PROGRESSIVE ARCHITECTURE

newsletter

July 1949



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- Prices continue to drop, in spotty fashion, in building materials market. Producers' Council says "shortages of building materials and equipment have disappeared," and it is the experience of most architects that specified materials can now be obtained without construction delay. High point of production was in October 1948 (61% above 1939 average) and only fear now is that trend toward "buyers' market" may develop into slump that would affect other parts of economy. Recent sharp drop in metals on commodities exchange has raised this question. However, most sober analysts look at still-great demand for needed buildings and are confident of profitable activity for a decent period ahead.

- Pessimists are largely those who don't realize the picnic is ended. As W. W. Williams, chairman of the Committee for Economic Development, says, "Many businesses still need to learn that the war is over, that their particular sellers' market is gone, and that they must resume the normal practice of pricing and marketing their products aggressively to promote sales."

- Architectural activity has dropped in the larger metropolitan areas, with some firms that have been constantly busy since before the war finding time to look around for new work. In general, especially in the smaller towns and cities, work is holding up and very few practitioners are seriously worried. In very recent weeks the appreciable drop in bid prices has resulted in brand-new activity and the revival of some projects that had been shelved. Also, many farsighted architects are turning to institutional work--particularly schools and hospitals--with the result that "specialists" in these fields are finding competition stiffer than they are used to.

- The movie based on the novel called The Fountainhead, by Ayne Rand, has been shown to several preview audiences. Produced by Warner Brothers, it stars Gary Cooper as the architect-hero who blows up a housing project because someone had inaccurately translated the design he had slipped to an incompetent colleague. The picture, even more clearly than the book, indicates Miss Rand's concern with discounting the professional's social responsibility and applauding the individual who thumbs his nose at other people.

- Perhaps fortunately, the picture is most ineptly directed and poorly acted, the development of the story and the characters is so jerky, and the eye-rolling and jaw-working are so nearly burlesqued, that it is doubtful if the picture will become popular. If it should, it could set architecture back further than the Columbian Exposition did.

- L. Sonneborn Sons introduced a new plastic finish called Phenoplast to the trade recently. It is a liquid finish applied like varnish which forms a tough, rugged, transparent surface on woods, metals, masonry, or composition surfaces.

- Lehigh University announces summer seminar (July 5 - August 13) in product design. Lecturers will include Teague, Birren, Kepes,

(Continued on page 2)

Arens, Dreyfuss, and other excellent teachers. Fee is $500; food, an additional $100.

- Many correspondents have asked what happened to practice of Sheldon Brumbaugh, Klamath Falls, Ore., architect, after his death. Answer is that Edward N. Hewitt of Detroit, in association with Murdo Morrison and John Howard of Birmingham, Mich., moved to Klamath Falls and bought Brumbaugh's practice. They intend to finish uncompleted work and continue in tradition of community service that Brumbaugh established (see October 1947 P/A).

- National Bureau of Standards reports on studies of lightweight aggregate concretes. Findings in summary are that concretes 1/5 the weight of ordinary concrete are possible, exhibit low thermal conductivity, but develop little strength. Other lightweight aggregate concretes developing compressive strength of 1000 to 7000 lbs. per sq. in. weigh 1/3 to 2/3 as much as sand-gravel mix, and lose some of thermal insulation value. Lightweight concretes in general have high absorption and high shrinkage factors, cost "considerably" more than common material. Savings will result from reduced loads and heat insulation.

- American Society of Planning Officials announces a new Planning Advisory Service, with research and advice for planning agencies on their individual problems. Cost is based on population, starts at $25 for cities under 10,000 population.

- "Baltimore Plan," hailed by some groups as answer to slum clearance and housing problem, is in reality merely a strict policing of dwelling, health, and fire ordinances, accomplished on an orderly, block-by-block basis. It is regulatory rather than creative. Baltimore Mayor says, "It is designed to relieve somewhat the worst slum conditions until such time as the slums can be torn down and satisfactory housing supplied."

- Philadelphia's City Planning Commission announced recently plans to develop a 350-acre section in the northeast part of the city as a residential community by changing the old street pattern and requiring by-pass of traffic. Buildings going into the area will have to comply with new pattern which calls for looped interior streets within superblocks which will have play areas and paths. Commission points out that with this scheme street improvement will cost taxpayers less.

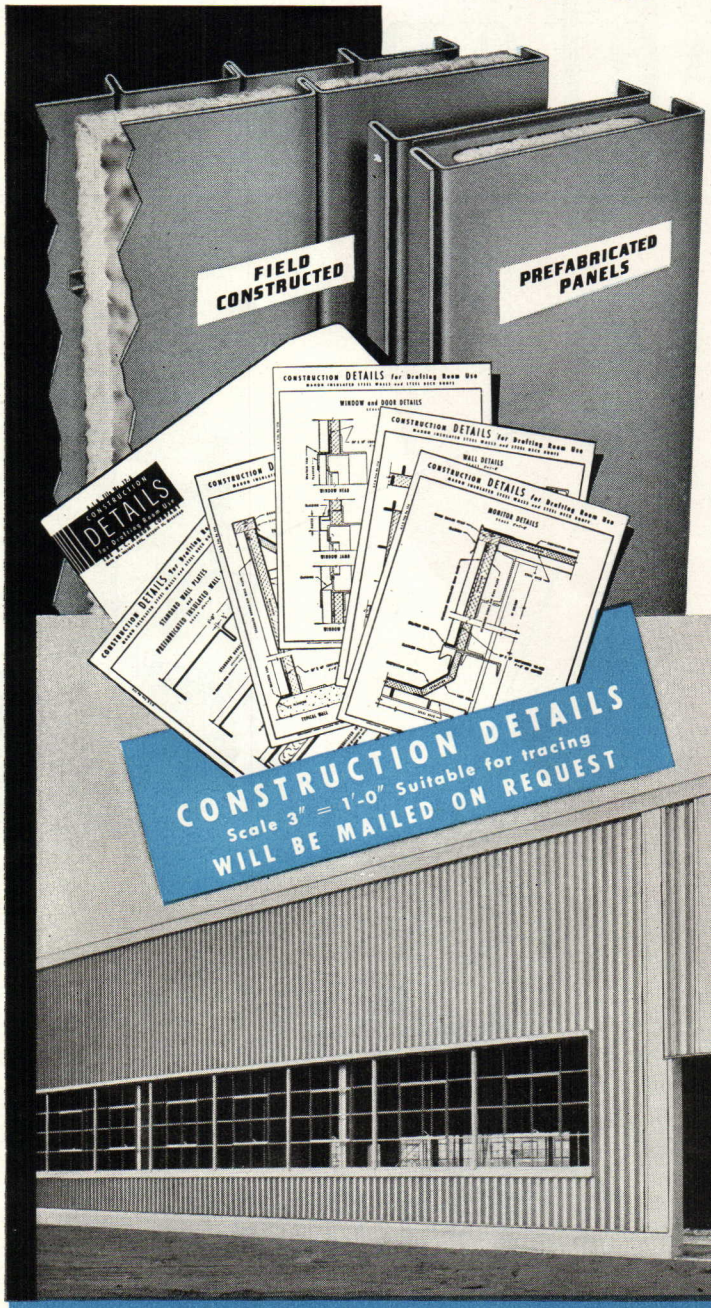
- HHFA'S Economy Housing Program, hailed by some as an effort to interest home builders in economical methods of construction and rationalized organization, and condemned by others as a move toward smaller houses cheaper because of scrimping, is moving slowly. Directors' Digest, polling real estate editors, finds that "38% of all home builders in the country will be producing low-priced homes before the end of the year." Raymond Foley, HHFA'S Administrator, told group of savings banks officials recently that they must develop "an informed willingness to make financing available for prefabricated housing or for simplified designs, and a readiness to promote and encourage local acceptance..."

- Douglas fir plywood industry has a potential in excess of 2,500,000,000 sq. ft. in 1949, despite business slump at start of year, that industry's Association believes. Last year's total production was 1,963,000,000 sq. ft. Distorted distribution largely as result of war brought overloading and subsequent bad wholesale price break in some areas--resulting in price drops of as much as 50% at contractor level.

# INSULATED STEEL WALLS

## *and* STEEL DECK ROOFS

for INDUSTRIAL and COMMERCIAL BUILDINGS




Mahon Insulated Steel Walls are ideally suited for industrial and commercial buildimgs, and for many special purpose structures, such as power houses and transformer stations, where high expanses of wall are encountered. Walls up to sixty feet in height may be constructed without horizontal joints . . . this feature alone has found favor with many architects throughout the country. Vertical ribs are six inches on centers on the outside of the wall with interlocking ribs one foot on centers. The inside surface of the wall is smooth, with vertical interlocking joints one foot on centers. This type of wall construction in combination with a Mahon Steel Deck Roof costs less, provides a firesafe, permanent building which can be quickly and economically erected. See Sweet's File for complete information.

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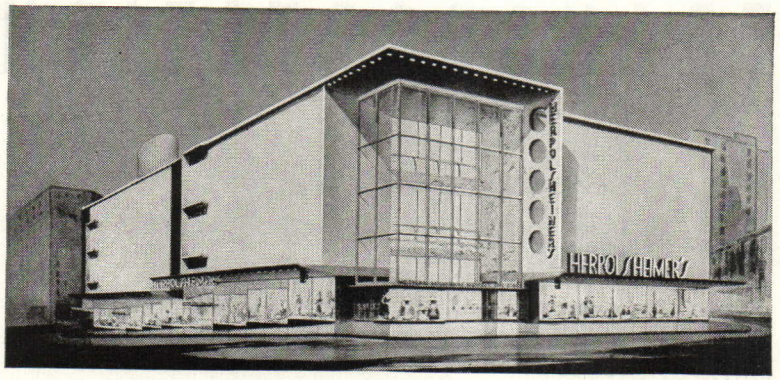



# GREAT

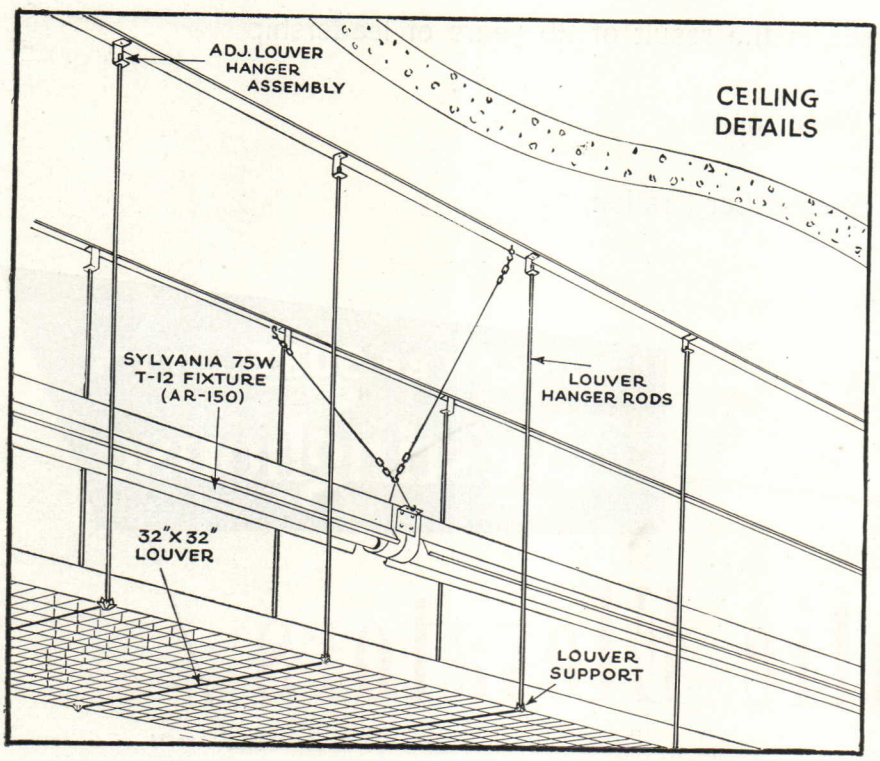
## Sylvania's New Flexi-Module Lighting System Illuminates Herpolsheimer's—Modern Allied Store

*"A store lighting system is satisfactory only when it adapts itself to modern merchandising practice. In the new Herpolsheimer store, the combined engineering skills of Allied Stores and Sylvania have made such a system possible!" — George L. Ely, store designer.*

Herpolsheimer's, 95,000 square feet of ultra-modern store in Grand Rapids, Michigan, has the most advanced merchandising lighting devised—a flexi-module ceiling conceived and designed by George L. Ely—and executed with specially designed fluorescent fixtures by Sylvania Electric!

Briefly, this form of lighting was designed to give great flexibility, with the accent on *selling*, and eliminate any distracting influence on the shopper. Soft, glarefree, yet plentiful light is supplied by Sylvania's new 75-watt, T-12, 8-foot, *instant start* Warmtone fluorescent lamps. Mounted in tandem 18″ above the louvers on 32″ centers, these fixtures depend on a plug-in duct wiring system for their power.

The louvers that form the flexi-module ceiling consist of cells 3″ high x 3″ wide x 3″ long. They are made up into panels 32″ x 32″. The lighting fixtures behind them can be quickly moved for whatever concentrations or effects of light desired. Directional and decorative lighting is more readily adapted to this system than any other.




### Flexi-Module Ceiling Details

The flexi-module ceiling needs no sub-frame of channels, complicated hanging arrangements involving hinging or other costly devices. Hangers of required length are attached to existing ceiling or slab, 32″ on centers. Upper end of hanging rod has device which may be attached to various types of ceilings in various ways to meet requirements. For maintenance or changing, panels are lifted from hangers and slid over to adjacent ceiling!

★ ★ ★

# NAMES

## *make Great Stores*


The Sylvania flexi-module arrangement is a definite factor in reducing building costs! It hides air-conditioning ducts and vents, sprinkler and electrical systems, and all the other built-in utilities required to operate today's super stores. Maintenance is greatly reduced! Repainting is eliminated, since the louver panels are of treated aluminum.

Couple all these desirable features with the fact that the cost of buying, installing and maintaining this lighting system compares favorably with conventional lighting in plaster ceilings, and is *lower* than other types of systems on the market . . . and you have a truly worthwhile *flexible* lighting method!

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## P/A—JAY-CEE WINNERS

A Midwest team—*J. Edward Luders, Hideo Sasaki,* and *James V. Edsall,* Designers, associated with *Harry A. Morris,* Architect—won **First Prize,** the commission to design and build an office building to house national headquarters of the United States Junior Chamber of Commerce at Tulsa, Oklahoma, in the PROGRESSIVE ARCHITECTURE-U.S. Junior Chamber of Commerce Competition just concluded. The team also won a Trinity White Portland Cement Special Prize, one of 10 supplementary awards of $200 offered by the sponsors, Servel Inc., Evansville, Indiana, and General Portland Cement Company, Chicago, for suggested uses of their products.

Other prizes and mentions announced

(Continued on page 10)

**Special privilege of Professional Advisor Jedd S. Reisner was the "first look" at entries in the PROGRESSIVE ARCHITECTURE—U.S. Junior Chamber of Commerce Competition, sponsored by Servel Inc. and General Portland Cement Company. He is shown checking the first 100 drawings, brought in by competitors, while nearly 200 more were in the mails. On the deadline date, May 16, he was on hand until 1 A.M. (New York is on Daylight Saving Time) to accept the local entries. One team just got under the wire by bringing their completed drawing to him, then profiting by the last three minutes to smooth it on the lobby floor and tape the edges. Reisner is happy that many excellent solutions were submitted for consideration of the experienced professional jury. Winners are named in this issue and the prize drawings will be presented in September P/A.**

***Photo: Charles Babcock***

### HARD FACTS OF LIFE

*Dear Editor:* I was very much interested in your article on office practice entitled "Do You Know Whether You're Losing Money?" (May 1949 P/A). We find in talking with most architects, and practically all draftsmen, that they are woefully lacking or misinformed on the amount of money available for production costs.

As a matter of fact, anybody that seems to be so rude as to point out the hard facts of life to his contemporaries appears to be looked upon as a horrid capitalist with absolutely no wish to be of service to his fellow men.

I noticed one or two functions of the architectural office were entirely omitted from your break-down. We find in this office that service to past clients takes a staggering amount of our time, probably at least one-third of my own and part time by my associates. This, plus a service that we give the general public in answering questions as to what color is barn red and how to eradicate pigeons, is laughable; but such items loom so large that they cannot be figured under the general item of profit. We feel it is extremely important to emphasize such matters particularly, for during this period when architects are terribly busy, with more work than they can do, it would be very, very sad for them to find out that they were not making money.

ROYAL BARRY WILLS
Boston, Mass.

### HELD ITS OWN

*Dear Editor:* Thank you most sincerely for your Mention in the Progressive Architecture Awards. We feel that it is "most fitting and proper" that the Peanut can hold its own against the Red Cross Building and can come close to the Naval Arsenal of San Francisco!! We are all delighted, and thinking it a fine closing scene to all the fun we have had with the little house. Again, thank you.

HENRY HILL
San Francisco, Calif.

### POETIC LICENSE

*Dear Editor:* Regarding your mystification—reported in May 1949 P/A concerning the meaning of phrases "picked at random" from the Fellowship citations:

When man sets out to epitomize
His fellows, and to eulogize
Their wondrous deeds, methodic;
Imagery seems to paralyze
Any tendency to actualize
And renders him rhapsodic.

Helpfully and sincerely,

THOS. H. HILOR
Desert Hot Springs, Calif.

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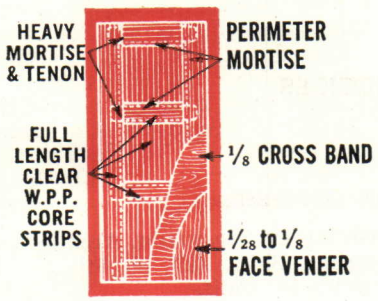


Sectional view of the Protexol-impregnated Fox-Made Wood Fire Door, approved for 60 and 90-minute fire exposures by the New York Board of Standards and Appeals, and Factory Mutual Laboratories.

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## Views

(Continued from page 8)

by Jedd S. Reisner, professional advisor, were:

**Second Prize** ($1500) and a Trinity White Portland Cement Special Prize ($200) to *Wendell H. Lovett*, Architect, Seattle, Washington.

**Third Prize** ($1000) to *John T. Black*, Architect, Chicago, Illinois.

**Fourth Prize** ($500) to *Charles D. Wiley*, Designer, associated with *Skidmore, Owings & Merrill*, Architects, Chicago, Illinois.

Those receiving **Honorable Mentions** ($100 each) were: *Peter Blake*, Designer, associated with *Huson Jackson*, Architect, New York (awarded two Honorable Mentions); *Paul Canin*, Designer, associated with *Huson Jackson*, Architect, New York, who also won a Servel Special Prize ($200); *Ralph Rapson*, Architect, Cambridge, Massachusetts; *Ramey, Himes & Buchner*, Architects, Wichita, Kansas; *Seymour R. Joseph*, Architect, New York; *Walter A. Netsch, Jr.*, Architect, Chicago, Illinois; *William N. Breger, Dale C. Byrd*, and *Stanley R. Salzman*, Architects, New York, who also won a Servel Special Prize ($200).

*Olsen & Sabaroff*, Architects, San Francisco, California; *Yani V. Triandafillidis*,* Designer, associated with *Percival Goodman*, Architect, New York, who also won a Servel Special Prize ($200); *Wang Chiu-Hwa*,* Designer, associated with *Percival Goodman*, Architect, New York; *Gyo Obata*, Architect, Chicago, Illinois; *P. Y. Chow*,* Designer, associated with *Percival Goodman*, Architect, New York, who also won a Servel Special Prize ($200).

*Ronald Gourley*, Designer, associated with *Kennedy & Smith*, Boston, Massachusetts, who also won a Trinity White Portland Cement Special Prize ($200); *J. Stanley Sharp*, Architect, New York, who also won both a Trinity White Portland Cement Special Prize and a Servel Special Prize ($200 each); *Newton E. Griffith*, Designer, associated with *Robert B. Clopton*, Architect, Cambridge, Massachusetts, who also won a Trinity White Portland Cement Special Prize ($200); *Julio Cesar Volante*,* Designer, associated with *Percival Goodman*, Architect, New York; *Don Reimann, Gray Taylor*, and *George Clark*, Architects, New York; *Stanley M. Sherman*, Designer, associated with *George Nemeny* and *A. W. Geller*, Architects, New York; *Lien Ching Chen*, Designer, associated with *Charles Burchard*, Architect, Cambridge, Massachusetts.

C.M.

* *Student of Professor Goodman at Columbia University.*



## NOTICES

### NEW ADDRESSES

SAVO MILAN STOSHITCH, Architect, Auditorium Bldg., 427 W. 5th St., Los Angeles 13, Calif.

KNOLL ASSOCIATES, INC., opening office at 160 E. Superior St., Chicago 11, Ill., in addition to those in New York and Atlanta.

GUYON L. C. EARLE, 116 E. 63rd St., New York, N. Y.

MALCOLM GRAEME DUNCAN, 307 Harwood Bldg., Scarsdale, N. Y.

KRUPNICK & ASSOCIATES, INC., Washington-Grand Bldg., 520 N. Grand Blvd., St. Louis 3, Mo.

JOHNSON & JOHNSON, RICHARD T. MCKAY, ASSOCIATE, Engineers, opening office at 1006 Berry Street, Houston, Tex., in addition to that in Chicago.

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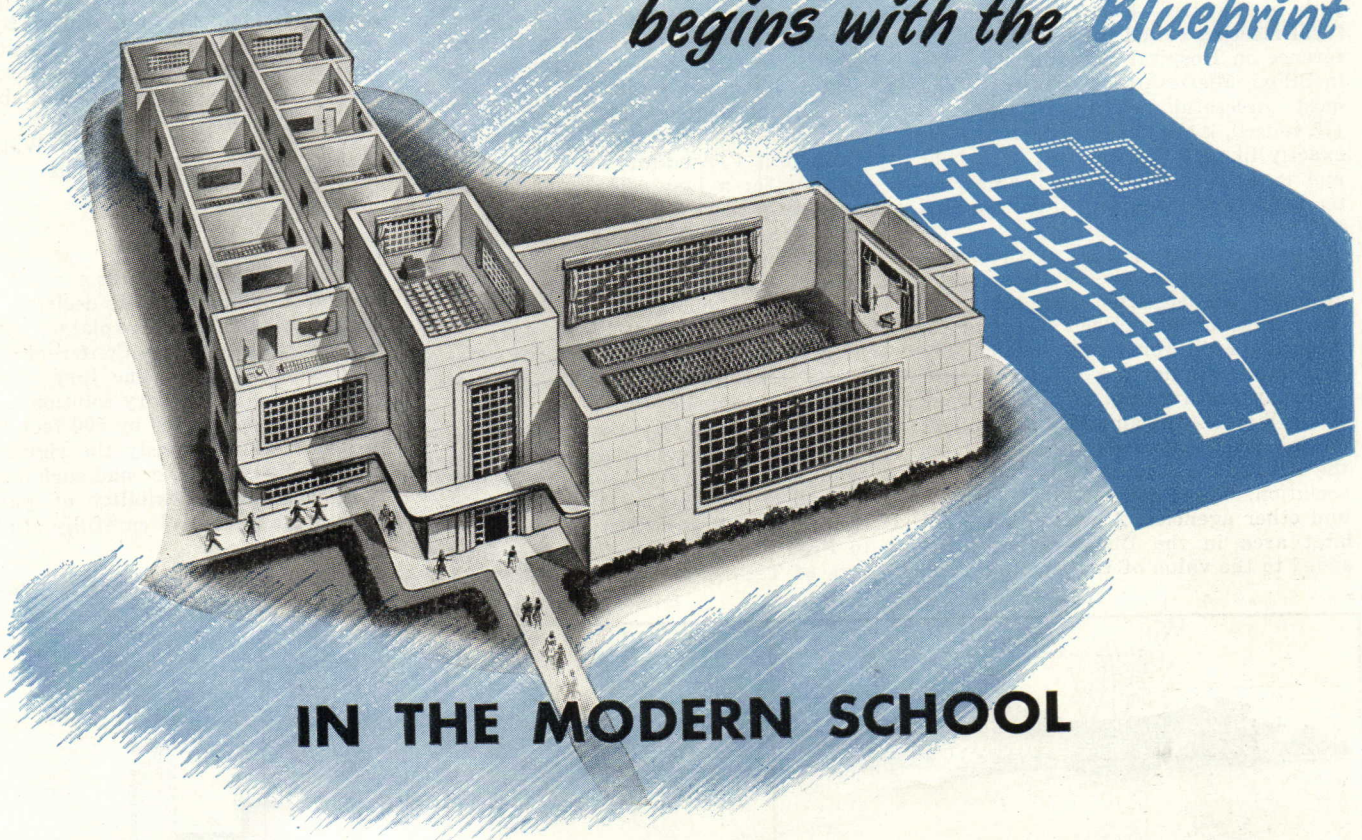

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# SOUTHERN HOSPITAL PLANNERS ATTEND CONFERENCE AT BILOXI, MISSISSIPPI

During four days in May—from the 18th to the 21st—a regional architectural meeting called the Southern Conference on Hospital Planning was held in Biloxi, Mississippi. It was one of the most successful meetings of that sort (if, indeed, there has ever been another exactly like it) that has yet been held, and it set a standard for content, attendance, and intelligent direction that will be hard to surpass.

Approximately a fifth of the registered architects in the southern states attended the sessions, and all whom this correspondent talked to found the meetings well worth their while. The continuous seminar discussions presented many fresh points of view; Frank Lloyd Wright was an added attraction; official representatives attended from the A.I.A., the American Hospital Association, the Public Health Service, and other agencies. A well-planned exhibit area in the Buena Vista Hotel added to the value of the meeting.

On the day preceding the opening session, a student competition was judged, with 18 entries representing the best efforts of six southern architectural schools to solve a small community hospital problem. It occupied a hard-working jury far into the night. Thomas Creighton, P/A editor, was professional advisor for a jury composed of Chairman Edward D. Stone, architect; A. L. Aydelott and William A. Riley, architects; H. G. Hughes, architect for the Department of National Health and Welfare in Canada; Everett W. Jones, of *Modern Hospital;* and Marshall Shaffer, architect, and Louise Waagen, nurse, both of the USPHS Hospital Facilities Division.

First prize ($160) went to James G. Cheyne, of Alabama Polytechnic Institute. Second prize ($140) was won by Carroll G. Harmon, of North Carolina State. Third Prize ($100) was awarded to Fred L. Harrison, of Georgia Institute of Technology.

Five Honorable Mentions ($20 each) were given to the following: Byron Haner, Virginia Polytechnic Institute; Thomas T. Hayes, Jr., North Carolina State; Antonio J. Moreno, Alabama Polytechnic Institute; Bond R. Sedberry, Clemson; George J. Wallace, Alabama Polytechnic Institute.

●

The judgment was difficult and the jury was not unanimous in its decision. The debate, as Mr. Stone explained in his jury report during the Conference, was three-sided. At least one jury member insisted that a one-story solution, given an adequate plot (500 by 500 feet, fairly level) was obviously the right one. The third-prize winner had such a solution, with good flexibility of patient room-use and control carefully studied.

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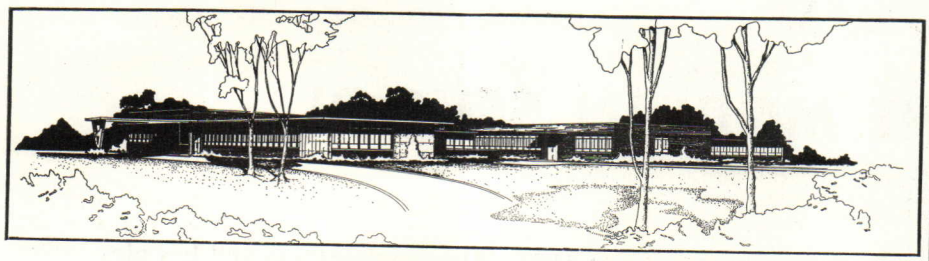

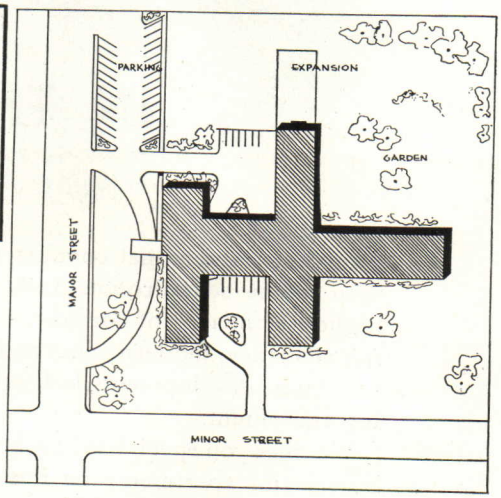


PLOT PLAN

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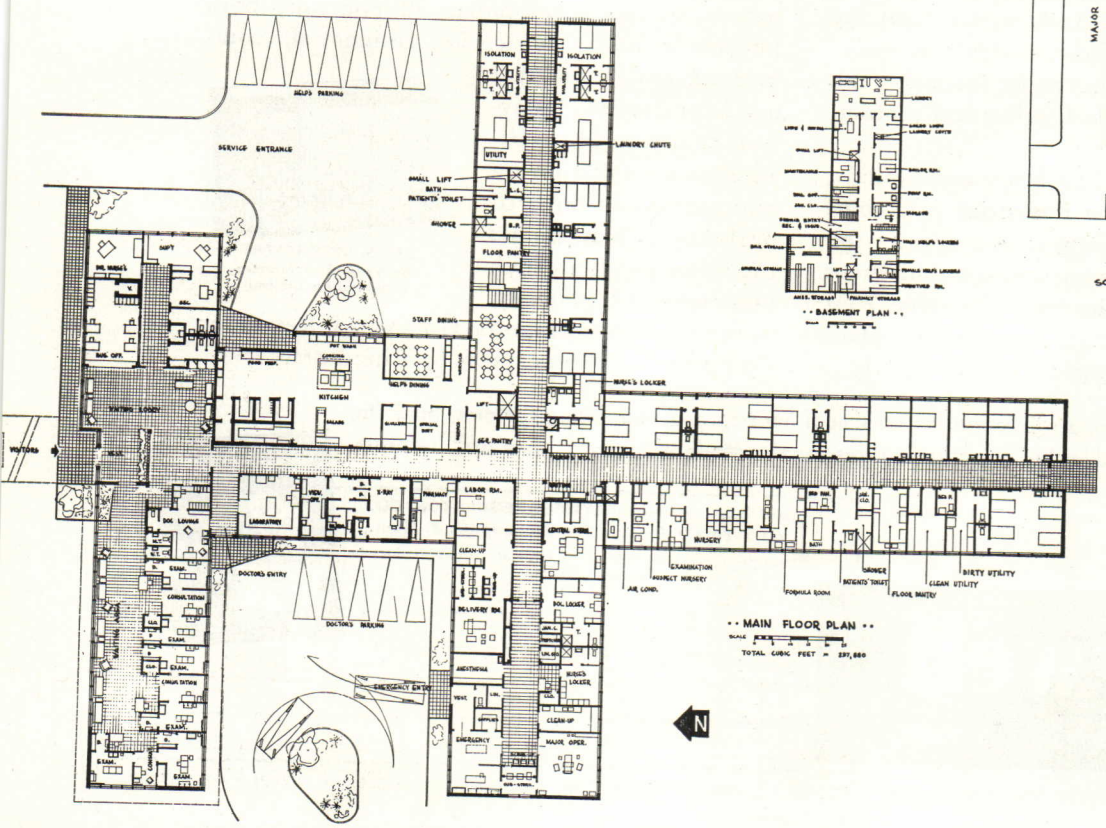
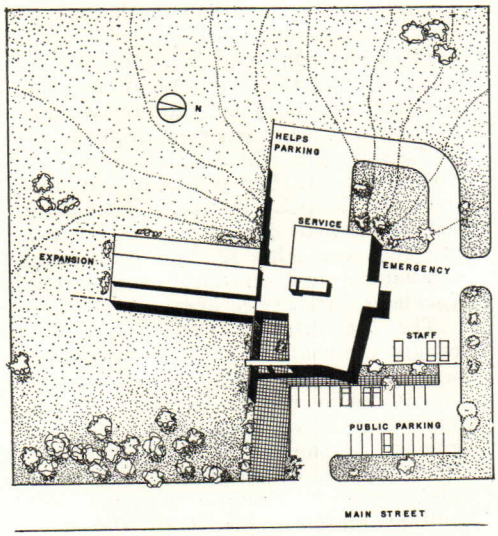



Excellent arrangement and relationship of spaces won First Prize for James G. Cheyne, Alabama Polytechnic Institute, whose design for a small community hospital is shown here. Six southern architectural schools entered the student competition.

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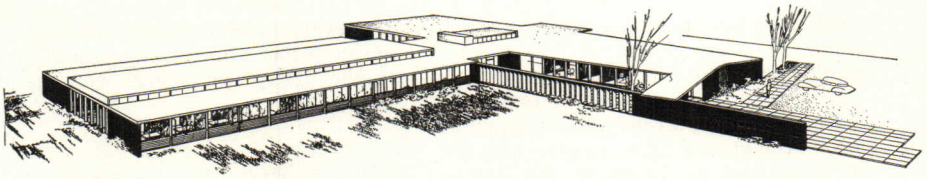
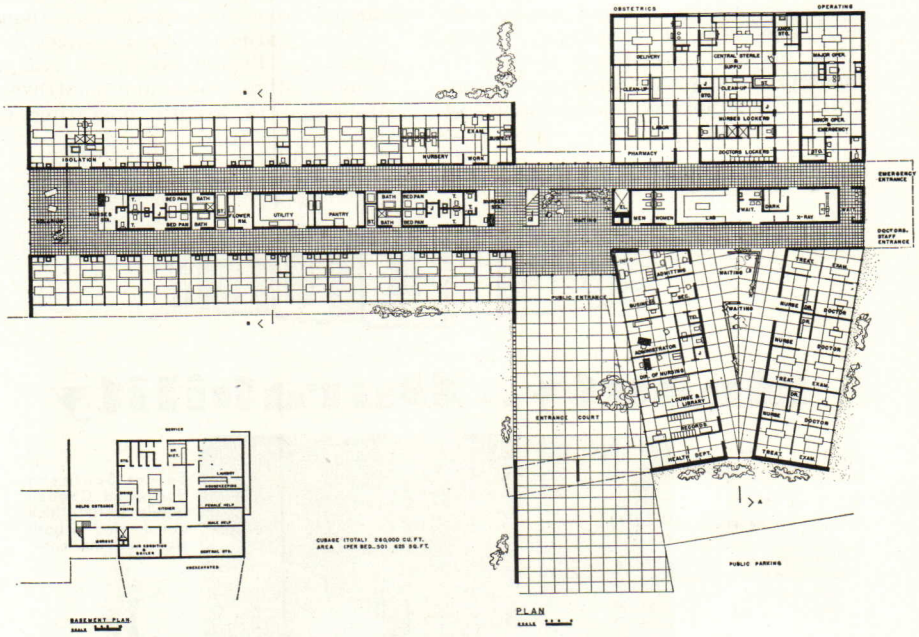


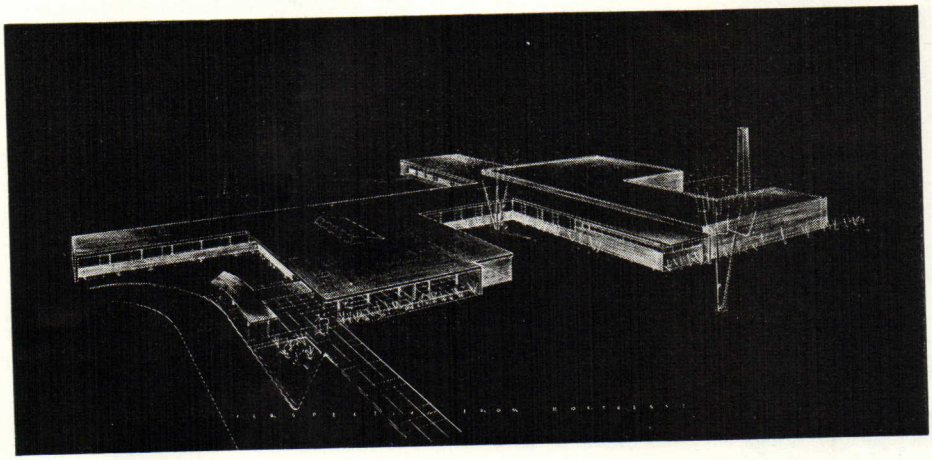




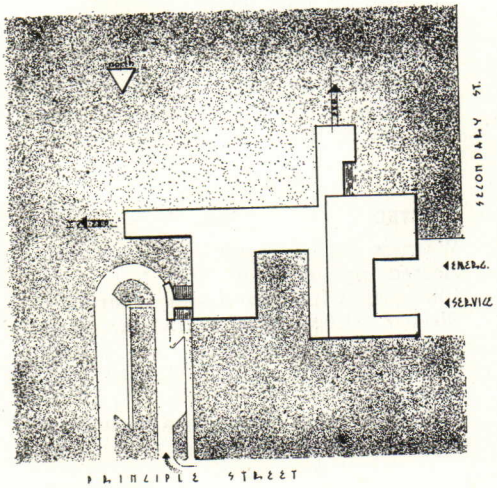

BASEMENT PLAN

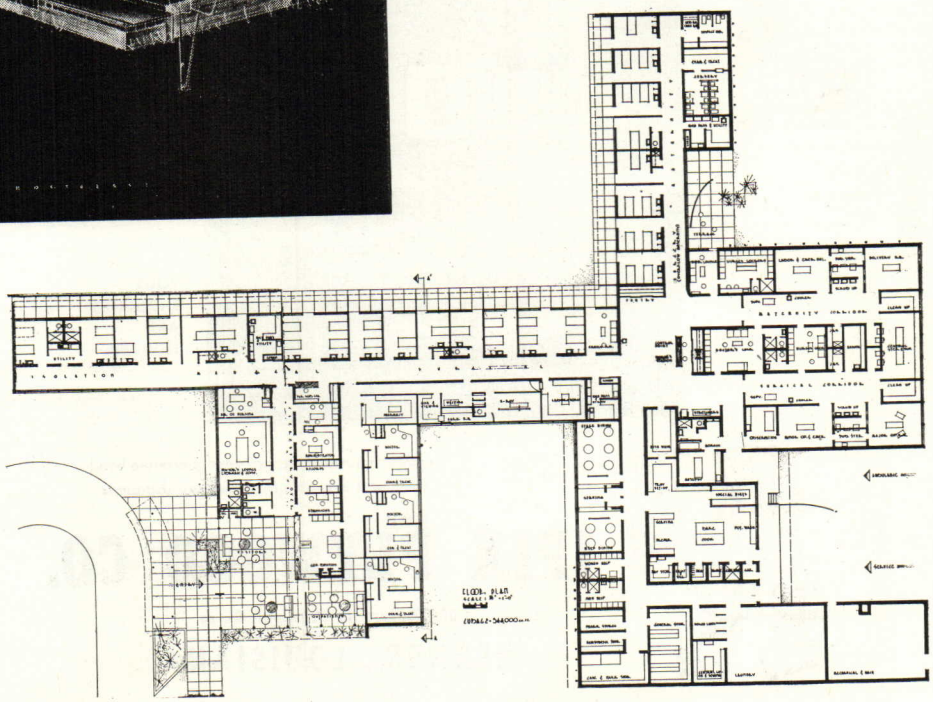
PLAN

**Second Prize went to Carroll G. Harmon, North Carolina State, for this design; admired by the Jury for its simple architectural expression and its low cubic content.**



**The one-story solution favored by the Jury was used for this design by Fred L. Harrison, Georgia Institute of Technology, that won Third Prize. Careful study of controls and flexibility of patient room-use were particularly admired.**



## Progress Report

(Continued from page 12)

It was felt, however, that the first-floor service area was somewhat awkwardly handled.

A sizable segment of the jury admired the simple architectural expression of the second-prize winner and its low cubic content, forgiving the lower-floor space which required grade revision, and several functional errors. (Few of the competitors seemed to understand fully the function of a central sterile supply room, for instance.)

However, in the final vote, the excellent arrangement and relationship of spaces in the first-prize scheme won the jury vote.

●

Talks during the business sessions ranged from very off-the-cuff remarks on the relation of the architect to his client, by Boston Architect Riley, to a most stimulating and controversial discussion of aseptic operating room techniques and what they imply in the way of planning and equipment, by Dr. Carl Walter, also of Boston. John Merrill, Isadore Rosenfield, Slocum Kingsbury, Joseph Blumenkranz, and other architects who have had much experience in the hospital field spoke on specialized subjects; in addition, those who attended had the privilege of hearing excellent papers by Dr. Carl Breastrup, on radiology; Dr. Stewart Clifford, on pediatrics; Dr. P. A. McLendon, on obstetrics; Dr. Harvey Slocum, on surgery, etc. Miss Lucile Petry of USPHS led an excellent discussion on the nursing unit, and other sessions dealt with mechanical and electrical engineering problems and service areas.

The committee of three which arranged the conference—with help from a number of others in various details—was made up of Moreland Smith (Sherlock, Smith & Adams), of Montgomery, Alabama; A. L. Aydelott (Dent & Aydelott), of Memphis, Tennessee; and Jaque B. Norman, hospital consultant, of Greenville, South Carolina. They worked hard and successfully, and deserve full credit for a fruitful conference which should result in improved hospital planning in the southern states.

●

Moreland Smith much enjoyed his privilege of introducing Frank Lloyd Wright to the final dinner assembly and all those present relished his pleasure. Wright spoke in much the same vein he did at Houston, emphasizing the fact that organic architecture could be the measure by which the progress of the United States toward a true democracy might be gaged. A new Wright opus was promised when it was announced that he had agreed to design a memorial to Louis Sullivan, sponsored by the Conference, to be erected where Sullivan lived for a time and built himself a cottage at Ocean Springs, near Biloxi. T.H.C.



## NOTICES

### CHANGE OF FIRM NAME

WILLIAM E. BRACKETT, JR., M. MCDOWELL BRACKETT (BRACKETT & BRACKETT, Architects), Technical Bldg., Asheville, N. C. Former name of firm: William E. Brackett, Jr., Architect.

### ELECTED

WALTER H. KILHAM, JR., has been elected president of the New York Chapter, A.I.A., succeeding Harold R. Sleeper. Other officers are BEN JOHN SMALL, vice-president; M. MILTON GLASS, secretary; and WILLIAM POTTER, treasurer.

(Continued on page 16)


# DOOR CLOSERS BY *LCN*

## CLOSER CONCEALED IN DOOR

*MEMORIAL HOSPITAL, SPRINGFIELD, ILLINOIS*

LCN CATALOG 11-E ON REQUEST

LCN CLOSERS, INC., 466 WEST SUPERIOR STREET
CHICAGO 10, ILLINOIS

Burnham & Hammond, Inc., *Architects*

# Notices

(Continued from page 14)

**AWARDS**

*The Association of the Alumni of the American Academy in Rome* has announced the winners of two cash prizes in its 22nd collaborative competition for students of architecture, landscape architecture, painting, and sculpture in United States colleges and art schools. The problem was the development of a 10-acre island into the recreational center of a large shore community.

First prize of $200 was awarded to a team of students from Western Reserve University and the Cleveland School of Art—ROBERT F. STORY, architect; J. SHERMAN THOMAS, landscape architect; STEPHEN MAGADA, painter; and PETER STEVENS, sculptor.

Second prize of $100 was won by a team from the University of Pennsylvania and the Pennsylvania Academy of the Fine Arts—ROLV O. ENGE, architect; HUGH WILEY, painter; and JOHN J. MYERS, sculptor.

Of the three honorable mentions awarded, two went to teams from Cornell University and one to a team from Cranbrook Academy.

An annual STUDENT AWARD IN ARCHITECTURE for upper classmen has been set up at Western Reserve University by the Cleveland Chapter of the Producers' Council. The award, $150 yearly for the next five years, has been established to acquaint students with the activities of the Producers' Council and the relationship between the Council and the A.I.A.

Each year, at the beginning of the winter session, the School of Architecture faculty will determine the general nature and detailed program of the competition.

This year's award will be given to the writers of the three best research papers in the course, materials and methods, and will be announced shortly.

The WASHINGTON (D.C.) BOARD OF TRADE has awarded 13 certificates of merit for "excellence in design" to architects, owners, and builders of 12 new buildings and one community planning site in the national capital area. A jury consisting of Dean Leopold Arnaud, John F. Harbeson, and Edward D. Stone, toured Washington to inspect first-hand many of the 147 entries. The Board of Trade sponsored the competition in its drive for better architecture in Washington and the surrounding four counties.

**RESEARCH**

ERNEST A. GRUNSFELD, JR., of the firm of Friedman, Alschuler & Sincere & Ernest A. Grunsfeld, Jr., has begun an intensive study of housing in Europe expected to take several months. He will survey the development of city planning and site planning techniques, types of heating, cooperative housing, use of materials, and house design. He plans to visit France, England, Italy, Denmark, Switzerland, and Sweden.

**NEW ADDRESSES**

EARL R. MAC DONALD, Architect, 251 Kearny St., San Francisco 8, Calif.

FREDERICK PERL, Interior Designer, 565 Fifth Ave., New York 17, N. Y.

MITCHELL MODELS, 536 Chimera Court, St. Joseph, Mich.

