PROGRESSIVE ARCHITECTURE
[PENCIL POINTS]

Published monthly by REINHOLD PUBLISHING CORPORATION, 330 West 42nd Street, New York 18, N.Y., U.S.A. Ralph W. Reinhold, Chairman of the Board; Philip H. Hubbard, President; H. Burton Lowe, Executive Vice President and Treasurer; Gilbert E. Cochran, Vice President and Secretary; Francis M. Turner, Vice President; William P. Winsor, Vice President. Executive and editorial offices: 330 West 42nd Street, New York 18, N. Y. Subscriptions payable in advance: 1 year, $4.00; 2 years, $6.00; 3 years, $8.00 in U. S. and Possessions, Canada and Pan American Union; $2.00 extra for each year in all other countries. Single copies, $1.00. Printed by Lotus Press Inc., 508 West 26th St., New York 1, N. Y. Reentered as second class matter, January 22, 1947, at the Post Office at New York, N. Y., under the Act of March 3, 1879. Volume XXVIII, No. 6, June, 1947. Indexed in Art Index.

ADVANCE UNDER DIFFICULTIES

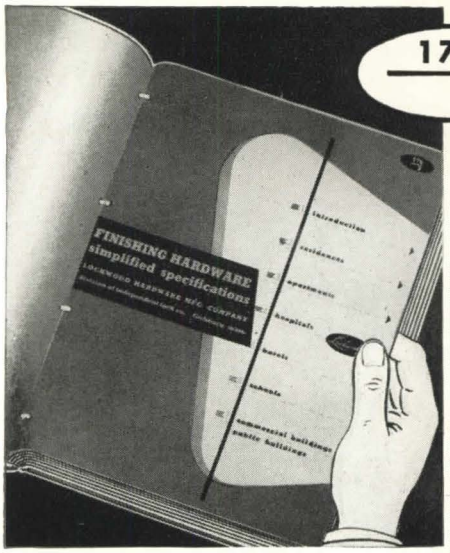
At a presentation dinner held in New York on May 5, the 1946 PROGRESSIVE ARCHITECTURE Awards were made to the designers of four outstanding structures—outstanding not for size or cost, but for fitness, beauty, strength, and purpose appropriate to the times. We congratulate the winners, and present them, their works, and the jury report in this issue. We are extremely grateful to our brilliant jury for the thoughtful attention they gave to their task.

The institution of these annual Awards, "to foster sincere, reasoned progress in architectural design in the United States by citation and recognition of those architects whose efforts to improve contemporary standards are judged the most successful," seems to us a logical extension of our editorial policy. When we announced the Awards last year, we realized that for that first year our jury would have to select from work done under difficulties, in the face of rising costs and restrictions of various sorts. However, we had faith that enough competent architectural designs would rise above those handicaps to warrant recognition for progress. We think the results justify that confidence; the winners had stiff competition in a surprisingly large field of excellent candidates.

We are very happy about the results. The progress that is here recognized is the same sort that we try to document in the magazine—not stylism, but sound advance in planning, in technical development, in social usefulness, and in over-all integrated design. We hoped that the work of relatively unknown designers would rise high in such a judgment, and this happened, not by intention, but by objective jury analysis.

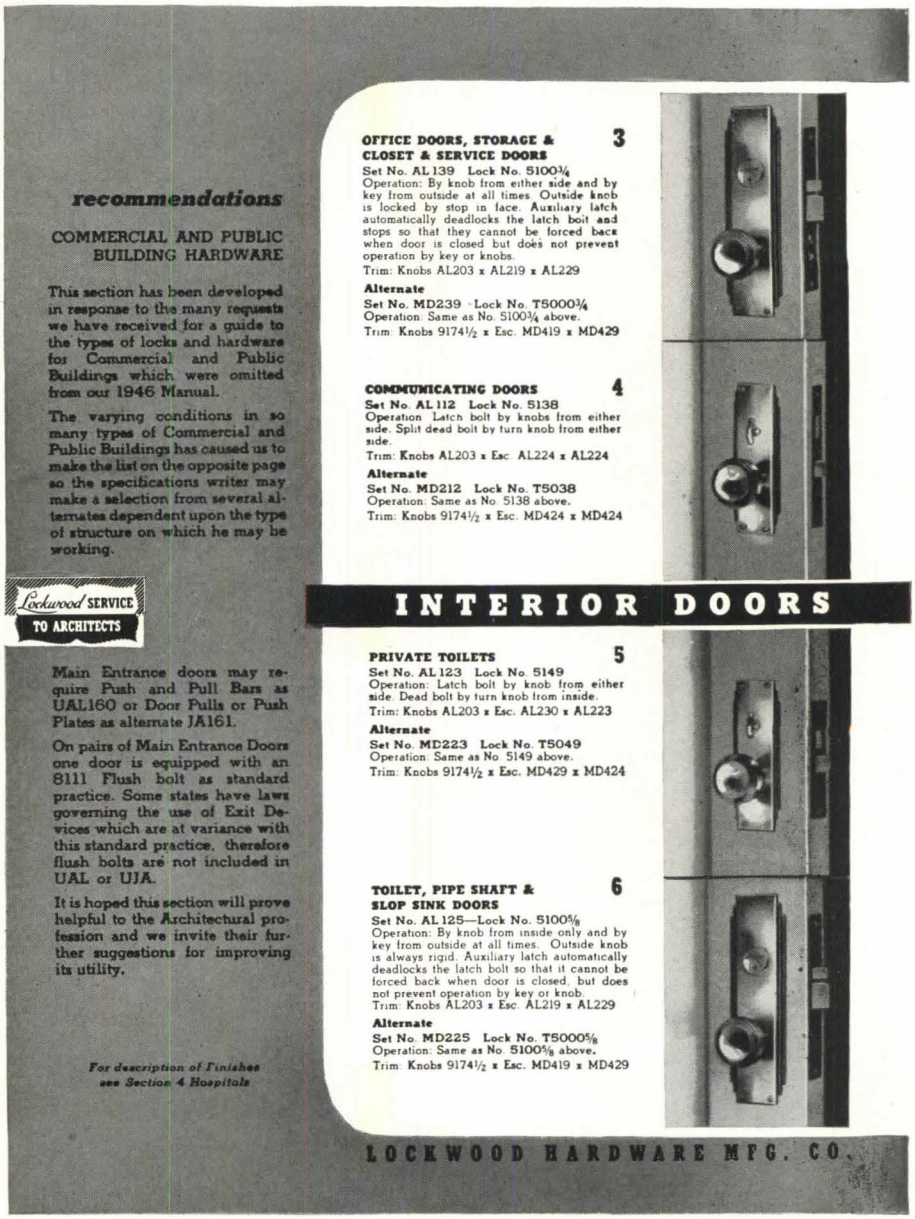
The fact that both Awards were split indicates sharply the various emphases in design progress today, and the difficulties in deciding which are most significant. As we have said editorially before, the advance is on many fronts. Technical progress and progress in human values move together; we applaud those designers who move forward most surely and most sensibly, looking toward an ultimate integration which will fully express our times.

The Editors



17b
2

Here are 24 Pages with Simplified Specifications



recommendations

COMMERCIAL AND PUBLIC BUILDING HARDWARE

This section has been developed in response to the many requests we have received for a guide to the types of locks and hardware for Commercial and Public Buildings which were omitted from our 1946 Manual.

The varying conditions in so many types of Commercial and Public Buildings has caused us to make the list on the opposite page so the specifications writer may make a selection from several alternates dependent upon the type of structure on which he may be working.

Lockwood SERVICE TO ARCHITECTS

Main Entrance doors may require Push and Pull Bars as UAL160 or Door Pulls or Push Plates as alternate JA161.

On pairs of Main Entrance Doors one door is equipped with an 8111 Flush bolt as standard practice. Some states have laws governing the use of Exit Devices which are at variance with this standard practice, therefore flush bolts are not included in UAL or UJA.

It is hoped this section will prove helpful to the Architectural profession and we invite their further suggestions for improving its utility.

For description of Finishes see Section 4 Hospitals

OFFICE DOORS, STORAGE & CLOSET & SERVICE DOORS 3

Set No. AL139 Lock No. 5100¾
Operation: By knob from either side and by key from outside at all times. Outside knob is locked by stop in face. Auxiliary latch automatically deadlocks the latch bolt and stops so that they cannot be forced back when door is closed but does not prevent operation by key or knobs.
Trim: Knobs AL203 x AL219 x AL229

Alternate
Set No. MD239 Lock No. T5000¾
Operation: Same as No. 5100¾ above.
Trim: Knobs 9174½ x Esc. MD419 x MD429

COMMUNICATING DOORS 4

Set No. AL112 Lock No. 5138
Operation: Latch bolt by knobs from either side. Split dead bolt by turn knob from either side.
Trim: Knobs AL203 x Esc. AL224 x AL224

Alternate
Set No. MD212 Lock No. T5038
Operation: Same as No. 5138 above.
Trim: Knobs 9174½ x Esc. MD424 x MD424

INTERIOR DOORS

PRIVATE TOILETS 5

Set No. AL123 Lock No. 5149
Operation: Latch bolt by knob from either side. Dead bolt by turn knob from inside.
Trim: Knobs AL203 x Esc. AL230 x AL223

Alternate
Set No. MD223 Lock No. T5049
Operation: Same as No. 5149 above.
Trim: Knobs 9174½ x Esc. MD429 x MD424

TOILET, PIPE SHAFT & SLOP SINK DOORS 6

Set No. AL125—Lock No. 5100⅝
Operation: By knob from inside only and by key from outside at all times. Outside knob is always rigid. Auxiliary latch automatically deadlocks the latch bolt so that it cannot be forced back when door is closed, but does not prevent operation by key or knob.
Trim: Knobs AL203 x Esc. AL219 x AL229

Alternate
Set No. MD225 Lock No. T5000⅝
Operation: Same as No. 5100⅝ above.
Trim: Knobs 9174½ x Esc. MD419 x MD429

LOCKWOOD HARDWARE MFG. CO.

Yes . . . at this point in Sweet's 1947 Architectural File you will find the most complete and practical simplified Specifications for Finishing Hardware. Here is another example of LOCKWOOD thoroughness in serving Architect and Builder with Builders' Hardware of Quality . . . that will serve your clients for years to come.

Here, for the first time in the history of Finishing Hardware, is a *completely* simplified specification manual. Now you can write one simple Unit Set Number to specify *all* the hardware required for each door. For example, the Unit Number UJA137 will specify the Lockset, Doorstop, Kick Plate, Door Closer and Hinges required for a specific door. You get it at a glance, *in tabular form,* yet with full opportunity for selection of design and finish.

The streamlining of hardware specifications has always been a serious problem for the architectural profession . . . and to this end Lockwood has been working closely with architects for many years. Lockwood Simplified Specifications cover *SEVEN PROJECT SECTIONS* (as shown at the right), in each of which the unit specifications have been brought together in tabular form, located adjacent to the functional type of door. *ADDITIONAL SECTIONS* feature wrought

# of Finishing Hardware for all types of Buildings

TABULAR FINISHING HARDWARE SPECIFICATIONS FOR TYPICAL DOORS

17b

For Complete Hardware For Door Opening as Tabulated, Specify by Unit Set Number.
Note: Other designs from Section 8 may be substituted for AL or MD listed here by changing the design symbol.
Example: UAL137 listed. PA design selected. UPA137.

	LOCATION OF HARDWARE	⅞d/t	UNIT DOOR SET NUMBER	LOCK SET NUMBER	PUSH PLATE & DOOR PULL PUSH BAR & PULL BAR	DOOR CLOSER	BUTTS (3 to a door) FED. GOV. SPEC. NO. floor hinges
	MAIN ENTRANCE DOORS	1¾"	‡‡UAL160	.....	2/AL291 x AL292	.....	3520A-III
	Alternate	1¾"	‡‡UJA161	.....	9440 x 8025	.....	3520A-III
1	INDIVIDUAL STORE & SHOP ENTRANCE DOORS	1¾"	UAL137	AL137	.....	*D130 2001	4½" x 4½"—NRP
	Alternate	1¾"	UMD237	MD237	.....	*D130 2001	4½" x 4½"—NRP
2	OTHER ENTRANCE DOORS	1¾"	UAL139	AL139	.....	*D130 2001	4½" x 4½"—NRP
	Alternate	1¾"	UMD239	MD239	.....	*D130 2001	4½" x 4½"—NRP
	VESTIBULE & LOBBY DOORS	1¾"	UAL166	.....	2/AL291 x AL292	*D130 2001	4½" x 4½"
	Alternate	1¾"	UMD266	.....	9440 x 8025	*D130 2001	4½" x 4½"
3	OFFICE DOORS	1¾"	†UAL140	AL139	.....	C130 2010½P	4½" x 4½"
	Alternate	1¾"	†UMD240	MD239	.....	C130 2010½P	4½" x 4½"
3	SERVICE DOORS	1¾"	UAL106	AL139	.....	C30 2010½P	4½" x 4½"
	Alternate	1¾"	UMD206	MD239	.....	C30 2010½P	4½" x 4½"
	STAIR HALL EXIT DOORS	1¾"	UAL319	.....	Panic bolt 820 x 821A	.....	2001½P 4½" x 4½"
3	STORAGE & CLOSET DOORS	1¾"	UAL162	AL139	.....	.....	2010½P 4½" x 4½"
	Alternate	1¾"	UMD262	MD239	.....	.....	2014½P 4½" x 4½"
4	COMMUNICATING DOORS	1¾"	UAL112	AL112	.....	.....	2010½P 4½" x 4½"
	Alternate	1¾"	UMD212	MD212	.....	.....	2014½P 4½" x 4½"
5	PRIVATE TOILETS	1¾"	UAL123	AL123	.....	.....	2010½P 4½" x 4½"
	Alternate	1¾"	UMD223	MD223	.....	.....	2014½P 4½" x 4½"
6	TOILET DOORS	1¾"	UAL140	AL125	.....	C30	2010½P 4½" x 4½"
	Alternate	1¾"	UMD240	MD225	.....	C30	2010½P 4½" x 4½"
6	PIPE SHAFT, & SLOP SINK DOORS	1¾"	UAL125	AL125	.....	.....	2010½P 4½" x 4½"
	Alternate	1¾"	UMD225	MD225	.....	.....	2014½P 4½" x 4½"

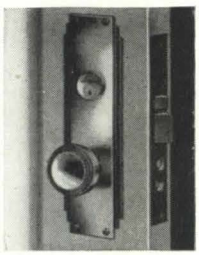
⅞d/t Door Thickness.
* Specify corner bracket for exterior doors opening outward thus: UJA137 x corner bracket.
‡‡ UAL160 & UJA161 if cylinder mortise deadbolt is required for Main Entrance Doors specify thus: UAL160 x 2243-¾.
On pairs of 1¾" doors where flush bolts are required specify thus: Unit Set No. UAL 160 x 2/8111.
† Unit number UAL140 and UMD240 include Letter Box Plates JA275.
Where door closers are not provided Door Stop Type 8940 ¾ for Exterior Doors and type 8952 ¾ for Interior Doors are included in Unit Door Set No.

commercial & public buildings

7

EXTERIOR DOORS

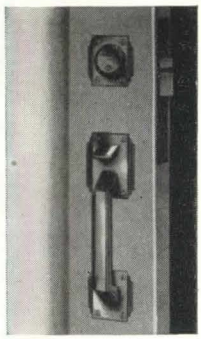
2



INDIVIDUAL STORE & SHOP ENTRANCE DOORS
Set No. AL137—Lock No. 8788
Operation: By thumb latch from either side except when outside thumb latch is locked by key in inside cylinder. The inside cylinder locks and unlocks the outside thumb latch. The outside cylinder only retracts the latch bolt.
Trim: Handles AL288
Alternate
Set No. MD237—Lock No. 8788
Operation: Same as above.
Trim: Handles MD488

OTHER ENTRANCE DOORS
Set No. AL139—Lock No. 5100¾
Operation: By knob from either side and by key from outside at all times. Outside knob is locked by stop in face. Auxiliary latch automatically deadlocks the latch bolt and stops so that they cannot be forced back when door is closed but does not prevent operation by key or knobs.
Trim: Knobs AL203 x Esc. AL219 x AL229
Alternate
Set No. MD239—Lock No. T5000¾
See Alternate No. 3 on opposite page.

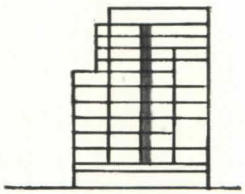
1



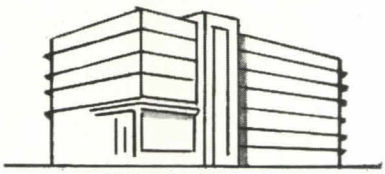
FITCHBURG, MASSACHUSETTS

Lockwood

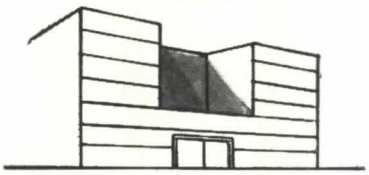
RESIDENCES



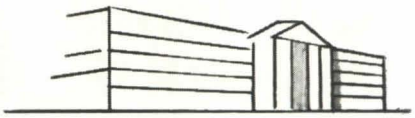
APARTMENTS



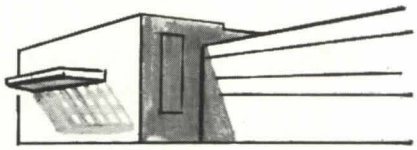
HOSPITALS



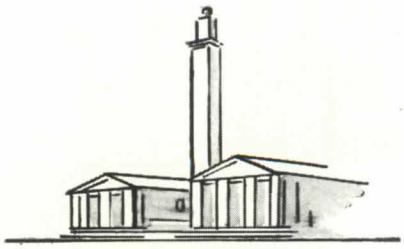
HOTELS



SCHOOLS



COMMERCIAL BUILDINGS



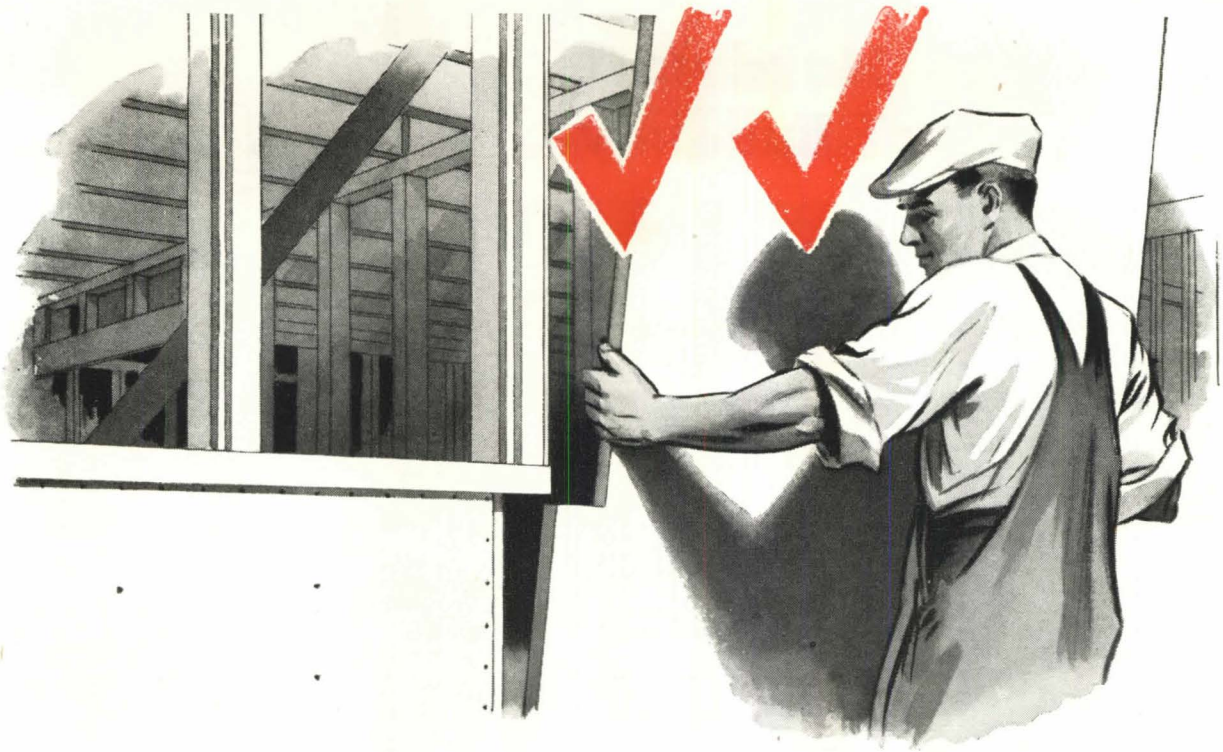
PUBLIC BUILDINGS

and cast designs, handle sets, miscellaneous hardware and closers — thus providing full opportunity within the one 24-page Manual to *select* and *specify* complete hardware for each project.

Reprints of LOCKWOOD FINISHING HARDWARE Simplified Specifications are available to Architects and their staffs without charge. Please request a copy on your letterhead.

Lockwood HARDWARE MANUFACTURING COMPANY

DIVISION OF INDEPENDENT LOCK COMPANY • FITCHBURG, MASSACHUSETTS



GIVE YOUR CLIENTS *Double-*

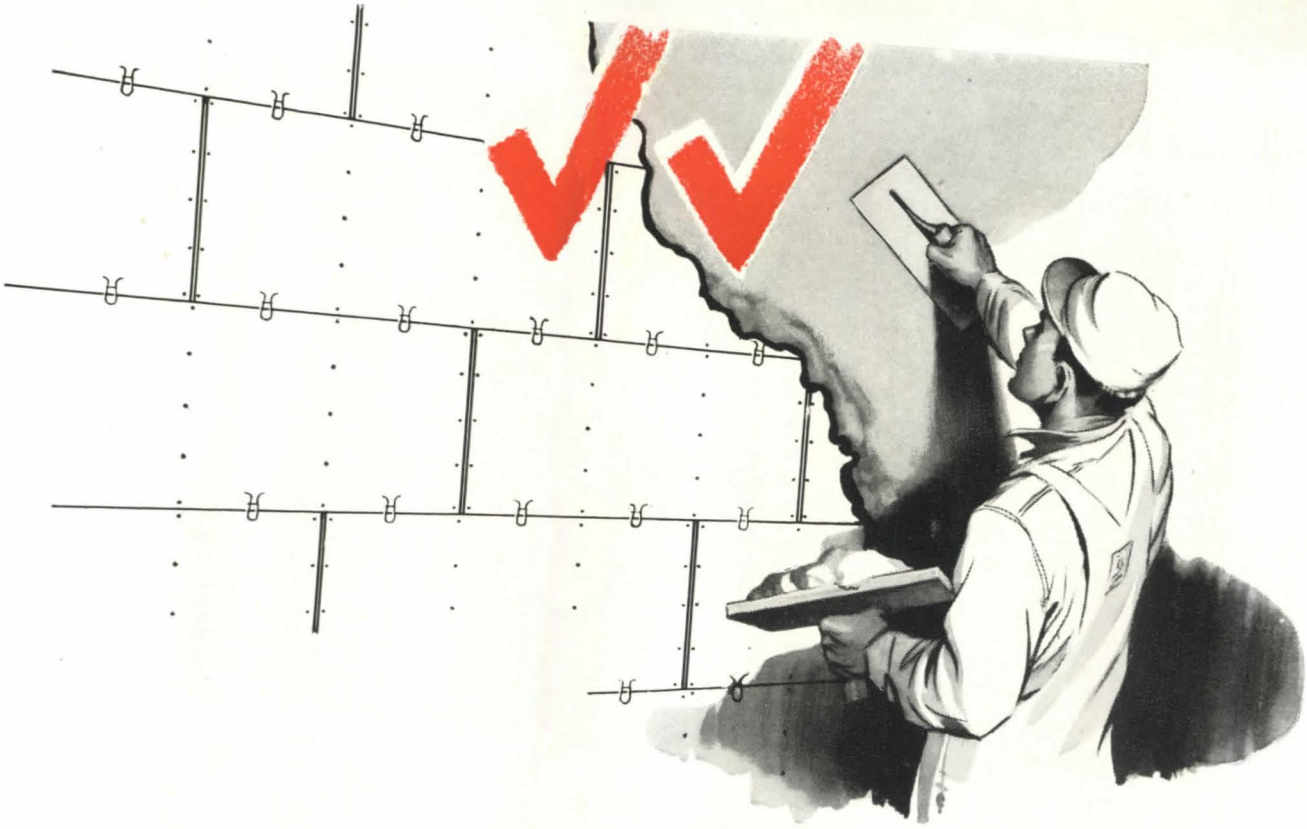
OUTSIDE: Specify double-duty Insulite Sheathing and get two things for the price of one —

(1st) *Sheathing* (2nd) *Insulation*

One material—double usage! That's double for the money—something your clients will appreciate. By certified test, Insulite Sheathing provides bracing strength superior to wood sheathing horizontally applied. Water proofed throughout, excellent weather resistance.

All this, PLUS insulation, so you can tell a client "Here's where your money buys double usage."

