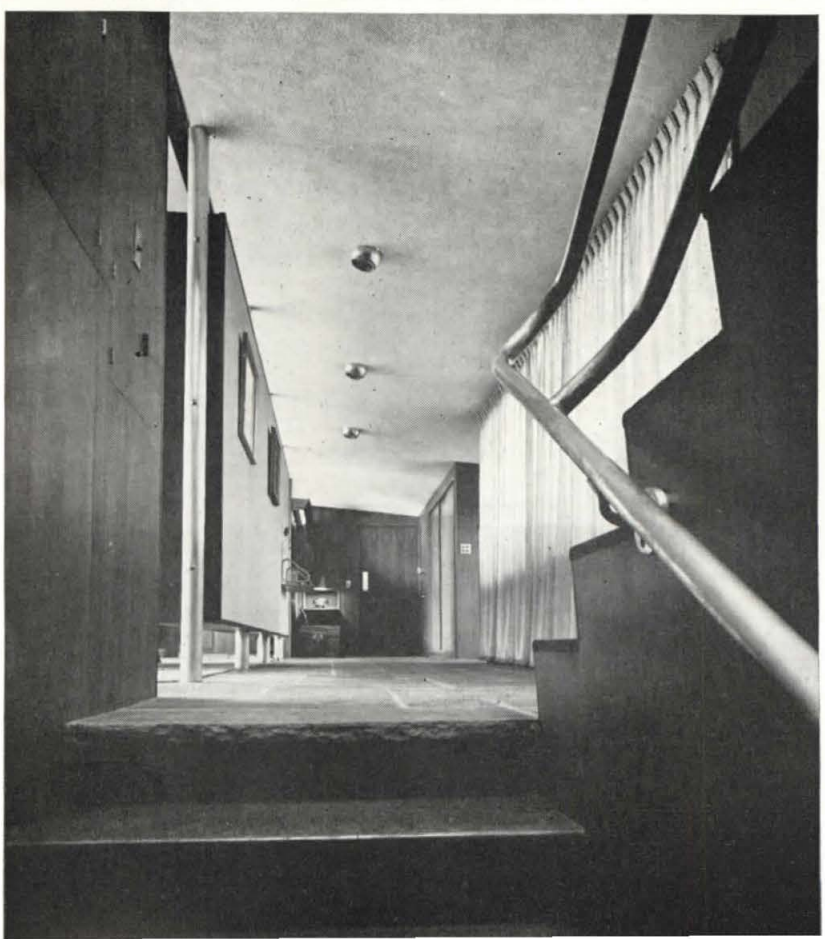
CONSTRUCTION: *Foundation*: stone; concrete block. *Frame*: wood, except in living room, where aluminum pipe and T columns are used. *Walls*: outside—vertical cypress siding and stone; interior—¼" walnut, Duali and Philippine mahogany plywood. *Flooring:* flagstone; carpet, cork, asphalt tile. *Roofing*: 5-ply, built-up. *Insulation*: acoustical plaster ceilings in living room and on lower floor; thermal—vapor-barrier sheathing; cane-fiber board in exterior walls; batts in ceiling. *Fenestration*: aluminum casements and fixed sash; double-insulating and double A glazing.

EQUIPMENT: *Heating*: gas-fired radiant heating system; with copper piping in second-floor ceiling; wrought-iron pipe in ground floor. *Lighting*: recessed fixtures, goose neck lamps, pinpoint lighting; eyeball fixtures in entry hall; slimline tube in the living room "light plenum" (see detail, top of page).

Upper Floor


Cochran
Photo: Cecelia Eareckson

HOUSE: BALTIMORE, MARYLAND

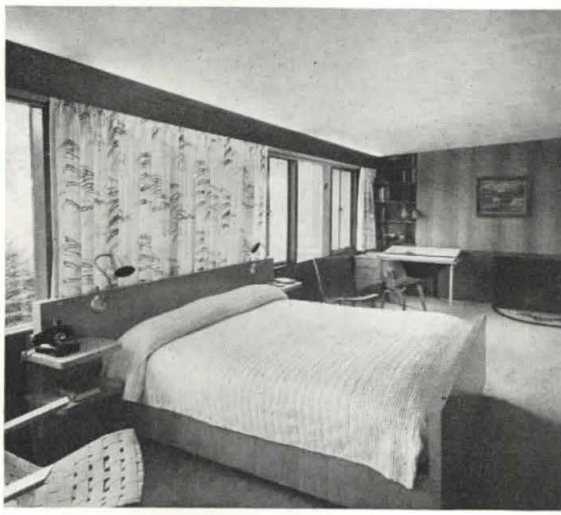


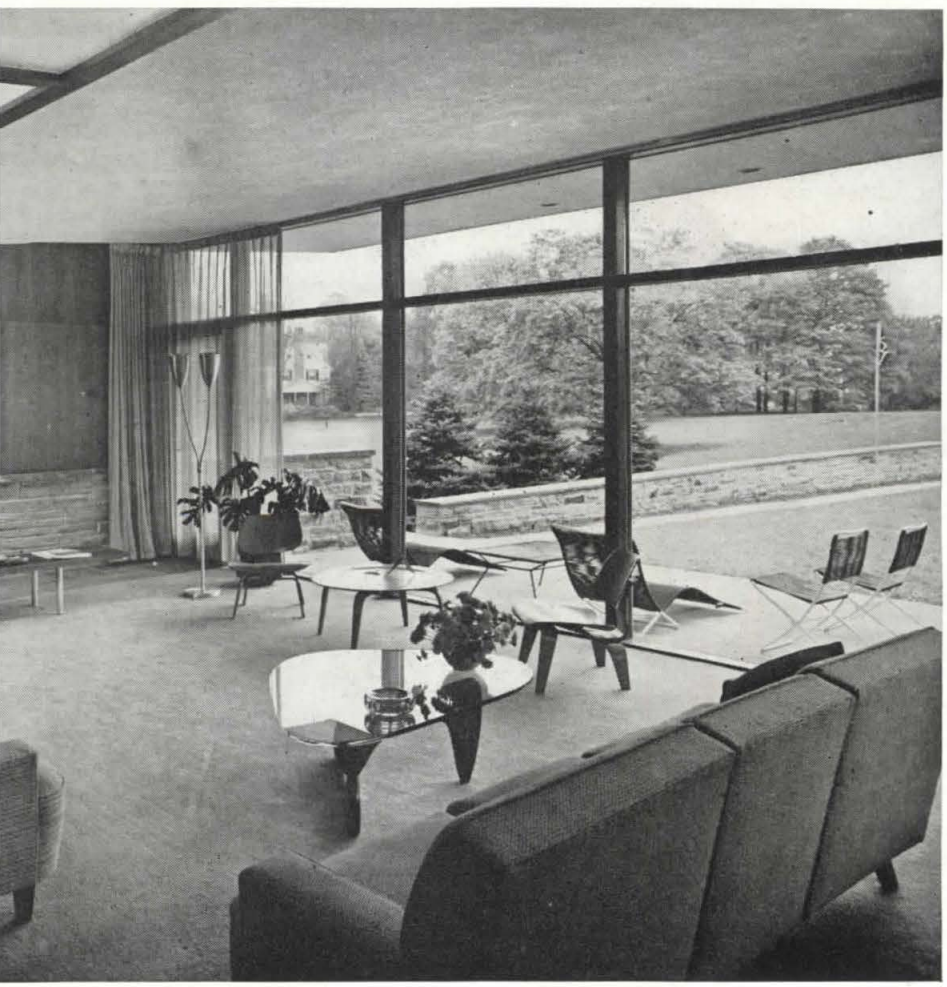
Top—north and east walls of living room, with bookcase units supported on aluminum pipe columns, left. The ceiling panel above transmits north light (also tubular artificial lighting) to the interior of the room, via the "light plenum."

Right—View up from playroom stairway to entrance hall. Rear side of bookcases (along left wall) serves as private art gallery, assisted by eyeball light units.

Left—the children's playroom, on the lower level, has a door out to the playfields, south and east. This room may later become the architect's drafting room.

Below—the parents' bedroom.





South and east walls of the living room. The flagstone terrace extends across this room in the form of a broad hearth, connecting with the entrance hall, which is also flagstoned. Walls are surfaced with walnut plywood.

p/a related design fields play sculptures

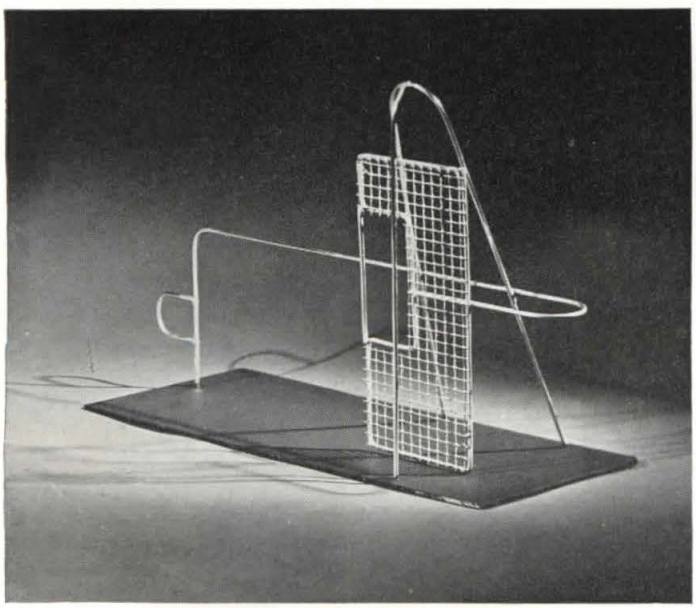
Demands of many contemporary architects for esthetic designs that would also be functional, suggested to Sculptor Frederick Jean Thalinger, Croton, New York, the development of "play sculptures" composed of durable, light materials. For playgrounds of public parks, housing projects, recreation centers, and schools he thought of constructions of welded steel pipe, grids, concrete slabs, plywood cut-outs, and swinging wire—variously combined for varying requirements of location, as well as the varying ages of children using the sculptures—in order to free play equipment of the sterile, institutional forms that are so familiar.

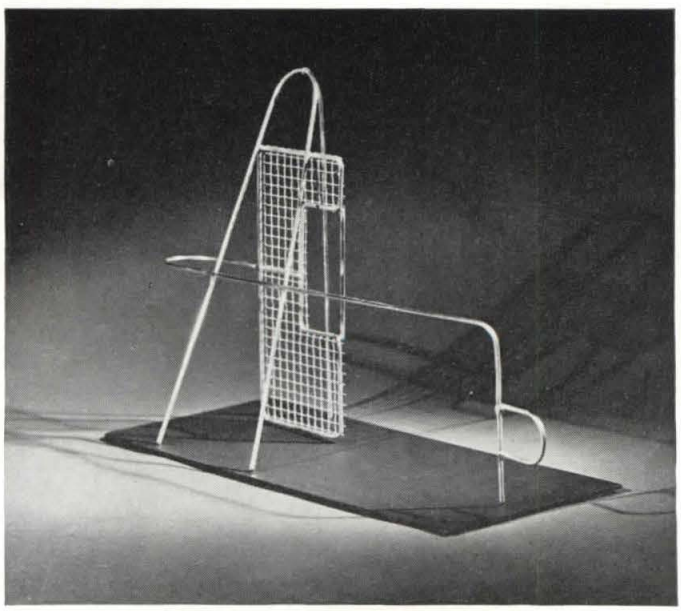
Because the market for such sculptures has specific restrictions, Thalinger realized that it would be necessary to develop economical production methods that would result in maximum play-area on each sculpture. He has experimented with multiple production and prefabrication in forming and welding the steel pipe, casting the concrete slabs, cutting out the plywood shapes, etc. He would offer all the pieces "knocked-down" for assembly at the playground site.

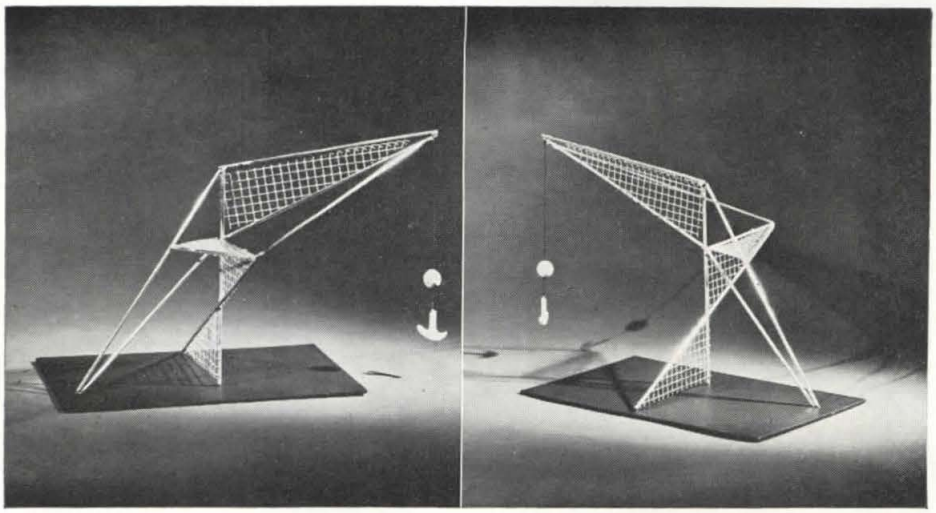
He intends the "play sculptures" for three principal fields: public and school playgrounds, where some supervised play is offered and a number of sculptures of one type could be used; housing project playgrounds, where play is often unsupervised and a variety of simple sculptures would encourage different play activities; and home play, where one or two multiple-use sculptures would be thoroughly explored and used, day after day. Heights and weights would vary with the age level of children using the sculptures.

Depending upon age level of the children using them, sculptures such as "Composition," (below) would vary from six to nine feet in height. The prefabricated elements should be assembled on the site and installed in firm ground.

Photos: Max Jaikin

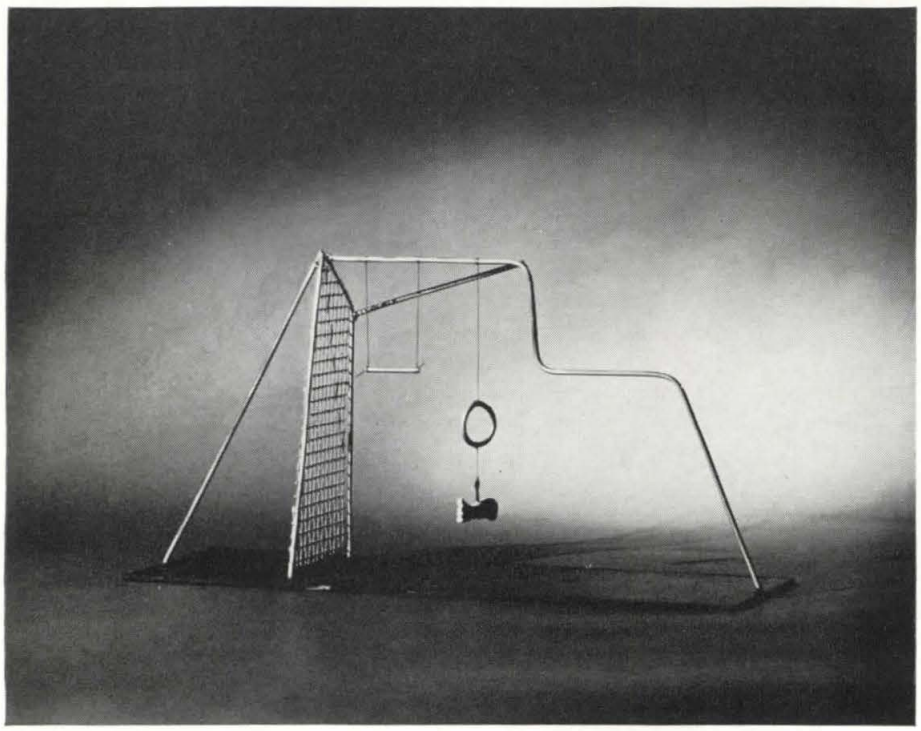




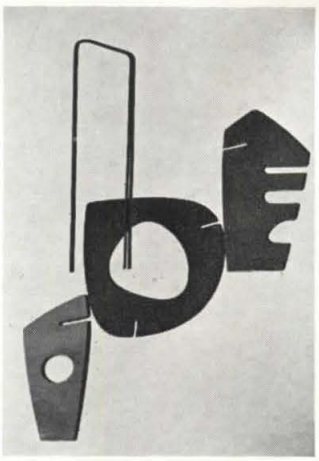


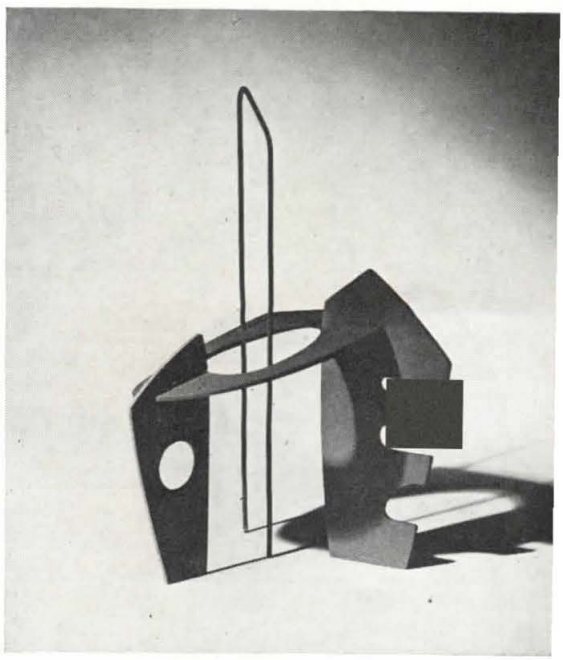
Left—"Derrick" and "Swings" are two new designs for the welded steel pipe and grid (bars at 5″ intervals) sculptured that have interested a number of housing architects. These have interchangeable play devices and are adapted to multiple production.

Above—scale of "Bull" is indicated.

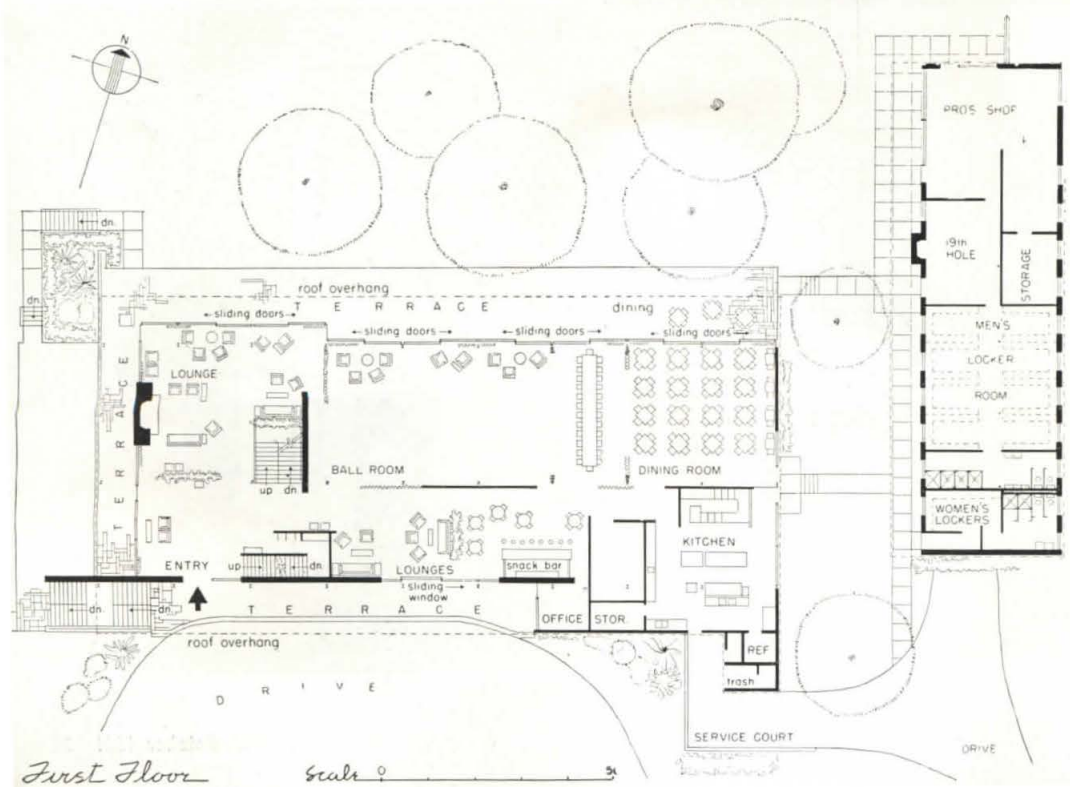


Below—flat-panel sculptures such as "Fireman's Pole" are intended for use indoors (cut plywood, painted) or outdoors (colored cast stone). They would be sold knocked-down, as shown in smaller photo. The height of the platform would be four or five feet.





Country Club: Raleigh, North Carolina



WM. HENLEY DEITRICK, INC., Architect
RAY V. WASDELL, Structural Engineer
H. W. MOSER, Mechanical Designer
MILTON SMALL & PAUL PIPPIN, Architectural Designers
MATTHEW AND STANISLAWA NOVICKI, Interior Decoration
E. G. THURLOW, Landscape Architect
STRONG & HARMON, General Contractor

Top—the northwest corner of the club hou showing the lower terrace adjoining the r reation room for the younger members.

Acrosspage — the approach (south) fro main entrance (left), windows of small lour and snack bar (right) of recessed terrace.

Photos: Joseph Mol

program

A new clubhouse to replace one destroyed by fire, plus a locker building and pro shop. Accommodation for approximately 600 members. Especially desired were a flexible layout that would accommodate, with equal ease, either large social gatherings or small, private parties.

site

Edge of the beautiful, 200-acre club property; rolling land, with heavily wooded areas. Orientation such that the approach is from the south, and best views are north and west.

solution

A welded steel-frame structural system was adopted to allow continuity of framing for wide overhangs above terraces, complete freedom in partition placement, and the economy of using the exposed frame members as an integral part of the design.

Plan of the clubhouse organized essentially within a rectangle, with a broad, recessed entrance terrace, large enough to care for four cars arriving at once; lounge area, ballroom, and dining spaces (divisable by means of folding partitions into smaller rooms) extending along the entire north front, bordered by an outdoor lounge, and dining terrace. Floor-to-ceiling glazing makes the most of the fine views to the north and west. Smaller lounge space, a snack bar, and the kitchen, organized along the south wall. A partial lower floor at the west end of the building provides a generous recreation room, soda bar, and private terrace for the young crowd. The small upper floor contains simply coatrooms and washrooms at present.

The masonry wall areas are of native stone; brick used for other walls is of a light buff color to blend with the masonry. The building is heated by perimeter hot-water convectors located in continuous troughs under the glazed exterior walls, with the troughs designed to catch the cold down-draft off the glass and warm this air to room temperatures. Construction cost: $12.55 per sq. ft.

Deitrick

materials and methods

CONSTRUCTION: *Frame*: welded steel. *Walls*: brick or native stone. *Floors*: steel joists, finished in maple. *Roof*: 20-year, built-up *Insulation*: acoustical—plaster; thermal—wool type. *Partitioning*: clay tile; metal. *Fenestration*: steel sash; glass sliding panels. *Doors*: walnut; tempered glass in aluminum frame at entrance. *Heating*: oil-burning boiler; floor convectors.

Above and left—detail of the north terrace that extends the full length of the lounge-ball-room-dining room area. In summer, dining moves outdoors. In background is the locker building.

Right—the entrance terrace. Note the exposed steel frame, outside the native-stone walls; Entrance doors, in foreground, are of tempered-plate glass, in an aluminum frame.

Two views of the lounge: along the west wall (left) and view toward northeast (below) with window wall commanding a fine view of the course. Folding partition at corner opens to the ballroom area, also used for large banquets.

Left—the main stairway (top) leading up to the women's coat and powder rooms; down, to the teen-age recreation room. A separate stair, beside the entrance, leads up to the men's coat and washroom space.

Center—the snack bar and (beyond screen) small lounge, along the south wall.

Bottom—dining room, with floor-to-ceiling glazing on the north, view wall. Folding partitioning at left opens into the ballroom-banquet hall.

Above—locker building (top) with corner of club house at right.

Above—detail of pro shop that looks out across the golf course.

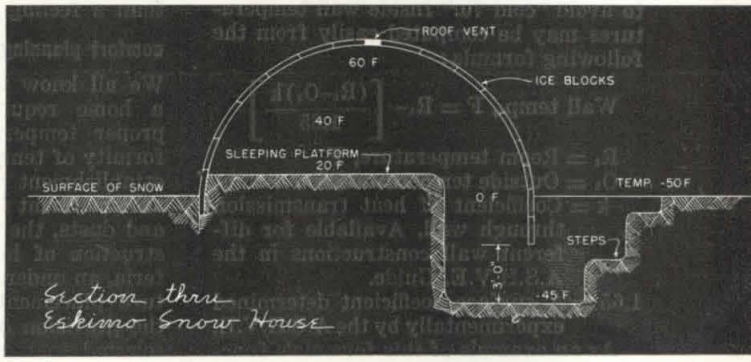


Figure 1

Comfort Factors Affecting Heating Design

By ROBERT H. EMERICK*

comfort factors in winter

The most fallacious evidence of heating comfort being accepted today by the American people, is a reading of 70F on a room thermometer five feet above the floor.

Actually, this concept of 70F indoors and 0°F outdoors, serves most usefully as a standard temperature difference against which to measure the heat output of any given unit of heating equipment, such as a radiator, convector, or bare pipe. But, if we attempt to use it as an indicator of comfort, we shall experience unsatisfactory results for the following reasons, tradition to the contrary:

First, studies made in test houses, notably by the National Bureau of Standards, disclose that temperature variations between the floor and ceiling of any given room, range from 10 to 20 degrees, depending on the heating system employed. Obviously then, a temperature taken five feet above the floor, the so-called "comfort line," cannot really be indicative of a comfortable temperature in the room. It must be remembered that the crown of the average human head, when its owner is seated, is not five feet above the floor, but approximately four feet and five inches. Consequently, much of the body finds itself in an atmosphere appreciably cooler than 70F—particularly the feet, in their toe-less, heel-less, and almost upper-less shoes of current custom, which are obliged to exist shiveringly in an atmosphere of perhaps 65F, or cooler.

Second, the very figure of 70F as a desirable ambient, is not accepted everywhere with uniform enthusiasm. According to Stefansson's Artic Manual, temperatures inside the Eskimo's snow house *(see Figure 1 for cross section)* will range from 0°F to 60F, during periods of –50F outdoors. The high value exists only in the extreme dome. The important fact, here, is that Eskimos strive to maintain low temperatures beneath their icy roofs and any sign of melting is immediately countered by hacking the walls to a greater thinness.

On the other hand, these same Eskimos in their permanent wood homes appreciate an ambient of 90F or more, and customarily strip to the waist to obtain comfort. Obviously, 70F to these people is merely a way station passed when going from one degree of comfort to another.

Lest the Eskimo is thought to represent an extreme, consider British custom. At Oxford University, comfort is thought to lie between 55F and 70F, with most of the 30 colleges (26 male and four female) preferring the lower values.

No doubt the English habit of wearing adequate winter clothing is a key factor in finding comfort at such low ambients; however, Americans desire to wear as little as possible all year 'round and we must design accordingly. This writer never designs for less than 74F, and if much zero or sub-zero weather is common, 76F to 78F is used, depending on the construction of the building.

These relatively high design temperatures are essentially due to the heat loss by radiation from the human body—particularly in a lightly clothed society such as our own. Normal skin temperatures may be expected to average these values:

Forehead and cheek	93F
Neck	94F
Hand (palm)	91F
Feet	80F

Heat is lost therefore, by radiation from our skin to every cooler surface it can "see" (the rays travel in straight lines) and the rate of loss can be computed by the Stefan-Boltzmann equation which states that the loss is proportional to the 4th powers of the absolute temperatures of the surfaces involved.

Mathematically, the equation looks this way:

$$q = 0.174e \left[\left(\frac{T_1}{100} \right)^4 - \left(\frac{T_2}{100} \right)^4 \right]$$

q = Btu per hour per square foot.
0.174 = An experimentally determined constant.
e = A surface emissivity factor. For the purposes of this study, an assumed 0.9 will be satisfactory.
T_1 = Absolute temperature of the warmer body—in this case the human skin.
T_2 = Absolute temperature of the cooler surface—in this case the room walls, window glass, tables, or anything in direct line of view and having a temperature lower than the skin.

Since heat transferred by radiation has no effect on the intervening air, we can stand in a room apparently warm enough—the traditional 70F is a classic example—and shiver until our teeth rattle solely because the walls are so cold they are withdrawing heat from our bodies at an excessive rate. Some years ago this situation was called "cold 70," and because the reason was not commonly understood, many a heating contractor was accused of achieving his guarantees by means of fixed instruments.

There are two ways of solving the problem. First, we can wear more clothing, which is unthinkable, or we can provide an ambient temperature suffici-

*Consulting Mechanical Engineer, North Charleston, South Carolina

ently high to counteract the losses from our bodies by radiation. As mentioned before, this ambient may be found nearer 80F, than 70F.

Figure 2, "Ambient Temperatures to Counteract Radiation Losses," offers a guide that may be helpful in designing to avoid "cold 70." Inside wall temperatures may be computed easily from the following formula:

$$\text{Wall temp., } F = R_t - \left[\frac{(R_t - O_t)k}{1.65}\right]$$

R_t = Room temperature, F
O_t = Outside temperature, F
k = Coefficient of heat transmission through wall. Available for different wall constructions in the A.S.H.V.E. Guide.
1.65 = A surface coefficient determined experimentally by the A.S.H.V.E.

As an example of this formula's functioning, suppose we have a brick veneer wall on frame backing, with a coefficient of 0.36, an inside temperature of 70F, and an outside temperature of 0°F. Multiplying the temperature difference of 70 degrees ($R_t - O_t$) by 0.36 which is the k factor, approximately 25 Btu will be transmitted through every square foot of that wall in one hour. Dividing these 25 by the inside surface coefficient of 1.65, we observe that approximately 15 degrees must be substracted from the inside temperature to arrive at the wall temperature, which figures to be 55F.

If we exercise the Stefan-Boltzmann equation for a wall temperature of 55F and an average skin temperature of say 82F, the radiation loss computes to approximately 25 Btu per hour per square foot of bodily surface. The total loss for the average human figure with an area of 15 square feet would therefore be 375 Btu per hour. Since the normal loss for a person seated and at rest is about 300 Btu per hour in an ambient atmosphere of 70F, the reason for our shivers at "cold 70" is quite obvious.

If there exists any doubt as to the proper height of the design temperature, it is prudent always to *select the highest considered.* There is nothing more irritating to the average urban American, than a feeling of cold discomfort.

comfort planning

We all know that complete comfort in a home requires, in addition to the proper temperature, considerable uniformity of temperature distribution, the establishment of satisfactory humidity, air treatment for the removal of pollens and dusts, the control of odors, the destruction of harmful viruses and bacteria, an understanding of correct furniture placement, suitable lighting, and the provision of color schemes expertly selected to meet the temperament and physical peculiarities of the occupants. Nervousness can produce a feeling of chill, particularly in the hands and feet, so can deep fatigue; every interior decorator is aware that colors may be warm, cold, or neutral, soothing or irritating, and as a result disagreements on whether a room is comfortable or not, can originate in these psychophysical reactions.

Comfort planning, therefore, requires the architect to coordinate with his own skill of design, the very special skills of the engineer, the lighting expert, and the interior decorator.

problems of temperature uniformity

This writer has been concerned again and again with architectural designs, particularly in the southern United States, which expose the underside of a house floor either directly or indirectly, to all the wintry winds that blow. The result inevitably is a cold and drafty floor that destroys uniformity of room temperatures, no matter what sort of heating system is installed.

Insulation in a floor that is above open ground, is no less essential than insulation in the walls and ceilings; moreover, curtain walls should be provided to stop convective cooling.

The importance of temperature uniformity is illuminated by the persistent efforts of designers to achieve it. To date, probably the most striking results have been obtained from tests on baseboard convectors. Table 1 offers data on temperature gradients developed by the National Bureau of Standards through tests on this type of heating in a bungalow of four rooms and bath, prepared for the purpose. Report BMS 115 of Building Materials and Structures recounts these tests in full.

However, the excellent uniformity shown in the test house must be discounted to some degree, for the building was erected over a full basement, and the resulting floor warmth contributed substantially to the recorded results. Basements are decided assets to uniformity.

One item of curious interest shown in Table 1, is the indication that the practice of closing off rooms in cold weather actually may *reduce* uniformity. Most thinking has been to the contrary, but again, the recorded evidence may prove nothing beyond the case in point.

Equally small temperature gradients have been recorded by various investigators by use of panels in the floor, ceiling, or walls. However, these radiant panels are peculiarly vulnerable to gradient interruptions by the physical bulk of tables, chairs, and draperies. For example, persons sitting around a table beneath a ceiling panel, may experience discomfort from chilled feet, while conversely, should a floor panel be the heating unit, the head, shoulders, and arms may be the sufferers.

Incidentally, floor panels must be designed with the utmost care to limit

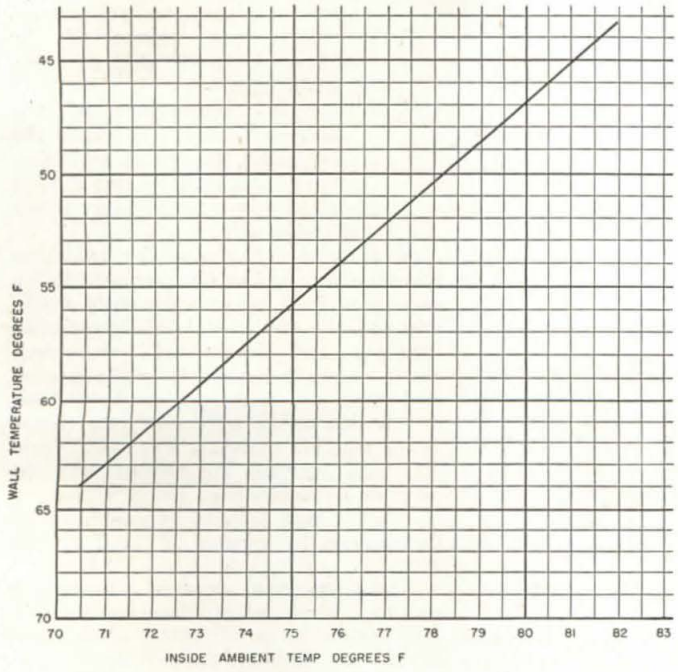


Figure 2—ambient temperatures to counteract radiation losses. This curve is based on the following assumptions: average skin temperature, 82F; effective exposed area, 20 percent of total; optimum losses of a person seated and at rest, 300 Btu per hour by radiation, 107.5 Btu per hour by evaporation and respiration, 22.5 Btu per hour by convection. The metabolic rate totals 430 Btu per hour. The conditions described are considered to represent good design criteria by the author.

their surface temperature to 85F or lower. Heated floors cause the swelling of feet and ankles in certain susceptible persons, the swelling often beginning within two hours after the floor has been entered upon. Tests by the A.S.H.V.E. and other investigators indicate 85F value to be the critical heat.