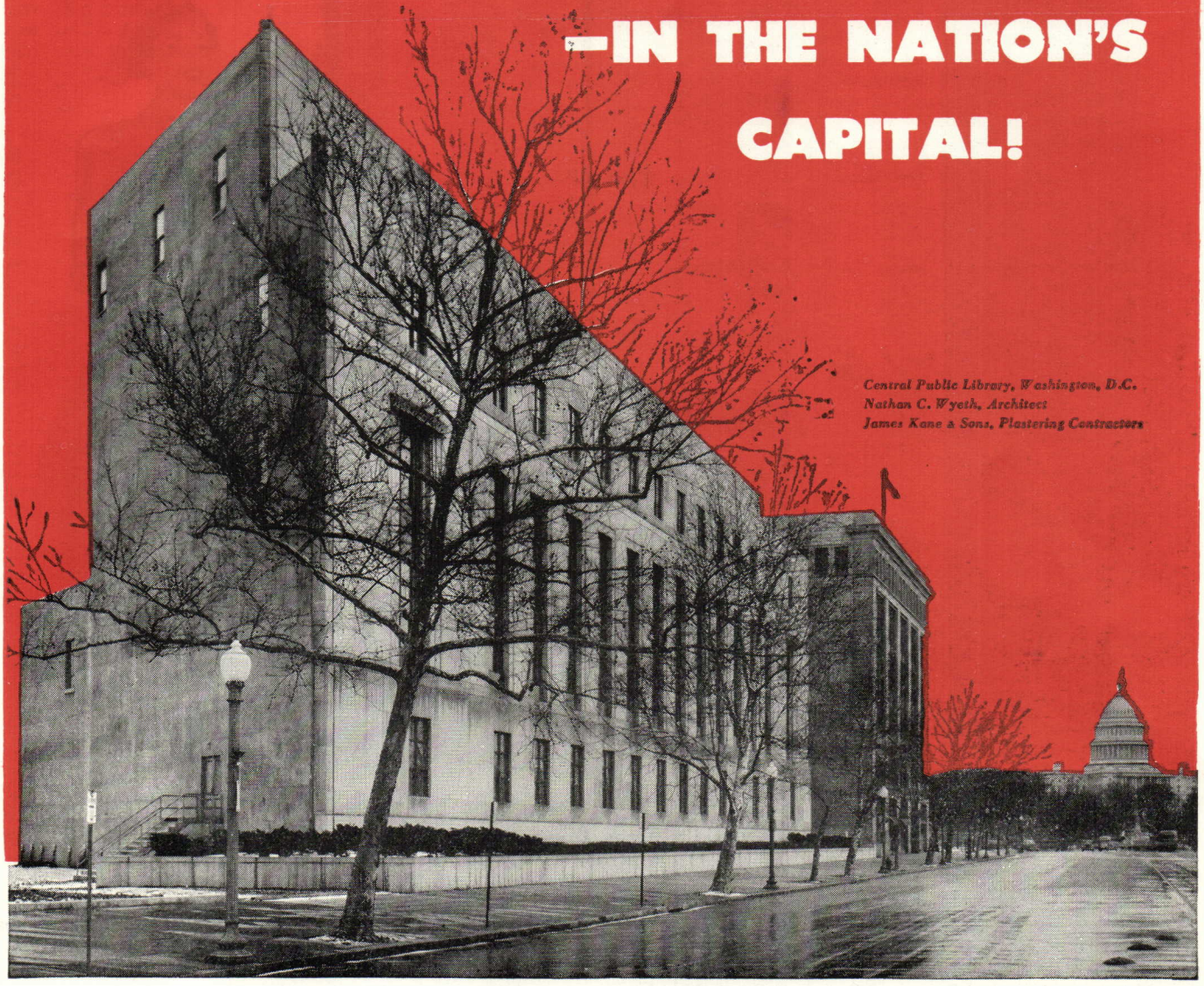
LEO F. MULQUEEN, Acoustical Engineer Consultant, 5222 Massachusetts Ave., N. W., Washington 16, D. C.

NATHAN R. GINSBURG, Architect, 521 Fifth Ave., New York 17, N. Y.

CHARLES MELOV, Architect, 320 Miracle Mile, Coral Gables, Fla.

ROBERT S. MCCOY & G. NORMAN BLAIR, Architects, 4 Chatsworth Ave., Larchmont, N. Y.

# BRIXMENT FOR STUCCO —IN THE NATION'S CAPITAL!



*Central Public Library, Washington, D.C.*
*Nathan C. Wyeth, Architect*
*James Kane & Sons, Plastering Contractors*

Everybody in the building industry knows about Brixment *for masonry*. But do you know that Brixment also makes a very *superior stucco?*

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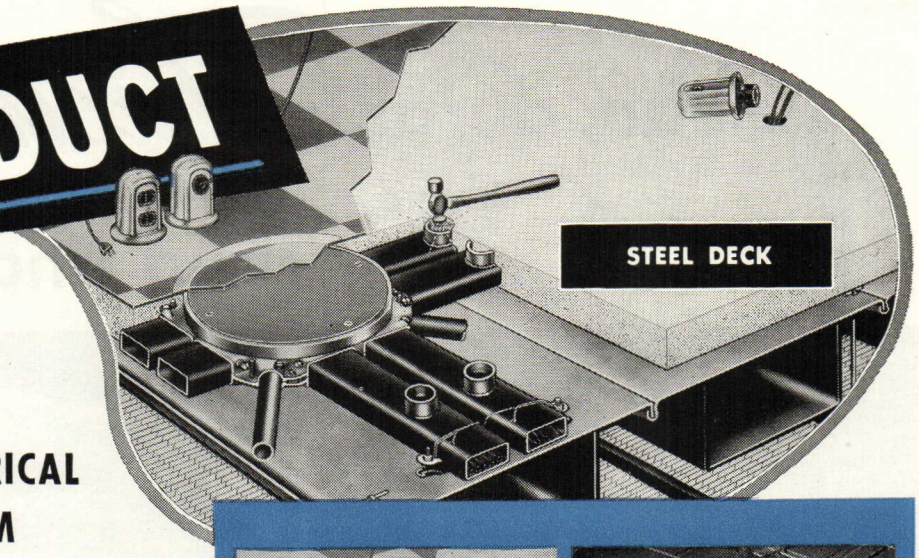


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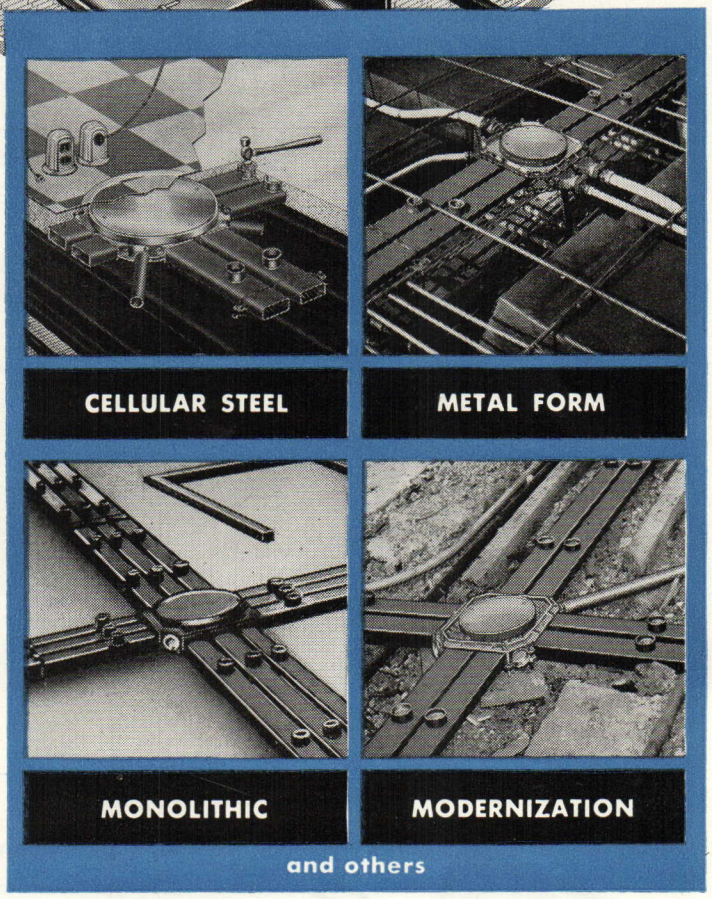


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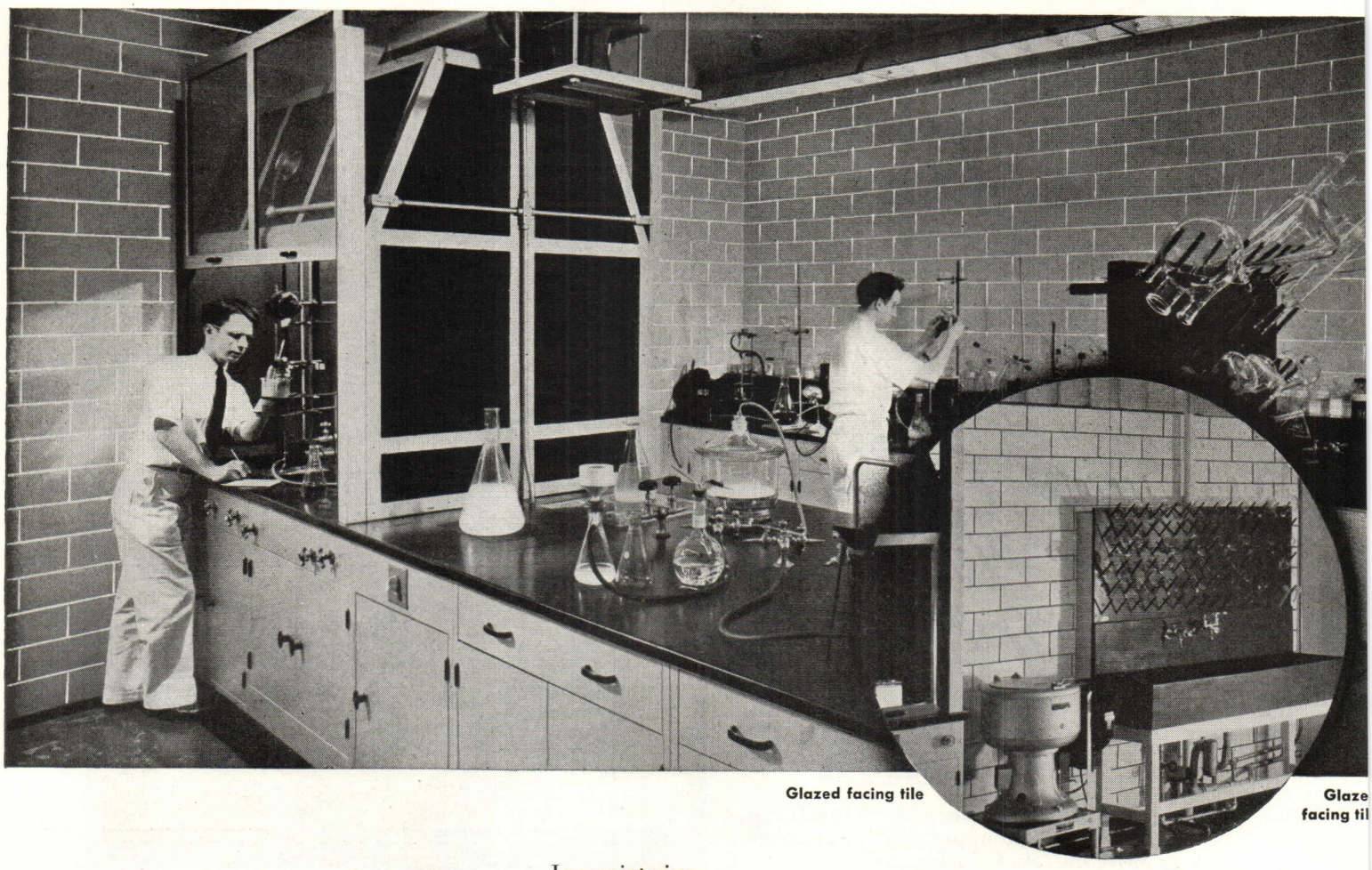
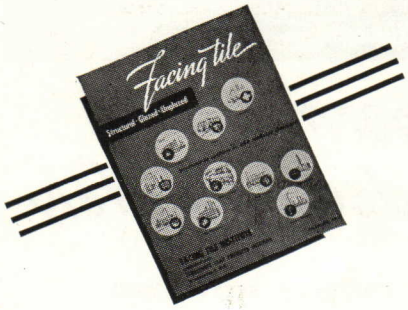


Glazed facing tile

Glaze
facing til

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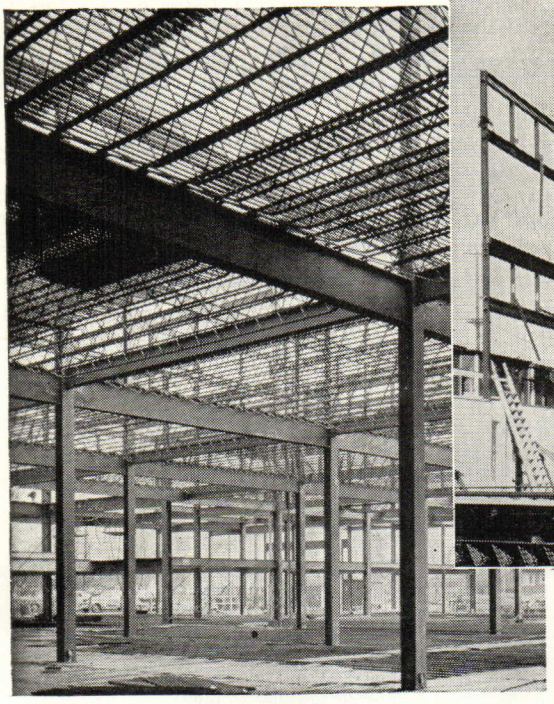

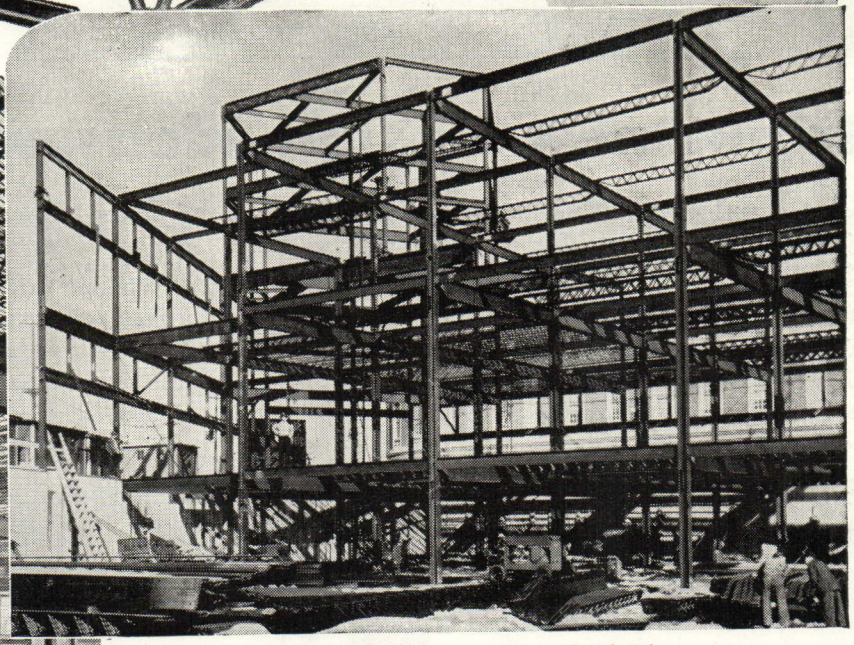

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LAMPS

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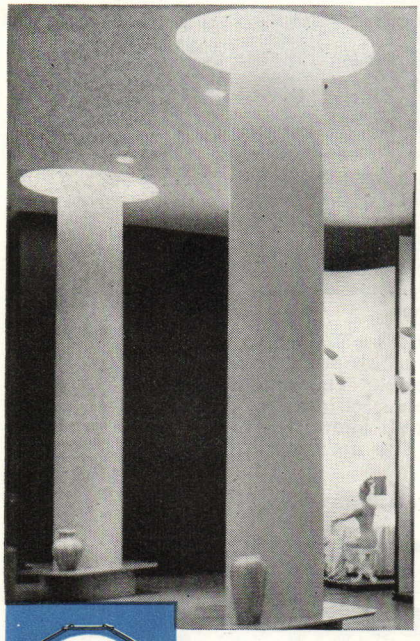
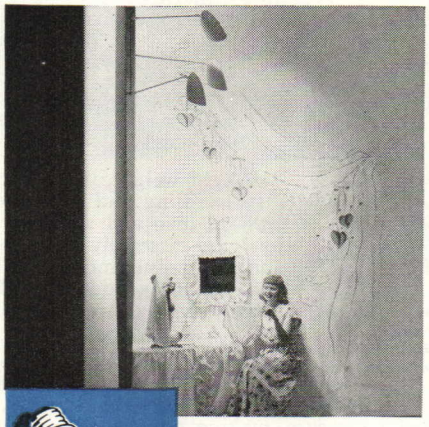
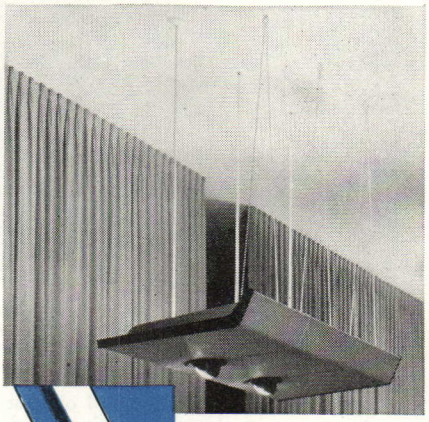


Concealed in circular coves above pillars, G-E 15-watt fluorescent lamps in an overlapping pattern give unique decorative effect.



Display is lighted by G-E 40-watt fluorescent lamps recessed in vertical, tapered post. Three projector lamps on post provide accent lighting on model.



"Floating" fixture has G-E 40-watt fluorescents on top to brighten ceiling. Adjustable projector lamps in bottom bring accent lighting close to display.

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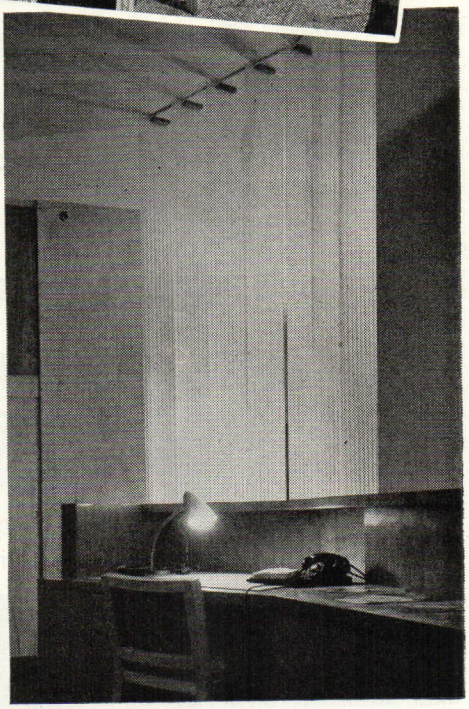
In a modern home, clear Flutex panel spreads abundant light over hall and stairway. Architect: Ernst Payer, Cleveland, O.

In a Toledo, Ohio, restaurant, Doublex glass separates lounge from dining room, adds sparkle, is easy to keep clean. Designed by James A. Coughlin, Inc.

In West Coast offices of Street & Smith Publications, vertical louvers of *Satinol* Louvrex flood desks with diffused light. Designed by Alyne Whalen, Beverly Hills.



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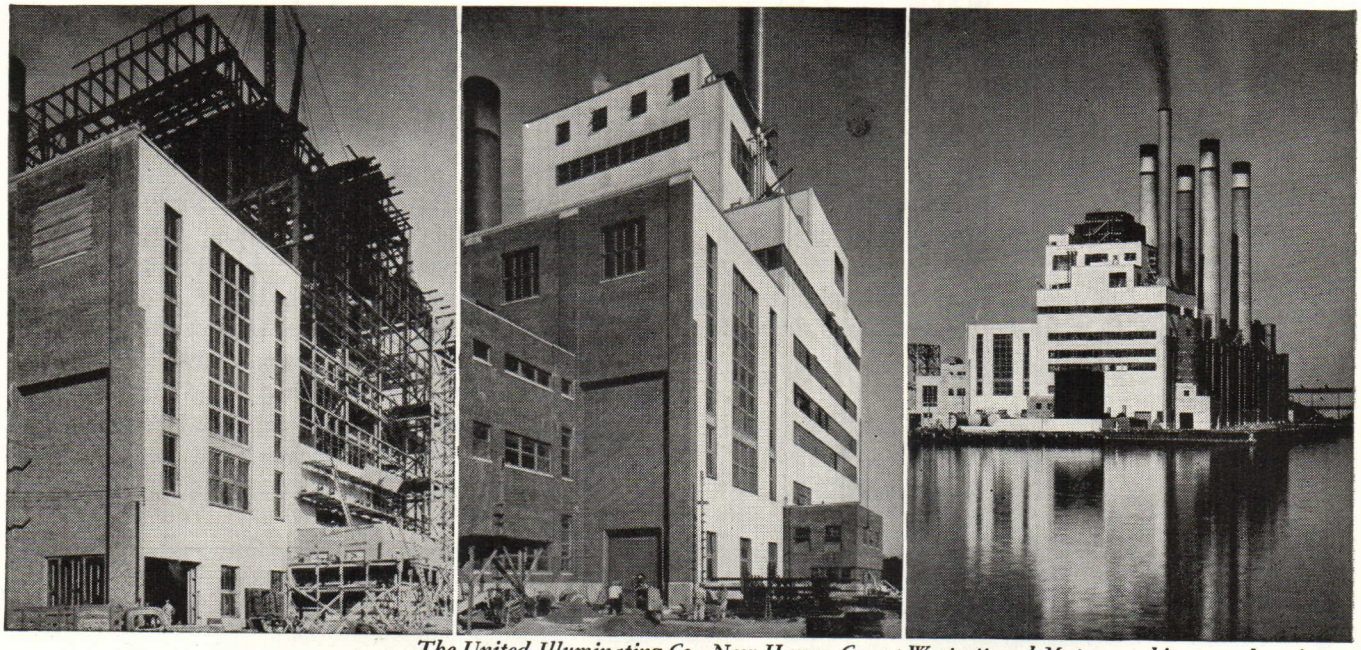
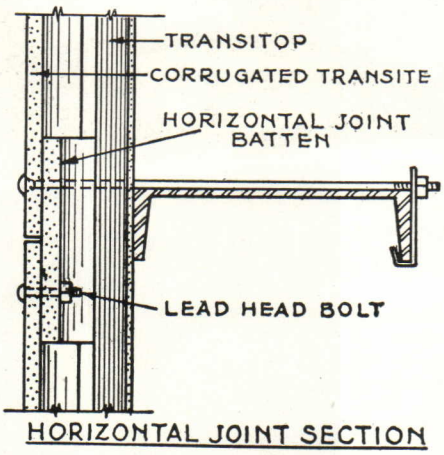
*Transite is a registered Johns-Manville trade mark



*The United Illuminating Co., New Haven, Conn.; Westcott and Mapes, architects and engineers*

## Asbestos Corrugated Transite reduces load-bearing factor 83% on new power plant addition! Transite sheets give attractive, streamlined appearance... and they can't rot, rust, or burn.




HORIZONTAL JOINT SECTION

● Here's a case in which a unique form of asbestos wall construction solved a tough building problem.

The addition planned was to be almost twice the height of the original building, yet where the two joined, existing foundations were to be used. This meant that the new bearing wall with all its extra height should weigh no more than the old wall.

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Architects and engineers are constantly discovering new uses for J-M Corrugated Asbestos Transite, not the least of which is its surprisingly effective function in attractive, modern design.

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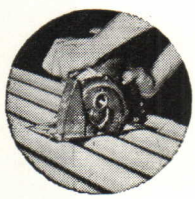
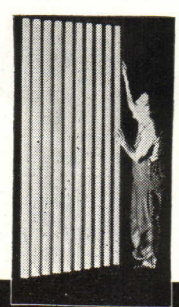


EASY TO SAW

EASY TO DRILL

EASY TO NAIL TO WOOD



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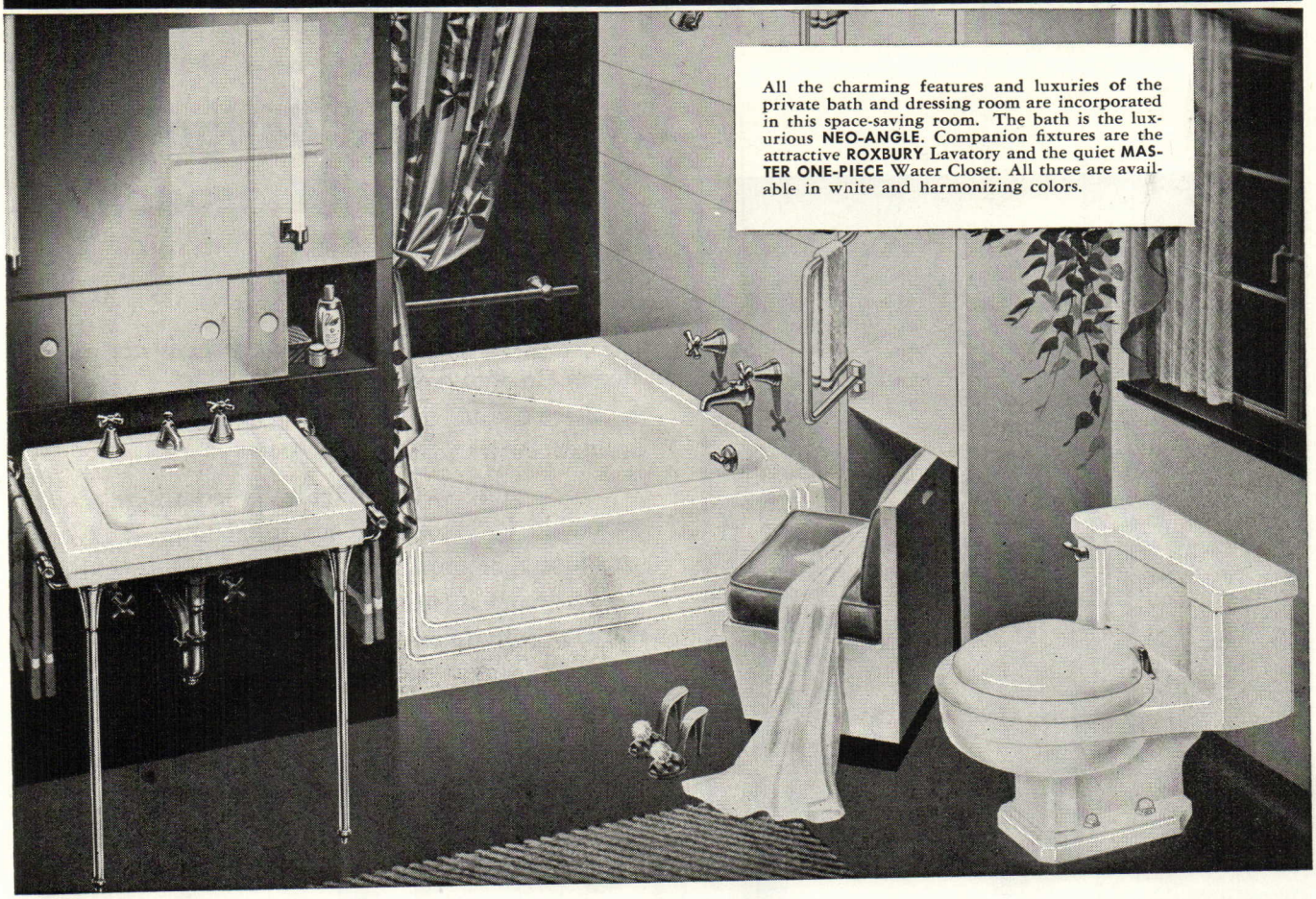
# AMERICAN-Standard

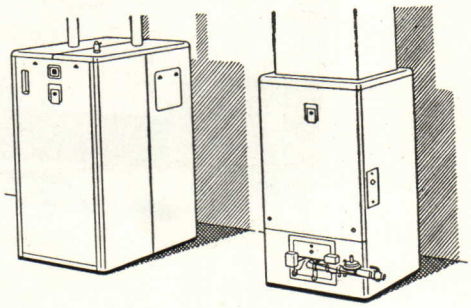
## First in heating . . . first in plumbing



All the charming features and luxuries of the private bath and dressing room are incorporated in this space-saving room. The bath is the luxurious **NEO-ANGLE.** Companion fixtures are the attractive **ROXBURY** Lavatory and the quiet **MASTER ONE-PIECE** Water Closet. All three are available in white and harmonizing colors.

## Beauty that's more than skin deep...

■ American-Standard products are styled to stand out in any setting. But their good looks go a lot deeper than their trim lines, smooth finishes and striking colors. It's the beautiful way they perform and stand up in actual installations—the efficient, trouble-free service they give in the home—that make them the finest heating equipment and plumbing fixtures that money can buy. For information about the complete line, contact your Heating and Plumbing Contractor. **American Radiator & Standard Sanitary Corporation,** P. O. Box 1226, Pittsburgh 30, Pa.



Two of the many modern heating units made by American-Standard. Left—The oil fired **OAKMONT** Boiler. Right—The gas fired **SHAWNEE** Warm Air Furnace. The complete line covers equipment for every type of heating . . . and for every kind of fuel.

*Look for this* AMERICAN-Standard HEATING · PLUMBING *Mark of Merit*

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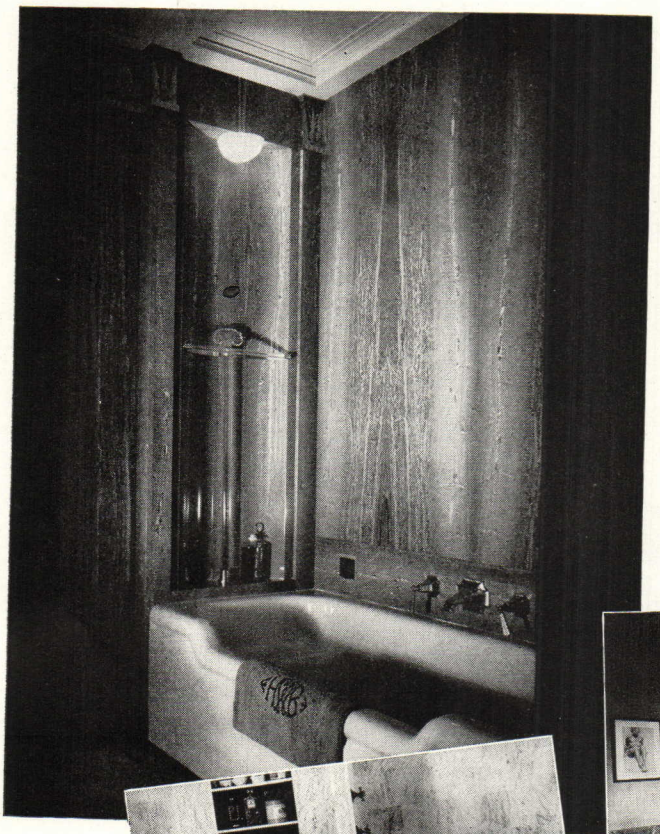
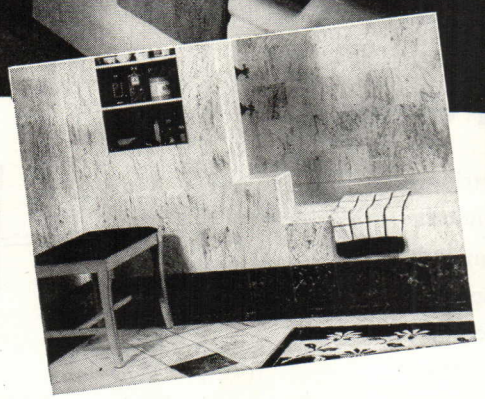
# marble

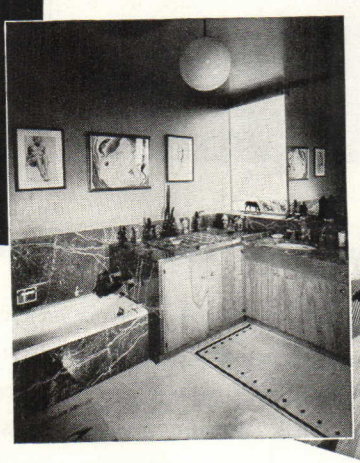
## . . . unites good design with economy

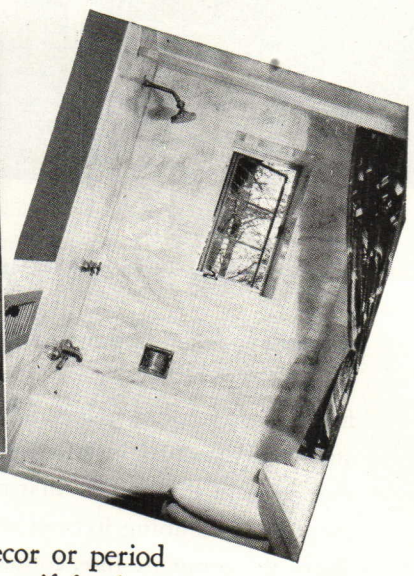


MARBLE in the bathroom is not a luxury. In fact, taking into consideration only its first cost and its lasting qualities, it is the *least* expensive material to be had.

Moreover, Marble is completely adaptable to modern trends in planning and appointing bathrooms. When Marble is used, the bathroom is clean and inviting, and worthy of being introduced to any guest.







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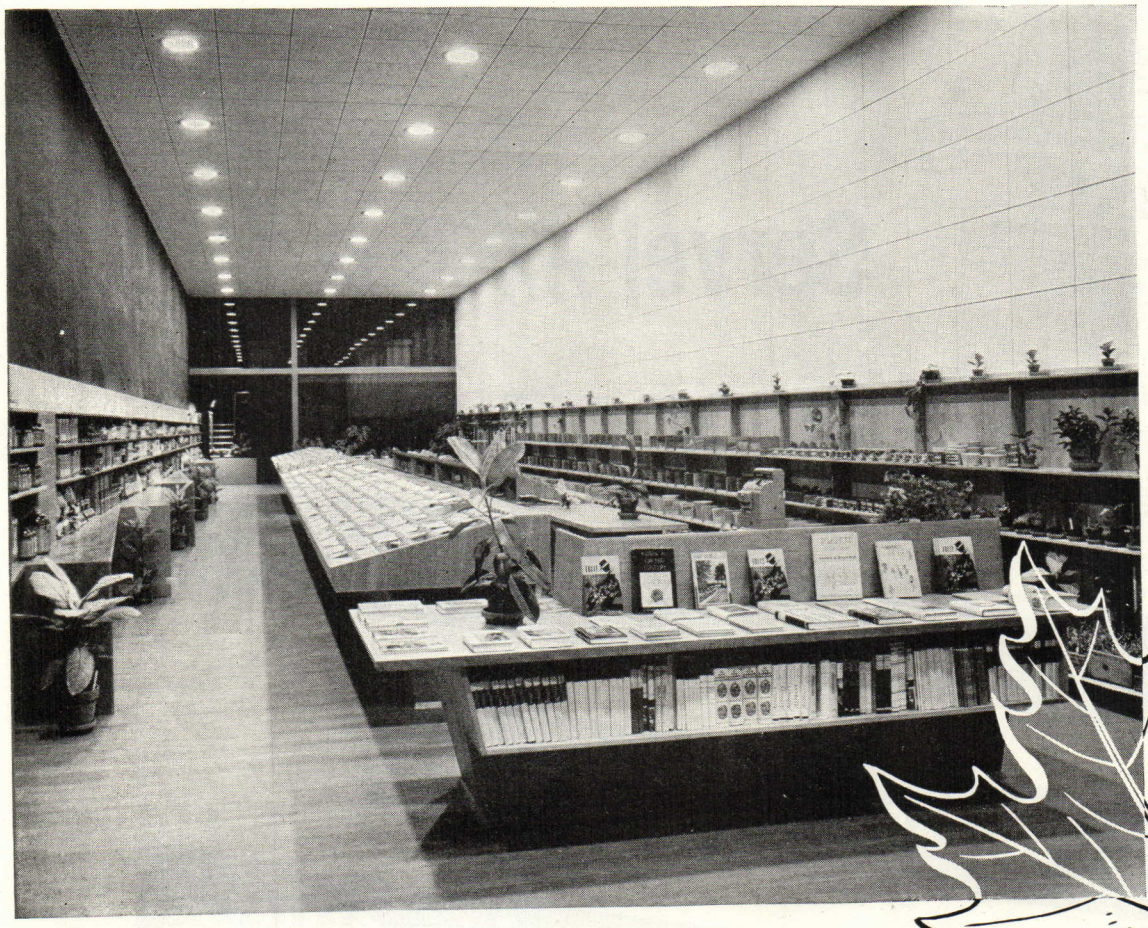

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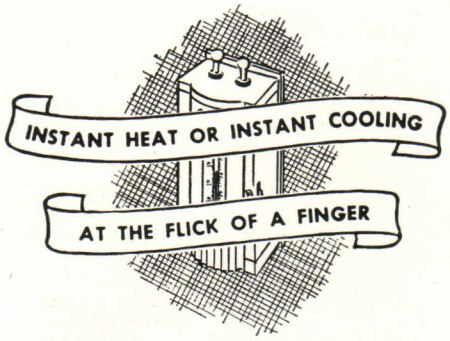


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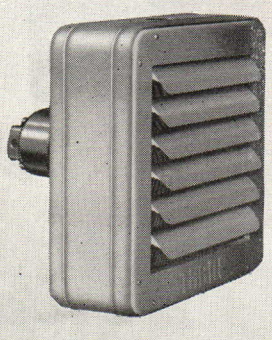

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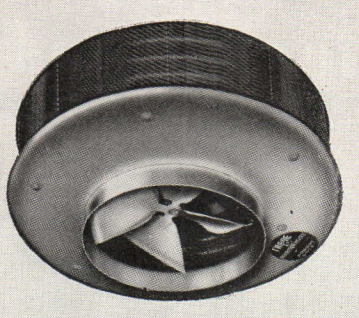

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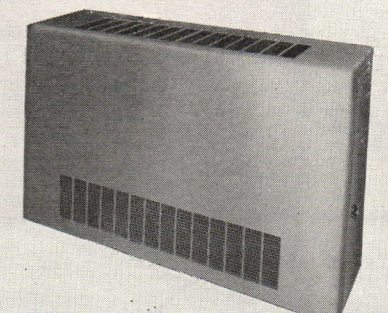

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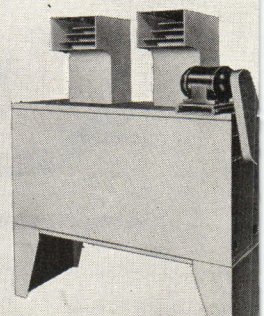

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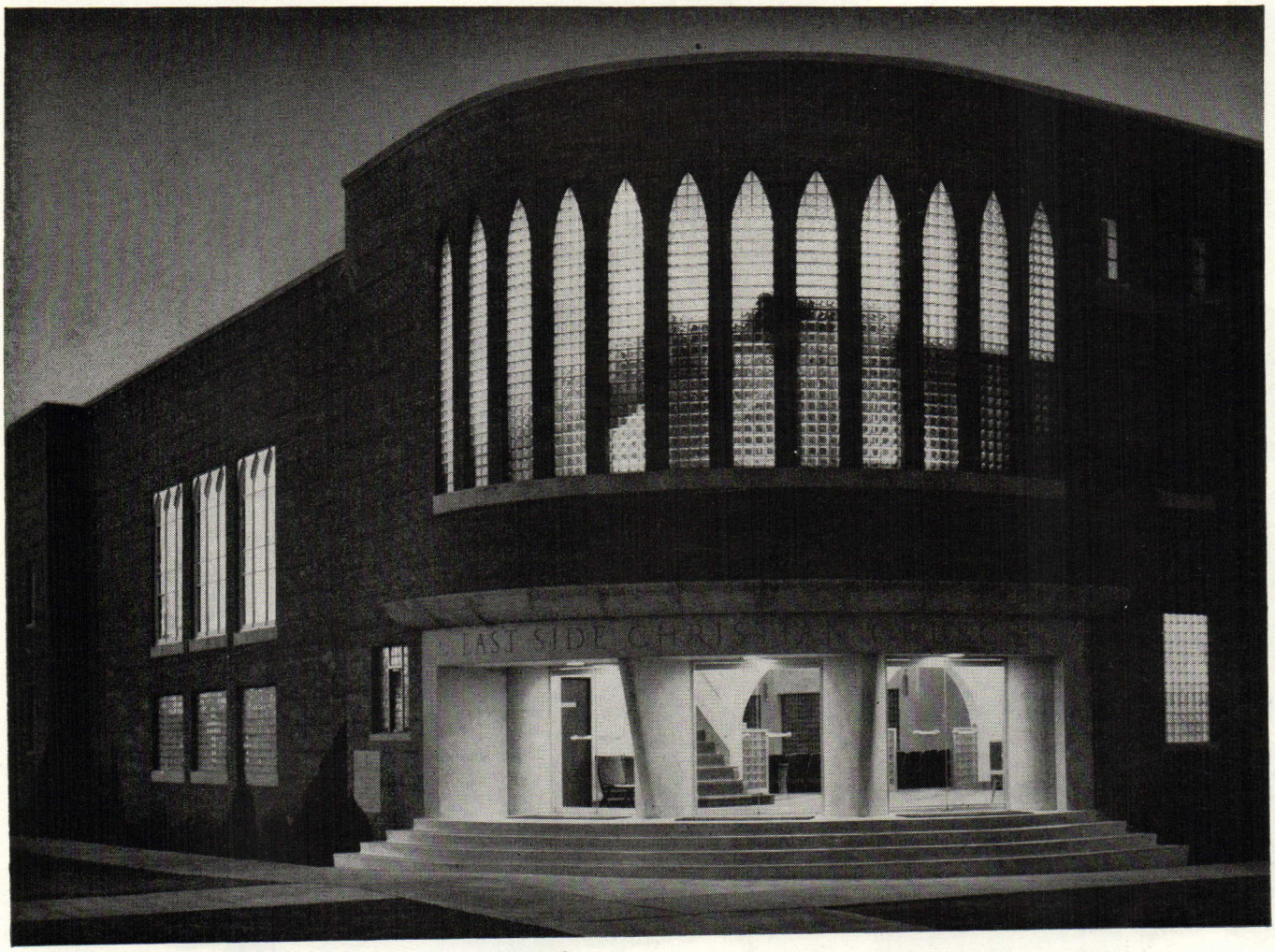

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Beyond the structural elements of steel and concrete, brick and stone, attainment approaching perfection has been assured by today's high standards of materials. Not the least of these is *steel pipe,* helping to make each church a comfortable place in which to worship, through adequate heating, plumbing, lighting, and ventilation. For these services *steel pipe* has a dominant place because *steel pipe* is durable, adaptable, serviceable, and economical.