INSULATES AS IT BUILDS . . . . .



FOR THEIR MONEY!

INSIDE: Specify double-duty Insulite Lok-Joint Lath and get two things for the price of one —

(1st) *Plaster base* (2nd) *Insulation*

One material—double usage! No spreading of joints—no "snap-back" of lath when troweling. Surface stays firm and level. Insulite Lok-Joint Lath, with vapor barrier, guards against condensation problems.

Refer to Sweet's File, Architectural Section 10 a/9

BUILDS AS IT double-duty **INSULITE** *The* GENUINE **INSULATES**

"Insulite" is a registered trade mark, U.S. Pat. Off.

DIVISION OF MANDO MINNESOTA & ONTARIO PAPER COMPANY
MINNEAPOLIS 2, MINNESOTA

FLOORING

PRACTICAL FLOOR PLANNING FOR HOSPITALS

Perhaps in no other type of building are such widely different floor requirements encountered as in hospitals. For example, floors in entrance lobbies and corridors should combine attractive appearance, quietness, and durability. In contrast, kitchens, laboratories, and certain other areas should have floors with special characteristics to withstand the attacks of greases and oils or chemicals and acids. All floors in hospitals, however, must have a smooth surface that is easy to keep sanitary.

Linoleum seems to be the most popular hospital flooring, with asphalt tile a close second in popularity. While linoleum is limited to suspended floors, asphalt tile can be used in basement and ground level areas as well as on suspended floors. Beyond the generally satisfactory performance of linoleum and standard asphalt tile as flooring materials for hospitals, there are specific advantages to be gained through the use of such other resilient floorings as Linotile, rubber tile, and greaseproof and conductive asphalt tile. The following recommendations are based on the continuing studies made by Armstrong's Research Laboratories and on Armstrong's long experience with a wide variety of applications.

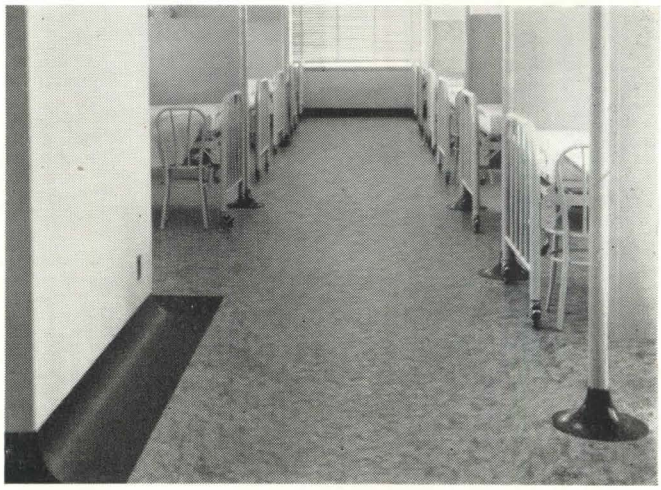
Entrance lobbies and corridors — Because these floors bear the brunt of more foot traffic than any other areas in the hospital, it is of first importance that they have exceptional resistance to wear. In many instances Linotile has been selected for these areas. It is the most durable resilient floor and is quiet and rich in appearance.

For these same areas, rubber tile also is recommended. Rubber tile is not only beautiful but also exceptionally quiet and comfortable to walk on. However, if economy is important, linoleum or asphalt tile can be specified with good results.

Private rooms and wards—Since floors in private rooms and wards are not usually subjected to the same high degree of wear as corridors, linoleum or asphalt tile is recommended. Both of these floors provide excellent wearing qualities and, in addition, meet the need for economy in flooring such large areas. Linoleum has greater resistance to indentation from bed casters, and it minimizes the noise of foot traffic and mobile equipment. Occasionally, flexibility of partition arrangement is a factor. In such instances, asphalt tile has a special advantage because alterations can be made, economically and quickly without a "patched up" look.

Kitchens—Many kitchens are located in the basement where the concrete subfloor is in direct contact with the ground. Here, in addition to moisture from the ground, the splashing of grease and oil is a problem. This can be solved with grease-

Both Linotile and rubber tile are highly satisfactory materials for floors in hospital entrance lobbies and corridors. While Linotile offers greater resistance to wear, there is often a preference for the high sheen and clear coloring which are distinctive characteristics of rubber tile. Insets, such as pictured above, are readily cut in rubber tile.



For wards and private rooms, linoleum floors are highly favored. For a fully sanitary floor installation, linoleum can be flashed up the wall to eliminate dirt-catching joints and corners where the floor meets the walls. Top-set asphalt cove base is also recommended for this purpose. It is used in particular with resilient tile floors.

proof asphalt tile. It resists not only grease and oil but alkali and moisture, too. Greaseproof asphalt tile, heavy gauge linoleum, and Linotile can be considered for above-grade kitchen floors. Greases and oils spilled accidentally on these floors will not injure them and can be easily wiped off.

Laboratories—Laboratory floors are in constant danger of injury from spilled chemicals. It is difficult, indeed impossible, to recommend any floor that can completely withstand attacks from concentrated solutions of nitric, hydrochloric, and sulphuric acids. Among the resilient floors, however, standard asphalt tile has proved itself best for installation in laboratories. The dark shades, group A or B, resist most acid attacks and do not show stain readily. If concentrated acid does deface this floor, the scar can usually be removed easily with ordinary steel wool. Such repairs are scarcely noticeable because the color goes all the way through the tile. If damage is unusually severe, repairs can be made quickly and easily by replacing only the damaged tiles. In the case of laboratories which may also be subject to the spillage of organic oils and greases, greaseproof asphalt tile is recommended.

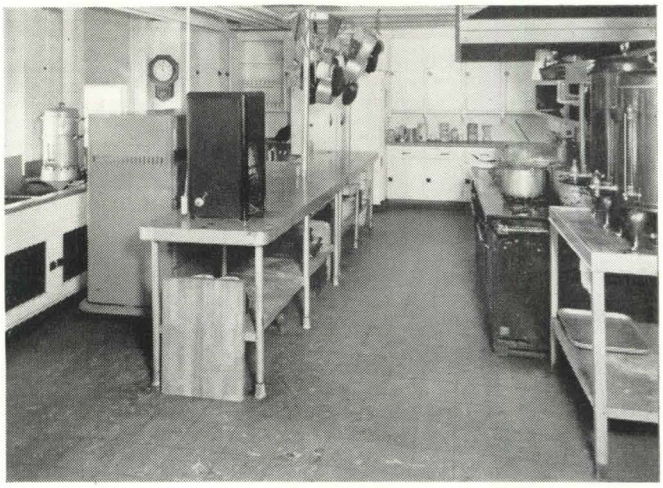
Operating rooms—Since the danger of ether explosions caused by static electricity is a problem in operating rooms, conductive asphalt tile is a recommended floor. This flooring effectively carries off static electricity and eliminates its dangers. With many of the advantages of standard asphalt tile, it can be installed on grade-level concrete subfloors.

Cleaning—maintenance—Cleaning and maintenance are about equal for all the resilient floors recommended for hospitals. Their smooth, nonporous surfaces do not catch and hold dust and dirt or permit bacteria to breed. Simple sweeping or use of a dry mop, plus occasional washing and waxing, will preserve the luster of all Armstrong's resilient floors.

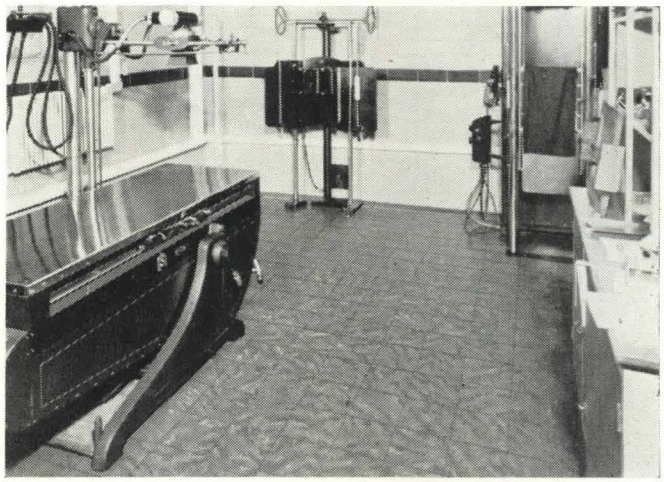
★ ★ ★

If you have a specific problem in recommending floors for a hospital, or wish further information on any Armstrong flooring material, write to Armstrong Cork Company, 8906 Duke Street, Lancaster, Pa.

LINOTILE IS A REGISTERED TRADE-MARK.



Greaseproof asphalt tile is the only resilient flooring recommended for use in basement kitchens. However, for diet or general kitchens which may be located on floors above grade, linoleum or Linotile is often specified. Splashed greases and fats do not harm these materials.



Floors in X-ray and developing rooms and in laboratories often must withstand unusual conditions. While the dark colors of standard and greaseproof asphalt tile are less susceptible to damage from spilled acids and chemicals, linoleum and Linotile will also give satisfactory service.

IEWS

WELCOMES CRITIQUES

Dear Editor: May I congratulate you on the introduction of the serious criticism of architecture: I trust that you may be able to continue it without offending too many of your subscribers. It is very strange that we have never had intelligent, informed criticism of architecture as we have in the case of painting, sculpture, and music.

Surely we architects should be able to take criticism if the others can. I recollect only too well when the New York Public Library was completed; no one thought to criticize the overabundance of motives on the Fifth Avenue elevation nor the incongruity of an important central motive facing a completely unimportant street, but all we were told was the height of the columns, the marble used for the building, and the cost of erection.

Referring to the criticism of hospitals (PROGRESSIVE ARCHITECTURE, November 1946) I regret that you said nothing in criticism of the so-called "Fever" buildings in the Palestine hospital. It seems inconceivable that the British doctors should be so utterly ignorant of modern planning of contagious disease hospitals as to impose such a plan on their architect.

The Pasteur Hospital in Paris, opened in 1900, established the plan for this type of hospital, although minor improvements have been added through the years. The plan of these wards at Haifa is definitely prehistoric.

Turning to the review of Addison Erdman's and my book on hospital planning in your December number, we have gotten from it some constructive criticism for future reference. As to Mr. Freesz' criticism of our failure to recommend inside operating rooms, I am of course familiar with Paul Nelson's plan of the Surgical Pavilion for Suez. This may be actually essential in that climate, but I fail to see why in our climate we should deliberately deprive ourselves of natural light and, in many locations, of natural ventilation, where they can be had for nothing. All modern operating rooms are arranged for air conditioning and operating by artificial illumination; but it is certainly uneconomical to use current to light a room when it is being cleaned up between operations, if natural light is available.

CHARLES BUTLER
New York, N. Y.

SERENATA MEXICANA

Dear Editor: Let us sincerely congratulate you, for your magnific labor in PROGRESSIVE ARCHITECTURE.

Our company has made in this city two important residential colonies. For them we have a very vast housing plan. Now we are beginning to build the first series of home-houses.

We are really surprised to see the excellent quality of your modern magazine. We are sure that each issue of PROGRESSIVE ARCHITECTURE will give us some valuable and useful ideas and good help to know the firms of U.S.A. industry.

ARNALDO XAVIER MIRAMONTES, ING.
Fraccionadera del Pacifico, S. A. de C.V.
Culiacan, Sinaloa, México

"Mr. Van Horn is an authority on Bay Windows."

WE CAN, OUGHT WE?

Dear Editor: The industrialized house is a very clever piece of engineering—so is the atom bomb. The same question arises in relation to both—now that we *can* make them, *ought* we to make them? In both cases there are moral issues involved, questions of meaning and of values that transcend the opportunities and the imagined efficiencies of the moment.

The industrialized house is a gesture of despair. It is a desperate attempt to *force* a solution of the housing problem within the confines of our present socio-economic framework.

It will do no such thing!

What is wrong with the present supply of housing?

A. The individual units are poorly planned and in poor physical condition.

B. The manner of placing the houses on the land has been determined by ease of real estate operation and by the necessity for profit rather than by the biological and social needs of the people.

C. The housing bears no significant relation to the centers of work, shopping, recreation, etc.

D. Present housing is too expensive. These difficulties are deeply woven into the fabric of our society and *any solution in terms of technique is foredoomed to failure.*

Of the above difficulties, the industrialized house can in the long run affect only the first one favorably—that is, it can improve the design and structure of the individual unit.

Altho the proponents of the industrialized house stress the possibility of lower cost, I doubt very much that the average wage earner will find that he can allot a significantly smaller proportion of his income to shelter than he does now. In the beginning, the landowners and the lenders will take good care to see that the cost of the industrialized house, *plus land*, does not go low enough to endanger the value of existing mortgages. Suppose, however, that industrialized housing actually manages to show a continuing price advantage, even though slight, so that in 25 or 30 years the total population is rehoused in such housing. What would be the final outcome? Why simply this—Mr. Fuller (or someone) would be enormously wealthy, real wages would have fallen enough to wipe out the advantage of the lessened cost of shelter, and our cities would be atomized, expanded, and distintegrated to the nth degree—and fantastically broke!

No—the real solution is city planning, and the actual physical reconstruction of our cities must await the coming of a social system in which the motive force is something other than profit.

If cities were planned, then the neighborhoods need not, as now, wear out faster than the houses in them. Then there would be no need for early obsolescence. Comparisons between houses and automobiles are false and misleading. A house isn't in motion, its parts aren't in motion, and consequently *it wears out very slowly.*

(Continued on page 10)

VIEWS

(Continued from page 8)

A well built house in a stable neighborhood should provide excellent living facilities for at least a hundred years—and in small towns in Europe they have, and for even longer periods. Within historical periods, *people don't change biologically*—the same trees, sun, breeze, and views that benefit us now will benefit our remote descendants.

It all depends on large-scale planning. With it, we can have great and beautiful cities, we can live in rich, well planned buildings designed for the particular site by architects and engineers eager to surpass the achievements of the next city or the next block. *And we needn't amortize those buildings in 20 or 30 years.*

If we don't plan, we can, and we will, live in a claustrophobic environment of identical rabbit hutches, sans dignity, sans beauty, sans communal life, and even, sad to relate, sans efficiency!

JACK ALBERT
Cleveland, Ohio

EXCELLENT AND TIMELY

Dear Editor: I was very pleased with your last number (PROGRESSIVE ARCHITECTURE, April 1947). I had just been in Brazil as it happened and was as intrigued as everyone is with the work. I hadn't, however, seen anything outside of Rio. You did an excellent and timely job.

JOHN W. ROOT
Holabird & Root
Chicago, Illinois

NOTICES

SCHOLARSHIPS, FELLOWSHIPS

The George G. Booth Travelling Fellowship in Architecture, offered by the College of Architecture and Design, University of Michigan, was awarded this year to LINN C. SMITH, Class of 1942. The jury consisted of prominent Michigan architects and members of the faculty in architecture. The prize is $1,000, and the winner is expected to follow a planned itinerary of travel and study in this country or abroad.

CARROLL L. V. MEEKS, Professor of Fine Arts, Yale University, has been awarded a Guggenheim Fellowship and will work on the preparation of a book on the historical development of railroad stations as examples of architectural solutions to meet new needs.

NEW PARTNERSHIPS, PRACTICES

CAREER BUILDERS, a new agency specializing in the placement of interior decorators, industrial designers, and sales personnel for the allied fields, has opened offices at 35 W. 53rd St., New York, N. Y.

GEORGE WALLACE CARR and CLARK C. WRIGHT announce the formation of CARR & WRIGHT, INC., Architects-Engineers, 333 N. Michigan Ave., Chicago 1, Ill.

BROTHER CAJETAN J. B. BAUMANN has opened an office for architecture for the Franciscan Order at 44 Whitehall St., New York 4, N. Y.

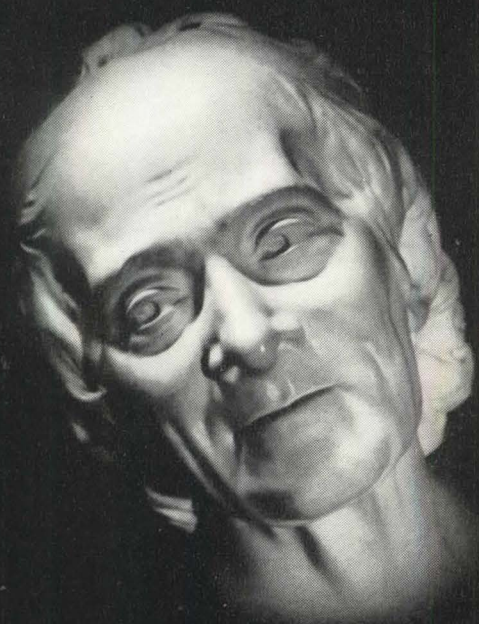
ALFRED HOPKINS & ASSOCIATES, 415 Lexington Ave., New York 17, N. Y., announces the appointment of W. FRANK BOWER, JR., and BEN JOHN SMALL as associates.

ROY PAPENTHIEN, formerly with the Engineers Corps, has resumed his practice of architecture and engineering at 720 N. Jefferson St., Milwaukee, Wis.

ELWYN E. SEELYE, ALBERT L. STEVENSON, and BURNSIDE R. VALUE announce the formation of a partnership to continue the engineering practice of ELWYN E. SEELYE & CO., consulting engineers. Offices are at 101 Park Ave., New York, N. Y.

SCHULMAN & SOLOWAY have formed an architectural and engineering partnership with offices at 4 Court Square, Brooklyn 2, N. Y.

(Continued on page 12)



Drama in Lighting

UNDER FINGERTIP CONTROL

The simple trick of lighting that gives the same plaster cast so many different countenances illustrates—in an elemental way—the function of good lighting control in the creation of dramatic effects.

Given a knowledge of the impressions you wish to create, Ward Leonard's "result-engineering" can help you, not only by recommending the most suitable dimmer and mechanical details, but also by working out psychological effects through dramatic lighting.

On any job requiring lighting effects—for theatre, music hall, auditorium, church, school, etc.—consult Ward Leonard's section in your A.I.A. File*: then call in Ward Leonard engineers for a recommendation of the proper equipment. Ward Leonard Electric Co., 22 South Street, Mount Vernon, New York. Offices in principal cities of U. S. and Canada.

**Your A.I.A. File should contain Bulletins 71 on Non-Interlocking Dimmers, 72 on Interlocking Dimmers, 74 on Reactance Dimmers, 76 on Autrastat Dimmers, 78 on Cycle Dimmers.*

WARD LEONARD ELECTRIC CO.

Where Basic Designs in Electric Controls are **R**esult-**E**ngineered *for You*

NOTICES

(Continued from page 10)

The firms of B. F. HUNT ASSOCIATES and R. H. HUNT COMPANY were dissolved recently and a new firm formed under the name of HUNT, CATON & ASSOCIATES, with offices in the James Bldg., Chattanooga, Tenn.

KENNETH WHITE announces the opening of his firm, KEN WHITE ASSOCIATES, at 516 Fifth Ave., New York, N. Y. His office specializes in retail planning, development, and design.

RICHARD L. TULLY, FREDERICK H. HOBBS, JR., and WALTER C. HANSEN announce the formation of an architectural partnership with offices at 582 Oak St., Columbus, Ohio.

WAYMAN & STUERMER, architects and engineers, have opened a new practice at 37 S. Wabash Ave., Chicago 3, Ill.

KATY and PAUL STEINMETZ, landscape architects, have opened a new office at R.F.D. Box 710, San Rafael, Calif.

LEON GORDON MILLER has opened an industrial design office at 811 Prospect Ave., Cleveland, Ohio.

PETER J. TROLIO and JAY T. LIDDLE, JR., have formed a partnership with offices in Jackson, Miss.

JOSEPH A. MCGINNISS has opened an office for the preparation of architectural specifications at 67 E. 59th St., New York 22, N. Y.

EMERSON C. SCHOLER has opened an architectural office at 41 W. Alameda, Tucson, Ariz.

EDWARD B. KIRK, consulting illuminating engineer, has opened an office at 2 Park Ave., New York, N. Y.

ROBERT H. FRASER announces the opening of his consulting engineer's office at 154 Nassau St., New York 7, N. Y.

L. G. SHERBURNE ASSOCIATES, specializers in store planning and design, have reopened the practice known for years as R. B. Sherburne, Inc. Offices of the firm are at 171 E. 33rd St., New York 16, N. Y.

LEO H. RICH, industrial consultant, has opened an office at 1 Wall St., New York, N. Y.

CHARLES F. OWSLEY, JOHN H. SAMUELS, and JOHN F. WEHRELL have announced a partnership in architecture and related structural and mechanical engineering with offices at 211 N. Champion St., Youngstown, Ohio.

WILLIAM M. RICH has opened an office at 1607 W. Howard St., Chicago 26, Ill.

RICHARD GARRISON, architectural photographer, has reopened his studio at 532 E. 85th St., New York 28, N. Y.

GEORGE J. CAVALIERI has resigned from government service to resume his practice of architecture in association with ANTHONY M. DEROSE, with offices at 370 E. 149th St., New York 55, N. Y.

ZEB RIKE has opened a new architectural practice with offices in the Nelson Bldg., McAllen, Tex.

ARTHUR BASSIN, DAVID B. CHESKIN, and BARNEY G. TOKARSKY have associated in a firm of architecture, engineering, and planning, with offices at 407 S. Dearborn St., Chicago, Ill.

DAVID and ADELAIDE WURSTER have formed a partnership specializing in the design and manufacture of lamps and household accessories, with offices at 406 Waverly Ave., Brooklyn, N. Y.

CLEPPER & CLEPPER have taken WALTER H. MALLORIE into partnership and have renamed the firm CLEPPER & MALLORIE. Offices are located at 72 Vine Ave., Sharon, Pa.

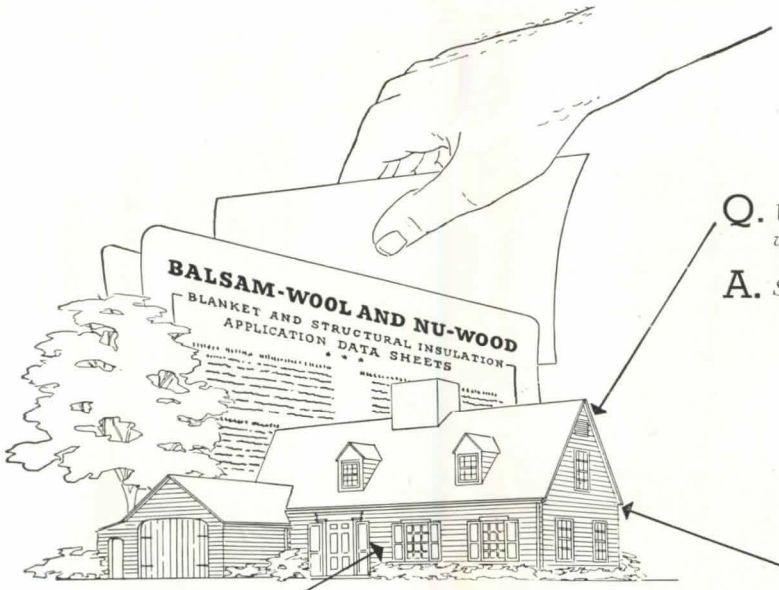
PACE ASSOCIATES have announced the opening of offices at 53 W. Jackson Blvd., Chicago 4, Ill.

ABRAHAM WARONOFF has opened an office for the general practice of architecture at 1017 12th St., N.W., Washington, D. C.

CONNER & POJEZNY have opened new architectural offices at 200 Kerr-McGee Bldg., Oklahoma City, Okla.

C. HARDY OLIVER and ALEX A. DICKSON have formed a partnership for the practice of architecture with offices at 1205 Hampton St., Columbia 29, S. C.

(Continued on page 18)



Q. *What is the proper way to mount an attic ventilating fan?*

A. *See Balsam-Wool Data Sheet Section F No. 2.*

Q. *What are the advantages of the eleven ways of preventing excessive condensation within a house?*

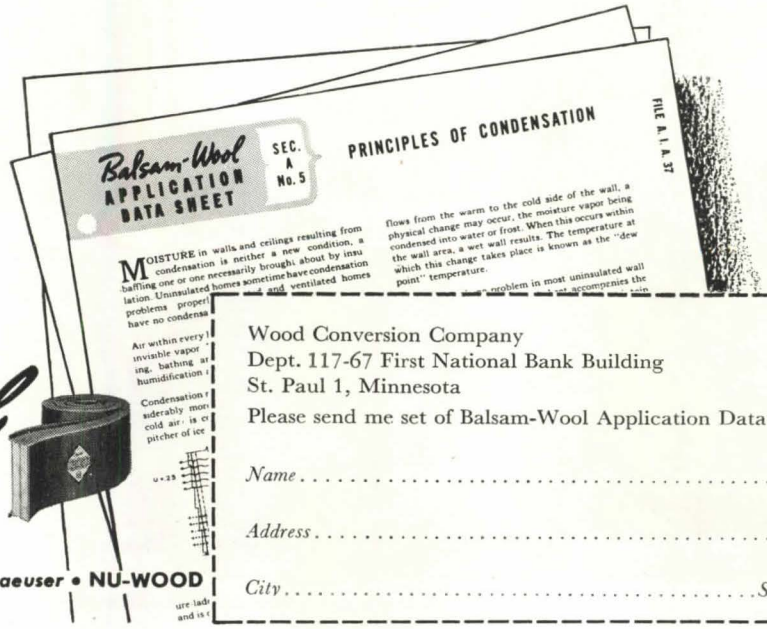
A. *See Balsam-Wool Data Sheet Section A No. 6.*

Q. *What is an efficient but inexpensive way of reducing sound transmission through walls and floor?*

A. *See Balsam-Wool Data Sheet Section G No. 2.*

Keep the right answers handy with Balsam-Wool Data Sheets

Balsam-Wool Data Sheets—sized for your A. I. A. file—provide many answers to a thousand questions on insulation. A complete set of these sheets is yours for the asking—mail the coupon!