Uniformity with warm air is always difficult to obtain, and particularly in buildings more than one story high. This writer recommends the use of baseboard supply registers of low discharge velocity, placed in the outside walls. The warm entering air then diffuses upward over the comparatively cold external wall, with a resultant early equalizing of density that retards the generation of stack movement to the upper floors. One manufacturer is now offering commercially a register designed to produce this air diffusion over the outer wall in connection with a high velocity supply pipe. However, high velocity of discharge is not recommended for any register save this special one, else the blow across the floor may become both long and annoying, thereby destroying the uniformity of temperature we are trying to achieve.

A measure of radiant surface is always of value to the establishment of uniformity, consequently the old-fashioned cast-iron radiator performed a useful service not generally available with our recessed and concealed convectors. There is one obvious way to make up for this loss in radiant surface in convector designs which unfortunately is frequently overlooked. We might provide a little more convector surface, say 10 percent more than the calculated load calls for. This treatment tends to be better than the elevation of the water or steam temperature in the convector, simply because the added surface increases the proportion of heated surface to unheated areas. In other words, distribution is improved, particularly if the added surface is obtained by means of a little more length.

Complete uniformity is beyond our skill at this moment, but with careful design and arrangement, we can approach it within five or six degrees, a range that must not be exceeded under penalty of discomfort.

problems of air treatment

A modern development in air conditioning apart from temperature control is shown *(see Figure 3)*. The control of humidity, the filtering from the air stream of pollens and dusts, are established practices and we all are familiar with the machinery these objectives require. However, in this illustration, we observe practical acknowledgment of the need for even greater efforts to achieve comfort. These efforts take the form of virus vitiation by aerosol spray, and bacteria destruction by use of ultraviolet lamps, all encased in the same cabinet that houses the filters and humidifying functions.

The aerosol in this case is a triethylene glycol, but experiments have been made also with sodium hypochlorite and solutions of resorcinal in glycerin. The efficiency of the aerosol depends vitally on maintenance of adequate humidity—from 50 percent to 90 percent relative humidity is generally considered the desirable range. With some aerosols, their effectiveness is impaired seriously with relative humidities of 25 percent or lower.

With the glycol, we must keep an eye on the dewpoint also, for glycol in liquid form is a solvent, and any condensation occurring on furniture or paints will mark them.

The ultraviolet lamps are claimed by their makers to kill at least 95 percent of all the disease-causing organisms that come within the lethal area of their rays, and this claim is accepted by the American Medical Association's Council on Physical Medicine.

While the safest location for ultraviolet lamps is within the duct system, or in a cabinet device as illustrated, the lamps also may be used effectively in open rooms. In these cases, the lamps should be mounted well above the floor and so shielded that direct rays will not impinge on human eyes. The rays should not strike wall paper or draperies in straight impact, either, for their effect is to fade colors.

Cabinets containing both the germicidal sprays and ultraviolet ray lamps are being built currently in standard sizes to handle air at the rate of from 600 cfm to 2500 cfm. Since they provide air washing and humidifying functions as integral features of their air treating duty, they can be used as supplements to heating systems in which air treatment normally is not provided, for example, convector and panel systems.

odor factors

While the presence of a fragrance in the air is not essential to human comfort, we all know that unpleasant odors can destroy it. Odors of all kinds are as real as concrete; activated carbon has been observed to absorb so substantial a burden of invisible smells, as to increase in weight 40 percent.

Odors do not necessarily indicate that the atmosphere is harmful or even stale. Their effects are most frequently emotional or physio-emotional, and in consequence shatter perfect comfort by injecting feelings of annoyance or uneasiness. McCord and Witheridge, in their *Odors: Physiology and Control*, refer to the importance of odors as a cause of neuroses and maladjustment. Psychiatrists have observed that the presence of some particular odor, its balefulness often unsuspected, can be the

TABLE 1: temperature gradients in a test bungalow, inside doors open

Outside temperature F	Air temperature above floor F			Surface temperature of floor	Maximum temperature difference*
	2" Above	60" Above	94" Above		
5	66.6	70.6	72.4	63.3	5.8
20	67.2	70.5	71.9	64.9	4.7
32	68.2	70.4	71.6	66.3	3.4
50	69.2	70.6	71.1	68.0	1.9
			inside doors closed		
1	65.8	70.0	72.5	62.2	6.7
20	67.4	70.8	72.8	64.5	5.4
32	67.9	70.3	71.7	66.2	3.8
50	69.2	70.2	71.0	68.1	1.8

** Difference between 2" above floor and 94" above floor.*

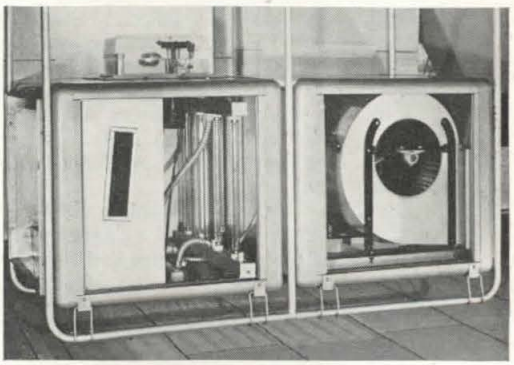


Figure 3, above—before distribution to the living areas, air is treated with a glycol spray and ultraviolet rays in the cabinet to the left of the fan compartment.

CHART I: essential items for winter comfort

Item	Suggested approach to design
Adequate temperature	Select the temperature with allowances made for customary light clothing and bodily radiation losses. Never accept 70F as the comfort temperature unless calculations prove it to be.
Uniformity of temperature	Design must compensate for the non-uniform characteristics of the heating system selected.
Proper humidity	50% relative humidity is thought to be about right. However, humidity in winter comfort is of less importance than is generally understood. Dry air is not unhealthy air.
Dusts, pollens and other allergens	Filtration is effective on airborne motes of fairly large size. Does not usually stop pollens and allergens. Activated carbon might help on these.
Odors	Best removed by activated carbon. Extremely important psychologically.
Cold virus	Glycol aerosols provide a checking action.
Bacteria	Ultraviolet lamps are lethal to many bacteria that come within the effective length of the rays.
Color and decorations	Important both psychologically and physically. Should be designed and arranged by a specialist.
Lighting	Important from a fatigue standpoint. Lighting specialist should be consulted for general guidance in every new building.
Controls	Comfort must be provided automatically. Most persons object to fiddling with gages and switches. Push buttons should be the maximum responsibility placed on the occupants. There is no comfort when responsibility is present.

cause of marital failure; domestic happiness sometimes hangs on the wife changing her perfume.

The implications, therefore, of odors as disturbers of comfort are so far reaching, that we are justified in taking definite action to secure their control.

We have two approaches to the problem. First, we can mask odors by superimposing on them an even stronger odor, illustrated by the burning of incense, or the release of ozone, or the introduction of a deodorizing spray. Second, we can eliminate the odors by water washing of the air, or by passing it through a bed of activated carbon.

The effectiveness of the carbon is shown by studies and experiments reported from the Naval Medical Research Institute. Six commercial agents were tested in an effort to determine the minimum amount of fresh air needed to reduce odors to an acceptable level in a typical ship's compartment. Of these, only activated carbon was effective, and by its use the replenishment air could be cut to one cubic foot per minute per man without producing an undesirable atmosphere.

Mechanical air conditioning alone, as a result of atmospheric moisture condensing on the cooling coils and thereby carrying off odors down the drain also was found to be helpful. Under these circumstances, five cubic feet per minute of fresh air per man produced satisfactory conditions, approximately half of *the minimum* recommended by the A.S.H.V.E.

Of additional interest, these investigations disclosed that use of masking deodorants did not reduce odor levels, but rather anesthetized the perceptive nerves.

Activated carbon, originally used almost entirely for commercial and industrial air purification, is now being applied against some residential problems, with particular reference to tobacco smoke. Occasionally, we encounter persons who are violently allergic to burning tobacco, and their sensitivity is so acute that other members of the family must forego completely all smoking in the same house. Activated carbon is reported to give considerable relief in some of these cases, at least to the extent that smoking may be permitted in certain rooms if the air is changed and purified constantly. The full scope of carbon's efficiency against allergens is not yet catalogued; it might well be tried in various severe cases.

There is another way to abolish odors that we should understand, although as designers we seldom shall be asked to apply it. This procedure is to introduce a selected perfume into an atmosphere presently contaminated with an identified odor, the characteristics of the two odors being such that in their blending each neutralizes the other and we smell nothing at all. Obviously, application of this treatment to be successful, requires the services of an expert in the chemistry of odors, and is therefore outside the scope of most architects and engineers.

fresh air

Fresh air is recommended as a specific for odors, and yet fresh air is not always essential for healthy living, nor is it always desirable. In the "Donora Incident" of October 30-31 of 1948, probably fewer persons would have become ill and fewer died, if windows had been kept closed. At the time, there was a dense smog present carrying heavy concentrations of sulphur dioxide which at the time of first measurement approximately five hours before termination of the dangerous condition, amounted to 0.54 parts per million parts of air.

The symptoms of discomfort at Donora were aggravated shortness of breath and coughing, mostly in elderly persons with medical histories of respiratory illness or heart disease. The significance of the incident to designers is that fresh air intakes should be arranged for filtration of the air before delivery to the rooms, particularly if we are designing for persons known to have respiratory or cardiac irritations.

Staleness of air is caused usually by a combination of odors and air stagnation. Staleness does not mean that the air is exhausted of oxygen and is unfit to breathe. Time limits for the oxygen suitability of any given room may be computed from the following formula:

$$\text{Hours} = \frac{0.03 \times \text{cubic feet of room volume}}{0.75 \times N}$$

$0.03 = 3\%$ of carbon dioxide present, which is the maximum possible without physical reaction.

$0.75 = 0.75$ cubic feet per hour of carbon dioxide exhaled by the average person.

$N =$ Number of persons in the room.

For example, a room of 1000 cubic feet volume, if completely closed up with four persons inside, might be expected to become uncomfortable after 10 hours. Panting develops with a concentration of six percent reached in 20 hours, and stupefaction at 10 percent or about 33 hours, according to the formula.

Generally, all we need do to relieve staleness, is to deodorize the air and keep it moving. In residences, where comfort concerns us mostly, all the fresh air needed during the heating season leaks in at doors and windows.

color and comfort

Let us consider the effectiveness of color in creating emotion. There is nothing mysterious about the process; it takes place substantially by reason of the natural laws of refraction, with measurable physical responses. For example, red creates a feeling of nearness because

CHART 2

System name	Comfort items integral with system	Additional items needed and facilities present if any
Steam	Simple temperature control.	Temperature uniformity; humidification; filtration; odor control; virus and bacteria destruction; automatic controls.
Hot water	Ditto	Ditto
Gravity warm air	Simple temperature control. Humidification.	Temperature uniformity; filtration; odor control; virus and bacteria destruction, which may be introduced in the air circulating system; automatic controls.
Mechanical warm air	Simple temperature and humidity control. Filtration for dusts.	Temperature uniformity; odor control; virus and bacteria destroying equipment readily introduced into the air distribution system; automatic controls for everything.
Panel heating	Simple temperature control. Good uniformity of temperature.	All else must be added as additional equipment, including some means for changing and moving the air.
Baseboard heating	Ditto	Ditto
Space heater installations	Simple temperature control.	All else must be added as additional equipment.
Electric radiant glass panels	Simple temperature control. Fair uniformity of temperature.	Ditto

Note: Temperature uniformity, except with panel and baseboard systems in which it follows generally as a characteristic of the system, must be provided by the designer. Color and lighting are not integral with any of our present heating systems and therefore must be treated as a supplement to all of them.

TABLE 2

reflective qualities of colors related to black

Color	Heat absorption
Black	0.98 to 1.00
Red, brown, rust	0.80
Yellow, buff	0.70
White, cream	0.50
Aluminum, gilt	0.50

red, in passing through the eye lens suffers comparatively little refraction, and the lens must bulge to focus the red image on the retina. With blue, the opposite occurs, the lens flattening to pull the image forward from in back of the retina, and in consequence blue appears to be farther away.

These characteristics are important to every architect who wishes to produce a sense of size in a small room, or an impression of coziness in a large room. Moreover, the opposite effects of red and blue must be considered in any decoration aiming at comfort, for the combination has a power to create eye fatigue as a direct result of imposing on the eye a constant readjusting action of the lens.

Yellows, purples, and their associated hues, are neither advancing nor retiring, and therefore combinations of these colors in a decorative scheme are literally easy on the eyes.

Since the development of eye strain, whatever the cause, notably affects human comfort, sometimes producing headaches that may be blamed on foul air and at other times simply causing a feeling of fatigue with attendant chilliness, plus considerable irritability, the collaboration of the architect and the decorator should be regarded as essential. For the same reason, the lighting scheme of a room should be discussed with experts, prior to the laying out of the wiring and equipment.

The capacity of a color to create sensations of warmth and coolness does not reside merely in our minds, but actually exists. Maximum heat absorption by radiation is achieved by a wholly black surface, such as lampblack. In comparison, the light and reflective surface of aluminum insulation when held close to the cheek, produces an immediate sensation of heat, indicating that much of the heat radiated by the skin is not absorbed by the metal, but turned back whence it issued.

All of our colors fall somewhere between the profoundly light and profoundly dark, and although the texture and shape of the surface affect its ability to reflect or absorb heat, the relative positions of light and dark are well established on the reflective scale. Table 2 shows values suggested by the A.S.H.V.E., and since we are primarily concerned at the moment with color, it will be observed that the lighter hues invariably are more reflective.

Obviously, a light colored room will reflect heat emitted from radiators, convectors, our own skins, and this fact is acknowledged in our conventional coupling of the adjectives "bright" and "warm." Conversely, we often speak of a room as being "cool and dark" or even "dark and dreary."

From the design and decorative standpoints, bright warm colors might well be chosen for comfort in northern latitudes and cold climates; cool dark colors for warm seasons and regions.

Basic color schemes and their effects may be described thusly:

a) Monochromatic: means done in a single color, with perhaps some touches of white, gray, or black. Decorators do not recommend this scheme for rooms that are much, or continuously, lived in, since the ultimate effect is tiresome.

b) Analagous: this plan employs a harmony of related colors, frequently expressed in shades of the same color. The effect is pleasing, but may tire some individuals in time.

c) Complementary: colors of complementary hues are considered by some decorators to produce the best effect of all. However, care must be exercised in application, since too strong a contrast, as of red and blue, tends to produce eye strain. There is also an optimum relationship between the areas devoted to warm and cool colors, with the larger areas generally preferred in cool hues.

all this and what else?

Complete comfort to the average American who is our client, means freedom in his home to rest, relax, and do as he pleases in an atmosphere that has been purged of drafts, smells, noises, sneezes, chills, overheating, excessive dryness, excessive humidity, hostile bugs, viruses, and bacteria. He wants all these blessings and one more, this ultimate comfort being expressed by a client of the writer in exactly six words. Said this man in discussing the projected design of his new, all-year conditioning system:

"Remember, I want comfort without bother."

Comfort, then, must be automatic to be complete.

the summing up

The essential considerations for winter comfort plus a directional guide for their provision, are tabulated in Chart 1. What we obtain as a matter of course with our various heating systems and what must be added to produce complete comfort with each, appear in Chart 2.

These charts are based on ideas and equipment presently recognized. Developments of the future probably will bring to us a wider and better application of solar heat together with a more common use of glass that passes the violet rays in sunlight. Panels may be expected to migrate to some extent from floors, walls, and ceilings, and take on the forms of door and window trim, moldings, and even to occupy the doors themselves. We may see them, and feel them, sooner or later in the furniture on which we sit.

As for color and air sanitation, the day some large operational builder makes them components of his basic design and advertising, is the day complete comfort will begin to enter our medium priced homes.

erosion is the proper way for a paint film to deteriorate and it will always leave the surface ready for new paint. Based upon such action it is apparent that the film thickness will determine the service-life in years. Paint specification requirements are rarely stated in terms of film thickness, and yet this is the surest method of all to guarantee the life of a paint job.

An undercoat and a finish coat should each have a thickness of two to two and a half mils; a total thickness for both coats should be from four to five mils. The actual thickness of a paint film is easily checked by means of a pocket-sized gage calibrated in mils (*Figure 3*). A job inspector can scrape off a small sample of the paint film and place it in the jaws of this micrometer; its thickness can be read quickly on

both in uniformity and bright whiteness.

(2) Specially processed linseed oil, used as the vehicle, permits a painter to apply a film up to four mils thick in one application with an ordinary wrist-slap motion of the brush (as against two or two and a half mils for other paints). Further, this paint will not run or sag and will dry completely through. With this product, one can readily adapt film thickness to conditions of exposure. If a house is located north of the equator, its south side stands the severest exposure to the sun. It is wise to apply four mils of finish coat to the south side of a structure, but only two mils of finish coat to the north side. Two mils also will be satisfactory under eaves and porches; only one mil will be required to repaint these areas. Al-

lead, lead chromate, zinc chromate, zinc dust, or strontium chromate. Neither iron oxide nor aluminum flakes have rust inhibitive value. Although aluminum paint is not desirable as an undercoat on metal, it performs excellently as a finish coat or intermediate coat, as it offers more resistance to the passage of water than any other paint of the same film thickness.

paint screens

Screens of iron, steel, galvanized iron, copper, brass, and bronze should be painted to avoid unsightly stains which will otherwise occur under windows and screened porches. To eliminate screen staining, which is entirely unnecessary, one coat of zinc-dust paint should be specified. It is considered by far the best paint

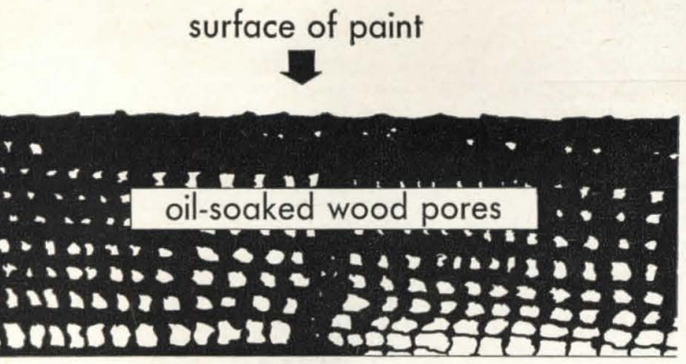


Figure 1

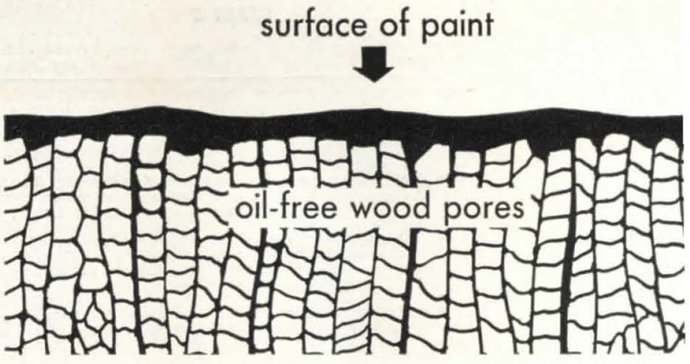


Figure 2

Do You Specify Paint Properly?

By J. S. LONG*

may be obtained from a number of manufacturers.

This kind of paint has other virtues as well, which deserve more recognition from architects. These significant characteristics are: it is rust inhibitive; it is about the only paint that consistently adheres to galvanized iron, copper, brass, etc.; and it is very durable as a finish or sun coat. One quart of zinc-dust paint will cover twelve half-screens. It also should be specified for exposed metal and stop drains. Although its color is gray, it can be tinted with other colors.

masonry

Three common sources of trouble are hot (alkaline), wet, and porous masonry surfaces. The old type of linseed-oil primer was easily saponified (burned) by the alkali in relatively fresh masonry surfaces. Resins are now available, however, which produce vehicles that are sufficiently resistant to alkali. Alkali resistance becomes secondary, or corollary to water. A primer should not be applied until the rate of water coming to the masonry surface is low enough so that it can diffuse through the thin paint film and escape to the air. If this rate is excessive, it will force blisters and bubbles and cause the paint to come off (*Figure 4*). Water will also bring fresh alkalis to the surface. When the rate of water coming to the surface is low enough to paint, one need no longer worry about the alkali. This has only been possible, however, since the advent of primers that contain relatively alkali-resistant resins.

Usually the period of waiting before masonry can be painted is a matter of weeks, not months. Among several of the factors affecting the length of this period are: wind velocity, temperature, rainfall, or humidity, and ventilation of new, wet plaster on interior jobs. One of the simplest and best tests to determine whether or not a masonry surface is ready for paint is to touch the surface with the palm of the hand; if it feels relatively dry, paint a small patch (say three or four square feet) and examine after 48 to 72 hours. If there are no blisters, an approved primer designed as an undercoat may be applied to the entire building. If a surface is quite porous, mix sand with the primer (say five pounds per gallon of primer) and apply with a scrubbing brush or old stub brush.

tions, pavements, and so on. A thin film of this paint often loses its water in the sun before the cement has united chemically with the water. The resulting deposit is powdery, porous, weak, and can easily be scratched off. Consequently, life is often short and maintenance costs high. "Oil" paints, in general, have lower maintenance costs per square foot per year. Over the primer coat, an oil paint should be applied. A flat finish is preferable to a glossy one, as the former allows any remaining water to emerge without difficulty. The alkyd-resin vehicle is considered best for exterior use and is especially suitable for a flat-finish coat over masonry.

alkyds

Glycerin, soybean oil, and phthalic anhydride, when cooked together in proper proportions, combine to yield alkyd resins. The three great virtues of the alkyd resins are: it has greater toughness; it is the only vehicle that does not turn yellow in interior use; it resists ultraviolet light better than any of the other vehicles. Because of these desirable properties, the alkyd vehicle has been used on every white refrigerator, every automobile, and nearly all buses, trucks, ships, railroad equipment, and agricultural equipment. This same type of paint vehicle is available in floor and deck enamels; trim and shutter paints; semi-gloss and gloss wall paints; trim enamels —flat, semi-gloss, and gloss; stains; and many other types of paint. Because of its superiority as a top-quality vehicle, it is recommended that architects specify that the foregoing classes of paints and enamel products be based on the alkyd vehicle. A more accurate name for this vehicle is glycerol phthalate; some states—Virginia, for example—require that this longer name appear on the paint-can labels. It is a generic name and is not limited to any one manufacturer. Although the cost of paints containing alkyd resins is about the same as that of other paints, superior results are obtained.

interior plaster

Method of application: over seasoned plaster, apply one coat of really alkali-resistant sealer and finish coat of flat paint; if cost permits a three-coat job, the second coat should be a blend of half-primer and half-flat.

A word about wall primer-sealer. perform their assigned function. For a long time, the paint manufacturing industry was culpable for having sold millions of gallons of sealers that did not really seal. As light colors were usually applied over them, they seemed uniform and did not show color variations on the surface. As the public taste turned to deep tones, the inefficiency of these sealers became more apparent. Microscopic views of surfaces treated with these sealers usually looked like cobbled streets; sealed areas had roadways between them where the sealer had not penetrated the wall. When flat paint was applied over such a surface, it penetrated the roadways, leaving streaks, mottling, ghosting, and uneven color effects, especially in the popular dark greens, blues, and Burgundies. Extra coats also failed to give uniform color. The solution for this problem is to provide a sealer that truly seals. If a color scheme calls for deep tones, the architect must be assured that he specifies an efficient sealer—not all, even today, can claim this distinction. Several of the recently developed sealers containing alkyd vehicles have proven to be successful. The older types are very questionable, and although some architects still specify them, they will not succeed under deep tones.

composition board

This material is becoming widely used in place of wet plaster. Over taped joints, where smooth finish is desired, one coat of a so-called "rubber-emulsion" (synthetic) paint will serve well as a primer and also "lay" the nap or fuzz raised by sanding over the taped joint. Oil-base primers do not lay this nap down as well. Over the primed surface, the orthodox "oil base" or alkyd resin flats can be applied as usual in any color, pastel or deep tones.

the future

The chemist now synthesizes vehicles that have been produced on a basis of predetermined design. He makes atom models and studies them, just as an architect studies a blueprint. Many a paint product never gets beyond the atom-model stage; if it is considered faulty at this point, the laboratory does not attempt to create it. These facts are mentioned only to emphasize that paint is now designed on a scientific basis, and that accidental discoveries are few. If the architect al-

Figure 1—progress photo taken on upper level shows three 4″ x 4″ posts, spaced 48″ on center, supporting typical roof joists; note 32″ x 96″ x 4″ precast Cemex slab in foreground.

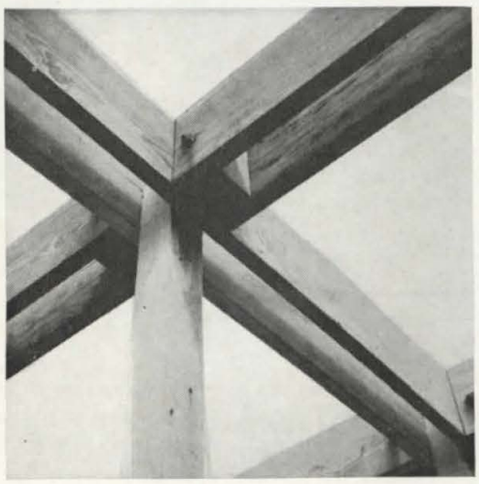


Figure 2—detail of connection at ceiling beams and column; approximately 500 split rings were used for similar connections. *Photos: courtesy of Timber Engineering Co.*

The House of Cemex

Last summer, an unusual construction technique was used to advantage in a residence for S. H.MacKinnon at Quincy, Illinois. The design program for this home required that all of the more practical applications recommended for Cemex, a precast structural slab manufactured by the owner, be demonstrated in the structure. In the solution, the precast slabs were used for exterior walls, floor and roof decking, partitions, and left-in-place insulation forms for monolithic foundations and retaining walls.

The client selected R. A. D. Berwick of Vancouver, B. C., as his architect; Donald O. Hafner of Quincy, Illinois, was the associate architect.

properties of Cemex structural slabs

Cemex is a lightweight, precast concrete slab composed of chemically treated 18″ wood fibers acting as aggregate and Portland cement serving as binder. These slabs are first manufactured to a maximum size of 33″ x 97″; after curing, automatic sawing machines accurately reduced the dimensions of these units to 32″ x 96″. Although 1″, 2″, 3″, and 4″ thicknesses are currently available, the slabs can be precast to any desired thickness. This building material will not support combustion and it is practically inert with respect to expansion and contraction. It is not subject to rot or decay and because of the relatively high tensile strength present in the wood aggregate, adequate structural strength is provided. Weighing only 35 pounds per cubic foot, Cemex permits lighter structural framing members and reduces bearing loads on soil.

Three-inch thick units with ½″ cement plaster on both sides have withstood compressive test loads of 928 psi. Tensile tests on strips 2″ wide and 1″ thick have shown a strength of 500 psi. Two-inch slabs, 24″ wide and spanning 32″ have supported uniform loads of 205 psf with a center deflection of 0.436″.

The thermal conductivity as established by the Armour Research Foundation (Flat Plate Method) is:

	Density Lbs./cu. ft.
1″ — 0.555 Btu	26.7
2″ — 0.268 Btu	24.6
3″ — 0.176 Btu	24.7
4″ — 0.132 Btu	24.7

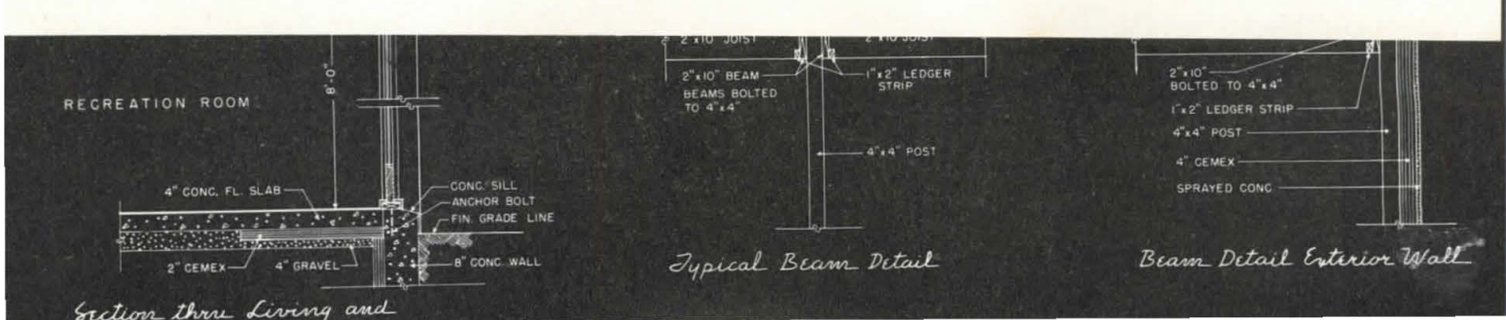
Sound absorption measurements made by the reverberation method in the Riverbank Acoustical Laboratories are partially shown below:

Test	Unit Size	Mounting	Noise Coef.
1	4′ x 8′ x 1″	1	0.50
2	4′ x 8′ x 1″	2	0.60
3	4′ x 8′ x 2″	1	0.60
4	4′ x 8′ x 2″	2	0.65

construction methods

When Cemex is applied immediately over steel joists, steel clips anchor the slabs to the top flange. If T subpurlins are specified, the slab joints are then filled with a 1:3 diluted Portland cement grout which forms a concrete wedge in the point below the bulb of the T; this method provides anchorage without the need of clips. When Cemex is used as decking over wood joist or rafters, it is simply spiked to the wood members. As this material has no directional grain and is not brittle, there is no danger of splitting or cracking. In wall construction, a bottom plate is not required as this slab is a concrete product and can be placed on concrete foundation walls with cement mortar. The low density of this product does not afford good nail-holding qualities, however, and a top plate must be attached to the top of a Cemex wall by means of lag screws long enough to penetrate approximately 5″ into the vertical wall. To attach other materials to the wall faces of this type of slab, several commercial bonds have proven highly satisfactory; occasionally, wing nuts or speed fasteners are also used to provide assurance of good anchorage.

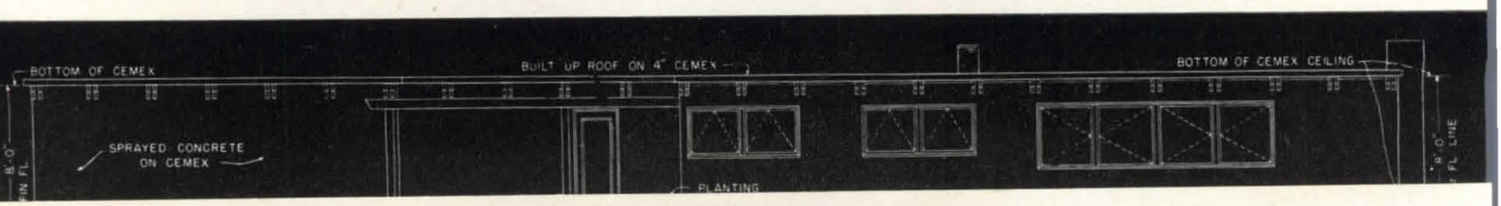
As its open-textured composition is not effective as a barrier against driving rains and winds, Cemex should never remain unsurfaced on the exterior. High humidities present no condensate problems for structures possessing a roof decking of this material. The manufacturer states that no reports have ever been



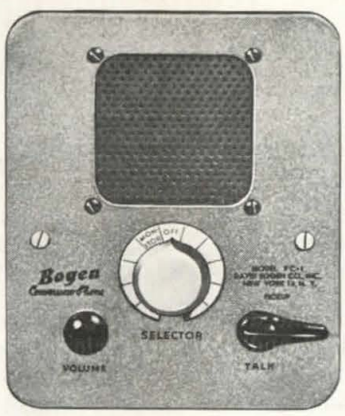
Section thru Living and

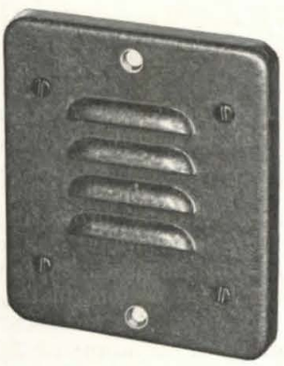
Typical Beam Detail

Beam Detail Exterior Wall



r/a products





Right—control station selector switch can connect operator with as many as nine other stations in this home intercom system.

Far right—as this remote station can only reply to calls initiated by a control station, it should be installed where origination of calls is not necessary.

intercom equipment developed specially for the home

A new system of voice intercommunication for the home has been specially designed so that a household member can converse wtih individuals in other rooms, or speak to a caller at the front door without leaving the living room, bedroom, or wherever he may be at the time. A housewife can also be assured that her baby is comfortable and undisturbed merely by listening-in to the nursery; if necessary, she can speak to the child from any other part of the house.

The Home Communo-Phone, as the system is called by the manufacturer, comprises three basic components: the power supply which operates on household current; the control station with selector switch, talk-listen lever, and volume control; and the remote station which can only receive calls from a control station and reply only when called.

The power supply is housed in an 8″x8″x4″ box that can be wall-mounted or fastened to studs behind plaster in some convenient location such as the basement, garage, or utility room. Once turned on, it need not be touched again unless the house is to be closed for an extended period. When the system is not in actual use, the power supply draws practically no current—a "standby" condition that minimizes operation cost and extends the life of the equipment.

The control station—a 5¼″x6¾″x3″ flush-mounted box—can select any other control or remote station and carry on a two-way conversation with it. To start the operation, the selector switch in the center of the control panel is turned from the "Off" position to whatever other station is desired; the power supply is thus automatically switched from "standby" to "operate" condition. The talk-listen lever on the right of the panel is then depressed so that one can converse through the perforated speaker at the top of the panel-board; to listen, the lever is released and it returns automatically to the listen position. The third position for the talk-listen lever is at "Pick-up." This position has advantages for a nursery or sick-room control station as it requires no operation or attention by the occupants in these rooms, and it enables a listener at any other station to converse with the nursery or sick room. To speak to a control station that is set at "Pick-up," it is necessary for the operator to set his selector switch at the "Monitor" position. A volume control on the left of the panel regulates sound coming from another station.

The remote station is designed for location at front and rear doors, the garage, the workshop, or in any room where selective origination of calls is not necessary. The remote station is mounted on a 4⅜″x5″x⅜″ louvered panel which provides for flush mounting in a wall or door jamb. Altogether, the manufacturer points out, the Home Communo-Phone system provides a total capacity of six control and four remote stations.