In fact, of all pipe used for plumbing and heating purposes in all types of structures, steel pipe predominates by a wide margin. Yes, *steel pipe is first choice!*

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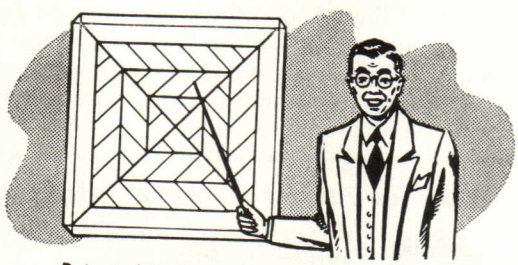

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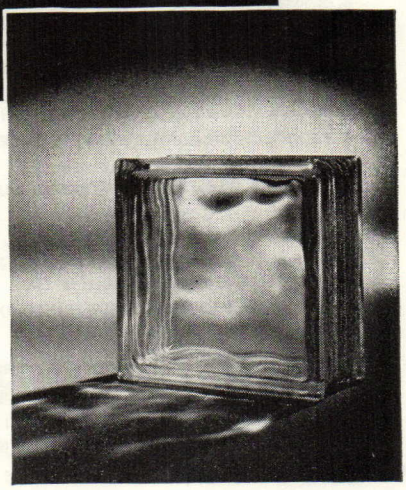

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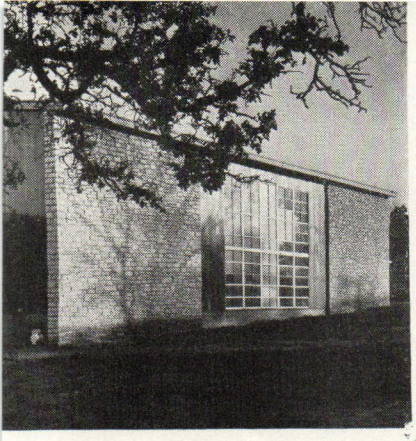


# Church: Austin, Texas

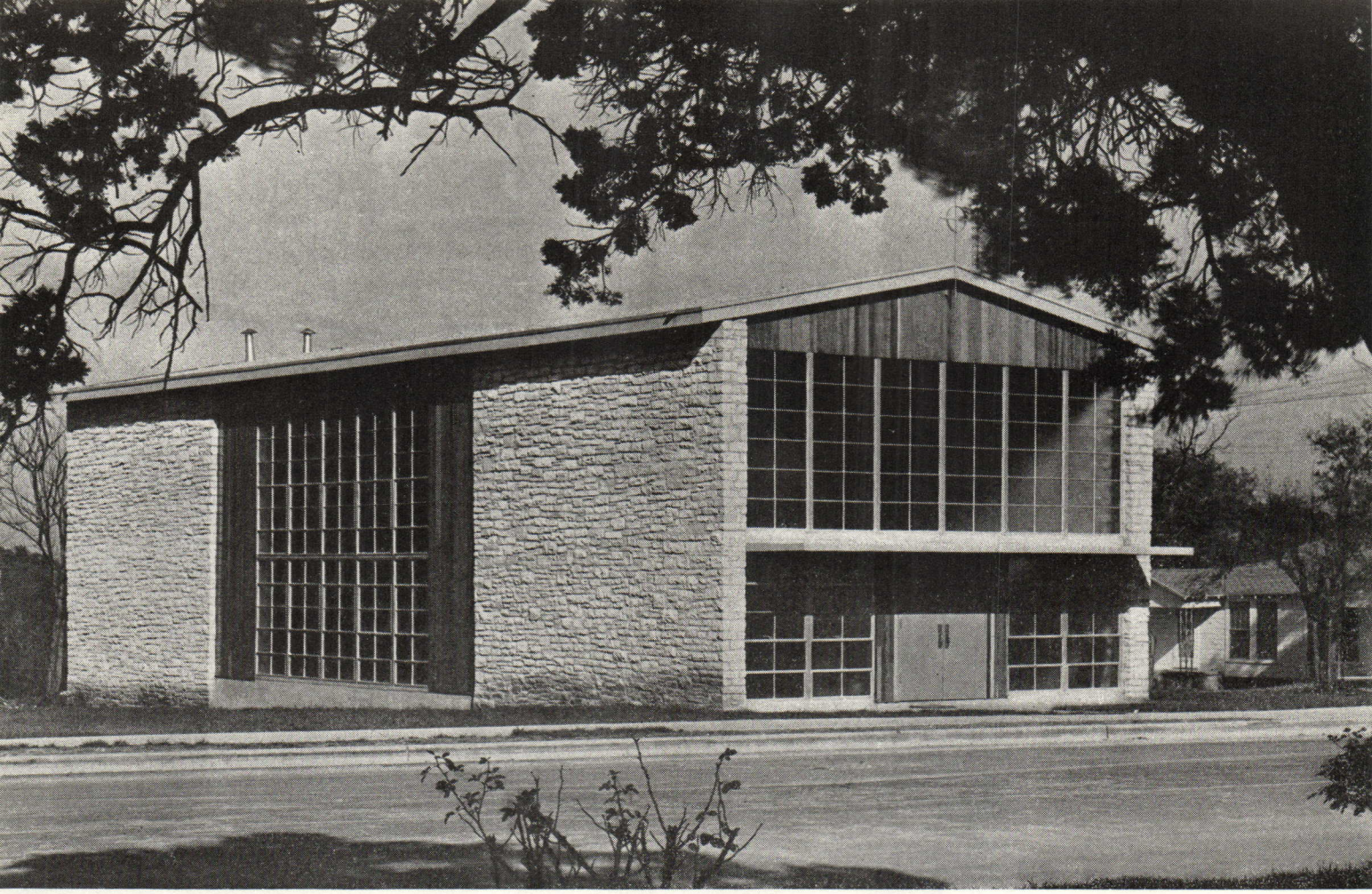
**ARTHUR FEHR & CHARLES GRANGER, ARCHITECTS; WILSON & COTTINGHAM, CONSULTING ENGINEERS**

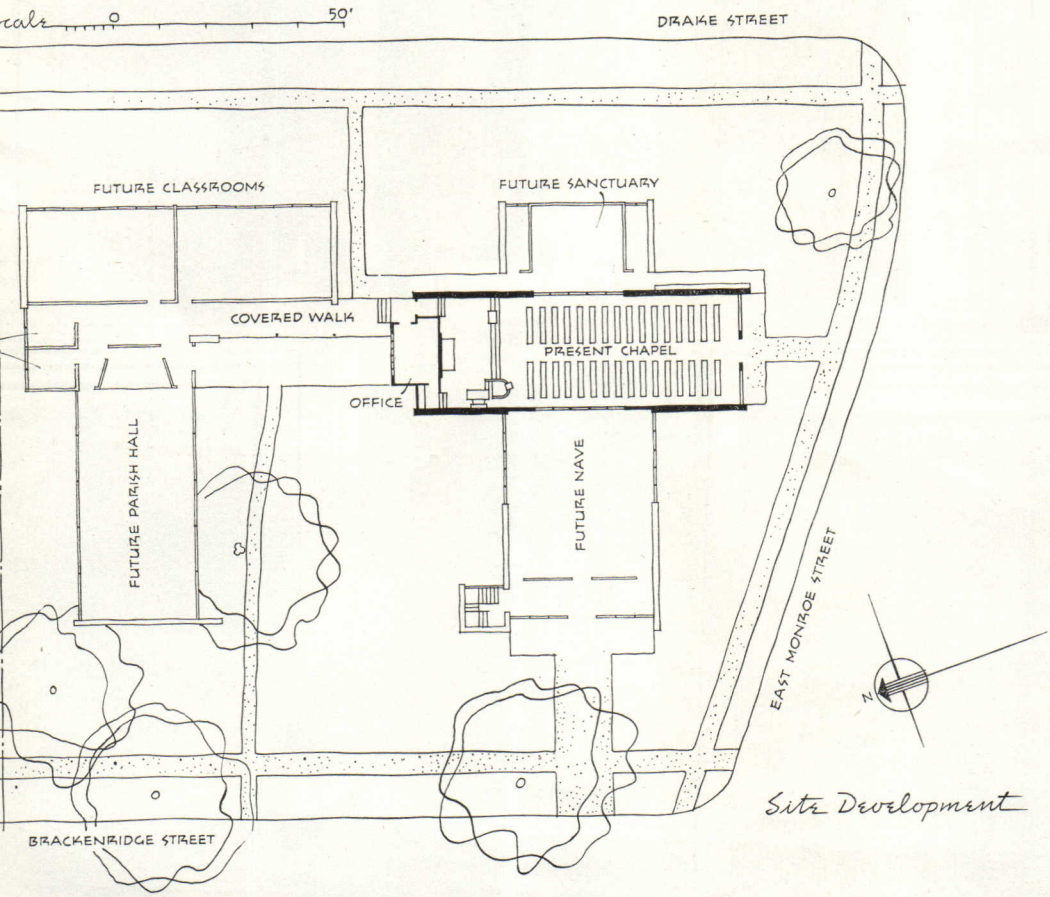
The first stage of an expandable scheme, this little church is the future transept of the completed church structure (see development plan over page). Built mainly of native quarried limestone (bearing walls) with commercial metal projected sash in the large openings that will eventually receive the nave of the church, the initial unit is, nonetheless, a complete small church in itself. Not the least remarkable aspect of the design performance is that the present structure was built, complete, for $21,000—in 1948!

At right: general interior view.

Above left: view from northwest, showing office extension at rear.

*Photo Associates by Ulric Meisel*






Site Development

Above: view from southwest. Redwood panels at either side of large sash area on the west are provided to accommodate the width of the nave that will be built on this side.

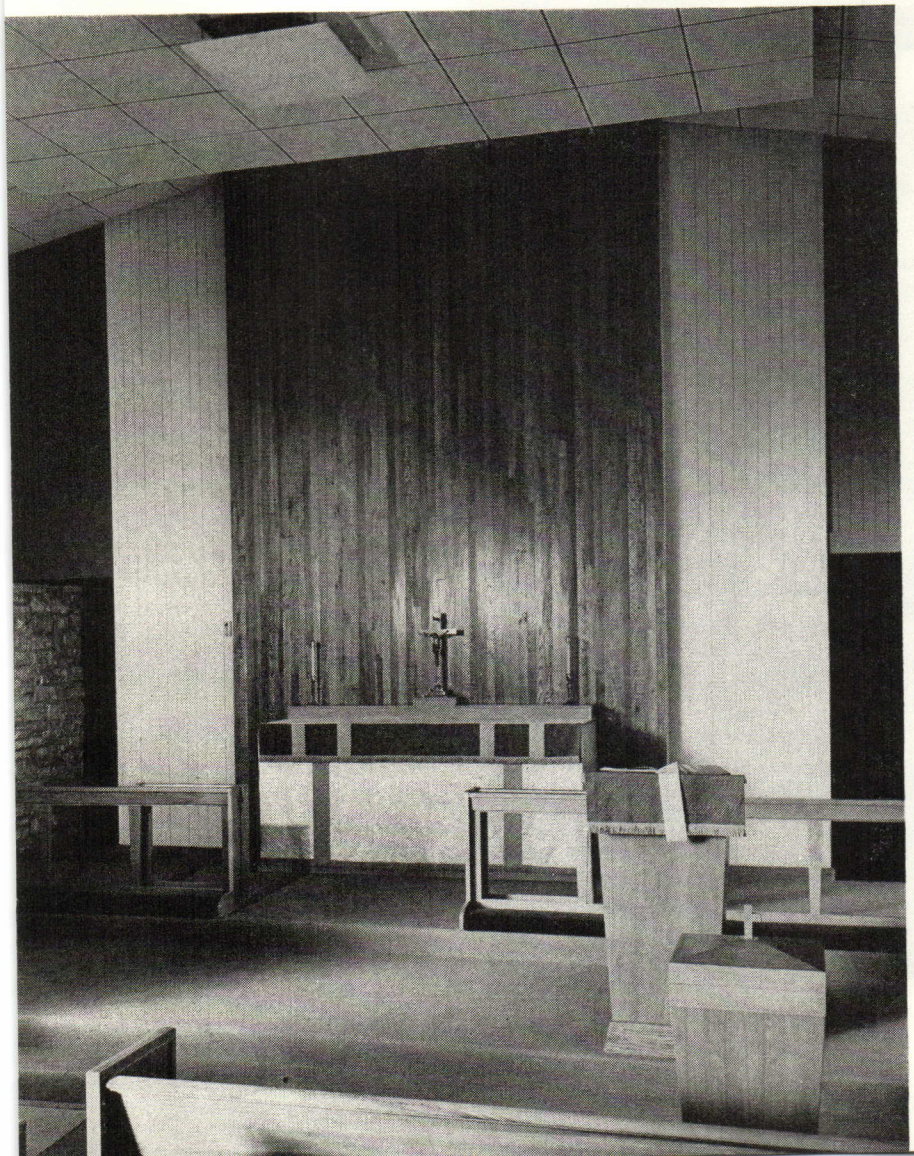
Across page: chancel of present church. Panel behind altar is sienna-stained oak flooring, with gray-painted, V-groove pine boarding at either side. Altar, lectern, pulpit, and communion rail: natural-finish white oak. Two-foot-square acoustic tile surfaces the ceiling. A warm-air heating system, combining characteristics of both a direct and radiant panel system, occurs in the hung ceiling over the central portion.

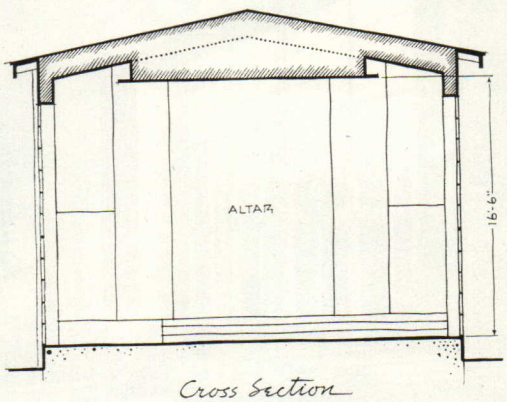
**CHURCH: AUSTIN, TEXAS**

**program:** To develop for this Lutheran mission a building program that will eventually include a church to accommodate 600, and a school, offices, and a parish house. A first unit, to be built as economically as possible and schemed in such a way that the ultimate construction will require only minimum change in the initial building.

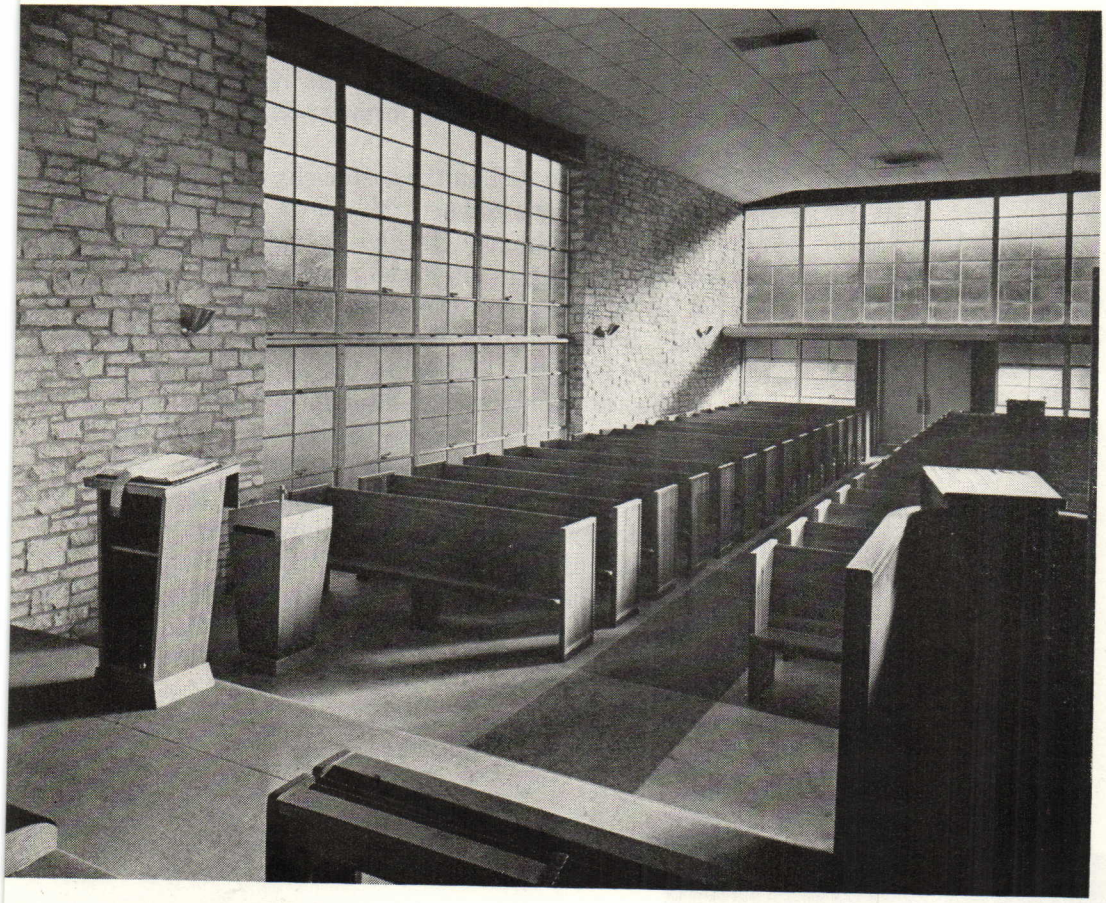
**site:** 138′ x 180′ plot bounded on three sides by city streets, with the main artery toward the south. Site is surrounded by an established residential neighborhood.

**solution:** The present building so sited and planned that it will become the transept of the enlarged church with practically no structural change. The side window areas will be removed and relocated in the two side walls of the future nave. Flanking the western window area are panels of redwood-surfaced frame, to allow for the greater width needed for the nave, the narrower eastern opening being adequate for the future sanctuary. Four limestone piers provide the main structure of the initial building; roof construction is of wide flange sections cut and welded to form slope of roof.






Cross Section

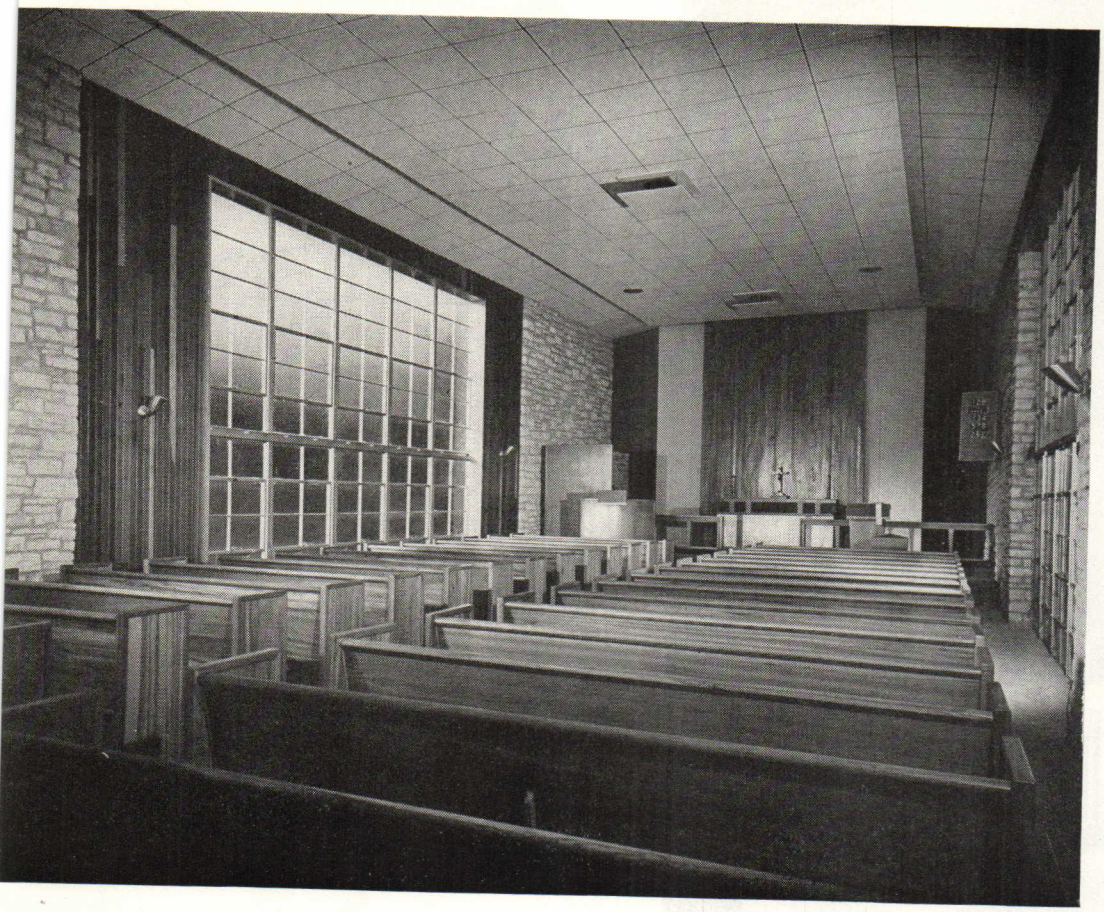


## MATERIALS AND METHODS

**CONSTRUCTION: Frame:** reinforced concrete. **Walls:** strip quarry limestone, wall bearing, unsurfaced; other surfaces: redwood, pine, oak. **Floors:** concrete slab, later to be surfaced with either asphalt or rubber tile. **Roof:** steel I-beams, wood purlins, wood sheathing, built-up roofing. **Fenestration:** commercial, projected metal sash; DSB, amber-tinted translucent, and transparent, heat-absorbing glazing. **Insulation:** acoustical—ceiling tile; thermal—blanket-type, glass-fiber material in ceiling. **Doors:** gum-surfaced, flush.

**EQUIPMENT: Heating:** gas-fired furnaces; forced warm air travels above ceiling and is released at 110-120 degrees at very low velocity through ceiling plaques, the system combining characteristics of both a direct and radiant system. **Electrical:** low-wattage incandescent bulbs in suspended ceiling troughs; wall-bracket accent lights flood ceiling; individual spots.

**CHURCH: AUSTIN, TEXAS**



# Church: Minneapolis, Minnesota

**LONG & THORSHOV, INC., ARCHITECTS; ROBERT G. CERNY, DESIGN CONSULTANT; RALPH D. THOMAS & ASSOCIATES, INC., ENGINEERS**

The permanent home of the St. Frances Xavier Cabrini Parish (founded, 1946), the present plant includes church proper, parish hall, offices, and priest's quarters. Future development will add a five-classroom school to the east (just out of right side of photo). Indentations along low side wall of church are chapel-like projections provided for the Stations of the Cross. *Photography Inc.*

**CHURCH: MINNEAPOLIS, MINNESOTA**

**program:** Church for a congregation of 225. First stage to include, in addition to the church, a parish hall and kitchen (downstairs), church offices, and rectory. Future development to add a parochial school with five classrooms.

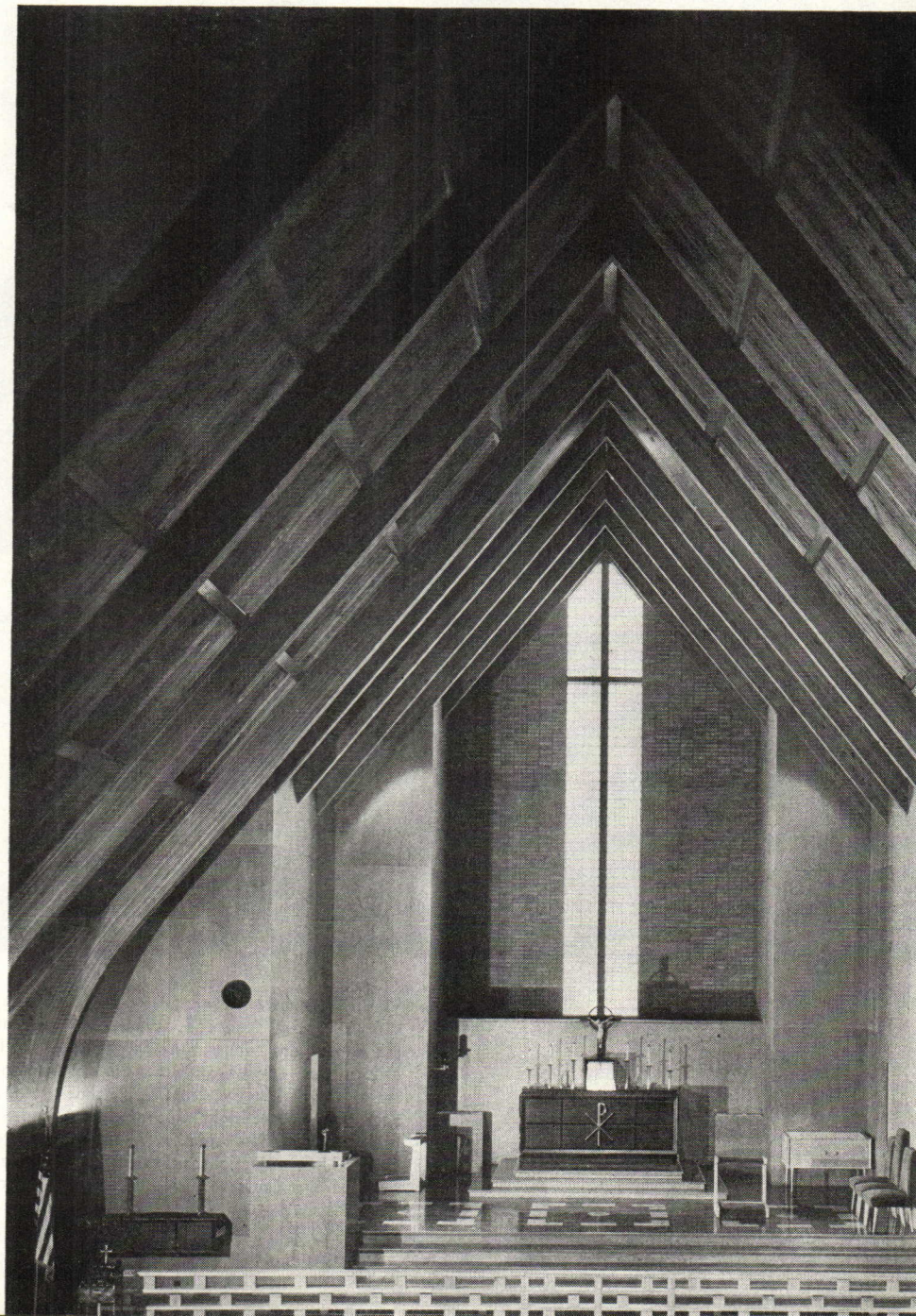
**site:** Large plot, bordered on three sides by streets, with access to church desirable from two of these, access to church offices from the third.

**solution:** Church placed near west boundary of site, to face south; side entrance, including stair to balcony, on west side; rear (north) entrance directly to parish offices and priest's quarters. Economy dictated low, side walls of masonry, with exposed wood roof supported on laminated arches soaring above. Simple, direct use of humble materials. Separate chapel-like recesses (side lighted) provided along sides of nave for the 14 Stations of the Cross.

**MATERIALS AND METHODS**

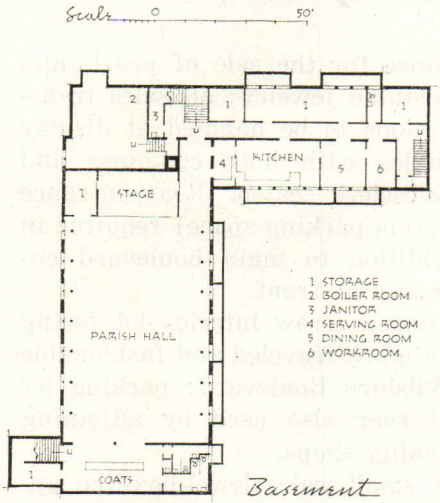
**CONSTRUCTION: Frame:** laminated wood arches in church proper; bearing walls in rectory. **Walls:** reinforced concrete surfaced with either asphalt or rubber tile. **Roofing:** asphalt shingles over wood purlins and 2-in. deck (church); tar and gravel on rectory. **Fenestration:** special wood sash; clear glass; glass block. **Insulation:** wool-type above side chapels; 1-in. rigid type above roof deck.

**EQUIPMENT: Heating:** oil-fired furnace serving hot-water radiant slab heating system (church); steam convectors in rectory; automatic controls.

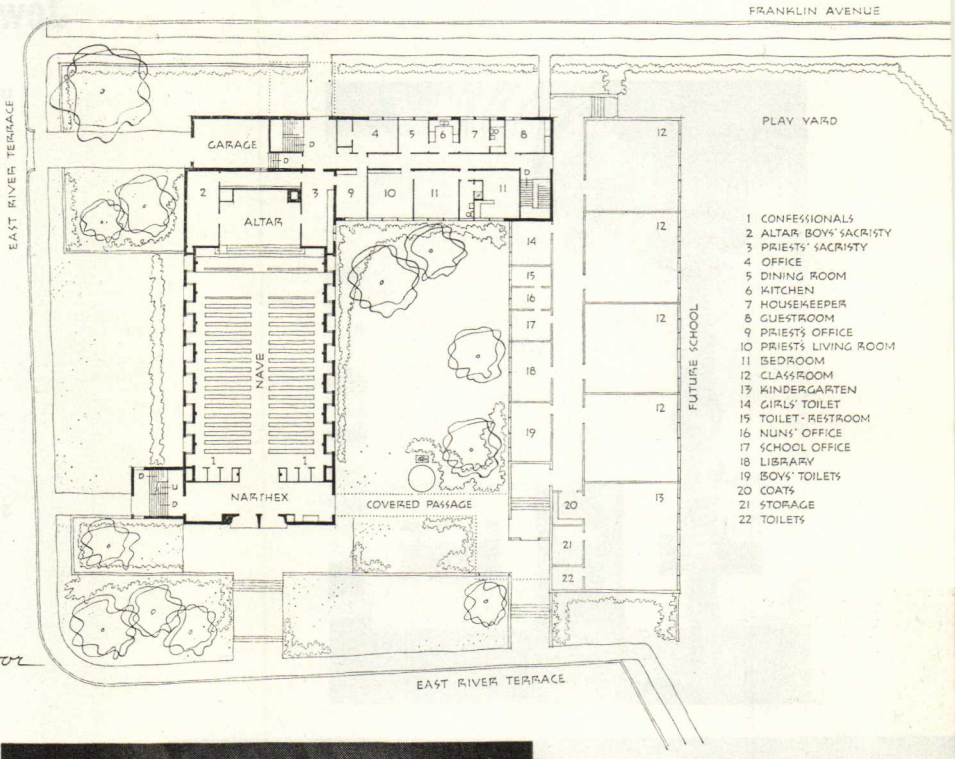


Photos across page: left—south entrance with cut-stone cross; oak doors, arranged in form of the Papal cross, have varicolored, jewel-like glass insets; right—black walnut altars stand out against natural-finish oak plywood back walls. A carved statue of St. Frances Cabrini will later be mounted above the left-hand side altar, similar in character to the statue of the Virgin by Sculptor Alonzo Hauser that already surmounts the right-hand side altar (photo immediately at left).

Photo at bottom, this page, clearly shows the side walls, one of the recesses for a Station of the Cross, the setback providing space for cove lighting and the exposed laminated roof arches, purlins, and roof boarding.




Basement




First Floor

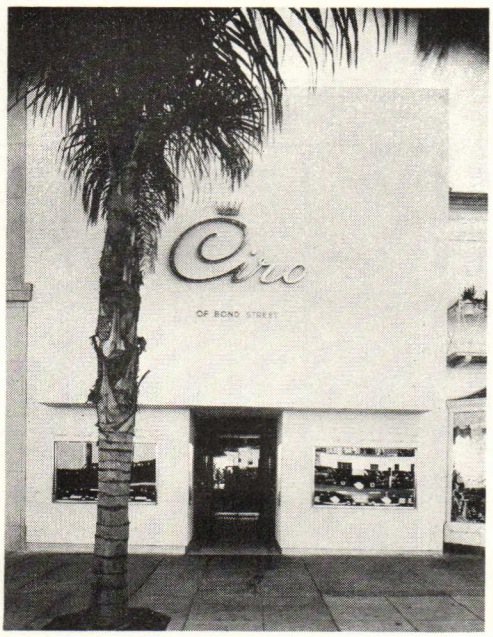
## PA Critique: Specialty Shops

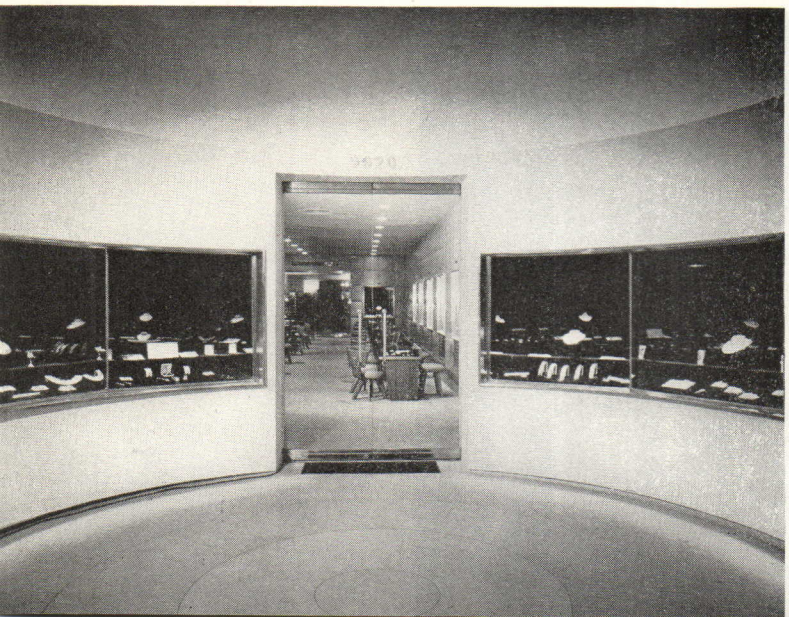
The prime characteristic that distinguishes a specialty shop from, say, a department store, variety store, or service shop is that it is basically a retail outlet for a single type of merchandise. Nor is this statement invalidated when, as is often the case, closely related secondary lines of merchandise also are stocked. For in this latter case, the secondary lines are included for no other reason than to bolster the sales of the specialty.

In looking at specialty shops as successful pieces of architecture, therefore, one can fairly expect something more than the fundamental things considered in any architectural work—a sensible plan, a wise choice and employment of materials and equipment, and an integration of all elements into an harmonious whole. For, since emphasis is on but one sort of merchandise, the specialty shop can and usually does develop a decidedly more individual character than one would expect in a department store.

The design approach is at once affected by the size and quality of the merchandise to be handled. Women's hosiery, for instance, requires totally different types of display spaces and storage facilities from those needed for tennis rackets. And so on down the line. In the finished design expres-

## Jewelry: Beverly Hills, California



**program:** Store for the sale of pearls and costume jewelry; all sales transactions to be handled at display tables with both customer and salesclerk seated. Rear entrance (from parking space) required in addition to main boulevard entrance at front.

**site:** Long, narrow interior lot facing on much-traveled and fashionable Wilshire Boulevard; parking lot at rear also used by adjoining quality shops.

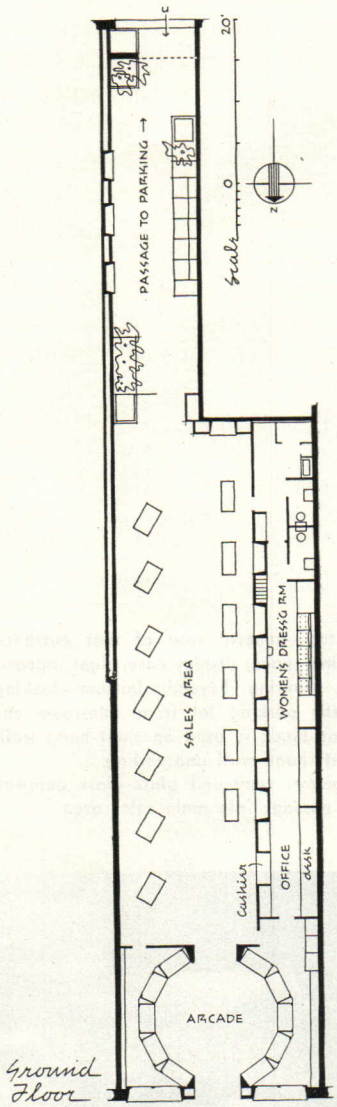
**solution:** A small-scale, jewel-box-like approach with the main salesroom almost secreted from the street entrance by the depth of a circular display arcade lined with display cases on the sides. Symmetrical street front treatment, austere and chaste, with center door and, at either side, rectangular display windows. One wall of salesroom mirror-lined for apparent added width; other main wall leather-upholstered with insets of display cases and storage units. Generous sales tables with display-case tops and storage drawers on the salesclerk's side. Long corridor to parking area at rear is equipped with chairs and three display cases. The corridor is enlivened with planting bays and two aquariums.

sion, also, one will look for some distinctive quality that suggests at once the type of merchandise being sold. In a lace shop one might reasonably anticipate a certain fragile and elegant quality, whereas a men's clothing store would be well on the rugged side.

As with any shop, judgment of specialty shops must consider how readily identifiable the shop is, how sensibly provisions have been made for merchandise display, and how directly entrances and interior traffic are arranged. And, though a shop is primarily a merchandising tool, one who is considering it also as architecture will inevitably look for an integrated finished design quality.

Three of the shops shown in this critique are clothing stores—one for women, two for men. Since this sort of specialty shop carries a rather more extensive line of related merchandise than most, the design problem more nearly approximates that of the general store. But in the jewelry shop (this page) and the bookstore (page 54) the merchandise is highly specialized, and the architects in each case have had the opportunity to develop individual environments for the particular business concerned.

**RAPHAEL S. SORIANO AND SERGE CHERMAYEFF, ARCHITECTS**




Photos, opposite page: above—Wilshire Boulevard front; below—the circular arcade.

On this page: above—the carpeted main salesroom, with leather wall on right. At left—detail of one of the mahogany display sales tables against the mirrored opposite wall. *Photos: Julius Shulman*

## MATERIALS AND METHODS

**CONSTRUCTION: Frame:** expanded steel studs. **Wall surfaces:** light-cream plaster (exterior); plaster, beige leather, mirror (interior). **Sash:** special bronze; ¼-in. plate glass.

**EQUIPMENT: Air conditioning:** complete year-round installation, with automatic controls.

At left: top—general view of rear entrance from parking space; display case, right, aquariums and planting beyond; bottom—looking back to the parking lot from salesroom entrance; flat black is used on right-hand wall, gray on left-hand wall and ceiling.

Photo below: tempered plate-glass doorway from rear passage into main sales area.

**BEVERLY HILLS, CALIFORNIA**


# Men's Wear: White Plains, New York

**BURKE & KOBER, DESIGNERS; OLINDO GROSSI, ARCHITECT**

Stone, roman brick, bronze, wood, rich color, and planting bays distinguish the surface pattern of this suburban men's clothing shop. Interior layout and facilities (see next page) are carefully contrived to serve the precise customer group that will use the store.

Above: outside and inside one of the two main entrances. *Photos: Richard Garrison*

**program:** To develop within an irregular-shaped existing area a shop carrying a full line of men's clothing to serve the special needs of a suburban community. Hat department, for instance, smaller; sportswear, considerably larger in proportion, than in the company's city stores.

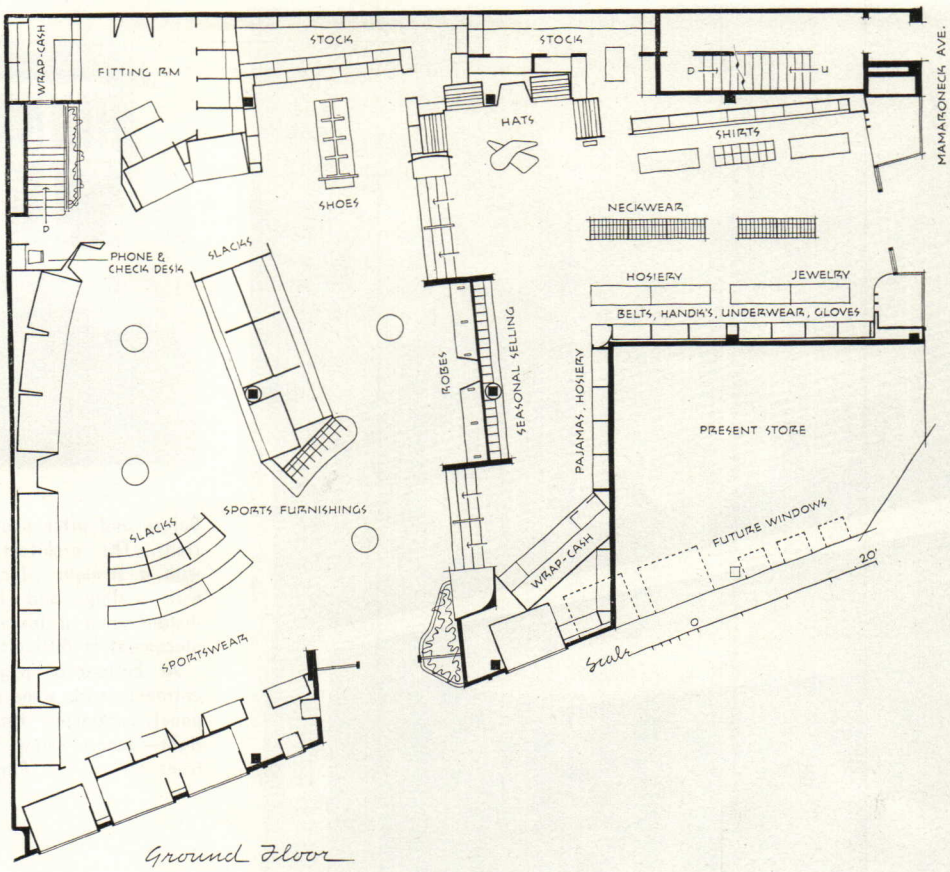
**site:** An odd, L-shaped area on two levels, with each end of the L opening to a street. Corner area (at present occupied by another tenant) later to be added to this store's space.

**solution:** Organization of the departments to invite customer travel from one entrance to the other; recessed entrances for easy window shopping; ledge selling or self-service racks and cases used for varied merchandising to foster impulse buying and quicker sales. Simple use of natural materials; club-type lounge chairs upholstered in clothing materials. Basement is used for stock, alterations, shipping, receiving, etc. Shop is fully air conditioned. Plan worked out so that at time corner space is taken over, only minimum alteration will be required in present store.

Photos above: top—steps between lower level (suits, sportswear, robes, shoes) and upper level (shirts, underwear, and accessories); below—general view back to lower level from top of steps.

At right: the departments at either side of the upper-level entrance and (across page) exterior of this street front.

**WHITE PLAINS, NEW YORK**




BURKE

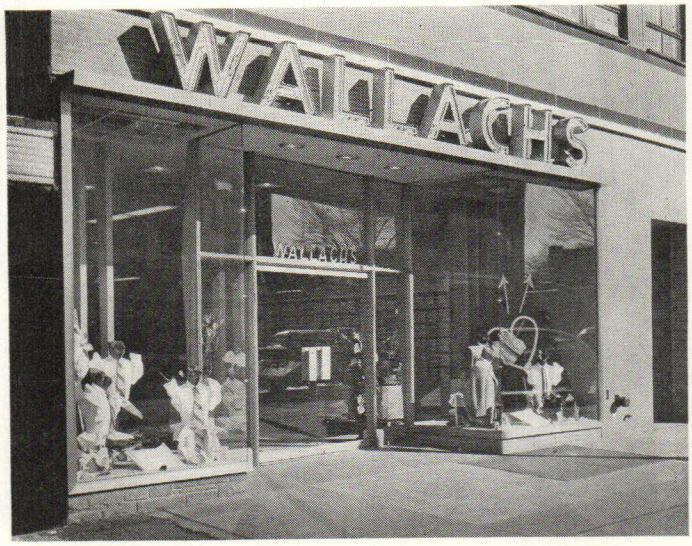
KOBER

GROSSI

## MATERIALS AND METHODS

**CONSTRUCTION: Frame, walls, etc.:** mostly existing. **Wall surfaces:** exterior—regular-coursed roman brick, stone; interior—plaster; canvas-backed oak veneer. **Flooring:** carpeting. **Windows:** bronze trim; plate glass. **Entrance doors:** tempered plate glass.

**EQUIPMENT: Air conditioning:** year-round system; automatic controls.




Gene Burke: *Attended U. of Pa.; U. of Kansas (B.S. Arch.).* Edgar Kober: *Attended U. of Ill. School of Architecture. Formed partnership with Burke in 1934.* Olindo Grossi: *A.B., Columbia College; B. Arch. and M.S. in Arch., Columbia University. Three years abroad (Rome Prize winner). Experience in several New York offices; teaching at Bard College and Columbia U. At present, Chairman of the Department of Architecture, Pratt Institute; also conducts own practice.*


Before and after photographs of the store front. The architect wanted an awning with a straight edge, but this one came with scallops and—because the town is distant from a large community—the replacement is difficult.

At bottom of pages: left—the arcade entrance, with wood-sheathed display-case panel continuing through to the inside; right—general view looking toward open front. *Photos: Roger Sturtevant*

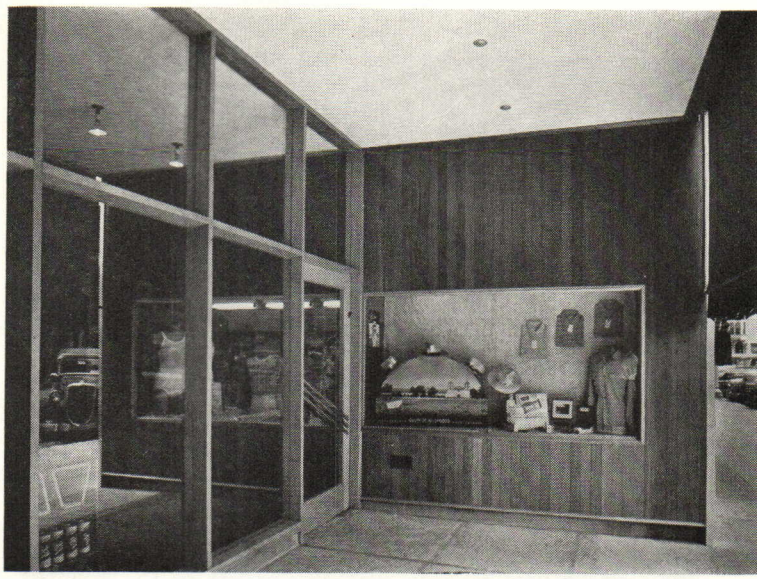
### MATERIALS AND METHODS

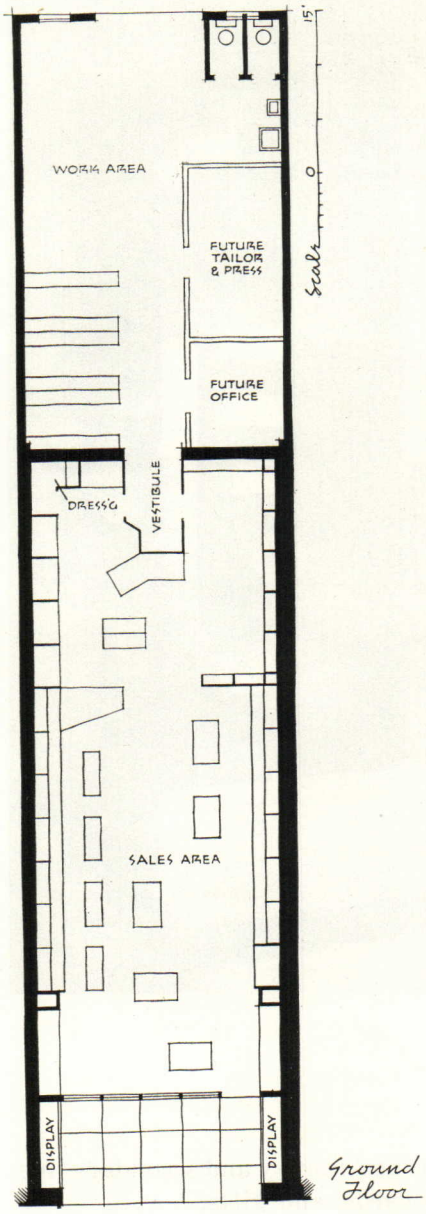
**CONSTRUCTION: Frame:** old building brick party walls; floor rotted out (replaced with new T. & G. pine flooring). **Wall surfaces:** exterior—roman brick (buff); interior—plaster on brick. **Fenestration:** wood sash; fixed, plate glass. **Ceiling:** acoustical tile. **Doors:** sugar pine.