Wood Conversion Company
Dept. 117-67 First National Bank Building
St. Paul 1, Minnesota
Please send me set of Balsam-Wool Application Data Sheets.

Name . . . . . .

Address . . . . . .

City . . . . . *State* . . . . . .

*Balsam-Wool

SEALED INSULATION

*REG. U. S. PAT. OFF.

BALSAM-WOOL • *Products of Weyerhaeuser* • NU-WOOD

THIS MONTH

J. A. MITCHELL DAHLEN K. RITCHEY

A. HAYS TOWN

A report of the exhibit, "Pittsburgh in Progress," presenting the master plan for that city proposed by Mitchell & Ritchey, architect planners of Pittsburgh, follows the announcement in this issue of the winners of the PROGRESSIVE ARCHITECTURE Awards for 1946 (for photographs of the winners and biographical notes see p. 20). The firm of Mitchell & Ritchey is the result of many years of close friendship, started when **J. A. Mitchell** and **Dahlen K. Ritchey** attended Carnegie Institute of Technology, both graduating with B. Arch. degrees. As recipients of graduate scholarships, Mitchell then went on to Columbia University for his M.S., and Ritchey to Harvard for his M. Arch. The next two years, since both won traveling scholarships, were spent studying the modern trends in architecture throughout Europe. In 1938 they opened their office and have been practicing together since that time, except for the war years, when they both served as officers in the Navy. It was a desire to contribute professionally as much as possible to the rehabilitation of Pittsburgh which brought them back to that industrial city at the end of the war.

The drive-in restaurant, Waddle's Coffee Shop, presented on page 61, is from the office of architect Pietro Belluschi of Portland, Oregon, whose work is known to our readers. (For biographical note see May 1946 PROGRESSIVE ARCHITECTURE.)

From **A. Hays Town**, architect of Baton Rouge, Louisiana, comes the second restaurant in this issue, James Steak House (p. 64). Following two years of engineering study at Southwestern Louisiana Institute, Town entered Tulane University, where he received his B. Arch. in 1926. He started his practice in the office of N. W. Overstreet, of Jackson, Mississippi, which led in 1932 to formation of the partnership of Overstreet & Town. He has since opened his own office in Baton Rouge, designing many public and private structures in Louisiana and Mississippi.

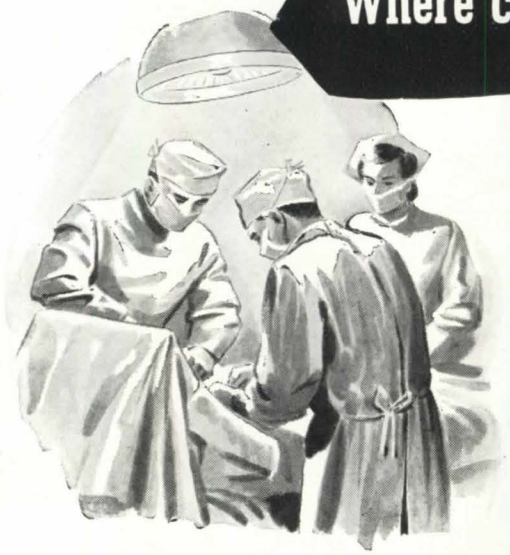
The Klamath County and City Jail, Klamath Falls, Oregon (p. 73), is the work of **Sheldon Brumbaugh**, who has been practicing architecture in the small city of Klamath Falls for almost four years. His work there has ranged from city planning to small house design. A knowledge of Brumbaugh's background explains his adeptness in these various fields; as he studied landscape design at Oregon State College and Columbia University, architecture at University of Oregon, and city planning under Eliel Saarinen, at Cranbrook. His previous practice included work in various offices throughout the country and in his own office in McCook, Nebraska. The photograph at left is of Brumbaugh and his office staff, all of whom collaborated with him in the design of the jail. They include (left to right) **James Conn**; **W. J. Alexander** (responsible for the structural engineering); **Clifford Jay**; **Frank Roberts** (working drawings); **L. R. Swansen** (color rendering); **Sheldon Brumbaugh.**

ASSOCIATES SHELDON BRUMBAUGH

David Fried, of Boston, Massachusetts, is the architect of a Cape Cod house that is really what its name implies—a house for the Cape (p. 75). A Cornell University graduate in architecture, Fried spent his first three years out of school designing state park buildings in Vermont and New Hampshire for the National Park Service, U. S. Depart-

(Continued on page 16)

Where cleanliness is an absolute necessity...



specify Tile-Tex Asphalt Tile for hospital floors!

In hospitals, every unclean or hard-to-clean surface is a potential staging area for dangerous germ carriers. A sanitary surface that can be cleaned readily is consequently a paramount factor in the selection of floors.

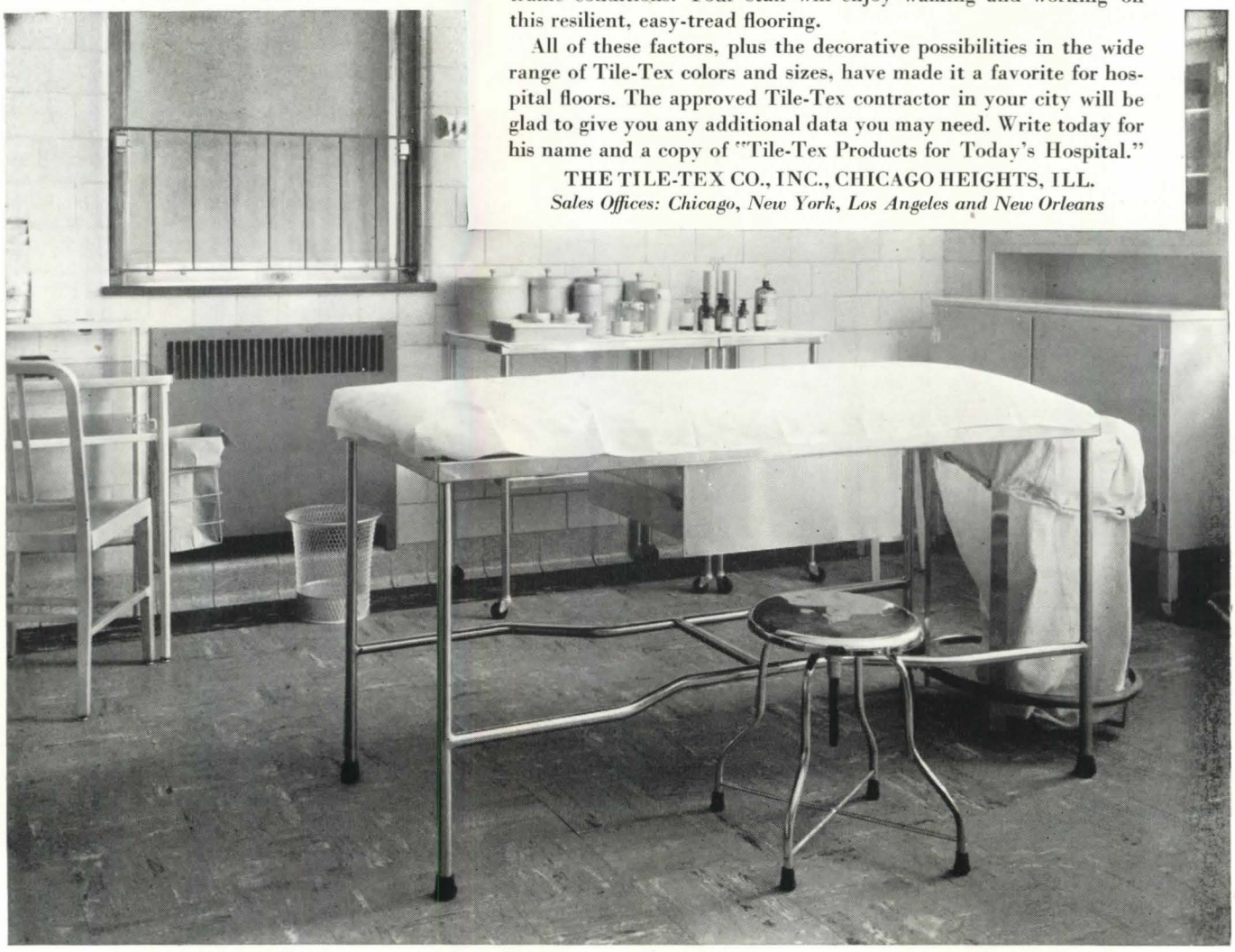
One important reason why Tile-Tex Asphalt Tile is commonly specified by hospital architects is because of its outstanding cleanability. This top-quality asphalt tile has a smooth, closely textured surface which does not harbor dirt and is extremely stain-resistant. Normal maintenance methods keep Tile-Tex floors clean and bright at minimum cost.

Important, too, is the tough, asphalt-asbestos composition of Tile-Tex. It means you'll get extra years of wear under heavy traffic conditions. Your staff will enjoy walking and working on this resilient, easy-tread flooring.

All of these factors, plus the decorative possibilities in the wide range of Tile-Tex colors and sizes, have made it a favorite for hospital floors. The approved Tile-Tex contractor in your city will be glad to give you any additional data you may need. Write today for his name and a copy of "Tile-Tex Products for Today's Hospital."

THE TILE-TEX CO., INC., CHICAGO HEIGHTS, ILL.

Sales Offices: Chicago, New York, Los Angeles and New Orleans



ASPHALT TILE-TEX TILE

TILE • TEX ASPHALT TILE

THIS MONTH

(Continued from page 14)

ment of Interior. He started his own practice in New Hampshire in 1937, moving to Boston in 1939. He still maintains an office in Boston, although he is at present an assistant professor of architecture at University of Florida.

The feature article in the Materials and Methods section this month is titled "Welding: Its Implications and Applications," written by Paul Weidlinger, of New York, N. Y., consulting engineer, whose technical discussions are known to our readers. (For biographical note see June 1946 PROGRESSIVE ARCHITECTURE.) We believe it will be of interest to our readers to learn that since this biographical data appeared last year, Weidlinger has left the National Housing Administration. He is now a research engineer with United Industrial Association, Inc., of Washington, D. C., an engineering and research organization. This important and timely article, Part I of which appears in this issue, will be concluded in the July PROGRESSIVE ARCHITECTURE.

DAVID FRIED

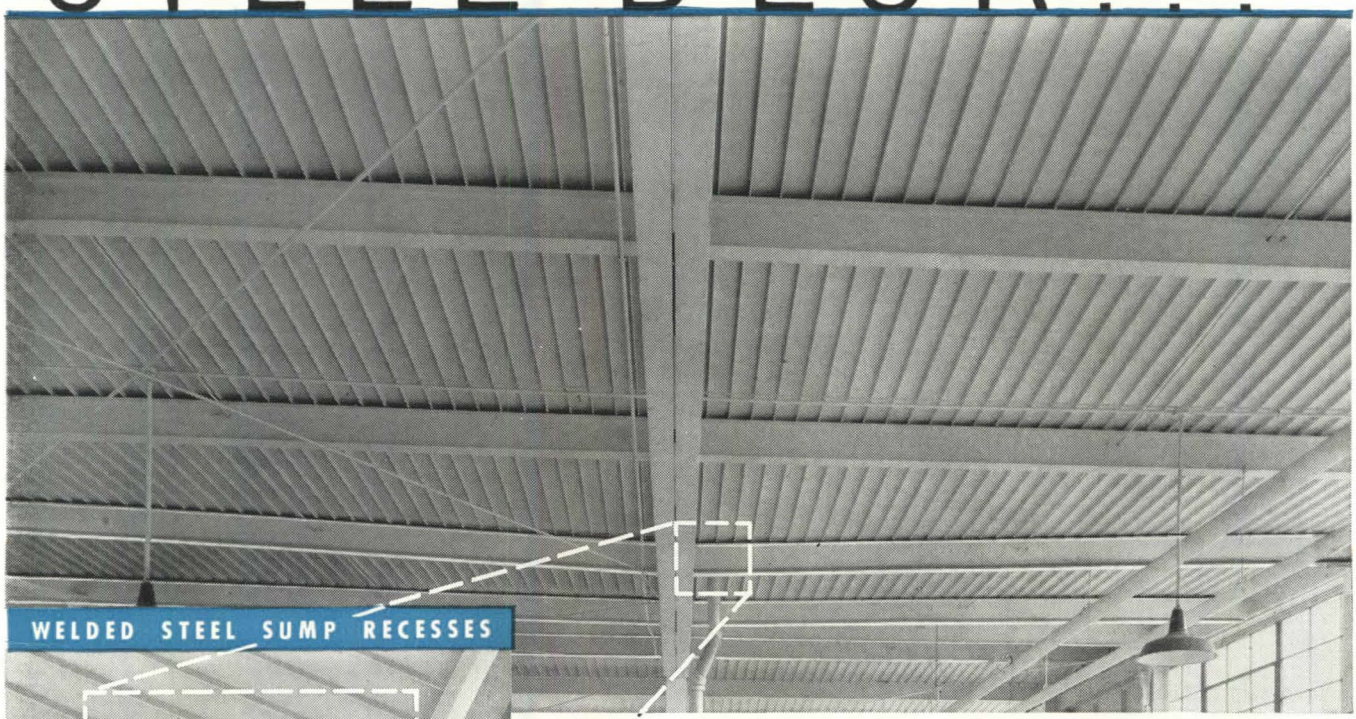
NEXT MONTH

● Full presentation of the house Gordon Drake designed for himself in Los Angeles, California (p. 54) will be a pictorial feature of the next issue—intended to convey to our readers the charm and skillful use of simple materials which won admiration of the Jury conferring the first annual PROGRESSIVE ARCHITECTURE Awards. This is the first of the Award buildings to be given complete presentation in the magazine.

● Principal subject of the July issue will be another Critique — Multiple Housing—consisting of photographs or sketches of plans and details of projects in California, Washington, Illinois, and District of Columbia. "Housing Campus" for Illinois Institute of Technology in Chicago, Illinois, is the work of Skidmore, Owings & Merrill, architects-engineers, of Chicago, and includes buildings of ten, four, and three stories. From Seattle, Washington, the editors and consulting critics—Simon Breines, John Dean, and George Brown—selected a six-family duplex group by Paul Hayden Kirk, of Chiarelli & Kirk. Two garden projects by Gregory Ain, Los Angeles, California, and two Washington, D. C., apartment houses by Berla & Abel of that city, complete the Critique material.

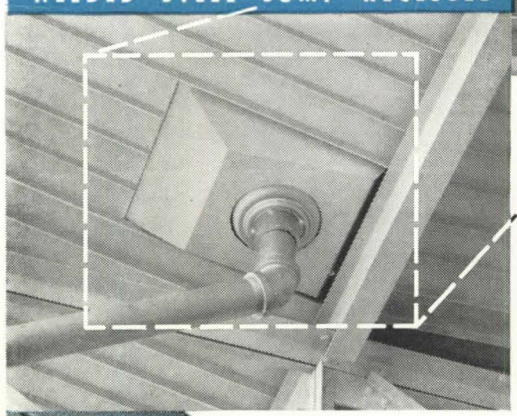
● Closely related to these projects is a row housing study by Charles Bauer and Herbert Swinburne of Newark, New Jersey, who have investigated all the factors which can be turned to advantage in reducing the cost of group housing, while maintaining independent living units. This seems an approach to thoroughly rational use of new and readily available materials—which at the same time achieves a pleasant result.

STEEL DECK...



Note the angle of the third and fourth purlins in the illustration above. These have been set to create a drainage valley at the sump location.

WELDED STEEL SUMP RECESSES



Typical Installation of Mahon Welded Steel Sump Recess. These can be furnished to fit any Roof Pitch specified.

for ROOFS, SIDEWALLS and CEILINGS . . . PARTITIONS and CONCRETE FLOOR FORMS

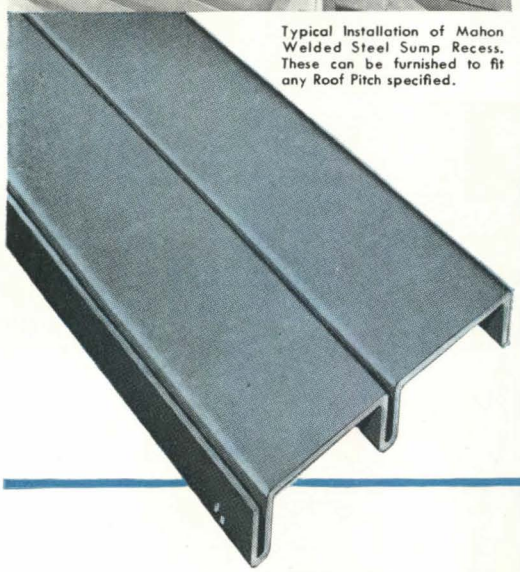
Every day alert designers and builders are finding Steel Deck ideally suitable for more and more uses in building construction . . . roofs, sidewalls, partitions, floors, and many other applications in the industrial, commercial and residential field. Mahon Steel Deck, due to its basic design with narrow, vertical-leg stiffening ribs, lends itself to a broader range of uses in modern construction. See Mahon Insert in Sweet's File for complete information, specifications, and latest construction details, or consult a Mahon representative.

THE R. C. MAHON COMPANY

Home Office and Plant, Detroit 11, Mich. • Western Sales Division, Chicago 4, Illinois

Representatives in all Principal Cities

Manufacturers of Steel Deck for Roofs, Sidewalls, Ceilings, Floors, Partitions and Doors. Also Roof Sumps and Recesses, Rolling Steel Doors, Grilles, and Underwriters' Labeled Rolling Steel Doors and Fire Shutters.



Standard Mahon Double Rib Steel Deck Plate. Single Rib Plates are also Available for Sidewalls and Partitions which may be insulated to Any Degree Against Heat, Cold or Noise.

MAHON

NOTICES

(Continued from page 12)

APPOINTMENTS

North Carolina State College of Agriculture and Engineering of the University of North Carolina announces the appointment of EDWIN GILBERT THURLOW as Professor of Landscape Architecture and head of the Department of Landscape Architecture.

LEON BROWN has been appointed as Assistant Professor of Architecture at Howard University, Washington, D. C.

The T-Square Club of Philadelphia, Pa., has appointed ARTHUR F. DEAM, now with the Department of Architecture in the School of Fine Arts at the University of Pennsylvania, as Patron of the group.

MATTHEWS M. SIMPSON, of Summit, N. J., has been appointed by the mayor to serve a five-year term as a member of the Planning Board of the City of Summit.

WILLIAM G. KAELBER, Rochester, N. Y., has been elected president of New York's State Board of Examiners of Architects. Mr. Kaelber succeeds CHARLES BUTLER.

GEORGE I. LOVATT, JR., Vice President of the Philadelphia Chapter, A.I.A., has been elected the first architect president of the Philadelphia Chamber of Commerce.

NEW PARTNERSHIPS, PRACTICES

ARTHUR J. DUPRE has opened an architectural office at 1595 W. Fifth Ave., Columbus 8, Ohio.

ANDRE MERLE ASSOCIATES have located new offices of design and architecture at the Southern Bldg., Washington, D. C.

CURTIS & DAVIS, architects and associated engineers, have opened a new office at 720 Union St., New Orleans 12, La.

MAXWELL E. WRIGHT has opened a new architectural practice at 805 Kales Bldg., 75 W. Adams St., Detroit 26, Mich.

VICTOR A. FRID and T. MERRILL PRENTICE have formed an architectural partnership with offices at 862 Asylum Ave., Hartford, Conn.

GEORGE NEMENY has associated with A. W. GELLER in a new practice with offices at 14 E. 39th St., New York 16, N. Y.

DOMINIC E. CAMPANELLA is a new partner in the firm of TELCHIN AND CAMPANELLA, architects, 22 W. 48th St., New York, N. Y.

NEW ADDRESSES

FREDERICK HODGDON, 3300 Temple St., Los Angeles 26, Calif.

TOOMBS & CREIGHTON, 127 Walton St., N. W., Atlanta, Ga.

ISADORE H. BRAUN, 173 W. Madison St., Chicago 2, Ill.

ERNEST J. KUMP CO., 9 Main St., San Francisco, Calif.

WALTER GORDON, Mead Bldg., Portland, Ore.

LOUIS FROMM, 207 E. 32nd St., New York 16, N. Y.

VIRGEL A. DAVIS, 106½ W. 2nd St., Odessa, Tex.

BURNHAM & HAMMOND, INC., architects-engineers, 53 W. Jackson Blvd., Chicago, Ill.

LYLE SWIGER, 307 First National Bank Bldg., Newport News, Va.

BENJAMIN F. COOK, consulting engineer, 1221 Baltimore Ave., Kansas City 6, Mo.

ELMER F. STEIGELMAN, civil engineer, 577 14th St., Oakland, Calif.

A. C. WOLF, Frederick Bldg., 2063 E. Fourth St., Cleveland 15, Ohio.

LESLIE M. DENNIS, 400 Westfield Ave., Elizabeth, N. J.

WESTON HOLT BLAKE, 210 Pennsylvania Bldg., Wilmington 50, Del.

J. LLOYD CONRICH, 593 Market St., San Francisco 5, Calif.

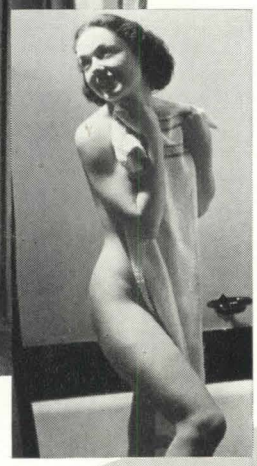
Best *for Radiant Baseboards*

. . . AS WELL AS FOR RADIATORS, CONVECTORS AND RADIANT PANELS

Radiant baseboards mark a new advance in the art of creating comfort with radiant heat. And—just as for radiators, convectors and panels—B & G *Hydro-Flo* Heat brings full realization of the many benefits made possible by radiant baseboards.

B & G *Hydro-Flo* Heat takes full advantage of *the basic superiority of forced hot water* as a heating medium. It establishes ideal comfort conditions because of its ability to measure out heat in the exact quantities required by the weather. When the outdoor temperature becomes colder, the average temperature of the water in the system is automatically increased to compensate for the greater heat loss. If the weather turns mild, the temperature of the circulating water is lowered accordingly.

The net result of this *variable* water temperature is a *uniform* room temperature, regardless of weather changes. It obviously means greatest operating economy, as only *just enough* fuel is burned to satisfy the heat demand.



B & G *Hydro-Flo* Heating Systems have universal application

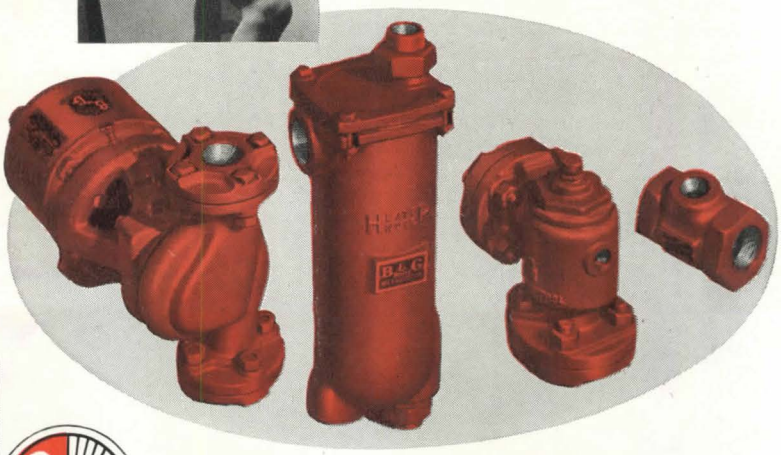
Hundreds of thousands of B & G *Hydro-Flo* installations are in successful operation today . . . in homes . . . in apartments . . . *and in low cost housing developments where economy of operation is an essential to owners with modest incomes!*

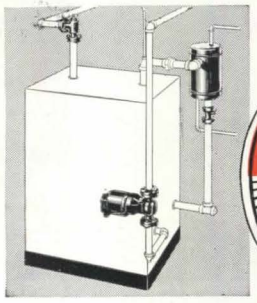
PLUS THIS EXTRA FEATURE!