An extra item of equipment—a Lucite plate which fits over and around the controls on the panelboard of the control station, has been designed with home decoration in mind. All control markings on it are etched in gold, and the plate can be mounted after the control station has been painted to suit the decor of the room.

Though it is possible to install this flexible home intercom system in an existing house with relative ease it is preferable that this equipment be included in the working drawings for a house before construction commences. David Bogen Company, Inc., 663 Broadway, New York 12, N.Y.

thermosetting plastic solution recommended for porous surfaces

Where a finish with a hardness two-thirds that of plate glass and the toughness of spar varnish is desirable, a new plastic solution, Fenolic 101, may be applied to such porous surfaces as wood, fiber board, plaster, brick, and concrete. This fast-drying thermosetting solution —it dries in a matter of minutes—has been formulated to cure at room temperatures by the addition of an acid catalyst, and is now available after five years of testing by the Plastic Cement & Chemical Company.

Unlike paints, varnishes, and lacquers, this highly glossy, protective coating contains no oil or nitrocellulose, and is considered to be a true plastic since it is based on resins related to the molding compounds used in electrical equipment such as floor plugs, sockets, panels, etc. Among its many properties, Fenolic 101 gives wood dimensional stability and prevents warping, checking, swelling, shrinking, rotting, and splintering; it also provides a solvent and chemical resistant surface for floors, furniture, and equipment, meeting all AEC specifications so far as corrosion resistance, low susceptibility factor, and ease of decontamination of nuclear surfaces is concerned.

This versatile material, which can be used effectively in Alaska or the Amazon valley, has excellent resistance to severe weathering conditions, to salt and fresh water, humidity, abrasion, and fire—cigarette burns show little or no effect, although sometimes there is a slight charring of the wood beneath the coating. Fenolic 101 is applied by any of the methods used in painting. The number of coats required will depend on the type of finish that is desired, and the type of surface to be treated. If staining of the wood is involved, only the acid-resisting, nongrain raising stains containing no oil should be used. The manufacturer recommends that the solution be applied only on new, uncoated surfaces, or on surfaces from which the old finish has been completely removed. It should never be applied over any type of filler, paint, varnish, and it is not recommended for use on metal, plastic, or other nonporous surfaces, unless they have been previously covered by a special undercoat made by the manufacturer.

Fenolic 101 comes in white, blue, green, black, red, yellow, brown, and clear, and the colors can be intermixed. The "pot life" of this solution, after the catalyst has been added, is from 7 to 10 days and the film reaches maximum solvent and chemical resistance at normal temperatures in about a week. Plastic Cement & Chemical Company, 340 E. 27 St., New York, N.Y.

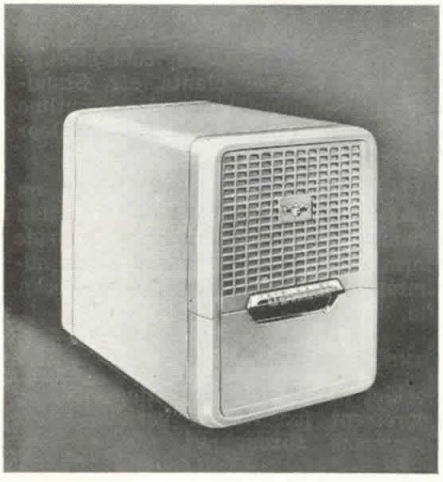
correction

The data that appeared with an illustration of a convalescent's chair (see page 98, July 1951 P/A) manufactured by Thonet Industries, Inc., proved to be partly inaccurate. The upholstered seat and back are covered with plastic material, not constructed of solid plastic. The legs are of birch or maple, but not laminated.

air and temperature control

Series 511 Hi-Boy Winter Air Conditioner: gas-fired, counterflow-type furnace, compactly built for limited space installation. Heavy-gage steel construction, leakproof joints; front flue allows for easy inspection and cleaning. In two sizes: 75,000 and 95,000 Btu per hour. Thatcher Furnace Co., Garwood, N. J.

Hospital Air Conditioner: operating room unit, designed for complete year around air conditioning in hazardous gas atmospheres; all parts safeguarded against explosions and include spark-proof fans, V-belts, and explosion proof motors, electrical switches, and wiring. Four sizes, ranging from 200 to 800 cfm capacity. Trane Co., La Crosse, Wis.



Portable, Raymond Loewy-styled electric dehumidifier will filter air and remove excessive moisture of enclosed space up to 8000 cu. ft. in size; many areas can be converted into comfortably dry living quarters or storage rooms without fear of loss through damp rot, warping, or mildew. Porcelain-finished moisture container holds capacity of more than 22 pts. Unit, only 18¼" high, 20½" deep, and 11¾" wide, operates on 115v, 50/60 cycle current. General Motors Corp., Frigidaire Div., Dayton 1, Ohio.

PB Series Gas Boilers: dual-purpose gas-fired boilers with built-in tankless hot-water system featuring vertical flue travel over hundreds of heat-absorbing fins, gas-tight construction, extra large heating surface, low pilot consumption; push-button electric igniter and transformer relay, normally extras, are standard equipment. Burnham Corp., Irvington, N. Y.

Accritem Temperature Regulator: expansion-stem type regulator maintains liquids or air at any temperature desired by controlling pneumatic or water operated diaphragm valves or dampers. All brass fittings; easily-read supply and control gages, calibrated temperature dial ranges from 50° to 250° (150° to 350° also available); unit has adjustable sensitivity and overheat protection. Wide variety of applications, including heat exchangers, instantaneous water heaters, jacket water for air compressors, diesel and gas engines, vats, dryers, etc. Powers Regulator Co., 3501 Oakton St., Skokie, Ill.

Brilliant Fire: recessed wall heater may be installed either in inside or outside walls with equal facility and operating efficiency. Multi-duct construction of wall box provides extensive "free-air" insulation for safety; entire radiator unit 100% welded to prevent gas odors or sweating; precision-ignition safety pilot, built-in draft diverter, and approved gas pressure regulator included as standard equipment. Model built in two sizes, choice of manual or automatic controls. Ohio Foundry & Mfg. Co., Steubenville, Ohio.

SU-G Gas Fired Winter Air Conditioner: steel constructed, vertical unit approved for closet and alcove installation in small homes; furnished with remote pilot igniter for convenience and safety in lighting burner from outside furnace. Available in two models, with inputs of 85,000 and 110,000 Btu per hour, respectively. Richmond Radiator Co., 19 E. 47th St., New York 17, N. Y.

construction

Scru-Tite Anchors: screw anchors made of lightweight but tough thermoplastic molding composition, for use in fastening all types of solid materials such as brick, wood, concrete, glass, metal, and Bakelite. Anchors will not discolor surrounding areas, are low-priced, and will accommodate oversize screws up to four sizes larger than their corresponding anchors with safety. Master Craft Products, 95-01 150th St., Jamaica 4, N. Y.

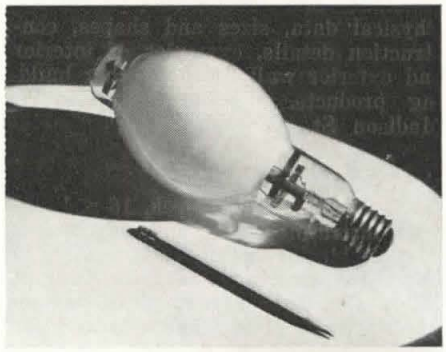
doors and windows

Penco Duel-Glaze: economical glazing compound, made of specially processed pigments and oils, provides adhesive qualities as glazing compound for steel, aluminum, and wood sash. Material forms tough, pliable, protective skin which reduces need for painting "Dual-Glazed" surfaces; remains permanently elastic, permitting normal expansion and contraction with temperature extremes. Applied with same ease as putty. W. S. McGuffie & Co., 3400 Theurer Court, Cleveland 9, Ohio.

Cylindrical Door Lock: heavy-duty line designed especially for schools, offices, commercial and institutional buildings. Two attractive knob styles, either cast or wrought iron, in variety of finishes; available for different functions: key-knob with ballbearing cylinder, turn button, push button, and plain knob. Russell & Erwin Div., American Hardware Corp., New Britain, Conn.

electrical equipment, lighting

Duplex Safety Cover Plate: molded-plastic safety plate prevents children's attempts to insert metal objects into live electrical outlets. When plug is removed, plastic disc in cover plate snaps closed by spring action, covering live contacts. Installed same way as conventional receptacles. Gits Molding Corp., 4600 W. Huron St., Chicago 44, Ill.



New 400w, fluorescent, mercury-vapor lamp, equipped with phosphor-coated bulb, provides white light for industrial purposes, flood lighting and street lighting. Bulb is shaped isothermally for even operating temperature over entire bulb wall; low brightness makes operation at lower mounting heights practical, which widens field of use for mercury lamps. Westinghouse Electric Corp., Bloomfield, N. J.

"White" Lamp: new 60w incandescent lamp, containing inside coating of silicon compound that lessens reflected glare and diffuse clean, white light evenly, added to line of greater wattage lamps introduced by manufacturer. General Electric Co., Nela Park, Cleveland 12, Ohio.

Dynalite Industrial Line: 82 new fluorescent fixtures; two and four lamp, 40w medium bi-pin units, in four foot, eight foot tandem, and eight foot combination lengths, equipped with choice of instant or conventional starters; 13" wide reflectors, available in baked enamel or RLM porcelain; body channels are of rigid, one-piece steel construction. Units completely wired and operate from 110-125v, 60 cycle a-c. Mitchell Mfg. Co., 2525 Clybourn, Chicago, Ill.

NEPO Mercury Vapor Floodlight: for exterior use where high intensity, well concentrated light is required, such as display lighting of store fronts, protective lighting of industrial property, freight terminals, docks and piers, sports arenas, etc.; available with variety of fastening assemblies to adapt fixture to any installation at any site. Polished aluminum reflector over crystal glass bowl provides increased safety and cleanliness; entire unit is permanently weatherproof. Nepo Mfg. Co., 527 S. Wells St., Chicago 7, Ill.

finishers and protectors

Glo-All: clear, protective, all-purpose wax coating for use on furniture, woodwork, floors, enameled surfaces—will remove tarnish from silver and clean windows—and may also be applied on wallpaper to make it waterproof and washable. Sterling Value Co., 255-21 Northern Blvd., Great Neck, N. Y.

sanitation, water supply, drainage

Cabinet Sink: 48" wide, 36" high model features twin bowls as part of one-piece porcelain steel top, and hide-away cutlery shelf; food waste disposer may be attached to either bowl. Cabinet doors are sound deadened; roomy undersink cabinet finished in baked enamel. Mullins Mfg. Corp., Warren, Ohio.

Thor Automatic: automatic clothes washer utilizing new gyro balancer-clutch which eliminates excessive vibration and other problems ordinarily found in washing machines employing spin-drying principles. Unit will operate on minimum of 15 lb. of flowing-water pressure, designed to take pressure up to 120 lb., as safety factor. Single-knob control; hinged, top-opening cover. Thor Corp., 2115 S. 54 Ave., Cicero 50, Ill.

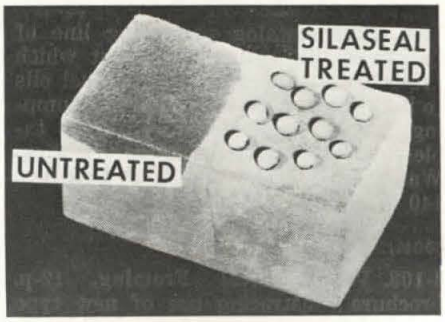
specialized equipment

Insect-Control: Mechanical device, somewhat resembling light fixture, thermostatically controlled to work automatically and vaporize special formula insecticide (contains no kerosene or acetone) for Control of flies, mosquitoes, and other flying insects; highly effective in area up to 16,000 cu. ft.; additional units will control greater areas. Vapor does not effect humans, animals, or food; will not stain walls, ceilings or furnishings. Unit is affixed to wall, plugs into standard a-c or d-c outlet, uses approximately same amount of electricity as 40w bulb. Remington Products Corp., Elizabethh 3, N. J.

surfacing materials

Vulcrete: synthetic-rubber flooring material, recommended for resurfacing and leveling worn floors. Material dries to light concrete color, will bond inseparably with wood, metal, concrete, brick, stone, asphalt mastic, and composition bases; has high resistance to point loads of considerable weight, to acids, alkalis, and other destructive agents. Low in cost, easily applied. Flash-Stone Co., Inc., 30 E. Rittenhouse St., Philadelphia 44, Pa.

Medley Block: parquet squares, made of selected hardwood bonded to asphalt-impregnated felt membrane, designed primarily to be laid on concrete slab and plywood subfloor construction. Blocks are manufactured in two sizes, 10" x 10" x 5/16" and 9" x 9" x 13/16", are flexible in both directions, allowing them to go down firmly over minor imperfections in subfloor. H. G. Macdonald Co., Monrovia, Calif.



Silaseal, transparent, silicon-based water repellent for above-grade masonry application, effectively seals and protects all masonry surfaces and joints, penetrating to depths of up to ⅜" in some materials, where it remains until abrasion and natural erosion wear masonry surfaces off. Soot and dirt will not cling to treated areas but wash off after each rainfall. May be applied by brush or spray either in summer or winter. Surface Protection Co., 16799 Euclid Ave., Cleveland 12, Ohio.

MANUFACTURERS' LITERATURE

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

air and temperature control

1-125. Ingersoll GSG Series, AIA 30-B-1 (GSG-48), data sheet giving specifications for completely automatic, gas-fired furnaces developed especially for small and medium-sized homes, stores, and offices. Dimensions, ratings. Borg-Warner Corp., Ingersoll Products Div., Kalamazoo, Mich.

1-126. Perimeter Heating, 36-p. manual pointing out advantages of perimeter heating over other methods. General data, planning, layout, and method of installing perimeter heating system in slab floor, crawl space, and basement construction. Lennox Furnace Co., Marshalltown, Iowa. (75 cents per copy; make check or money order payable to Lennox Furnace Co.)

1-127. Norman Twinfuel (TFIC-12-N), 4-p. illus. folder on gas-oil burner for commercial and industrial installations with capacities ranging from 80,000 to 3,000,000 Btu; automatic switch from gas to oil fuel regulated by outside temperature control or by manual control. Specifications. Norman Products Co., 1150 Chesapeake Ave., Columbus 12, Ohio.

1-128. Thrush Forced Circulating Hot Water Heat (M-651), 4-p. illus. folder on hot-water heating system suitable for radiant heating; can be applied to radiant baseboards, radiant floor panels, ceiling panels, radiators, or convectors. Also brief data on accessories. H. A. Thrush & Co., Peru, Ind.

1-129. Wa-Tu-Bo Oil Heaters (0-51), 16-p. illus. catalog presenting line of industrial oil-heating equipment which pre-heats cheaper and heavier fuel oils to high temperatures for efficient pumping. Types, construction, capacity tables, dimensions, technical information. Water Tube Boiler and Tank Co., Inc., 140 W. Root St., Chicago 9, Ill.

construction

3-108. V-Lok Steel Framing, 12-p. brochure illustrating use of new type of rigid-steel framing formed of interlocking members which are speedily erected, dismantled; framing can be added to or changed to new location, as readily as it can be erected. Typical construction progress photos. Macomber, Inc., 1925 10 St., N. E., Canton, Ohio.

3-109. Rigidized Metals (CFI 551-15M-WJK), 8-p. illus. folder presenting wide range of applications of design-strengthened, stainless, rigidized metal. Selection of patterns, advantages. Rigidized Metals Corp., 680 Ohio St., Buffalo 3, N. Y.

★ **3-110. Unistrut** (700), 78-p. catalog illustrating all-purpose, steel channel framing system. Descriptions of components and accessories, sizes, possible combinations of different channel members, typical uses, method of framing, hanging mounting; also, support of many kinds of mechanical and electrical equipment with framing; reference tables, weights, dimensions, general data. Unistrut Products Co., 1013 Washington Blvd., Chicago, Ill.

3-111. Keep Pace with VMP, portfolio containing 12 data sheets describing different types of movable steel partitions and doors, flush or panel construction, with or without glass openings. Elevations, sizes, materials, construction, finishes, wiring data. Virginia Metal Products Corp., Orange, Va.

3-112. Waylite, 16-p. illus. booklet on lightweight masonry unit with fire-resistant and acoustical properties. Physical data, sizes and shapes, construction details, examples of interior and exterior wall finishes, other building products. Waylite Co., 105 W. Madison St., Chicago 2, Ill.

doors and windows

4-119. Insulux Glass Block, 16-p. booklet illustrating uses and advantages of glass block as daylighting medium in industrial structures. Shapes, designs, sizes, step-by-step method of replacing worn-out pane window with glass block, installation details. American Structural Products Co., Ohio Bank Bldg., Toledo 1, Ohio.

4-120. Electric Door Operators (5150), 8-p. illus. bulletin offering line of industrial door operators, powered by ¼ to ¾ hp motors, for overhead, vertical lift, high lift, sliding, and roll-up type doors. Types and specifications, construction details, special applications, controls. H. W. Crane Co., 1443 W. Lake St., Chicago 7, Ill.

4-121. Strand Canopy-Type Door (S-307), 4-p. instruction folder giving installation directions for 9′ x 7′ all-steel garage door and hardware. Method for checking door opening, diagram indicating locations of principal parts, painting data. Detroit Steel Products Co., Strand Garage Door Div., 2250 E. Grand Blvd., Detroit, Mich.

4-122. Movable Shutters, 12-p. brochure. Photos illustrating variety of interior wood shutters, replicas of Early American shutters, for use with traditional and contemporary decor. Typical installations of window shutters, shutter doors, saloon doors, and shutter screens; selection of colors and stains, construction, materials, and installation data. Heinley Mastercraft Products, 1620 Euclid St., Santa Monica, Calif. (25 cents per copy; make check or money order payable to Heinley Mastercraft Products.)

4-123. Jamison Doors, AIA 32CI, 12-p. data and specification booklet. Guide to selection of proper type of cold storage door for various temperature conditions to be found in markets, cold storage warehouses, locker plants, etc. Standard features, special duty doors, outline dimensions. Jamison Cold Storage Door Co., Hagerstown, Md.

4-124. Jalousie, 4-p. illus. folder on glass or aluminum louvered Venetian windows and doors provided with inside storm sash. Uses, standard sizes, advantages, Ludman Corp., Opa Locka, Fla.

electrical equipment

Booklet demonstrating ceiling-mounted fluorescent fixtures in various school classrooms throughout the country. Photos, advantages of each layout, brief data on types of fixtures used to solve school lighting problems. Also, 4-p. folder giving data on general lighting layouts for industrial and commercial buildings. Day-Brite Lighting, Inc., 5411 Bulwer Ave., St. Louis 7, Mo.:

5-83. Day-Brite Lights the Way for Students Across the U.S.A. (OD-536)

5-84. Important Information for General Lighting Layouts (OD-538)

5-85. Electric Power (GEA-5600), 24-p. bulletin outlining uses and advantages of packaged industrial electrical systems. Photos of installed equipment. General Electric Co., Schenectady 5, N. Y.

5-86. Dynalite, AIA 31-F-23 (438), 12-p. catalog describing line of 82 "job-rated," high-efficiency fluorescent lighting fixtures for industry. Types, specifications for all models, dimensional diagrams, tables of coefficients of utilization and distribution curves. Mitchell Mfg. Co., 2525 N. Clybourn Ave., Chicago, Ill.

587. Lighting Fixtures for Every Purpose, 48-p. illus. catalog offering widely varied types of fluorescent, slimline, circline, incandescent, and spotlight fixtures for residential, commercial, and industrial uses. Brief descriptions. L. J. Segil Co., 2500 W. North Ave., Chicago 47, Ill.

finishers and protectors

6-43. Stonhard Stonpach (M.P. 2625), 4-p. folder on liquid flooring material for application on floors subject to disintegrating effects of acid, grease, oils, and abrasive wear; designed also for patching or resurfacing; dries to flint-hard finish 24 hours after application. Advantages, method of application.

Stonhard Co., 1306 Spring Garden St., Philadelphia 23, Pa.

insulation (thermal, acoustic)

9-57. Foamglas Insulation, AIA 37-B (G1839), 24-p. illus. booklet. Application of rigid, cellular glass insulating material for piping and process equipment. Sizes and shapes, properties, thermal conductivity chart, typical application data, insulating details, accessory materials, index. Pittsburgh Corning Corp., 307 Fourth Ave., Pittsburgh 22, Pa.

interior furnishings

9-58. New Carpet Beauty (1197), 8-p. full-color booklet demonstrating method of installing tackless wall-to-wall carpeting by means of plywood-strip gripping device which holds carpet from beneath. Roberts Co., 1536 N. Indiana St., Los Angeles 33, Calif.

sanitation, water supply, drainage

19-174. Brulé FG4 Incinerators, 6-p. folder. Series of industrial incinerators constructed with double-combustion chambers, producing furnaces that will thoroughly burn wet, dry, and special types of waste materials; each installation custom designed to meet specific conditions and requirements. Capacities, dimensions, smoke-stack sizes. Goder Incinerator Corp., 407 S. Dearborn St., Chicago 5, Ill.

19-175. Electric Drinking Water Coolers (496), 8-p. illus. folder illustrating bottle water coolers with or without refrigerated compartments, medium and large capacity pressure coolers, and special explosion-proof water cooler unit. Specifications, roughing-in dimensions, cross-section of operating elements. Ebco Mfg. Co., 401 W. Town St., Columbus 8, Ohio.

19-176. Globe Vanitory, circular showing four models of combination lavatory-dressing tables, each built with roomy utility cabinet below basin, giving extra storage space for toilet articles, cosmetics, etc.; broad top surfaces covered with Formica, which is resistant to ordinary acids, alcohol, boiling water, and alkalis. Sizes, colors, construction. Globe-Wernicke Co., Cincinnati 12, Ohio.

19-177. Safety Devices for Steam and Hot Water Boilers (C-44A), 4-p. condensed catalog and price list. Descriptions of boiler water feeders, low-water fuel cut-offs, and safety relief valves. Service ranges, shipping weights, prices. McDonnell & Miller, Inc., 3500 N. Spaulding Ave., Chicago 18, Ill.

19-178. Plibrico Incinerators, AIA 35-J-41 (2), 16-p. catalog covering complete line of incinerators for industrial and institutional refuse; also, special incinerators for garbage and restaurant refuse, biological and pathological material, wood refuse, and other applications. Sizes, capacities, construction, stack data. Plibrico Jointless Firebrick Co., 1840 Kingsbury St., Chicago 14, Ill.

specialized equipment

19-179. Sani-Dri, AIA 31-L (1123), 4-p. illus. folder on fast-drying, high-speed electric hand and hair dryers for use in commercial and industrial washrooms. Advantages, specifications. Chicago Hardware Foundry Co., 3503 Commonwealth Ave., North Chicago, Ill.

19-180. Horn Folding Gym Seats, AIA 35F, 12-p. booklet. Illustrations of portable gym seats, in units of from one to 30 rows; each row automatically locks when in open position, eliminating possibility of structure folding while partially loaded; in folded position, seating units provide smooth surface without protruding edges and utilize minimum of floor space. Construction features, space requirements, specifications. Horn Brothers Co., Fort Dodge, Iowa.

19-181. Fine Folding Tables (225) 22-p. illus. catalog on folding tables, benches, and chairs for schools, churches, hotels, etc.; also steel wardrobes, lockers, and other items of interest to institutions. Uses, dimensions, prices. Monroe Co., Inc., Colfax, Iowa.

19-182. How Safe Are Your Drawings? (SC 688), 6-p. folder indicating multiple dangers to engineering drawings under defense or war conditions, and use of tested, fire-resistant cabinets and files for protection of drawings. Types of filing equipment, fire test results, dimensions. Remington Rand Inc., 315 Fourth Ave., New York 10, N. Y.

surfacing materials

19-183. Firestop Gypsum Wallboard, AIA 23 L (5601), 6-p. illus. brochure, including set of 4 detail sheets, on incombustible gypsum wallboard with core composed of asbestos fiber and vermiculite; single layer application has one-hour fire resistance rating. Comparison tests with ordinary gypsum board construction, specifications, advantages. Certain-teed Products Corp., 120 E. Lancaster Ave., Ardmore, Pa.

19-184. How and Where to Use Forest Board, 4-p. illus. folder describing high quality hardboard made of processed Douglas fir fiber for interior and exterior applications; resistant to denting, chipping, and scuffing. Uses, application instructions, information on bending and painting. Forest Fiber Products Co., Forest Grove, Ore.

vertical traffic

20-6. The Modern Hospital and Its Elevator Needs, AIA 33G (A-381), 18-p. booklet outlines problems of hospital elevator service, with data on "hospital-size" elevators, automatic controls, elevator entrances freight elevators, and hospital dumbwaiters. All equipment is explained in reference to specific installations, illustrated with photos, drawings, and charts. Otis Elevator Co., 260 11th Ave., New York 1, N. Y.

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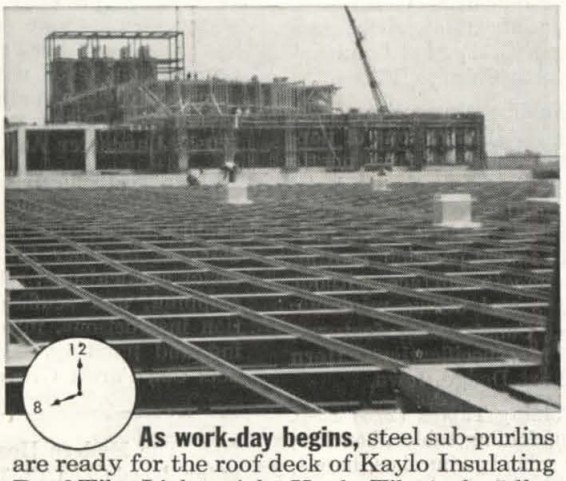
Speed—ON DECK...

15,000 square feet of roof completed in *8* hours with Kaylo Insulating Roof Tile



As work-day begins, steel sub-purlins are ready for the roof deck of Kaylo Insulating Roof Tile. Lightweight Kaylo Tile (only 5 lbs. per sq. ft.) permits the use of lighter and more economical structural members and foundations.

Placing of tile begun at 8 o'clock, is well under way by mid-morning. Kaylo Roof Tile—a hydrous calcium silicate, *not glass*—has billions of sub-microscopic air spaces giving it light weight and low thermal conductivity.

Grouting of end joints, including cleaning off excess grout, begun shortly after first tile were placed, is almost finished. Kaylo roof deck is incombustible; has more than adequate strength for typical roof loads.

Final step. Covering of the Kaylo roof deck with conventional built-up roofing materials was started as soon as the first section had been grouted. By 4:30, 15,000 sq. ft. of roof has been finished in an eight-hour work-day.

For complete details on Kaylo Insulating Roof Tile, write Dept. N-137, Owens-Illinois Glass Company, Kaylo Division, Toledo 1, Ohio.

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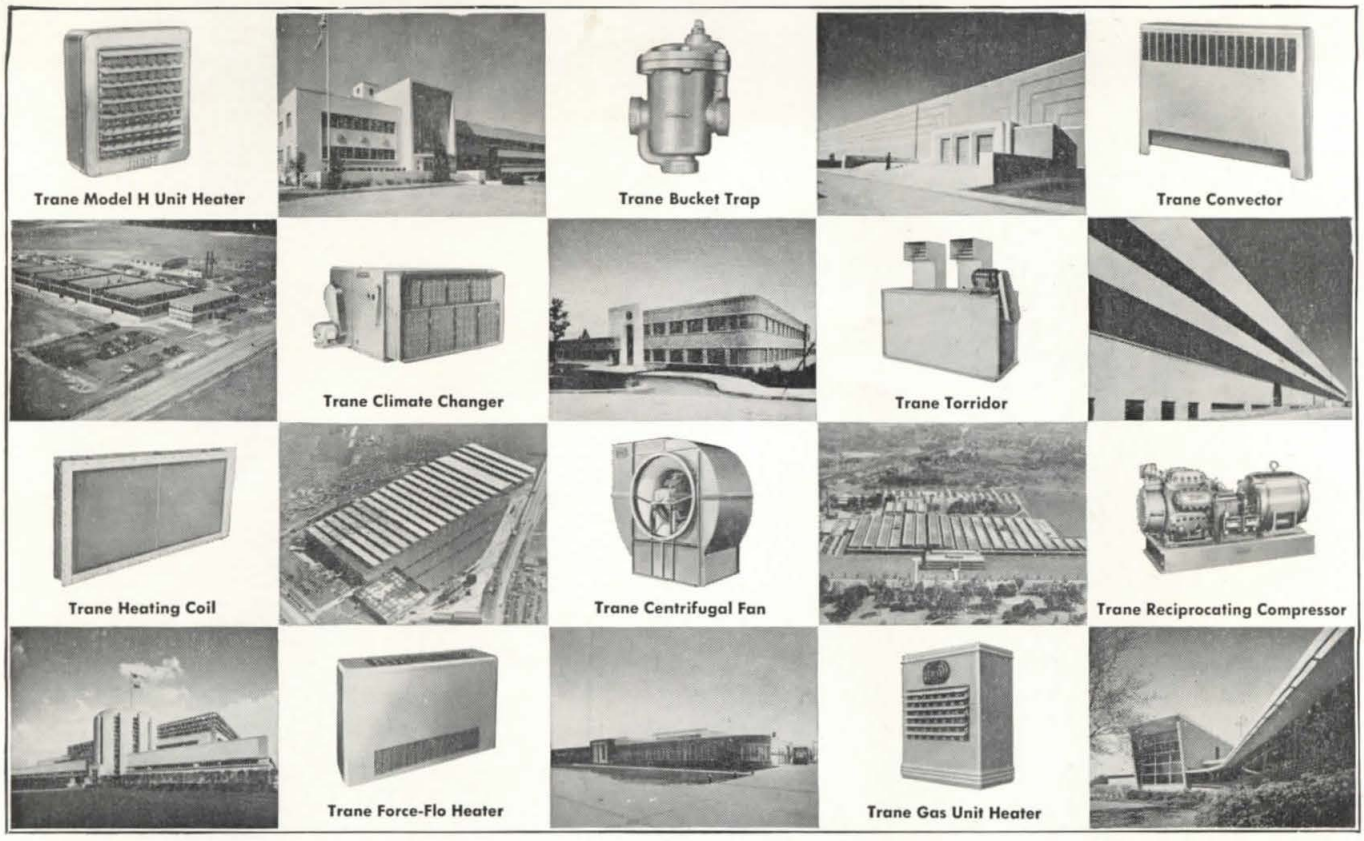


From Sprawling Plants to Towering Factories

Trane Serves Defense Industry Everywhere

In defense plants everywhere . . . from sprawling aircraft plants in California to towering factories in Brooklyn . . . from shipyards in New Orleans to an instrument factory in Minneapolis . . . from giant atomic projects to smallest shop – Trane heating equipment serves everywhere.

And it serves plants of every type, too! For example . . .

Assembly Lines – In Detroit at a tank plant, where the huge General Pershings are assembled between walls hundreds of feet apart, Trane Torridors throw blankets of heat over wide assembly areas.

Paint Shops – A west coast plane factory created a partial vacuum and plenty of cold drafts when they exhausted fumes from their paint shop. They used Trane Heating Coils in outside walls to heat the air used to correct negative pressure and kill the drafts.

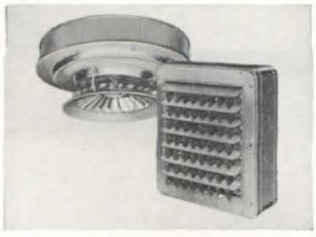
Gauge Rooms – A precision bearing manufacturer in Indiana wanted to protect his master gauges against expansion and contraction caused by temperature changes. Trane Climate Changers teamed with a Trane Compressor were installed in the gauge room – maintain constant temperature to within one degree.

Stock Stations – In a New York radar factory, a forest of parts-storage bins blocked air circulation and prevented even heating. A Trane Projection Unit Heater, mounted above each storage area, solved the problem economically by pouring heat down over the shelf sections and spread heat to every corner.

Shipping Areas – The busy shipping doors of a northern munition plant let in blasts of sub-zero air every time they opened. To stop the cold air, Trane Horizontal Unit Heaters hang a curtain of heat over each door opening.

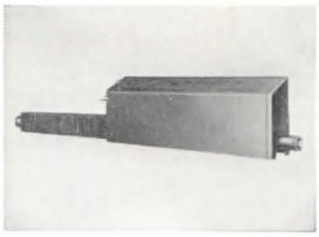
And in tool rooms, drafting rooms, offices, cafeterias, rest rooms, lobbies—everywhere in defense plants—heating problems of all types are solved effectively with matched Trane Products.

Whatever your heating, ventilating, cooling or air conditioning problem, whether defense plant, military base, school, hospital or housing, look for the answer in the Trane line.



Both Projection and Horizontal Unit Heaters can be furnished with diffusers that can be adjusted to direct heat where desired.

This powered Trane Roof Ventilator is a complete factory ventilating system. It can circulate both outside and recirculated air.



Easy-to-install Trane Wall-Fin Heaters provide the ideal low-cost heating answer to window drafts and perimeter heating problems.