**EQUIPMENT: Heating and air conditioning:** two warm-air unit heaters; manual control; evaporative air cooler; double deflection grilles.

## Men's Wear: Reedley, California

**FRANCIS JOSEPH McCARTHY, ARCHITECT**





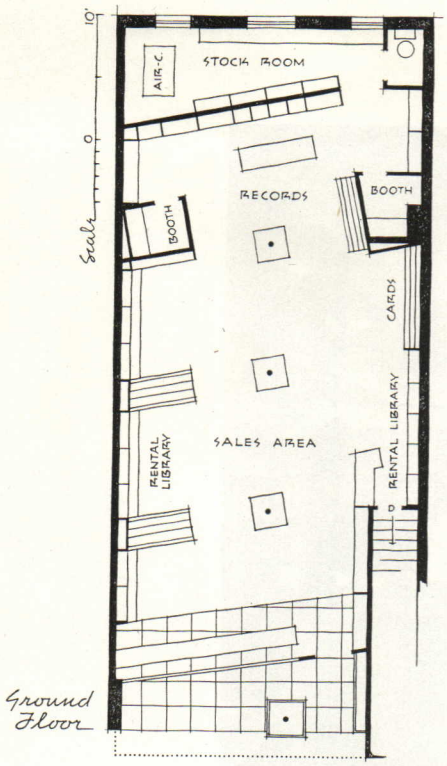

**program:** To remodel, within an extremely limited budget, an existing brick building that was in a poor state of repair. A shop was wanted that would be an asset to the community but that would not be so sleek that it would intimidate the local farmers and laborers, from whom the greatest part of the business was expected.

**site:** Interior lot on southwest side of the main street; subject to the hot valley sunshine.

**solution:** The plan consists of a 10-foot-deep recessed entrance arcade which (along with a disappearing awning at the building line) provides needed shade; a deep rectangular sales area, and a workroom at the rear. The window wall at the back of the arcade front makes the entire shop into a showcase. To meet the budget, the new flooring is T. & G. pine boards made up from posts the owner had on his ranch. When funds allow, this will be covered with linoleum tile. Heating is from exposed unit heaters, and an evaporative cooler tempers the hot weather. Cabinetry for display and storage was made by local carpenters. Old brick front was replaced with regular-coursed roman brick.


# Books: Pelham, New York

**JOSE A. FERNANDEZ, ARCHITECT**




**program:** A bookstore, with a rental library and secondary lines of records, greeting cards, and gifts.

**site:** Typical interior lot.

**solution:** Recessed, open front, placed at angle to the street; departments lined along walls or arranged in alcoves; incidental gift display cases and storage cabinets built around existing structural columns (one display case cantilevered around column outside the building, in the entrance arcade). Cash counter and wrapping desk near entrance. Treatment of recessed front; door and right-hand wall surfaced with mahogany wood strips; left-hand wall: brick. Ceiling: square panels of mahogany, separated by V joints. Lettering suspended from ceiling, painted dark green. Display window and cases lighted from suspended, overhead reflectors. Dark green terrazzo floor. Interior treatment; hung plaster ceiling painted yellow, blue-gray painted floor and wall cases. Wall cases lighted by wood baffle concealing fluorescent tubing; other merchandise illuminated by swivel, ceiling reflectors. Striated plywood, laid up with grain vertical, or horizontal, or (in squares) checkerboard fashion, surfaces wall areas. Rubber-tile floor is gray, marbleized, with dark green divider strips.

Bow ARCH FORM 90: 107-11 MR '49

Bow PROGRESS ARCH 30:59, 91 Je '49

PROGRESS ARCH 30:54-5 Jl '49

ARCH REVIEW 104:113.14 S '48

Bow INTERIORS 108:78-87 Je '49

SETS OF CONTRACT DOCUMENTS WILL BE OPEN FOR INSPECTI
CHAS. W. CONNELLY, ARCHITECT & ENGINEER, 1201 ELIZABET
BIDDERS MAY OBTAIN COPIES OF CONTRACT DOCUMENTS ( INCLUD
FICATIONS AND PROPOSAL FORMS) FROM THE ARCHITECT UPON DEPOSIT OF TWENTY-FIVE DOLLARS ($25.00) PER SET. OTHER INTERESTED PARTIES MAY OBTAIN COPIES AT THE SAME DEPOSIT RATES. THE FULL DEPOSIT FOR ONE SET OF DOCUMENTS WILL BE RETURNED TO THOSE WHO SUBMIT A BONA FIDE PROPOSAL AND WHO RETURN THE DOCUMENTS IN GOOD, USABLE CONDITION WITHIN TEN DAYS AFTER BIDS HAVE BEEN OPENED. ALL OTHER DEPOSITS, LESS THE COST OF PRINTING, WILL BE RETURNED UPON RETURN OF THE DOCUMENTS IN GOOD, USABLE CONDITION WITHIN TEN DAYS AFTER BIDS HAVE BEEN OPENED.

EACH PROPOSAL MUST BE ACCOMPANIED BY A DEPOSIT EQUAL TO 5% OF THE GROSS BID PRICE. THE DEPOSIT SHALL CONSIST OF CASH, A CASHIER'S CHECK ISSUED BY OR A CERTIFIED CHECK DRAWN ON A BANK OR TRUST COMPANY AUTHORIZED TO DO BUSINESS IN NORTH CAROLINA OR ON A BANK INSURED BY THE FEDERAL DEPOSIT INSURANCE CORPORATION, A U. S. MONEY ORDER PAYABLE TO THE CITY OF CHARLOTTE, OR A BID BOND AS REQUIRED BY G. S. 143-129 AS AMENDED BY CHAPTER 1104 OF THE NORTH CAROLINA LAWS OF 1951. THIS DEPOSIT WILL BE RETAINED BY THE CITY OF CHARLOTTE AS LIQUIDATED DAMAGES IN EVENT OF FAILURE OF THE SUCCESSFUL BIDDER TO EXECUTE THE CONTRACT WITHIN TEN DAYS AFTER THE AWARD OR TO GIVE SATISFACTORY SURETY AS REQUIRED BY THE CONTRACT DOCUMENTS.

NO BID MAY BE WITHDRAWN AFTER THE SCHEDULED CLOSING TIME FOR RECEIPT OF BIDS FOR A PERIOD OF THIRTY (30) DAYS.



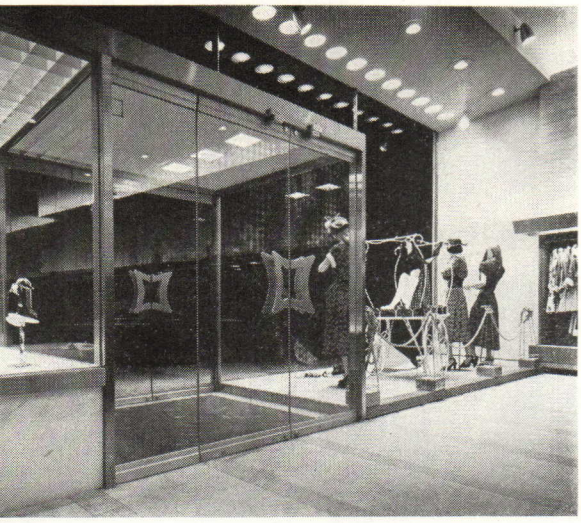
## MATERIALS AND METHODS

**CONSTRUCTION: Walls** (store front): brick. **Floors:** terrazzo in entrance recess; linoleum, inside. **Wall surfaces:** mahogany; painted plaster; striated plywood.

**EQUIPMENT: Air conditioning:** unit, located in small stock room at rear of store. **Electrical:** fluorescent tubing; incandescent spots; downlights on stems.

Jose A. Fernandez: *Columbia U. School of Architecture. Taught at Columbia, 1925-34. New York practice started in 1937.*

Photos at right: top—cash desk, near mahogany-strip-surfaced entrance door; display case and cabinet around structural column. Center—records, greeting cards, and a portion of rental library. Bottom—corner of the bookstore proper. *Photos: Gottscho-Schleisner*

## Women's Wear: Germantown, Pennsylvania

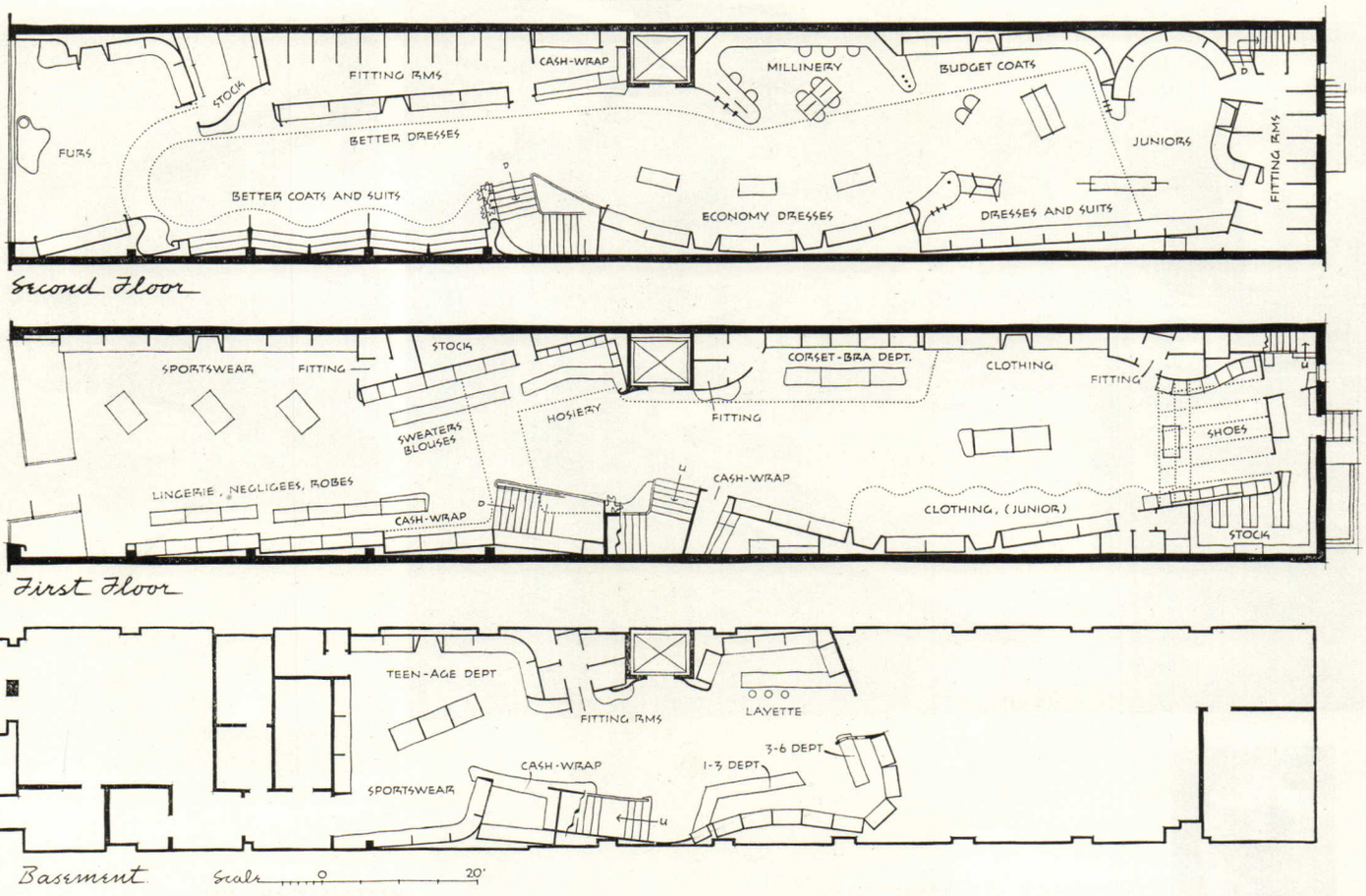
**THALHEIMER & WEITZ, ARCHITECTS**

**program:** Redesign of an existing basement and two-story building, 28′-6″ x 187′, into a branch store for Oppenheim Collins. Twenty-one distinct sales departments.

**site:** Interior block site, not far from one of the busiest intersections in suburban Philadelphia.

**solution:** Opening up of both above-grade floors on the front of the building, with the street-level wall tilted in at an angle to favor the heavy pedestrian traffic deriving from the busy street intersection. The large second-floor glass area, with its projecting overhang, provides excellent natural light for the fur salon on the second floor. In the off-fur seasons, this area is converted to a coats-and-suits or a better-dresses department.

Basic organization of the several departments is clearly shown in the three floor plans—children's and teen-age clothes and beauty salon at the base-




ment level; accessories, lingerie, sportswear, and shoes on the street level (chief impulse-buying items), and better dresses, millinery, and furs upstairs. Lighting combines incandescent downlights; swivel-arm spot lights, and recessed or cold cathode tubing. Differentiation between departments is handled by change in wall contour, texture of wall surfacing, or other design emphasis. Walls of the front of the building are surfaced with marble; the sash is of stainless steel.

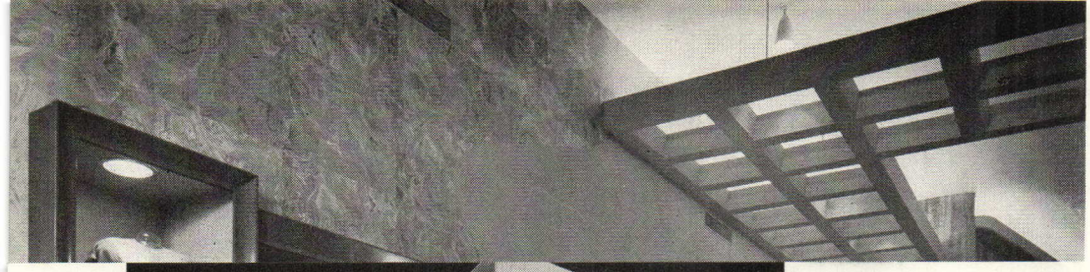
Photos across page: top—store front from main approach side (see Selected Detail, page 87; bottom—view immediately inside store, with eye-level display case for accessories at left.

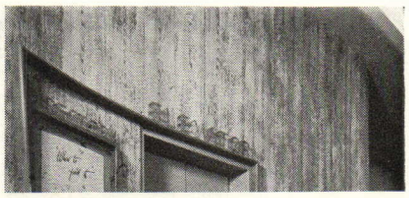
Photo this page: view of basement looking back toward teen-age department from foot of stairs.

*Photos: C. V. D. Hubbard*



cessful element is the manner in which Thalheimer & Weitz have clearly defined some 21 departments at the same time that they joined them in design to form an harmonious unit.





# Telephone Building:

**program:** A metropolitan telephone equipment building; terminus of the new coaxial cable.

**site:** An inside lot, facing west on a street with a 22-percent grade. Building planned for a proposed street realignment and grade change which will both reduce the street grade and curve it northeastward across the north front of the building. At that time, the present main entrance (on the north) will be dropped from the fourth- to the third-floor level.

**solution:** A twelve-level building, three of which are at present wholly below grade on the north front. Lower levels connect across a court at the rear to a building on a much lower adjoining street. Typical equipment floors and service rooms occur on eleven of the twelve floors. At the basement level is the boiler room and space for air-conditioning equipment. The main, north entrance is placed well to the rear of the side court to allow space for delivery trucks and for hoisting of equipment into the building through delivery doors that occur on the outside wall at each above-grade floor level.

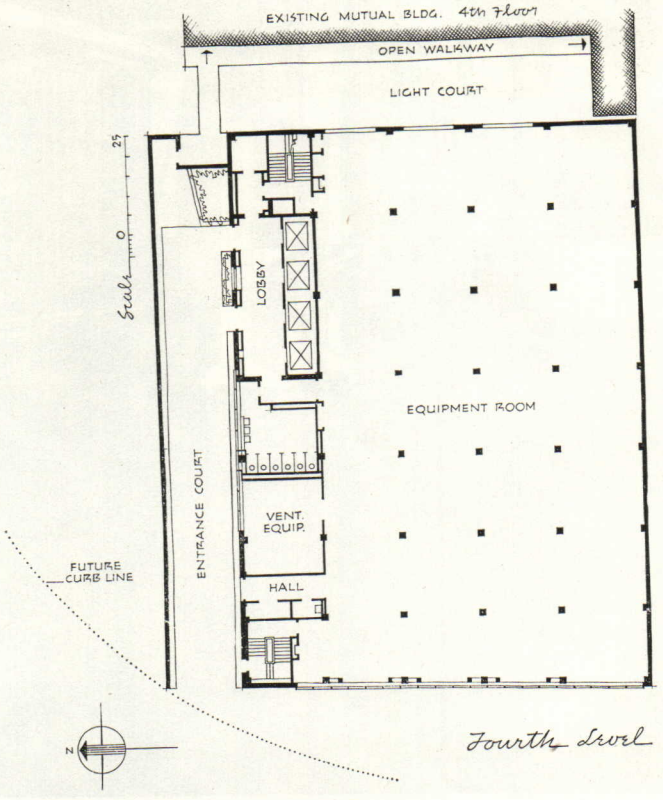
Ten of the twelve floor levels are above-grade at the south corner of the west front (photo above). View at right shows old house in foreground which eventually will make way for the new northeast-turning street. Notice the vertical band near the west end of the north front of building, made up of delivery doors, for hoisting equipment to each floor.

*Photos: Julius Shulman*

**PARKINSON, POWELSON, BERNARD, BRINEY & WOODFORD ARCHITECTS**

# Los Angeles, California

Frame around present, main, north entrance doors (at fourth-floor level) are polished granite; walls above are surfaced with terra cotta. This entrance will be dropped one floor, when new street alignment is completed. Photo above: present main entrance lobby. Plan below shows typical equipment floor layout, with present main entrance treatment on the north at the fourth level. A secondary entrance occurs on the third level (down the steep street-front) near the southwest corner of the building.




## MATERIALS AND METHODS

**CONSTRUCTION: Frame:** steel. **Walls, floors, and roof:** pumice aggregate concrete. **Wall surfaces:** exterior—terra cotta, granite; interior—plaster, granite. **Fenestration:** steel sash, aluminum trim; wire plate glass. **Partitions:** metal stud and plaster. **Doors:** hollow metal.

**EQUIPMENT: Heating and air conditioning:** low-pressure steam boilers; duct system for cooled and heated air; compressors, fans, automatic controls. **Electrical:** floor conduit and duct system; fluorescent fixtures.

Above, left: typical west wall, showing earthquake-braced frame set back from continuous window band.

At left: assemblage of equipment on typical floor.

Below: a room devoted exclusively to testing coaxial equipment.

**LOS ANGELES, CALIFORNIA**

# Clinic: Kent, Washington

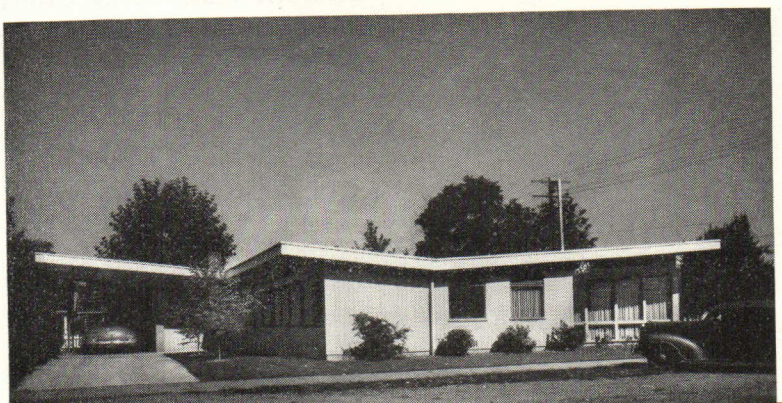
**CHIARELLI & KIRK, ARCHITECTS**

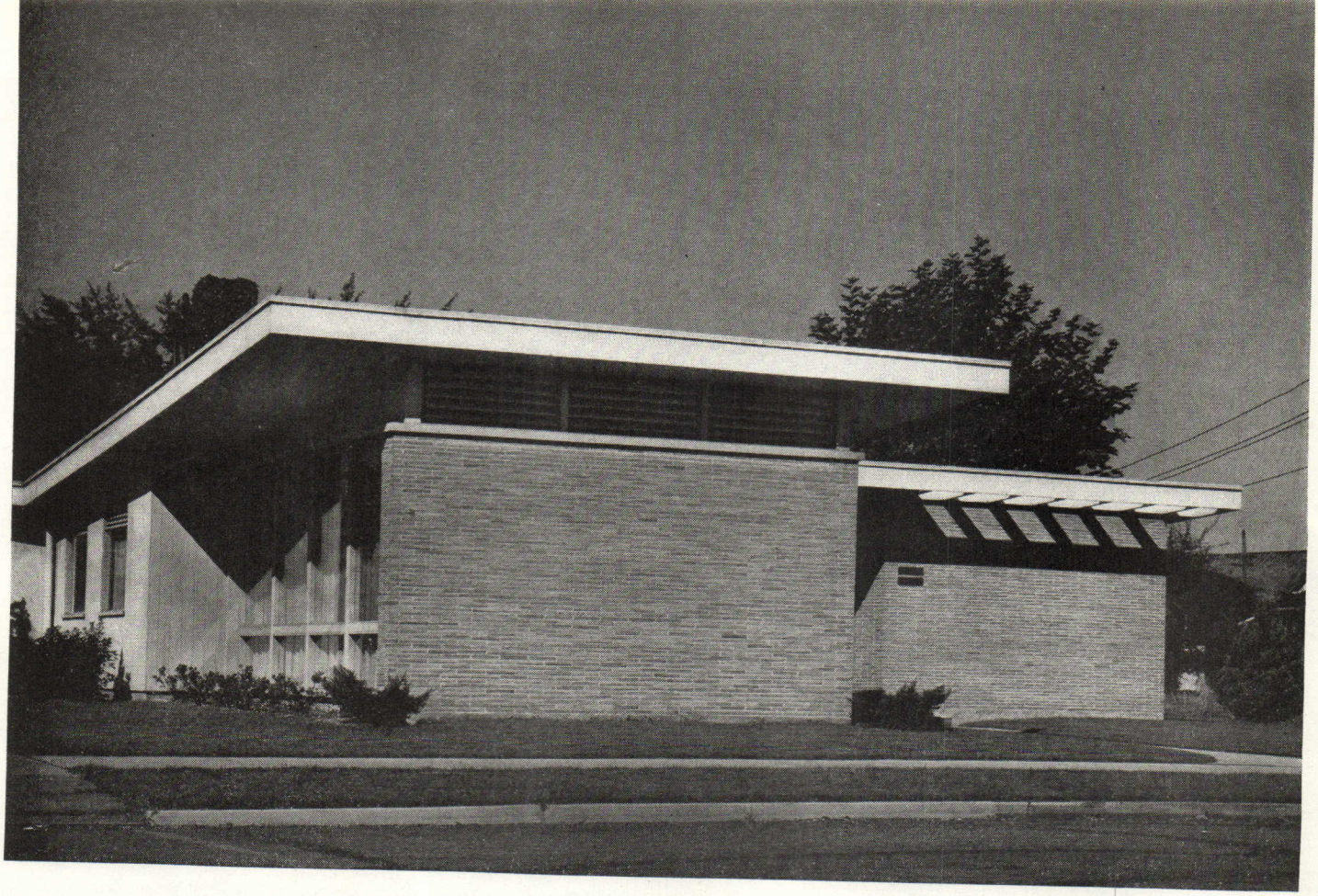
Located on the northwest corner of a street intersection, this clinic was consciously designed not only to express its function as a professional office building but also to fit in agreeably with the surrounding residential neighborhood.

Above: view toward main entrance from the northeast; waiting room, left.

Below: south front; carport (at left) is also used for ambu'ance or wheelchair cases.

*Photos: Dearborn-Massar*





Top: southeast corner; end of waiting room in foreground.

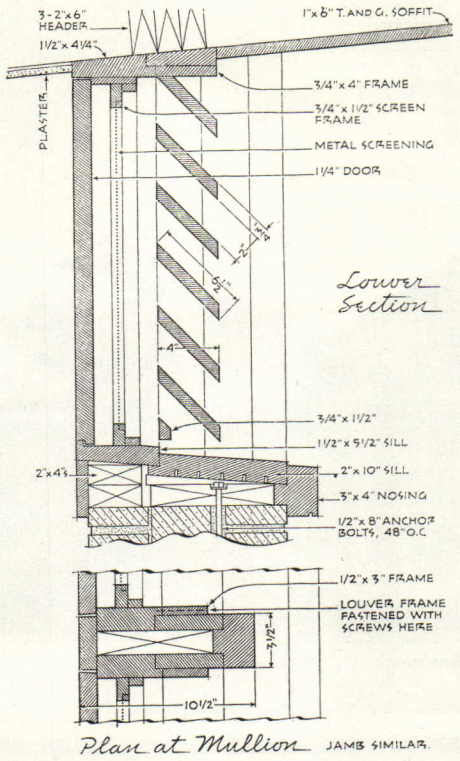
Below: waiting-room interior. Notice ventilating panels above brick-masonry wall, with louvered openings on the outside. Nurse's desk (right foreground) has direct control over entrance door, waiting room, and treatment-room corridor.

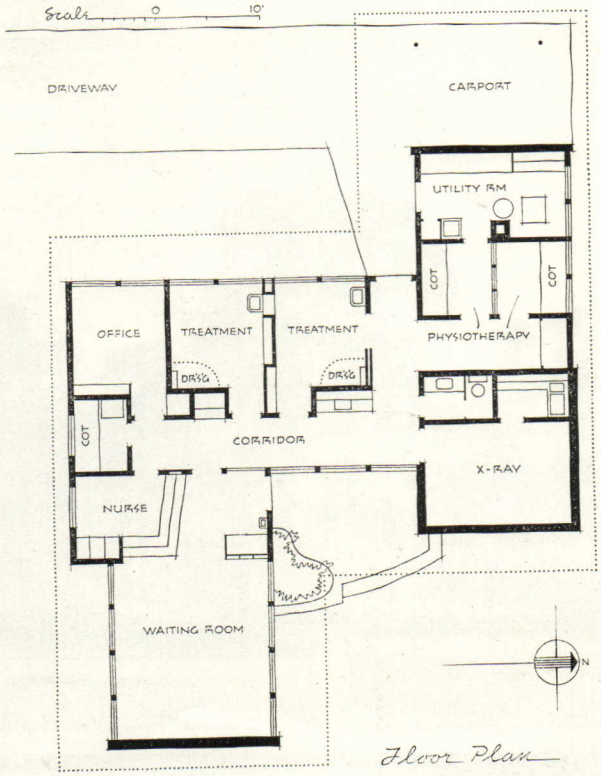
**program:** A clinic for a doctor, his assistant, two nurses, and one technician specializing in physiotherapy and X-ray. To be planned with future expansion in mind.

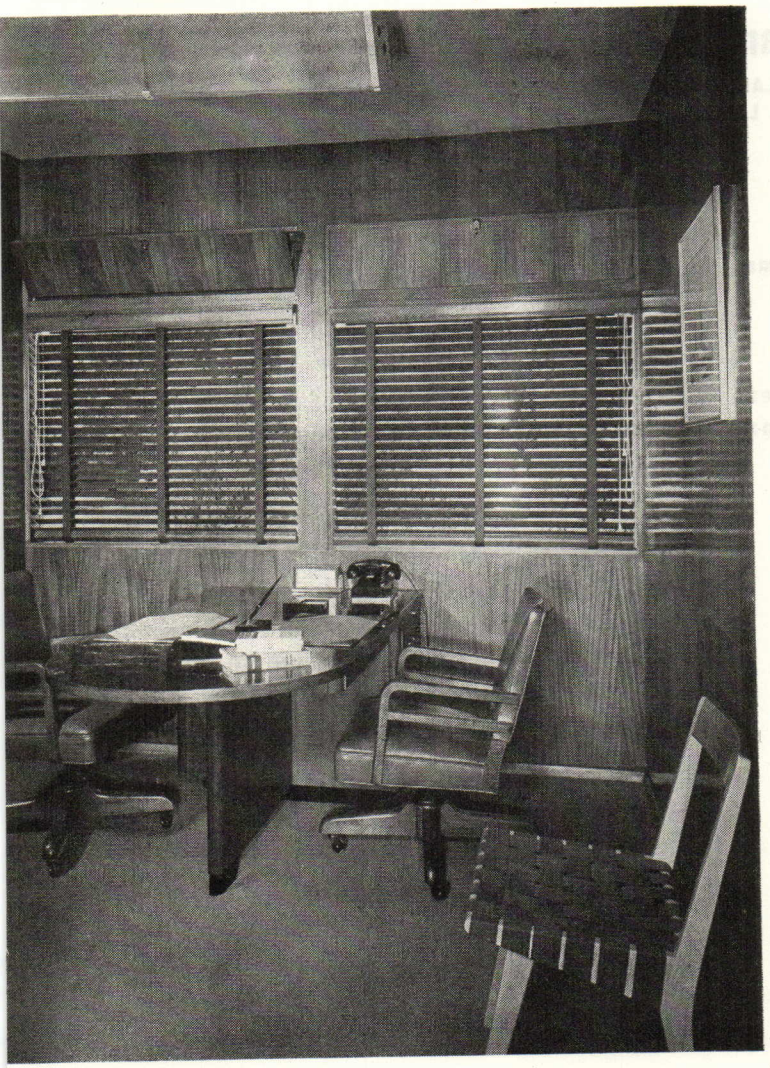
**site:** Flat lot on northwest corner of a street intersection in a residential area, but only two blocks west of the town's main shopping street.

**solution:** Entrance court facing east, toward the main street; waiting room clearly separated from working part of clinic to give the staff freedom to work in all parts of the building without bothering waiting patients. Building located on south half of the property, allowing for future expansion to the north, the new wing to join the present building through the corridor that passes between the physiotherapy room and the toilet-darkroom area. Doctors occupying the new north wing would use clinical facilities in the present structure. Fixed glazing and louvered, overhead, in-opening ventilating panels above window areas take care of natural light and air. Building designed in domestic scale, using exterior materials frequently found in residential work—roman brick, stained cedar siding.

**KENT, WASHINGTON**



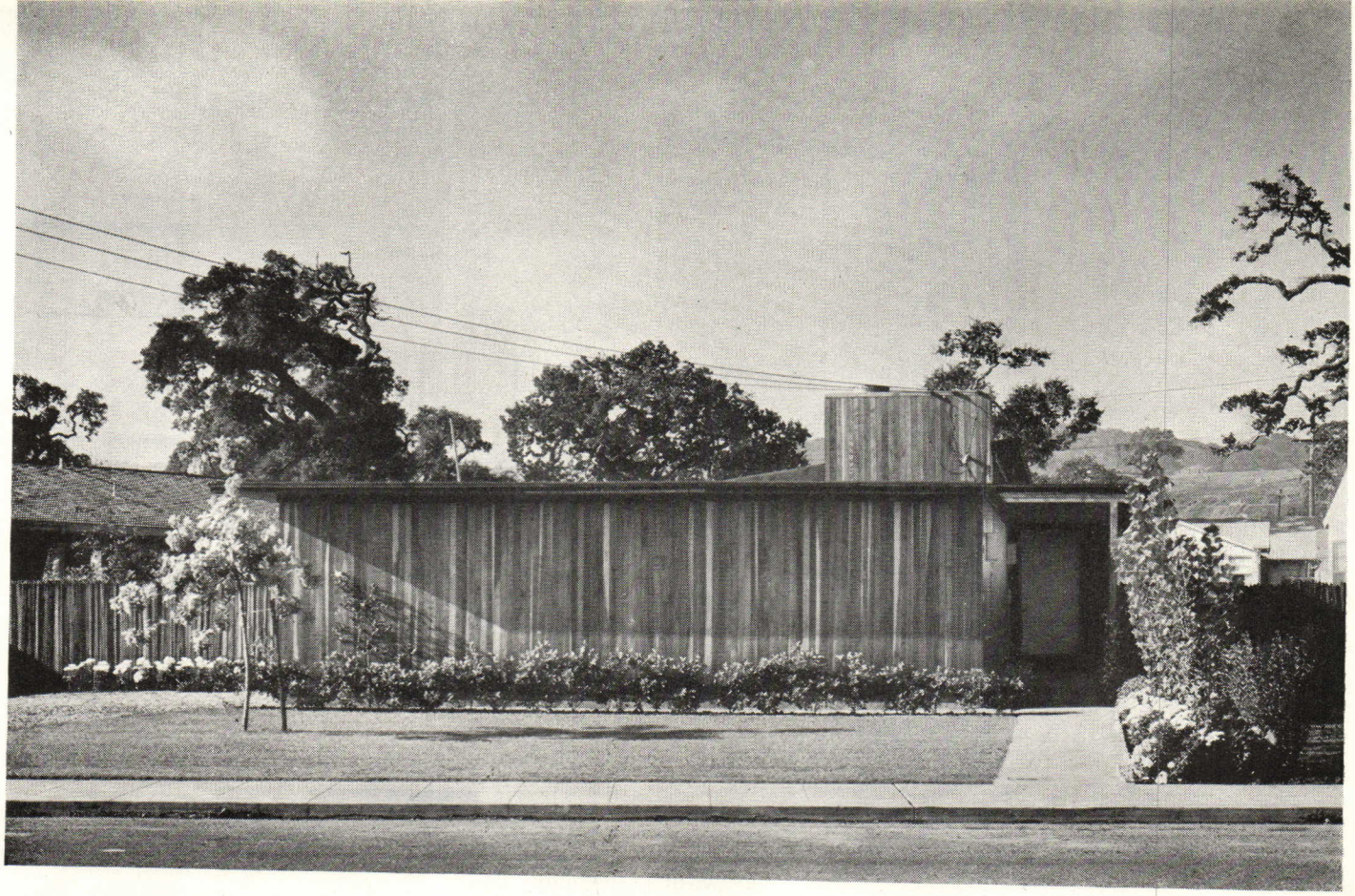
**The doctor's office (left) is finished in Honduras mahogany; walls of other rooms are either exposed brick, or finished in steel troweled plaster.**

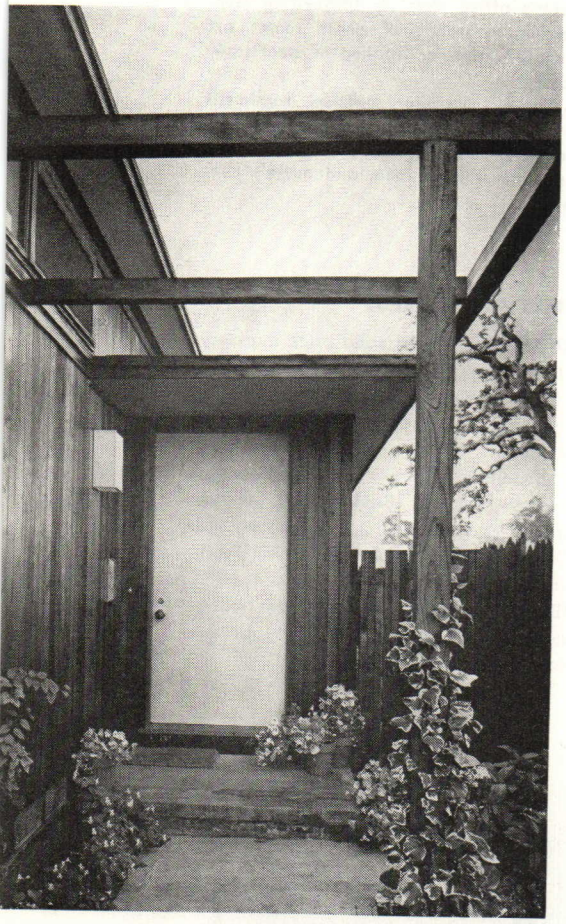
**Photo below: corridor outside treatment rooms, with corrugated diffused-glass wall panels at left. Doors at far end of left-hand wall open into waiting room and nurse's control desk.**

## MATERIALS AND METHODS

**CONSTRUCTION: Walls:** solid brick masonry (end of waiting room); brick veneer over frame (around X-ray room and at end of utility room), and frame surfaced with V-groove cedar siding applied vertically. **Floors:** monolithic concrete without topping; some rooms carpeted. **Sash:** wood. **Glass:** plate glass; crystal sheet glass; corrugated glass. **Insulation:** wool-blanket type. **Partitions:** frame, plastered.

**EQUIPMENT: Heating:** oil-fired water boiler; hot-water radiant system, with wrought-iron pipe coils embedded in the floor slab.





# House: San Carlos, California

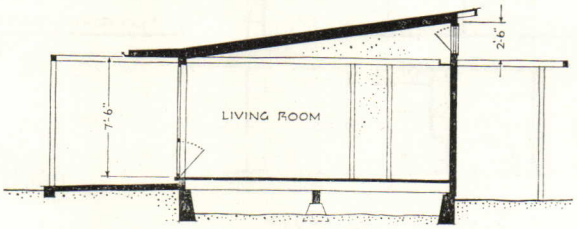
**FRED AND LOIS LANGHORST, ARCHITECT AND COLLABORATOR**
**DOUGLAS BAYLIS, LANDSCAPE ARCHITECT**

**program:** House for a family consisting of parents and two small children. An important plan consideration: kitchen to be located so that all major family activities could be supervised therefrom.

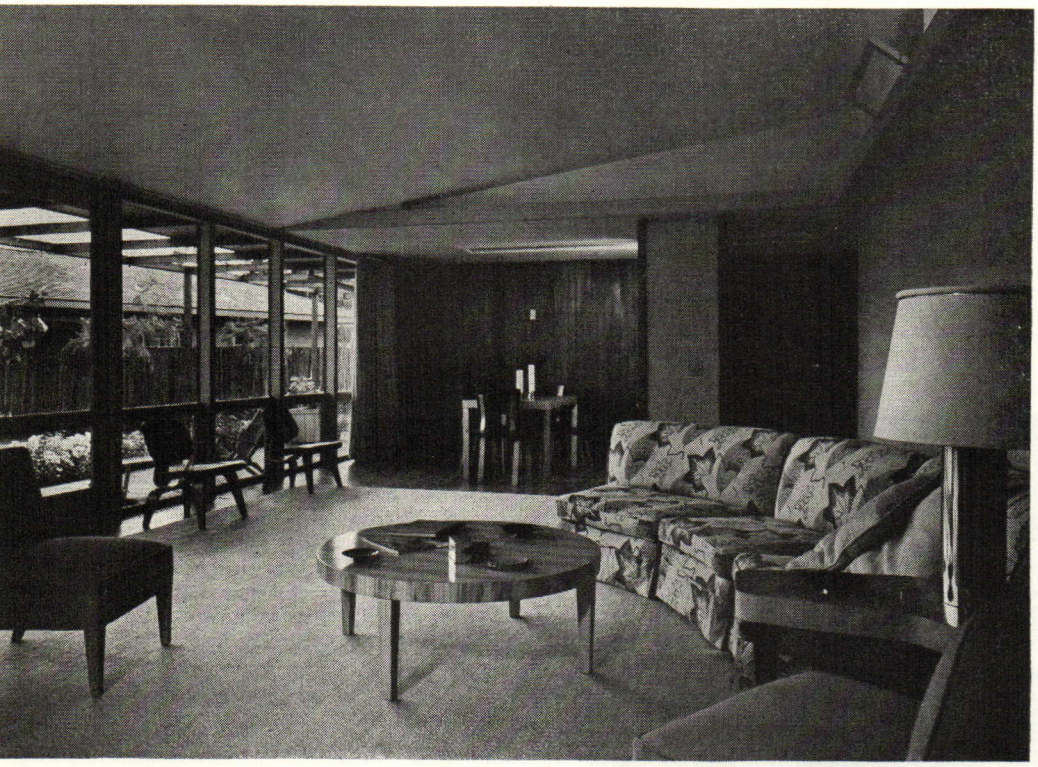
**site:** Long, level lot on west side of a residential street.

**solution:** House aligned along north side of lot, with all main rooms opening to fenced, southern garden and play yard. Entrance placed well back so that living room is a dead end without through circulation. Kitchen centrally located for direct supervision within the house and over the play yard outside; sliding panel to adjoining bedroom-nursery simplifies care of small child. For economy in construction, house has a simple rectangular form, with shed-type roof. Dry frame construction worked out on a modular system. Along south wall, upper glass areas are fixed, with low, inswinging casement sash below for ventilation; latter are screened by continuous screening nailed (below line of vision) to posts on outside.

**SAN CARLOS, CALIFORNIA**




Cross Section



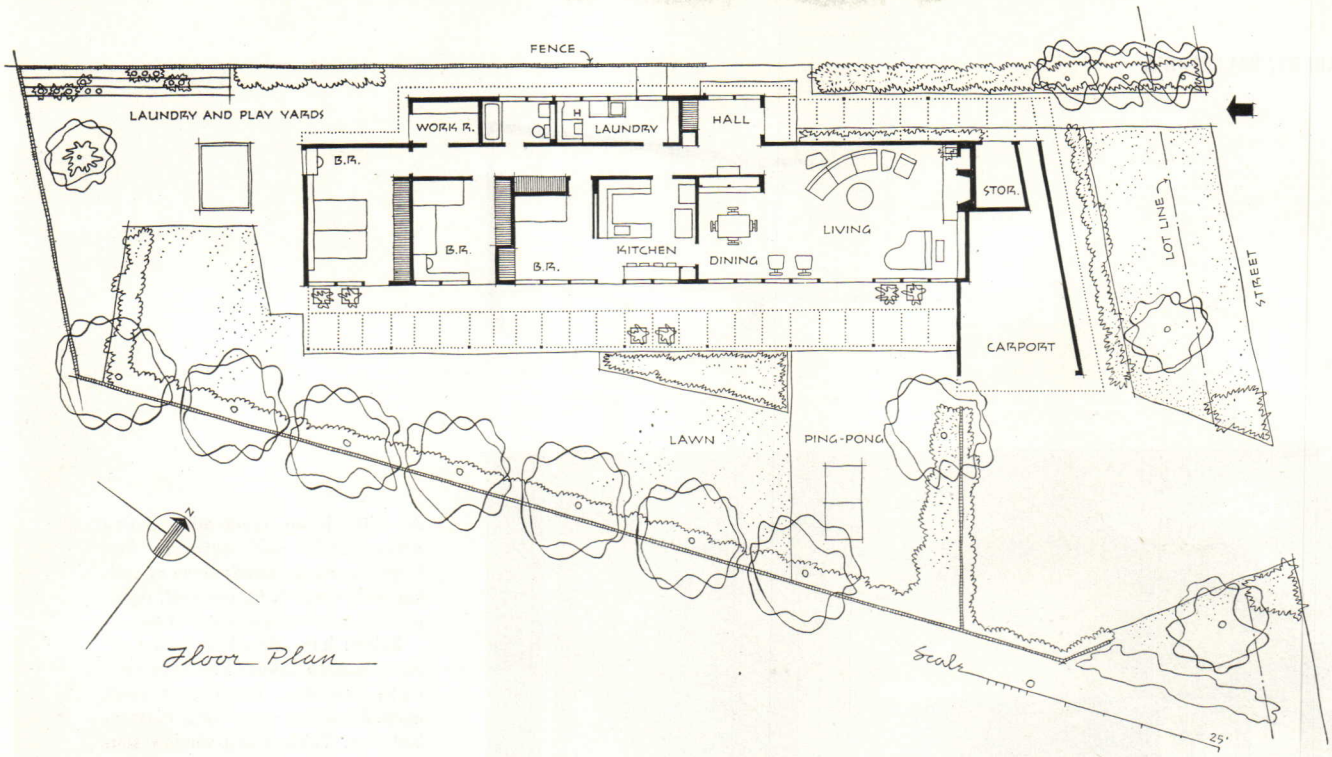
At left: living room with dining alcove (left) and entrance hall (right) in background; slope of ceiling and transoms (upper wall, right) provide good cross ventilation.

Below: left—detail of dining alcove, looking toward entrance hall; right—kitchen, looking through opened, sliding panel into nursery-bedroom. Table along window simplifies serving of quick meals.