Year 'round hot water from the same boiler that heats the house

Here's the feature that makes women enthusiastic about B & G *Hydro-Flo* Heat! The automatic controls of the system permit operation of the B & G Water Heater not only during the heating season but every month of the year. Virtually limitless quantities of low cost hot water are available at all hours of the day and night.

Hence every household task from dish washing to house cleaning is shortened, made easier. Every gratifying little luxury of personal care and cleanliness can be enjoyed to the utmost . . . and there's always plenty of hot water for such modern labor-saving devices as dish and clothes washers.





The simple, dependable equipment of a B & G *Hydro-Flo* Heating System can be installed on any hot water heating boiler.

B & G Hydro-Flo *Heat equipment can be installed on any hot water heating boiler. It is simple and dependable, with an established record for long, carefree service.*

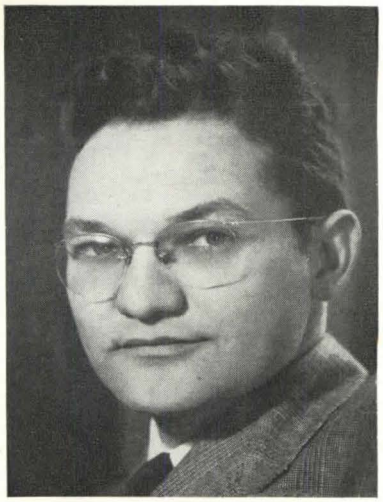
B & G Hydro-Flo* HEAT

BELL & GOSSETT COMPANY
Dept. AA-37, Morton Grove, Illinois

*REG. U. S. PAT. OFF.

PROGRESS REPORT

E. H. HUNTER M. K. HUNTER

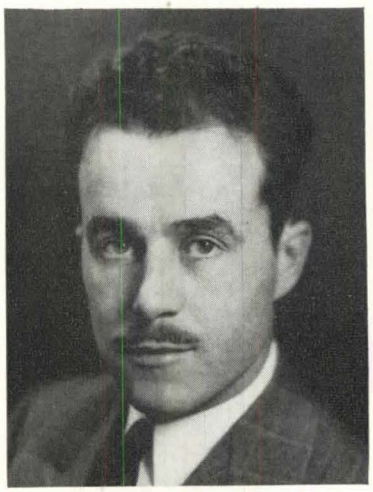


ERNEST J. KUMP

Four buildings chosen by a professional jury as "best exemplifying sound progress in design" among those constructed in the United States during 1946, recently won for the architects shown here the first annual PROGRESSIVE ARCHITECTURE Awards and Citations. The Award for non-residential buildings was shared by the architects shown above: Mr. and Mrs. E. H. Hunter, of Hanover, N. H., designers of Dewey Retail Shop, Quechee, Vt. (p. 58), and Ernest J. Kump, of San Francisco, designer of White Oaks Elementary School, San Carlos, Calif. (p. 58). A Citation in this classification went to Wayne County Health Clinic, Michigan (p. 60), designed by Eberle M. Smith (right) and Associates, of Detroit. Members of the Jury of Award (p. 53) spent two days evaluating the structures submitted for two classifications—non-residential and residential—and in finally choosing two buildings for each Award explained that "this equality represents with great exactness the temper of the Jury."

EBERLE M. SMITH

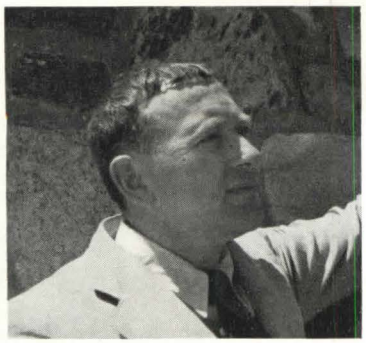
The Award for residences was shared by two Los Angeles, Calif., architects (right), Kenneth N. Lind, for design of California Cabins for Production Line Structures, and Gordon Drake, for design of his own home. Citations in this classification went to the four architects below: Whitney R. Smith, of South Pasadena, Calif., for the Leo Zwell house (p. 56); Marcel Breuer, of New York, for the Bertram Geller house (p. 57); Arthur T. Brown, of Tucson, Ariz., for the George Rosenberg house (p. 56); J. R. Davidson, of Los Angeles, for a suburban house there (p. 57). Dean William W. Wurster of the School of Architecture and Planning, M.I.T., was chairman and prepared the report on the Jury's deliberations presented on page 53.



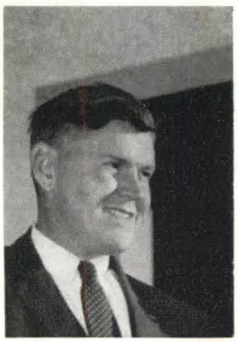
KENNETH N. LIND

GORDON DRAKE

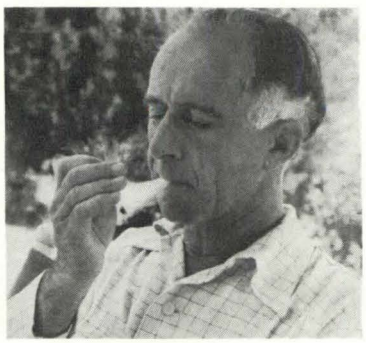
WHITNEY R. SMITH



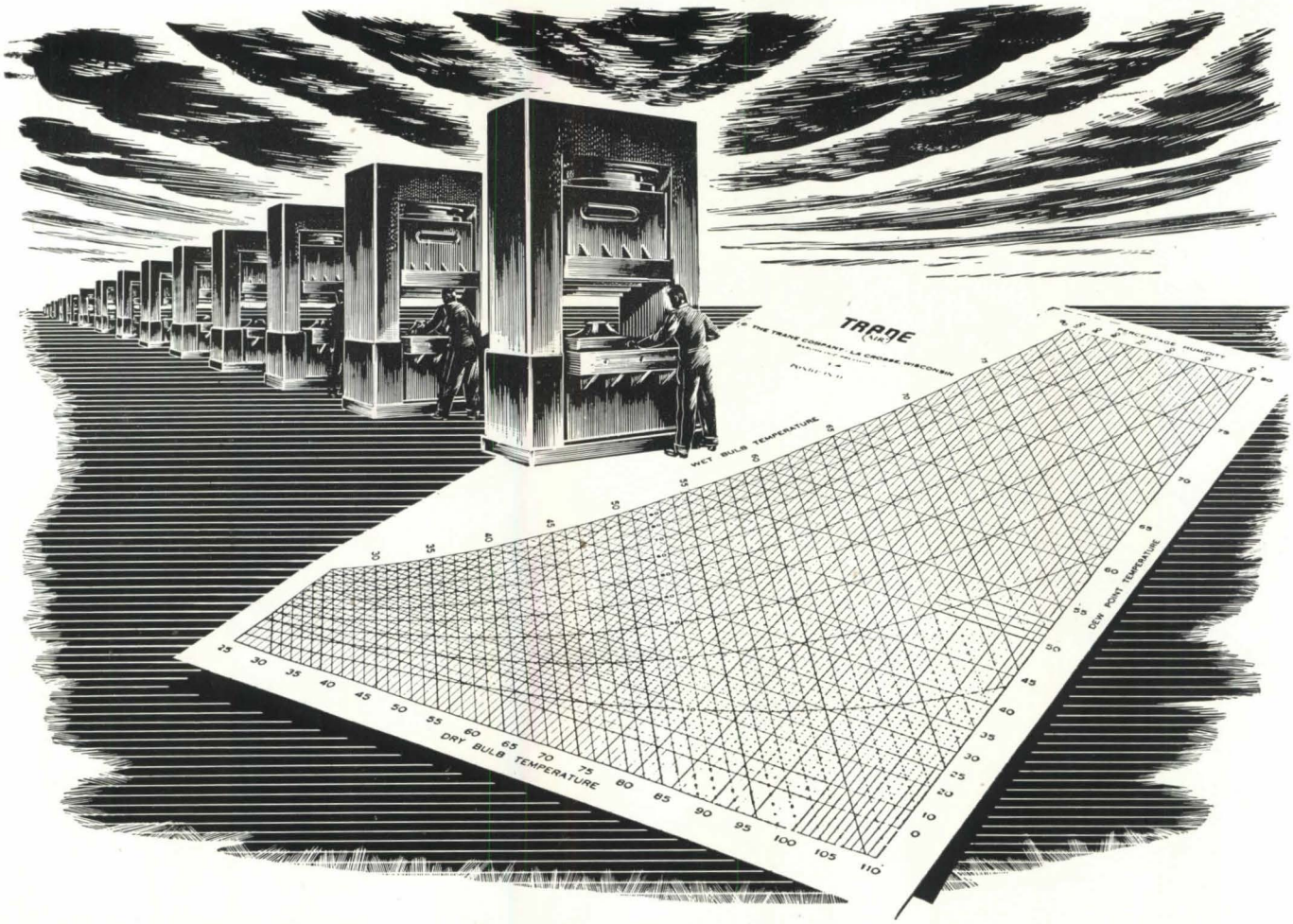
MARCEL BREUER



ARTHUR T. BROWN



J. R. DAVIDSON



ENGINEERED AIR CONDITIONING

With Mass Production Economy

Good air conditioning *exactly* fits the needs of its application—be it swank restaurant or blast furnace. Since there can even be vast differences among restaurants, good air conditioning must be designed specifically for each use. On the surface, that calls for made-to-order air conditioning, and anything made to order is usually expensive.

Trane Engineered Air Conditioning solves that problem. Each of the elements necessary for complete systems is developed by Trane engineers and built in quantity on Trane production lines. These economical units—designed and built together for use together—are then combined by the architect, engineer, and contractor for coordinated, planned-to-order air conditioning systems.

Trane provides a complete line of both heating and air conditioning products at a single source. There is a Trane field engineer within a few hours of any area in the country to advise in the application of Trane products and systems.

* * *

The Convector-radiator—modern successor to the old-fashioned cast iron radiator—has been engineered by Trane for universal application to steam and hot water heating systems, and is being produced in quantity so you can soon secure it from local distributors' stocks.

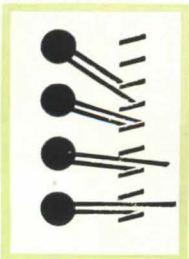
TRANE Manufacturing Engineers of Equipment for HEATING AND AIR CONDITIONING

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

PRODUCTION INCREASES, EMPLOYEES WORK BETTER IN ROOMS KEPT COOLER AND SHADED WITH

KOOLSHADE* *Sun Screen*

Production lines, office work—and life in general—go along more smoothly in rooms shaded from the heat and glare of direct sunlight. With KoolShade Sun Screen any room is kept cooler, more livable, no matter how hot and scorching the sun. For KoolShade blocks up to 90 percent of the heat-producing sun rays, *outside* the window. It gives complete visibility, lets in plenty of clear, diffused light; will not rust, rot or rattle. Requires no painting, no maintenance; is fire-proof, easy to install, and what is more, makes a perfect insect screen.

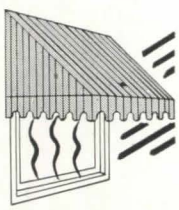


KoolShade is in effect a miniature venetian blind—its paper-thin bronze "slats" permanently set at the proper angle to block the hot sun rays *outside* the window.

KoolShade Proved Most Efficient of All Shading Devices!

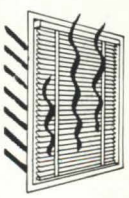
Comparative tests with other shading devices prove conclusively that KoolShade Sun Screen is by far the most effective in cutting temperatures in rooms exposed to the sun. In KoolShade-protected rooms, only 12.5% to 18.2% of sun-ray heat enters the room. That's 81.8% to 87.5% efficiency! And there's still complete visibility and plenty of glareless, diffused light. (Comparative figures from the American Society of Heating and Ventilating Engineers and Pittsburgh Testing Laboratories.)

CANVAS AWNING—plain. 28 percent of sun-ray heat enters. Light and visibility much reduced. 72 percent efficiency.

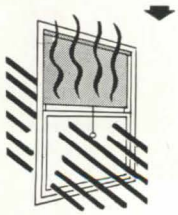


UNSHADED WINDOW—100 percent of direct sun-ray heat enters. Affords complete visibility but rates zero in heat-stopping efficiency.

INSIDE WINDOW SHADE—buff, half-drawn. 68 percent of sun-ray heat enters. Reduced visibility. 32 percent efficiency.



INSIDE VENETIAN BLIND—covering full window, slats at 45 degrees. 58 percent of sun-ray heat enters. Almost no visibility.



MAIL THIS COUPON TODAY

Ingersoll Steel Division
Borg-Warner Corp., Dept. J6
310 South Michigan Ave., Chicago 4, Ill.

Please send free sample and literature, also the name of my nearest KoolShade distributor.

Name.....

Firm.....

Address.....

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

Ingersoll
KOOLSHADE* SUN SCREEN

PRODUCT OF BORG-WARNER

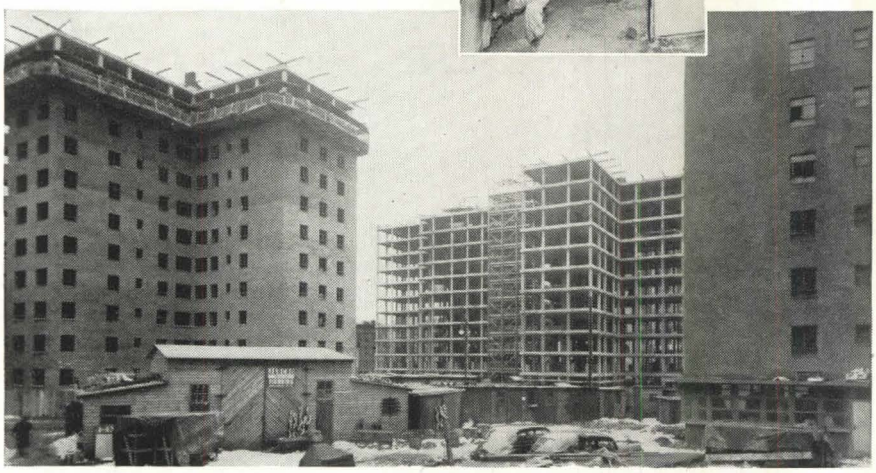
*Trade Mark Property of INGERSOLL STEEL DIVISION • BORG-WARNER CORPORATION

The PLANNING BOARD

The Truscon Planning Board Says: "With the high degree of production efficiency which has now been attained in the Truscon plants, we are able to meet normal demands for delivery of many of our steel building products." Contact the nearest Truscon District Sales Office for up-to-the-minute information, and cooperation in filling your requirements with the greatest efficiency.

608 New Apartments

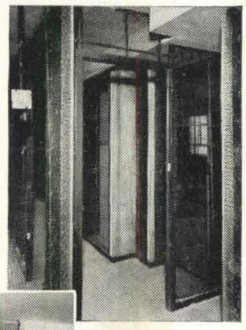
There'll soon be a lot of pleased and happy new residents in the area between 9th and 10th Avenues, and West 25th and West 27th Streets, in New York City. This is the site of the Elliot Housing Project, consisting of four big modern structures containing 608 modern apartments, and rapidly being readied for habitation.

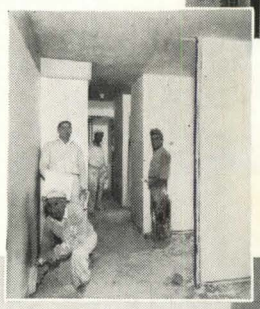


Truscon Diamond Metal Lath Used in Elliot Housing Project, New York City.

Large quantities of Truscon Diamond Metal Lath, in conjunction with Truscon ¾" Channels and Tie Wire, were used for the 2" solid metal lath and plaster partitions for this project. These Truscon steel building materials served several important functions: (1) They permitted the quick, low-cost coverage of large areas with smooth, flat lath; (2) they met strict fire-proofing requirements; and (3) they helped attain a high quality of plastered job, and will protect the fine appearance of the walls and ceilings for a great many years.

Truscon Diamond Lath is a flat metal lath, uniformly expanded throughout the entire sheet. Its use is almost universal, for it is adaptable for practically all classes of work—as a base for walls, partitions, ceilings, as a reinforcement for stucco, as a protection for steel beams and columns, and for protecting hazardous points in wood frame construction—such as ceilings under inhabited floors, especially over heating plants and coal bins, around flues, and back of kitchen ranges, stair wells, and under stairs.





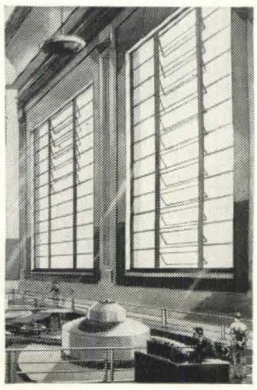
Truscon Cold Rolled Channels are straight and true, with square corners that prevent rolling.

Illustrating the straight, true plastered walls secured with Truscon Metal Lath Products.

Diamond Lath has more openings in a given area, with a proportionate increase in the area of steel. The increased proportion of steel gives the sheets great rigidity. They are easily handled and quickly erected, and less time is taken in applying the scratch coat and truing up the wall than with ordinary diamond lath. The small openings prevent excess penetration of plaster, thus minimizing droppings. The larger number of openings permits the formation of more keys to give efficient bonding of the plaster to the lath. Write for catalog on Truscon Metal Lath and Accessories.

More "Light-Power" for Power Houses

There is a growing use of Truscon Donovan Steel Windows for structures housing power units. These windows permit modern, streamlined design for exterior distinctiveness in appearance. Large areas can be covered by one complete window unit, permitting ample introduction of light and air. The operator mechanism, although concealed, assures positive control of the window openings. This mechanism replaces the unsightly mechanical operators usually necessary to effectively control ventilators. The steel sections used in Donovan Windows are rolled exclusively for Truscon, and are the largest and heaviest steel sections manufactured expressly for windows. Write for free catalog describing Truscon Donovan Steel Windows.

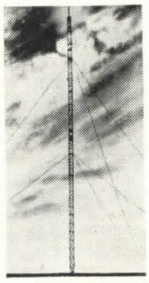


A Steel Window for Every Purpose

Did you know that Truscon Steel Company fabricates a more diversified line of steel windows than any other window manufacturer? Truscon also manufactures practically all of the necessary collateral window equipment such as mechanical operators and screens. There is a type of window design to meet any window requirement in any type of building in any industry. Ask for information on Truscon's complete line of steel windows.

Sky High

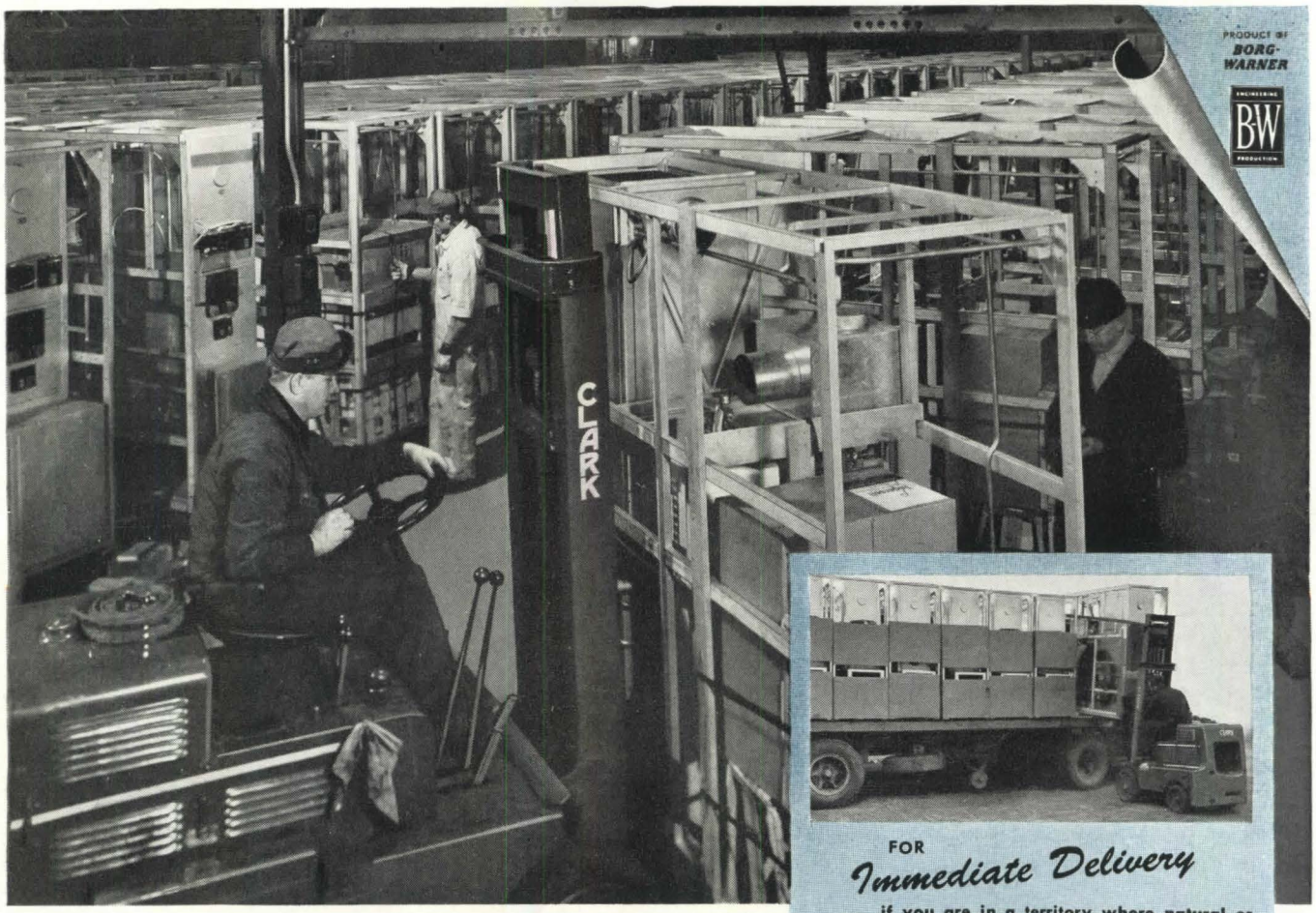
Truscon design and engineering ability in steel construction is evidenced by Truscon contracts to build America's tallest radio towers. The tallest one right now, is the WKY Radio Tower in Oklahoma City, 956 feet high from the ground to the top of the FM antenna. Tall or small, AM to FM, Truscon can supply guyed or self-supporting radio towers for every requirement.



New Literature

Write for catalog describing the new Truscon line of plastering accessories, including Bull Nose and Scalloped Edge Corner Beads, Special Base Grounds and Screeds, Picture Mold, Casings, Fittings and other items.

TRUSCON STEEL COMPANY
YOUNGSTOWN 1, OHIO
Subsidiary of Republic Steel Corporation



FOR
Immediate Delivery

. . . if you are in a territory where natural or mixed gas is available for heating, you can get immediate delivery on Ingersoll Utility Units. Due to gas restrictions in certain areas, a supply of Units with gas heating plants has been built up and is available on a "first come, first served" basis. If you can use them, phone or wire your requirements today!

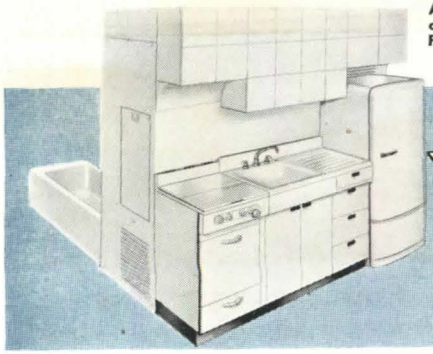
Daily Shipments

Now Being Made on the INGERSOLL UTILITY UNIT!

Complete Kitchen, Bath and Heating Plant in One Package, Going Out on Regular Schedule

Architects and Builders everywhere who are including space and time-saving Ingersoll Utility Units in their housing projects can now be sure that their needs will be filled promptly and on time. With streamlined, production-line efficiency, turning out Units on clockwork schedule, this single-engineered assembly can be counted on to cut building time by weeks.

Its practical, modern design, adaptable to individual plans and needs, centers all the utilities in one compact grouping. See for yourself how the Ingersoll one-purchase, one-package, one-installation plan will make your jobs easier, more economical and provide roomier, more livable homes for your customers.



A single, engineered assembly of the fixtures, appliances, controls and fittings of Kitchen, Bathroom and Heating Plant, plus *all* interior plumbing and electrical connections.

Ingersoll
UTILITY UNIT
TRADE MARK

*Trade Mark Property of
INGERSOLL STEEL DIVISION
BORG-WARNER CORPORATION

MAIL THIS COUPON TODAY!

INGERSOLL STEEL DIVISION
Borg-Warner Corp., Dept. J6
310 S. Michigan Ave., Chicago 4, Ill.

Please send literature on the Ingersoll Utility Unit.

Name .....

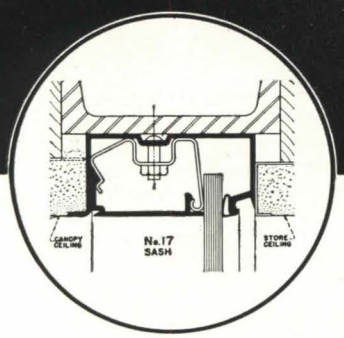
Firm .....