TRANE

MANUFACTURING ENGINEERS OF HEATING, VENTILATING AND AIR CONDITIONING EQUIPMENT

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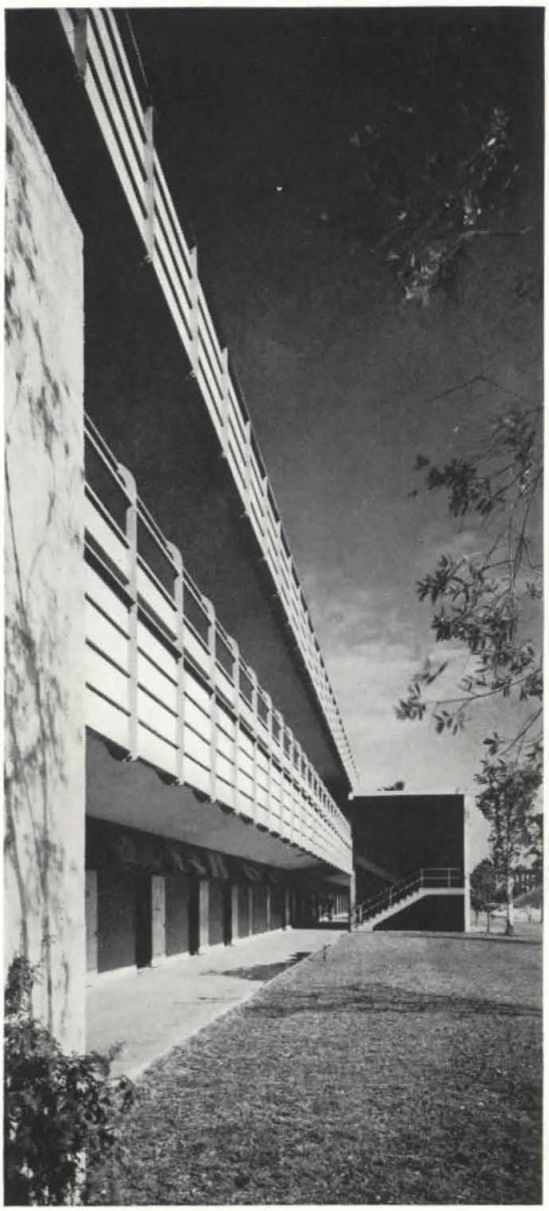
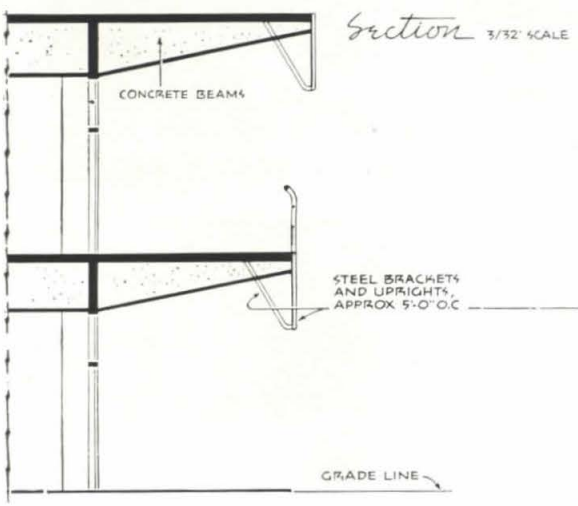
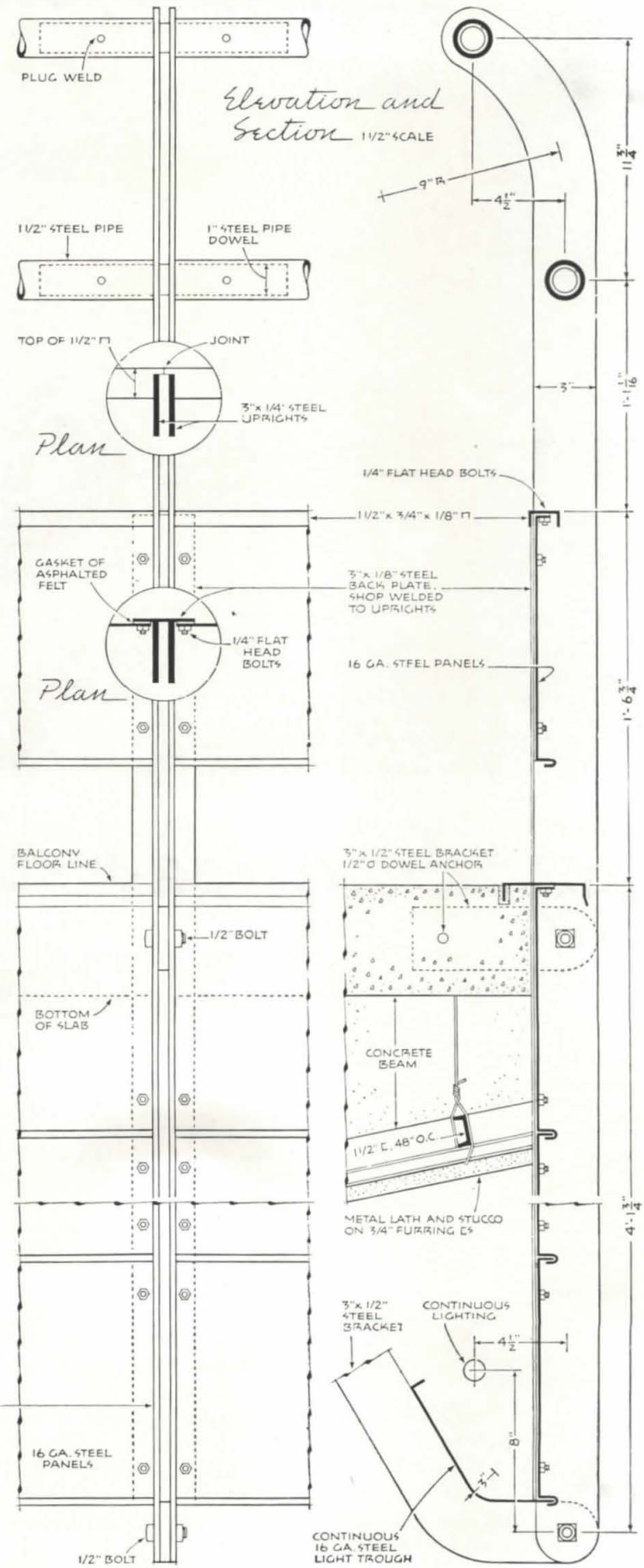


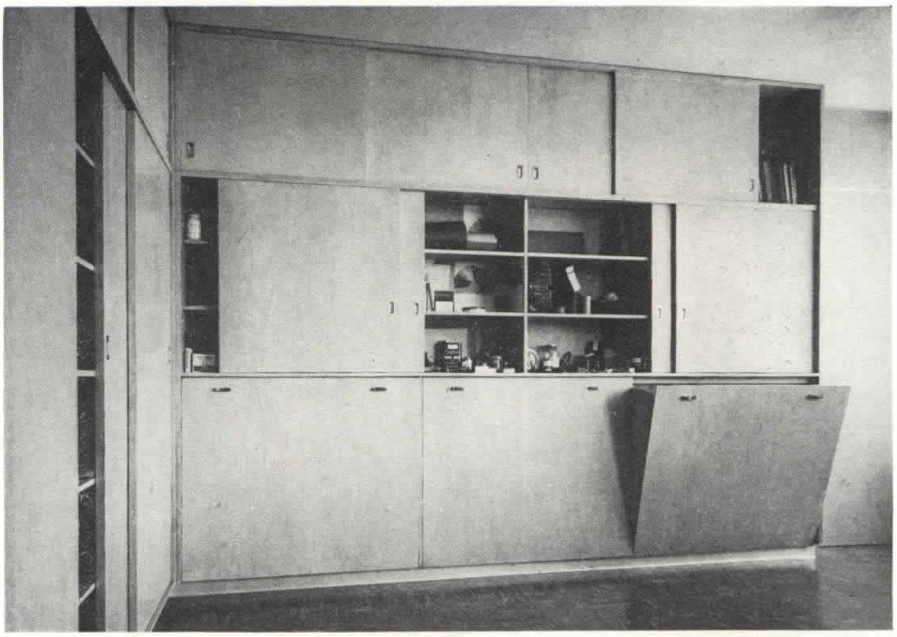
EZRA STOLLER PICTOR



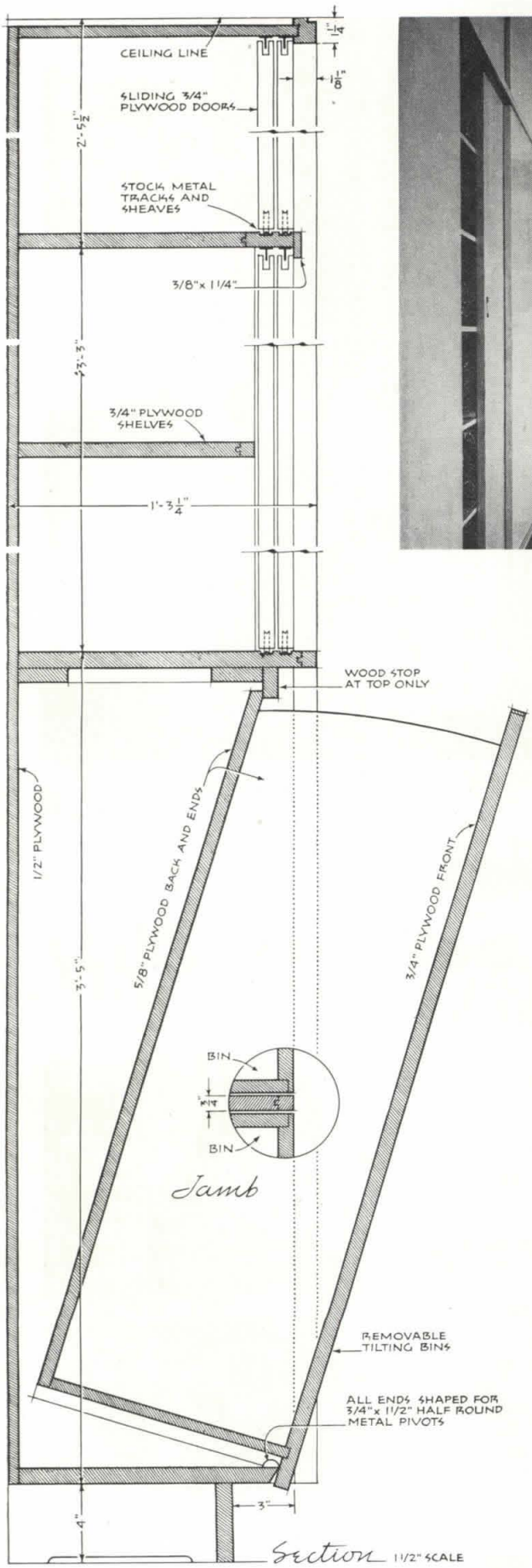


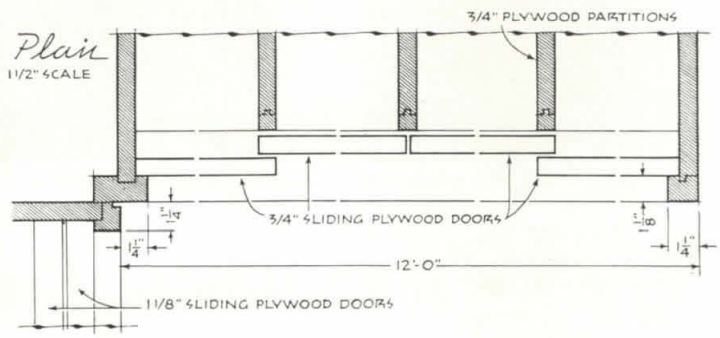
UNIVERSITY OF MIAMI, Coral Gables, Fla.

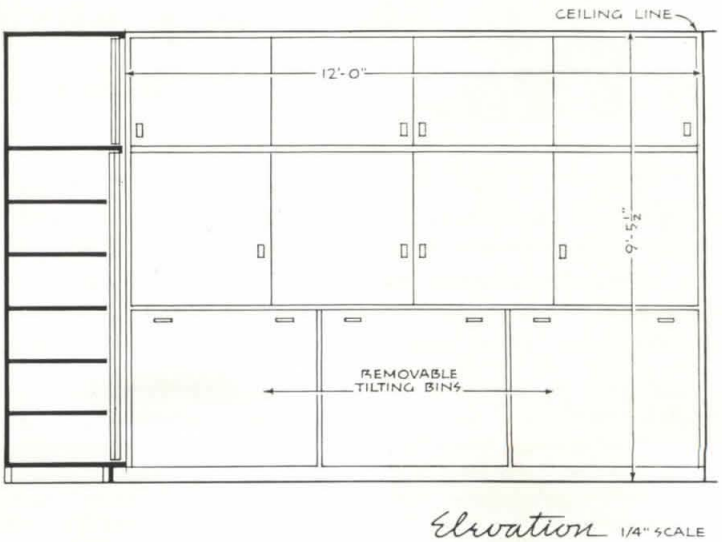
ROBERT LAW WEED & ASSOCIATES

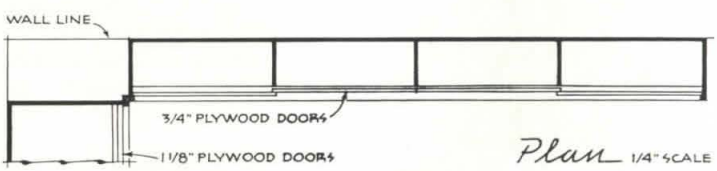


DEARBORN - MASSAR





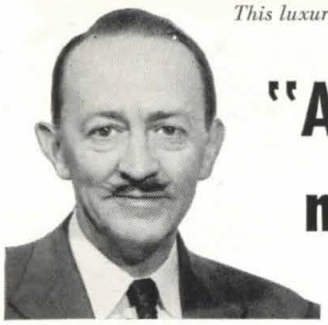




SCHOOL ADMINISTRATION BUILDING, Seattle, Wash.

J. LISTER HOLMES & ASSOCIATES

This luxurious home is typical of many designed by Mr. Burrows that include the Heatilator Fireplace.



"A Heatilator Fireplace makes *any* home more comfortable!"

says **GEORGE H. BURROWS,** *prominent Cleveland Architect*

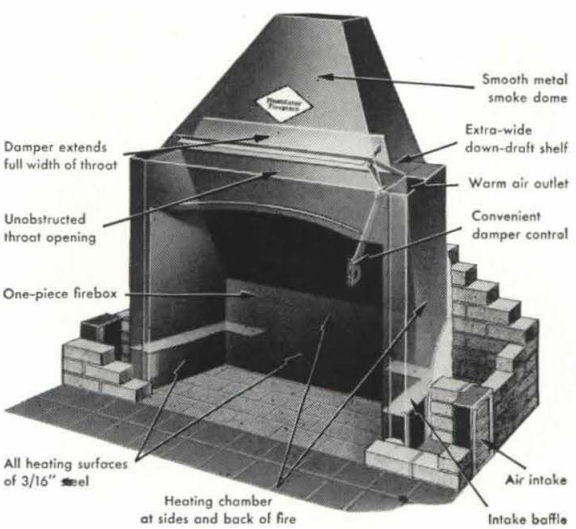
"WHETHER a home costs $10,000 or $100,000," says Mr. Burrows," a Heatilator* Fireplace will make it more comfortable!" The designer of many of Cleveland's most palatial suburban homes, Mr. Burrows knows that the Heatilator unit simplifies construction, eliminates smoking, and circulates heat to warm the entire room instead of wasting it up the chimney.

NO LIMIT TO DESIGN

"There's no restriction on mantel design or use of materials," says Mr. Burrows. The Heatilator unit is a scientifically designed, heavy-gauge steel form, complete from hearth to flue, around which any style fireplace can be built.

WILL NOT SMOKE

The Heatilator Fireplace is factory-engineered to draw properly. It will not smoke. Cuts construction supervision time to a minimum. It was the first practical method of circulating fireplace heat for room-wide warmth . . . has been proved by use in thousands of homes for 24 years. The name "Heatilator" is on both the dome and the damper handle. Write today for a catalog giving complete specifications and illustrations. Heatilator, Inc., 9210 Brighton Ave., Syracuse 5, N. Y.



*Heatilator is the registered trademark of Heatilator, Inc.

HEATILATOR *America's Leading* FIREPLACE

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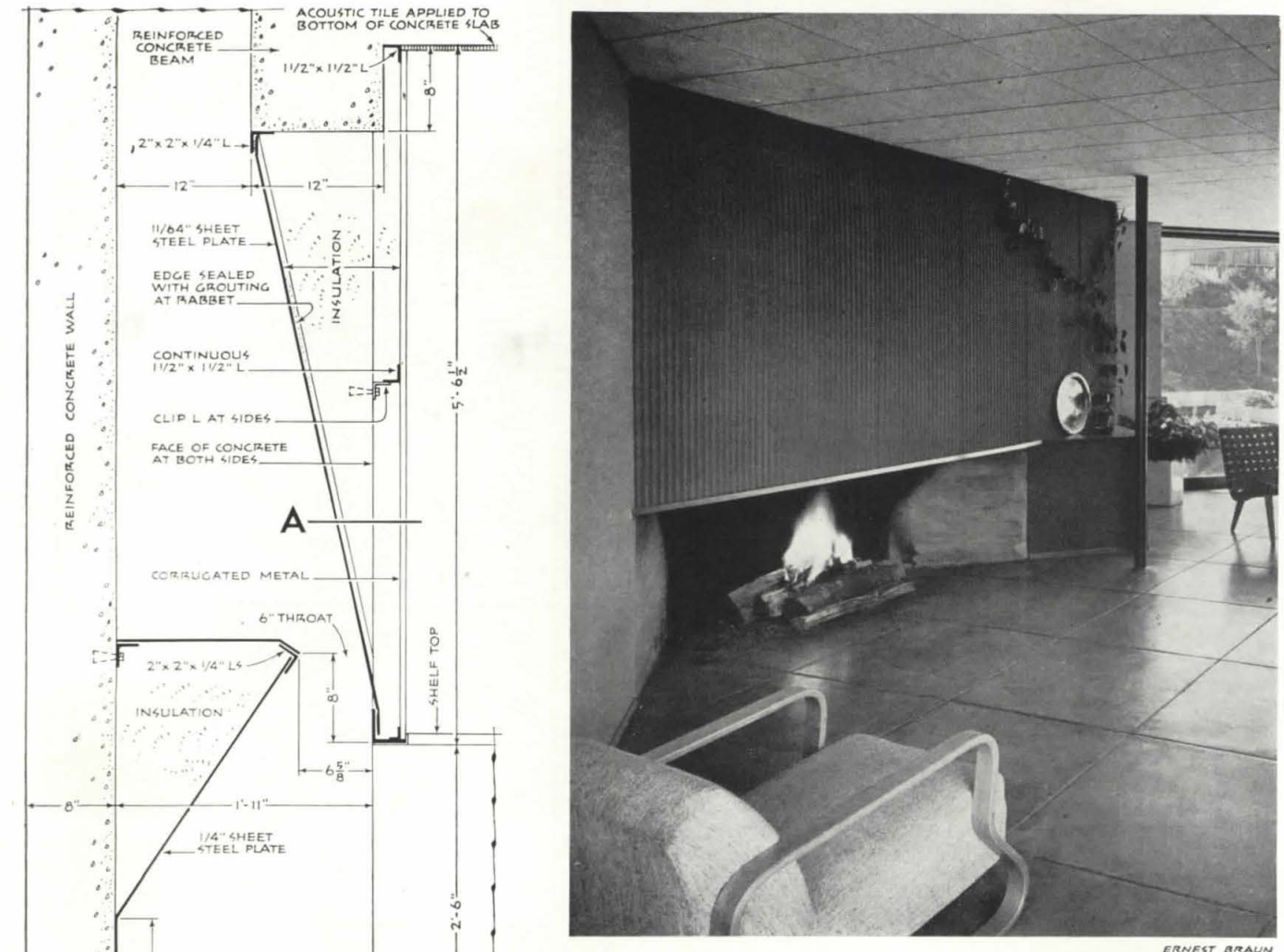


ERNEST BRAUN

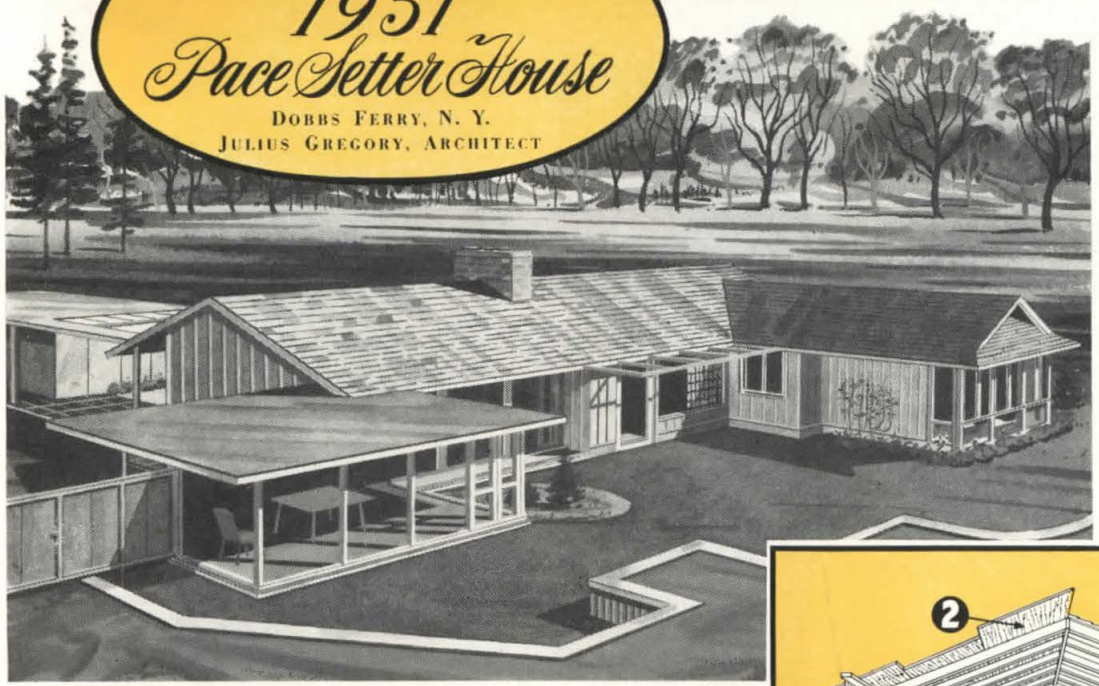
MARGARET STEIN, RESIDENCE, Marin County, Calif.

JOSEPH ALLEN STEIN, ARCHITECT

House Beautiful's

1951 Pace Setter House

DOBBS FERRY, N. Y.
JULIUS GREGORY, ARCHITECT



Plywood Specified For Finest Construction

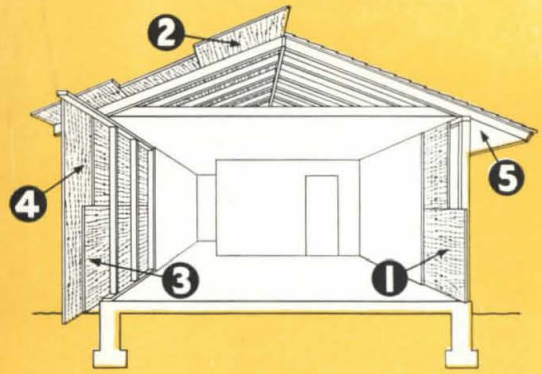
EACH YEAR *House Beautiful* builds a Pace Setter house which represents the ultimate in design, construction and use of materials. In the 1951 Pace Setter, Douglas fir plywood plays a major role.

Durable Exterior plywood creates the weather-wise board and batten siding . . . the smooth, flush soffits and breezeway ceilings.

For the important structural parts of the house, PlyScord was specified for strong, rigid wall sheathing . . . for roof decking . . . for firm, solid panel backing.

It's the finest construction money can buy—bar none!

®PlyScord is a registered grade-trademark identifying the sheathing grade of Interior-type plywood inspected by Douglas Fir Plywood Association (DFPA).



Five Pace-Setting Plywood Features Point the Way to Quality Construction

1. PANEL BACKING. PlyScord provides solid backing for paneling. Gives extra stiffness and strength needed to keep thinner, more expensive decorative paneling firm, rigid and flat. Permits freedom in arrangement of finish paneling.

2. ROOF SHEATHING. PlyScord roof deck was used for both sloping, shingled roof and flat, built-up roofs. Stronger yet lighter than conventional decking, PlyScord speeds construction, resists swelling and shrinking.

3. WALL SHEATHING. PlyScord is twice as strong and rigid as diagonal sheathing. Insulates. Protects against drafts. Speeds construction by over 25%.

4. EXTERIOR SIDING. Exterior plywood siding adds youthful richness. Will not puncture, sag or split. Bonded with waterproof adhesives, it lasts a housetime!

5. SOFFITS AND BREEZEWAY CEILINGS. Smooth, flat panels form texture contrast with siding. Unbroken by detracting lines and joints, plywood is ideal for gable ends, trim.

IDEA BOOKLET FOR YOU!

Now available is a special 12-page, full-color booklet "Ideas From The Pace Setter House." Ideal to help your clients crystallize their plans. For free copy write (USA only) Douglas Fir Plywood Association, Tacoma, Washington.

LARGE, LIGHT STRONG PANELS OF REAL WOOD

Douglas Fir Plywood

AMERICA'S BUSIEST BUILDING MATERIAL

NOTICES

Gold Medal Exhibits

The ARCHITECTURAL LEAGUE OF NEW YORK announces that its Gold Medal Exhibits will again be held during 1951-1952. This series of individual exhibits of the five arts will be shown at the League as follows:

Sculpture, Nov. 12-Dec. 6, 1951

Architectural Works, Jan 14-Feb. 7, 1952

Design and Craftmanship in Native Industrial Arts, Feb. 11-Mar. 7, 1952

Mural Painting, Mar. 17-Apr. 4, 1952

Landscape Architecture, Apr. 7-May 2, 1952.

The series will culminate in a comprehensive, combined Gold Medal Award Exhibition of all the arts, which will take place during the annual convention of the A.I.A., June 17-June 22, 1952, in New York.

Convention

The twelfth annual convention of the TEXAS SOCIETY OF ARCHITECTS will be held at San Antonio, Texas, October 24, 25, and 26. Besides the business sessions there will be two seminar periods on "Mechanical Equipment of Buildings," student competition and exhibit, a Western Party, breakfast and the President's Dinner and Ball. MARVIN EICKENROHT, Architect, is general chairman and coordinator of the convention; BARTLETT COCKE, and REGINALD ROBERTS, Architects are co-chairmen for the operations and arrangements.

New Practices, Partnerships

ASSOCIATED ARCHITECTURAL SERVICES, 100 McIntyre Bldg., Winnipeg, Canada, specializing in the subsidiary aspects of architecture and serving architects, engineers and contractors.

DONALD S. HAARSTICK and LOUIS R. LUNDGREN, Architects, announce the formation of a new firm: HAARSTICK, LUNDGREN & ASSOCIATES, Architects and Engineers, E-1410 First National Bank Bldg., Saint Paul 1, Minn. The firm was formerly known as DIMOND, HAARSTICK & LUNDGREN.

WALTER D. BLISS, San Francisco architect, has announced his retirement after 50 years of practice from the firm of BLISS & HURT, TRUDELL & BERGER. The firm will continue practice as architects and engineers under the new firm name of HURT, TRUDELL & BERGER, 883 Mission St., San Francisco 3, Calif.

LOUIS C. CORDOGAN, Architect, 20 N. Wacker Dr., Chicago, Ill.

WALLACE W. JENKINS, Architect, 6733 N. Olmstead, Chicago, Ill.

MARVIN FITCH and DONALD SCHILLER under the firm name of FITCH & SCHILLER, 100 W. Chicago Ave., Chicago, Ill.

RAY STUERMER and VERNON PIETZ announce the formation of a partnership for the practice of architecture, 203 N. Wabash Ave., Chicago, Ill.

Figure 1—fluorescent troffers and the bottoms of some air ducts have not yet been placed in this partially assembled panel-cooling system.

Two Air-Panel-Cooling Systems Developed For Multistory Buildings

By BURTON H. HOLMES

Interest in panel cooling continues to grow and as a result of the research performed by many engineers, most of the technical problems associated with this type of environmental control have been solved. To date, the most noteworthy panel-cooling installations have been a pilot project for one floor of the TIME-LIFE Building, New York, a system for the Manufacturers Life Insurance Company of Toronto (both designed by Philadelphia Engineer Charles Leopold), and a system for the new 30-story Aluminum Company of America office building now under construction in Pittsburgh (Jaros, Baum & Bolles, New York, collaborated with Alcoa engineers in this solution). Using the design knowledge available today, these systems can be constructed at costs not exceeding those for conventional air-conditioning installations; in addition, they permit an increase in rentable floor area for commercial buildings as well as a reduction in story heights. For a detailed analysis of this cooling method read "Design Factors in Panel and Air-Cooling Systems" by Charles Leopold, March and April 1951 PROGRESSIVE ARCHITECTURE.

During the last year, John D. Dillon & Associates, New York engineers, have experimented with two air-panel-cooling methods and, recently, interested architects, engineers, and prospective clients have had an opportunity to visit their laboratory at Port Washington, Long Island. Built under an unused carport at the residence of Richard Geomann, a member of the firm who performed the research and development of these two methods, this laboratory consists of a model test room and its related mechanical equipment. Measuring 11′ x 10′ and 6′-1″ in height, the test room actually contains two independent panel-cooling installations—one in the ceiling and the other in the floor. In contrast with the designs of Leopold, Jaros, Baum & Bolles, and the Alcoa engineers (cited above) which utilize water as the cooling medium, both methods demonstrated at the Dillon laboratory are dependent on cooled air. The following basic mechanical equipment was required for the test observations: one two-ton, air-cooled compressor with a direct-expansion-cooling coil; master, sub-master pneumatic temperature control set up to bypass the cooling coils; and numerous thermo-couples *in both* ceiling and floor to record complete test results.

The ceiling is surfaced with aluminum, radiant-acoustical units (*Figure 1*) manufactured by the Simplex Ceiling Corporation, New York. Cooling ducts (12″ x 4″) are interlocked with acoustical panels (12″ wide and five percent of the area perforated); both units are produced in lengths up to five feet. The tops and sides of the ducts have a low emissivity rate due to the use of mill-finish aluminum; the bottoms, however, have been anodized to increase their rate of heat absorption. Fluorescent troffers integrated with the ducts and panels are attached to the structural ceiling by

a direct suspension system. A one-inch layer of glass-fiber insulation is located eight inches above the flush panels.

Under test conditions, the ceiling panels operating independently with low-velocity air circulation account for 80 percent of the cooling load; the remaining 20 percent is balanced by convective air which enters the room through 12″ x 12″ diffusers integrated with the acoustical panels. This diffuser, an Anemostat product, is particularly suitable for this installation as it emits air in a plane parallel to the panel cooling surface. A 54F ceiling temperature is not uncomfortable on persons in a seated position. A four to six degree temperature differential was found to exist between the panel and structural ceiling; it has been noted, however, that this differential conveniently assists the system to even out the temperature in the acoustical panels.

Cellular steel panels (Type RK) manufactured by the H. H. Robertson Company are used as structural floor units as well as ducts to carry the cooled air *(Figure 2)*.

Operating with medium-velocity-air circulation, the floor panel was designed to take care of 60 percent of the cooling load—the remaining 40 percent to be offset by convection. Although these proportions were considered most suitable for this test installation, it is acknowledged that the relationship would change with the differing types of occupancy that the system would be called upon to serve.

During the tests, it was not considered uncomfortable or uneconomical to operate with a 30-degree temperature differential between air supply and room temperature—a conventional air-conditioning system would probably operate with a 15-degree differential for comfort conditions in a room of the same size. During a demonstration attended by the writer, the room temperature was 67F while the outside temperature was 80F and the humidity 70 percent. It was observed that on days when there was a sufficient solar heat gain, it was possible to operate the floor system with a surface temperature of 61F without discomfort to the occupants. During the night, however, when the wall surfaces had cooled down, the 61F floor temperature became unpleasant.

The Dillon Associates have designed the first air-panel-cooling system for an office building; this structure is now under construction at New Canaan, Connecticut. Using a cellular-steel, floor-type, panel-cooling system, the mechanical contract came to only eight and one-half percent of the total construction cost. These engineers have estimated that in comparison with a conventional air-conditioning system, these air-panel-cooling installations can effect a savings of up to 30 percent in operating costs.

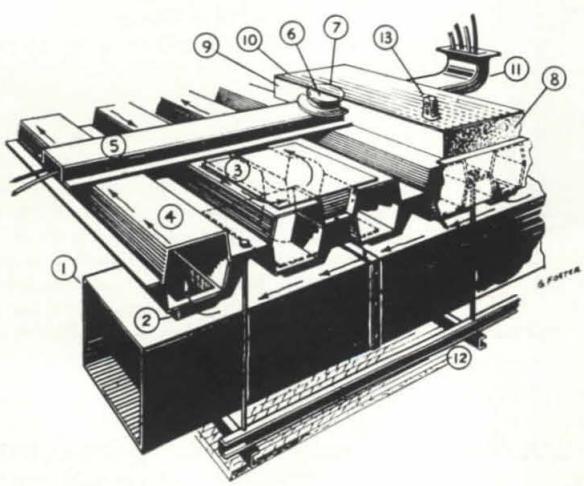


Figure 2—legend:

1. Supply air duct
2. Sheet metal duct collar
3. Q-floor turn (180°)
4. Structural floor
5. Crossover wireway
6. Hand hole (into the cell)
7. Adaptor plate (covering used hand hole)
8. Q-floor sealing plate
9. Lightweight fill (usually 2½ inches)
10. Floor finish
11. Ell connecting the crossover wireway with the panel box
12. Suspended ceiling (7/8″ vermiculite plaster)
13. Floor outlet head (can be set anywhere along cell)

p/a REVIEWS

BOOKS RECEIVED

Land Planning Law in a Free Society. Charles M. Haar. Harvard University Press, Cambridge, Mass., 1951. 210 pp., illus. $4

Defense Housing. A Study of the Paralysis in Defense Housing. William J. Levitt, Manhasset, N. Y. 40 p. pamphlet

Museum Adventure. Molly Harrison. University of London Press, Ltd., Warwick Square, London E. C. 4, 1951. 176 pp., illus.

A Pocket Guide to Modern Buildings in London. Compiled by Ian McCallum. The Architectural Press, 13 Queen Anne's Gate, London S. W. 1, England, July 1951. 128 pp., illus., paper bound

High Victorian Design. Nikolaus Pevsner. The Architectural Press, 13, Queen Anne's Gate, London S. W. 1, England, July 1951. 162 pp., illus.

Escuelas. Luis G. Rivadenyra Falco. Universidad Nacional de Mexico, 1951. illus.

In the City was a Garden. Henry Kraus. Renaissance Press, 545 Fifth Ave., New York 17, N. Y., 1951. 255 pp. $3

Ladenbau. Third Edition. Adolf Schumacher. Julius Hoffman Verlag, Stuttgart, Germany, 1951. U. S. Distributors: Architectural Book Publishing Co., Inc. 112 W. 46 St., New York 19, N. Y. 200 pp., illus. $8.75

BOOKS

PRINCIPLES EXPLAINED

Building for Investment. *Clinton H. Cowgill. Reinhold Publishing Corp., 330 W. 42 St., New York 18, N.Y., 1951. 400 pp., illus. $7*

Roy Wenzlick says in his introduction that this book is well balanced and readable. That is a recommendation from an authority. Architects would do well to read and retain a copy of Cowgill's book in their libraries. There are available too few books as comprehensive.

Architects should be cognizant of the fact that they are seldom investors and that their experience in "building for investment" must necessarily be largely vicarious. Cowgill's book should stimulate thinking on the part of architects and perhaps others. For that reason, Cowgill has rendered the profession a second great service. It seems clear, however, that Cowgill (co-author of a previous book in architectural practice) writes from the point of view of one whose experience in "building for investment" is largely vicarious.

For example, his discussion of the difference between the motive of building for speculation and the motive of building for investment seems far removed from the problems that confront the average builder, who is willing to use his capital for any profitable construction enterprise but cannot afford to freeze that capital in long-range investment. Such a long-range policy would leave the builder with a progressively diminishing capital to finance further building operations. Cowgill also fails completely to differentiate between the various types and sources of money that flow in and out of construction enterprise.