## MATERIALS AND METHODS

**CONSTRUCTION: Frame:** wood, developed on a 3'-6" module. **Floors:** concrete slab. **Roof:** mineral-surface roofing. **Flooring:** hardwood, except in kitchen, nursery and bathroom where linoleum is used. **Wall surfaces:** exterior—4-in. T. & G. redwood siding, applied vertically; interior—¼-in. gypsum-core wall-board. **Fenestration:** wood sash; crystal sheet glass; pattern glass. **Insulation:** wool, blanket type, between ceiling and roof.

**EQUIPMENT: Heating:** gas-fired, warm-air system. **Special equipment:** electric refrigerator and range; automatic laundry unit.




**Photos across page: top—garage wall and garden fence screen the living areas of the house from the street. Bottom—front door, placed well back from street; transoms on wall at left provide cross ventilation in living room.**

**Photo immediately at left: view of south wall, with corner of Ping-pong court in foreground. Notice solid portion of roof projection (near wall line) for sun control.**

***Photos: Roger Sturtevant***

Fred Langhorst: *Cornell U.: B. Arch.; Apprentice to Frank Lloyd Wright, Taliesin Fellowship. Work in various offices; partnerships (Bernardi, Wickenden & Funk; Wm. H. Knowles); own practice established in San Francisco, 1942. Lecturer: U.C. and Bay Area communities. Chairman, A.I.A. Chapter Committee on Education.* Lois Langhorst: *U. of Okla: (B. A. in Sociology; B. Arch.; B. Sci., Arch. Eng.). M.I.T.: Master of Arch. Work in offices in Boston and St. Louis before associating in practice with her husband. Architectural Consultant,* Sunset Magazine; *lecturer, U. C. Extension courses.*

# THE CLIENT, POOR SOUL

By THOMAS H. CREIGHTON

Several years ago P/A published a house designed by Frank Lloyd Wright for the Affleck family. We wrote the Afflecks, asking their opinion of the building after they had lived in it for some years. Mrs. Affleck replied in great detail, recounting their experiences with Wright, with sight-seers, and with neighbors, ending with the remark (which we quoted) that, "I know the roof has leaked and that the skylights leak, but I would rather live in this house than in any other house in the world."

A few months after the house was published, I met Wright at the Princeton Conference; he looked at me accusingly and said, "You're the editor who published the Affleck house, and said the roof leaked."

"We didn't say the roof leaked, Mr. Wright," I replied. "Your client said that."

Wright waved his hand in the air and, as he walked away, said, "Oh, the client—poor soul, poor soul!"

Not every architect can be so off-hand about his client's welfare, and few of them would consciously want to. Yet the client, poor soul, is in many cases the forgotten man in the designing and building operation. I know that this is heresy, in addressing a professional audience, but I would like to make the point that the architect and the engineer, in protecting their own interests (which until recently had been highly pregnable), have often overlooked the *basic* interests of the client. I use the word *basic* because I realize that the client's legal interests—protection against the building falling down, etc.—are usually well taken care of.

I feel that I'm justified in making this twist on the usual gripe of the professional (that the client doesn't understand him) because I honestly believe that many of the architect's troubles would be cleared up if he sympathized a bit more with the client. So, for a few hundred words, let's forget our usual biases and perfectly legitimate points of view, and put ourselves in the client's place.

In the first place, the average client is completely new to the game. The repeaters—mostly speculative entrepreneurs or public agencies—are rare. The family which is going to build a house; the storekeeper who is going to remodel his property; the hospital board which is interested in a new building; these are ordinarily people who have never before dealt with an architect professionally, never signed a building contract, never had to approve an extra. The things that can go wrong, if the client isn't very bright and nothing works out well, have been pretty fully documented by the Mr. Blandings type of story. But even in the smooth, ordinary course of events, the very inexperience of the client makes his position difficult.

For example, his first contact with the architect—his first interview—will be very baffling. Always before when he wanted to buy something, he could find out what the price would be, what the quality would be, and what the object would look like. Now, however, he is told (and very rightly, mind you) that no one can give him an estimate of cost even approximating accuracy until he has obligated himself to considerable expense; that no one can describe to him what his building will look like or be built of until the problem has been studied for some time—again with expense to him involved—and that the business arrangements are like nothing he has ever before encountered.

His architect may treat him in one of two ways in those first interviews, neither of which will seem to make much sense. Either he will be told nothing of fees and contract arrangements (some architects are afraid that that will "scare off" clients if the subject is brought up too soon, and some never do get nearer to a contract than a "letter of intent," which is completely worthless); or he will be faced bluntly with a contract for professional services before he has more than the foggiest idea of what those services will involve in a general way or in relation to his particular dream building.

Let's assume that the architect has been clever and/or diplomatic, and has explained all that is involved (perhaps by the use of one of the available pamphlets on the subject) and that compensation, procedure, and possible pitfalls are carefully defined. The client still doesn't know what his building is going to cost. There are many variables. One, of course, is the architect's ability and good judgment. Another is the fluctuation of the building market. A third, in the case of some structures, is the willingness of the banking fraternity to lend money.

Let us put these difficulties in simple illustrations. There have been instances of architects designing houses which couldn't possibly, even under the most favorable circumstances, be built within the client's budget. Our Mr. Tomson has discussed the legal aspects of such catastrophes from the architect's point of view, but what about the poor innocent client? There have been hospitals for which preliminary drawings were prepared, preliminary estimates received, and fund raising campaigns successfully con-

cluded, only for the client to find that in the meantime prices had gone up, and that more money must be milked from a reluctant community or the project dropped. That's pretty tough on an unsuspecting client, but it's nobody's fault. And there have been examples of mortgage commitments (which cannot be made, obviously, until *after* drawings have been prepared) being less available than either client or architect had anticipated. So the client has to put up more funds of his own or give up the idea to build—again, *after* he has committed himself to the expense of the drawings.

And then, suppose the client just plain doesn't like the building that the architect has designed for him? A good friend of mine recently had that happen. His architects were good; he was a reasonable client. But for one reason or another they couldn't get together on a house that satisfied both of them. I think that the architects themselves would admit (perhaps only to themselves) that this job wasn't one of their best efforts. No architect is ever completely happy with every job he does, and this was one which they couldn't seem to click on. So finally the client paid them off, and that was a fairly expensive that. The point is—and I don't believe it's an entirely invalid one—that a client has promised to pay for something that he hasn't seen and won't see for some time.

You can meet this argument in several ways. For instance, the client should choose his designer on the basis of past performances, and he *probably* won't go wrong. Or, you can say that he is buying professional services, not a tangible object. But those are *our* arguments, on the professional side of the fence. From the client's side, he often sees only that he is buying an intangible ability, and taking a chance that it will function well, and that what he is interested in ultimately is not the architect's service as such, but the very tangible *building* that will result from activity by the architect and others.

I think just one more point might be made for the client, poor soul, and that is that he sits in an uncomfortable position in today's stream of technical advance. Many side-line rooters, including architectural editors, have urged architects to experiment, to be bold in the use of new materials and new technics. At whose expense? The client's, of course. If the architect *doesn't* urge his client to use a new heating system, for instance, he is doing him a disservice, and not acquainting him with possible comfort benefits, or even possible savings in original cost or upkeep. On the other hand, if he recommends its adoption, he certainly isn't going to guarantee its performance and, beyond purely technical warranties, neither is the contractor. There must be research in building methods and the use of available products, but it can't all be in the laboratory. Before long, some client is going to be persuaded to be a guinea pig on all these developments. He's doing a public service, and making better buildings possible for future clients—poor soul.

What is the answer to this problem of the relationship of the architect to his client? It can't be solved by forms and standards and codes of ethics, because it is basically a matter of personal relationship, mutual trust and respect, and very patient, elementary education of an inexperienced customer by his professional advisor. Neither the education nor the confidence can be established if the professional is cynical or abstruse. It seems to be a professional responsibility to keep in mind more often than usually is done the confusion that must plague many good clients, and to do one's best (while at the same time protecting professional standards and ethics and income) to clarify and simplify and explain step by step the difficult and unexpected problems that are going to arise.

*Perhaps it is a feeble conclusion to this piece, but it seems to a number of observers today that the first improvement might be made in the verbal and graphic presentations that are given to the client. In other words, speak simply and draw clearly. The client isn't interested in spatial concepts and matters of design integration when he's worrying about room arrangements and budget matters. His esthetic concern has little to do, in most cases, with the weighty matters of monumentality and style and regionalism and such—it can be translated quite simply into a desire to see a picture of what the building will look like. And to make that presentation drawing difficult to understand, or to make it look like something which will never exist in nature, is simply to add to his natural confusion.*

*If we were more willing to look at our professional activities from the client's point of view, our public relations might be easier to maintain and the continuing struggle to do better work might become less difficult and more pleasant.*

# MATERIALS AND METHODS

## The Use of Controlled Concrete as a Building Material

BY WILLIAM J. McGUINNESS *

*Specifications for ordinary concrete usually do not require preliminary testing of materials, inspections of mixing and placing, or a fixed water-cement ratio. The resulting concrete may or may not have sufficient strength to perform its assigned tasks. Frequently, such a material will be pervious to water filtration, subject to disintegration from freezing and thawing, and will not have durability against wear. Controlled concrete, designed to meet a predetermined strength, will possess durability, resistance to attack by frost, and resistance to the admission and passage of water. On the following pages, the author presents the design requirements, job precautions, properties, and economies in the use of controlled concrete.*

**Table 1—Net Water-Cement Ratios for Various Types of Construction and Exposure Conditions***

| Type or location of structure | Severe or moderate climate, wide range of temperature, rain, and long freezing spells or frequent freezing and thawing | | | | | Mild climate, rain or semiarid; rarely snow or frost | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Thin sections, gal. per sack | | Moderate sections, gal. per sack | | Heavy and mass sections, gal. per sack | Thin sections, gal. per sack | | Moderate sections, gal. per sack | | Heavy and mass sections, gal. per sack |
| | Reinf. | Plain | Reinf. | Plain | | Reinf. | Plain | Reinf. | Plain | |
| A. At the water line in hydraulic or waterfront structures or portions of such structures where complete saturation or intermittent saturation is possible, but not where the structure is continuously submerged: | | | | | | | | | | |
| In sea water | 5 | 5½ | 5½ | 6 | 6 | 5 | 5½ | 5½ | 6 | 6 |
| In fresh water | 5½ | 6 | 6 | 6½ | 6½ | 5½ | 6 | 6 | 6½ | 6½ |
| B. Portions of hydraulic or waterfront structures some distance from the water line, but subject to frequent wetting: | | | | | | | | | | |
| By sea water | 5½ | 6 | 6 | 6 | 6 | 5½ | 6½ | 6½ | 7 | 7 |
| By fresh water | 6 | 6½ | 6½ | 6½ | 6½ | 6 | 7 | 7 | 7½ | 7½ |
| C. Ordinary exposed structures, buildings and portions of bridges not coming under above groups | 6 | 6½ | 6½ | 7 | 7 | 6 | 7 | 7 | 7½ | 7½ |
| D. Complete continuous submergence: | | | | | | | | | | |
| In sea water | 6 | 6½ | 6½ | 7 | 7 | 6 | 6½ | 6½ | 7 | 7 |
| In fresh water | 6½ | 7 | 7 | 7½ | 7½ | 6½ | 7 | 7 | 7½ | 7½ |
| E. Concrete deposited through water | ** | ** | 5½ | 5½ | 5½ | ** | ** | 5½ | 5½ | 5½ |
| F. Pavement slabs directly on ground: | | | | | | | | | | |
| Wearing slabs | 5½ | 6 | ** | ** | ** | 6 | 6½ | ** | ** | ** |
| Base slabs | 6½ | 7 | ** | ** | ** | 7 | 7½ | ** | ** | ** |

G. Special case: For concrete not exposed to the weather, such as interiors of buildings and portions of structures entirely below ground, no exposure hazard is involved, and the water-cement ratio should be selected on the basis of the strength and workability requirements.

*Adapted from Table 1 of the 1940 Joint Committee "Report on Recommended Practice and Standard Specifications for Concrete and Reinforced Concrete."

**These sections not practicable for the purpose indicated.

### quality

Most structural materials are manufactured to a rigid quality-specification. Steel is controlled before rolling. Wood is grade-marked according to a well-established code. The approved processes for the manufacturing of good concrete are as definite as those of any other material. The architect who specifies it can have full confidence in its ability to perform all of its assigned functions as a structural and finish material. Concrete, however, is the only material manufactured at the site, and the process is not complete until it has attained its prescribed strength in the structure. A wish for speedy job methods will often prompt the omission of the relatively simple planning and precautions that make possible a quality product. As a result, the use of "average" or "ordinary" concrete is frequent.

"Ordinary" concrete is the term usually applied to a material specified by volume relations as "1-2-4 concrete." The proportions refer to the relative volumes of cement, sand, and coarse aggregate (gravel, stone, or slag). Another approximate method of concrete specification is by the "cement factor" or number of bags of cement per cubic yard of concrete. The relation of water to cement is not always fixed, although sometimes an upper limit is established as "not more than seven and one half gallons of water per sack of cement." It is also common to specify a minimum cement factor as "not less than five bags of cement per cubic yard of concrete."

Such a concrete may have fair strength if carefully handled, placed, and cured. It is, however, frequently porous, subject to disintegration by freezing and thawing, pervious to water infiltration, and not durable against wear caused by traffic.

### controlled concrete is different

Controlled concrete is scientifically designed, placed, and cured to achieve a predetermined strength (usually high) with definite characteristics of durability, resistance to attack by frost, and to the admission and passage of water. The basic determinant

* *Associate Professor of Architectural Engineering, Pratt Institute*

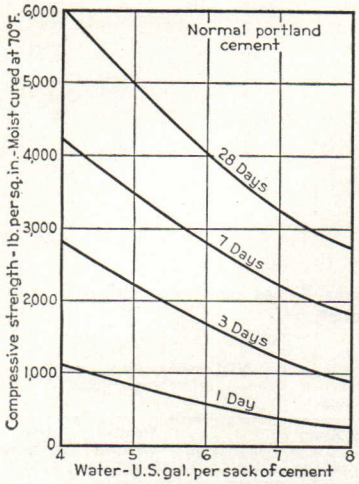



Fig. 1. Age-compressive strength relation for concrete made with normal portland cement. Strengths indicated should be obtained on average construction projects where materials are carefully controlled.

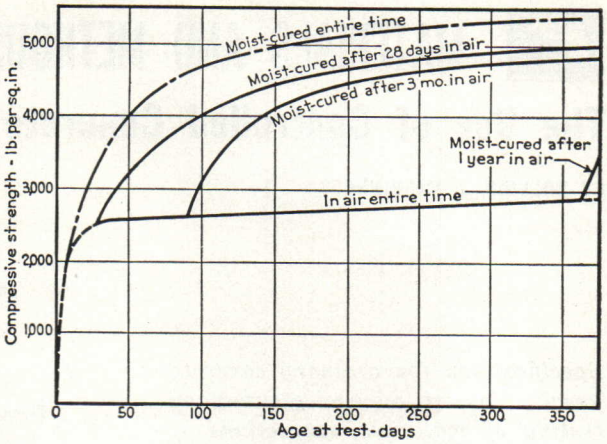



Fig. 2. Strength of concrete continues to increase as long as moisture is present to promote hydration of the cement. Note that resumption in moist-curing after a drying period also increases strength.

is the relation of water to cement. This ratio is the number of gallons of water for each 94-pound bag of cement. This sets the strength and also the durability, provided that other prescribed job procedures are followed. All materials are tested. The slump or consistency is controlled by the relative weight of aggregate with respect to the cement paste. Economy and workability are improved by varying the relative sizes of aggregates. Job procedures of placing, tamping, and curing are carefully specified. Tests for strength and slump are required. All materials are weighed before combining.

A specification for controlled concrete would include a number of general requirements. Water and aggregates must be tested for purity. Aggregates must be tested for soundness, strength, and durability. Make sieve analyses of large and small aggregates to determine the variation in sizes (grading). The grading and the relative proportion of sand to coarse aggregate are studied to achieve maximum workability, economy, and the correct slump (consistency). Using these job materials, a number of test cylinders are made to be broken in compression 28 days after casting in order to predict probable job strength. These cylinders are made with various water cement ratios in order to produce a job "curve" similar to the 28-day curve in Figure 1. From this job curve a water cement ratio is chosen for the desired strength and durability. It is usual to design the concrete for strength 15 percent higher than the engineer uses in designing the structural members in the building. During the progress of the job, slump tests are made frequently. The aggregates should be rechecked to permit adjustments if a different material is delivered. As the work progresses, test cylinders are made representing each portion of the structure. These should be tested at 28 days. Vibration and tamping are required as well as heat in winter and covering or moist curing after the concrete has been placed. Reports of tests are sent to the architect, engineer, and owner. The local building department may also require copies of them. This process obviously requires the services of a testing laboratory, and where such a laboratory is not available it will not be possible to do better than specify and use an "ordinary" concrete. An uncontrolled concrete may achieve an ultimate strength in compression of 2000 or more pounds per square inch at 28 days. With careful methods it may well turn out to be much stronger than this, but the extra strength cannot be used in the design, because without the full "control" routine including strength tests, few codes

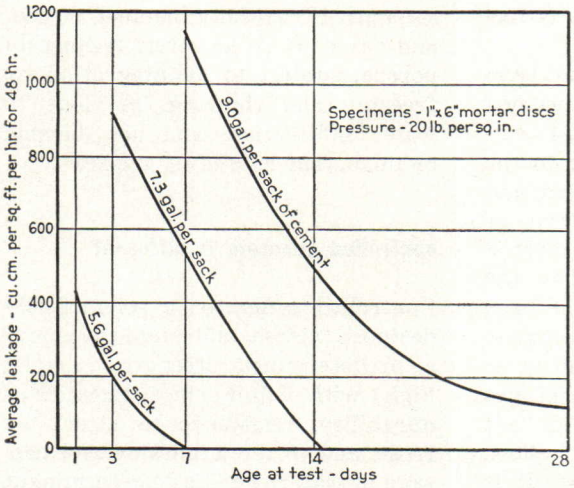



Fig. 5. Effect of water-cement ratio and curing on permeability. Note that leakage is reduced as amount of mixing water is decreased and as curing period is increased. Concrete that does not leak is made by using a small amount of water and by curing it well.

Photo at right: a lean mixture with a high water content produced the inferior breakwater shown at right. Exposed to severe weather conditions for 25 years, the section at left, which contained a richer mixture and lower water content, is still in good condition.

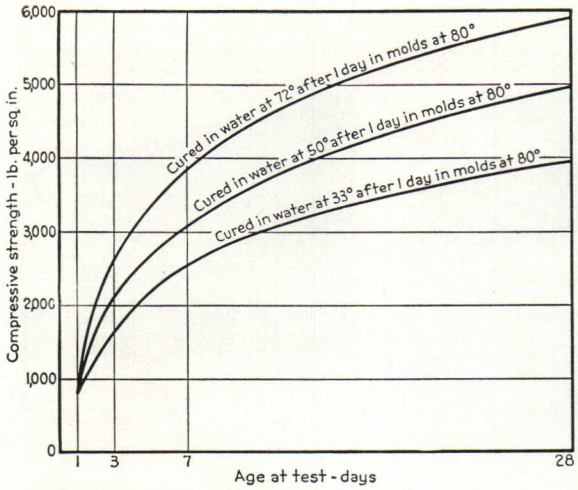



Fig. 3. The strength and other properties of concrete improve more rapidly at normal temperatures than at lower temperatures.

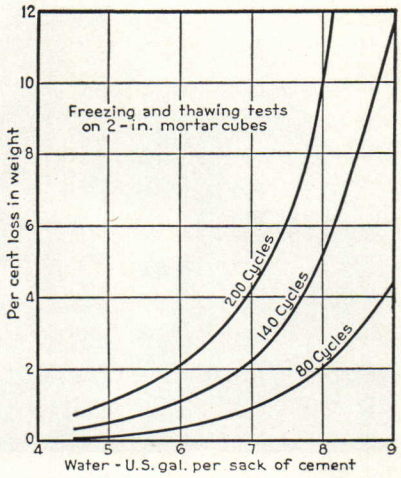



Fig. 4. Effect of water-cement ratio on durability. Note that for 2 percent loss in weight, mortar made with 8 gal. water per sack of cement withstood only 80 cycles of freezing and thawing compared to 200 cycles when the mortar was made with 6 gal.

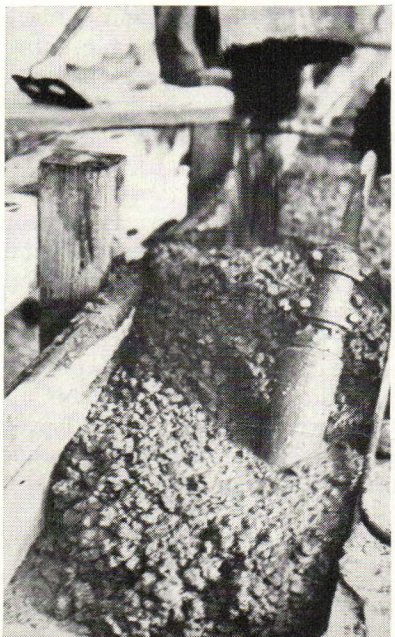
will permit more than the 2000-pound value. With control 10,000 pounds has been attained in cast stone work and 3500 pounds is quite common in structures.

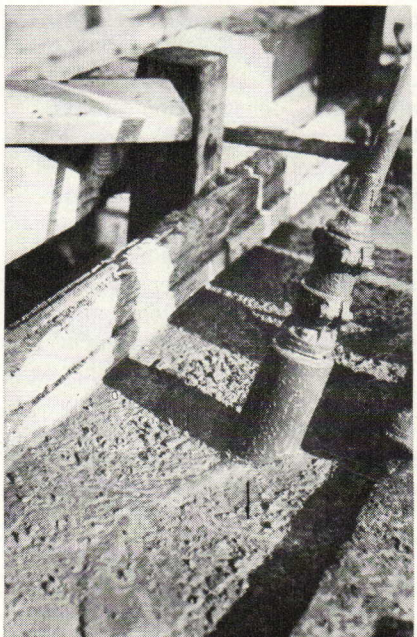
Of equal importance with increased strength is the superior durability of high-strength concrete. It will not disintegrate in cold climates and it wears well as an industrial floor. Frequently, the requirements of durability will call for a lower water cement ratio than the requirements for strength. This is shown in Figure 1 and Table 1. If a low water ratio is chosen (less water per sack of cement) for durability, the resulting strength may be greater than was contemplated. The engineer will use this greater strength in his design with resulting economies. For example, let us suppose 3000-pound concrete is desired. Figure 1 shows a water cement ratio of seven and one half gallons per sack. For thin sections in an ordinary exposed structure in moderate climates ("C" in Table 1), a ratio of six gallons per sack is chosen. This water cement ratio will result in 4000 pounds per square inch (Figure 1). This is in excess of the strength contemplated and is the result of a water cement ratio chosen primarily for durability. The higher strength, however, will be utilized by the engineer in the structural design.

The selection of the water-cement ratio, maximum slump and maximum aggregate size, and the subsequent planning and supervision, call for the closest cooperation between the architect, engineer, testing laboratory, and ready-mix plant. When the job starts, the contractor joins this group. Prior to this event, the mix has been fully designed, including the proportioning and testing of aggregates to insure maximum workability and economy.

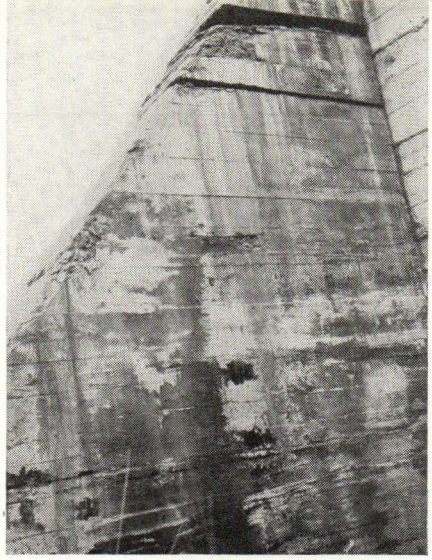
## job precautions

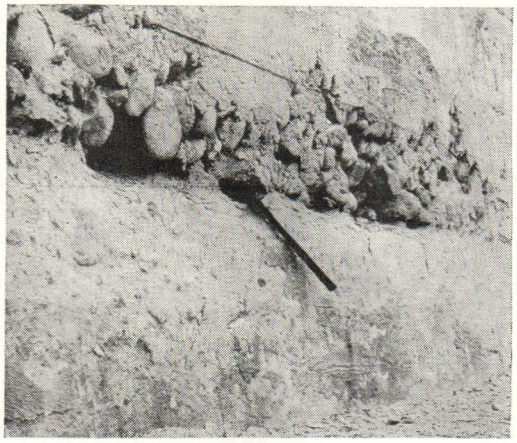
The advent of the ready-mix plant has helped immeasurably in the stabilizing of the quality of concrete arriving at the job. The balance of the manufacturing process is carried on by the job and is of equal importance with the concrete mixing. The batches must be placed promptly and carefully. Delay or careless placing methods can spoil the finished product. Water, cement, and aggregates all have different weights and will separate easily. Wet sections frequently at the top will have a different water cement ratio than was planned and will result in very weak and vulnerable concrete. This is sometimes referred to as "water gain." Gravel by itself will form a honeycombed structure with voids unfilled by cement paste. It will be porous and weak. Vibration is a great aid in the placing of concrete in the

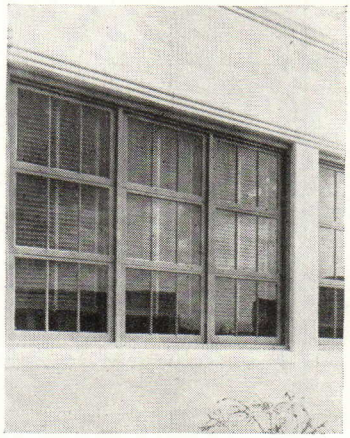




Left: concrete has just been placed in forms and vibrator is being put to work. Right: view shows complete puddling of concrete after proper vibration.
*All charts and photos, except as noted: Portland Cement Association*







**Left: as a result of segregation and water gain in this wing wall, the more porous concrete at top of each lift has eroded due to weathering. Better concrete at bottom of lift remains in good condition.**

**Center: an example of severe honeycombing due to lack of vibration.**

forms, but it can be overdone and cause separation and sand streaking. An adequate temperature and the presence of moisture are essential during the setting period. Indeed, a low temperature or rapid loss of moisture will seriously retard the hardening process and cause permanent loss of strength and durability. The concrete will fall short of its design characteristics in spite of all the preliminary planning. Figures 2 and 3 are a strong argument in favor of these two precautions. They show a decided difference in strength between the best and the worst conditions if curing and temperature recommendations are not followed.

### sources of information

There have been many recent advances in concrete technology to supplement and improve the standard procedures outlined briefly herein. Air entraining cements and admixtures have increased greatly the durability of concrete. The vacuum process is adaptable to special problems. Precasting gives us concrete units of factory-controlled quality.

Information can be had from a number of sources on new developments as well as basic theory and practice. The following list suggests a few such publications.

*Design and Control of Concrete Mixtures. 9th Edition.* Portland Cement Association.

*Tentative Specifications for Ready Mixed Concrete.* A.S.T.M. Designation C 94-47 T, issued 1947. American Society for Testing Materials.

*Cement Dispersion and Air Entrainment.* The Master Builders Company.

*Exercises in the Design of Concrete Mixtures.* Stanton Walker, National Ready Mixed Concrete Association.

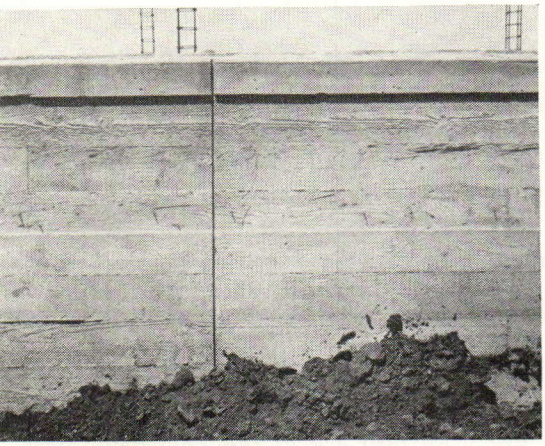
*ACI Standard Recommended Practice for the Design of Concrete Mixes.* ACI 613-44. American Concrete Institute.

### concrete can be left exposed

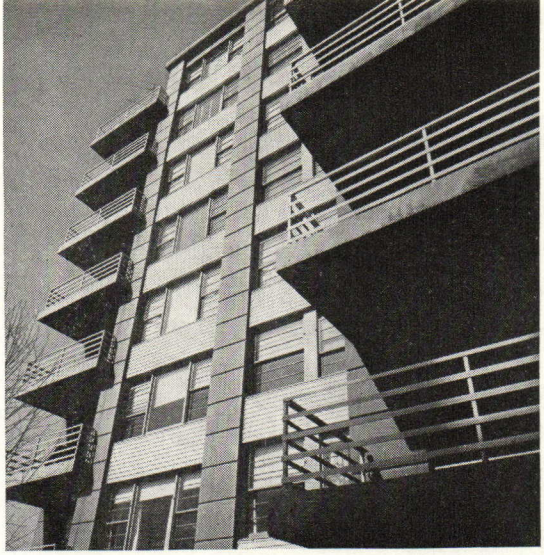
It is a fact that the best concrete will not disintegrate in the coldest climates. To assure this it is necessary that the reinforcement have a minimum of 2" of cover to prevent rusting, with consequent spalling. A greater difficulty is the cracking due to volumetric changes caused by great variations in temperature. These cracks can be localized by the use of control joints, construction joints, and by the proper distribution of steel reinforcement.

Horizontal cracks are less frequent than vertical cracks. This is because concrete in compression seldom cracks. Particularly vulnerable are spandrel beams, thin and long spandrel walls, and the points at the corners of windows and doors where there is a thin section of concrete between two bulkier sections. Engineer Fred Severud has had good success in localizing vertical cracks by the use of construction joints 60 feet apart in the length of a building and designing the steel to unify the concrete in between these joints. The scheme consists of placing alternate sections of the building 60 feet in length and later completing parts in between the original sections. It is apparent that designers will set the size of each portion of the building placed in one operation. This will determine the position of the construction joints, a decision which used to be left to the contractor. Tuck and Eipel, engineers, selected 48 feet as the length for sections in the construction of the Aqueduct Race Track, and there has been no cracking between these construction joints in this fully exposed structure.

The most common causes of disintegration of concrete are freezing and thawing, and wetting and drying, which, in turn, are caused by the porosity of the concrete and the lack of soundness of the aggregates. These faults will also create a leaky material. Control can be just as successful against leakage as it is against disintegration. Figures 4 and 5 show how closely these qualities are controlled by the water cement ratio. These cycles of freezing and thawing, wetting and drying, can cause harm only when water gains entrance to holes in the concrete. The holes are caused by too much mixing water which, instead of combining with the cement, dries out and leaves a porous material. The greatest advance in achieving durability greater



Above: appearance of control joint before completion of building. Right photo on adjacent page shows the same joint after this California school was completed. Filler and paint have blended the joint with the rest of the structure.



Controlled concrete was employed throughout this apartment building. Exposed columns and aluminum covered spandrels have provided an economical, leakproof structure. Horizontal grooves in columns hide construction joints between lifts and help eliminate any appearance of deviation in the columns. Interior and exterior surfaces are free from imperfections. This unit is part of an apartment development in Forest Hills, L. I. Owner, Dwelling Managers, Inc. *Photo: Ben Schnall*

than that possible in normal concrete control has been the discovery of the principle of air entrainment by the use of admixtures.

This is a completely separate study and it does not take the place of control, but rather adds to the need for further control and tests. So effective has it been that the United States Corps of Engineers uses it wherever good durability is required. In a research paper summarizing the reasons for this decision, the following statement is made: "The profoundly beneficial effect which purposeful entrainment of regulated quantities of air has on the durability of concrete was the most important fact developed."

### economy

On large jobs the cost of careful design and control will nearly always be saved by the lighter structure resulting from a stronger material. In many cases it has put concrete in a way to compete favorably with other structural systems. Housing authorities have chosen it for many of their projects. David Rose, president of Dwelling Managers, Inc., whose building is illustrated on these pages, has found it preferable to steel in some instances. His findings were based upon complete sets of structural designs and drawings for comparative systems. Patrick J. Callan has used exposed concrete with economy in the construction of small houses.

### challenge

It may be a source of wonder to some that concrete has not been more confidently used for superstructure in buildings and for exterior and interior finishes. Certainly great progress is being made at present. John Hogan of the Portland Cement Association attributes the slow progress in the past to the mistaken concept of concrete as primarily a foundation material.

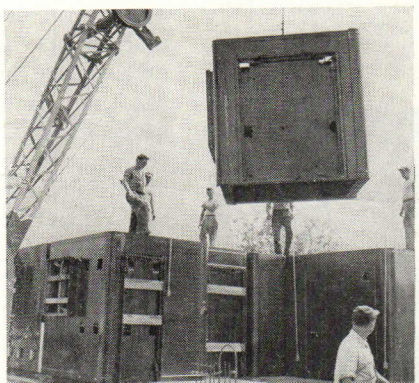
The use of concrete in superstructure, and particularly in exposed positions, presents a challenge that cannot be met by the same easy methods that are possible in bulk foundation work. Attention is needed for tight forms, careful shoring, careful placing, moist curing, and heat when required during winter.

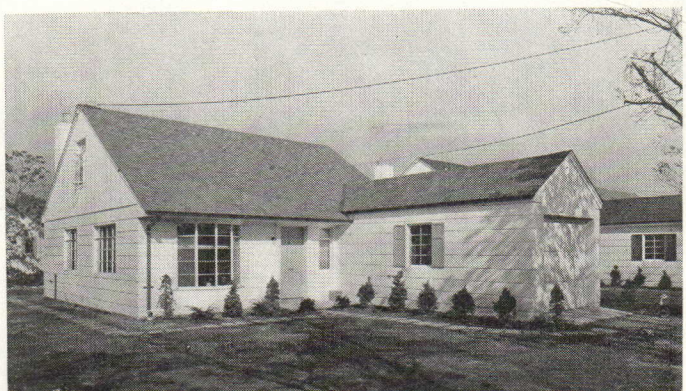
The history of the performance of concrete as a basic building material is long and varied. Improvements in the manufacture of cement, and laboratory methods for testing the aggregates and controlling the mixture, together with careful planning by the architect, now assure a prospective user of an end product that will have qualities and a useful life equal to that of any other material.

This fireproof concrete house was poured in two days. Exterior sandwich walls consist of two 3" concrete panels separated by a 1" layer of insulating material. Walls are waterproof and no condensation occurs on the inside surface. Interior finish is wallpaper or paint on concrete.

Photo at left shows steel forms being lowered into place. Cost of forms was amortized over a large number of houses. Location, Manhasset, L. I. Builder, Patrick J. Callan.

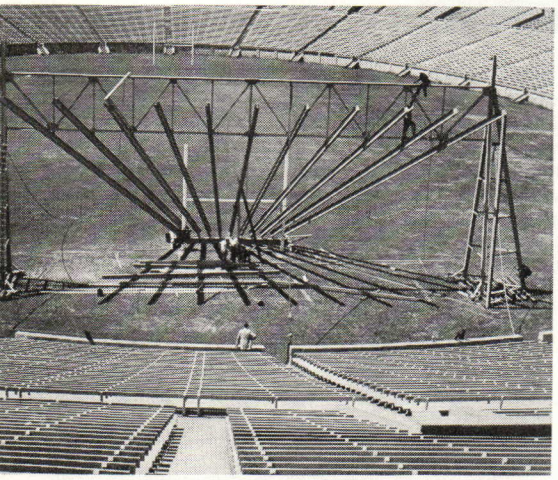
*Photos: courtesy of builder*

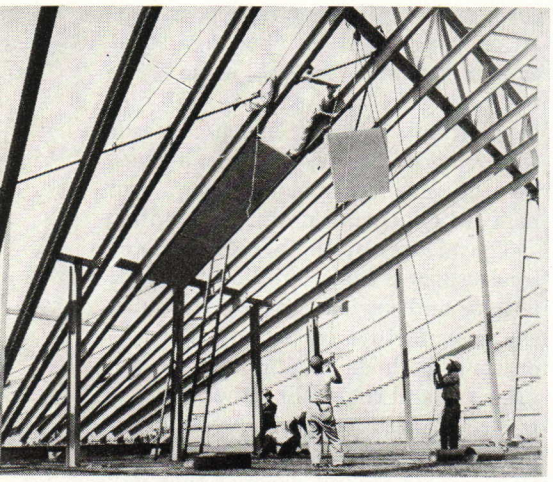


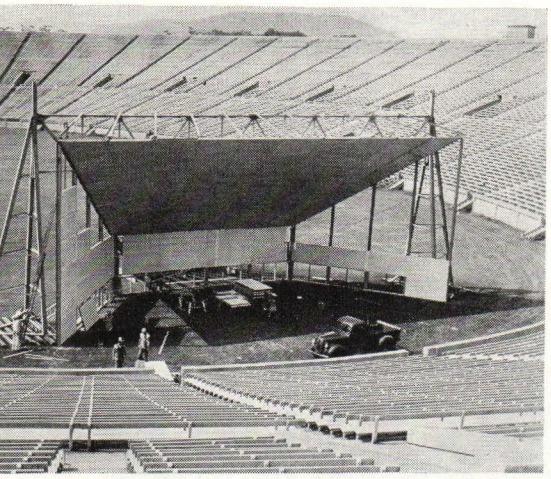


# Two Portable Orchestra Shells

Two architects, presented with similar size, site, and acoustic requirements for an outdoor orchestra shell, developed divergent construction solutions. Both solutions have resulted in inexpensive structures which thoroughly perform their program requirements.







Stability is rendered through three point contact with the ground. Turf below timbers and outriggers has not been disturbed.

## NEW HAVEN, CONNECTICUT:
## Leo F. Caproni and Associates

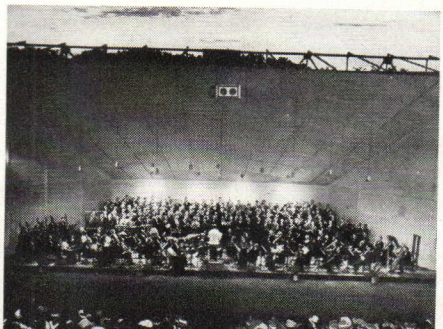
**program:** To provide a self-supporting, portable orchestra shell for the New Haven Symphony Orchestra's summer concerts.

**site:** An oval end of the Yale Bowl, New Haven, Conn. Audience to occupy four sections of the stadium, seating approximately 10,000 persons. Underground sprinkler system and drainage pipes prevent use of ground anchorage. Turf not to be disturbed.

**construction solution:** Approximate shell dimensions: 80′ wide, 32′ deep, and 32′ under front edge of roof panels.

Two stable steel tripod towers mounted on wood grillage (8″ x 8″ timbers) support a flat steel truss. The truss is composed of two sections bolted together in the field. WF sections hung from panel points of the truss converge at rear and are pin-connected to girder at ground level. Outriggers from girder distribute load to soil. Three-point contact of towers and rear assembly provide stability.

Vertical WF sections, bolted to channel shoes at ground level and to radiating steel above, provide anchorage for top, back, and side panels. Panels, of wood frame covered with 3/16″ thick asbestos cement hard board, are interlocked and of convenient size for handling. Top and side panels are anchored to render proper acoustics for the shape, size, and height of bowl.



**acoustic evaluations:** Asbestos hard board was employed because of its waterproof qualities and because its hard surface makes an excellent sounding board. To offset the chance of vibration in the several units, no two panels are of the same size. According to those of expert musical judgment, the acoustics are perfect. The architect states he would not change the design, if he were to do more of these shells.

**CHARLOTTESVILLE, VIRGINIA:**

**Floyd E. Johnson and Associates**

To design an orchestra shell for the annual concerts of the Virginia Music Festival. The structure must be easily dismantled in order to be stored when not in use.

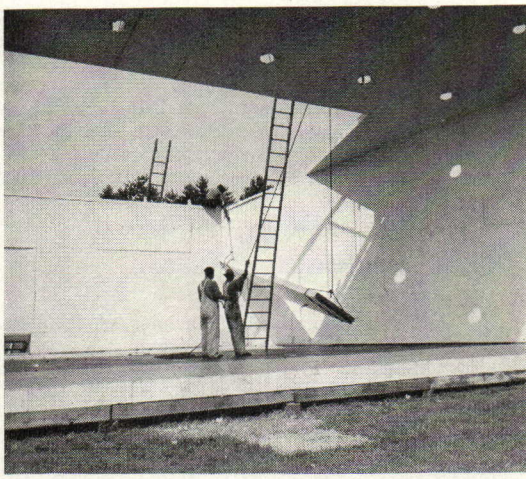
Scott Stadium, University of Virginia, Charlottesville, Va. Location of shell dictated by the University's Athletic Department.

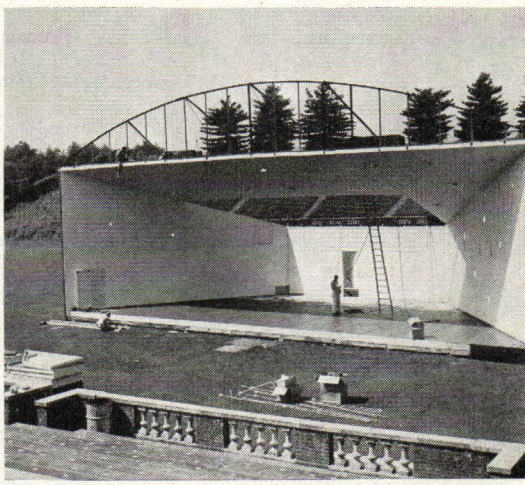
Approximate shell dimensions: 80′ wide, 30′ deep, 23′ and 18′ under front and rear truss respectively; trusses 15′ on center. A platform extends 8′ beyond the front columns and a small room for conductor or guest artist is off each side of the shell.

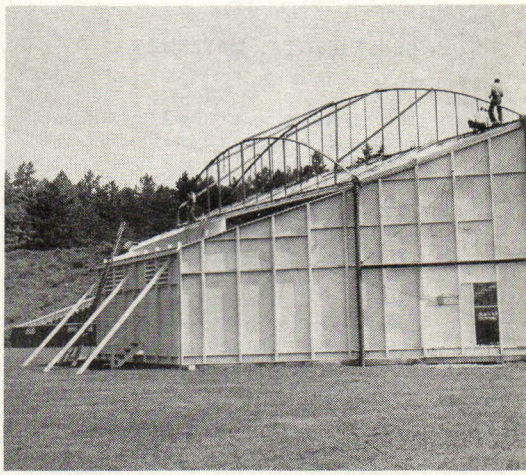
The two bowstring-type trusses, each composed of three sections field bolted together, are supported by 6″ standard pipe columns. Columns rest on concrete footings the tops of which remain below grade. Rigidity is achieved by overhead sway frames between trusses, by diagonal braces at sides, and by guy wires leading from columns to deadmen flanking the shell.

Panel sections, 4′ wide, are wood frame and covered with ½″ plywood sheets. Roof panels are hung from the trusses while side and back walls are seated on timbers resting on turf. The back wall supports one-half of the rear roof panel loads and is braced from the outside by wooden joists. Side walls are anchored to pipe columns for stability. Blow out panels on sides relieve wind pressure. ¾″ plywood flooring is supported by 2″ x 10″ fir joists.

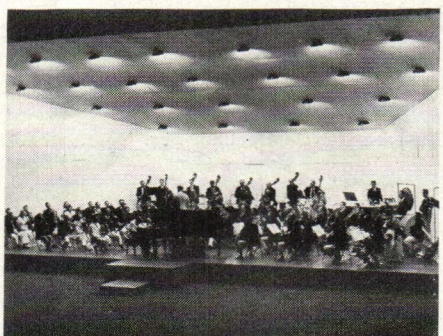
The acoustical success of the shell has been favorably commented on by many, including Hans Kindler, conductor of the National Symphony Orchestra, and Eugene Ormandy, conductor of the Philadelphia Orchestra. The conductor speaking from the podium in a natural tone of voice can be distinctly heard by the entire audience without the aid of sound equipment.







Rigidity is given to shell by guy wires, diagonal bracing, and sway frames. Standard pipe columns rest on concrete footings below grade.



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Left: workmen apply special Armstrong adhesive to concrete slab. Sleepers eliminated by cementing plank subbase directly to floor.

Right: after 24-hour set, maple flooring is nailed directly to subbase.

# PRODUCTS

### New Adhesive Eliminates Sleepers For Plank Subbase On Concrete Floors

By applying an adhesive developed by the Armstrong Cork Company, plank subbase can be installed on concrete floors without the use of sleepers. Application of this method insures a secure, stable floor, and has special value in textile plants as well as other plants that require wood flooring.

Sleepers that have been embedded in concrete are difficult to replace when rotted, and new concrete or asphalt must be added to hold them in place. Asphalt, when used to anchor sleepers, frequently becomes brittle in winter, allowing machinery to cause cracks which in turn render the sleepers insecure. Armstrong's adhesive method eliminates the problems described above; it also forms a moisture barrier between concrete and wood. The product sets in about 24 hours and the finished floor is then nailed directly to the plank subbase.