Address ..... State .....

City .....

Another new sash

IN PITTCO DE LUXE STORE FRONT METAL



Newest member of the Pittco De Luxe line of store front metal is this flush type sash (No. 17). It was designed primarily for use where the architect wishes to have the ceilings of canopy and store on the same plane, apparently joining each other without interruption. It can also be used at the sides. Of special importance is the fact that this new sash is self-adjusting to allow for a certain amount of deflection in beam or canopy . . . *there are no obstructions between the edge of the glass and the inner member.* The extruded construction of sash No. 17 assures sturdy strength and a rich, smooth finish, and it can be used in combination with all other Pittco members, whether De Luxe or Premier.

The creative thinking that went into the design of this new sash is only one example of the careful planning that has won so many friends for both lines of Pittco Store Front Metal. Sturdy construction, distinctive styling, ease of installation, and a rich finish have made Pittco De Luxe an outstanding leader for high quality store front installations. Pittco Premier satisfies every requirement for a lighter weight, more moderately priced metal which can be set easily and quickly.

PITTCO
STORE FRONT METAL

"PITTSBURGH" stands for Quality Glass and Paint

PITTSBURGH PLATE GLASS COMPAN

WHERE OIL AND GASOLINE ARE BEING USED

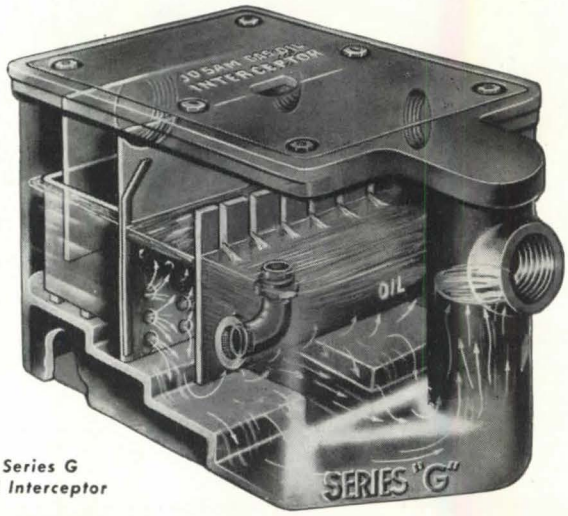
GUARD THE BUILDING

AGAINST FIRE AND EXPLOSION HAZARDS AND WATER POLUTION

WITH THE

Josam OIL INTERCEPTOR

There's dynamite planted in the building where gasoline, naptha, oil or other inflammable or volatile liquids are being poured, or are constantly seeping, into the drains. A carelessly dropped match, a lighted cigarette or spontaneous combustion will set off a subterranean explosion with the force of dynamite! The proper way to prevent such explosions and fires in garages, factories, airports, refineries, dry cleaning plants, and similar places, is to install Josam Oil Interceptors. Josam Oil Interceptors prevent inflammable residues from entering the drain lines and positively eliminate dangerous hazards. The cost is so small compared with the protection they provide to property, equipment, merchandise... and life itself!



Series G Oil Interceptor

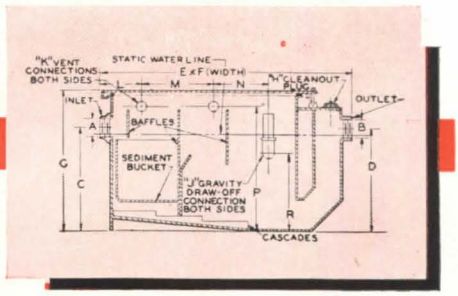
- With the Josam Oil Interceptors located in proper points in the drainage system, the inflammable liquids are eliminated from the waste water and safely drawn off. Josam Series G Oil Interceptor is a proven unit in the field of gasoline and oil interception... separates these substances from the water through construction which is based upon the hydraulic principle of the cascade. Clean water continues through the trap leg to the drain line and to the sewer, free of the bulk of contaminating oils or similar liquids which carry the hazard of fire, explosion as well as polution.

The gravity draw-off drains off the accumulated oil, gasoline, and similar light density substances above operating level to safe storage tanks or containers for salvage use or sale.

Each Josam Oil Interceptor is equipped with a flow control which governs the rate of flow to the interceptor to prevent overloading and to insure 90% or more efficiency.

FOR HEAVY DUTY COMMERCIAL AND INDUSTRIAL SERVICE — SERIES GN

- Large commercial and industrial plants... where kerosene, gasoline, oil, naphtha and other light density substances are present in waste water as a basic or by-product of the process carried on in the establishment... not only can salvage such liquids to good advantage but are often confronted with law infraction when they allow them to pass with waste water to the sewer. In most cases, the tremendous flow rates and high efficiencies required to provide the proper protection have placed the requirements beyond the capacity of regular oil interceptors.



Series GN Oil Interceptor

For this specific purpose, Josam has developed its Series GN Oil Interceptors in a wide range of large capacities, designed to render heavy duty service while maintaining high efficiency and providing the Josam method of gravity draw-off. For further information on Josam Oil Interceptors, send coupon below today.

- *Floor Drains* • *Roof Drains* • *Moderator Shower Mixing Valves* • *Grease Interceptors* • *Swimming Pool Equipment* • *Oil Interceptors* • *Backwater Valves*

JOSAM MANUFACTURING COMPANY

General Offices, Ferguson Bldg., Cleveland 14, Ohio • Plant, Michigan City, Ind.

Representatives in all Principal Cities

Josam PRODUCTS STANDARD OF AMERICA

JOSAM-PACIFIC CO., West Coast Distributors
765 Folsom Street, San Francisco, California

EMPIRE BRASS COMPANY, LTD., Canadian Distributors
London, Ontario

See our Catalog in Sweets'

Member of the Producer's Council

JOSAM MFG. CO., 304 Ferguson Bldg. Cleveland 14, Ohio

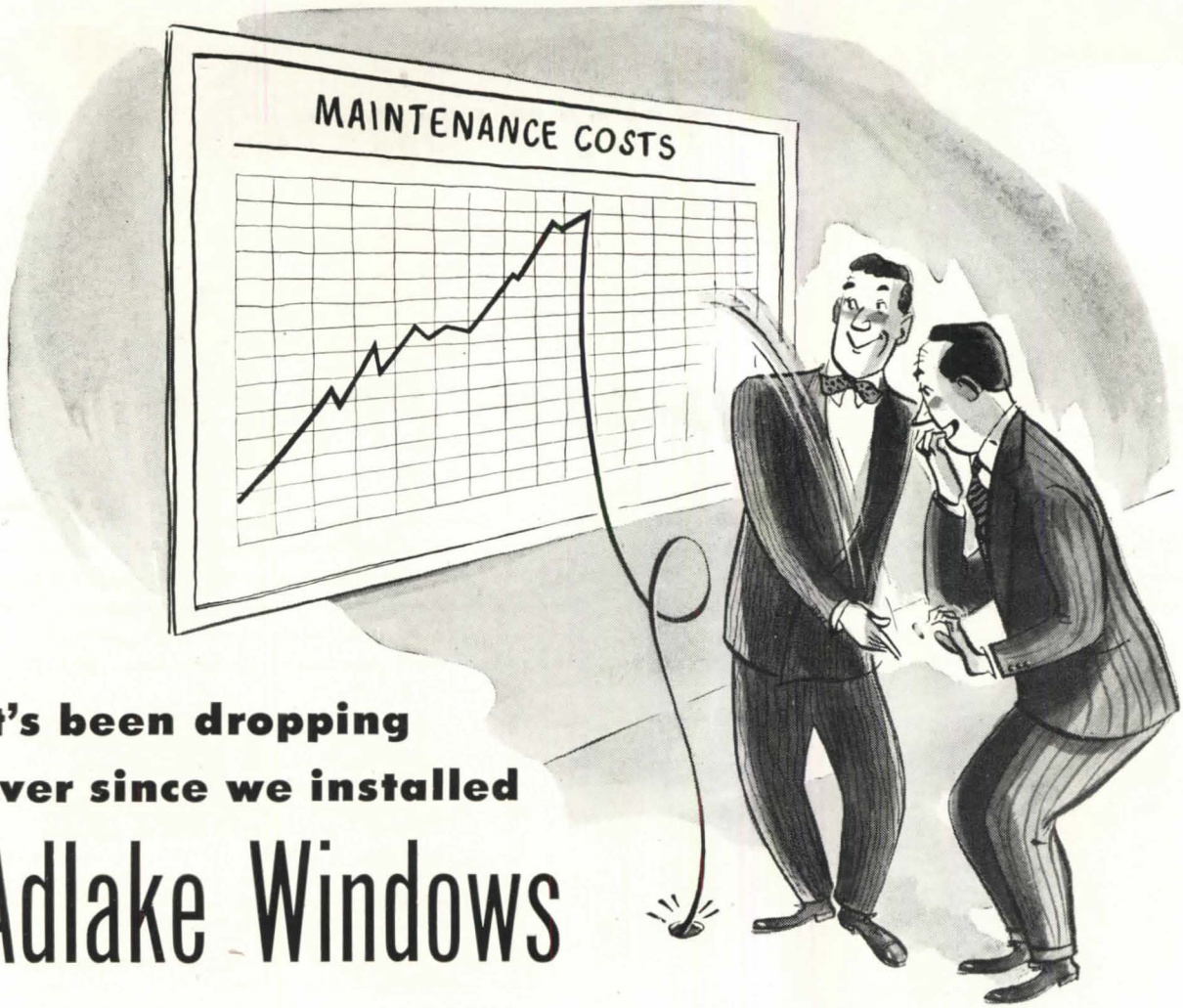
Send literature on ☐ Series G Oil Interceptors ☐ Series GN Oil Interceptors

NAME.....

FIRM.....

ADDRESS.....

CITY and STATE..... ZONE.....



It's been dropping ever since we installed

Adlake Windows

THE MAN ISN'T FOOLING—maintenance costs *disappear* when you install Adlake Aluminum Windows, because NO MAINTENANCE IS REQUIRED! Built from lustrous aluminum, Adlake Windows need no painting or care other than routine washing. What's more, they never warp, rot, rattle, swell, or stick. You install 'em—you *forget* 'em!

ONLY ADLAKE combines nonmetallic weather-stripping and serrated guides to stop excessive air infiltration and give you finger-tip control. Expertly designed to harmonize with either traditional or modern buildings, it gives a lifetime of beauty and service.

TRULY the amazing Adlake Window fulfills your every architectural requirement! Complete information and data will be mailed you on request. Drop us a postcard today . . . there's no obligation, naturally. Address: The Adams & Westlake Company, 1103 N. Michigan, Elkhart, Ind.

Furnishers of Windows to the Transportation Industry for Over Thirty Years

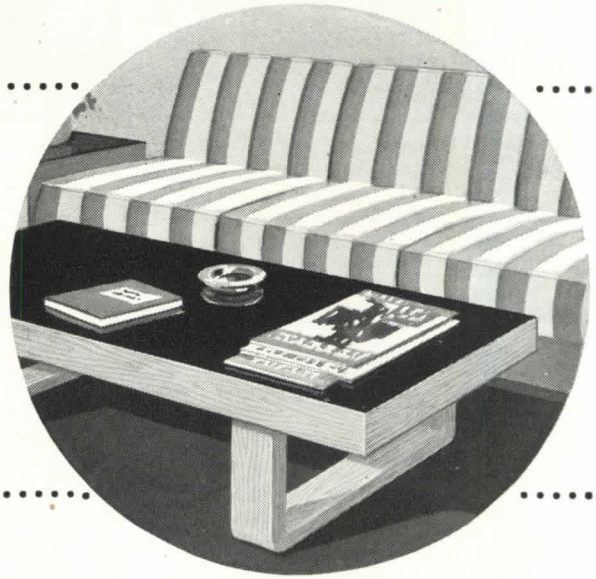
THE Adams & Westlake COMPANY

Adlake TRADE MARK

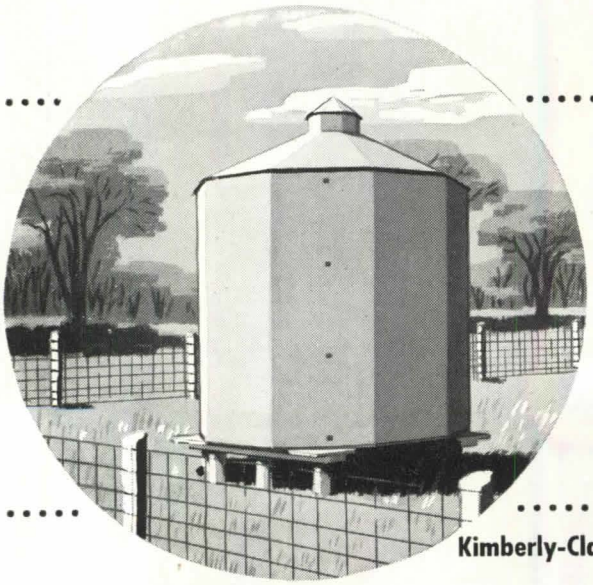
Established 1857 • ELKHART, INDIANA • New York • Chicago

Kimpreg*...
Plastic Armor fused to Plywood

PROTECTS AGAINST WEATHER. Kimpreg-surfaced plywood withstands rain, snow, and extremes in temperature. An amazing success when used for trailer coaches, table or bar tops, and boat decking. Easily adaptable to many other types of construction exposed to rough wear and weather.



INCREASES DURABILITY. Fusing Kimpreg—a thermosetting phenolic material—to the surface of any type of plywood produces Kimpreg + Plywood. Snag-proof, scuff-proof, highly resistant to weak acids, impervious to alcohol.



MYRIADS OF USES are possible with this light, strong material. Mail the coupon today for more complete details and for the names of manufacturers who produce remarkable Kimpreg + Plywood. *If you cannot get all the Kimpreg-surfaced plywood you need, please be patient until the resin supply is more plentiful.*

Kimberly-Clark Corp., Neenah, Wis. Please send me the free Kimpreg book and the names of manufacturers making plywood surfaced with Kimpreg.

PA-647

Name _____

Firm _____

Type of Business _____

Address _____

City, Zone, State _____

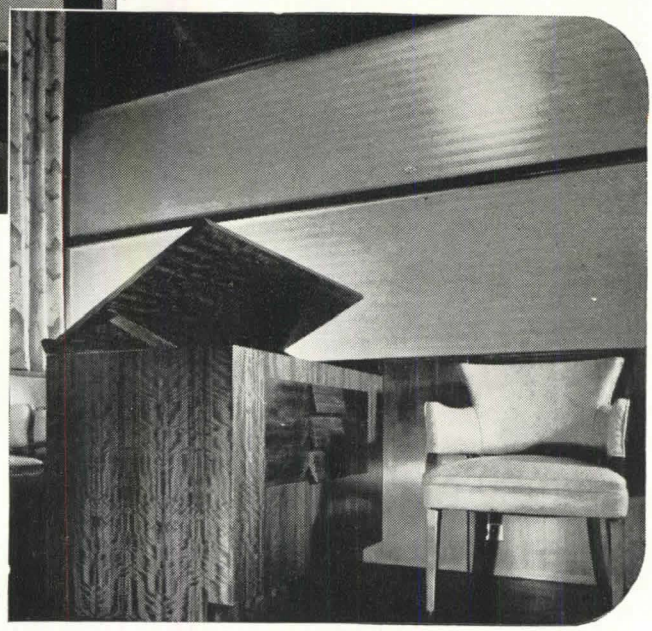
Kimpreg
REG. U.S. PAT. OFF.
PLASTIC SURFACING

A PRODUCT OF Kimberly Clark RESEARCH

*TRADEMARK

Patterned Glass...

for more beautiful showrooms



Satinol Louvrex in Moniteau Mills Showrooms, designed by Robert Gruen Associates.

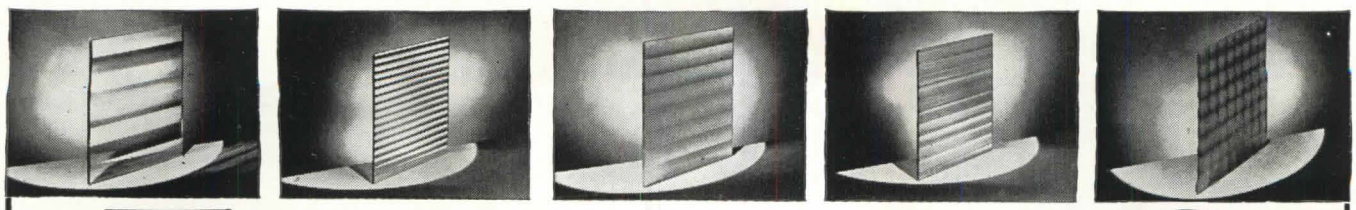
To add sparkle, diffuse light and provide privacy, architects and designers choose Blue Ridge *Patterned* Glass.

Fire-polished or *Satinol-finished*, this sparkling glass creates a rich background in modern showrooms . . . is equally smart for partitions, walls or panels in homes and offices. Over 20 patterns assure the right choice to harmonize with any decorative period. Because it may be bent to nominal radii, and *Securitized* (heat-tempered) to withstand thermal or physical shock, Blue Ridge *Patterned* Glass is a most versatile medium.

Consult your L·O·F Glass Distributor. Send for our *Patterned Glass Modernization Book*. Blue Ridge Sales Division, Libbey·Owens·Ford Glass Company, 1067 Nicholas Building, Toledo 3, Ohio.

FIVE POPULAR BLUE RIDGE PATTERNS

LOUVREX **LINEX** **FLUTEX** **STYLEX** **DOUBLEX**



BLUE RIDGE *Patterned* GLASS

FOR SOFT, DIFFUSED LIGHT • SMART DECORATION • COMPLETE PRIVACY

OVER THE PAST 20 years, thousands of commercial and industrial installations have utilized millions of feet of Anaconda 85 Red Brass Pipe which, today, continues to give dependable, rust-free service.

This service record justifies the faith of The American Brass Company's engineers who recommended this pipe in 1927 (after ten years of exhaustive experiments) as the highest quality corrosion-resistant pipe obtainable at a reasonable price.

Today this same pipe, containing 85 percent of copper, sets new records for continuing high quality, uniformity of grain structure and proved dependability. It is furnished through wholesale distributors.

4735A

ANACONDA
from mine to consumer

Anaconda

85 RED BRASS PIPE

THE AMERICAN BRASS COMPANY

General Offices: Waterbury 88, Connecticut

Subsidiary of Anaconda Copper Mining Company

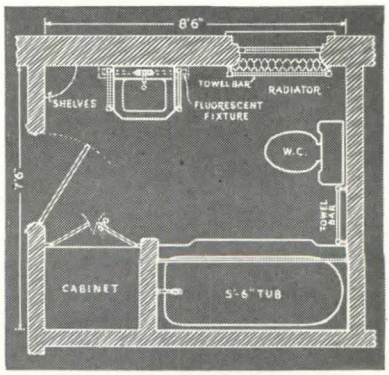
In Canada: ANACONDA AMERICAN BRASS LTD.
New Toronto, Ont.

A KOHLER bathroom means first quality plus practical convenience

THIS bathroom shows how Kohler plumbing fixtures may be combined in a convenient, inviting arrangement for the home of average size. All the visual and practical advantages of Kohler quality are here—well-matched designs; clean cut lines; good proportions; lustrous, easily cleaned surfaces; and working parts that function smoothly and reliably. Home-owners know that Kohler quality means *first quality*—an investment that assures efficient health protection and adds permanent value to the home.

The Kohler fixtures illustrated are the Chesapeake vitreous china lavatory, with roomy basin, handy ledge and Centra fitting; and the Cosmopolitan Bench Bath, made with durable, gleaming enamel on time-tested, non-flexing cast iron, and equipped with the Triton shower mixer. The quiet, smooth-acting Wellworth closet completes this matched set.

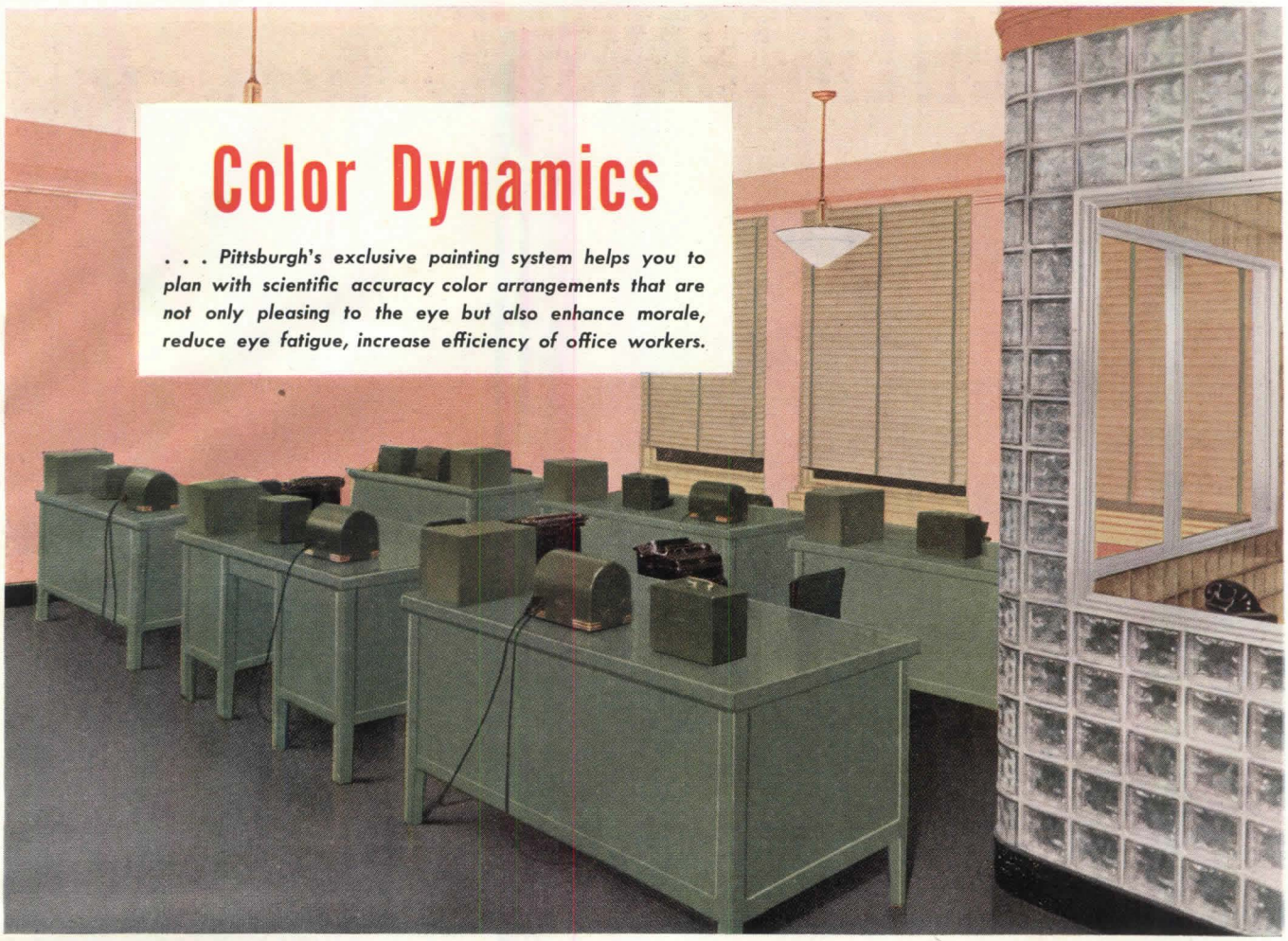
Kohler quality is now a 74-year-old tradition, maintained through every step of production, which takes place in one great plant, under one supervision. Write for whatever additional information you need. Kohler Co., Dept. G, Kohler, Wisconsin.



This Kohler bathroom *occupies space of moderate size, 7' 6" x 8' 6", with Kohler fixtures and compact, conveniently located cabinet, shelves and other facilities.*

KOHLER OF KOHLER

PLUMBING FIXTURES • HEATING EQUIPMENT • ELECTRIC PLANTS



Now you can use the energy in color

for functional as well as decorative purposes!

PEOPLE who work in public or semi-public buildings appreciate those things which help to keep them going . . . with greater mental efficiency . . . with less physical strain . . . with greater comfort and restfulness.

Pittsburgh's COLOR DYNAMICS enables those responsible for building maintenance to specify *with scientific accuracy* color arrangements that retard fatigue, stimulate energy, improve morale, increase safety and promote the well being of workers.

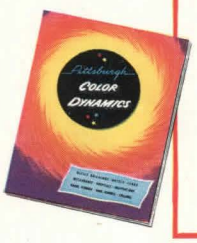
This new system of painting is based upon the energy which colors possess. Science has proved that color can stimulate or relax, cheer or depress.

Pittsburgh technicians have applied these tested principles as the basis of COLOR DYNAMICS which enables you to utilize color for functional as well as decorative purposes.

Now you can specify colors which are not only good to look at but which improve efficiency and morale.