There are interesting references to the differences between investments in real estate and investments in securities, such as are listed on the stock exchange. Cowgill, however, makes no attempt to reveal the story of why the market for real estate securities should be so different and so sluggish when compared to the marekt for other forms of investment. Back in the 1930s, the columns of

(Continued on page 118)

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designed specifically for schools, hospitals, apartment houses, commercial, institutional and industrial buildings . . . two styles . . . wide range of functions . . . *featuring* full 5/8" throw; seamless tubular knob shank; extra large steel knob bearing on brass bushing; extra large bearing area on latch retractor; and a minimum number of parts. This latest member of a famous lock family makes the Russwin line better than ever as a single source of quality builders' hardware. Russell & Erwin Division, The American Hardware Corp., New Britain, Conn.

(Continued from page 116)

the *Record and Guide* were full of discussions on the technique of real estate finance as related to the problems of the construction industry, but there is no reference in the bibliography to any of this material.

But this does not mean that Cowgill's book will not be useful to architects, to whom it seems principally addressed. We in the architectural profession are all so engrossed in our own specialized work in this age of specialization that we need to have our attention aroused to the thinking that is being done, or not being done, by and in regard to other specialists. Routine investors and routine speculators in real estate are not going to solve basic problems of investment that call for originality of thought or pioneering methods. Yet these routine investors, particularly the building owners and managers, possess a wealth of experience which is so valuable to architects that it should be more readily available. Cowgill has translated much of this material into graphs which summarize experience respecting the economic height of buildings on plots of various sizes and values, as well as respecting number of elevators, stairs, etc., in relation to floor area.

In the appendices, also, there are several interesting series of tabulations and graphs. It is well known to architects that unit costs, whether expressed in cubic feet, square feet, or number of rooms, are often misleading. But where actual buildings and actual dates are given together with other qualifying data, a table of unit costs such as Cowgill offers, can become a valuable guide from which intelligent interpolations can be made.

To this reviewer it seems tragic that the exigencies of publication costs apparently prevented Cowgill from making use of such illuminating illustrations, with brief, pertinent captions, as were used by the late Richard M. Hurd in his monumental volume *Principles of City Land Values*, first published in 1903 and more than once reprinted. Cowgill's stouter volume should stand beside the earlier masterpiece in the library of every thinking architect and investor.

ARTHUR C. HOLDEN

FACILITATES REFERENCE

Stainless Steel Handbook. *Allegheny Ludlum Steel Corp., 2020 Oliver Bldg., Pittsburgh, Pa., 1951. 120 pp.*

Users of Allegheny Ludlum's previous handbooks on the stainless steels will find this latest, cloth-bound edition to be completely rewritten and greatly expanded. Approximately 40 different types of these corrosion and heat resisting steels are discussed in detail, each from the standpoints of analyses, fabrication, heat treatment, and special conditions of service. A selector table breaks down the properties of each type in the general classification of physical data, electrical properties, heat resistance, working and treating temperatures, mechanical properties, and creep strength. A new table of contents and complete index facilitates references to specific data. Free copies may be obtained from the company's offices. E. T.

INFORMATIVE AND PRACTICAL

Building Materials. *Cecil C. Handisyde, A.R.I.B.A. The Architectural Press, London, 1951. 336 pp. 25s*

This is a highly informative and useful compilation of data about building ma-

(Continued on page 120)

BRIXMENT

is more durable!

FOR permanent strength and beauty, mortar must be *durable* — must be able to withstand the alternate freezing and thawing to which it is subjected many times each winter.

Brixment mortar is *durable*. This durability is due partly to the strength and soundness of Brixment mortar, and partly to the fact that an air-entraining and water-proofing agent is incorporated into Brixment during manufacture. This helps prevent the mortar from becoming saturated — therefore helps protect it from the destructive action of freezing and thawing.

LOUISVILLE CEMENT COMPANY, Incorporated, LOUISVILLE, KENTUCKY

(Continued from page 118)

terials properties, standards, performance qualities, and uses: a book that would be immensely valuable for American architects were it written to American standards and in American terminology, instead of British. Indeed, it may well be useful to those few Americans who will be able to lay their hands on it, even as it stands; for it collects in relatively small space a seemingly enormous amount of practical technical data and equally practical scientific facts, applicable for architects of all nations. The book's Britishness is pervasive, but it is not always misleading. Often it is merely interesting, as for example in its exhibition of nomenclatural differences.

As far as the evidence given in this book, for example, the British do not use the word "stucco" for exterior cement plastering; they use the word "rendering." (In *Practical Building Terms*, Marks' 1937 British building glossary, both "stucco" and "stuc" (!) appear as "cement rendering on the exterior of a wall," but Handisyde *seems to* be unfamiliar with the terms.) Similarly, the British seem never to use the word "forms" for concrete work. They call them "shuttering." Sills in Britain are "cills," although Handisyde's typographer once made a misprint and spelled it "sills"! If there are termites in England, they are operating under one of the following disguises (licensed, we assume, by Scotland Yard) : Death Watch beetle; Powder Post (or Lyctus) beetle; Furniture beetle.

These terminological differences are of minor import, however. What counts is the information. Handisyde's succinct and informative paragraphs on the technical problems involved in "rendering" (i.e., stucco) would probably save many an American architect many a headache —and perhaps many a dollar—if he were thoroughly familiar with the contents.

The book is definitely designed for the practicing or student architect. Mathematical formulae, laboratory test reports, and the like, are kept to a minimum. Standards, instead of being exhaustively described, are brought to the reader's attention by reference to the pertinent British Standard number (similar, it is imagined, to our Commercial Standards, as promulgated by our National Bureau of Standards after consultation with the materials manufacturing industry involved).

The volume commences with eight chapters dealing with the general properties of buildings and building materials, under the following headings: Movements, Adhesion, Thermal Properties, Fire Risk, Acoustics and Sound Transmission, Mechanical Properties, Durability and Changes in Appearance, and, finally, Production, Manufacture and Assembly of Building Materials. Even this last chapter, which is particularly full of local British data, is also loaded with practical good sense for any American reader who can expand his horizon from the Oregon-sized United Kingdom (that's a fact!) to the United States as a whole.

The second part consists of a series of chapters on specific materials, from cements and bricks through glass and paints. Curiously enough, there is no separate chapter on insulating materials; nor, indeed, is there any adequate discussion of thermal insulation as we know it in this country, at least as far as the *materials* themselves go. Handisyde does have some extremely valuable things to say about heat capacity and about other aspects of the theory of heat transfer, but on the other hand his information about condensation and vapor barriers is primitive.

Still another aspect of the book which interests an American observer is the

(Continued on page 122)

The Tower Theatre, Waterbury, Conn.

New Washington Hotel, Seattle, Wash.

The Swanson Home, Omaha, Neb.

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Longer carpet life

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The finest cushion underfoot . . .
The cleanest cushion under rugs.

*Source: U. S. Testing Company, Inc., test No. 22570, October 3, 1950, reported Spongex increased abrasion resistance 173%. This test and E1185 also credit sponge rubber rug cushions with an average thermal conductance of 3.00 Btu/hr/°F/sq. ft. over radiant heated panel; and reveal SPONGEX to be superior to all other rug cushions in retention of resiliency after aging and compression.

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(Continued from page 120)

small amount of space devoted to wood. Of the more than 200 pages devoted directly to specific building materials, only 14 are given to "Timber" and 14 to "Sheet Materials"—which include plasterboards and asbestos-cement boards as well as fiberboards, plywoods, and the like. An American book of this genre undoubtedly would give much more space to wood and wood products, since ours is a nation still relatively rich in timber, unlike the British whose forest resources are painfully limited, and much of whose wood must be imported from Canada, Africa, and elsewhere.

Although the book does cover metals in general, it devotes little or no space to those manufactured metal materials which comprise, in the United States at least, some of the most essential parts of the building—its "utilities." Thus, there is little on plumbing pipes and fixtures, beyond a simple analysis of corrodability and a brief look at types of building pipes in general. Electrical wiring and outlets, heating equipment of all types, and similar nonstructural elements of the modern building are practically ignored. This may well be because Handisyde was purposely limiting the scope of his book to "structural" materials; but if so, why did he include his (rather cavalier and unsatisfactory) chapter on paints, and his good data on waterproofing materials?

Ours not to cavil! The book, which is the first of a series of three on building construction in general that the Architectural Press is publishing (the other two will be *Structural Concepts in Building* by Fisher, Cassie and Napper, and *Building Elements* by Llewellyn Davies) is, as far as it goes, a pragmatic and richly informative job which might well serve as the equivalent, for the practicing architect, of that two-year course in materials engineering which he so often wishes he could have taken but, of course, has never been able to afford to. GROFF CONKLIN

CONCISE EXPLANATION

Simplified Mechanics and Strength of Materials. *Harry Parker. John Wiley & Sons, Inc., 440 Fourth Ave., New York, N.Y. 1951. 275 pp. $4*

This latest volume in Harry Parker's simplified series of textbooks, treats of the principles needed for an understanding of the action of forces on bodies and the resulting stresses. No previous study of mechanics and materials is necessary. Anyone with a fair knowledge of algebra can cope successfully with such ordinarily difficult technical subjects as Stresses and Deformations; Properties of Sections; Shearing Stresses of Beams; Bending Stresses and Design of Beams; Rivets and Welds—all presented here in simple, concise style. Explanations of illustrative problems, often met in practice, are worked out and there are 21 data tables to put the facts to work. The book itself is as compact as its text—5⅛ x 8 inches—and flexibility bound so that it's easy to carry in a coat pocket on any job.

E. T.

FENCES AND GATES

How to Build Fences and Gates. *Lane Publishing Co., 576 Sacramento St., San Francisco, Calif. 96 pp., photographs, drawings. $1.50*

The scope and quality of subject matter in this paper-bound volume, whose title clearly describes its purpose, are remarkable. Not only are there 225 photographs of fences and gates, but in the

(Continued on page 124)

In Manhattan House

new ultra-modern 582-apartment dwelling

STANLEY BALL BEARING OLIVE KNUCKLE HINGES

Manhattan House, new apartment building owned and operated by the New York Life Insurance Company on New York's East Side, can boast a *score* of unusual features. One feature of this ultra-modern structure, however, will be as familiar to architects and contractors as bricks or mortar. When the doors of Manhattan House open this fall, they will open on Stanley Ball Bearing Hinges.

For generations this Stanley Olive Knuckle Hinge has been an architect's favorite. There is no smoother, more efficient means of opening and closing doors. To insure *lasting* client satisfaction, include Stanley Ball Bearing Hinges in your building plans. Then you've provided quiet, trouble-free door operation *for the life of the building.* The Stanley Works, New Britain, Connecticut.

REMEMBER . . . THREE HINGES TO A DOOR

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HARDWARE • TOOLS • ELECTRIC TOOLS • STEEL STRAPPING • STEEL

p/a

REVIEWS

(Continued from page 122)

main they are well designed, many of them by leading West Coast architects and landscape architects. The text is organized according to types of fencing —pickets, slats, boards, panels, louvers, rail, plastic, glass, wire, etc.—and the pros and cons of each type are summarily discussed. For those wishing to build their own fences, there are drawings and a-b-c instructions—from digging postholes to planting suggestions. There is even a brief chapter on laws regarding fences, with the careful admonition to the reader to "stay on the safe side." Things are never *quite* as easy to build as books of this nature imply, but there is no question that this is a helpful "how to" guide for the handyman. In addition, it is a surprisingly good reference collection of photographs of fences and gates of every description. G.A.S.

ELECTRICAL EFFICIENCY

Hospital Electrical Planning for Architects and Engineers. *Westinghouse Electric Corp., Agency and Construction Dept. 12-L, East Pittsburgh, Pa. 240 pp., illus.*

Electrical-planning data has been carefully co-ordinated with the standard basic elements for various sizes of hospitals, with the approval and co-operation of the Surgeon General and the U.S. Public Health Service. The book should assist architects and engineers in the planning of electrical systems in hospitals, so that the electrical facilities can efficiently perform their respective functions. Recommendations are given for all electrical requirements, including descriptions and suggested specifications for principal X-ray equipment. Procedure and evaluation of all factors involved are illustrated by a detailed analysis of a complete electrical system for a typical 100-bed hospital. Actual working out of the hospital plans and specifications was done by Louis David Schmidt, of Fairmont, West Virginia. Free copies of the book are obtainable by writing to Westinghouse and requesting for Booklet B-4037. E. T.

ARCHITECTURE AFLOAT

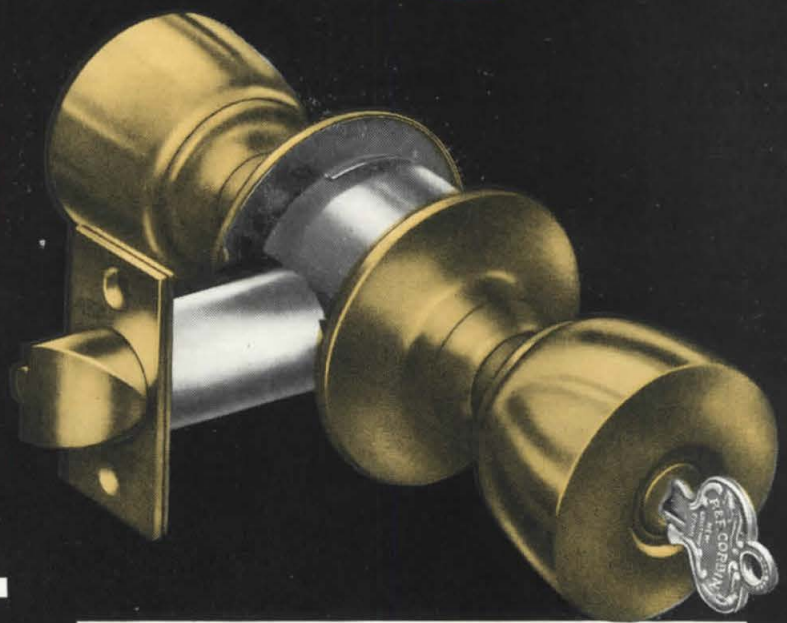
We Took to Cruising. *Talbot and Jessica Hamlin. Sheridan House, 257 Fourth Ave., New York 10, N. Y. 1951. 320 pp. illus. photographs and drawings. $3.50*

Those who yearn to forsake their offices for the exploration of half-forgotten harbors and picturesque coastal waterways will find inspiration, as well as much useful advice, in this account by a couple that is happiest off-shore. As a seasoned architectural professor of the Columbia University faculty, Hamlin easily describes for architects and other landlubbers the mysteries of boatbuilding for a life at sea. And the adventures related are proof enough of the success of the decision made by the author and his Mate.

The Hamlins first ventured to buy a cruiser of their own during the World War II, although both had long enjoyed sailing and trips abroad. Their enthusiasm carried them through the difficulties of making *Aquarelle I* seaworthy and their reward on the first cruise aboard her was enviable. Next summer came a more adventurous trip—from New York to Miami. That and later experiences in the waters off New England provided many tales that are the spice of this book: but the practical information offered about planning for comfort in close quarters makes it a happy addition to the designer's reference shelf. C. M.

No other cylindrical lock offers you all the advantages of

THE NEW HEAVY DUTY CORBIN CYLINDRICAL LOCKS



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- 100% Reversible!
- Cylinder Easily Replaced From Inside If Keys Are Lost!

· Compact heavy-duty construction throughout · Master ring cylinder for greater protection and flexibility · No screws in roses or knob shanks · Adjustable for doors 1⅜ to 2 inches thick · Extruded brass 5 pin tumbler standard; 6 pin tumbler for extended master key systems · Seamless tubular knob shank with long bearing surface is specially designed for easy knob action and to prevent knobs from becoming wobbly · Automatic deadlocks · Fast 2-hole installation with same size holes for all functions.

Corbin Cylindrical Locks are available with Tulip knobs and Round knobs, in cast and wrought brass and bronze.

Before you specify *any* locks on your next large-building job, compare this new Corbin with any other cylindrical lock you've used. Compare them point by point — feature by feature. You'll find only Corbin has all these extra-quality advantages that mean smoother operation — longer wear with less maintenance—fast, low-cost installation.

And now, *for the first time*, you can offer your clients every major type of lock — unit, mortise, tubular, cylindrical — from one manufacturer. Your clients can choose any of these types for different parts of a building and have all locks master-keyed as needed and harmonious in design.

The new Corbin Cylindrical Lock comes in four designs — each made in the 13 functions most frequently used in schools, hospitals, apartments, office and public buildings and fine residences. If you have not yet received complete specifications — if you would like further information on all this new lock can do — write or wire us now.

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P. & F. Corbin Division

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New Britain, Connecticut, U.S.A.

p/a

NOTICES

Bridge Awards

Three bridges, selected as the most beautiful steel bridges opened to traffic in the United States during 1950, were given an award of stainless steel plaques by the AMERICAN INSTITUTE OF STEEL CONSTRUCTION. Bronze plaques were given to six bridges receiving honorable mention.

The winners in the contest, which has been conducted annually by the Institute since 1928, were selected by a jury of architects and engineers, including GLEN STANTON, President, A.I.A.; PROF. CARLTON T. BISHOP, School of Engineering, Yale University; RENE D'HARNONCOURT, Museum of Modern Art, New York, N.Y.; ALBERT KRUSE, Architect, Wilmington, Del.; and ALFRED SHAW, Architect, Chicago, Ill. There were 97 entries, more than double the number in the field last year.

The winners were as follows:

Class I, for bridges with spans of 400 ft. or more:

Columbia River Bridge, Wenatchee, Wash.; designer, GEORGE STEVENS, Bridge Engineer, State of Washington Dept. of Highways; fabricator, AMERICAN BRIDGE CO.

Class II, for bridges with spans under 400 ft., costing over $500,000:

South Holston River Bridge on Tennessee State Highway 34, Sullivan County, Tenn.; designer, TVA; fabricator, VIRGINIA BRIDGE CO.

Class III, for bridges with spans under 400 ft., costing less than $500,000:

Caldwell Avenue Bridge, over Edens Expressway, Cook County, Ill.; designer, COOK COUNTY HIGHWAY DEPT., J. EDWIN QUINN, architect; fabricator, BETHLEHEM STEEL CO.

Honorable Mention was given to the following:

Class I (for steel design):

A. Piatt Andrew Bridge, Route 128 over Annisquam River in Gloucester, Mass.

Class II, Honorable Mention:

Yazoo River Bridge, U.S. Highway 61, north of Vicksburg, Miss.

G.H. & S.A. Railroad Overpass, Gulf Freeway over G.H. & S.A. R.R. and Griggs Rd. in Houston, Harris County, Tex.

Class III, Honorable Mention:

Route 4 Parkway (Garden State Parkway) Overpass, at Route 25, Middlesex, N.J.

Manitou Road Barge Canal Bridge, Towns of Greece and Ogden, Monroe County, N.Y.

Swatara Creek Bridge, over the Swatara Creek, near Harrisburg, on the Eastern Extension of the Pennsylvania Turnpike.

Niles Street Pedestrian Overpass, relocation of Route 2 in Leominster, Mass.

Scholarships

The New York Chapter of the A. I. A. is now accepting applications for the 1952 BRUNNER SCHOLARSHIP.

The grant, for an amount up to $2400, for advanced study in some specialized field of architectural investigation, is awarded annually by the Chapter to further the development of architecture in the United States. The subject of the study may be chosen by each candidate and is open to any citizen of the United States who has an advanced professional background and is engaged in the profession of architecture and its related fields.

Application for the scholarship must be made before November 15. Further information may be obtained from New York Chapter, A. I. A., 115 E. 40 St., New York 16, N.Y.

●

Four Brooklyn architectural students

(Continued on page 128)

OUTDOORS and INDOORS under one roof*

*Ruberoid Built-Up Roof Specification 203

Something new is arising in suburban developments . . . one-story "dream schools" that combine indoors with outdoors, to provide intimate, friendly, colorful classrooms.

The New Canaan Elementary School is architect's architecture. One of the first of its kind in the East, it is attracting widespread interest among architects who specialize in school design. Every classroom has a door opening onto walks, gardens and playfields. Large windows on one side of each classroom and a bilateral lighting system bring warm sunlight flooding into every corner.

One feature that is *not* unusual, but a perfectly logical choice, is a Ruberoid Built-Up Roof. Architects choose Ruberoid roofs for two reasons: 1. Ruberoid makes *every* type of Built-Up Roof . . . time-tested specifications to meet every design requirement; 2. It's quick and simple to make the right selection with the help of the Ruberoid Roof Selector used in conjunction with Ruberoid's 1950 Specification Book.

If you are not equipped with them, drop us a note on your letterhead and your *free* Built-Up Roof Selector and Specification Book will be sent directly to you.

New Canaan (Conn.) Elementary School. Architect: Sherwood, Mills & Smith, Stamford, Conn. Gen. Contractor: F. D. Rich Company, Stamford, Conn. Roofing Contractor: Max Gottfried Co., Inc., Stamford, Conn.

The RUBEROID Co.

Executive Offices:
500 Fifth Avenue, New York 18, N. Y.

p/a NOTICES

(Continued on page 126)

recently were awarded $500 architectural scholarships by the Brooklyn Institute of Design and Construction.

The four scholarship winners are: ROBERT H. ANDERSON, JOHN LOUIS GENTILE, JOHN F. SCHMUCK, and RICHARD WINNAN.

●

MORRIS SPANGLER was First Prize Winner in Electric Knife Sharpener Design Contest sponsored by the Cory Corp. at the Art Institute of Chicago. JOSEPH PALMA, Prof. of Design, HUBERT ROPP, Dean of the School, and J. W. ALSDORF were judges.

New Addresses

LESLIE L. LOWEY, P.E., 261 E. Shore Rd., Great Neck, N.Y.

SWEET & SCHWARTZ, Architects, 158 N. 20th St., Philadelphia 3, Pa.

WM. B. HARVARD, Architect, 2714 9th St. North, St. Petersburg, Fla.

HARE & HATCH, Architects, 125 Broad St., New York 4, N.Y. South American Offices: Oficina Don Hatch, Apartado 1944, Caracas, Venezuela.

Planning Forum

The Bureau of Urban Research of Princeton University is sponsoring an URBAN PLANNING FORUM during the latter part of October. The five lectures, which will be open to the public without charge, will be held in the Auditorium, Frick Chemical Laboratory, Princeton, N. J., at 8 p.m.

The program is as follows:

I. The Planning Process and Public Participation. Monday, Oct. 22, 1951. Speaker: HUGH R. POMEROY, Director, Westchester County Dept. of Planning.

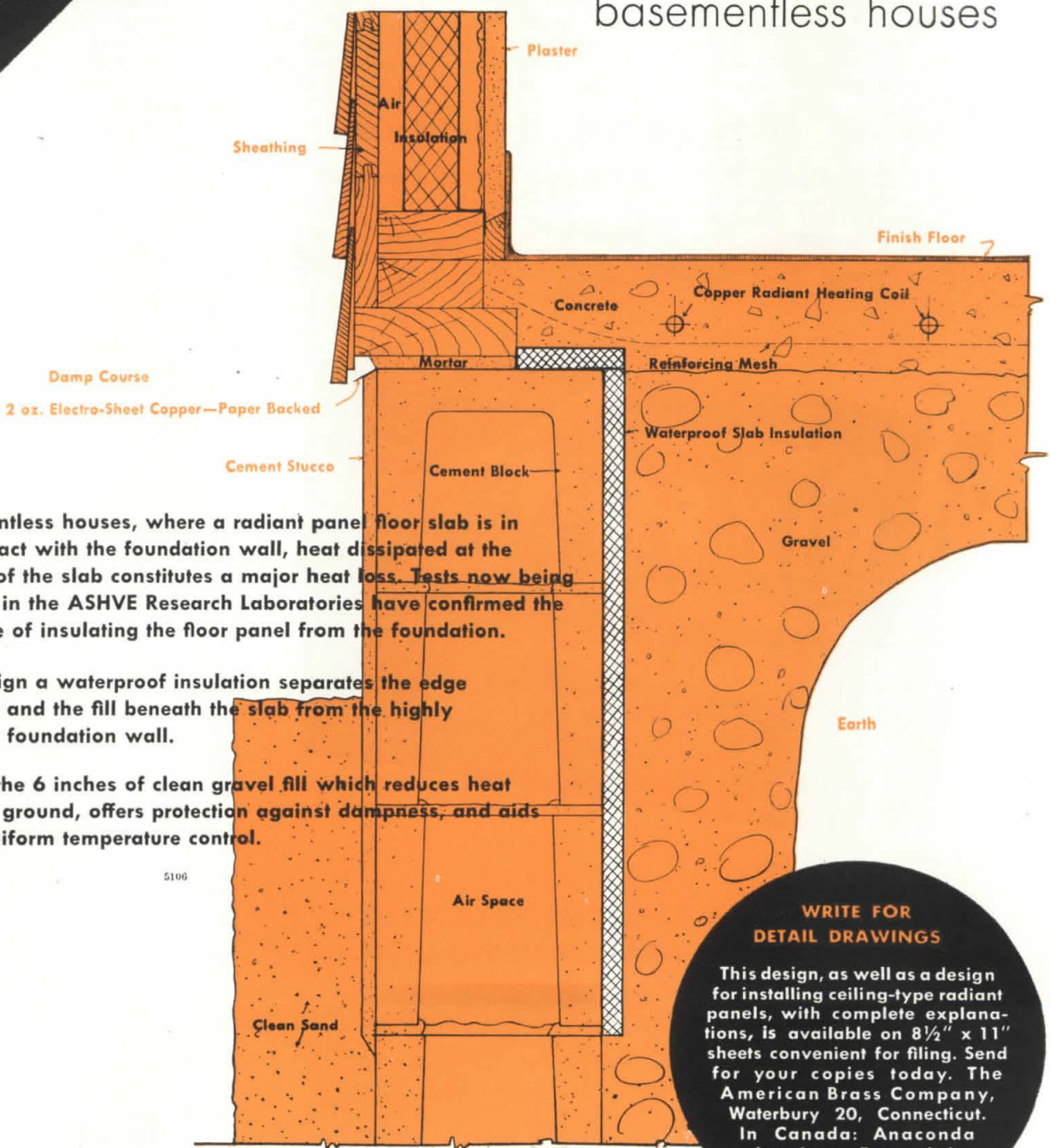
II. Planning Problem 1: Land Use and Zoning. Tues., Oct. 23. Speaker NORMAN WILLIAMS, JR., Director, Div. of Planning, New York City Planning Commission.

III. Planning Problem 2: Housing and Urban Redevelopment. Thurs., Oct. 25. Speaker: CHARLES K. AGLE, Architect, Planning Consultant, HARRISON, BALLARD & ALLEN.

IV. Planning Problem 3: Transportation. Monday, Oct. 29. Speaker: C. MCKIM NORTON, Vice-President, Regional Plan Association, Inc., New York City.

V. Planning Problem 4: Taxation and Fiscal Programming. Tues., Oct. 30. Speaker: WALTER H. BLUCHER, Executive Director, American Society of Planning Officials.

How to **design** to insulate against heat loss in radiant floor panels of basementless houses



In basementless houses, where a radiant panel floor slab is in direct contact with the foundation wall, heat dissipated at the perimeter of the slab constitutes a major heat loss. Tests now being conducted in the ASHVE Research Laboratories have confirmed the importance of insulating the floor panel from the foundation.

In this design a waterproof insulation separates the edge of the slab and the fill beneath the slab from the highly conductive foundation wall.

Note also the 6 inches of clean gravel fill which reduces heat loss to the ground, offers protection against dampness, and aids in more uniform temperature control.

5106

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This design, as well as a design for installing ceiling-type radiant panels, with complete explanations, is available on 8½" x 11" sheets convenient for filing. Send for your copies today. The American Brass Company, Waterbury 20, Connecticut. In Canada: Anaconda American Brass Ltd., New Toronto, Ont.

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out of school

By CARL FEISS

The quality of beauty is not strained
And it droppeth not as the gentle dew
from Heaven, either. The Old Bard

It has always been understood that driftwood is a menace to the mariner. Today, thanks to realism and surrealism, it is also a menace to the art lover and a source of revenue to the beachcomber. Down on the North Carolina coast this year, the mangled and tortured corpses of long dead trees are "gracing" the front yards and overmantels of many a seaside home, and the curio shops are selling mounted fragments, either waxed and rubbed down or *au naturel*, at prices slightly under those maintained by the worldwide diamond cartel. Since I witnessed a like phenomenon not long ago in Denver, where the gnarled relics of sunbleached, windblown mountain pines serve a similar role in the local decor, I got to thinking of Dr. Albert C. Barnes, who recently died, and how the Devil you teach art or design judgment to the architect.

Three of these columns have been devoted to the teaching of basic design to the architectural student. This time I am going to talk about teaching design to the practicing architect who may have been out of school a long time and who may never have had a decent course of design, including art appreciation.

It is a propensity of each generation to regard its predecessors and its successors as educationally underprivileged. That is part of the fun in having an ego, and I am sure is our greatest distinction from our simian cousins, who probably avoid such snide comparisons. Be that as it may, I was both underprivileged and privileged a whole generation ago and am going into that for a moment before launching into the more philosophical elements of my thesis.

●

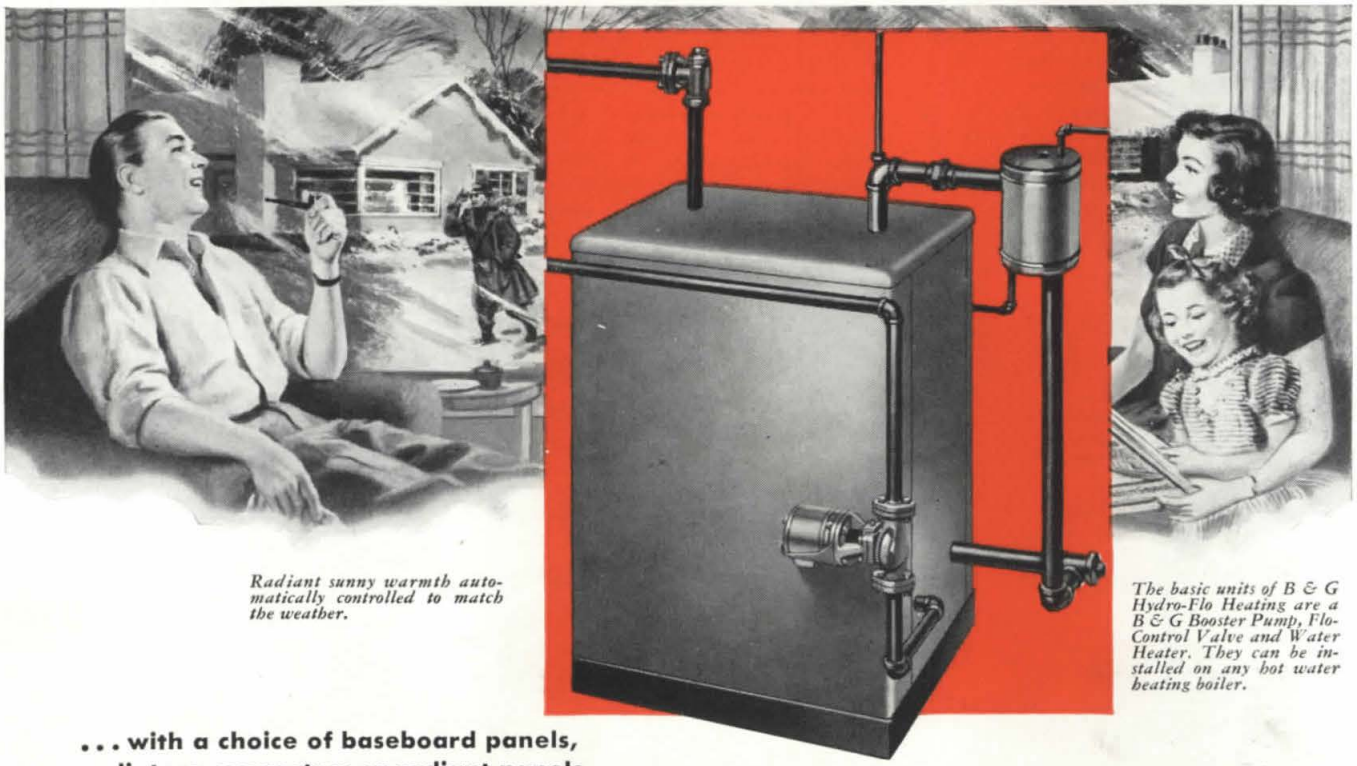
When I entered the University of Pennsylvania in the fall of 1925 as a bubbling freshman, I was swallowed up in the morass of the American Beaux Arts system which was described in detail in this column in January and February 1950 P/A. Like a lot of architectural youngsters, I had a lively interest in art, which was fostered not in the drafting room, where only the B.A.I.D. rigamarole held sway, but over in a little temporary wooden shack some distance from the school. Here a plump, wise, and genial old gentleman known as "Pater" Dawson had his drawing and painting classes in a dusty series of dimly lit rooms filled with dirty Classic casts of colossal size (or so they seemed to me); and there, with a small and devoted staff, he taught the love of color, natural form, and art in general. Dawson, a devotee of the architectural water colorists of the first quarter of the century—Sargent, Vignal, Russell Flint, and others—had a light, sunny touch of his own that made his completely nonintellectual little paintings of gardens and flowers friendly and fragrant. It was in this studio that I first heard of the Barnes Foundation at Merion, Pa.

One warm spring day—I think it was in 1927, but there is no record of the

(Continued on page 132)

A Modern Miracle of *Comfort... Convenience... Economy*

B & G *Hydro-Flo** Heating



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. . . with a choice of baseboard panels, radiators, convectors or radiant panels

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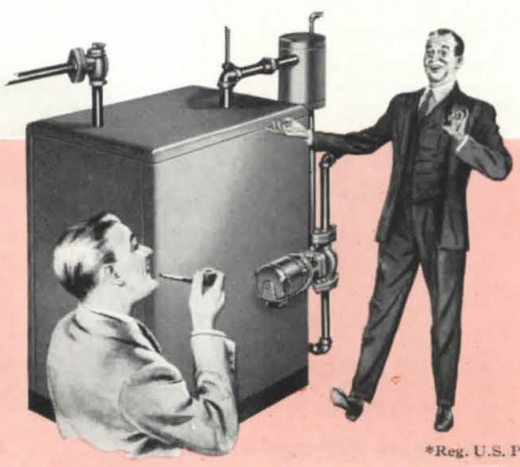
Reduces heating bills because automatic control prevents fuel waste.