### Warm Air Radiant Heating System Developed For New And Existing Homes

A warm air radiant heating system, in which all radiating surfaces and ducts are part of the building structure, has been developed and marketed by Scott-Newcomb, Inc. The complete equipment, which also furnishes domestic hot water, consists of a boiler, a heat exchanger, a pump, two short lengths of pipes, and a few inexpensive accessories. The Scott-Newcomb system, adaptable to any type construction, can be installed in houses with or without basements, and in those with one or more floors.

Basic operation: Air warmed by a heat exchanger quickly rises through a centrally located shaft and passes in all directions over a dropped ceiling. The air is returned through ducts on outside walls. In frame construction, spaces between studs form the ducts.

This system automatically balances

(Continued on page 106)

## air and temperature control

**Packaged Air Conditioners:** two heavy-duty types, 10-ton capacity, designed for commercial and institutional use. Cooling units operated by high-capacity compressors; additional acoustical insulation reduces compressor noise; heavy sheet steel cabinet finished in two-tone brown lacquer. Frigidaire Div., General Motors Corp., 300 Taylor St., Dayton 1, Ohio.

**Taco-Vent:** automatic hot-water air valve does away with manual venting, maintains full hot-water capacity in radiator. Taco Heaters, Inc., 342 Madison Ave., New York, N. Y.

## construction

**USG Shadow-Lock Attachment System:** self-aligning, self-supporting, for application of asbestos cement siding over gypsum sheathing. Less nails and siding required, no special tools or skill necessary. United States Gypsum Co., 300 W. Adams St., Chicago 6, Ill.

## doors and windows

**Win-Dor Snugger:** automatic closing device for cabinet, closet, cupboard doors (even warped doors); installation requires no mortising, can be done in few minutes with screw driver. Casement Hardware Co., 406 N. Wood St., Chicago 22, Ill.

**Ceconomy Steel Basement Window:** redesigned product; double contact weathering; new combined fin and shield provides better anchorage, prevents masonry jambs from crowding window. Also screen and storm panel unit for use with above or other metal basement windows. Ceco Steel Products Corp., 5601 W. 26th St., Chicago 50, Ill.

**Residential Casement Windows:** specially designed sections of new billet, hot-rolled steel; double-contact weathering; projection welding protects against sag or distortion. Available in all types and sizes. Copco Steel & Engineering Co., 14035 Grand River Ave., Detroit, Mich.

## electrical equipment and lighting

**Leaderall Louvered Light Ceiling:** overall fluorescent lighting fixture, of molded destaticized plastic; tie-rods of various lengths available for whatever height below ceiling desired. Leader Electric Co., 3500 N. Kedzie Ave., Chicago 18, Ill.

**Spring-Loaded Shock Absorbers:** new line providing shockproof mounting for industrial lighting fixtures, meters, fans, motors, unit heaters, etc.; design eliminates need for bolts, nuts, and screws. Available in five different models. Thompson Electric Co., 1101 Power Ave., Cleveland 14, Ohio.

## finishers and protectors

**Kem-Glo:** new coating with baked enamel appearance for walls, woodwork; no thinner required; one coat will cover most previously painted surfaces. Ten colors, including white. Sherwin-Williams Co., 101 Prospect Ave. N. W., Cleveland, Ohio.

**Flame-Seal:** fire-retardant paint and coating; said to be completely nontoxic while being applied and when attacked by flame; generates no smoke or gases and will not spread flame; can be washed without lessening fire-retardant effectiveness. Available in oyster-white finish. Stallton Chemical Corp., 8-14 37th Ave., Long Island City 1, N. Y.

## sanitary equipment, water supply, drainage

**Shokstop:** water hammer arresting device providing air cushion to absorb "water hammer" pressure impulse and preventing water logging of air chamber. For all pumps, piping, particularly underground lead service pipes and water-using machines. Wade Mfg. Co., Elgin, Ill.

## specialized equipment

**Videoplate:** chalkboard as easily cut and mounted as ordinary wallboard; comes in warp-proof, grainless, moisture-resistant sheets or panels 1/4" thick, 3½' or 4' wide, in lengths up to 12', in black or green. For new partitions, to replace old chalkboards, or to repair bad places in existing chalkboards. Beckley-Cardy Co., 1632 S. Indiana Ave., Chicago 16, Ill.

**Volumatic Whiteprinter Model 93:** large volume machine will reproduce anything drawn, typed, written, or printed upon translucent media, at speeds up to 105 sq. ft. per minute; prints from post-card size up to those 42" wide and any length required; standard equipment includes built-in constant voltage transformer. Easily installed, needing no plumbing connections, ventilating ducts, or darkroom, and can be moved on casters. Charles Bruning Co., Inc., 4754 W. Montrose Ave., Chicago 41, Ill.

**Stainless Steel Kitchen Bowls:** heavy gage, drawn from single sheet; single and double ledge types. Kitchen Sales Corp., 101 Park Ave., New York 17, N. Y.

**Royl-Aire Cushion Carpet:** sponge rubber base, vulcanized to specially woven wool carpet, gives extremely soft tread; no rug pad necessary. Available in patterned, frieze, crushed mohair, and two-tone loop weaves, in range of colors. Royal Rubber Co., Akron 14, Ohio.

## surfacing materials

**Corlon Tile:** plastic flooring with high alkali and grease resistance; 10 marbleized colors. Applied on grade slabs; not recommended for installation below grade level. Armstrong Cork Co., Lancaster, Pa.

**Japanese Bamboo Flooring:** imported, handmade bamboo flooring and wall paneling in four types: parquet flooring, parquet blocks, parquet blocks on veneer wood base, and bamboo plywood tiles; two of these are interchangeable for flooring and paneling, also used in manufacture of modern furniture. Orders to client's specifications, available in 90 days. Importa of San Francisco, 21 Columbus Ave., San Francisco 11, Calif.

# Manufacturers' Literature

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

### AIR AND TEMPERATURE CONTROL

**1-270. To Heat Your Home Efficiently** (S-48-1), 4-p. booklet on automatic anthracite stokers for hot water, steam, vapor, or warm air heating systems. Advantages, cutaway drawing, typical installations. Electric Furnace-Man, Inc., Subsidiary of General Machine Co., Inc.

**1-271. The Fitzgibbons Boiler,** AIA 30 C-1, 12-p. illus. booklet describing quick-heating steel boiler operating on all current fuels. Description, cross sections, technical data tables. Fitzgibbons Boiler Co., Inc.

**1-272. Now—Automatic Oil Heat** (0-47-1), 4-p. illus. booklet on thermostatically controlled oil burner designed to fit into any size or type heating system. Advantages. General Machine Co.

**1-273. Waterfilm Boilers,** 8-p. illus. pamphlet on welded steel boilers for automatic firing with oil, stoker, or gas. Features, details and dimensions, gross rating, cutaway illustrations of several types. Koven Waterfilm Boilers, Inc.

**1-274. National Heating Equipment** (537), 11-p. illus. catalog describing various types of boilers, oil heating units, convectors and enclosures, radiators. Ratings, dimensions, diagrams. National Radiator Co.

**1-275. Janitrol Unit Heaters** (JS39-15M-076), 12-p. illus. bulletin containing general and technical data on self-contained automatic, gas-fired heating units for industrial, commercial, and institutional installations. Photos of different models, features, accessories, sizes. Surface Combustion Corp.

Two 4-p. folders on automatic electrical controls for hot water heating and domestic water storage systems, and cast iron or bronze supply tees for forced circulating one-pipe hot water heating. Descriptions, installation diagrams, ratings, capacities, specifications. H. A. Thrush & Co.:

**1-276. Electrical Controls** (EC-847)

**1-277. Supply Tees** (AT-149)

**1-278. Compressor Selection Chart** (L-640-B2), 4-p. bulletin containing selection chart for Worthington HB single horizontal compressors, based on normal applications handling air with atmospheric intake pressure. Also illustration of coordinating compressor and auxiliary equipment. Worthington Pump & Machinery Corp.

### CONSTRUCTION

**3-69. Redwood,** 8-p. booklet describing several applications of redwood in building construction. Description, grades, other uses, color plates. California Redwood Assn.

★ **3-70. Davis Plywood Quick Estimating Cutting Chart,** designed to help select most economical stock panel required. Widths and lengths, number of cuts, inches waste. Davis Plywood Corp.

**3-71. Durisol Modular Building Units,** 4-p. bulletin giving brief descriptions of five forms of lightweight, precast concrete slab employing mineralized organic aggregate, in range of sizes and types. Uses, sound-absorption coefficients, sections, physical properties, standard sizes and weights. Durisol, Inc.

**3-72. Eastern Stainless Steel Sheets and Plates,** 127-p. illus. handbook giving detailed technical information on fabrication, properties, applications, of stainless steel. Reference tables, table of contents, photos. Eastern Stainless Steel Corp.

**3-73. Clipgrip,** 4-p. folder and detail sheet describing steel stud system for support and fastening in place building materials used for wall construction. Erection details for dry wall or plaster wall construction. Neslo Mfg. Corp.

**3-74. Vermiculite Plaster Fireproofing,** AIA 21-A-7, 16-p. illus. booklet on fireproofing plaster aggregate for floors, roofs, columns, beams, girders, and trusses. Description, temperature chart, application and installation photos, typical details, summary of fire tests. Vermiculite Institute.

### DOORS AND WINDOWS

**4-188. New Corrugated Plywood Core Does It!,** circular on flush doors utilizing waterproof, corrugated plywood core. Description, sizes, cross section, advantages. Air-Lite Door Mfrs., Inc.

**4-189. Calder Wedge-Tight Wood Overhead Sectional Garage Door,** folder giving specifications, sizes, description of parts. Calder Mfg. Co.

**4-190. Solidoor,** folder on interior and exterior hardwood solid core flush veneer doors, finished in mahogany, oak, walnut, or other fine woods; standard and special sizes. Description, features, cross section. Ipik Plywood Co.

Booklet on automatic fire doors and hardware, kalamein doors, steel doors and frames, for industrial and commercial service; also three service sheets containing architectural details, specifications, requirements, opening sizes, jamb widths, features. Richmond Fireproof Door Co.:

**4-191. Richmond Fireproof Door Co.** (Bul. 1949)

**4-192. Metal Clad Fire Doors** (Service Sheet R5)

**4-193. Kalamein Doors** (Service Sheet R1)

**4-194. Universal Knock Down Housing Frames** (Service Sheet R8)

**4-195. Trim-Set** (203), 8-p. illus. booklet on metal window, complete with trim, glass, hardware; said to be lower priced than standard wood sash. Types, sizes, full size sections, details, specifications. Booklet available only to inquirers from 11 western states. Trimset Corp.

### ELECTRICAL EQUIPMENT AND LIGHTING

Two bulletins giving information on installation, operation, and testing of ballasts for fluorescent lamps. Ratings, test data, wiring diagrams, drawings. General Electric:

**5-194. Ballasts for Fluorescent Lamps** (GEA-4950A)

**5-195. Ballasts for Fluorescent Lamps** (GET-922B)

Four catalogs on commercial and residential fluorescent and incandescent fixtures. Brief descriptions, suggested installation methods, drawings, details. Kayline Co.:

**5-196. Commercial Lighting,** AIA 31F
**5-197. Residential Lighting Fixtures**
**5-198. "Sunlite,"** AIA 31F
**5-199. Kayline Troffers,** AIA 31F

**5-200. Planned Lighting for Modern Stores,** 12-p. illus. booklet containing photographic examples of fluorescent and incandescent lighting installations in store interiors and exteriors, advantages. Pittsburgh Reflector Co.

Folder and 18-p. illus. catalog on electrical wiring devices and improved T-rated switch. General information, brief descriptions. Slater Electric & Mfg. Co.:

**5-201. Lifetime Wiring Devices**
**5-202. Slater T-Rated Switch** (J-3)

### FINISHERS AND PROTECTORS

**6-164. Vulcatex** (481105325), 8-p. booklet describing elastic caulking compound for sealing and glazing. General data, summary of test. A. C. Horn Co., Inc.

**6-165. Prufcoat Proof Packet,** portfolio containing folder on information about use and advantages of protective coating for application on wood, metal, and masonry; also six data sheets giving research data, plan for analysing painting maintenance costs, prices, catalog information. Prufcoat Laboratories, Inc.

**6-166. Firzite,** 4-p. illus. booklet on prefinisher for fir plywood and other soft woods; tones down "wild" grain, is recommended as undercoating for surfaces to be painted. General data, units and shipping weights. U. S. Plywood Corp.

### INSULATION (THERMAL, ACOUSTIC)

★ **9-131. Softone, Famco, Atoz,** 8-p. illus. booklet on noncombustible acoustical tile, metal suspension system for erecting acoustical tile, and insulating plaster. General data, characteristics, suggested specifications, sound absorption coefficients, erection instructions, typical installation assembly, section drawings. American Acoustics, Inc.

**9-132. Rock Cork Insulation** (IN-122A), 4-p. illus. folder on mineral insulation for refrigeration service in food and beverage industries. Suggested uses, data on size, temperature limits, conductivity, moisture absorption, typical installations. Johns-Manville.

**9-133. Korfund Cork Products** (Cat. C-1), 4-p. illus. bulletin describing five forms of cork insulation. Construction data, installation, typical applications, photos, drawings. Korfund Co., Inc.

**9-134. Foamglas,** AIA 37-B (G-9293), 12-p. booklet on cellular glass insulating material recommended for residential application. General information, specifications, properties, accessory materials, including Foamglas cant strips for roof insulation. Pittsburgh Corning Corp.

### SANITARY EQUIPMENT, WATER SUPPLY, DRAINAGE

**19-417. Filtrine** (Form 32), 4-p. illus. bulletin and two technical data sheets on water coolers, filters, rectifiers, and circulating chilled water systems. Applications, capacity and dimension tables, typical specifications. Filtrine Mfg. Co.

### SPECIALIZED EQUIPMENT

**19-418. Revolving Shelves,** 6-p. folder on aluminum revolving shelves for kitchen cabinets and coolers. Description, advantages, installation data, specifications, W. R. Ames Co.

**19-419. Program Bell Transfer Panels** (Bul. TP-1), bulletin on line of program bell transfer panels for operating bell systems in schools and institutions, in conjunction with program clocks. General information, photo examples, overall dimensions. Cannon Electric Development Co.

**19-420. General Electric,** set of specification sheets on refrigerators, freezers, and storage cabinets. Photos. General Electric Co.

**19-421. Gemaco Freezer** (47-1), 4-p. folder on new, improved all-purpose domestic freezer. Advantages. General Machine Co., Inc.

**19-422. In-Sink-Erator,** 4-p. illus. folder on food waste disposer; can be used with septic tank. Description, operation, installation and specifications. In-Sink-Erator Mfg. Co.

**19-423. Lamson Products** (948), 4-p. illus. folder on materials-handling conveyors and pneumatic dispatch tubes; also conveyors of food trays for hospitals, restaurants, etc. Brief descriptions, photos, applications. Lamson Corp.

**19-424. W. Ralston & Co., Inc.,** portfolio containing samples of waterproof paper in variety of forms, for building, commercial, and other purposes. W. Ralston & Co., Inc.

**19-425. Dust Collector Installations** (D-491), 8-p. illus. bulletin showing typical photo examples of dust filter system installations in plants, mills, machine shops. W. W. Sly Mfg. Co.

### SURFACING MATERIALS

★ **19-426. The Story of Dodge Vinyl-Cork Flooring,** 8-p. booklet describing cork flooring with vinyl plastic surface. Characteristics, results of laboratory tests. Dodge Cork Co., Inc.

**19-427. Marlite,** folder on plastic-finished wall and ceiling panel, for wide variety of applications. Advantages, color plates of installations. Marsh Wall Products, Inc.

**19-428. Mosaics** (Cat. 108), 32-p. illus. catalog on unglazed ceramic tile, Faience and Granitex ceramic mosaics, alone or in combinations for all types of flooring, wainscots, stairs, swimming pools, etc. Patterns in color and black and white, typical installation photos, drawings of trim shapes, examples of ceramic name panels. Mosaic Tile Co.

### TRAFFIC EQUIPMENT

Two bulletins on passenger and freight elevators, electric stairways, and a coordinated control and dispatching system for bank of elevators to keep cars moving at maximum efficiency under all traffic conditions. Descriptions, operation, capacities and car speeds, dimensions, drawings, diagrams, problems and solutions. Westinghouse Electric Corp.:

**20-243. Westinghouse Vertical Transportation** (B-3822)

**20-244. Selectomatic** (B-3597)

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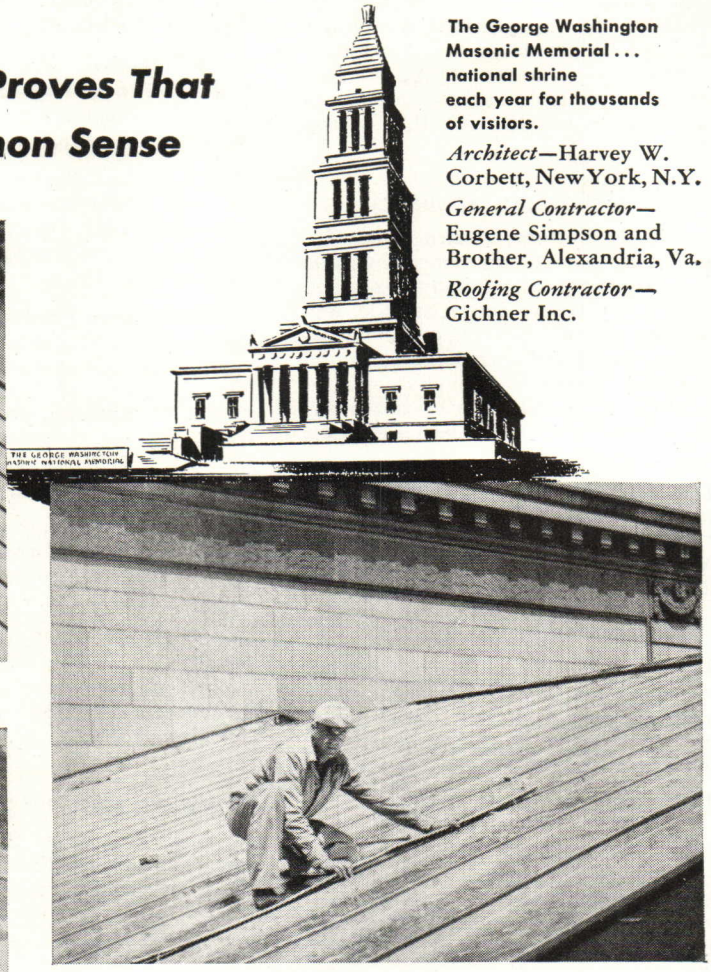

**The George Washington Masonic Memorial... national shrine each year for thousands of visitors.**

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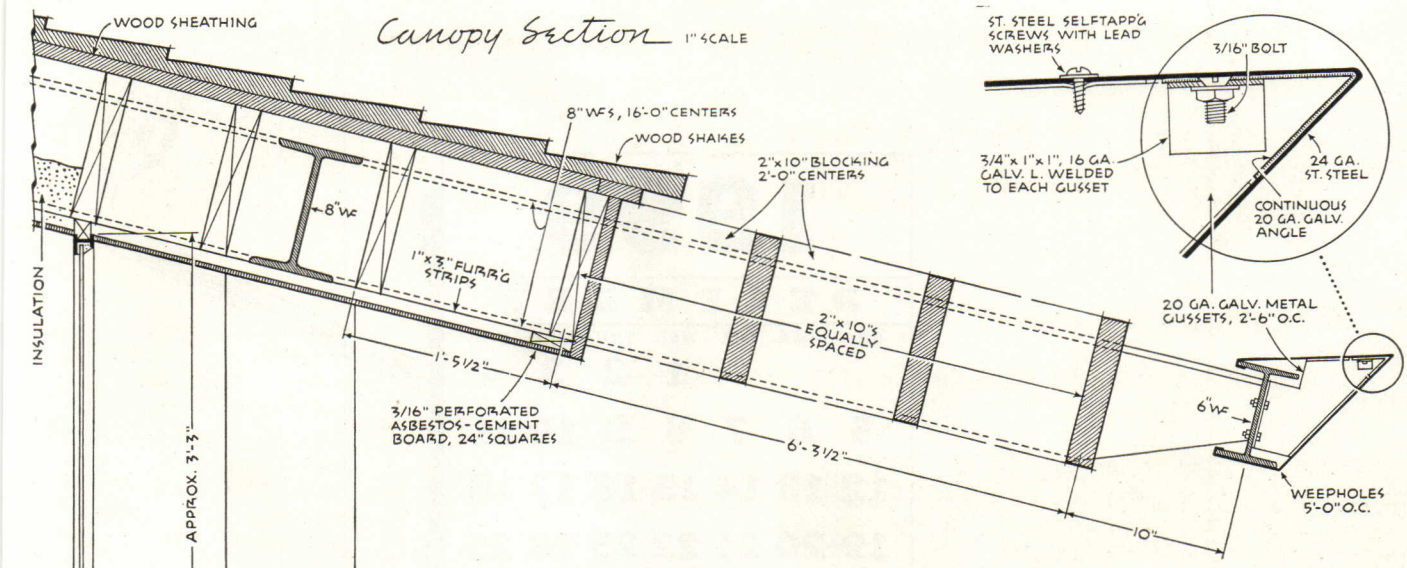


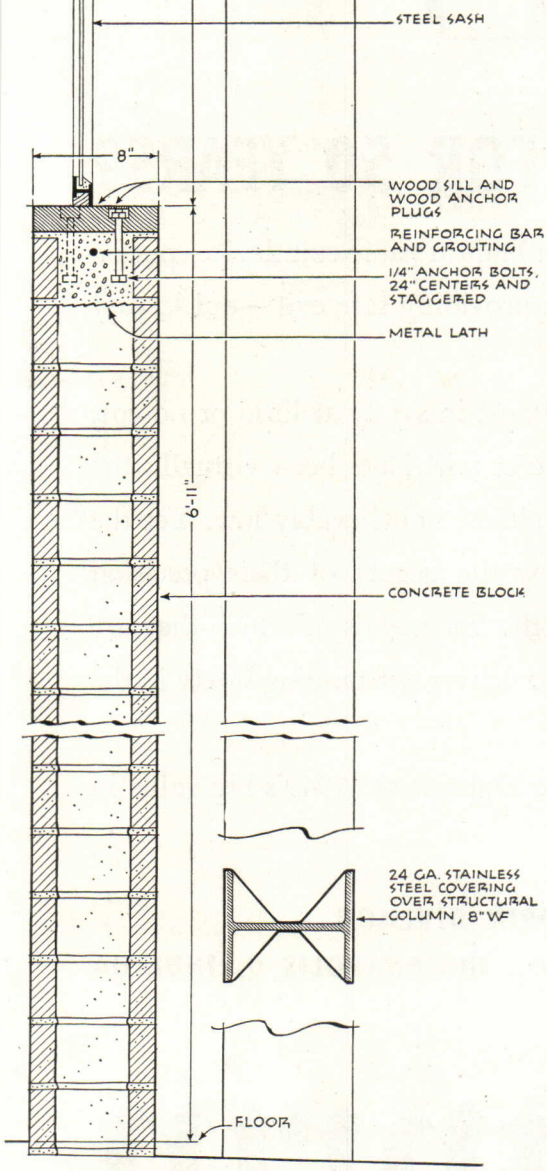


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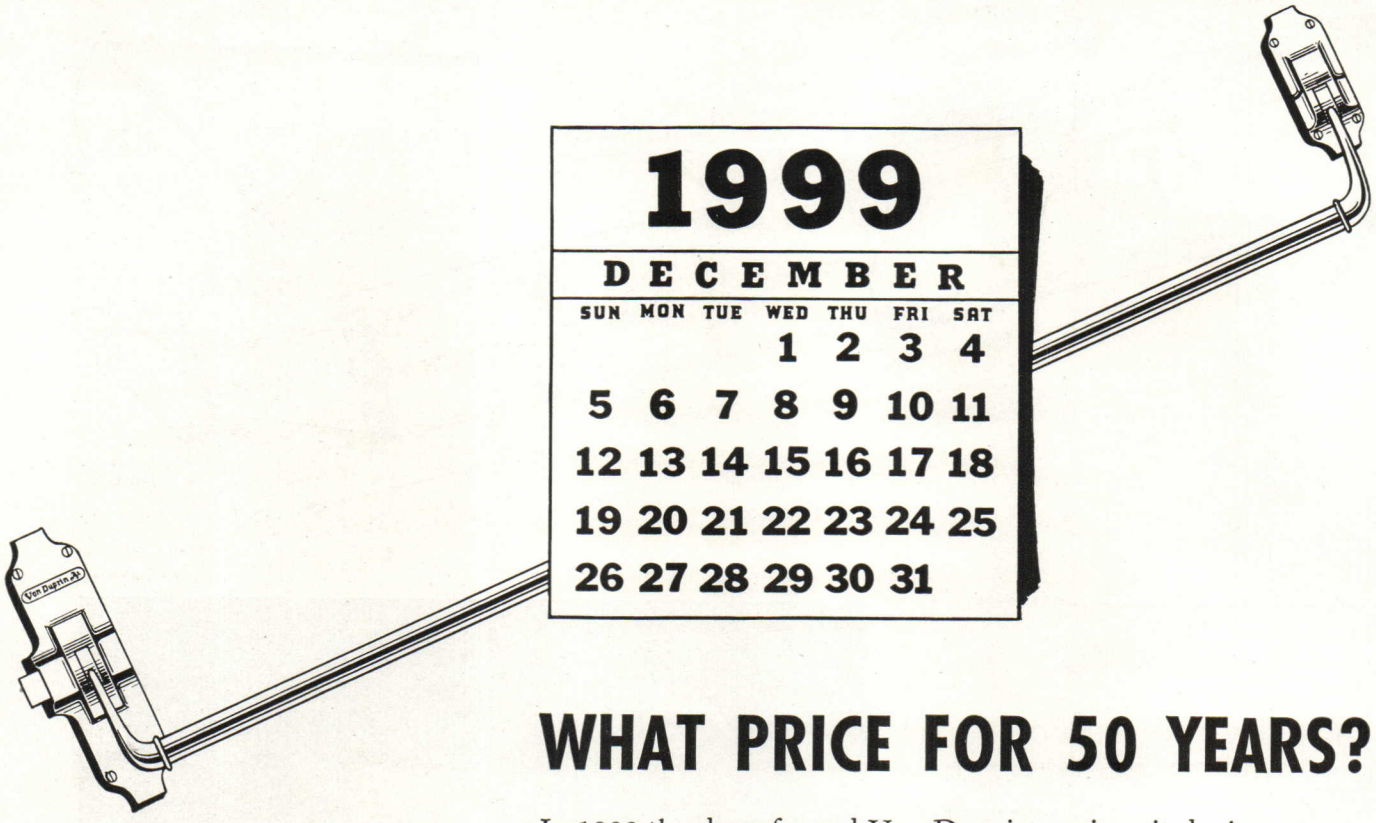


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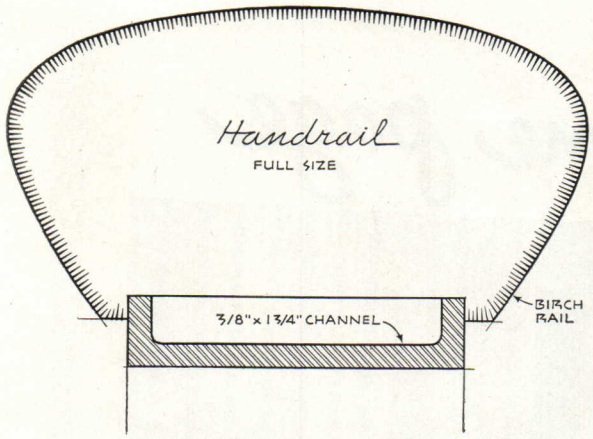


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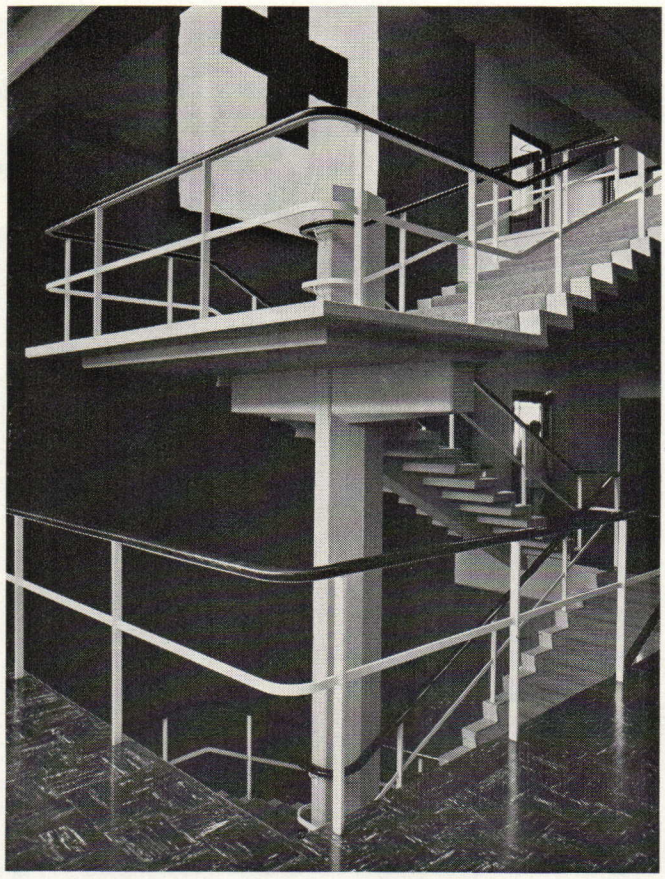

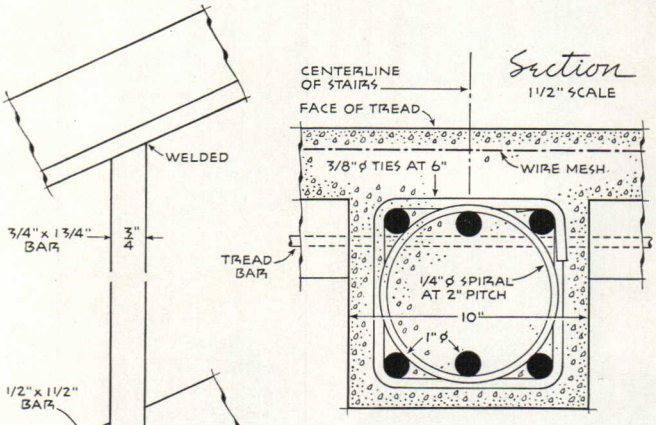


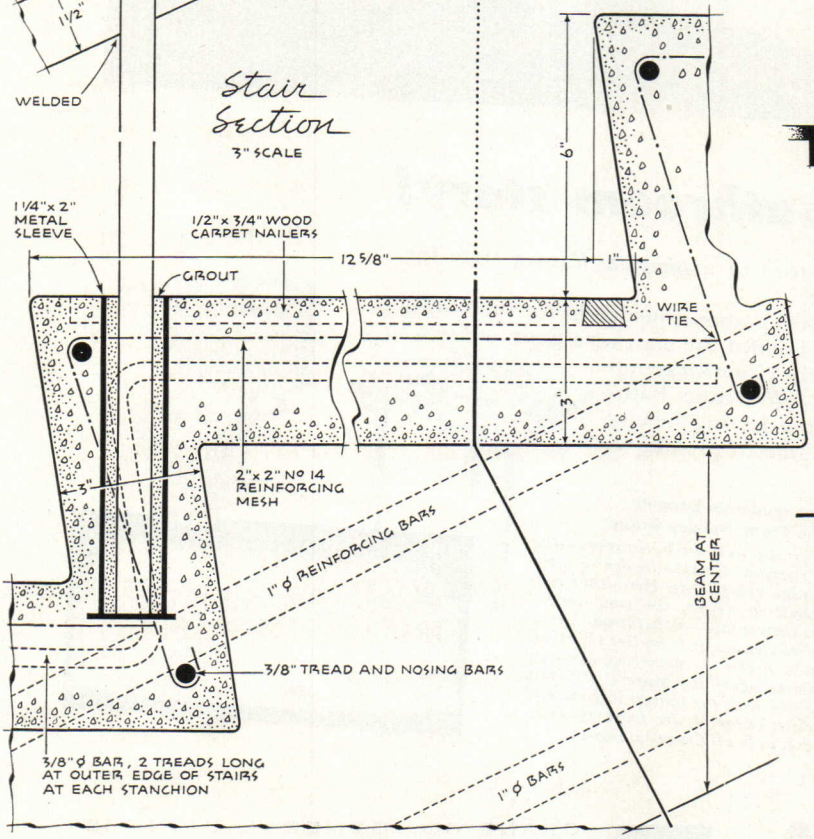


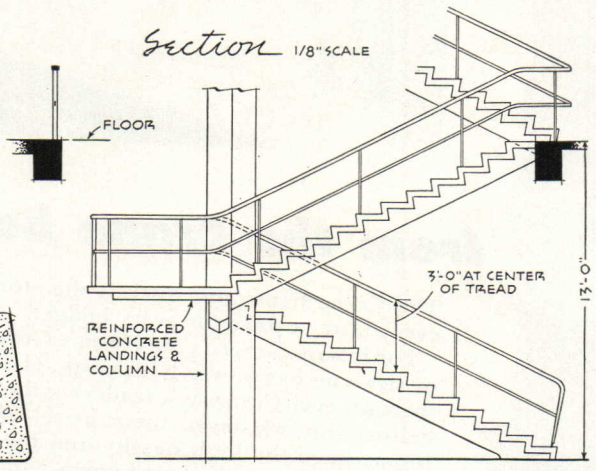


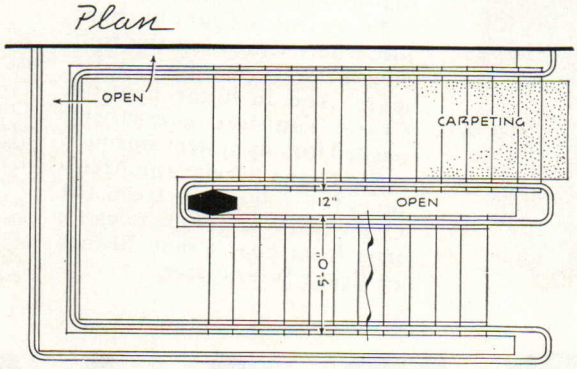


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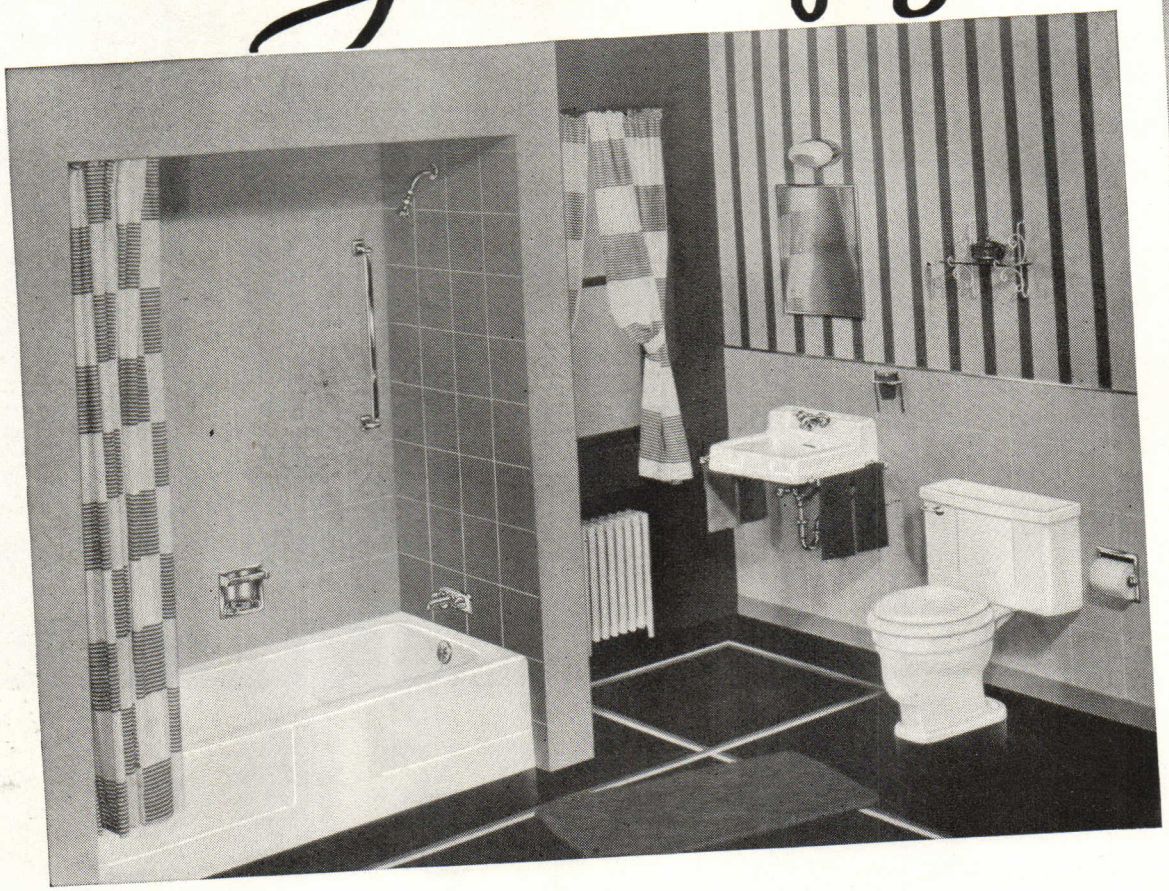

## from the Crane bathroom story!

The Crane bathroom story is the story of a *complete line*—a style for every taste, a price for every budget.

For instance, there's the *Neuday* Group above, just right for the home-owner who has to watch his costs. Then for the man who goes "all out," there are such Crane style leaders as the *Criterion* group below. But whatever their price, *all* Crane bathrooms have the high quality and the lasting beauty that make Crane the best-known name in plumbing.

That's true in Crane kitchens, too, where Crane has the right sink for every possible requirement. And in home heating, Crane supplies everything needed for any system, any fuel.

See Crane Service for Architects for selections from the Crane line—or get the *complete story* from your Crane Branch or Crane Wholesaler.

**For moderate budgets, the Crane Neuday Group**

*For the best in bathrooms—the* Criterion *Group—leader in the Crane style parade. Here is the very latest in design, the most careful craftsmanship—a bathroom group with elegance in every line. (For those who prefer a countertop lavatory, Crane offers the* Marcia, *styled to blend with the* Criterion *bath and closet.) Controls are finger-tip* Dialese, *as in all Crane bathrooms.*

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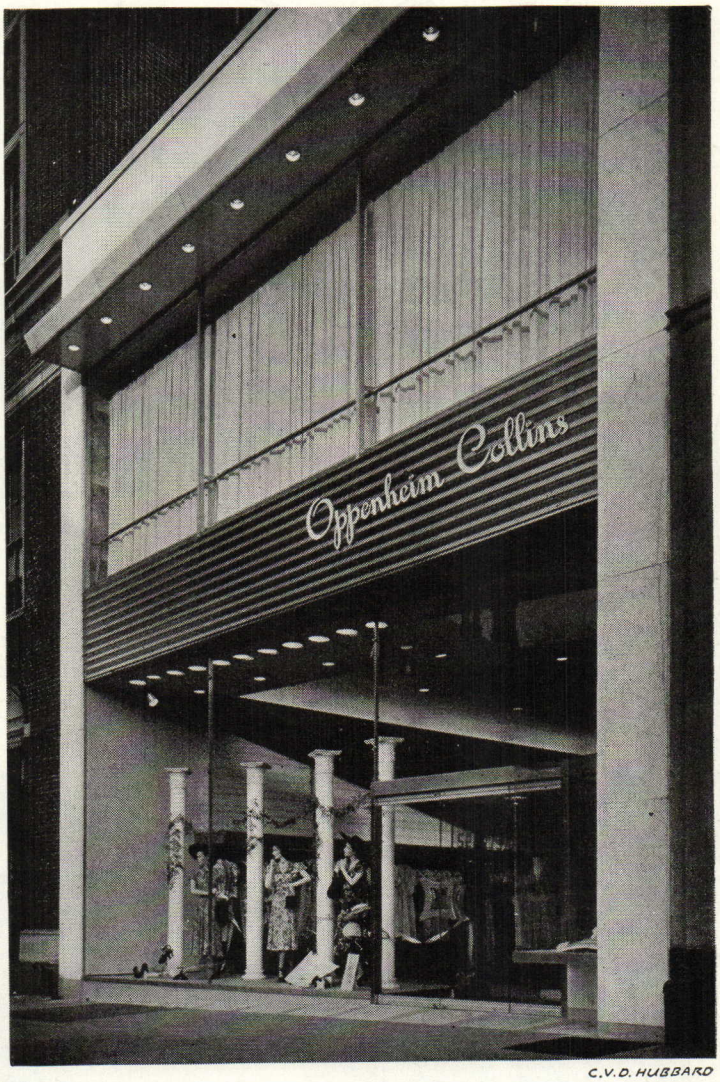


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*Window Wall Section* 3/4" SCALE

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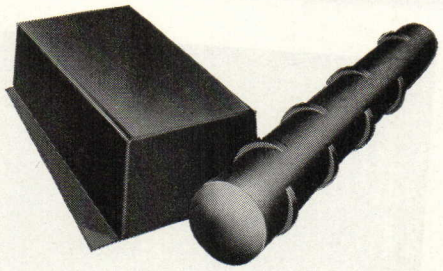

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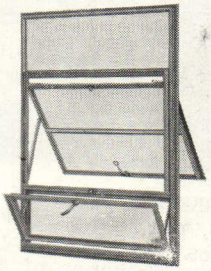

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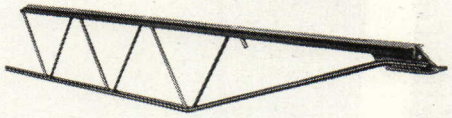
Full line—monumental, industrial and residential. Steel windows are economical. They cannot stick, warp or swell. They afford ample view, admit more daylight . . . are fire-resistive, provide means of escape in emergency.



### STEEL JOISTS

Ceco Open-Web Steel Joists offer the most economical method of building. They assure fire and sound resistive structures. They're light, easy to install and self-centering. Ducts, wiring and piping can be concealed.

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# How to use GLASS

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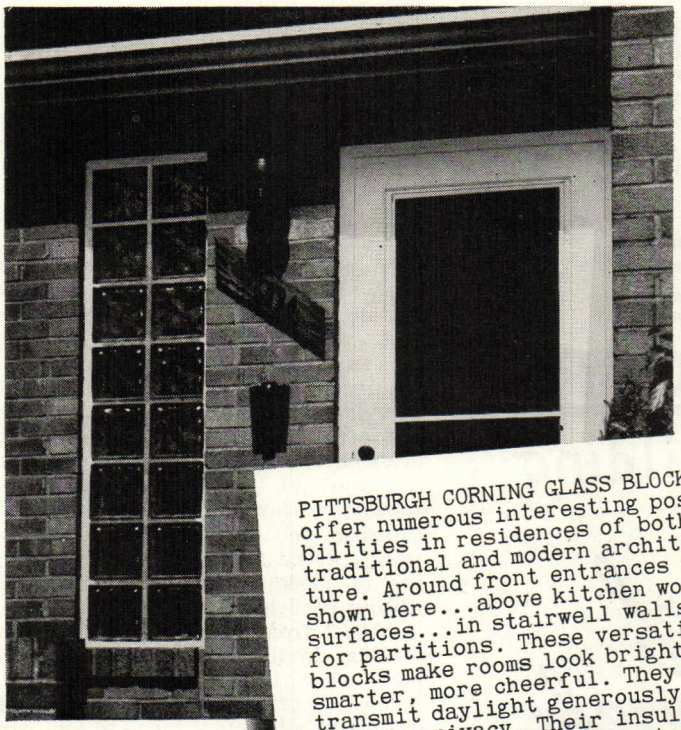
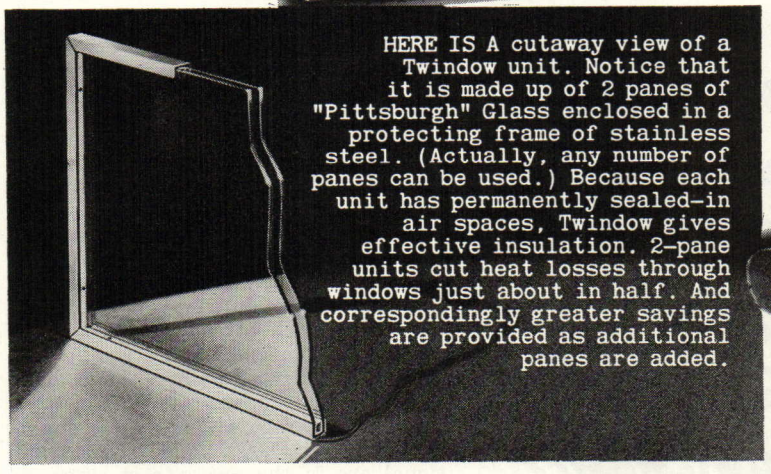
YOU CAN MAKE a small room seem larger — give large rooms an added measure of grace and charm. You can perk up a dull expanse of wall—and please clients in numerous other ways by the judicious use of mirrors. "Pittsburgh" Mirrors are available made from regular Polished Plate Glass and from blue, green or flesh-tinted Plate Glass with silver, gold or gunmetal backing. Designed by A. E. Freudeman, Beverly Hills, Calif.