With COLOR DYNAMICS you can make offices seem more spacious and attractive. Rooms can be made to appear longer or wider, higher or lower, halls lighter and wider.

For a complete explanation of what COLOR DYNAMICS is and how it works, write for revised, profusely illustrated booklet. Pittsburgh Plate Glass Company, Paint Division, PA-6, Pittsburgh 22, Pa.



Paint RIGHT With Color Dynamics
Paint BEST With Pittsburgh Paints!

The benefits of COLOR DYNAMICS are made more enduring when you use Pittsburgh's long-lasting quality paints. There's a PITTSBURGH PAINT for every need!

WALLHIDE—in three types: **PBX**—extra durable finish which can be washed repeatedly without streaking or spotting. **SEMI-GLOSS**—for higher sheen. **FLAT**—velvet-like finish for offices, libraries, dining rooms. These paints are enriched with "*Vitolized Oils*" for *live-paint protection.*

WATERSPAR ENAMEL — for furniture, woodwork, metal trim—its rich gloss resists marring and abrasion.

FLORHIDE—for floor surfaces. Quick drying, tough, can be scrubbed frequently with soap solutions.

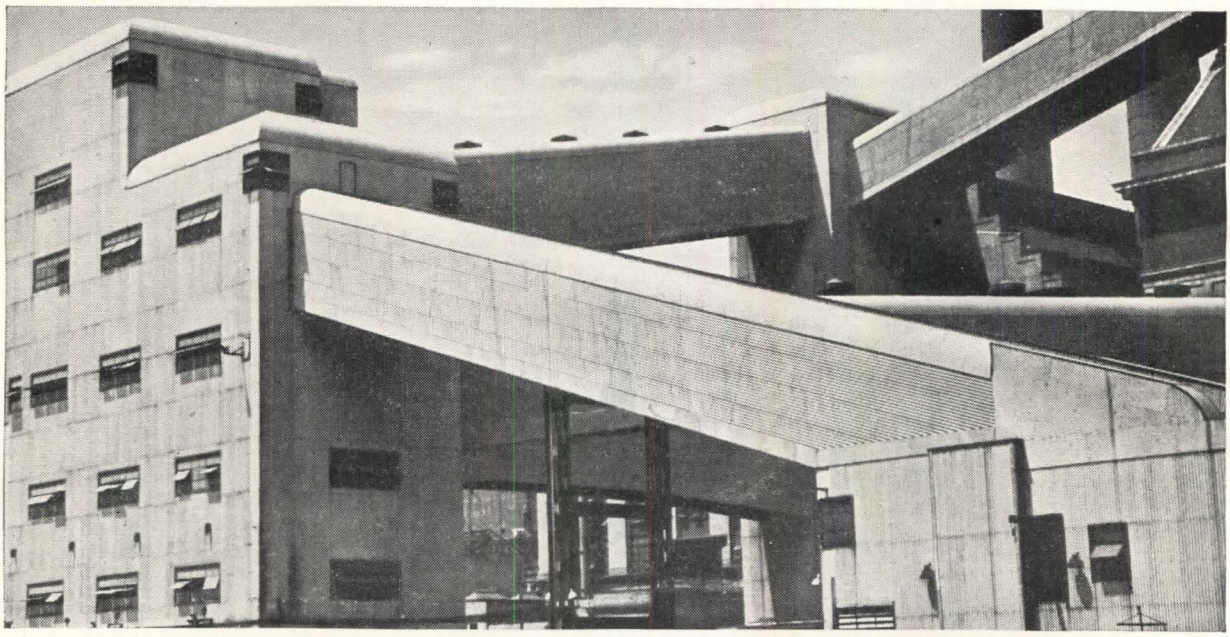
PITTSBURGH PAINTS

PITTSBURGH PLATE GLASS COMPANY, PITTSBURGH, PA.

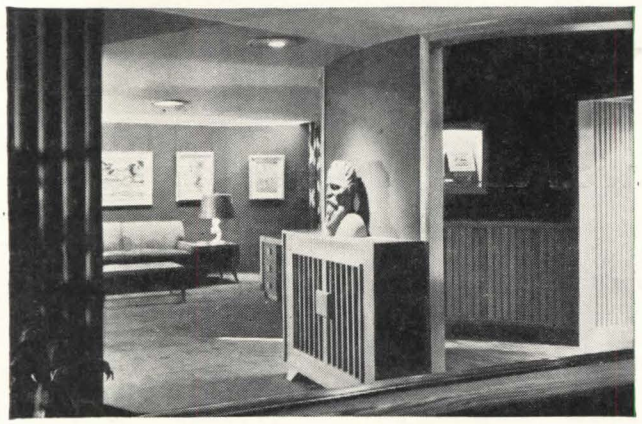
PITTSBURGH STANDS FOR QUALITY PAINT AND GLASS

CORRUGATED TRANSITE* . . . *for utility, beauty, or both*

*Transite is a registered Johns-Manville trade mark



Architects and engineers are using Johns-Manville Corrugated Transite in many ways to get that modern streamlined effect. Transite sheets can't rot, rust, or burn. And they're low in cost . . .



The smartly styled art gallery above gets some of its unusual charm from the same rugged Corrugated Transite that provides durable roofs and sidewalls for all types of industrial and commercial buildings.

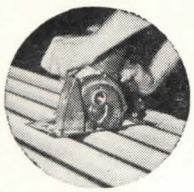
Whether the project is to provide a fireproof, weatherproof exterior for a power plant or to glamorize an art gallery, Johns-Manville Corrugated Transite is *right* on the job. Use it inside, outside . . . on both new or remodeled structures.

The large rigid sheets—with their unusual strength increased by corrugations—permit a minimum of framing, thus enabling you to simplify construction and save money. They are quickly and easily applied . . . can be completely salvaged when alterations are necessary.

Made of asbestos and cement, practically indestructible materials, Corrugated Transite requires no preservatives . . . needs little or no upkeep. For further details, send for brochure. Johns-Manville, Box 290, New York 16, N. Y.

Because of unprecedented demand, there may be times when we cannot make immediate delivery. Please anticipate your needs.

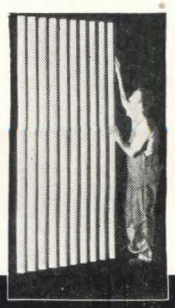
EASY TO BOLT TO STEEL



EASY TO SAW

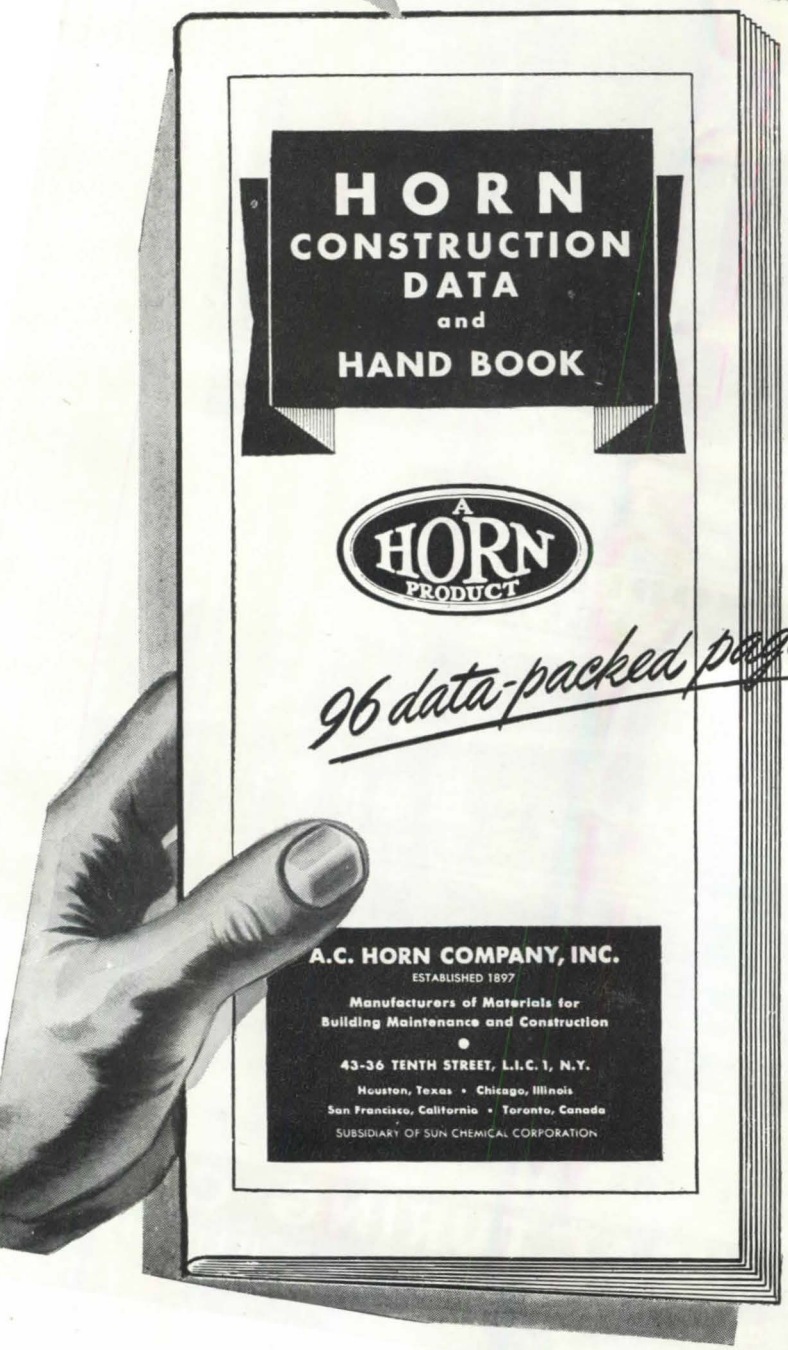
EASY TO DRILL

EASY TO NAIL TO WOOD



Johns-Manville *Asbestos* **CORRUGATED TRANSITE**

FREE! This 96-page book... to celebrate our 50TH ANNIVERSARY 1897–1947



We have printed a special anniversary edition of this invaluable book for business executives, architects, contractors and engineers. This 96-page book summarizes our unique and extensive experience in the protection and decoration of structures after 50 years of manufacture and service. In that time we have faced and solved many problems on thousands of projects, involving every industry, every variation in climate and almost every known condition.

CONTENTS

HOW TO SOLVE MANY CONSTRUCTION AND MAINTENANCE PROBLEMS

- CONSTRUCTION DETAILS
- MATERIAL TABLES
- WEIGHTS AND MEASURES
- HORN PRODUCTS AND METHODS

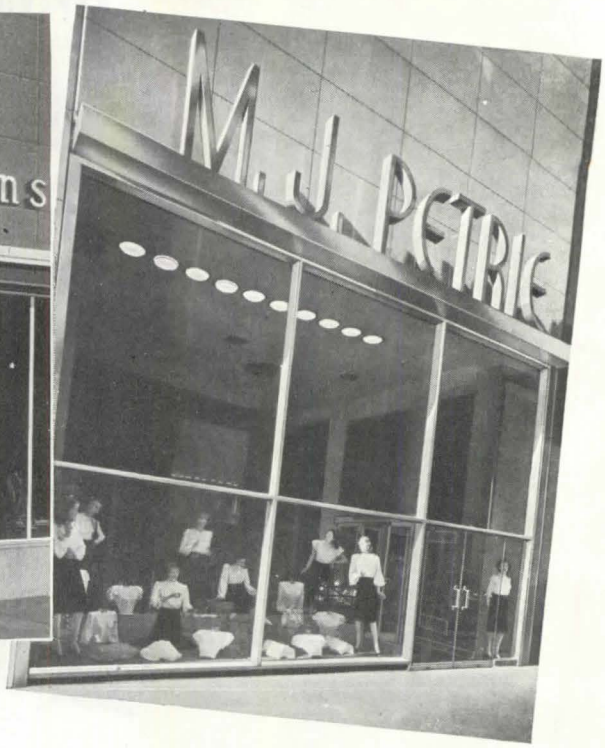
Here is a book giving you engineering data and specifications to help you solve many problems of waterproofing, dampproofing, painting, caulking, roofing and flooring. You may have this reference book with our compliments. Naturally, the edition is limited, first requested, first served. Write today—

WRITE ON YOUR BUSINESS LETTERHEAD

A. C. HORN COMPANY, INC.
43-35 Tenth Street
Long Island City 1, New York

POST-WAR INSTALLATIONS

Architects: ↑
Stubee & Young
Houston



Architects:
Leichenko & Esser
Chicago

Brasco
MODERN STORE FRONTS

← Architects:
Hanker & Heyer
Memphis ↓

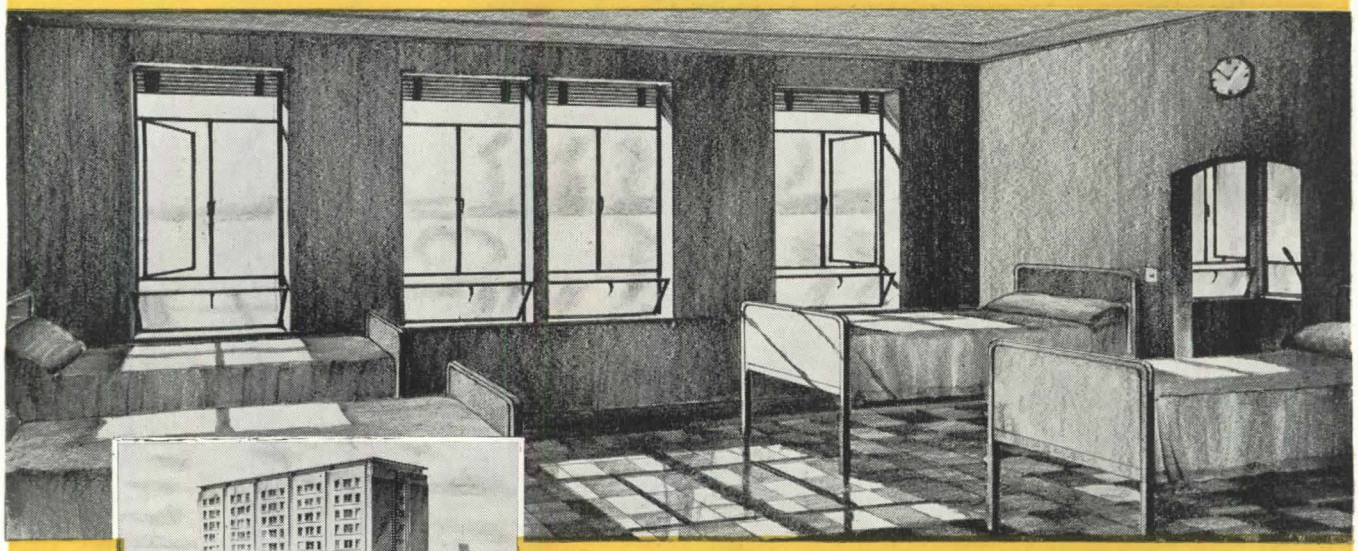
★ A COMPLETE LINE FOR EVERY DESIGN ★

BRASCO MANUFACTURING CO.
HARVEY - (Chicago Suburb) - ILLINOIS
National Distribution Assures Effective Installation

Distinctive!.. and standardized for economy

THE FENCRAFT FAMILY* OF WINDOWS

*CASEMENT...PROJECTED...COMBINATION



Suggestion: **Provide more daylight and better fresh-air ventilation for a ward room in a general hospital with Fencraft Standard Intermediate Combination Windows, such as Type 616 shown here. The sill vent provides excellent ventilation—deflects incoming air upward.**

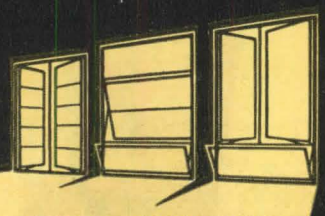
Distinctive window treatment is a mark of a truly fine building. Of course, you want it in the buildings you are planning—along with high quality and marked economy.

Then take a good, close look at Fencraft. These windows were designed for beauty . . . for easy operation, year after year . . . for weather-tightness . . . for safe cleaning . . . for abundant fresh-air ventilation. *And then they were standardized for economy.*

This standardization economy takes two forms—both important. There's economy in first cost because standardization simplifies and speeds production procedures. And there are real economies in installation because of uniform installation details and co-ordination of window dimensions with those of wall materials.

Fencraft Windows are made of specially-designed casement sections—by craftsmen in the plants of America's oldest and largest steel window manufacturer. They're every bit up to the Fenestra standard. You can recommend them with confidence for the finest buildings. Fencraft Windows are now being shipped to many localities. For product details, see Sweet's Architectural File (Section 16A-9). Or mail the coupon.

Fenestra



FENCRAFT INTERMEDIATE STEEL WINDOWS

Detroit Steel Products Company
Dept. PA-6
2253 East Grand Blvd.,
Detroit 11, Michigan

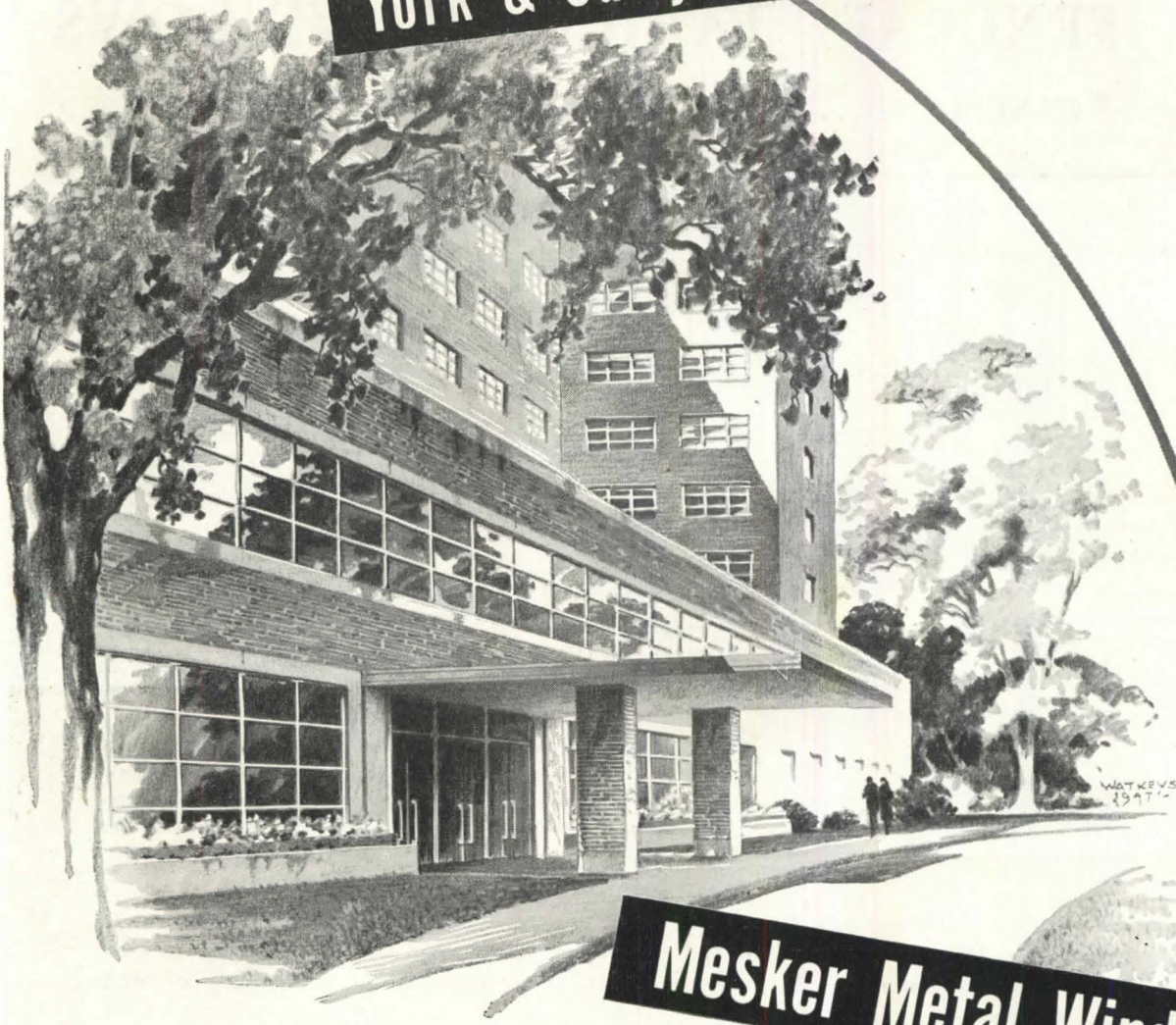
Please send me data on types and sizes of the new Fencraft family of Fenestra Windows:

Name_____

Company_____

Address_____

York & Sawyer detail a hospital...

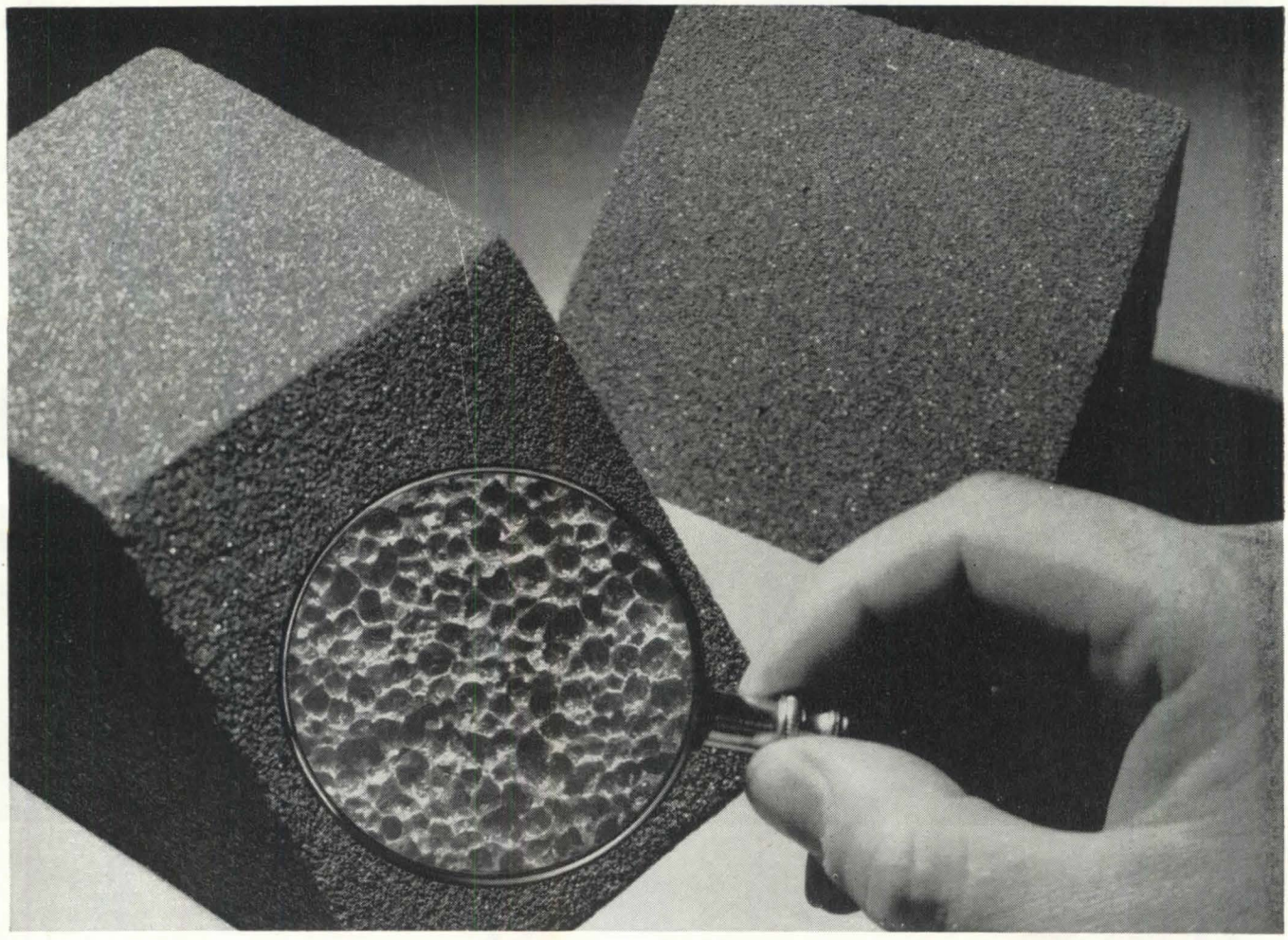


Mesker Metal Windows

"Sunlight and fresh air, so essential to cheerful convalescence are assured in modern hospital design through the use of easy-operating, slim-lined metal windows."

Delineation by
Paul F. Watkeys
of
York & Sawyer
Architects
New York

For your copy of the Mesker Book of Hospital Windows, write to Mesker Brothers, 4340 Geraldine Avenue, St. Louis 15, Mo.



HERE'S THE SECRET OF Permanent Insulation

● Look at the picture for a minute. You can see that PC Foamglas is composed of tiny glass cells . . . millions of them. And these cells are filled with sealed-in air.