*Reg. U.S. Pat. Off.

out of school

(Continued from page 130)

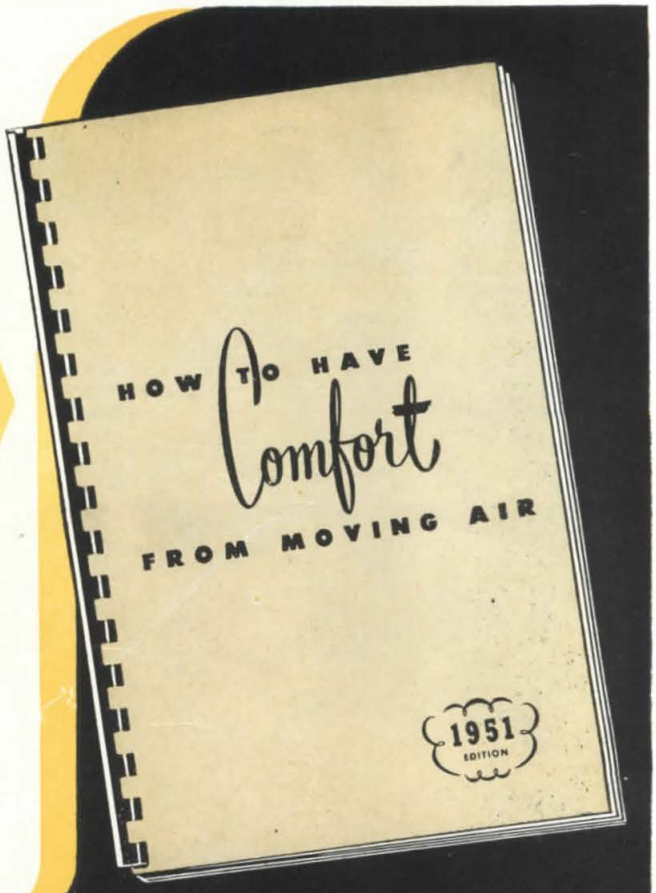
event—I took the train to Merion, not very far out, and after a short walk during which I had made several inquiries, I found myself at the Foundation gates. You will remember perhaps that Dr. Barnes, the inventor of Argyrol, had already become a legend; a misanthrope with a fabulous fortune and a fabulous art collection which no one ever saw and which, according to the legend, would be destroyed at his death. At that time I had not met anyone who had seen the collection, and I found no one interested in adventuring with me to Merion. To my surprise the gates were open, and after walking up a short drive I found myself facing that curious and depressing structure which Paul Cret had designed as a private museum but which failed to be anything more than a watered down Italian villa. Near the forbidding entrance, a middle-aged man was pottering around, trimming shrubs, or something. There was a friendly dog. My knocks on the door rang hollow. Finally the man came up and asked me what I wanted. I said that I had heard there were some fine pictures there and that I hoped to see them. He asked me who had sent me, and on my reply that I was on my own and just a second-year architectural student, he, without further ado, unleashed a large key and opened what turned out to be the gates to Heaven.

For several hours I wandered alone in the empty building—empty of everything but the paintings on the walls. I had not yet been to Europe and at that time the only great museum I had been to was the Metropolitan in New York. The Philadelphia Museum had not been built, nor the National Gallery; the Widener Collection was legendary but inaccessible, the Frick still in private hands, the Museum of Modern Art as yet nonexistent. I knew enough to recognize the wonderful Titians, Grecos, Giorgiones, Tintorettos, Goyas, and other old masters to be found in room after room, side by side with completely new and, to me, unknown works. I had never seen a real Renoir, Cezanne, Matisse, Picasso, Modigliani, Soutine, Manet, Van Gogh, Monet, Rousseau, or Pascin. I had not even been *told* about them in prep school in Cleveland, which school ignored the fine but young museum there; and no word of these artists was mentioned in the architectural school, where the great artists of the day were the Ecole des Beaux Arts Grand Prix winners in Paris. We all bought reproductions of *their* work.

After several hours, I heard the main door open and Dr. Barnes and the dog hunted me down. After a brief but kindly appraisal of my reactions he told me that I could come back anytime I wanted, except Sundays or special days. If nobody was in the museum, I could pick up the key at the house nearby. So began three years of keenest extra-curricular training and pleasure combined. I was often in the gallery alone for as much as half a day. I'd bring sandwiches and eat lunch under the trees on the pleasant grounds. Sometimes a small group would gather with Dr. Barnes around a new picture and there would be discussion. To the best of my recollection, I never saw more than two other architectural students at the Museum during my entire time there, and one of them was more closely associated than I, doing special studies with Dr. Barnes. I had Barnes' "Art in Painting" which had come out two or three years before, and he and the Misses Mullins and a Miss De Mazia were working on drafts of several books, including a definitive one on Matisse. Matisse, at that time, was doing sketches for lunettes in the main gallery, an awkward room with few usable wall spaces but handy for concerts and small group lectures. The Bordentown Negro Choir used to come there to sing spirituals and I remember several pleasantly erudite lectures by John Dewey. He and Dr. Barnes would listen to records—Bach and primitive African music—and I would sit fascin-

(Continued on page 134)

2,346 ARCHITECTS have sent for this book



In March—in these pages—we said, "Air, and its handling, to provide continuing comfort in home, office, store and factory constitutes a new dimension in Architecture . . . offers a new opportunity for *client satisfaction*" —and went on to offer any reader of Progressive Architecture a copy of the only complete guide on air-moving equipment ever published.

To date, 2,346 architects, from all over this country and abroad, have asked for "How to Have Comfort From Moving Air". Today, even in modest homes, it's automatic to make four-figure expenditures for winter comfort. With this book, you'll get ideas about inexpensive equipment for your client's *Summer* comfort—their *year round* satisfaction.

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out of school

(Continued from page 132)

ated in a corner, understanding only half of what it was about.

●

One day I was called into the office of the Dean of the Architectural School, a man I had hardly met, but for whom I had some awe. He turned his dignity at me and said, "Young man, word has come to me that you are studying *modern* art at the Barnes Foundation. A close association with and scrutiny of the work of dissolute and immoral men like Gauguin and Van Gogh and others is unhealthy and can lead only to undesirable influences on your character. Therefore, I, *in loco parentis*, expressly forbid you to continue these studies." I quote that statement almost exactly, as it was indelibly stamped on my astonished mind. (I only wish I had had presence enough to ask the Dean about Stanford White.)

Needless to say, I disobeyed the order. If anything, the clandestine aspects of the next year and a half of forbidden study added piquancy to an already exciting period of contact with the art of design in an atmosphere which was unlike that of a studio, atelier, or museum. For, all rumors to the contrary, Dr. Barnes was a cultured and kindly man whose main interest was art. His extreme sensitivity to people was a curse to him and to others. Like many shy and proud people, having been uncontrollably hasty and nasty, he had revulsions of feeling that plagued him long after. He was kind to me, and I am grateful for a privilege afforded to only a few.

Today, in many architectural schools, the student has access to cultural influences not available in the average school of my time. This does not mean that middle-aged architects are not in the forefront of local or even national affairs having to do with bettering of the arts. What bothers me is the lag which exists between items of knowledge and taste and their translation or interpretation into architectural design. Let's revert to driftwood. A man of the Sung Dynasty might have been able to adapt to his sensitive tastes a bit of gnarled wood as the basis for a beautiful romanticizing in China ink. But he knew enough to recognize the fact that a thing was not necessarily beautiful just because it was an artifact of nature. He knew that nature is the soundest source of inspiration but that man needs to apply his ingenuity, taste, training, sense of design, and craftsmanship to make such a source into real design for a particular purpose and place.

Le Corbusier and Gropius probably vie for the responsibility for that popular cliché of our contemporary designers, the random fieldstone wall, which, used indiscriminately as exterior or interior texture, structure, and dust catcher, poses as a design. Before World War I, F.L.W. was using random ashlar with deep-raked joints for huge chimneys and wing walls. Romantic and rock-gardeny in effect, pleasant, and gravitationally natural, this latter type of wall has become a standard item in contemporary American design, and no "modern" house is truly acceptable without such a wall somewhere. The same is true of roadside restaurants, jewelry shops, filling stations, and hotel lobbies. The material manufacturers, always quick to adapt industrial design to the fashion of the day, have now invented a brick-tile in several colors to facilitate imitation of random ashlar walls and now, in even those areas where rock is not a natural resource, the architect can serve his client in the best of contemporary tradition.

Let's think for a moment of the design clichés that we have adopted as being the prerequisites to "sound" architecture. It is a challenge to the contemporary designer to avoid using some of those self-conscious elements which are so commonly a part of our standard vocabulary. (Or is it "vocabulary stand-

(Continued on page 136)

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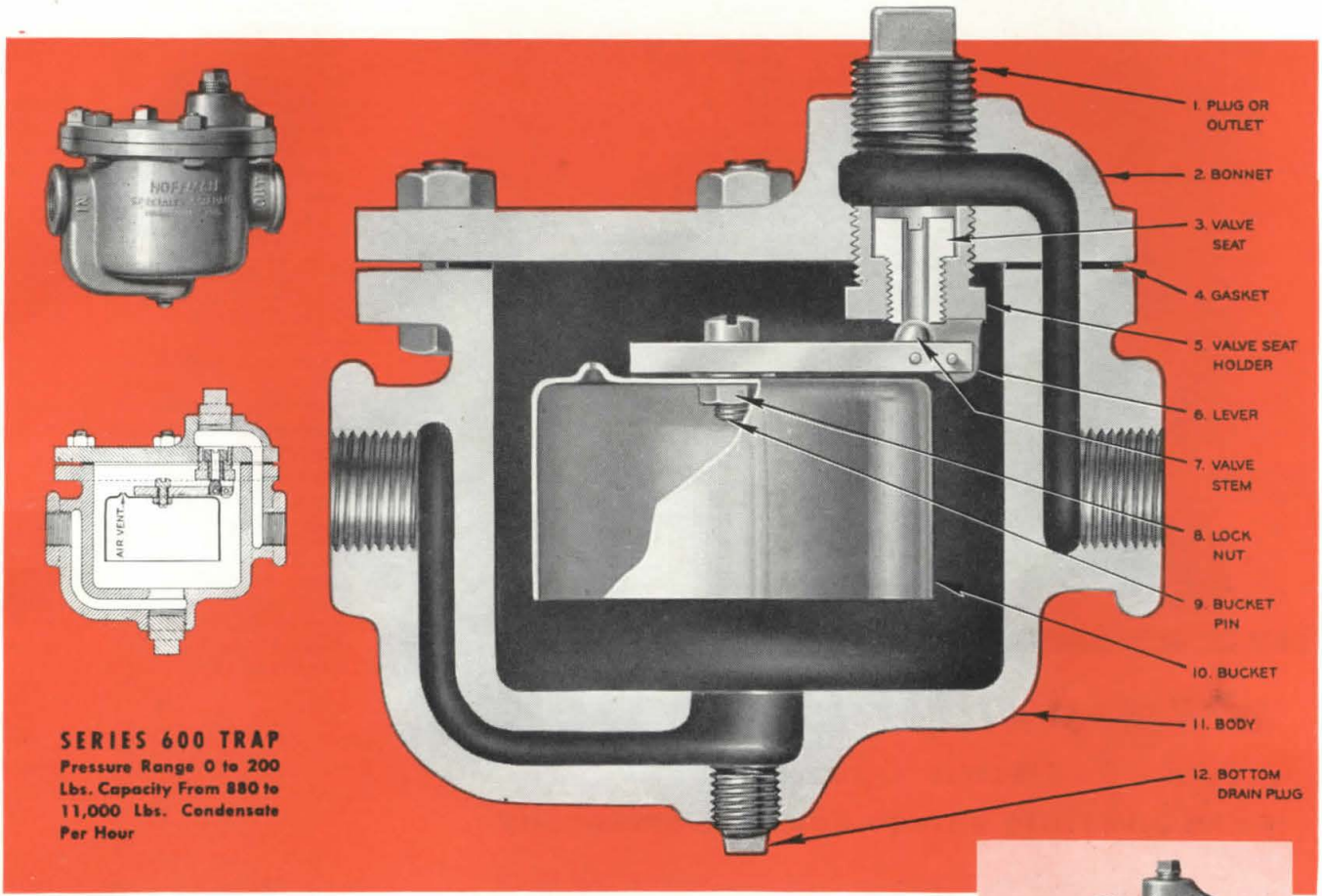

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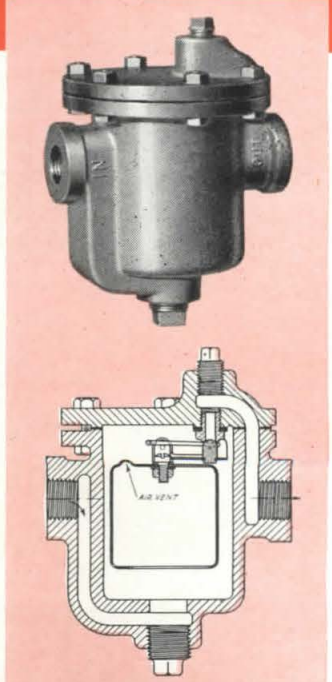

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out of school

(Continued on page 134)

ards"?) Alright, with all of the flexibility which limitless technology creates, we stop at:

Cantilevers
Jalousies
Butterfly roofs
Picture windows of plate glass penetrating random ashlar or fieldstone walls or chimneys
Random ashlar or fieldstone walls or chimneys penetrating picture windows of plate glass
Flat roofs with or without overhang
One-pitch roofs—ditto
Two certain chairs: one either of plywood and plywood or of metal and plywood, the other of canvas and metal, without which no interior is properly *soignée*
Vertical planks, inside or out, or both.
I won't go on—

Now let's see what is out of style at the moment despite possible technological license:

Domes
Vaults of any type
Colonnades (other than Lallycades*)
Color, other than chartreuse and chocolate
Monumentality
Symmetry
Ornament, including designed texture
Pitched roofs of a 45° angle or over.
I won't go on—

●

Who are the Faths, Balenciagas, Balmains and Diors of this generation of architects, replacing the Patous, Chanels, Vionnets and Worths? The fashion magazines are full of the latest styles, and each eager designer, without reading the instructions, jumps to the latest. O.K.! So be it! But back of the superficialities are the fundamentals of design, just as necessary of consideration for the practicing architect as for the fledgling in "Basic Design". The architect cannot leave the laying up of a fieldstone fireplace to any old stone mason his client can afford and expect that the haphazard choices of rock and mortar will create a work of primitive art, or for that matter, of any kind of art. And boy, I'm sure tired of that particular fireplace where you get a pile of glaciated boulders and heap them on an angle iron supported at one corner by a 2" pipe. A few more of those and I'll go Williamsburg, to spite you.

So here I am, liking to think of myself as reasonably cultivated and reasonably liberal, floating in mid-air like the Cheshire Cat, grinning at past mistakes and present foibles, quite unable to suggest a nostrum. Maybe my training at the Barnes Foundation *did* corrupt my sensibilities, and where I look for design in materials and textures and line and space and color, and where I look for a plastic means of expression,

**A Lallycade is a double row of pipes set on a concrete slab and supporting a concrete slab. It replaces the Gothic cloister and the arcade in contemporary vernacular.*

(Continued on page 138)

out of school

(Continued from page 138)

I find only the artificial tenets of the cliché mongers. There is a world of difference between catharsis and castration.

The practicing architect today claims that he has no time or funds to spend on details of design. Working drawings, specifications, contracts, and supervision take up too much of his time and that of his staff. Design, he says, is only done in the first few weeks and from then on it's wiring, plumbing, heating, and the equipment catalogues. I suppose much of it is a question of words, but design choices are actually made throughout the entire job. The main problem seems to be in recognizing their importance and when they occur.

●

The only place today where the practicing architect gets design briefing (it can't be called training) is in the three—sometimes four, if he's Pacific Coast or Florida—"professional" journals available to him twelve times a year. His learning consists of looking at pictures. But he has no Albert Barnes to help him understand what he sees and to help him enlarge his vocabulary by considered choice. He gets very little chance to see what goes on in the rest of the world, as the better foreign architectural magazines are not ordinarily purchased. And since true criticism is impossible in these periodicals, the architect moves mostly by impulse. The young designer, often just out of school, can often influence his superiors if he plays his cards right, because the latter, while resenting a whippersnapper, seldom wish to appear behind the fashions of the moment. Most youngsters have those down pat.

Somehow, in the years to come, the local art museums and libraries, the universities, the periodicals, and other media must become to the architect true guides to his design needs, desires, and talents. These are starved years where high costs of building combine with lean vocabulary to create the emaciated architecture of the moment. But even more terrifying than this are the queer and spiritless things we build. The deadly masses of housing—whether hi-rise or low—with which we fill our cities—Los Angeles, San Francisco, Chicago, New York. These huge, inert groups (and the source of financing seems immaterial), without form or apparent objective, join in the hash of our designless cities. Are we blind? Or don't we care?

I end with this despairing note. (But it wouldn't do you architects any harm to get acquainted with your local art museums. Even if you've given up trying to create something beautiful and worthwhile yourself, it might be pleasant to see works of others who didn't give up. And I hope you get to the Barnes Foundation sometime.)

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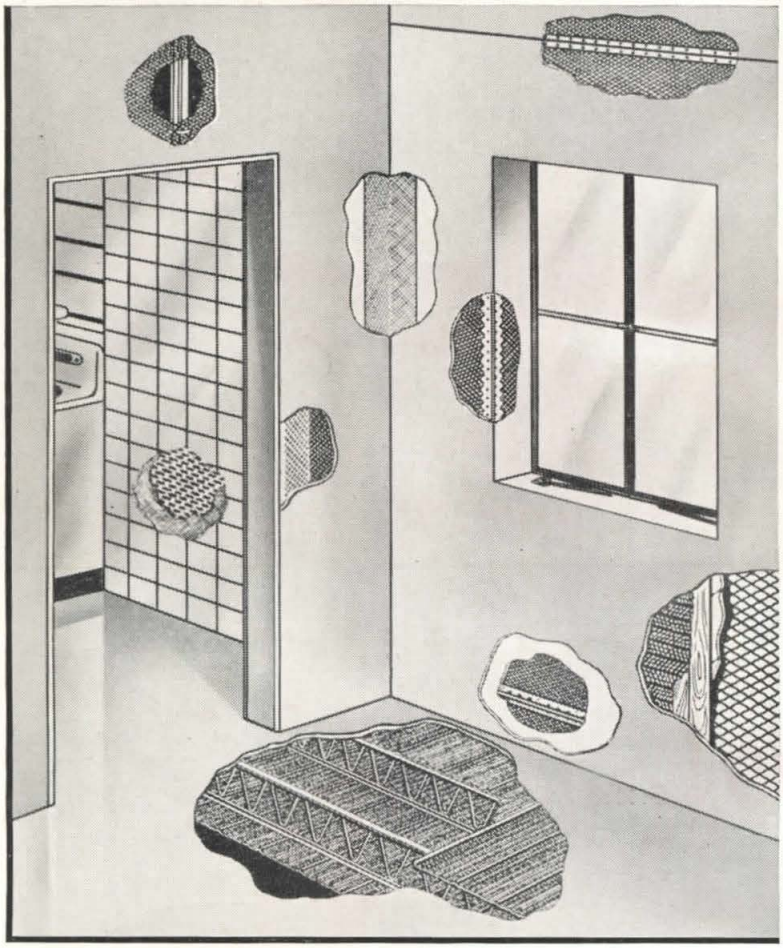
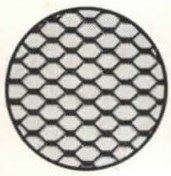
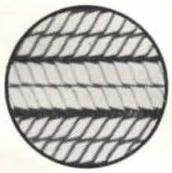


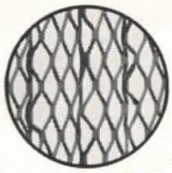


Diamond Lath

Herringbone Doublemesh



Ribplex Lath



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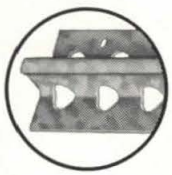
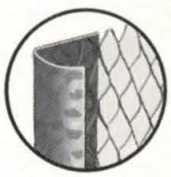
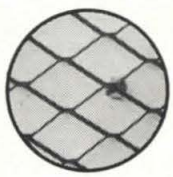
Picture Mold



Base Screed



Casing #72



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it's the law

By BERNARD TOMSON

Some time has elapsed during which various courts have been faced with problems similar to those posed in the important United States Supreme Court decision of *United States* vs. *Moorman* (March 1950 P/A). In that case the Supreme Court determined the effect of the "disputes clause"* found in the usual contracts with the Federal Government. The court held that such clauses were valid and that the decision of the head of the Government agency was final on questions of law as well as fact. As a practical matter this deprived the Court of Claims of jurisdiction to determine any legal issues arising upon such contract and the entire decision was left in the hands of the government contracting officer.

In one line of cases decided subsequent to the *Moorman* case, the courts apparently attempted to soften this harsh holding. They seized upon some language contained in the so-called "disputes clause," which would manifest an intent of the parties, not to have all disputes decided by the government officer who was acting as client, judge, and jury. One decision aptly describes the situation as follows:

"We are always loath to say that a government official has acted in bad faith. Indeed in the many cases that have come before this court there have been but very few instances in which we have found, or thought, that the contracting officer was unfaithful to the Government. Their fidelity is beyond reproach. But it often happens that they misconceive their function. Faithful to the Government they almost always are, but frequently they are lacking in impartiality. And, yet, this is the duty the disputes clause of the contract (article 15) casts upon them.

"It is a duty not easily to be discharged, we know. They are the Government's representatives, charged with the duty of seeing that the Government gets what it bargained for. Many contractors, on the other hand, bent upon making as much money as they can out of the contract, are constantly seeking ways out of doing this and doing that. Frequently, it is a constant battle—the contracting officer as the Government's representative, on the one hand, and the contractor on the other. To ask the contracting officer to act impartially when he must decide a dispute between the contractor and his employer is, indeed, putting upon him a burden difficult to bear. And yet the contract requires him to do so."

(Continued on page 142)

* *"If the contractor considers any work demanded of him to be outside the requirements of the contract or if he considers any action or ruling of the contracting officer or of the inspectors to be unfair, the contractor shall without undue delay, upon such demand, action, or ruling, submit his protest thereto in writing to the contracting officer, stating clearly and in detail the basis of his objections. The contracting officer shall thereupon promptly investigate the complaint and furnish the contractor his decision, in writing, thereon. If the contractor is not satisfied with the decision of the contracting officer, he may, within thirty days, appeal in writing to the Secretary of War, whose decision or that of his duly authorized representative shall be final and binding upon the parties to the contract. . . ."* Paragraph 2-16 of the specifications.

"Disputes.—Except as otherwise specifically provided in this contract, all disputes concerning questions of fact arising under this contract shall be decided by the contracting officer subject to written appeal by the contractor within 30 days to the head of the department concerned or his duly authorized representative, whose decision shall be final and conclusive upon the parties thereto. In the meantime the contractor shall diligently proceed with the work as directed." *Article 15 of the contract.*

it's the law

(Continued from page 141)

And then critically summed up as follows:

"Some contracting officers regarding themselves as representatives of the defendant, charged with the duty of protecting its interests and of exacting of the contractor everything that may be in the interest of the Government, even though no reasonable basis therefor can be found in the contract documents; but the Supreme Court has said that in settling disputes this is not his function; his function, on the other hand, is to act impartially, weighing with an even hand the rights of the parties on the one hand and on the other."

●

In the case of *Liberty Products Corporation* v. *H. K. Ferguson Co.*, an agreement was entered into between the contractor and a subcontractor to perform certain specialized machining of all the rectilinear graphite bar stock then located at the site required under the prime contract with the Atomic Energy Commission. The contract contained the usual "disputes clause"** providing for the determination of all disputes by a representative of the Commission, except that the last sentence provided for the continuance of work by the subcontractor, pending decision of any dispute. The subcontractor commenced an action at law to recover the amount due after his performance of the contract. The defense, based upon the "disputes clause" contained in the contract and upon the *Moorman* decision, was stated by the court as follows:

"The defendant's position is that the plaintiff is in default under the contract and therefore may not maintain this cause, for the reason that whether recovery may be had for unpaid services may not be decided in a court of law, since the parties have otherwise stipulated. To put it bluntly, that the plaintiff has contracted to accept as its remuneration whatever may be awarded to it by a representative of the Atomic Commission with which it had no contractual relation."

The issue raised was whether or not such dispute was within the clause. In holding that the clause was limited to the submission of those disputes arising only during the progress of the work, the court stated:

"In my opinion, the parties have not contracted to submit the question of the balance due upon completion of per-

(Continued on page 144)

** "9. *Disputes.—Except as otherwise specifically provided in this subcontract, all disputes which may arise under this subcontract, and which are not disposed of by mutual agreement, shall be decided by a representative of the Commission duly authorized to supervise and administer performance of the work hereunder, who shall reduce his decision to writing and mail a copy of such decision to the parties hereto at their addresses shown herein, such written decision there (sic) shall be final and conclusive. Pending decision of a dispute hereunder, the Subcontractor shall diligently proceed with the performance of the work under this subcontract.*"

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(Continued from page 142)

formance 'to final determination outside the courts * * * by plain language,' U. S. v. Moorman, 338 U. S. 457 at page 462, 70 S. Ct. 288, 291, but have confined their submission to decisions required during the progress of the subject-matter by an official 'duly authorized to *supervise and administer* performance of the work hereunder.'"

"This means that paragraphs Seventh (a), (b), (c), and (d) do not allege matters legally sufficient to sustain a plea in bar."

It seems clear from the court's holding and its appraisal of the proposed defense that the court was reluctant to give a strict interpretation to the "disputes clause," which under the *Moorman* opinion would strip from the subcontractor all recourse to the courts.

●

A second line of cases has shown still another trend. The fact that the *Moorman* case, for all practical purposes, made the contracting officer both the negotiator and judge, has made the courts somewhat critical of this dual position. They point out that while he is an employee of the government agency, the "disputes clause" places him in a position of a judicial officer who must decide matters in which his own employer is a party. The courts, therefore, have carefully scrutinized the propriety of the contracting officer's actions.

It should be pointed out that where a contracting officer has been found guilty of acting in bad faith, the aggrieved party has always been permitted to attack his decision in the courts. This was true prior to the *Moorman* decision. However, the courts have now not only examined the good faith of the contracting officer, but also the equity of his decision.

In *Penner Installation Corporation* v. *United States*, the court had before it for determination the issue of whether or not a contracting officer had acted in bad faith. During the negotiations preliminary to contract, the contractor had been told by the contracting officer that it would be necessary for him to reduce his bid on the installation of certain poles from $70 to $35, so as to bring his total bid within the authorized figure. He further assured the contractor that the government had determined that no poles would be required. The contractor in agreeing to the contract relied upon this assurance. Later, it was determined that it was necessary to install some poles and the contractor submitted an invoice based upon his original $70 bid. This the government official disallowed. In holding that such determination should be set aside, the court stated:

"We think, however, that it is impossible to conclude that the contracting officer had acted impartially and with

(Continued on page 146)

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(Continued from page 144)

due regard to the rights of the plaintiff in determining that it was entitled to only $35.00 a pole for the number of poles installed, whereas plaintiff had bid $70.00 therefor and had reduced its price to $35.00 only because the contracting officer had represented that no poles were to be installed, and that he desired the reduction only to bring the cost of the work within the limits prescribed. We cannot but conclude that that decision was an arbitrary one and was rendered without any regard for plaintiff's rights or of the equities involved. Having induced plaintiff to reduce its bid from $70.00 a pole to $35.00 a pole, upon the representation that no poles were to be installed, it comes close to being unconscionable to have awarded plaintiff only $35.00 a pole for those which it later turned out had to be installed, contrary to expectations."

●

In *Great Lakes Dredge & Dock Co.* v. *United States*, the court again held the action of the contracting officer to be arbitrary and capricious. In this case the contractor had entered into a contract with the government for the construction of a lock and guide walls on the Illinois River. The contract provided for the erection of a cofferdam, the dewatering of the area within the cofferdam and the building of the dock and guide walls on dry land within this area. It was supposed that the area could be dewatered by using well points. However, when the well points were installed there was encountered subteranean water under considerable hydrostatic pressure which boiled up through the floor of the cofferdam and flooded the area to such an extent that the water could not be drained off by the well points. The contractor later abandoned the use of well points altogether and substituted sumps and pumps.

The contracting officer refused to allow anything for the extra costs of doing work in the mud, on the ground that the conditions encountered were no different from those expected. In holding that the action of the contracting officer was arbitrary and that the contractor could have his action determined by the courts, the court stated:

"We are of the opinion that the plaintiff is not precluded in this case by the findings of the contracting officer and the head of the department and that it is entitled to recover such amount as this court may finally determine is proper as an equitable adjustment on account of the latest conditions encountered which differed from those which plaintiff had a right to expect. We think, however, that plaintiff is limited to a recovery based upon the finding of the head of the department on October 30, 1937, that the latent conditions encountered which entitle plaintiff to an equitable adjustment were those conditions resulting from the fact that it had

(Continued on page 148)

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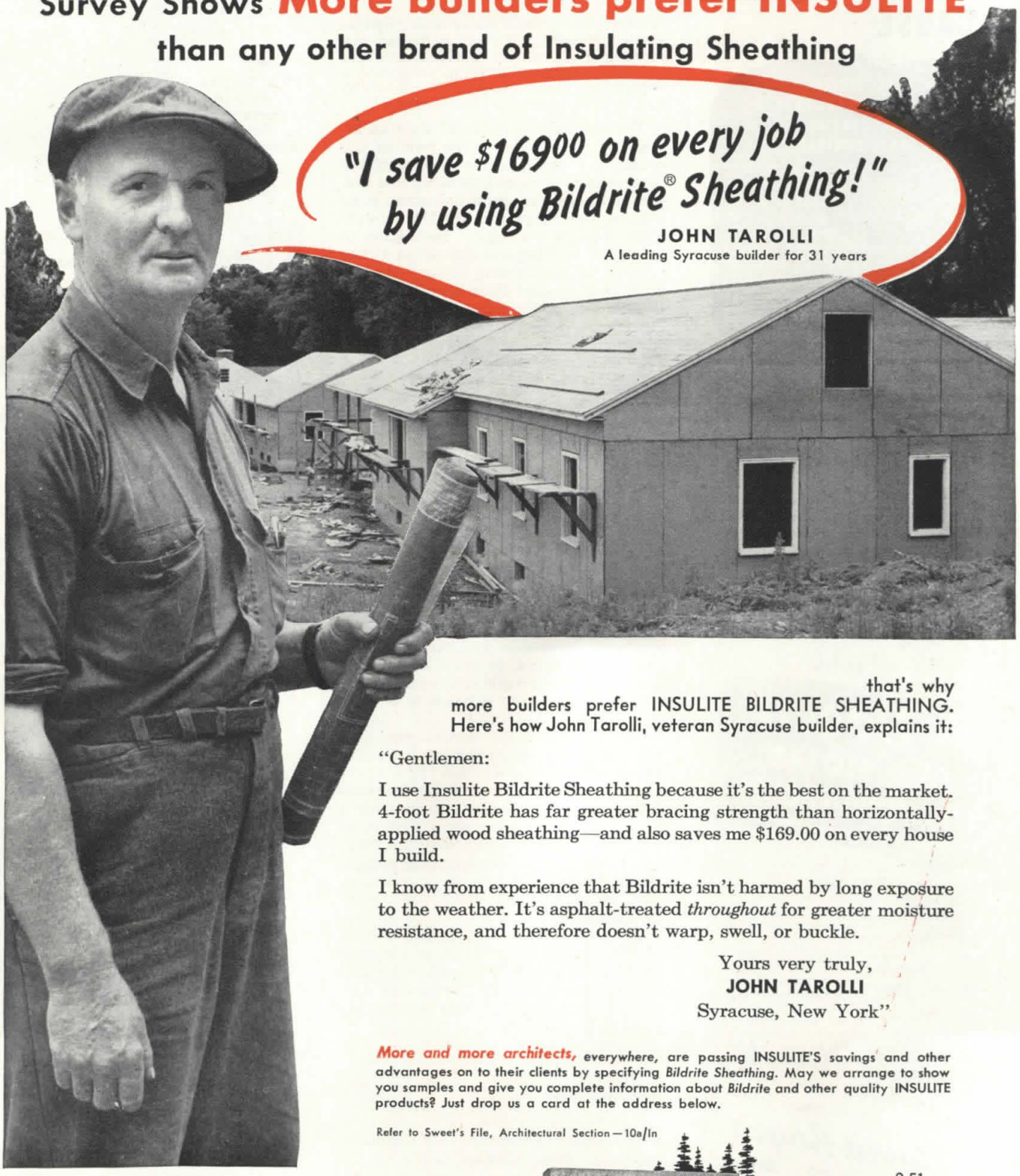

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(Continued from page 146)

encountered 'ground water under hydrostatic pressure * * * to a degree not contemplated by the specifications and in such concentration as to constitute a change in latent conditions within the meaning of article 4 of the contract.' "

The cases above discussed show an increasing inclination on the part of the courts to investigate the actions of the contracting officer and to require of him a somewhat more impartial attitude as between the contractors and the Government. Due to the courts' inclination to interpret the "disputes clause" so as not to vest the contracting officer with the final decision, and their requirement of impartiality on the part of the contracting officer, it would seem that in some jurisdictions the harshness of the *Moorman* case is somewhat lessened.

(To Be Continued)

NOTICES

Assistantships Available

Several research assistantships are available at the UNIVERSITY OF NORTH CAROLINA for students holding undergraduate degrees in architecture, landscape architecture, or graphic arts who are interested in working toward a Master's Degree in the Department of City and Regional Planning.

The assistantships involve mapping and graphic presentation on a project for a Defense Agency. Two types of assistantships are offered: one-third time on mapping assignment and two-thirds time on course work with a stipend of $100 per month through May 31, 1952; and two-thirds time on mapping assignment and one-third time on course work with a stipend of $200 per month through May 31, 1952.

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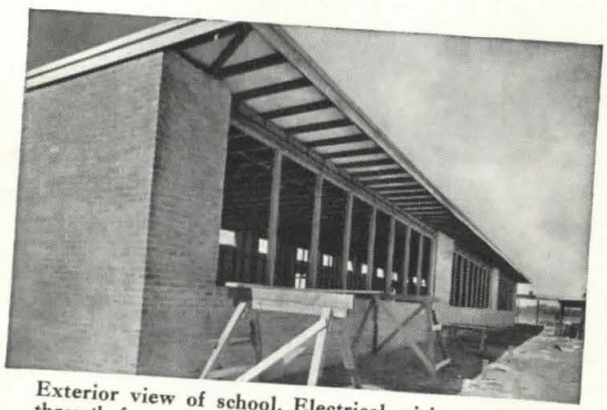

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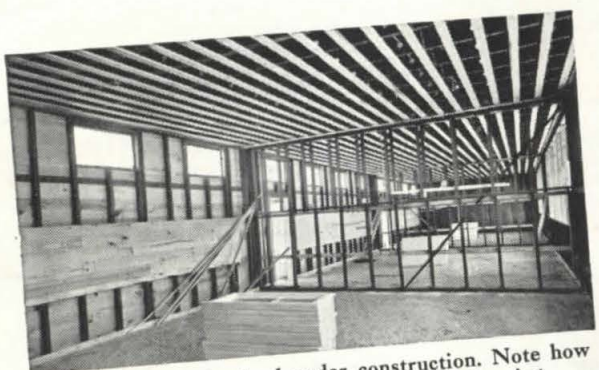

Interior view of school under construction. Note how wood collateral is nailed directly to metal framing.