# to advantage in Residences



PITTSBURGH CORNING GLASS BLOCKS offer numerous interesting possibilities in residences of both traditional and modern architecture. Around front entrances as shown here...above kitchen work surfaces...in stairwell walls, and for partitions. These versatile blocks make rooms look brighter, smarter, more cheerful. They transmit daylight generously, yet provide privacy. Their insulating properties cut heating costs. Designed by and for Risch Building & Real Estate Company, St. Louis, Mo.

A NEW Carrara edge pointing compound has been developed in "Pittsburgh" laboratories to assure better Carrara installations. Setting into a tough, resilient, non-absorbent film, the new compound maintains high adhesion to the edges of the Carrara Glass. This development is typical of the work being conducted in "Pittsburgh" laboratories — and typical of the spirit to constantly improve both the quality and the performance of "Pittsburgh" products.



HERE IS A cutaway view of a Twindow unit. Notice that it is made up of 2 panes of "Pittsburgh" Glass enclosed in a protecting frame of stainless steel. (Actually, any number of panes can be used.) Because each unit has permanently sealed-in air spaces, Twindow gives effective insulation. 2-pane units cut heat losses through windows just about in half. And correspondingly greater savings are provided as additional panes are added.

**See the complete listing and descriptions of Pittsburgh Plate Glass Company products in Sweet's Catalog Files.**

*** Design it better with**

# *Pittsburgh Glass*

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**PITTSBURGH PLATE GLASS COMPANY**

## FROM THE TECHNICAL PRESS

By JOHN RANNELLS

### LONDON HOUSING

A comprehensive survey of new housing by the London County Council was printed recently in three issues of *Building* and then collected in a 64-page illustrated pamphlet.* The first article deals with "out-country" sites—those outside the central area but within about a 20-mile radius, "forming part of the decentralization envisaged in the Greater London Plan." The second article deals with new construction and reconstruction in the central area (roughly 6-mile radius). The third article deals with equipment, services, materials, construction, and organization.

The entire series, by Walter Segal, is a report rather than an analysis—a very timely report, for the work is in full progress and has not reached its peak. Several projects are described in some detail, filling in gaps which have been left by the generally random publishing of separate projects.

As Segal puts it in a couple of his opening paragraphs:

"A programme such as that of the London County Council is by nature a flexible affair and it is gratifying to see that every chance for improvement is taken that might offer itself during the progress of the job; a happy blend of experience and experiment is everywhere noticeable, which leaves its impression upon the minds of the visitor. The work of the L. C. C. has won a reputation for its enlightened traditionalism in the past; in its postwar work a trend towards a discriminating use of modern ideas will ensure its lasting good looks.

"Apart from the planning of the individual dwelling no small advance has been made in the arrangement and laying-out of estates, with due consideration to all factors involved and particular stress on features which have become so important in postwar planning, such as landscaping, orientation and aspect of dwellings, siting of communal buildings, and so forth. The geometric pattern which so ill befits sites which are not dead level is nowhere enforced; the layouts are site-conditioned and by taking advantage of natural features wherever possible regimentation was avoided."

There's much that's impressive about the London County Council program. It is very large: 200,000 new permanent dwellings as a minimum and an urgent, immediate program of 100,000 new permanent dwellings, as well as temporary housing and maintenance of present holdings, which already totaled about 100,000 at the end of the war. More than 8,000 new dwellings have been completed and work now under construction and contract will bring the figure to more than 20,000. Some 75,000 additional are in the precontract stage on the boards.

The most impressive thing about the program—from this side of the water—is the way it fits into the larger planning picture in furthering order and progress in housing, both in central and peripheral areas. The vigorous way the program is being carried out is also most impressive, especially the running

(Continued on page 94)

* London Housing. *St. Margaret's Technical Press Ltd., Westminster, London, S. W. 1. 64 pp. 10 s.*

# Foiled --

## It's Perfectly Matched Roddiscraft Hardwood Plywood

"No two thumbprints have identical whorls," says the sleuth. No two trees have identical grains either. That's why Roddiscraft careful cutting, classifying and matching of flitches is so important to architects who seek round-the-room continuity of grain and color.

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Ask your Roddiscraft representative to show you samples — he is always ready to give you full cooperation on any installation problem.

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**RODDIS PLYWOOD CORPORATION**

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(Continued from page 92)

balance that is maintained between planning and execution.

The out-country estates are made up almost entirely of attached houses in pairs or rows with a few two- and three-story flats. They are nearly all of masonry construction with some of light steel frame and they all have a mighty solid look. The site plans show masterly adaptation to the terrain, conserving whatever natural assets the ground has in woods and fine existing buildings which are saved for community use. The individual house plans are generous of space by our present standards. A good variety of plan types is worked in to make balanced communities of these estates, not forgetting old people. They are all planned in relation to near-by industry with the goal of decentralization in view, but there's great fear that they will become dormitory suburbs after all. At least they are all complete suburbs with shops and churches and schools and pubs. What a contrast to most of our "developments."

The "in-country" sites are developed in flats, mostly of five stories, with a density of 40 or more dwellings per acre. (The "out-country" estates have an over-all density of about eight to the acre.) Some of the first postwar housing was built from prewar plans before the present higher space standards were developed. A considerable variety of apartment types are worked into the very economical strip plans. Balony access to apartments (almost unknown in this country) is common. The general effect of the estates is monotonous but now that the first urgently needed housing is built, the coming projects will have more variety of structure and even groups of houses with the flats to make more balanced neighborhoods.

The most notable thing about the individual dwellings, to American eyes, is the prevalence of individual fires for heating and hot water. Central heating is taking hold very slowly in Britain. The usual arrangement is an open fire in the living room (frequently gas) with a back-boiler for hot water, equipped with an electric immersion heater. One good feature of this unwieldy duplication of equipment is the hot-water tank in an airing closet. At least they can dry things out. Flats of five stories have lifts, in four-story walk-ups there are fuel hoists—a great advance over lugging the "coals" up the stairs but why not central heat altogether, in housing planned for strict economy? It seems odd, too, that the water closet is still generally planned in a compartment outside the bathroom. This has its points but economy is not one of them. It seems reminiscent, almost, of the "backhouse" in the yard. Very good practice in removal of refuse has been developed—generally through clay-lined dust chutes in the stair hall. Construction is sound, planned for low maintenance costs, and detailing is being improved on constantly. The kitchen fittings haven't yet succumbed to our "streamlining." Maybe that's good but the kitchens do have a miscellaneous, old-fashioned look.

The exciting thing about this British housing is the continuing concentration of good sense and skill on a problem that has too frequently suffered from standard solutions that were allowed to stagnate. Standards are all right when the basic standard is improvement in living.



## BOOKS

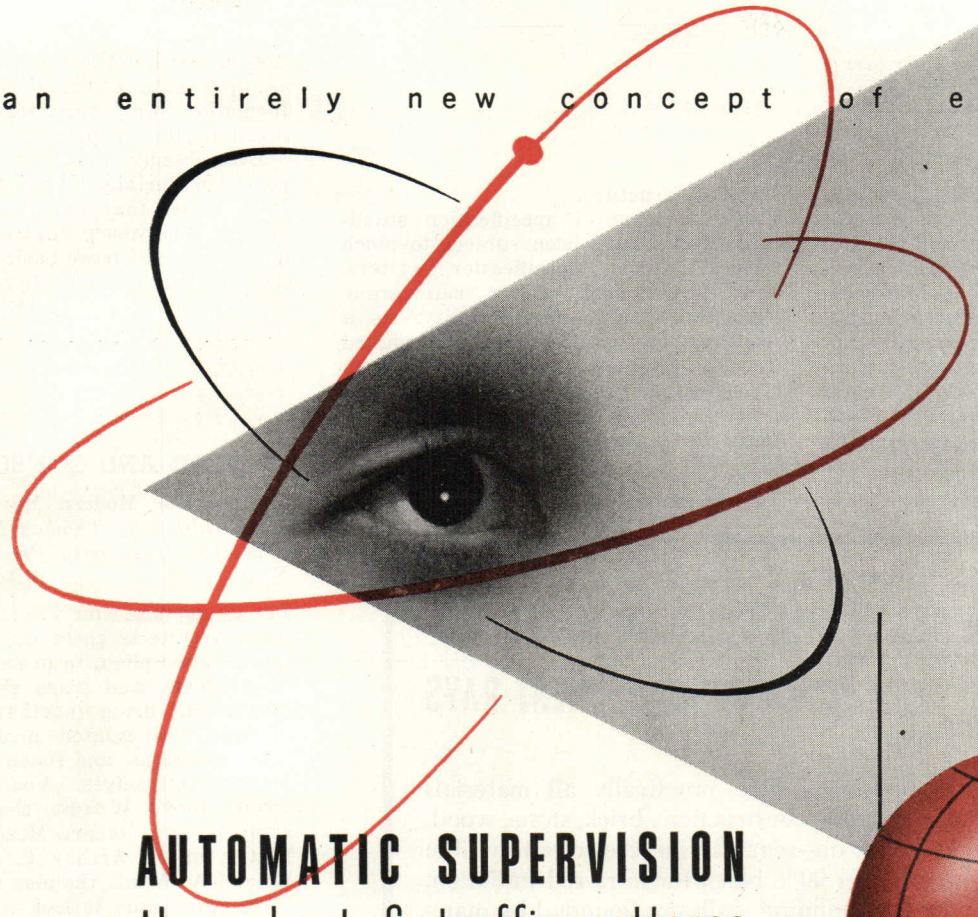
### SPECIFICATION WORK SHEETS

*Ben H. Dyer. The American Institute of Architects, Octagon Bldg., Washington 6, D.C. $5.00*

The author makes it clear that the work sheets are in tentative form and must

(Continued on page 96)

an entirely new concept of elevatoring



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# OTIS AUTOTRONIC Traffic Timed ELEVATORING

## Reviews

(Continued from page 94)

be adapted to each individual project. The sheets constitute a basis for developing what might be termed the first "dry run" of the project specifications for architectural trades. *Specification Work Sheets* has been written primarily for fire-resistant and semi-fire-resistant buildings and not for small non-fire resistant and residential work. However, judicious use of certain divisions and paragraphs can be employed for any type of structure.

The writing of specification standards has always been subject to much dispute among specification writers. Any experienced writer can argue either side with equal facility. As a working tool and timesaver designed to aid architects who write their own specifications, this book comes as a welcome aid. Since some form of reference material is always used in the preparation of specifications, it is well to have an up-to-date source of centralized information in a format ready for tailoring and stenographic use.

Undoubtedly the book will be improved materially by constant revision. It is hoped that in subsequent issues greater consistency in streamlining and introduction of more basic data will receive serious consideration.

BEN JOHN SMALL

## TO READ AND CONSULT

**Building for Modern Man: A Symposium.** *Edited by Thomas H. Creighton. Princeton University Press, Princeton, N. J., 1949. 219 pp., $3.50*

Let us suppose you wanted to find out what architects these days were seeking to accomplish, to probe their innermost ideals, and learn their methods. You might bring together the leaders of this and related professions, ask them questions, and listen to them talk among themselves. You could have Frank Lloyd Wright, the midwestern skylark, and Robert Moses, the Manhattan mole; Arthur C. Morgan and Roland A. Wank, the men who built the TVA and made it look as good as it was; George Howe, talented designer of buildings and quondam bureaucrat, and Howard P. Vermilya, technical director of the government's wartime attempt to buy housing by the mile; you could have those brilliant historians and estheticians, Siegfried Giedion, Theodore M. Greene, and Talbot F. Hamlin; or, in the field of planning, Henry Churchill, Louis Justement, Frederick J. Adams, and Theodore McCrosky; and, in the field of architectural education, Harvard's Joseph Hudnut and Walter Gropius, M.I.T.'s William W. Wurster and John E. Burchard, North Carolina's Henry Kamphoefner, and Columbia's Leopold Arnaud; you could have such a genius of structural engineering as Fred N. Severud or Konrad Wachsmann; or that reformer of the pictorial world, Gyorgy Kepes; or the Californians Richard Neutra and Ernest J. Kump. The sky's the limit! And somewhere in all their talk, you might reasonably think, the essentials would be found.

You would think so, that is, until you began to read the stenotypist's transcript of such a meeting. Then you would find that the solid gold of truth and enlightenment was so hopelessly obscured beneath the dross, its extraction seemed as impossible as getting an Alpinist out of a glacier. That, roughly, was the situation the Princeton University Bicentennial Conference found itself in after its carefully planned two-day symposium in 1947 on "Building for Modern Man."

That we now have this book is due to the editorial talent of Thomas H.

(Continued on page 98)

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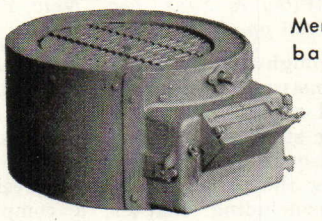
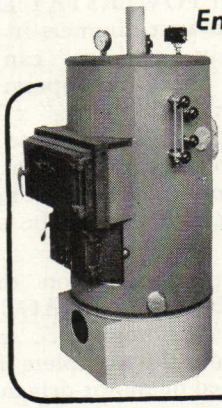
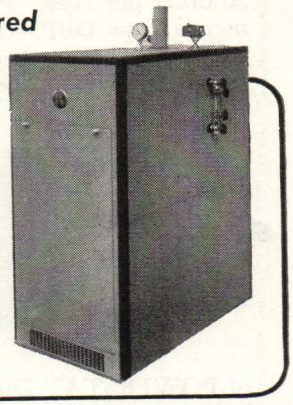


Merely substitute this base with its coal grates. No change is needed in the boiler proper.

### *Enclosing Jackets If Desired*



Square jackets enclosing the insulated boiler and burner and Round insulated jackets . . . both in two-tone steel . . . add to over-all economy and give the basement that "new look" which often determines the boiler selection.



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## Reviews

(Continued from page 96)

Creighton, and the patience and insight of Arthur C. Holden, the conference's chairman. They have stripped away the hums and haws, the repetitions, the breast-beatings and recriminations, the soliloquies and the solipsisms, and the rest of the inevitable paraphernalia of individualism in art. They have given form to a shapeless mass.

From this record emerges as clear and sparkling a series of individual views of architecture as one might hope to read anywhere, sharp, cameo-like impressions of questing minds and creative spirits who are engaged on that most fascinating work of our times—the reshaping of our environments. In the pages of this book each participant finds himself at his best, opposing viewpoints are really opposed, and the atmosphere of free discussion that should characterize a symposium prevails, perhaps as it did not even at Princeton.

How this was accomplished Creighton suggests in his introduction. The blue pencil was applied to cut away what was not essential, but the final form was given by using, in addition to the prepared papers and transcribed discussion, letters written by the participants before and after the conference, and by the apparatus of introductory notes and running commentary supplied by the editor. The result is a book to read as well as one to consult, one that will project the value of the Princeton conference far beyond that ivied campus. If one book were to be given to an intelligent stranger because it epitomized the whole of contemporary American architecture, this is it.

FREDERICK GUTHEIM

### STEEL CONSTRUCTION

**Design of Steel Buildings,** *3rd Edition. Harold D. Hauf and Henry A. Pfisterer. John Wiley & Sons, Inc., New York, N. Y. 280 pp., illus. $5.00*

A thorough text on conventional building construction clearly illustrated. A revised edition that furnishes the student or structural designer with excellent discussions and problems demonstrating the principles of steel design. In a concluding chapter, a complete analysis and design solution of the structural members of a steel frame building summarize the theory set forth in preceding pages. Formulas, properties, moments of inertia, are easily found in the appendices. A comprehensive chapter on welding has been added. The authors are professors of architectural engineering at Yale.

J.R.

# G-45-30-2-P

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# FLEUR-O-LIER INDEX SYSTEM NUMBER MEAN?

**In a specification,** it denotes the exact kind of lighting performance desired. "G" stands for General Diffuse lighting distribution; "45" for 45° side shielding; "30" for 30° end shielding; "2" for a brightness in shielded zone of not more than 2½ footcandles per square inch; "P" means Pendent mounting.

**For a fixture,** those symbols mean that Electrical Testing Laboratories, Inc., after photometric tests, find it has those performance characteristics.

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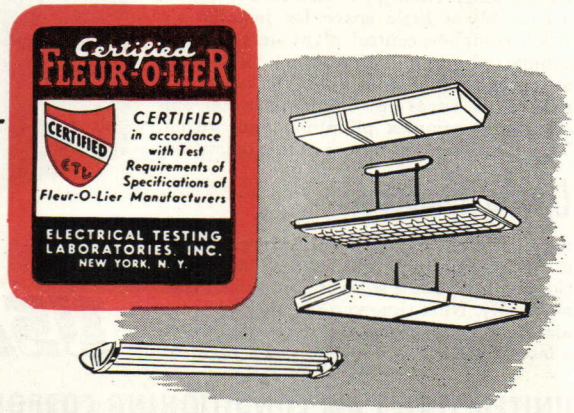


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# It's the Law

By BERNARD TOMSON

The drive to modify, correct, and enlarge outmoded building codes which have been throttling construction has resulted in affirmative action in at least two states, Massachusetts and New York. The anxiety and interest of business (as well as that of the public generally) concerning this problem is reflected in the lead article in the May 3rd issue of the *Wall Street Journal*, where it is stated:

Tradition-conscious Massachusetts is quietly usurping the traditional right of its cities and towns to regulate building within their limits.

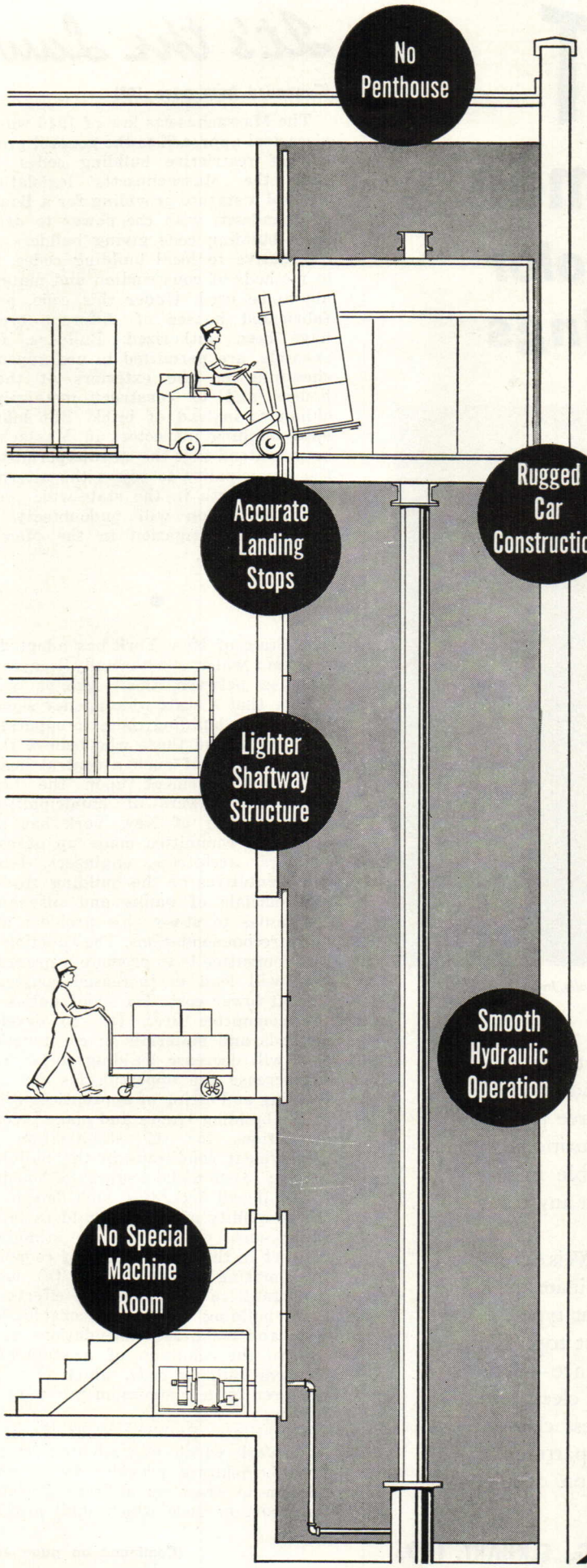
Here and there through the state are now appearing homes which do not fully comply with local building codes. The first Lustron steel home erected in Boston has been sold, for example, though Boston's building code specifically bans homes made of metal. Down in South Weymouth, Carl Wolsey has completed 70 houses with walls of two-by-three inch studs, covered with plywood outside and inside, which fail to meet the local code's requirement of two-by-four studs.

Such snubbing of local building codes is the result of the Yankee commonwealth's determination to do something drastic about its housing shortage. The state's legislators couldn't do much about such early postwar obstacles to home building as material shortages. But when they learned building codes were holding up the production of many homes the solons ground out a couple of laws to override local codes.

These laws seem to represent the boldest solution any state has yet attempted for the national problem of what to do about local building codes. Massachusetts building authorities do not consider their system final and perfect, and some local officials claim it involves dangerous seizure of municipal powers. Yet the Massachusetts legislation and its administration undeniably represent a more radical experiment than is being attempted, for instance, by New York State. There Governor Dewey has signed a bill passed by the last legislature, providing for a five-man commission to promulgate a state-wide building code. The catch is that no municipality needs to heed it; New York City, for instance, is expected to ignore it.

Initially, Massachusetts adopted a law which gave authority to local boards of appeal to grant variances from local building and zoning laws. This statute further provided that if a local board failed or refused to take advantage of this authority, the builder could appeal to a state commission. Many appeals have been taken to this commission and variances granted. Most of these variances are concerned with conversions where, for example, the commission has permitted one-family houses to be converted to apartment dwellings. Another type of variance which was granted permitted a builder to construct one apartment house containing a certain number of units where, under the local building code, this type of multiple dwelling was restricted in area and it would have been necessary to construct three separate buildings to obtain an equal number of units.

(Continued on page 102)

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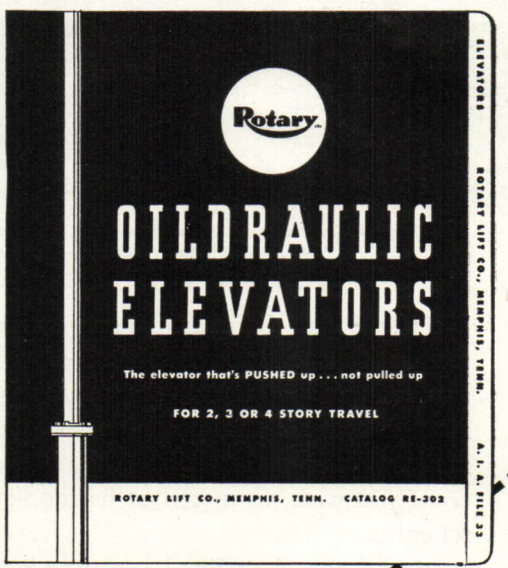


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## *It's the Law*

**(Continued from page 100)**

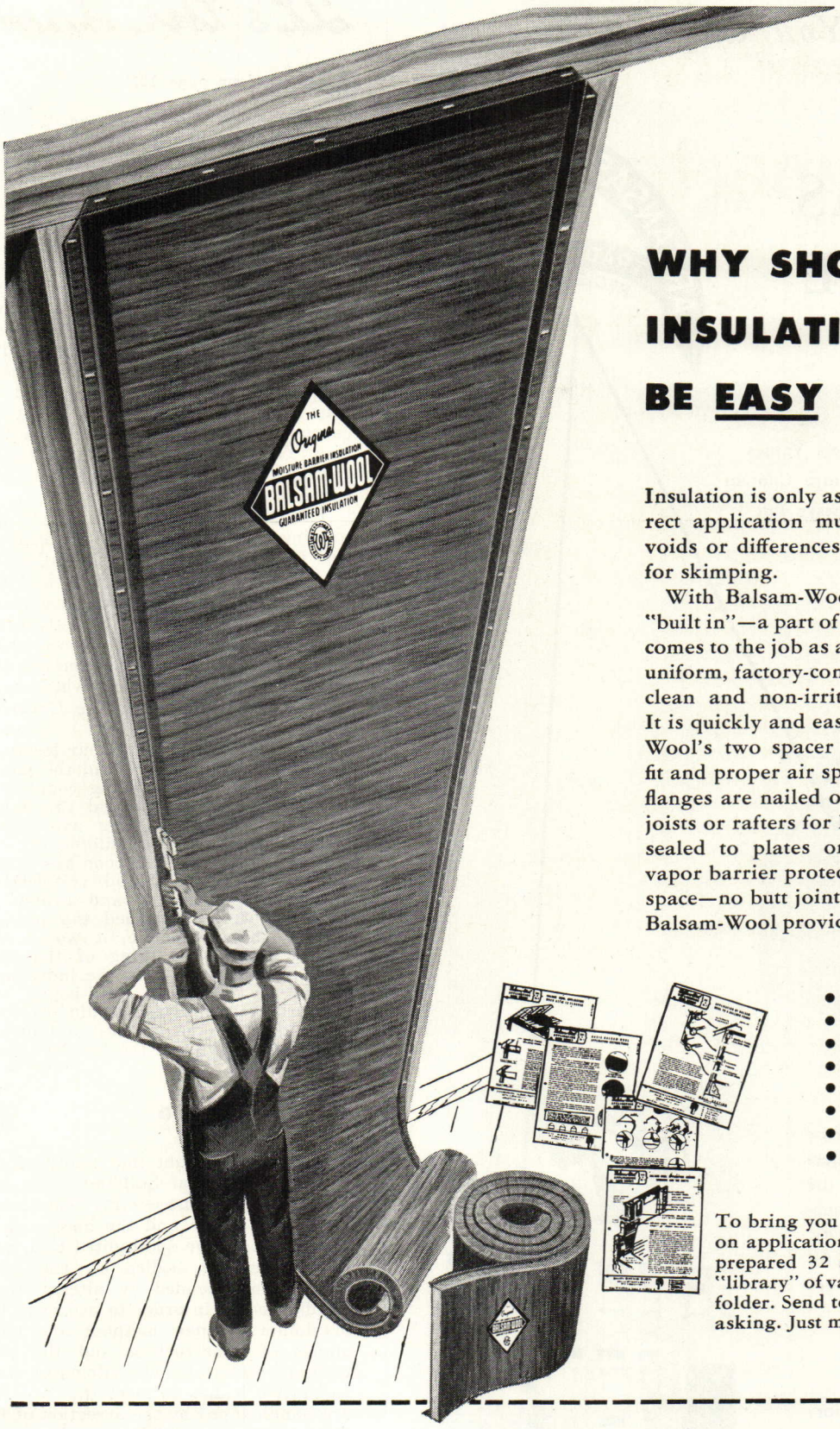
The Massachusetts law of 1946 was a piecemeal approach to the general problem of restrictive building codes. In 1947 the Massachusetts legislature enacted a statute providing for a Board of Standards with the power to draw up a building code giving builders an alternative to local building codes, as to methods of construction and materials to be used. Under this code, prefabricated houses of different types have been authorized. Builders, for example, are permitted to use gypsum sheathing on the exteriors of their houses and to construct metal-pipe chimneys instead of brick. But many local building inspectors in Massachusetts contend that the statute permitted the municipality to reject the alternatives set forth in the state-wide code. This contention will undoubtedly be resolved by litigation in the Massachusetts courts.

●

The State of New York has adopted a program which substantially is a compromise between those groups who believe that a state-wide agency should promulgate building codes to supersede local codes and those who believe that the operation of such a central board is an infringement upon the local regulatory powers of municipalities. The Governor of New York has appointed a committee made up of contractors, architects, engineers, labor representatives of the building trades, and officials of banks and insurance companies to study this problem and make recommendations. The function of this committee is to promote a program that will lead to increased construction at lower cost. The chief duties of the committee are: (a) to develop methods and materials in construction that will decrease building costs; (b) to increase the opportunities for the training and hiring of apprentices within the building trades and make recommendations for the stabilization of employment conditions in the building trades; (c) to make a survey of housing needs in all localities and determine the possibility of private builders satisfying such needs; (d) to stimulate interest in the development of cooperative housing projects; and (e) most important, to determine the effects of local building codes on construction costs and make recommendations relative to the adoption of a state-wide uniform building code, which is to be prepared by a commission pursuant to statute.

The State Building Code Law of New York which was adopted by the 1949 Legislature provides for a commission to draw up a State Building Construction Code which shall provide

**(Continued on page 104)**

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# It's the Law

(Continued from page 102)

for uniform standards for construction and materials. The purpose of the code is to permit, to the fullest extent possible, the use of modern technical methods and improvements which will reduce the cost of construction. It is provided that the state code shall be so designed as to encourage the standardization of techniques, equipment, and materials and to eliminate restrictive, obsolete, and unnecessary building requirements. This statute, however, differs from the Massachusetts law in that a municipality need not be bound by this central code but may adopt or enact its own building regulations. The New York law, therefore, hesitates to encroach upon the philosophy of local home rule.

The Governor of New York, in approving the State Building Construction Code Law, criticized the failure of localities to modernize their building codes. He stated that there are many obsolete, unnecessary, and costly practices in the building of homes which are aided and abetted by ancient and tradition-frozen provisions which exist in local building codes. The Governor stated:

The simple fact is that our localities for many decades have had the power to provide modern building codes. The science, the resources, and the enterprise of our people long ago placed within our grasp the building of low-cost homes for all. This boon has eluded our grasp. Had parallel restrictions, outmoded approaches, and group inspired controls enmeshed the production of the automobile, it would still be the luxury plaything of the very rich. Strangely enough, the individual, so far as his health, well-being, and comfort are concerned, would probably have foregone the low-cost automobile if he could have had the low-cost home in its place.

There is little doubt that many of the provisions in local building codes are obsolete and unnecessary. The acute housing shortage and the high cost of construction have spotlighted this fact. Few governing bodies on the local level have amended or altered their building codes in order to utilize to the maximum the new methods and techniques of construction and the new types of materials. The efforts of state legislative bodies to meet this problem are handicapped by the assertion of the prerogatives of local home rule and in some states by restrictive constitutional provisions. On the other hand, the efforts of the American Institute of Architects and other interested groups in support of state-wide building codes, as alternatives to local codes, are being steadily increased.

(Continued on page 106)

# NEW METHOD OF FIREPROOFING SLASHES COSTS— SAVES DAYS OF CONSTRUCTION TIME


Prudential Insurance Company Office Building, Los Angeles
Fireproofed with Zonolite vermiculite plaster on beams and interior columns. Applied 1" thick on metal lath.
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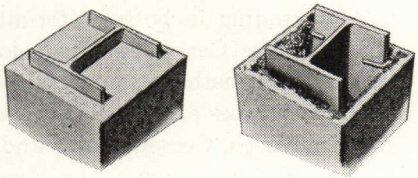
When ZONOLITE plaster is used for fireproofing, the cost of applying lath and plaster approximates the cost of merely *building the forms* for ordinary fireproofing. And because ZONOLITE plaster saves tons of dead weight in construction, structural steel requirements can often be reduced as much as 15%! Actually saved $235,000 in one building, in addition to many days of construction time.

Extra stories can be built on foundations or on existing structures by using Zonolite.

### WHY ZONOLITE GIVES THESE SAVINGS

ZONOLITE plaster fireproofing on a typical beam weighs *less than one-tenth* as much as ordinary fireproofing materials. ZONOLITE insulates and protects against fire up to four times as well as ordinary plaster.

ZONOLITE plaster provides lightness, insulation, and fire resistance found in no other material.



Old Method of Fireproofing with Heavy Concrete

New Method of Fireproofing with ZONOLITE Vermiculite Plaster

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In a recent Underwriters' Laboratories test for the Vermiculite Institute a steel column with Vermiculite plaster obtained a 4-hour rating—actually withstood test about 4¾ hours before failure. Details on request.

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*Zonolite is a registered trade mark of Zonolite Company

# It's the Law

(Continued from page 104)

If the solution or a substantial part of it lies in the direction taken by Massachusetts and New York, it is obvious that the steps taken by these two states are only tentative and timid. It is to be hoped that all governmental bodies directly concerned will heed the admonitions of the architectural profession and proceed more boldly towards the solution of the problem.

# PRODUCTS

(Continued from page 79)

itself and puts heat where it is needed. Return air ducts, on outer walls only, are soon affected by outside temperature changes. When chilled, a rapid drop of air in the ducts causes warm air to be drawn across adjacent ceiling areas. As the heat is radiated from ceilings and floors, there is no air movement within the rooms. In a one-story house, insulation is installed at the top of the ceiling joists. When there are second-floor rooms to heat, underfloors are not insulated, but side walls and ceilings are.

By using a hot water exchanger, the heated air temperature can not exceed that of boiling water at 10 pounds pressure; therefore, the air can circulate freely without being a fire hazard. Small doors, held open by small fusible links, are hung on all air returns and above the heat exchange coil.

No air blowers are needed, no extra expense is involved in insulation, and furniture does not have to be placed to accommodate registers. The system, which has been successfully employed in all houses of a St. Louis subdivision built by this firm, can be furnished with a gas burner, oil burner, or stoker.

### Product Prevents Plaster Etches on Aluminum Frames

To protect aluminum window frames from plaster-splatter during building construction, J. S. Thorn Company of Philadelphia, manufacturer of aluminum windows, has found the solution in the application of Duridine and Dulac Clear Lacquer No. D-129. Duridine, a phosphatic cleaner and conditioner developed by the American Chemical Paint Company, is first

(Continued on page 108)



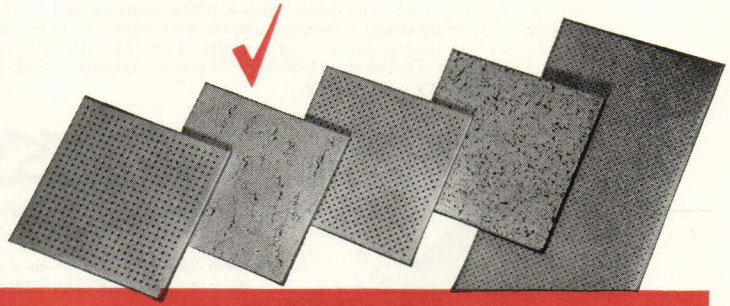
# TRAVERTONE

## An acoustical ceiling of distinctive beauty

Architectural plans often call for an acoustical material that's not only efficient but distinctive in appearance as well. Armstrong's Travertone will meet that kind of specification. The white painted surface of Travertone is fissured to give it a random texture that avoids mechanical appearance as much as possible. A ceiling of this unusual texture looks well in most any type of interior—traditional or modern. And Travertone is highly efficient, absorbing as much as 70% of the sound that strikes its surface.

Armstrong's Travertone is made of mineral wool, fully meeting the requirements of building codes as an incombustible material. It's available with either square or beveled edges. The square-edged material is slotted—or kerfed—along the sides to receive splines which assure perfect surface alignment. Both types can be cemented in place to any solid, sound surface.

If your plans require a low-cost material, Armstrong's Cushiontone may be more suitable. For moisture resistance, consider Armstrong's Corkoustic. For very high efficiency, there's Armstrong's Arrestone. For complete details and assistance, contact your Armstrong acoustical contractor or write to Armstrong Cork Company, 1407 Stevens St., Lancaster, Pennsylvania.



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## ARMSTRONG'S ACOUSTICAL MATERIALS

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|---|---|---|---|---|
| CUSHIONTONE® | TRAVERTONE* | CUSHIONTONE F | CORKOUSTIC® | ARRESTONE® |

# PRODUCTS

(Continued from page 106)

applied to the frames before placing the lacquer. Known as Duridizing, this process cleans the surfaces of grease, neutralizes traces of alkaline materials, and promotes adhesion of lacquer on aluminum. The lacquer, specially formulated by Maas & Waldstein of Newark, N. J., and approved by the Aluminum Window Frame Manufacturers of America, completely prevents dark etches on the window frames caused by alkaline compounds in wet plaster and will not alter the appearance of the metal.

### Insulated Curtain Wall Comes of Age

*(The following paragraphs were condensed from a news release of the Pittsburgh Corning Corporation.)*

A proven answer to the perennial question of the sandwich wall has recently been found in the more satisfactory use of insulated panel walls, both in the United States and Canada. This construction method and material has been successfully employed in a textile mill in New Hampshire, a retail and wholesale sales office in Quebec, a plastics factory and a service center building in Ontario, and in other structures under construction or in advanced planning stages. The sandwich design used in these buildings consists of concrete panels stabilized by a solid core of cellular glass insulation. These insulated panel walls have been successfully used as a spandrel system, as a vertical system, and to fill entire bays.

Insulated concrete panel walls offer greater insulation value, improved moisture resistance, increased floor area, and may be salvaged in building expansion. They may be hung on the frame or may carry their own weight. A panel wall, composed of 2″ concrete veneers and a 2″ cellular glass core, weighs about one-third as much as the typical masonry wall, or from 40 to 60 pounds, depending upon the aggregate used. Lower wall weights yield major economies in foundation costs, in the skeleton itself, in erection time, and in the cost of handling. More than sufficient strength is provided by these new panels without massive weight. In the wall described above, the panel resists forces three or four times the wind load limit. Almost

(Continued on page 110)

# *Or Equal?*

## Specifications for Air Diffusers

There shall be installed at each point indicated on the drawing air outlets of the diffusion and air mixing type. These outlets are to consist of hollow flaring members placed within each other in such relationship that the discharged air is hemispherically diffused. This diffusion shall be effected without noticeable air motion at any point at or below the breathing level. The hollow members while diffusing the air shall simultaneously draw in from the enclosed area a volume of air not less than 35% of the specified discharge volume thus mixing room air with the primary air before the total volume is discharged and effecting substantial equalization of the room temperature and prevention of air pockets. The combined air diffuser and air mixer shall not add any noticeable noise to the sound level of the room when using specified velocities in the neck of the device.

All diffusers installed under this contract shall be Anemostat Draftless Aspirating Air Diffusers as manufactured by Anemostat Corporation of America (or equal.)

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**"OR EQUAL"**

*for*

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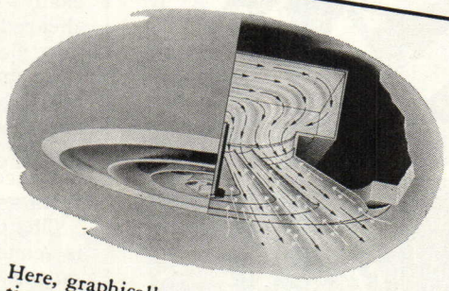
**THE PAY-OFF POINT** in a heating, ventilating or air conditioning system is when air reaches the duct openings. If air is improperly distributed, the whole installation will be a waste of money and equipment. So don't take chances on half-way measures... don't specify "or equal" because *there is none for patented Anemostat Draftless Air Diffusers.*

Here's why. *Only* Anemostats are distinguished by the *exclusive* feature of aspiration. That's why Anemostats do *all* these jobs: distribute air in predetermined patterns, instantly equalize temperature and humidity, eliminate stale air pockets, permit a high number of air changes per hour with *complete freedom from drafts.*

The proof is obvious in every way . . . smoke test pictures, laboratory instrument readings and the actual performance of more than 1,000,000 Anemostats bringing new standards of draftless comfort to scores of industries.

Whatever your air distribution problems in new or existing systems, Anemostat field engineers will draw on this wide experience to help you find practical, economical solutions. Remember — *there is no "or equal" for Anemostat Draftless Air Diffusers.*



Here, graphically presented, is the aspiration principle that makes the Anemostat Air Diffuser superior. Due to its patented design, the Anemostat distributes air of any duct velocity in a multiplicity of planes traveling in all directions. Simultaneously, the unit creates a series of counter-currents which siphon room-air into the device equal to about 35% of the supply-air. Room-air is mixed with supply-air *within* the Anemostat before the air-mixture is discharged into the room.

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METAL WINDOWS

## PRODUCTS

(Continued from page 110)

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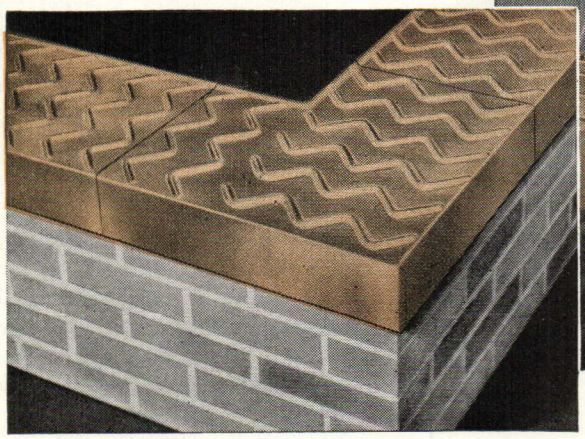
WATER COLOR PERSPECTIVES—layout and rendering. Reasonable prices. Satisfaction guaranteed. Write or write for price. Franklin O. Koch, Sr., 215 Latrobe St., Peoria 6, Ill.

# Anaconda

## THROUGH-WALL FLASHING

### drains itself *dry* on a level bed



Wherever through-wall flashing is specified, as at parapets and in masonry walls, this patented Anaconda flashing offers both efficiency and durability. The design of Anaconda Through-Wall Flashing provides a complete mortar bond and prevents lateral movement in *any* direction.

Sheet metal men like the die-stamped dam and corrugations that make this flashing easier and faster to lay. End joints are made simply by overlapping and nesting one corrugation. The flat selvage permits neat, sharp bends for counter flashing, without danger of distortion that might inhibit drainage. Die-stamped corner pieces (for both inside and outside corners) are nested in place as easily as the straight lengths.

Since it "drains itself dry on a level bed," Anaconda Through-Wall Flashing provides positive, controlled drainage. For detailed information, see our file in Sweet's. 4856A

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# Prominent architect selects KIMSUL* for low cost, high insulating efficiency

December 20, 1948

Kimberly-Clark Corporation
Neenah, Wisconsin

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Our experience with Kimsul insulation during the past few years has been most satisfactory. We found it particularly suitable for the Buckner house, a very special project of ours in Carmel, California.

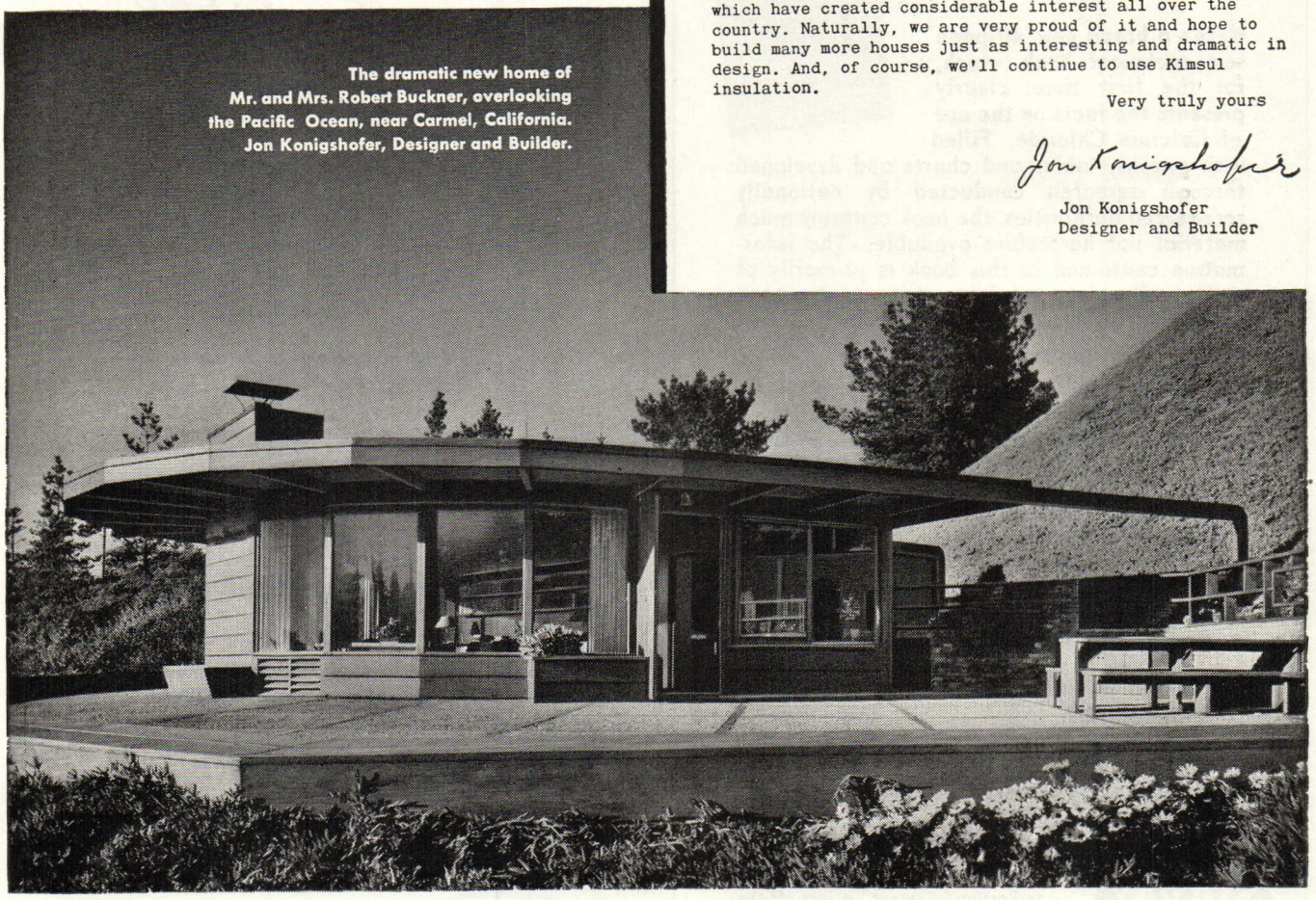
In addition to fulfilling the wishes of our client, we wanted to prove that low-cost homes can be erected in a short period of time and still be attractively designed. We therefore selected Kimsul for its low cost and high insulating efficiency. As usual, it proved to be exceptionally easy to install, and helped to keep construction moving along rapidly.