Used as an insulating material on roofs and in walls and floors, PC Foamglas helps to maintain desired temperature levels and to minimize condensation. Because it is glass—and therefore waterproof, verminproof and fireproof—it also has the unique advantage of retaining its insulating value *permanently*.

When you are figuring insulation, our engineers will be glad to help you decide on the *proper thickness* of PC Foamglas to give you efficient, permanent insulation. Meanwhile, send the coupon for your selection of our helpful, informative free booklets. Pittsburgh Corning Corporation, 632 Duquesne Way, Pittsburgh 22, Pa.

· *Also Makers of PC Glass Blocks* ·

PC FOAMGLAS *Waterproof Fireproof* **INSULATION**

T. M. REG. U. S. PAT. OFF.

FOR ADDITIONAL INFORMATION SEE OUR INSERTS IN SWEET'S CATALOGS.

Pittsburgh Corning Corporation
Room 443, 632 Duquesne Way
Pittsburgh 22, Pa.

Please send me without obligation, your free booklets on the use of PC Foamglas insulation for:

Roofs_____ Walls_____ Floors_____

Name_____

Address_____

City_____ State_____

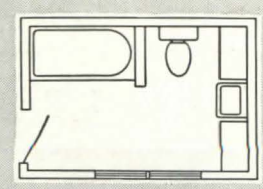
The Neuday Bathroom

New Bathroom Groups for those homes you are planning

The Neuday Bathroom Group shown is only one of many groups in the Crane line for 1947. Here is fresh styling and new beauty to suit today's taste . . . new efficiency and compactness . . . the same high quality that has always characterized Crane Plumbing. The range is sufficient to meet every taste and every budget, and all have the new *Dial-ese* faucets that open and close at a finger's touch.

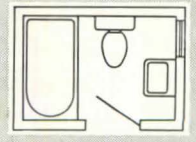
In the kitchen, too, Crane offers a wide selection. And the newly developed line of heating is equally complete, with boilers and furnaces for coal, coke, oil or gas—plus radiators and all the necessary controls.

For a description of the Crane line now in production, see the recently published "Crane Service for Architects." A call to your Crane Branch will bring your copy.

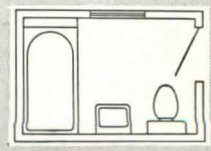


Approx. Size: 9½ x 7 ft.

Shown at the left is the floor plan for the bathroom illustrated above. Of course, the compactly styled fixtures of the Crane Neuday Group may be used in smaller bathrooms as suggested by the two diagrams at the right.



Approx. Size: 6½ x 5 ft.



Approx. Size: 7½ x 5½ ft.

CRANE

CRANE CO., GENERAL OFFICES:
836 S. MICHIGAN AVE., CHICAGO 5

VALVES • FITTINGS • PIPE
PLUMBING AND HEATING

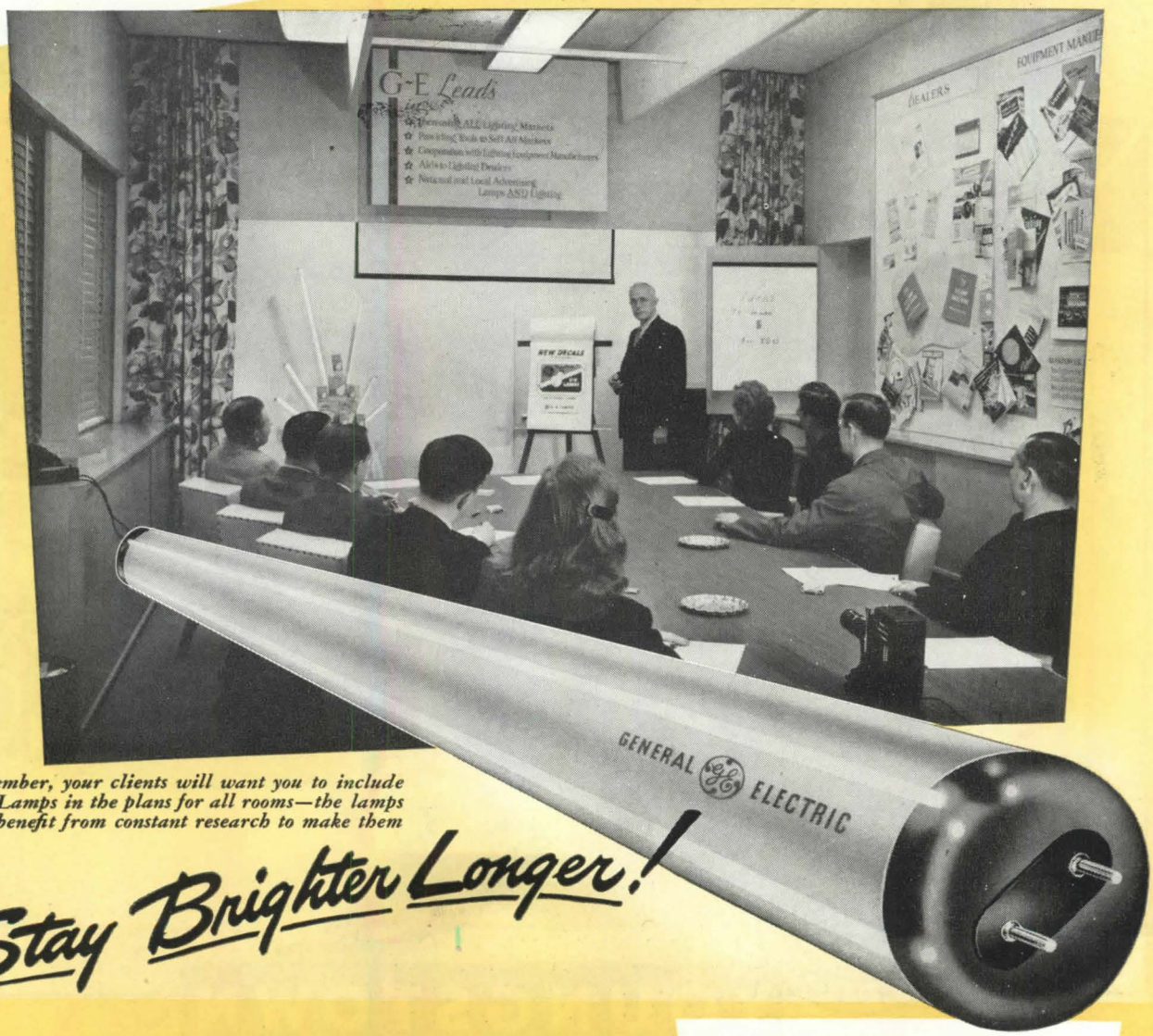
NATION-WIDE SERVICE THROUGH BRANCHES, WHOLESALERS, PLUMBING AND HEATING CONTRACTORS

LAMPS

help make a Conference Room Functional...

Here's a conference room at the General Electric Lighting Institute, Nela Park, Cleveland, designed so that meetings can be pleasant and productive.

- Six G-E Fluorescent Lamps in the ceiling fixtures put high level illumination on the walls where display material essential to the meeting is mounted. Deep louvres shield the table from direct or reflected glare.
- Reflector spot lamps in the area behind the speaker emphasize and focus attention on charts or products used to illustrate the talk.
- The wedge-shaped table allows each person a clear view of the chairman or the roll-up screen on which slides from the built-in pre-focused projector can be shown.



Remember, your clients will want you to include G-E Lamps in the plans for all rooms—the lamps that benefit from constant research to make them

Stay Brighter Longer!

G-E LAMPS

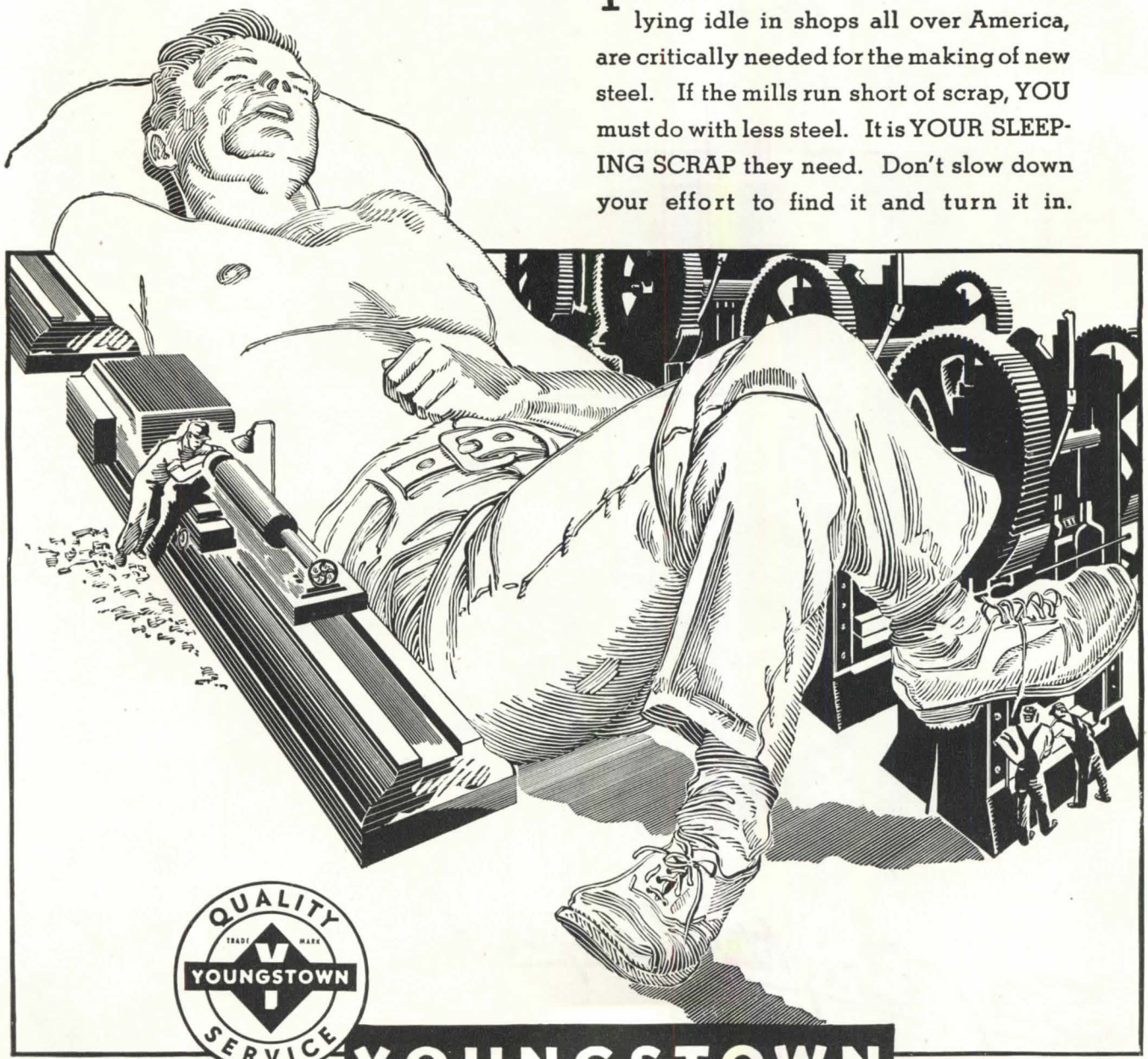
GENERAL ELECTRIC

Architects are invited to visit General Electric Lighting Institute, at Nela Park, Cleveland. You'll get a wealth of useful ideas.

WAKE SLEEPING SCRAP!

Put this giant to work at once, making STEEL

THE millions of tons of dormant scrap, lying idle in shops all over America, are critically needed for the making of new steel. If the mills run short of scrap, YOU must do with less steel. It is YOUR SLEEPING SCRAP they need. Don't slow down your effort to find it and turn it in.



QUALITY TRADE MARK YOUNGSTOWN SERVICE

YOUNGSTOWN

THE YOUNGSTOWN SHEET AND TUBE COMPANY

GENERAL OFFICES - YOUNGSTOWN 1, OHIO

Export Offices - 500 Fifth Avenue, New York City

Manufacturers of

CARBON - ALLOY AND YOLOY STEELS

Pipe and Tubular Products-Sheets-Plates-Conduit-Bars-Rods-Wire-Electrolytic Tin Plate-Coke Tin Plate-Cold Drawn Carbon Steel Rounds - Tie Plates and Spikes.

HOTELS

HOSPITALS

SCHOOLS & COLLEGES

THE modern finish

fabron

REG. U.S. PAT. OFF.

for Walls and Ceilings
of all types of Buildings

APARTMENT HOUSES

The Wall Finish With a *Dual Function*

fabron REG. U.S. PAT. OFF. —the canvas-plastic-lacquer wall finish—is **different** from ordinary wall treatments which merely decorate the wall superficially, but serve no structural, practical or economic purpose.

FABRON actually serves a double function—it decorates the wall and affords a **permanent finish** to the structure, reinforcing sub-surface materials—preventing plaster cracks—and acting as a wall-protective medium.

FABRON designs, which are created to meet the architects' requirements, decorate the walls in colors and patterns that accent the lines and proportions of your composition and are architecturally correct.

In appearance, performance and in the economy it effects, FABRON is the most logical treatment for walls and ceilings of all types of buildings, because these features also strongly appeal to your clients.

detron REG. U.S. PAT. OFF. —a companion product—but with a metallic finish—possessing the same structural and practical advantages—is recommended for interiors where a more luxurious atmosphere is desired. Its prismatic surface produces a soft play of shimmering lights and shades and combines the ultimate in beauty with practicality. DETRON is now available in 13 new color-texture effects.

see our CATALOG in SWEET'S FILE ARCHITECTURAL

FREDERIC BLANK & CO., INC. *Established 1913* 230 PARK AVENUE, NEW YORK 17, N.Y.

- **easy to apply**
- **easy to clean**
- **sunfast colors**
- **resists scuffing**
- **prevents plaster cracks**
- **permanent decoration**

Hospitals ☐
Hotels ☐
Schools ☐
Theatres ☐

FREDERIC BLANK & Co., Inc.
230 Park Ave., New York 17, N. Y. PA 6-47

In reference to type of building checked please send further information about Fabron and/or Detron.

Name.....

Address.....

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

☐ Offices
☐ Apartments
☐ Restaurants
☐ Residences

"No noise, no wear"

GIVES TENANTS AND OWNERS

Refrigerator

GREAT NEW FEATURES FOR 1947

• As more than 2,000,000 Servels have proved, this modern Gas Refrigerator provides noise-free, dependable operation throughout its long life. Now the great new 1947 Servel offers even more—a host of new features that insure the finest in modern food storage.

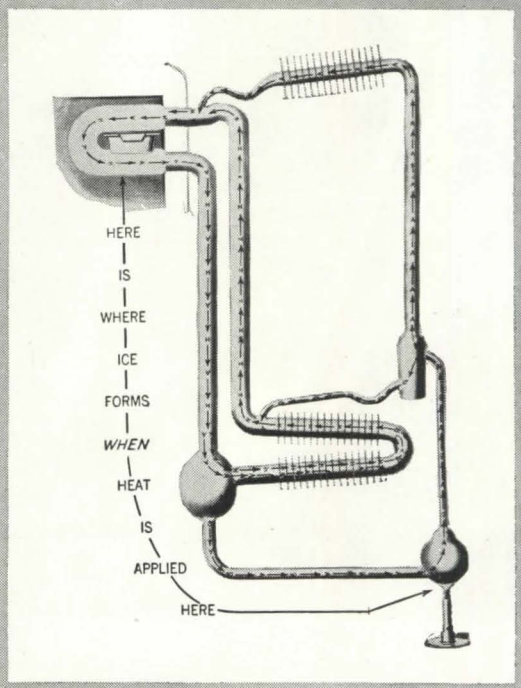
The new 1947 Servel contains a big Frozen Food Locker that stores up to 60 packages of frozen foods. With it, homemakers can plan varied and delightful menus every season of the year. In addition, the 1947 Gas Refrigerator provides moist cold and dry cold, a new flexible interior adjustable to eleven positions, rust- and scratch-resistant Plastic Coated shelves and many other big new conveniences tenants will appreciate.

Offers Silence and Dependability, Too

Of course, the Servel Gas Refrigerator is still permanently silent, lastingly dependable. Servel's unmatched performance throughout the war has demonstrated to owners that the Gas Refrigerator stays on the job year after year. Operating and maintenance costs remain low. That's because the freezing system of Servel is different from all others. It has no machinery, no moving parts to get noisy, none to wear or break down.

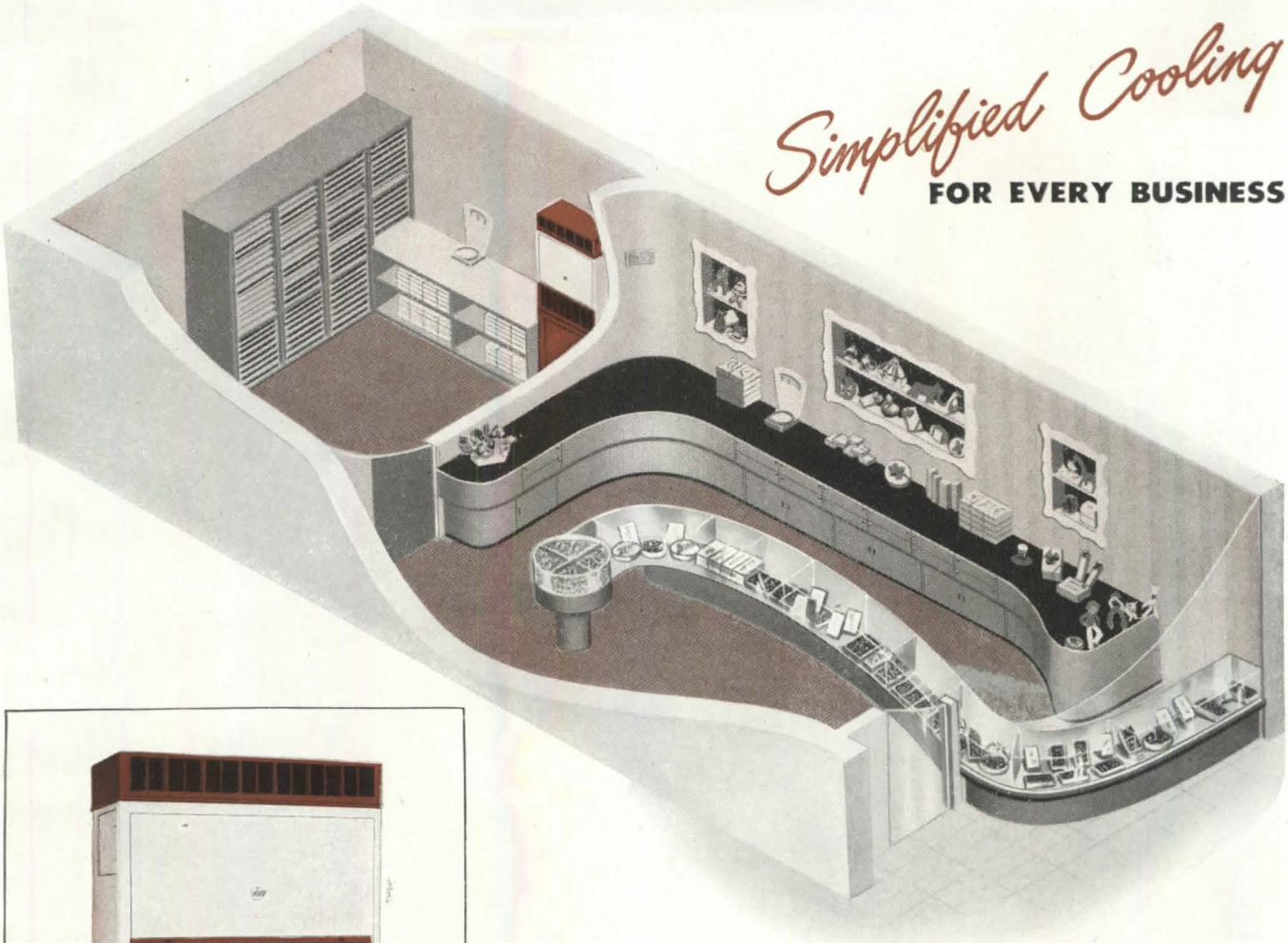
So for the tops in food storage, plus silent, dependable performance, specify the great new 1947 Servel Gas Refrigerator for the apartment buildings and homes you design, build or manage. Plan now to provide outlets for Gas Refrigeration in your current designs and construction work. For installation data and complete information on the new 1947 Servel Gas Refrigerator, consult Sweet's Builders' File. Or write today to Servel, Inc., Evansville 20, Indiana.

Refrigerator



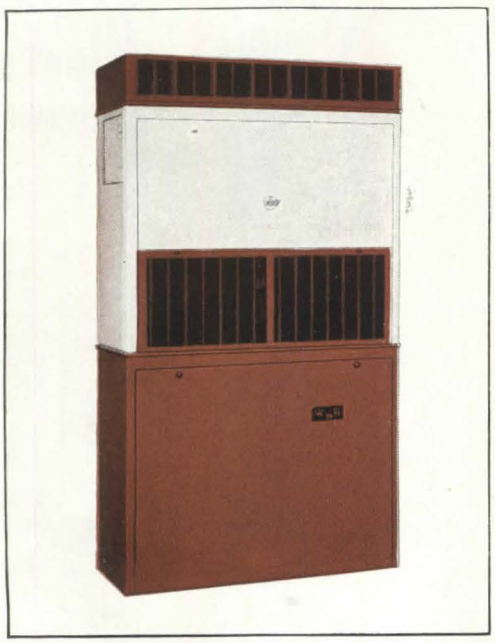
Here's why Servel stays silent, lasts longer

Servel's simpler method of operation is the result of its basically different freezing system. The Gas Refrigerator operates on the continuous absorption principle of refrigeration. In a Servel, the refrigerant is hermetically sealed in a set of vessels connected by pipes. A tiny gas flame is applied to the lowest vessel. Owing to the evaporation properties of the refrigerant and the law of gravity, ice forms in an upper vessel. No machinery—motor, valves, pumps or compressors—is needed. Servel has no moving parts in its freezing system. Thus, it stays silent, lasts longer.



Simplified Cooling

FOR EVERY BUSINESS



Heating coils can be added in Chrysler Airtemp Packaged Air Conditioners for year-round air conditioning.

How To Air Condition A Candy Store . . . Economically

AIR CONDITIONING does double duty in candy stores . . . protects candy from hot weather spoilage and discoloration . . . also keeps customers comfortably cool. The fresh, tempting appearance of the candy results in extra sales.

Chrysler Airtemp Packaged Air Conditioners are a simplified form of air conditioning pioneered by Chrysler Airtemp. Quickly and easily installed or moved, the units occupy as little as 4.7 square feet of floor space. The two-tone enamel cabinets are attractive in any store. And they can be painted to match any color scheme.

Heart of the Packaged Air Conditioner is the famed Sealed Radial Compressor, an exclusive development of Chrysler Airtemp. Motor and compressor are directly connected. Pressure lubricated, the vital moving parts are Superfinished, a Chrysler Corporation process which assures longer life, greater efficiency and low operating costs. So always specify Chrysler Airtemp.