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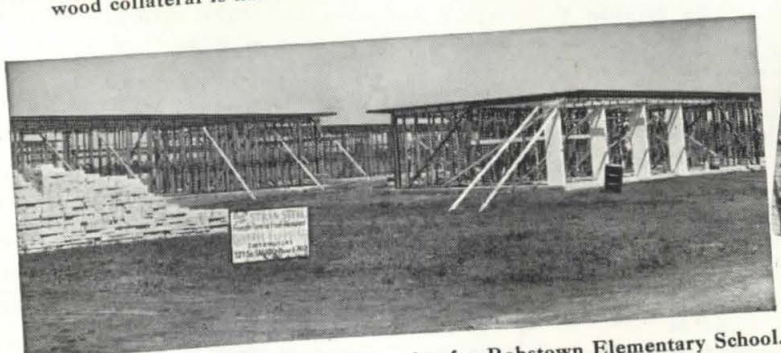
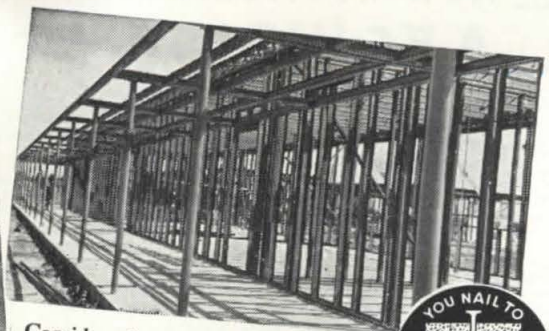


Stran-Steel Framing for Robstown Elementary School.



Corridor detail of school showing Stran-Steel Framing.

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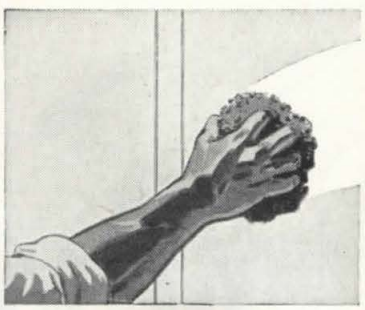

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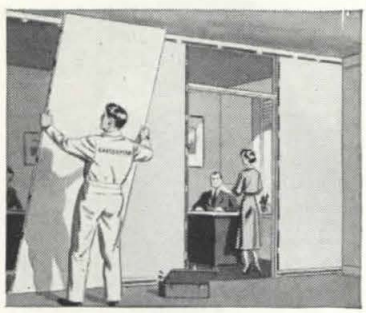

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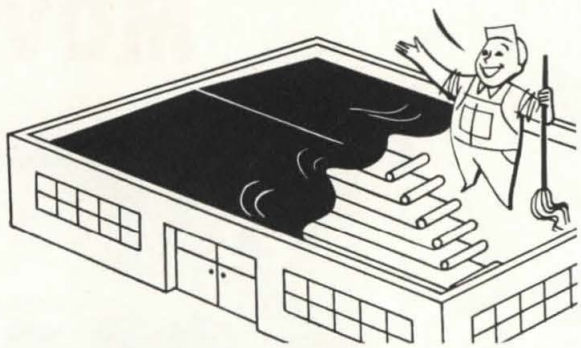

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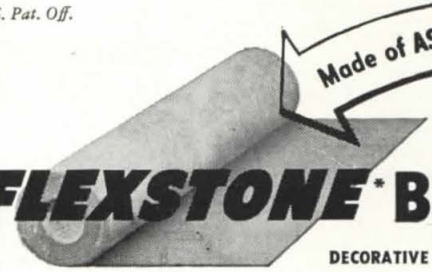

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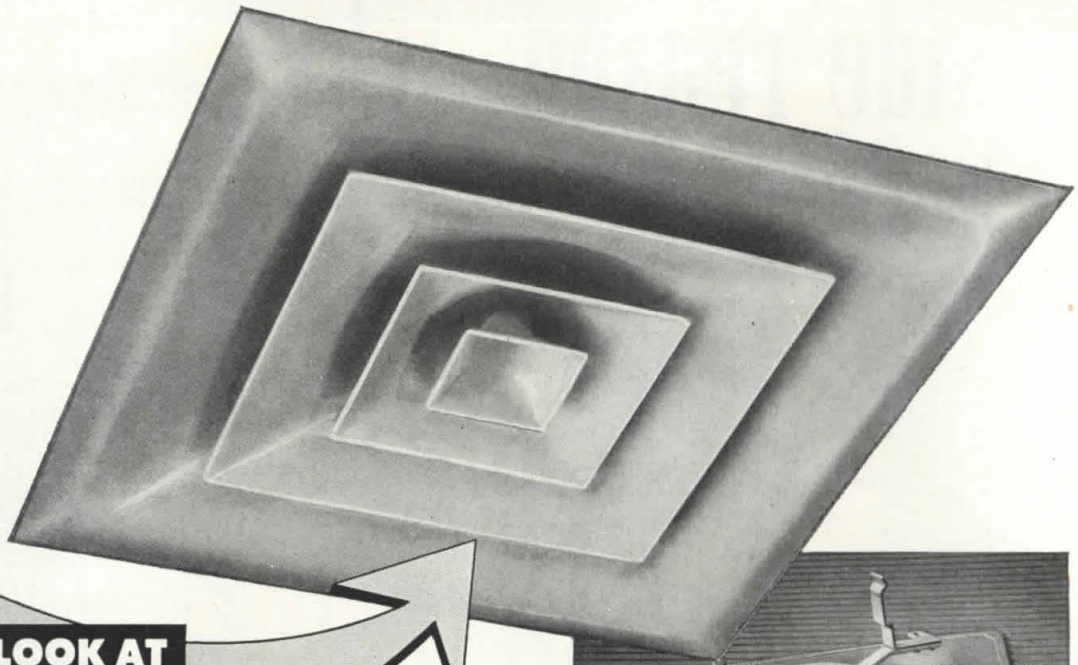

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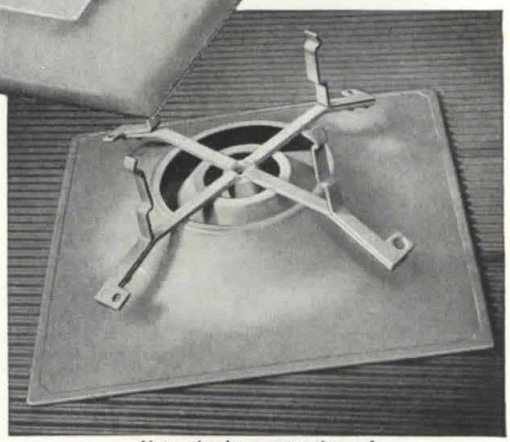
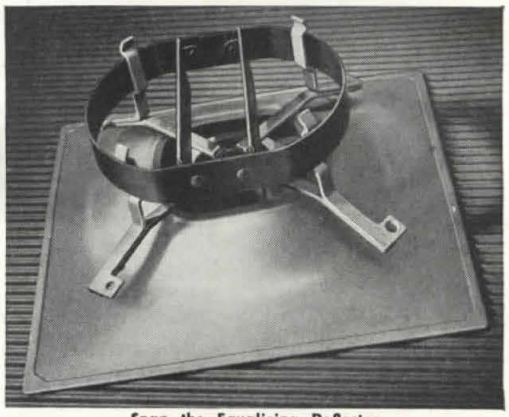
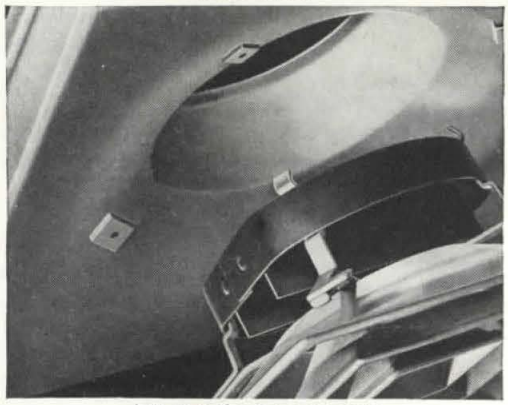
A glance at either the Type E Anemostat Air Diffuser which fits perfectly into acoustic tile ceiling construction, or the Type E-1 which is flanged for standard ceiling installations and you'll agree that these diffusers lead the beauty parade. Moreover, these outlets give you not only the benefits of Anemostat's superior performance but they are a *snap* to install because the inner assembly does just that—it *snaps* into place. No special tools are required and access to the furred space above the ceiling is unnecessary. Just *snap* out the inner assembly and you have the full neck opening to work in. Then fasten the outer member to the duct, *snap* on the equalizing deflector, *snap* the unit together and you're done. Anemostat Square Air Diffusers are easy to look at, easy to assemble and easy to install. They are easy to obtain as well. We have Anemostat Square Air Diffusers "on the shelf" in sizes to meet every need.



Note simple construction of inner assembly



Snap the Equalizing Deflector on the spider



Just snap the inner assembly into the outer member

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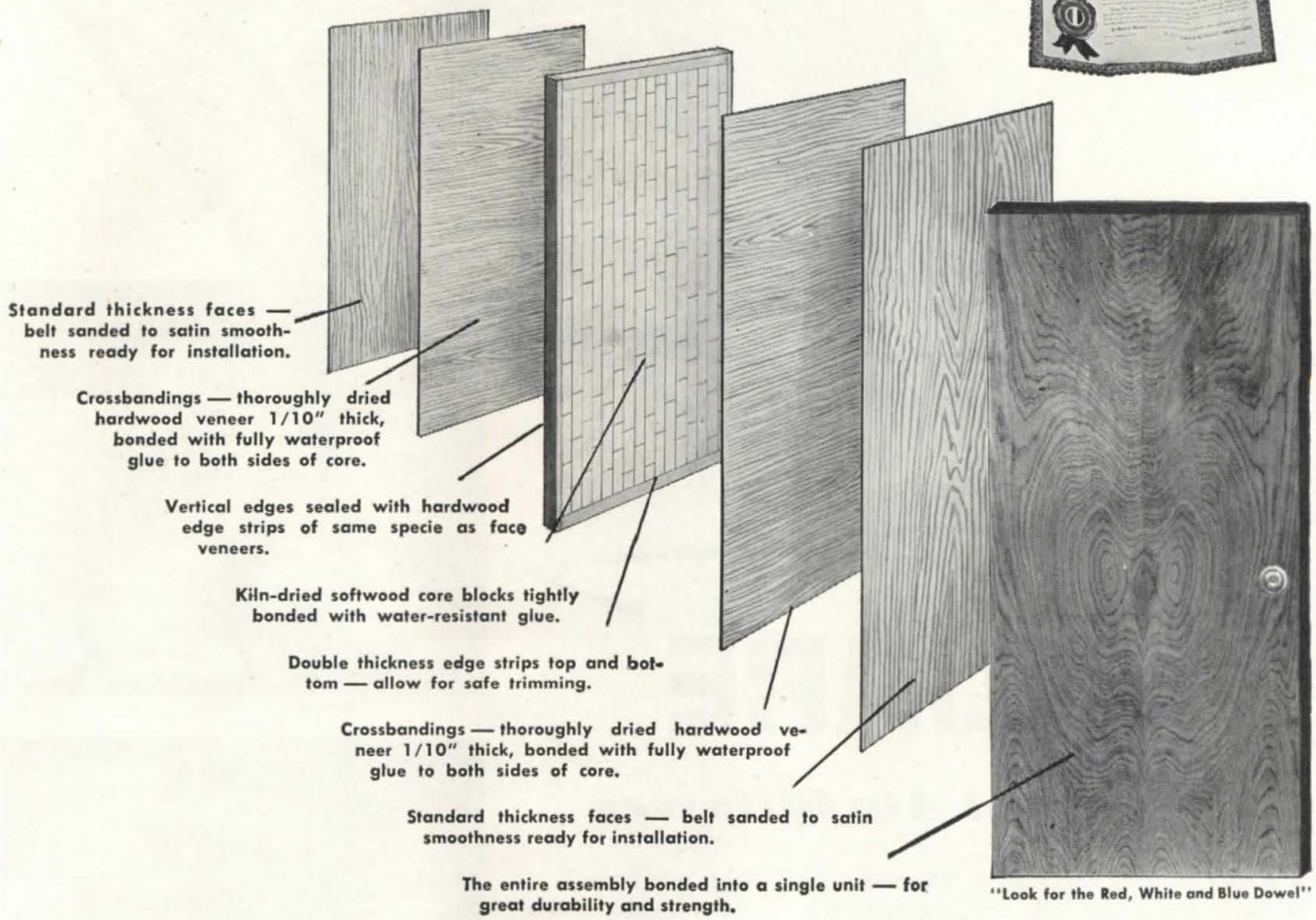

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Roddiscraft Solid Core Doors in standard sizes are available for immediate delivery from the nearest Roddiscraft warehouse. Prompt mill shipment on special orders.

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Typical of the complex instruments developed by Daylight Engineers to aid them in their 11-year study in daylight research is this "push-button sun." With it, and other specially built equipment, they can accurately reproduce daylight conditions anywhere in the world. They can help plan your buildings with predetermined daylight distribution to permit you to get the highest *quality* light from daylight...to make it do a better indoor lighting job.

From this research came Insulux Light Directing Glass Block No. 363—the block that controls light so efficiently that entire glass areas can be used to transmit free daylight from early morning to late afternoon.

A Daylight Engineer will be glad to show you the benefits that Insulux Glass Block® can bring to your structures. Just write: Daylight Engineering Laboratory, Dept. P.A.-10, Box 1035, Toledo 1, Ohio . . . Insulux Division, American Structural Products Co., Subsidiary of Owens-Illinois Glass Co.

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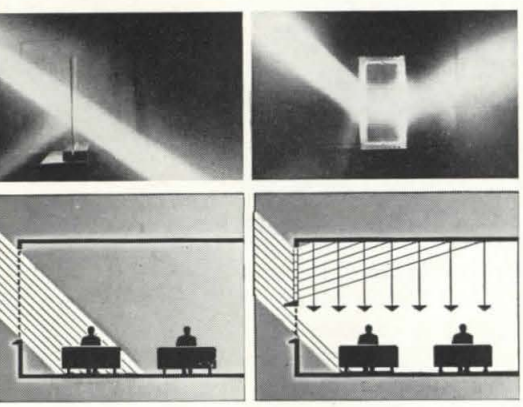

Direct sun causes uncomfortable brightness near windows, extreme contrast in other parts of room. Insulux Fenestration directs and spreads daylight to ceiling, keeps brightness at comfortable levels.

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For domestic hot and cold water lines you can still use copper — non-rusting, highly resistant to corrosion!

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The use of copper for underground service lines—another place where you need this hardy metal—is not prohibited by government regulations!

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Made from commercially pure copper, Chase Copper Water Tube is ideal for hot and cold water lines and underground piping.

Chase Copper Water Tube, Type L, hard temper, in 20 ft. lengths and solder-joint fittings are especially adapted for use in new construction. For replacing old rusted-out piping, Chase Copper Water Tube, Type K, soft temper, comes in long 40 and 60 ft. coils that can be snaked behind walls and under flooring.

For underground installations use Type K, soft temper, Chase Copper Water Tube. It is ductile; can be bent around obstructions; moves with the earth until the fill settles. Long lengths up to 100 ft. in coils reduce the number of flared fitting connections to a minimum.

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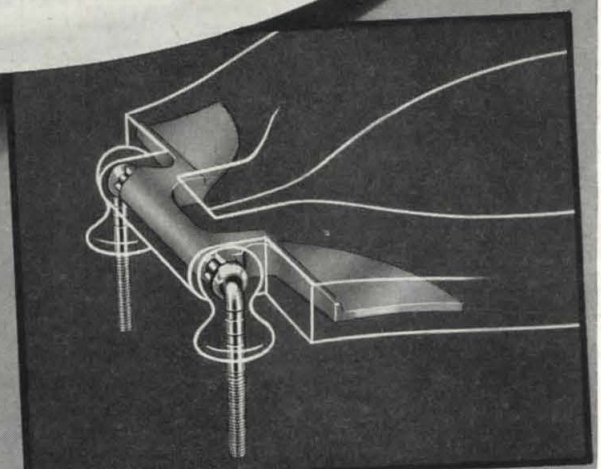
The heavy covering of the Church MOLTEX seat is molded in one operation over a hardwood core, at approximately 400,000 lbs. pressure.

The result is a seat with a beautiful, lustrous but tough finish that will not fracture, crack, chip or peel. Never needs replacement. The first cost is the last cost.

Available in white or black, closed or open front, with or without covers, to fit regular or elongated bowls.



PHANTOM VIEW of No. 9900 shows heavy cast brass insert, molded integrally within the seat. Open back construction for complete sanitation.

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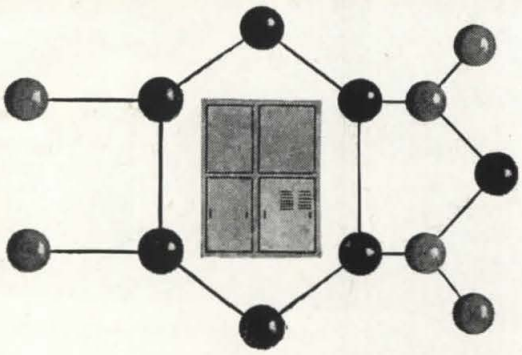
People need a new kind of home. Th
it because their way of living has c
...but their houses (bound by conv
haven't. They're still pretty much th
as in Grandpa's day. They have new g
new appliances. And central heatin
generally speaking, people today don
any better, eat any better, or have less
their houses than Grandma and Gran
in theirs.

They're living in Model T's. On the
or on the job, most people are strictl
But when they come home, they put on
retical celluloid collar. And their wiv
theoretical bustles as they swelter ov
modern ranges in much the same way
ma sweltered over her coal stove. The
the homes people live in shape their l



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heating has changed houses somewhat.
a one-season proposition. On the othe
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a single package, it heats, cools, dehu
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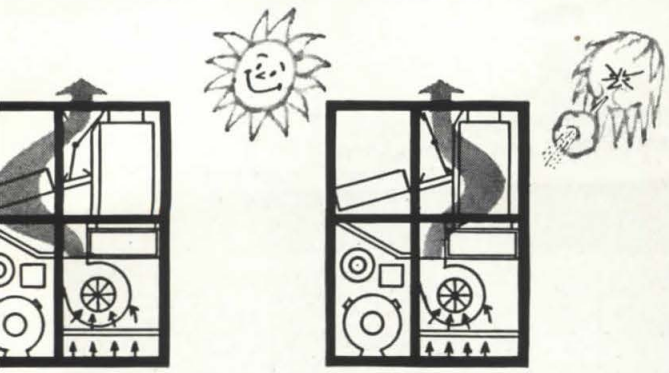
Built around air conditioning. That's
of the Weathermaker Home. It giv
more freedom to design a better hom
needn't use windows for ventilation—
group them for solar heating...leave
the west wall...place them as you wan
we know—*this is just the kind of hous
been wanting to design and build.* W
want to help you.

out the Carrier Weathermaker Home

First, we'll give you the facts on the equipment itself — the Carrier Weathermaker Air Conditioner. We'll put the best air conditioning dealer, distribution and service setup in the business at your disposal. And we're taking this story right to *your* customers, in a dozen national publications. So get the full story yourself...mail the coupon *today*.



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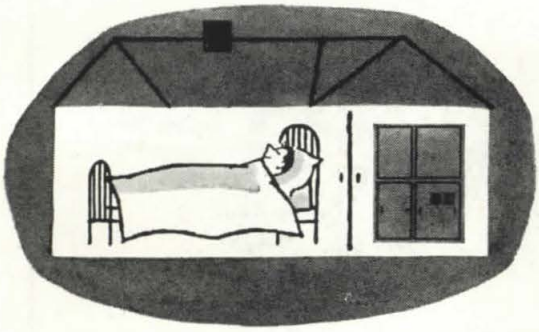

Fits anywhere. Basement, attic, closet, utility room. Only 43″ deep, 52″ wide, 70″ high. Ships in sections to go through 30″ doorways easily. Capacities: 3 hp. or 5 hp. of cooling with 100,000 to 140,000 Btu's of heating, and 5 hp. of cooling with 150,000 to 190,000 Btu's of heating. For all types of gas. Available in 220 volt, single or 3 phase, 60 cycle current. And the new Carrier Weathermaker Air Conditioner can be used in many types of *commercial buildings*. That's another part of the Weathermaker story we're anxious to send you. Write for it today.**Reg. U. S. Pat. Off.*

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MINNEAPOLIS
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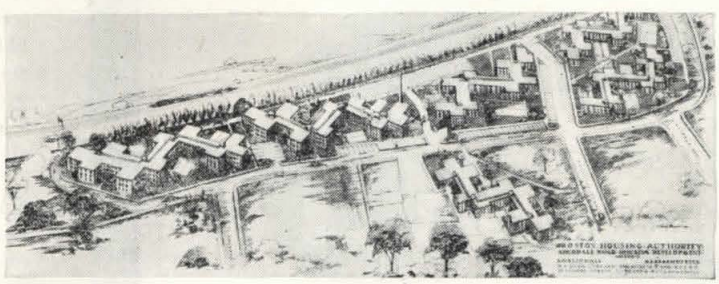
U S S Independence

New U. S. Liners "Test" Controls at Sea

The toughest use-test temperature controls have to face is found aboard ship. Here controls must give a sensitive, accurate performance in the face of vibration, shock and corrosive salt-air conditions. Experience gained in making sea-going controls expands the knowledge of Honeywell engineers, helps them design controls that give a better, more satisfying performance on land. The wide range of control applications ashore that benefit from sea-testing is demonstrated by the many types of controls used aboard American Export Lines' fabulous new sister ships "Independence" and "Constitution." Honeywell thermostats on the liners provide individually controlled comfort in every stateroom. And throughout the ships—in lounges, cargo holds, engine rooms—there are hundreds of other automatic controls. All of these long-lasting controls for heating, ventilating, air conditioning and refrigeration are built by Honeywell.



Personalized Heat Control for 336 Apartment-Dwelling Families in Boston

In the Boston Housing Authority's Archdale Road Project, now nearing completion, three boilers will serve the six buildings. But each of the 336 tenants will be able to enjoy the room temperatures he likes best—just as he would in the finest private home. For, in the Archdale project, there will be a Honeywell thermostat on every living room wall. This is Personalized Heat Control—the only temperature control system that permits a landlord to keep *all* his tenants comfortable at the same time. And it actually *saves* him fuel, because he never has to overheat a building to satisfy the few who demand higher-than-average temperatures.

Architect: M. A. Dyer & Co., Boston; Engineers: Hayden, Harding & Buchanan, Boston; Heating Contractor: T. G. Gallagher, Somerville, Mass.; General Contractors: Jefferson Construction Co., Cambridge.

Massachusetts Hospital has Air Conditioned Nurseries, Individually Controlled Room Temperatures

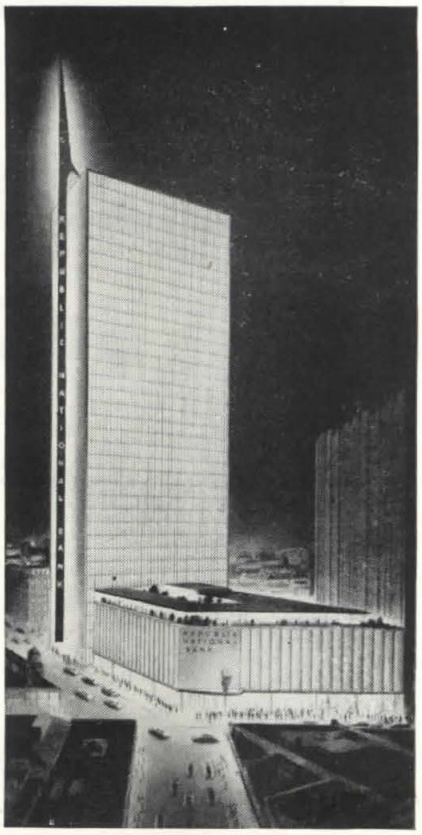
Most medical authorities agree that rigidly controlled room temperatures are needed to give new babies maximum protection. That's why Lowell General Hospital will have Honeywell temperature and humidity controls in the nurseries, labor, delivery and operating rooms of the new maternity and pediatric building. Moreover, to help bring mothers back to normal faster, each bedroom will have Honeywell Individual Room Temperature Control—the only practical way to compensate for effects of wind, sun, open windows and variations in occupancy in hospitals.

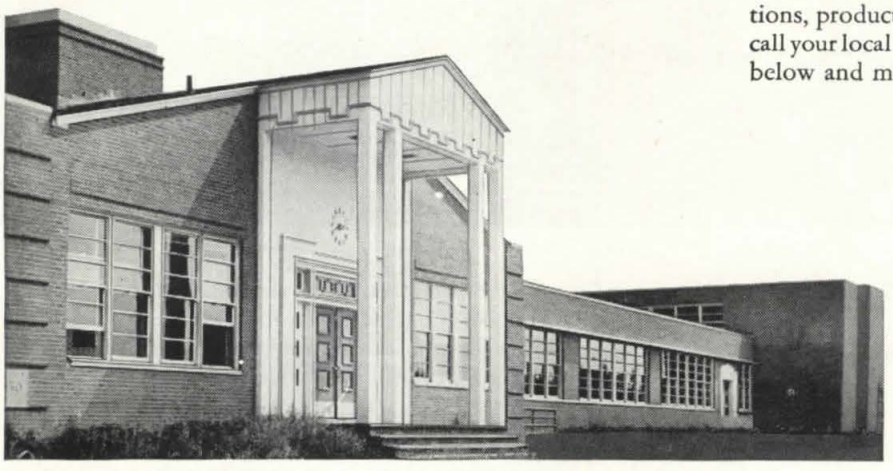
Architects: James H. Ritchie & Associates, Boston; General Contractor: Daniel Cunningham Construction Co., Inc., Boston; Mechanical Engineers: C. E. Doucette, Boston; Mechanical Contractor: J. J. Hurley Co. Boston.

40 Stories of Comfort in Southwest's Largest Building

When the Republic National Bank's impressive new home is completed in Dallas sometime next year, every room will have the wonderful kind of comfort offered by Honeywell Individual Room Temperature Control. This system compensates better than any other for effects of wind, sun, temperature and variations in internal load. It makes sure occupants always receive exactly the right amount of warm or cool air needed for comfort—no matter what the Dallas weather. Room thermostats in the new bank will be pneumatic. And, of course, all other controls needed for year-round air conditioning will be supplied by Honeywell. Instruments will be furnished by Honeywell's Industrial Division.

Architects: Harrison & Abramovitz, New York; Assoc. Architects: Gill & Harrell, Dallas; Engineers: Jaros, Baum and Bolles, New York; Assoc. Consulting Engineers: Zumwalt & Vinther, Dallas; General Contractors: J. W. Bateson Co., Inc., Dallas; Mechanical Contractors: The Farwell Co., Inc., Dallas.





New Jersey Classrooms "Coordinated" for Faster Learning

What determines how fast a child learns? Inborn capacity, of course. *And* classroom conditions—according to recent large-scale experiments. These tests showed that in "Coordinated Classrooms"—rooms where seating, lighting, noise level, heating and ventilating are properly controlled—students of all I. Q. levels make greatly improved progress. Shown above is a new Cedar Grove, N. J., elementary school, all nine rooms of which will be "coordinated." To keep room temperatures uniform and air properly fresh, Cedar Grove officials chose simple, accurate Honeywell controls.

Architect: Alfonso Alvarez, Jr., Upper Montclair, N. J.; Engineers: Vogelbach and Baumann, Jersey City, N. J.; Heating Contractor: Albert F. Ruehl Co., Newark, N. J.

For additional information on any of the installations, products or systems mentioned in this report, call your local Honeywell office. Or fill in the coupon below and mail it to us *today*.

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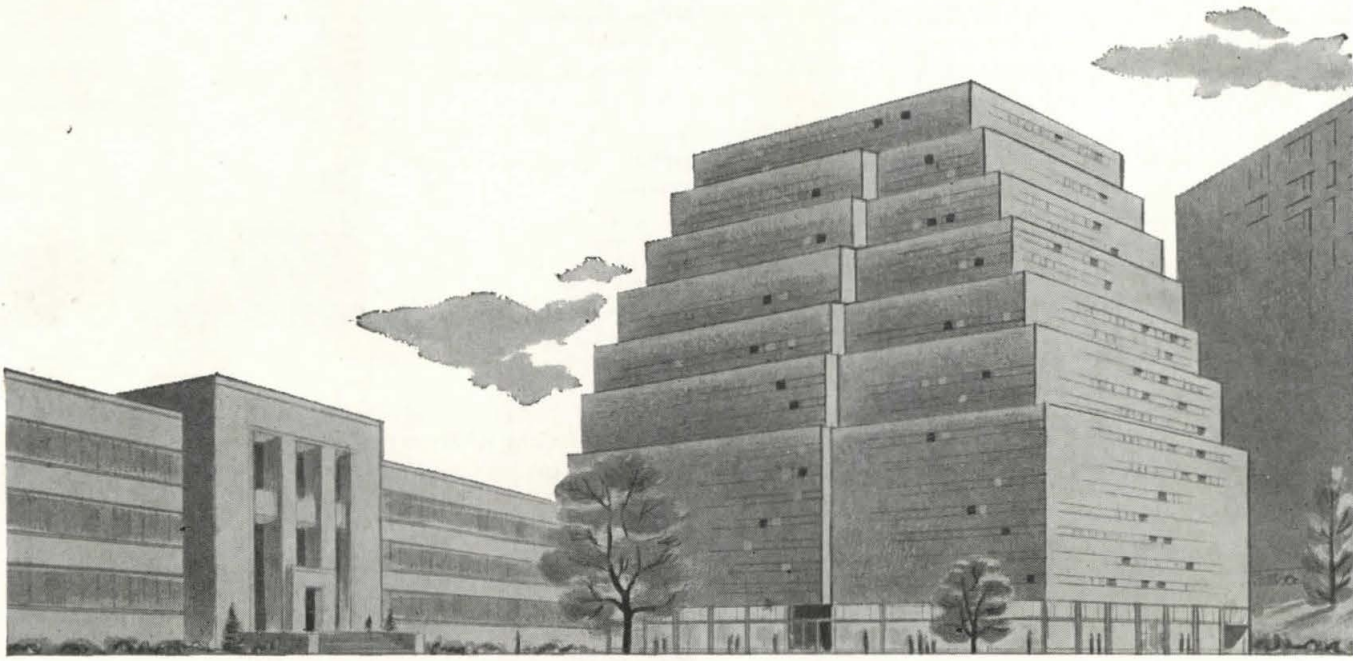


Thirty-nine years ago a young engineer asked himself this question—

"How can building be done better—faster—at lower cost?"

He looked at waste in the pouring of concrete floors over forms that remained in the structure forever.

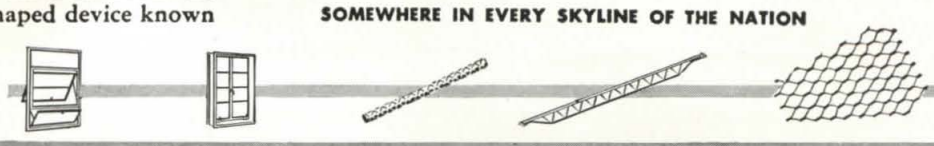
Why not a removable form that can be used again and again, he reasoned . . . the way manufacturers mold things . . . or the way bakers shape cakes with pans that always are reused.

So an idea was born and from it stemmed a new method of building that changed the course of construction throughout the nation. Now concrete floors are molded around a removable pan shaped device known as a Ceco Meyer Steelform, used over and over from floor to floor as a building moves on to completion. Today big savings are made in men, money, material—thanks to an engineering concept as simple as a pan.

Creative Engineering has left its mark on all Ceco Manufacturing down through the years—in steel windows for every type of structure—in open web steel joists —or in products like metal lath—for Ceco builds small with the same precision it builds big.

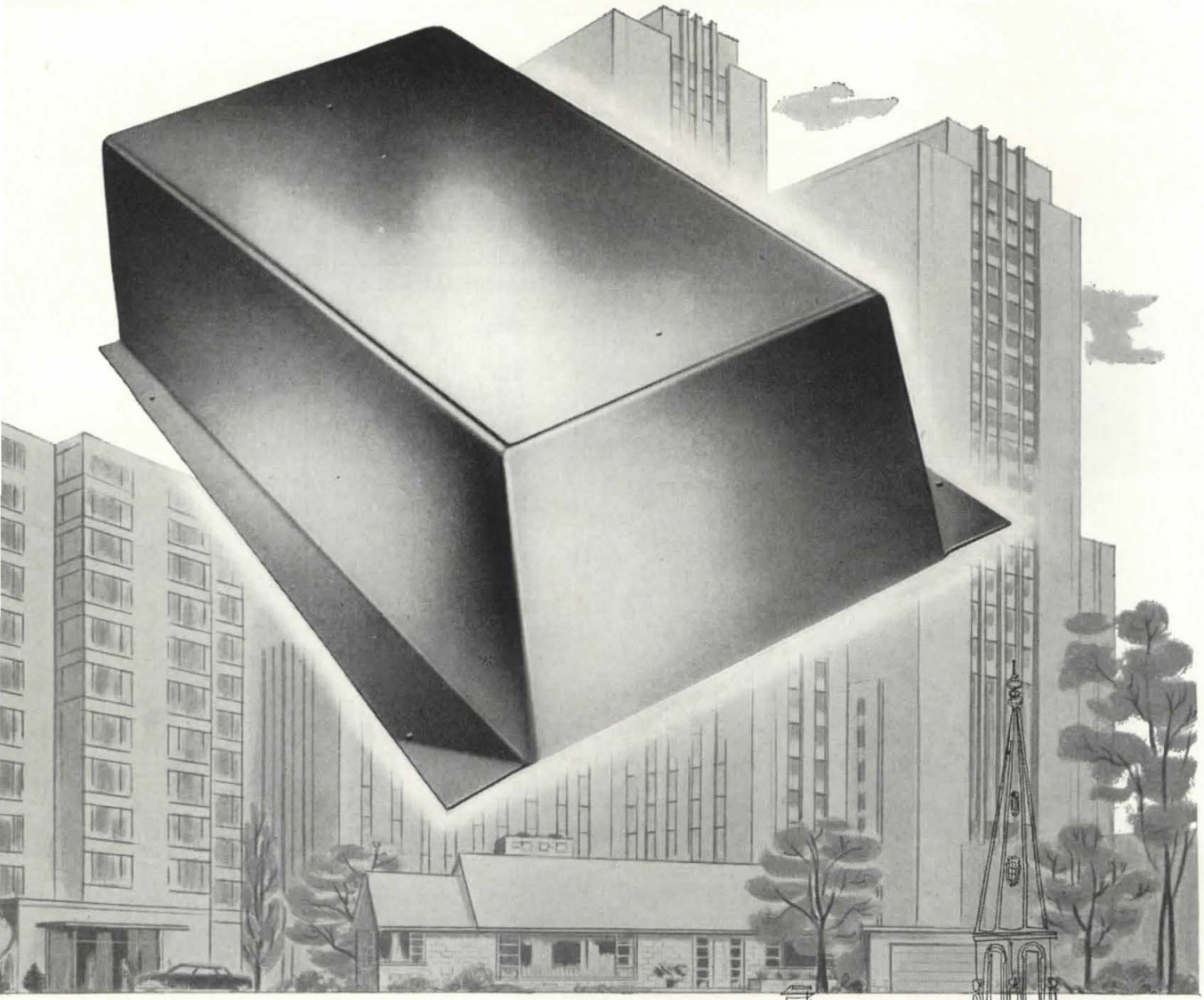
And America has responded to this ideal of better engineered products—so much so that—

THERE'S A CECO BUILDING PRODUCT SOMEWHERE IN EVERY SKYLINE OF THE NATION



CECO STEEL

In construction products **CECO ENGINEERING**



Ceco—one source—one responsibility for many major Building Products of Steel and Aluminum.