As you can see, the Buckner house has many unusual features which have created considerable interest all over the country. Naturally, we are very proud of it and hope to build many more houses just as interesting and dramatic in design. And, of course, we'll continue to use Kimsul insulation.

Very truly yours

Jon Konigshofer

Jon Konigshofer
Designer and Builder



**The dramatic new home of Mr. and Mrs. Robert Buckner, overlooking the Pacific Ocean, near Carmel, California. Jon Konigshofer, Designer and Builder.**

Designers and builders of every type home across the country are discovering that it pays *more* to insulate with KIMSUL. For KIMSUL offers an exceptional combination of low cost and high insulating efficiency (0.27).

KIMSUL is the only many-layer stitched blanket insulation, and provides an entirely different kind of comfort. "KIMSUL comfort" means *uniform* temperatures throughout every room in the house! No thick spots — no thin spots where heat can leak out. KIMSUL comes in light, handy compressed rolls, so it's easier and more profitable to install. No need for skilled workmen or expensive machinery. And the fire-resistant PYROGARD* cover is an exclusive feature of this fine insulation.

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**KIMSUL Division • Neenah, Wisconsin**

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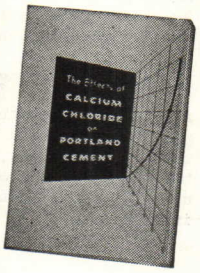
# WHAT WILL CALCIUM CHLORIDE DO FOR GOOD CONCRETE?

**Here are the Facts**




Here's a brand new, 40-page semi-technical book which, for the first time, clearly presents the facts on the use of Calcium Chloride. Filled with graphs, tables and charts and developed through research conducted by nationally recognized authorities, the book contains much material not heretofore available. The information contained in this book is primarily of a factual nature, of interest to contractors, architects, engineers, plant operators and men in the allied fields.

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- What Calcium Chloride will do for cool and cold weather concreting?
- What happens when Calcium Chloride is added to air entrained cement? . . . high early cement? . . . low heat cement? . . . colored cement?
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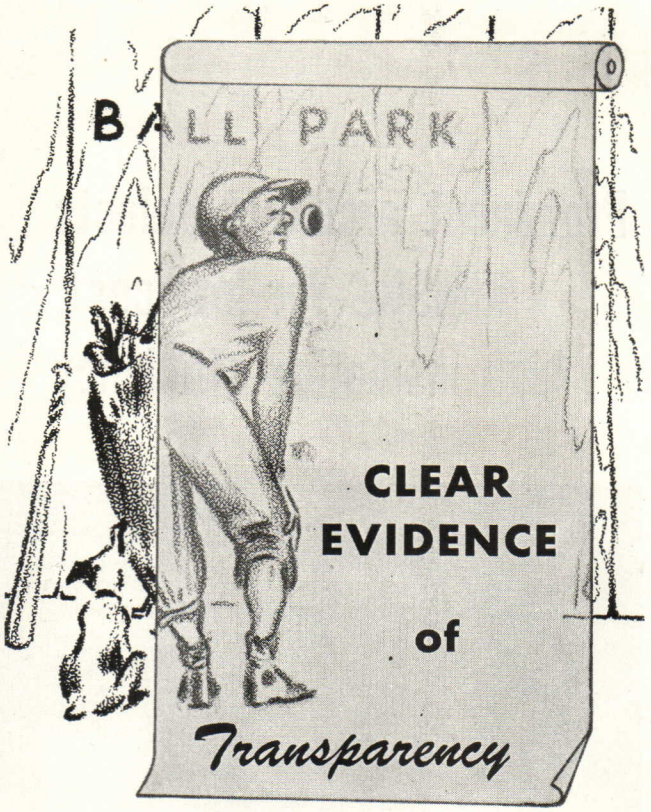


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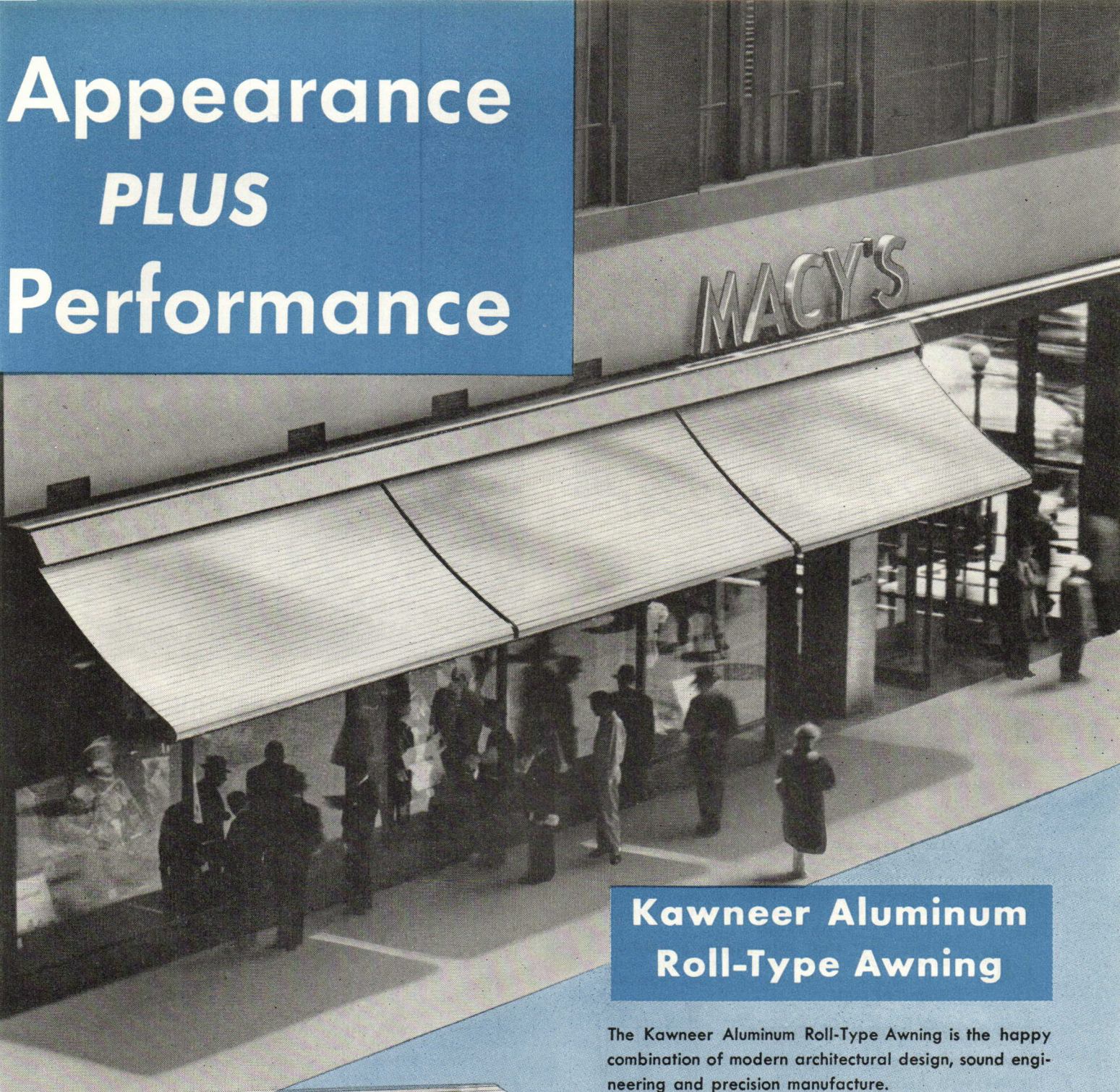


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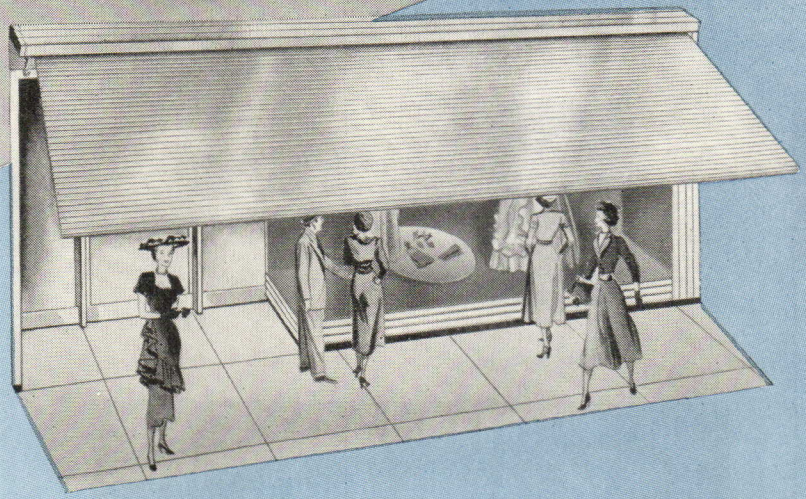
The Kawneer Aluminum Roll-Type Awning is the happy combination of modern architectural design, sound engineering and precision manufacture.

Providing more than just awning protection, the Kawneer Awning is ALL METAL—designed for distinction—built for year-after-year awning economy.

Assembled as packaged units, Kawneer Awnings are ready for immediate installation in concealed awning boxes, or under a hood for surface applications. Widths up to 18 feet are available, and roof sizes up to 8 feet. Multiple units are easily used for widths beyond 18 feet. Write for Details—243 N. Front St., Niles, Mich.; 2543 8th St., Berkeley, Cal.



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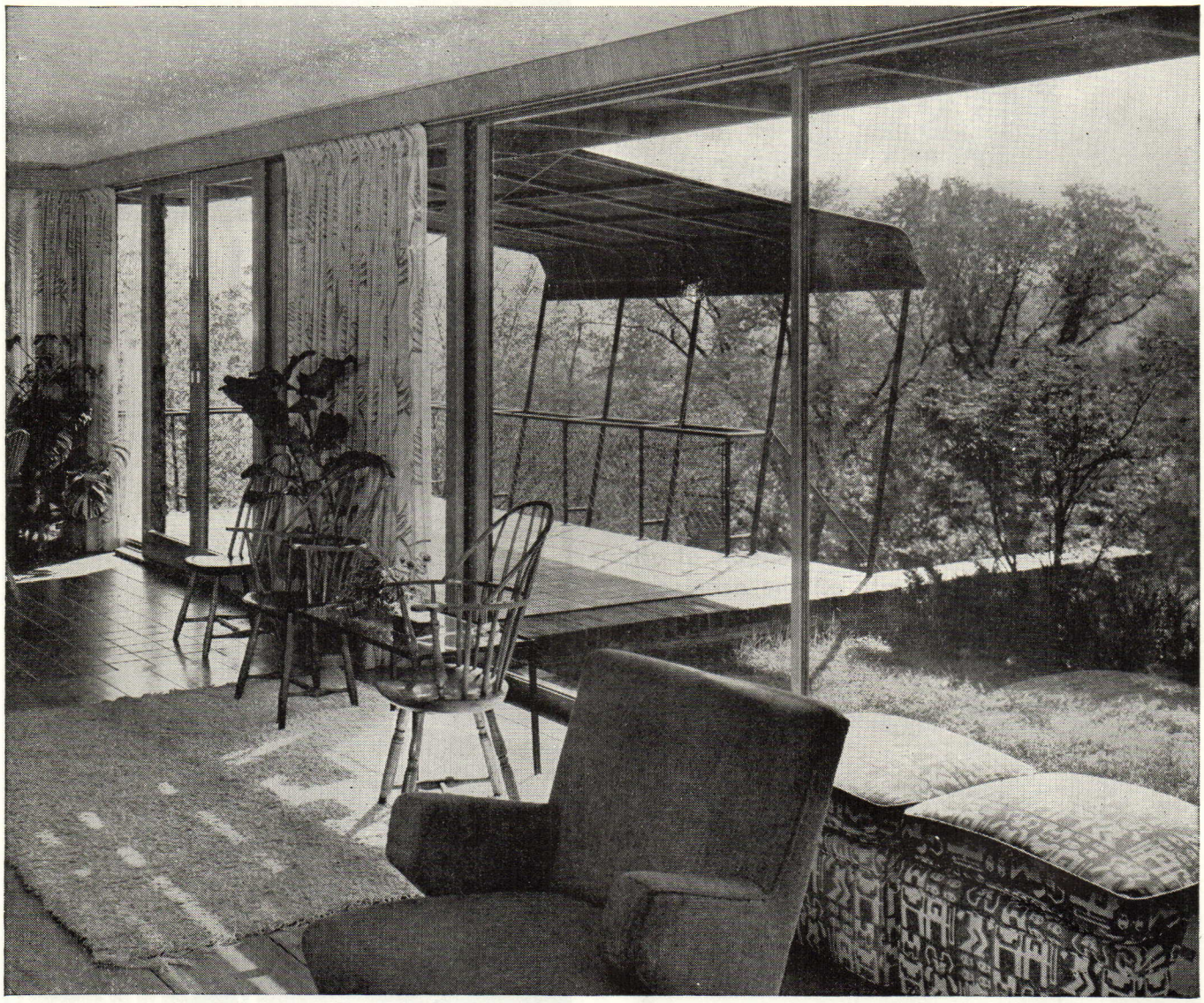
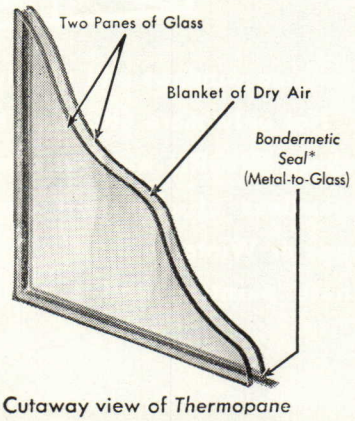


*Architect: Carl A. Strauss, Cincinnati, Ohio.*

# *Thermopane*...adds extra comfort to daylight design




Cutaway view of *Thermopane*

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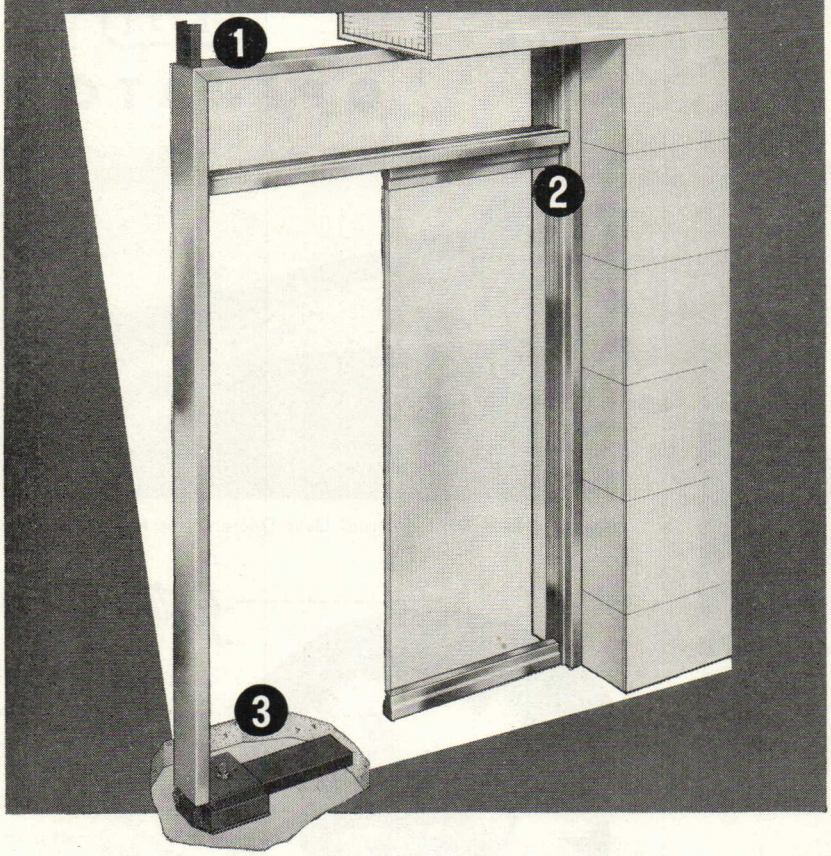


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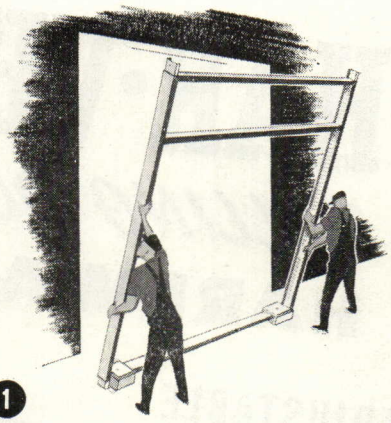

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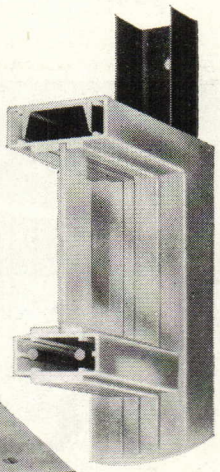

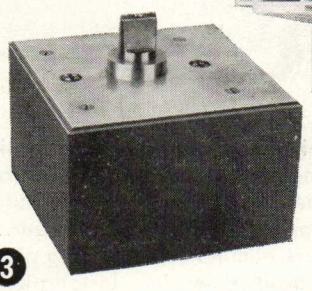

3

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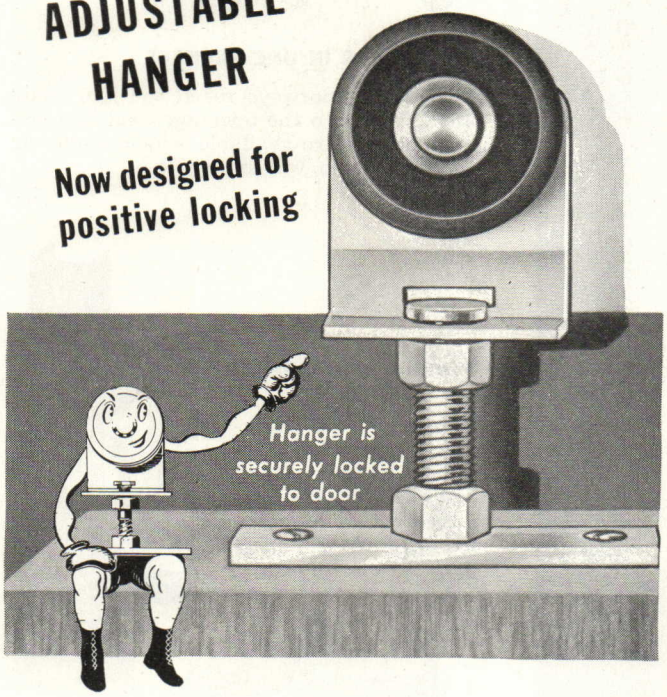


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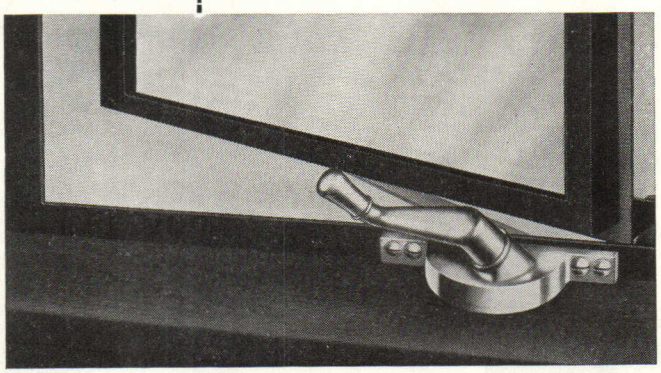
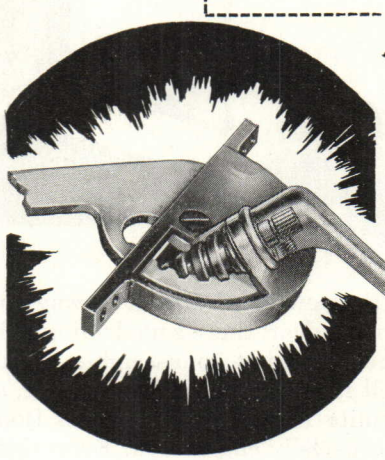


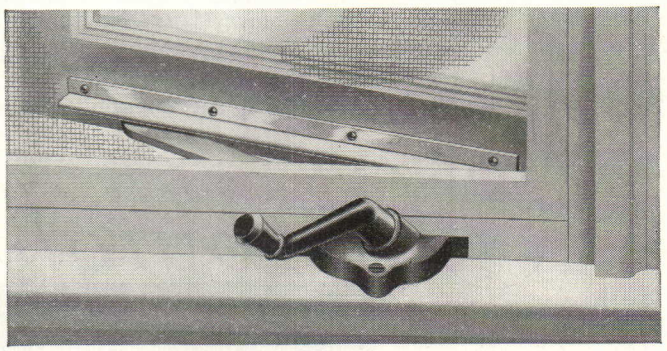
No. 4703AF *Internal* Gear Operator for Metal Casements

### *Internal Gear*



Originated by H. S. Getty Company, the *Internal Gear* principle—used in our finest operators for wood and metal sash—is the strongest known in gearing. The full length of the worm is engaged at all times with the accurately machined *Internal Gear* teeth.

No. 4703W *Internal* Gear Operator for Wood Casements



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***See our Catalog 17b/16 in Sweet's File, Architectural***

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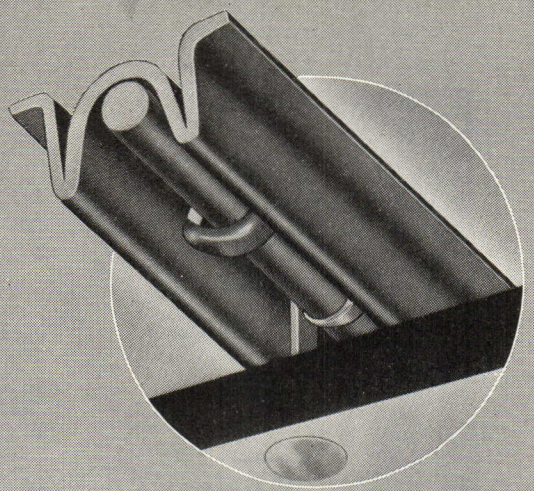
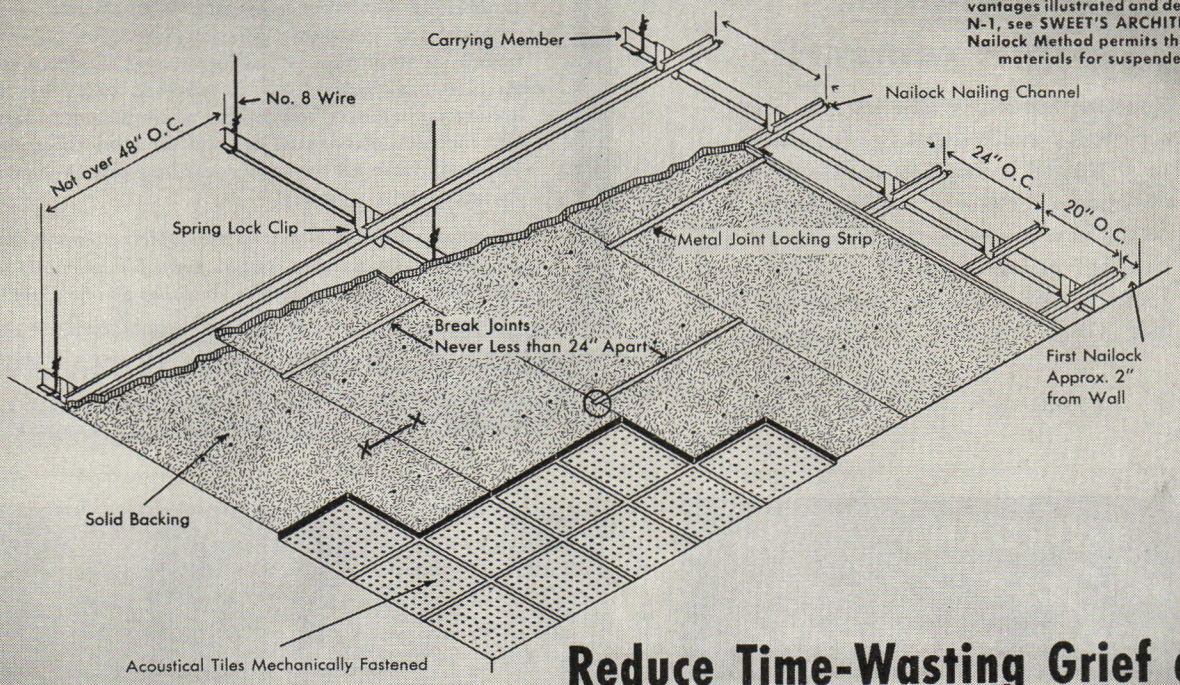
# For Suspended Ceiling Construction

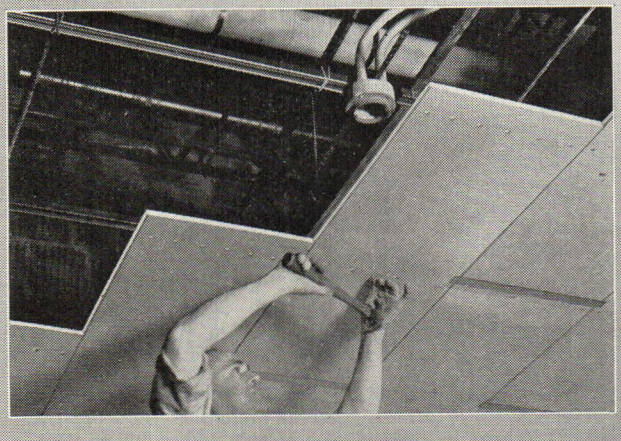
## Use *Nailock*



### Safest and Simplest Method

The Nailock Method is the simplest and safest method of installing a suspended ceiling with or without acoustical tiles. This method presents many exclusive advantages illustrated and described in Nailock Catalog N-1, see SWEET'S ARCHITECTURAL FILE, 11b/1. The Nailock Method permits the use of a wide variety of materials for suspended ceiling construction.



**Permits Use of Any Acoustical Materials Required**

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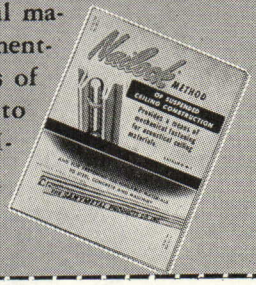


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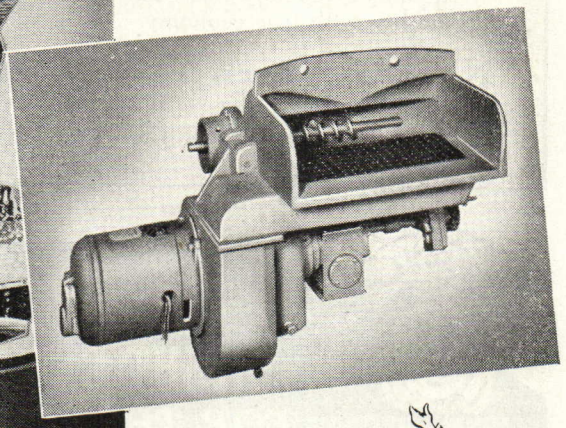

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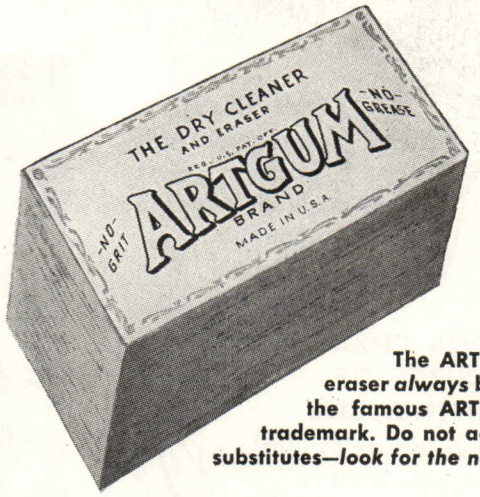


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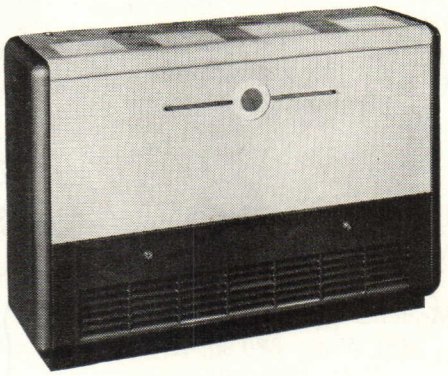

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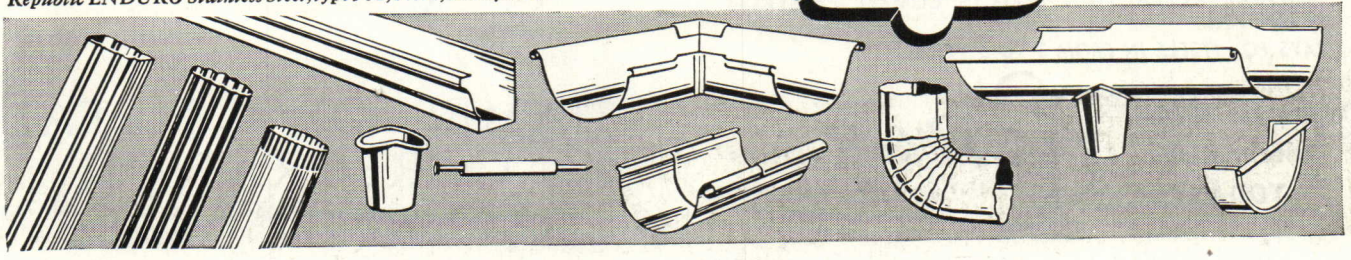
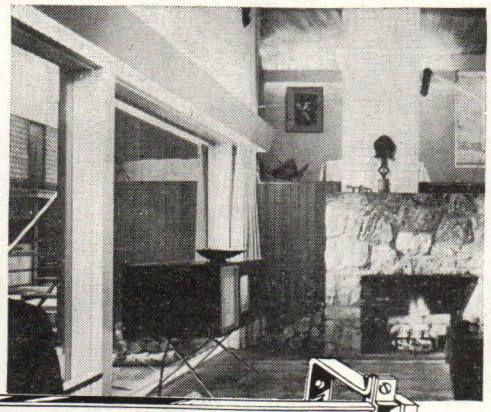


Featured in Marcel Breuer's Model House
at Museum of Modern Art, New York.



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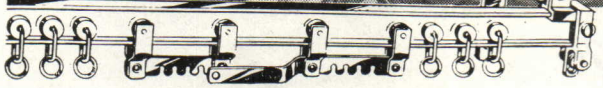

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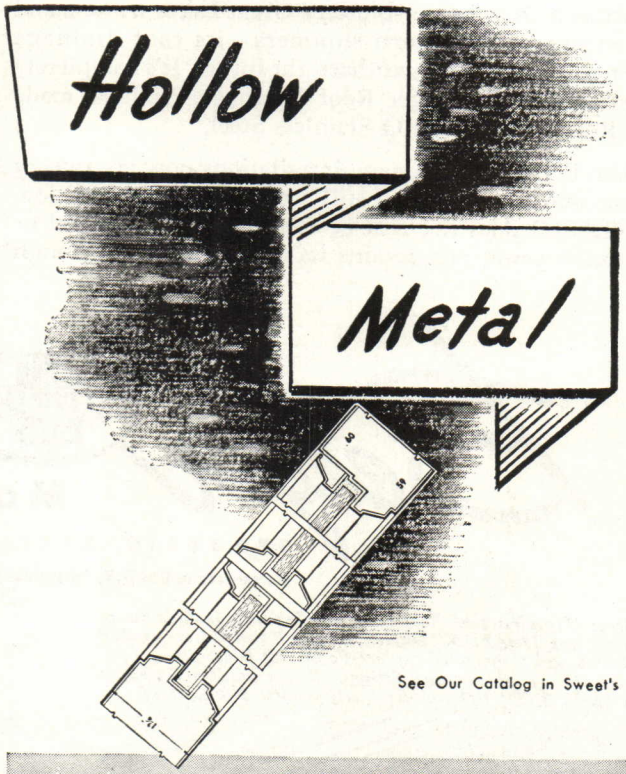


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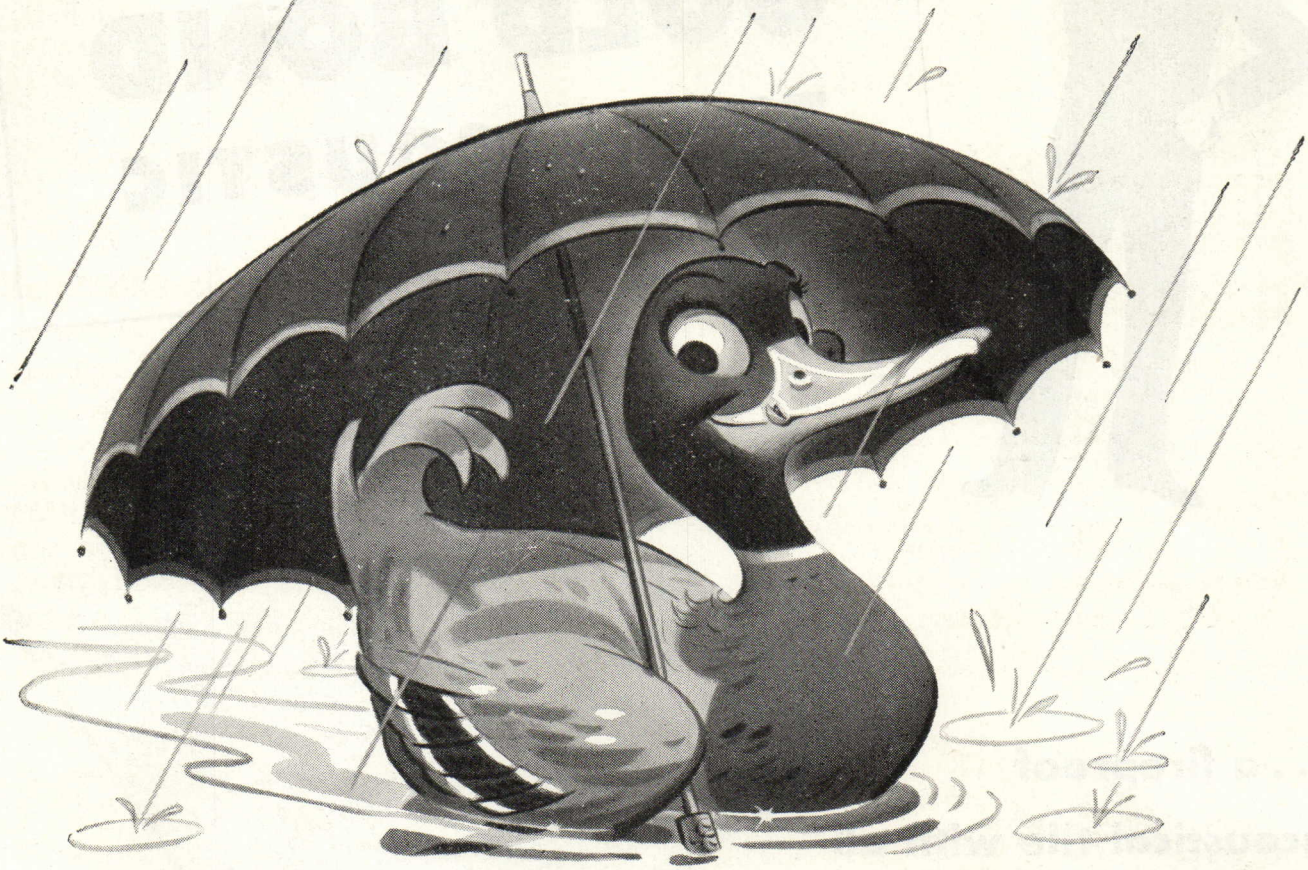

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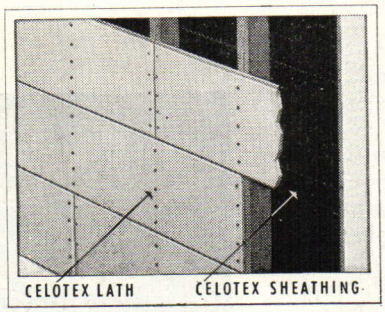


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GOLD BOND Travacoustic meets all building codes. Rated not merely "fire-resistant" but INCOMBUSTIBLE. The pleasing random arrangement of the fissures gives an over-all ceiling pattern of endless variety. Extremely light in weight, easily installed. Factory - applied coating offers unusually high light reflection, but may be spray or brush painted without loss of sound absorption. Simple vacuum cleaner attachments keep Travacoustic clean and maintenance costs at a minimum.

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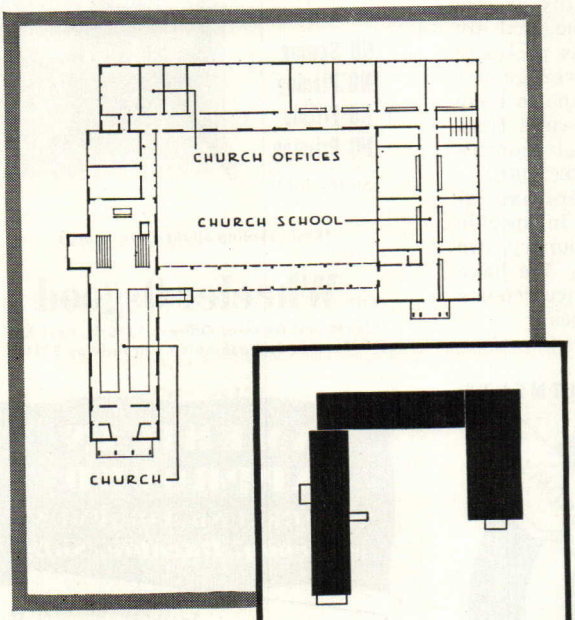




Plan includes three Luria units—two with 40-foot spans and eave heights of 20 and 30 feet and one 60 feet wide with a 16-foot eave height.

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## Price Report . . . . . July, 1949

The downward trend in the price of building materials is evident. During the last six months, the drop in overall construction costs has been approximately 6½%. This brings the cost of 1949 building construction to 103% above the cost of such construction during 1939.

There have been spectacular drops in specific commodities, such as copper, but these have been more than offset by the steady prices being held by other products. Thus, while copper has dropped about 50% in price during the last six months, the price of air conditioning equipment has dropped 2-5%.

We are constantly being asked whether architects should advise their clients to build, or to wait for further price declines. In the face of a 6% price drop in six months, many architects are advising clients to wait. In some cases, this is good advice, but in most cases, the amount of money saved does not equal the amount of money that could be earned or realized through complete utilization of the new building.

The Dow Service Inc., a firm specializing in the gathering of information relating to the building industry, states that from all information it can gather there does not appear to be any drastic price decline forseeable in the next six months. A gradual decline is probably coming, but it will again average not more than about 6%. We hope to have a more complete report on prices from Dow Service reports in next month's issue of PROGRESSIVE ARCHITECTURE.

In the meantime, if readers are interested in the price trends in specific localities throughout the country, we urge them to drop us a line. We have at our fingertips complete price reports on almost every important area.

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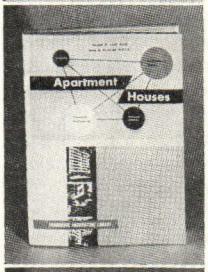


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# P/A P.S.

**IN THE ATTEMPT TO PASS INFORMATION ON TO OUR READERS** about good contemporary buildings through the limited medium of the magazine page, I feel constantly more frustrated. Photographs are likely either to flatter or do rank injustice to a design. Sometimes it's the photographer's fault, but more often it results from the inability of any two-dimensional presentation to capture the warmth (or the coldness), the strength (or the shoddiness), and the relation to setting (or lack of it) that are characteristic of a structure standing blatantly on its foundations in day-to-day surroundings.

Random examples: Yeon's Information Center in Portland is a much better building than I had suspected from photographs (June 1949 P/A, page 52). In fact I think it's one of the finest structures I've seen, in scale and simple dignity. Neutra's Aloe store in Los Angeles is a beautiful job, not adequately represented even in Shulman's fine pictures (to be published in P/A). Wurdeman & Becket's Petroleum Building in L. A. disappointed me; their Prudential Building surprised me pleasantly; and so on . . . .

●

**TALIESIN WEST WAS ANOTHER EXAMPLE OF FINDING NOT EXACTLY WHAT I HAD EXPECTED.** The thrill of seeing the group from a distance as you approach across the desert (local people tell you: "It's hard to give directions—just keep going until you see it") is all that one might expect. The forms and the color are magnificent, and one has been led to expect them and anticipate them. But the informality—even the crudeness—of the workmanship and the use of materials surprise the visitor. And the scale is even more intimate than I, at least, had looked for.

●

**CAN I HAVE ONE BRIEF COLUMN FOR PERSONALITIES?** I've just gotten back from a swell trip, and I'd like to recall some highlights: Pete Belluschi taking a group of us on a tour of his residential work (in scale, warmth without corn, masterfully simple detailing, sympathy with the surroundings, it can't be approached by much that I know of); cracked crab and barbecued steak at Kump's Dump in Los Altos; waffles burning while Bob Alexander and I talked in his apartment in Baldwin Hills Village (which he helped design and which remains, to my mind, the best of the "housing projects"); Dick Aeck giving up after a week's tour and refusing to look at any more architecture ("I don't see how you take it constantly," he said, and went back to sleep); Ralph Haver meeting me at the Adams Hotel in Phoenix on Sunday morning in dungarees, after I'd gotten dressed up for the occasion; Marion Manley offering to buy me a drink in Biloxi (which I paid for); Ed and Orlean Stone swimming in the Gulf and then bathing to get clean; Arthur Brown driving me from Tucson to Nogales to have dinner in Mexico.

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**A BIT LESS PERSONAL, HERE ARE SOME INDIRECT QUOTES AND MISCELLANEOUS COMMENTS** I picked up along the way. Eero Saarinen thinks that the current fad for twisting and pulling and imitating tricks is so seriously bad that we must stay with fundamentals of design for "perhaps the next 20 years" until we discipline ourselves to a point where we can afford to experiment with ornament. Richard Neutra came back from Europe much encouraged about design possibilities there. He discounts fear of "romanticism" in this country, says that the reason he has done some tile roof and redwoody houses recently is that people who are building in areas where restrictions demand this sort of treatment are now turning to him and other modern designers where a decade ago they would not. Sumner Spalding thinks our articles on The Architect and His Community are fine as far as they go, but wishes we could tell the story of a dedicated liberal-thinking planner who, in urging community cooperative action, gets caught in the present witch-hunt atmosphere and finds the politicians ganging up on him. Frank Lloyd Wright thinks *The Fountainhead* is, as a story, a monster; that the authoress stands for everything which is against the individual instead of, as she pretends, supporting the individual creator. He hopes that it will result in someone writing a really fine story on the subject of the relation of the great creative artist to society. He doesn't know who will do it because, he charges, all the good writers — MacLeish, Anderson, Sherwood—have "sold out." Raphael Soriano—playing Bach, holding forth against modern painting ("a form of fetish worship"), hunting for his shoes in the one room where he sleeps and works—feels that the design he and others have done, which is labeled modern although construction has been most conventional, is nothing in importance to the work which will come next, with simplified construction and full use of modern metals, plastics, and other contemporary materials.

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**ONE OF THE NICEST THINGS ABOUT THE BILOXI CONFERENCE** (see PROGRESS REPORT, page 12) was the presence of a fairly large group of students, including most of those who had submitted work in the competition. The jury's deliberations lasted until late at night, and when we had finally chosen the winners, several of us went out in the lobby to tack up the drawings on a display mount which had previously been prepared. No announcement of results had yet been made. As we were putting up Cheyne's entry on the spot for the first-prize drawing, he wandered along. He's a husky married vet who had also been at the Houston convention (in fact, he was chosen to speak for the student delegation there). He looked at the drawing going up, gulped, and exclaimed: "My God, I just wired my wife that I got here safely. Now I'll have to wire her again."

Cheyne is a student at Alabama Polytechnic Institute at Auburn. This school also won two mentions. North Carolina State's new architectural school did well for itself by winning second prize and a mention.

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**SPEAKING OF MULTIPLE WINS IN COMPETITIONS,** Richard Neutra won two Awards in the Southern California Chapter's Honor Awards Judgment. The only other Award went to Wurdeman & Becket. Mentions were garnered by Gruen & Krummeck; Parkinson, Powelson, Briney, Bernard & Woodford; and Raphael Soriano, who received three—one residential, two commercial. The Chapter judgment is beautifully run, though it's hard work for the jury which must *visit* all the buildings.

Thomas H. Creighton