Here, too, you will find the fastest, most dependable service from Ceco's 14 strategically located plants —plus a warehouse and nationwide dealer setup.

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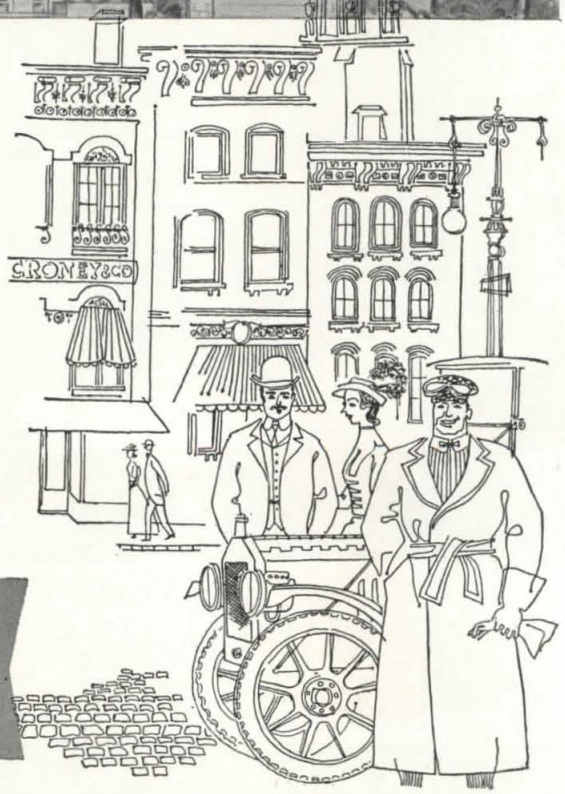
General Offices: 5601 West 26th Street, Chicago 50, Illinois

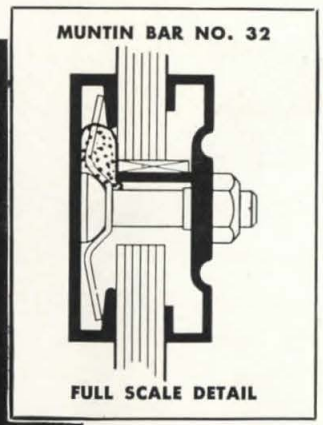
Offices, warehouses and fabricating plants in principal cities

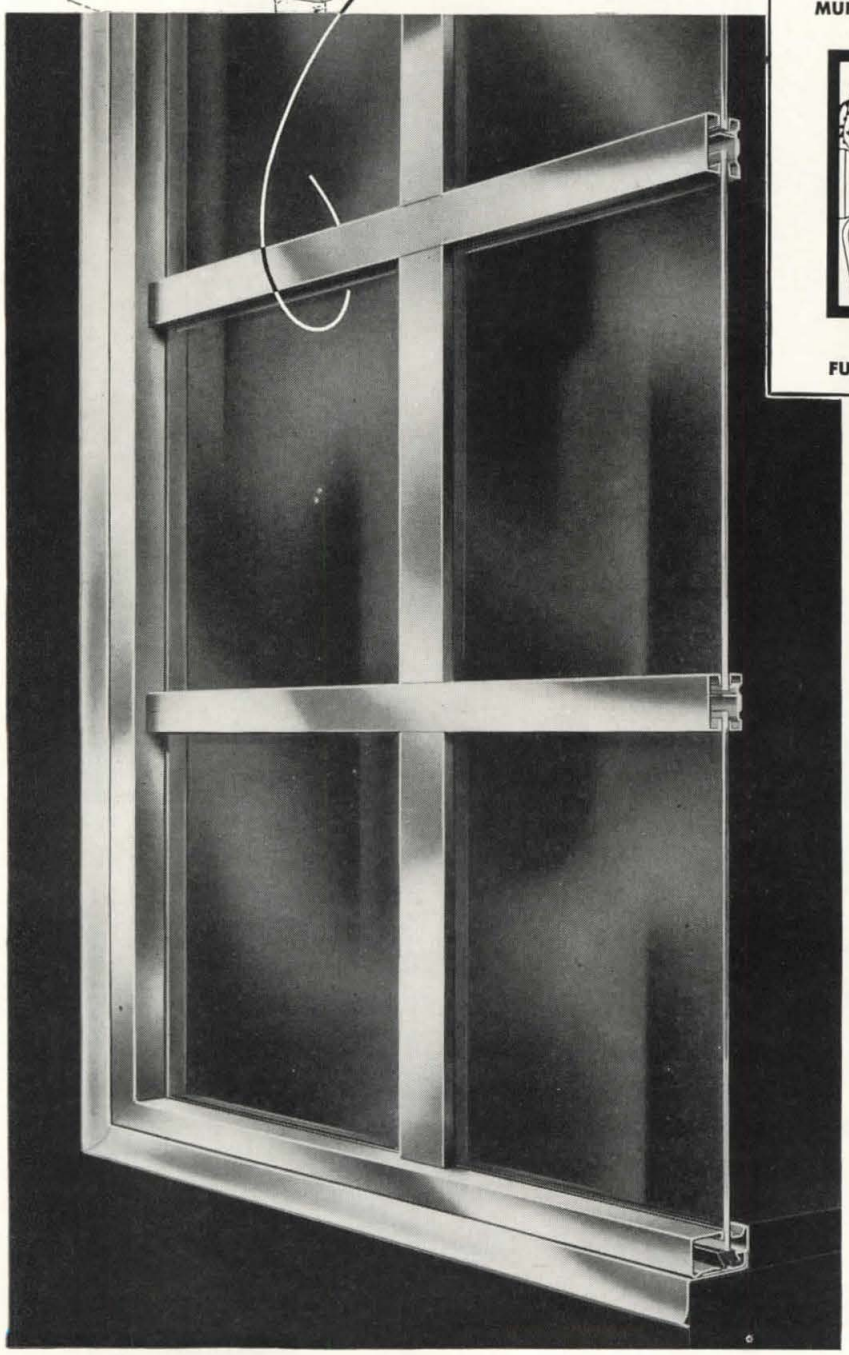


makes the big difference

Create new window beauty with this smart, light-duty

PITTCO MUNTIN BAR





THE Pittco Muntin Bar No. 32 represents an ideal glass setting for windows or store fronts designed with several rectangular lights.

This Muntin Bar possesses a sharp, shallow profile, plus the rich, satin-smooth finish and rigid strength that characterizes the entire line of Pittco Store Front Metal.

Any standard Pittco stiffener may be used for reinforcement. Special concealed connecting straps and anchors make possible assembly in the field.

Ask our representative to show you the Pittco Metal Sample Case. It contains this Muntin Bar and other representative Pittco members for store front design.

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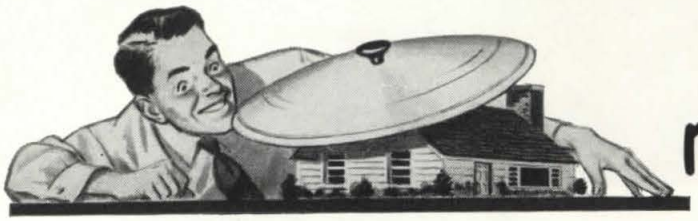

Even when there's a definite "lid" on home building costs, you can still increase eye-appeal—salability. The answer is Curtis Woodwork. It adds the extra distinction that means extra value—at a cost that fits comfortably into a modest building budget. Here are the reasons why:

It's hard to believe that this beautifully proportioned Curtis entrance with its fine detailing is so reasonably priced. This design—No. C-1742—shows why Curtis entrances provide more for the money. Frame is of durable ponderosa pine with oak sill, and consists of cap, jambs, casings, pilasters, architraves, plain or threshold sill and apron.

There's no need to forego the charm of a well designed mantel—if you choose a Curtis design. This mantel—C-6074—is of Colonial origin, but differs decidedly from those of the eighteenth century, reflecting the changes of our modern living. It follows that trend, without sacrifice of beauty and detail. The bowed fascia accentuates its charm.

Distinguished storage space is easy to provide—at modest cost—with a Curtis cabinet like this. The fibrous composition molded "shellback" may be painted a different color than the cabinet. There are three scalloped and molded edged shelves above counter and one in lower compartment. Made only for corner installation. Design C-6515.

You'll want illustrated literature describing Curtis Woodwork and Silentite Windows. Just mail the coupon!

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If full advantage is taken of Q-Floor during construction, the steel subfloor units are used as working platforms for all trades and as storage space by subcontractors. Also, much temporary material usually used in conventional construction is not needed. This results in a substantial saving of materials and space. The time saved is also substantial—from 15 to 20% of construction time—and time can be figured as money.

Using the steel cells of Q-Floor as raceways for all types of electrical systems, an electrician can install an outlet in a matter of minutes on any six-inch area. This saves a great amount of drafting room changes because outlets and partitions can be located after the tenants move in.

As building costs go higher, Q-Floor becomes more economical.

As electrical demands on a building increase, Q-Floor becomes more important.

As tenants become more aware of prohibitive initial alteration costs, Q-Floor becomes more and more a rental asset.

The Fort Worth National Bank, Fort Worth, Texas.
Office of Preston M. Geren—architects and engineers.
Shreve, Lamb & Harmon Assoc.—consulting architects.
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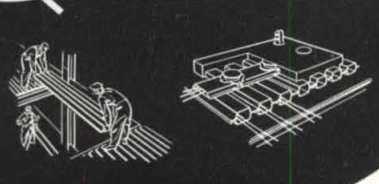
and more

Q-FLOOR



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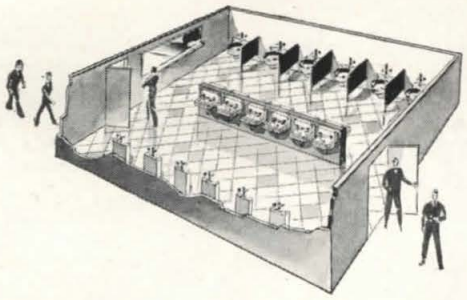

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3 CASCO* #2335-A. Vitreous China Siphon jet pedestal urinal with chrome plated flush valve, vacuum breaker.

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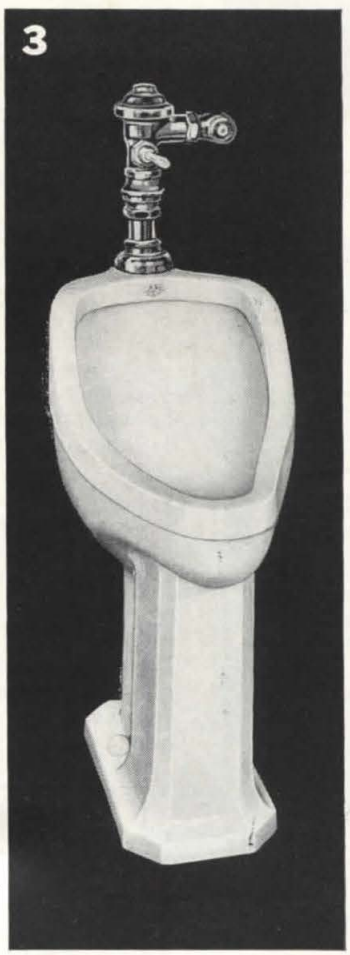
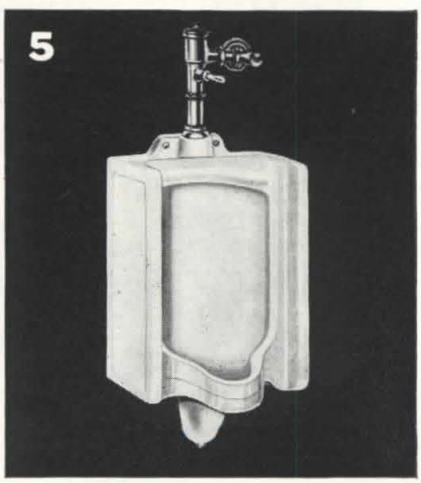
ORDER THESE AND OTHER MODELS for industrial, commercial and institutional installations through your nearest Case distributor.





Case *Fine Vitreous China*

Architects and Engineers: Albert Kahn Associated Architects and Engineers, Inc., Detroit, Michigan
Mechanical Contractor: Standard Engineering Co., Washington, D. C.

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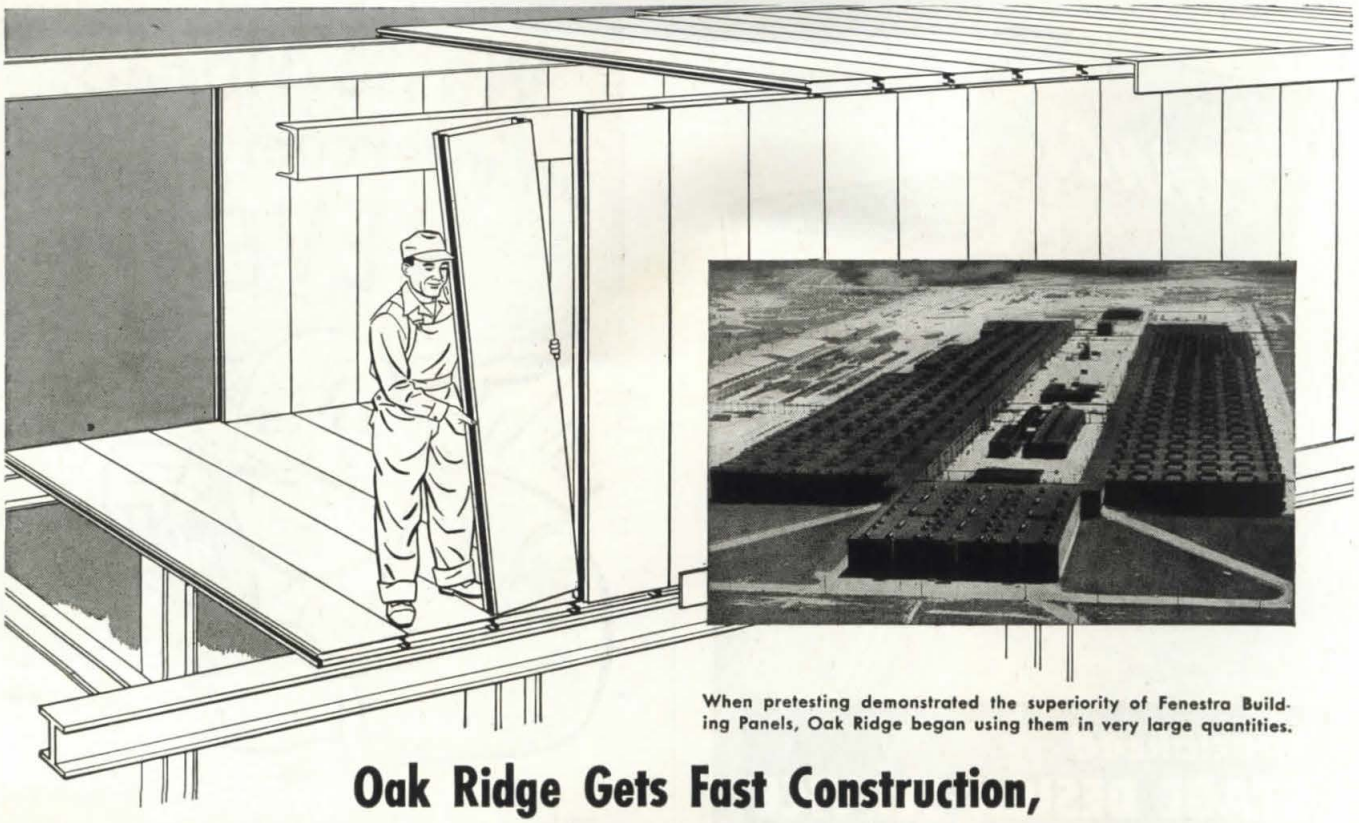

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A FEW DETAILS ON FENESTRA "C" PANELS

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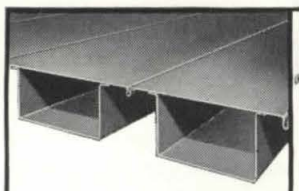
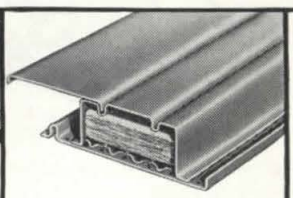
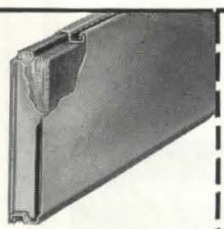


"D" Panels for floors, roofs, ceilings. Standard width 16". Depth 1½" to 7½".



Acoustical "AD" Panels for ceiling-silencer-roof. Width 16". Depth up to 7½".



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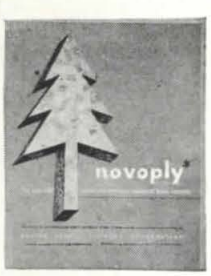

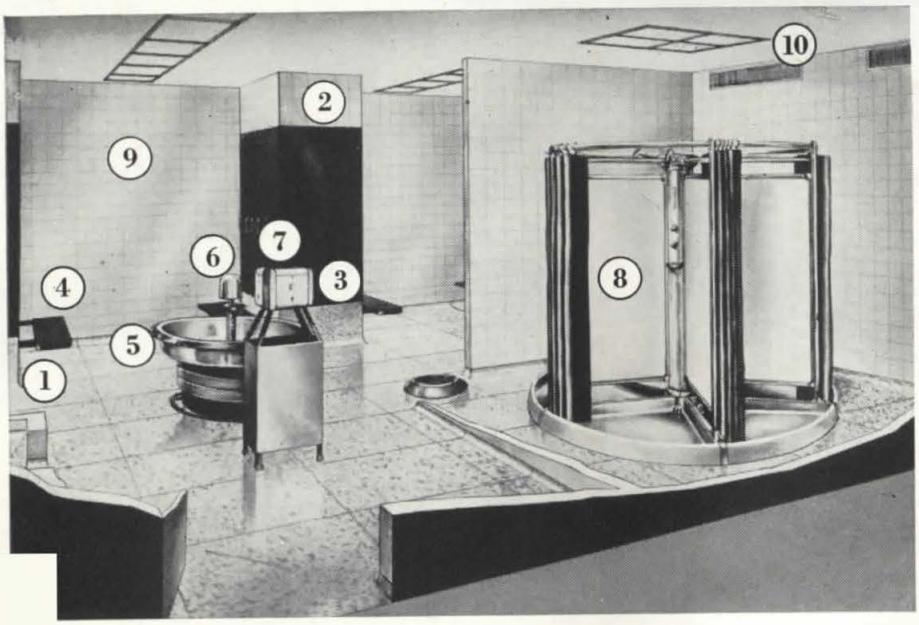

All kinds of man-hour savers, in this modern combination Locker Room, Shower Room and Washroom:

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6. **Soap dispenser** on wash fountain.
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8. **Circular showers** for 5 users. Colorful, plastic shower curtains.
9. **Walls of tile** or glass, moisture-resistant.
10. **Recessed ceiling lights** directly over shower.

Now Man-Hour Savings can be "Built Into" a building

One for morale—this spacious, comfortable ladies' washroom. Note "powder-bar" mirror with shelf and light—away from wash basins—to keep traffic *moving*.

Contact Washroom Advisory Service, Scott Paper Company, Chester, Pa.

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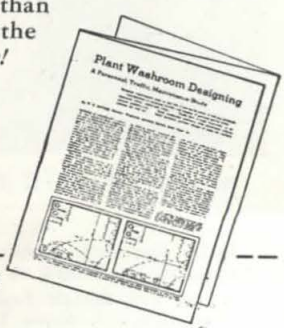

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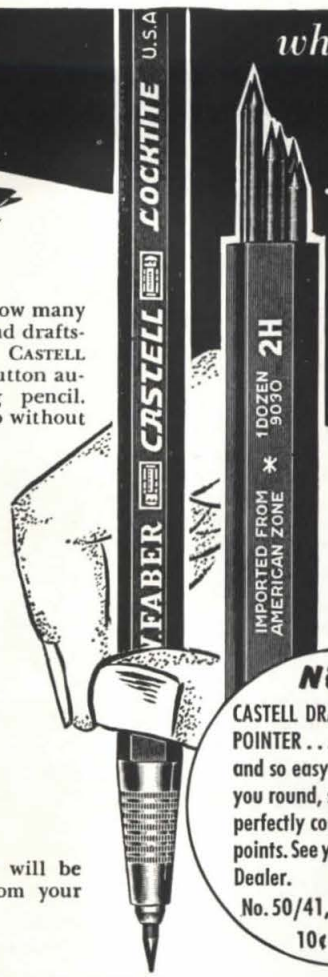

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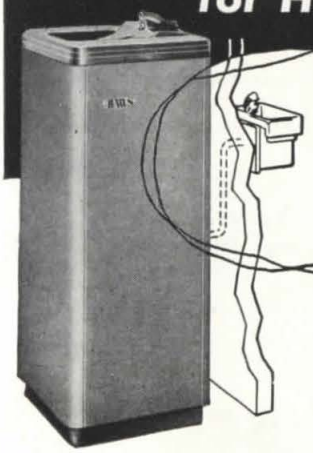

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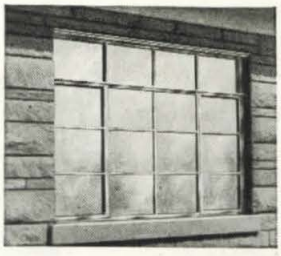

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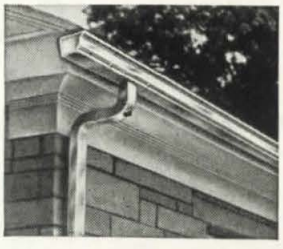

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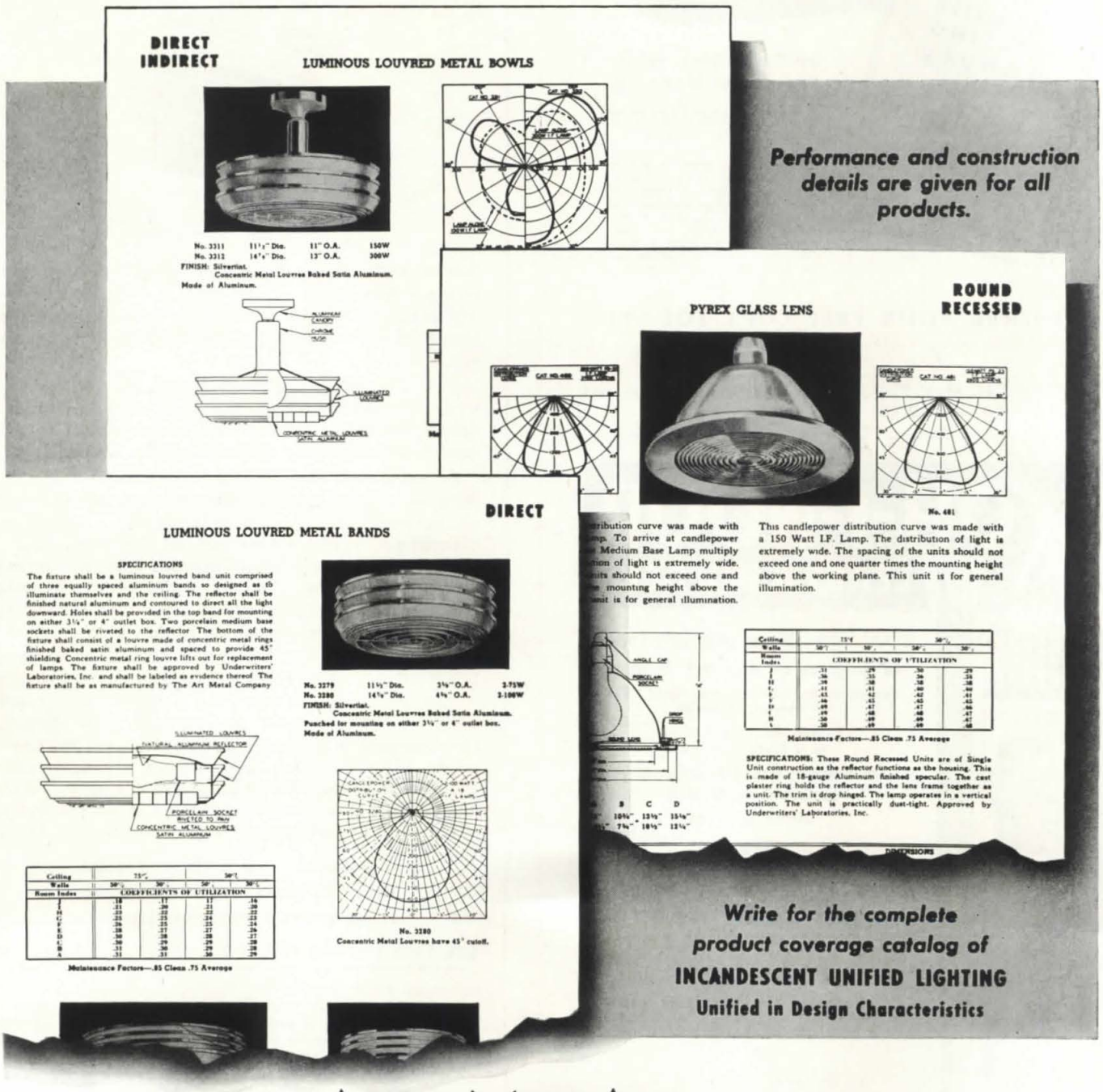

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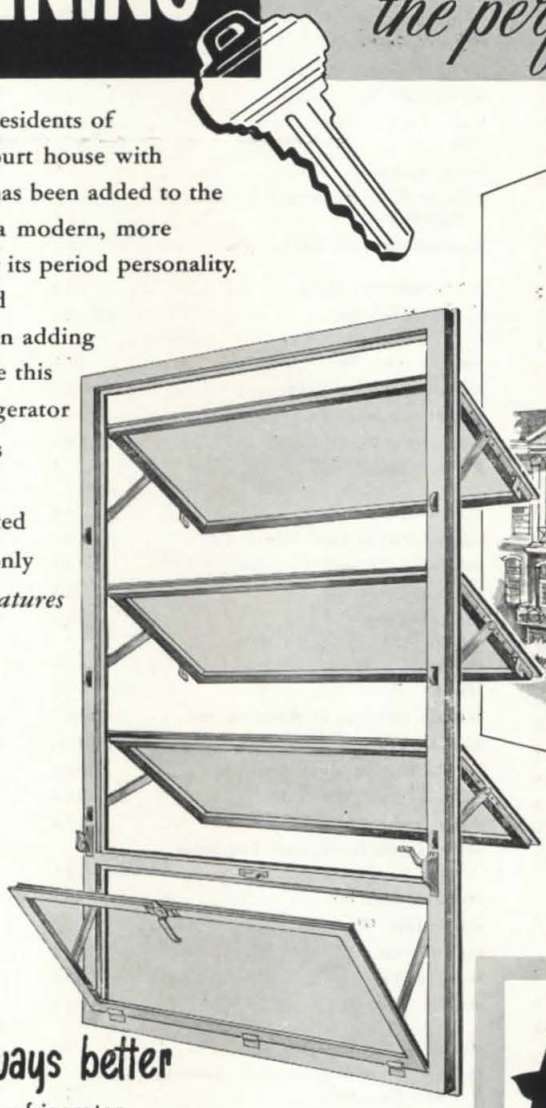

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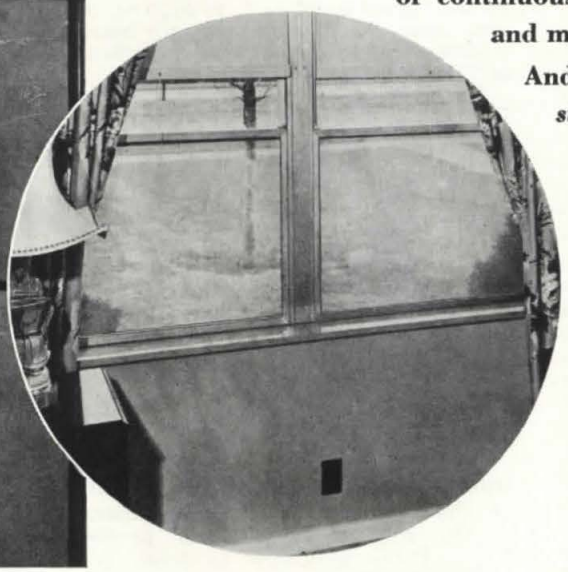

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LAST MAY, THE STATE OF GEORGIA gave one of its regular examinations for the registration of architects. Twenty applicants took the written exam, without too much difficulty breezed through the questions on history and practice, and went blithely the next morning to the nine-hour test on composition and structure. They left—some of them immediately and some at the end of a long day—angry and discouraged.

It wasn't that the problem had been impossibly long for the length of time alloted, though that was true. They were asked to design a High School Auditorium, Gymnasium, and Cafeteria Building — plans, elevations, sections (50% for "composition") — and then indicate the structural system, design a house, design a column, show roof section, floor section, etc. (50% for "structure"). That meant hard work without much time for preliminary study, however they were all well trained candidates and they were ready to get down to work.

But what threw them all for a loss was that the program—for a solution with "features that will make the project modern in every respect as well as economical and practical in operation"—went on to include the following injunction: "The building shall be any appropriate classic style (contemporary style will not be accepted)."

What to do? In the first place, what is "classic style" appropriate to a school auditorium, gymnasium, and cafeteria—especially one which must be "modern in every respect"? That's a tough problem, even for a "traditionalist." What would you, dear reader, have done in the spot where these young hopefuls found themselves? Some gave up and walked out, protesting that the problem stated its own impossibility of solution. Some stayed, thinking of the investment in schooling and their hopes for the future, and handed in solutions that they felt were technically correct, if morally absurd. A few ignored the warning against "contemporary style" (again, what is that? . . . frankly, I don't know) and designed the building they thought right.

●

THAT WAS LAST MAY, and there was some local indignation at the time, when news of the question got around. A few weeks ago when I arrived in Atlanta, I found the architectural world there buzzing about the latest turn of events. Results of the examination had been announced. The *Atlanta Journal* had reported as follows in its September 6th edition:

ALL 20 ARCHITECT APPLICANTS FAIL STATE BOARD TEST

All 20 applicants for state architects' licenses failed to pass the controversial examination given by the Georgia State Board of Architects' Examiners last May, it was disclosed Thursday.

The group included 17 Georgia Tech students, one from the University of Florida, one from Ohio University, and one from Mississippi State College.

Dr. R. C. Coleman, secretary of the joint state examining board, said that he has received graded papers from members of the architects' examining board and has written each of the applicants advising him that he failed.

The examination included a key question calling for a design for a building and noted that contemporary or modern design would not be accepted.

A NUMBER of the Georgia Tech students protested at that time that they were not taught classical design.

Harold Bush-Brown, head of the Georgia Tech School of Architecture, commented then that Tech students learned about classical design only as history and added, "We don't teach practical application of obsolete forms." Bush-Brown was not available for further comment today.

This had been followed up with further reporting and a few interesting quotes on the 7th of September, in the following *Journal* story:

The State Board of Architects Examiners, which recently flunked 100 percent of a class that applied for a Georgia license, will meet next month to discuss the dilemma in which they find themselves.

W. W. Simmons, chairman of the board, said the meeting will be held at the state capitol at 2 p. m., Oct. 2, and would be attended by all board members and a committee of prominent architects not on the board.

He also said that Harold Bush-Brown, head of the Department of Architecture at Georgia Tech, would be invited to attend . . .

The board's action brought this comment from Blake Van Leer, president of Tech: "Something must be wrong with an examination which flunks 100 percent of the applicants who come from some of the nation's first schools."

Mr. Simmons said that, in his opinion, the examination was no different from those given in the past, but that it looked like that somewhere down the line "somebody got things messed up."

●

WHILE I WAS IN ATLANTA I talked about all the ramifications and implications of the situation with many people. Most of the architects in town are concerned with the effect on the general public, which is understandably confused (why do we architects always go out of our way to confuse the poor general public?). Is President Van Leer right when he says that something is wrong with an exam that flunks all applicants? Is something wrong with the various schools involved, that their graduates flunk? Or is something wrong with a board of examiners which will write such a problem and then refuse to accept *any* of the various responses?

You take your own choice of the above hypotheses. I have mine, and I think the scandal is so great that the entire board should be fired immediately and replaced with men nominated by the Georgia A. I. A. Chapter and the School of Architecture at Georgia Tech. I am sure that Harold Bush-Brown and a committee that Herb Mellkey, Chapter president, might appoint would have no difficulty naming a competent board. And I don't mean a board composed of young modernists. There are architects in the state who would have the confidence of both the older and the younger architects, the regents, the educators, the governor, and, above all, the general public.

●

A VERY IMPORTANT ISSUE has been raised and brought into remarkable focus by this incident. *I don't think that any licensing body has the right to give an examination in design or composition.*

First, there is the legal question. Perhaps Bernie Tomson would like to pick up this one. An architect is licensed solely to protect health and welfare. There is, I believe, no constitutional reason to deny one man the right to practice architecture because two or three other men disagree with him on esthetic principles. I have a hunch that if one of these Georgia boys who passed everything except "composition" were to appeal, he would be granted his license—after the expenditure of much time and money.

Secondly, there is the question of whether any examining body is *qualified* to "pass" or "flunk" a design solution. It is possible to conceive the reverse of the Georgia case—an arbitrary group flunking a design allotted in "classic style." It is possible to imagine examiners in the future passing nothing but "International Style" solutions, or "organic" projects.

I think that it is necessary to make sure that buildings don't fall down, to test the technical knowledge of a man who wants to practice architecture. It is probably right to insist that every applicant *study* "design"—planning and composition—in some accredited school or in some accredited office. It is undoubtedly right to insist on an apprenticeship of some duration before the license is granted. (And Georgia, I learned. does not require this.) But I think these meaningless and controversial design examinations should be eliminated before we make complete fools of ourselves before the public.

Can we start a movement?

Thomas H. Creighton