Remember, Chrysler Airtemp Packaged Air Conditioners are backed by Chrysler Corporation, known throughout the world for exceptional engineering skill. For specifications, please write—

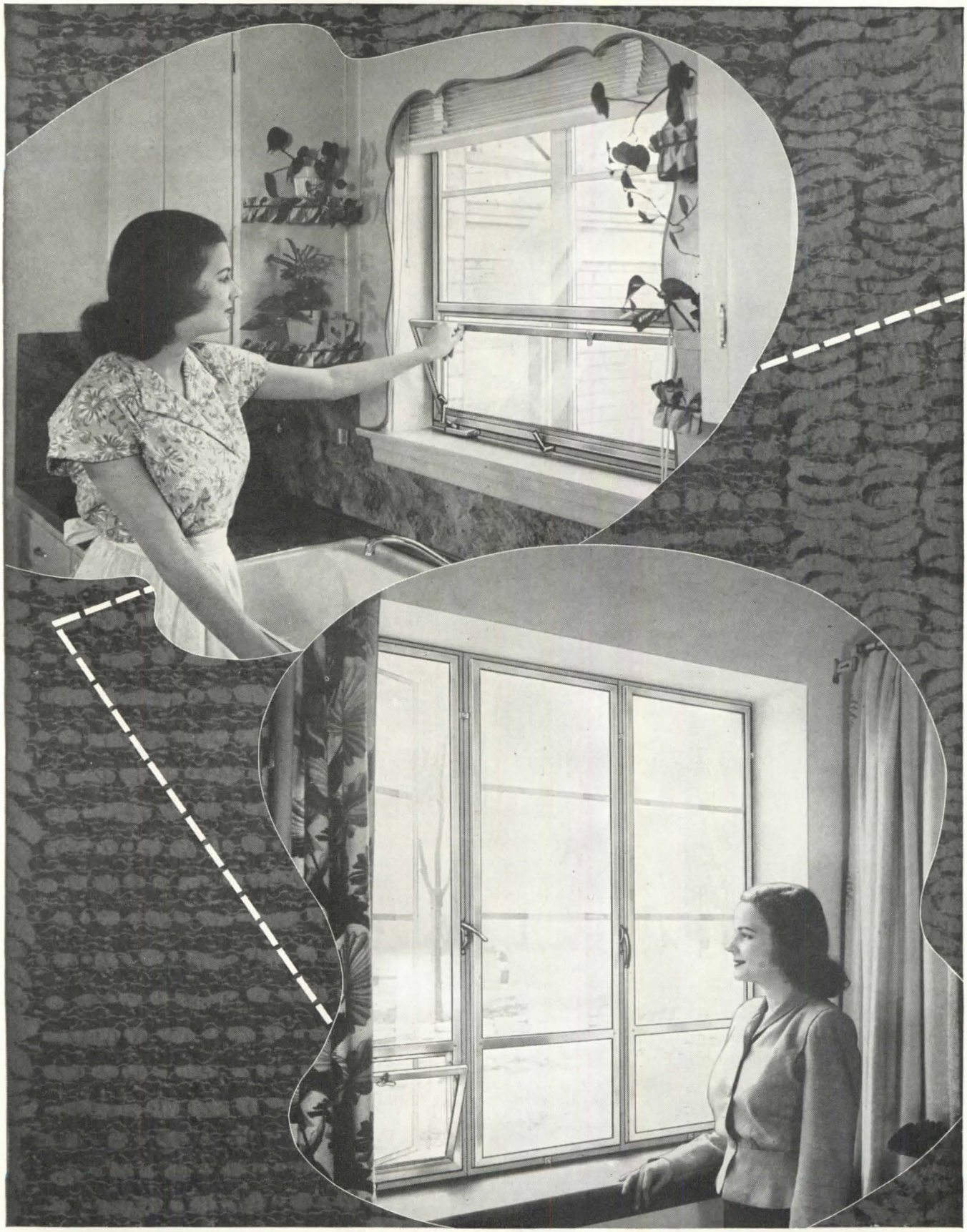
AIRTEMP DIVISION OF CHRYSLER CORPORATION
DAYTON 1, OHIO
In Canada: Therm-O-Rite Products, Ltd., Toronto

Automatically Yours

CHRYSLER AIRTEMP
DIVISION OF CHRYSLER CORPORATION

Packaged Air Conditioners

HEATING • AIR CONDITIONING • COMMERCIAL REFRIGERATION



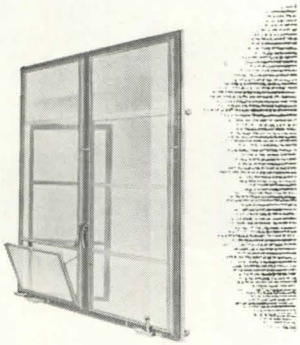
In construction products **CECO ENGINEERING**

Why Ceco added something NEW to Metal Windows

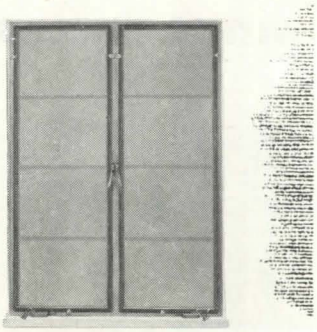
How many times have you said to yourself, "Metal windows are all right in the summertime, but what about winter?" Ceco considered that question and got busy. What they did and what they learned became history when Ceco announced All-Aluminum Storm Windows for metal casements. Now, for the first time, you can get a storm window that really allows you to use the controlled ventilation principle built into metal casements. Metal screens have always offered perfect ventilation, so summer presented no problem. Now the winter problem is solved. Here new beauty and utility are combined with ease of installation. Here, truly, is the first trouble-free, beautiful storm window for steel casements.

WHY SPECIFY CECO STORM WINDOWS AND SCREENS?

1. Ceco's special-design storm panel covers the entire window opening—the condensation problem is solved, yet ventilation when needed is also provided.
2. Rubber weathering seal around the perimeter of the window sash provides the tightest possible seal.
3. Ceco storm windows are easy to put in and take out from the inside.
4. They are neat and trim—slender frames mean more light gets in.
5. Ceco storm windows fit perfectly—which means no on-the-job planing is necessary.
6. Maintenance cost is eliminated—no painting or re-painting required.
7. Ceco screens cost no more than ordinary screens—factory finish—no on-the-job trimming or fitting.
8. Standard screens for every purpose—will not warp, shrink, swell, twist or rot.



Aluminum storm windows in position with optional hopper vent. Roto operator of casement operates casement ventilator for perfect controlled ventilation.



Notice the neat appearance of the screens installed on the metal casement above. Precision engineering means a perfect fit.

CECO EXPANDS AGAIN...

To improve service in the Eastern market, Ceco provides additional manufacturing and warehousing facilities through its newly opened New York District plant and office at Hillside, N. J.

CECO STEEL PRODUCTS CORPORATION

GENERAL OFFICES: 5701 W. 26th Street, Chicago 50, Illinois

Offices, warehouses and fabricating plants in principal cities

CECO STEEL

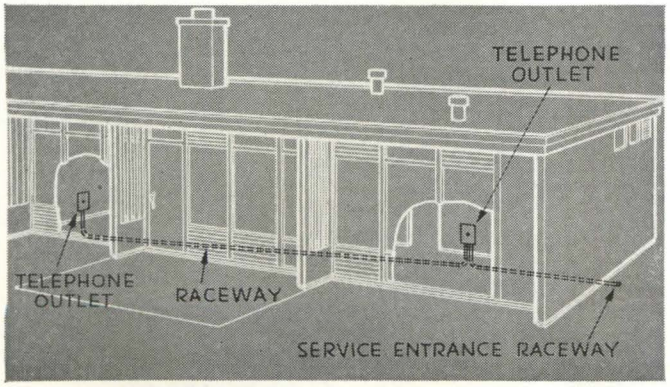
makes the big difference

Partial list of other Ceco Products:

COMBINATION ALL-ALUMINUM STORM-PANEL-AND-SCREEN FOR WOOD WINDOWS • MEYER STEELFORMS • REINFORCING STEEL • STEEL JOISTS • ROOF DECK • METAL LATH AND ACCESSORIES HIGHWAY PRODUCTS • CORRUGATED ROOFING

IT'S NEAT—AND COMPLETE . . .

WITH A RACEWAY FOR TELEPHONE WIRES



Details are important when you're making a little living space do a BIG job. For example, a raceway for telephone wires will more than justify its small extra cost.

It will avoid exposed telephone wires on attractive walls and woodwork. It will provide the owner with handy, built-in outlets for future telephones.

In homes without basements, wiring channels should be installed before the floors are laid and walls are finished. Otherwise, it may not be possible later on to conceal the telephone wiring.

Your Bell Telephone Company will be glad to help you plan telephone wiring facilities for small homes as well as larger ones. Just call your Telephone Business Office and ask for "Architects and Builders Service."

BELL TELEPHONE SYSTEM

Handsome "Realwood" Counters . . .

FORMICA
REG. U.S. PAT. OFF.

THERE is a rich simplicity about Formica Realwood counters that is genuinely satisfying to the designer. These counters are adaptable to soda fountains, bars, stores, ticket offices, hotels — everywhere a really good looking counter is an asset.

A wide range of fine wood grains is available. The material is produced by introducing a genuine veneer of mahogany, prima vera, lacewood, or what you wish into the Formica sheet, so a tone effect harmonizing with any desired effect is possible.

The material is protected by a completely colorless—and permanently colorless—film of plastic which protects it from staining, armors it against the most severe wear, makes it brilliant and very easy to clean with soap and water or other cleansers.

And nothing is handsomer or more distinguished. Color charts and construction details on request.

THE FORMICA INSULATION COMPANY, 4613 SPRING GROVE AVENUE, CINCINNATI 32, OHIO


ATTRACTIVE • LIGHTWEIGHT • NONSTAINING
Spandrels of Alcoa Aluminum
Proof of the lasting beauty of Alcoa Aluminum Spandrels may be found on the facing of many of America's most important buildings. Through the years, aluminum spandrels have kept their attractive appearance; demonstrated their resistance to corrosion. Rustproof, they cannot stain adjoining surfaces. Lightweight, they save on handling and erection costs.
Spandrels of Alcoa Aluminum may be produced in a variety of finishes. They may be cast, extruded, stamped, or made from a combination of these forms. The design possibilities are limited only by the imagination of the architect.
The Alcoa booklet illustrated (A.I.A. File No. 15P) provides detailed information on design and installation. Copies will be supplied on request. ALUMINUM COMPANY OF AMERICA, 1868 Gulf Building, Pittsburgh 19, Pennsylvania.
MORE people want MORE aluminum for MORE uses than ever
SPANDRELS
ALCOA
ALUMINUM
ALCOA
ALUMINUM
ALCOA FIRST IN ALUMINUM
IN EVERY COMMERCIAL FORM

THE JURY

WILLIAM WILSON WURSTER
Chairman

THOMAS H. CREIGHTON
MORRIS KETCHUM, JR.
KENNETH REID
ELIEL SAARINEN
FRED N. SEVERUD
DR. C.-E. A. WINSLOW

Kenneth & Angela

JURORS Saarinen, Ketchum, Severud, Winslow, and Wurster.

The 1946

PROGRESSIVE ARCHITECTURE AWARDS

Fifty projects were submitted for the consideration of the Jury in selecting the winners of PROGRESSIVE ARCHITECTURE's first annual Awards for works of architecture, completed during the preceding year, that best exemplify sound progress in design. Two classifications of work were judged separately—the private residence, and a building or group of buildings other than the private residence. There were 20 submissions in the former group and 30 in the latter classification. To view this work and select the winners, the Jury met on March 20 and 21, 1947, in Gallery A of the Architectural League, 115 East 40th Street, New York. Preceding analysis of the projects themselves, the Jury elected as their Chairman, William Wilson Wurster, Dean of the School of Architecture and Planning at the Massachusetts Institute of Technology. Mr. Wurster's account of the Jury's deliberations follows immediately.

REPORT OF THE JURY

The major portion of the first day was spent in viewing and analyzing the 20 submissions in the private residence classification. In general, the quality and ingenuity, even in this last year of shortages and restrictions, were remarkably high.

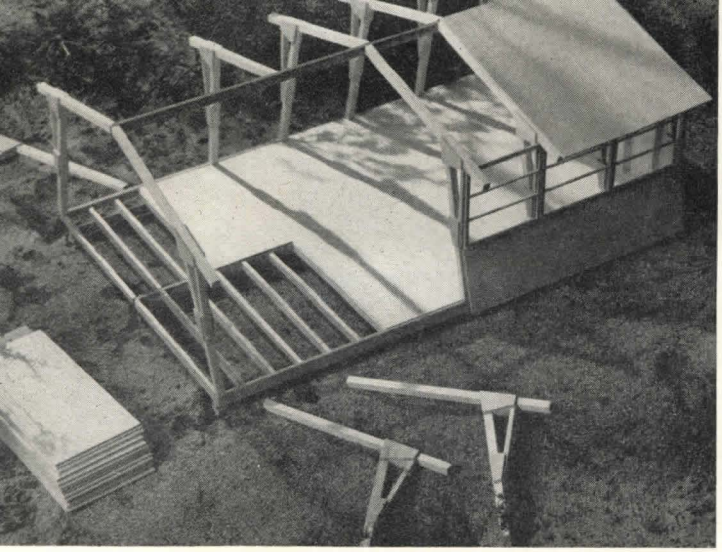
Six projects have been singled out of the 20 for attention. Let us here repeat the avowed purpose of the citation: "These awards are intended to foster sincere, reasoned progress in architectural design in the United States by citation and recognition of those architects whose efforts to improve contemporary standards are judged the most successful."

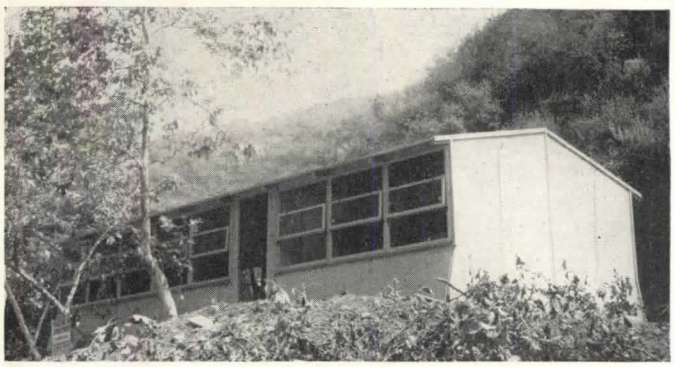
The first citation is made equally to the house designed by Gordon Drake and the Production Line Structures designed by Kenneth N. Lind.

This equality represents with great exactness the temper of the jury. The beauty and charm of the Drake house represent a triumph of individual effort. The beautiful, sparing use of materials in the Lind design is a real contribution; its possible use as a help in solving our housing problem and its true economy do overcome in some measure the necessarily restricted space. Eliel Saarinen felt the Drake house to be an architectural contribution—a real home, and he commented that he saw no reason why mass production methods could not be applied to produce architecture in the direction of this design.* Dr. C.-E. A. Winslow questioned the apparent lack of windows in the kitchen and bathroom in the Drake house, though it was recognized that a set of drawings or more photographs might clarify this point.** Kenneth Reid applauded the economy and merit of the prefabricated approach; commenting on the Drake house, he felt that the unpretentious expression of human individuality was an important contribution to society. The rest of the jury, I think, had feelings which varied in enthusiasm first for one project and then for the other. We all recognized the beauty of the Drake house—perhaps we wished it had fewer dust-inviting shelves near the ceiling—and recognized the brilliance of the plan. We all felt the limitations of space imposed by the rigid 16-foot width of the Lind concept. Yet, as we saw it used in various forms, we felt its direction might show us a way out of the present price blockade. Mr. Severud particularly emphasized the significant contribution of the Lind house in recognizing the structure of wall and roof as one continuous unit and in expressing this unity in a form that changes the stress flow, without being too drastic a departure from what

(Continued on page 60)

* *Editorial note: Mr. Drake is currently working with a prefabricator in the development of standard units.*
** *Editorial note: Actually a continuous clerestory does light and air these rooms, though this does not bring light directly on the working surfaces.*





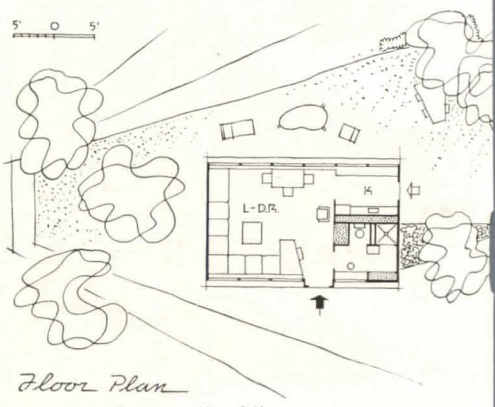
From the standard parts, a one-family house . . . . . .

KENNETH N. LIND, Architect

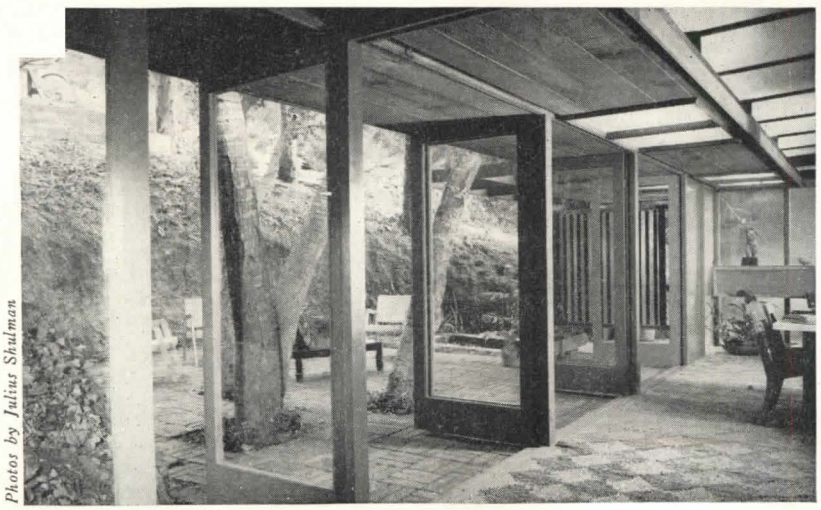
"CALIFORNIA CABINS"—TRUSS MODULAR SYSTEM

The "California Cabins" shared top honors in the residential group with the Drake house shown below. Produced by Production Line Structures of Los Angeles (C. Henning Vagtborg, President), they are built of a series of prebuilt trusses and floor, wall, and roof panels. The economical system was admired not only for its ingenuity, sparing use of materials, and advance toward the goal of wall and roof as a continuous unit, but also for its possible use in helping to solve the housing problem—particularly since its finished design is not a drastic departure from what the public is willing to accept. The "Cabins" may be erected as single houses, row houses, or in any of a number of combinations on one or more levels.

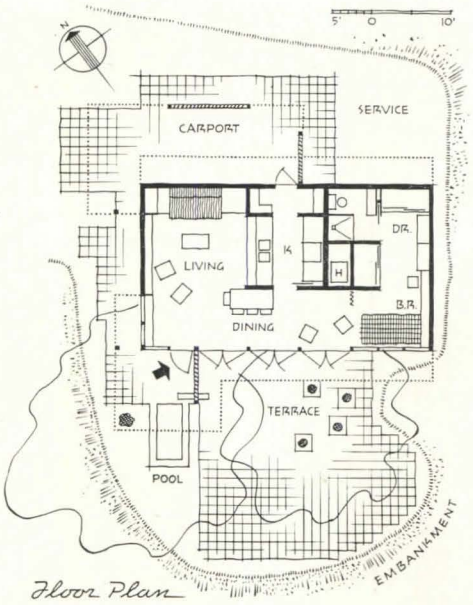
Originally published in The Architectural Forum, January 1947.



Minimum home—16' x 24'.



Photos by Julius Shulman



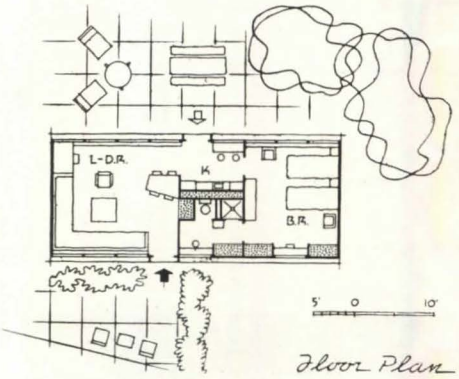
GORDON DRAKE, Designer

OWN HOME, LOS ANGELES, CALIFORNIA

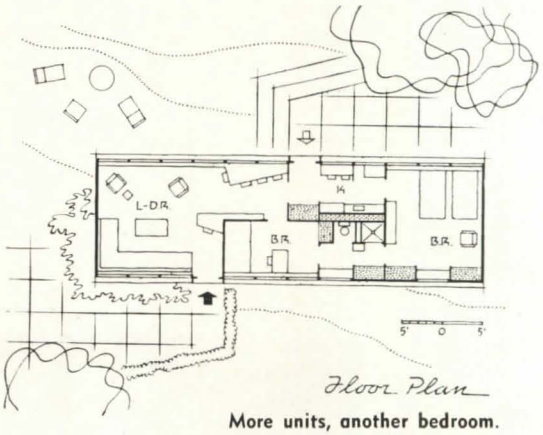
Determined to produce a house that would be pleasant for his own use and that would also offer a possible solution to many returned G.I.s establishing their first homes, Mr. Drake began thinking about this charming design when he was still in the Marines. The Jury found the house a real architectural contribution and a nice expression of human individuality. The plan scheme, providing so much in so little space, "without getting into tricky planning," was termed brilliant. Mr. Drake feels that the house might be improved in livability if the sleeping-dressing area were enlarged somewhat. In our July issue, we shall present this prize-winning house in detail and also show the extended scheme.

or a group of houses on different levels . . . . . .

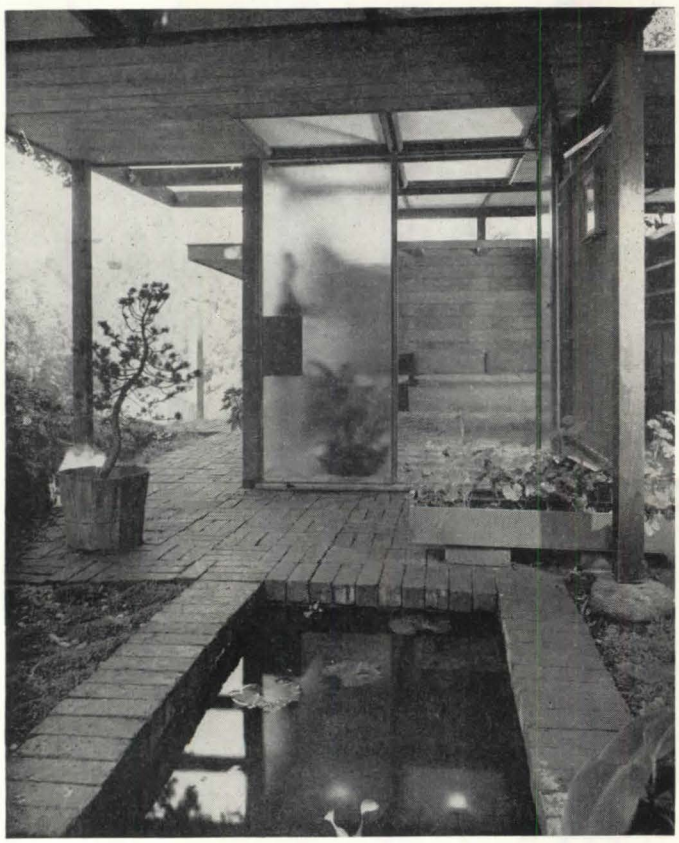
Interiors frankly express the structure.



A simple one-bedroom scheme.

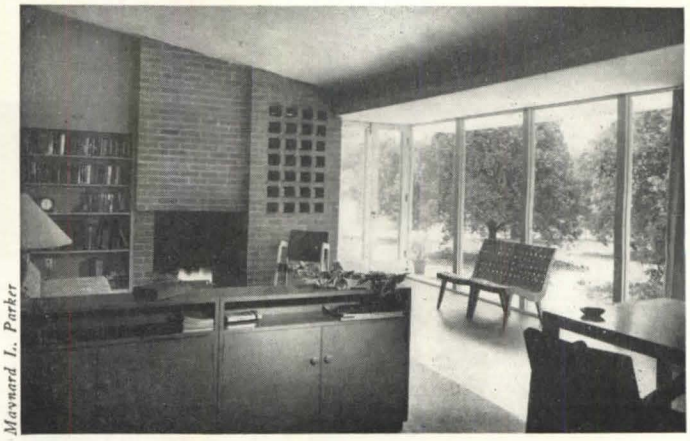


More units, another bedroom.



FRONT DOOR: the street is at left; right-hand wall screens terrace.

AN OPEN-SHELF ARRANGEMENT separates kitchen from dining space.



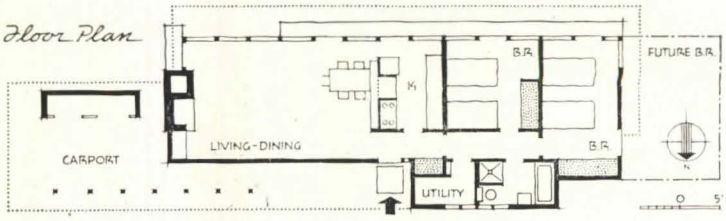
Maynard L. Parker

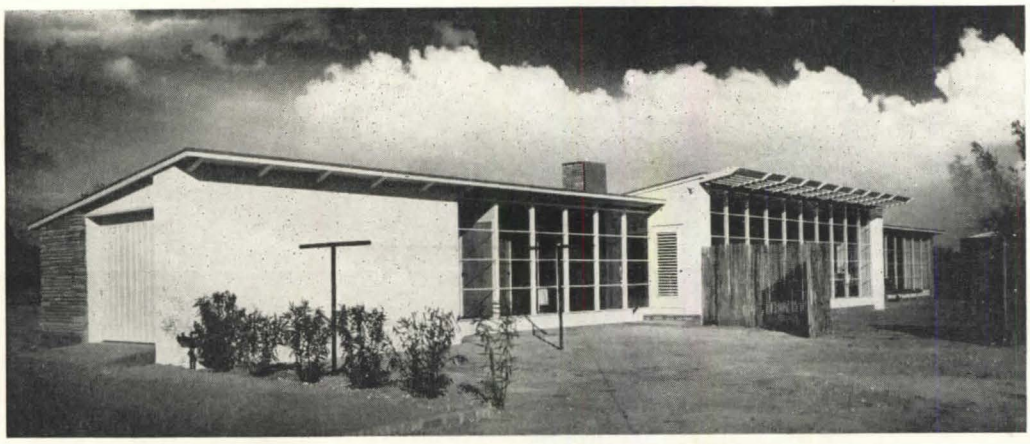
WHITNEY R. SMITH, Architect

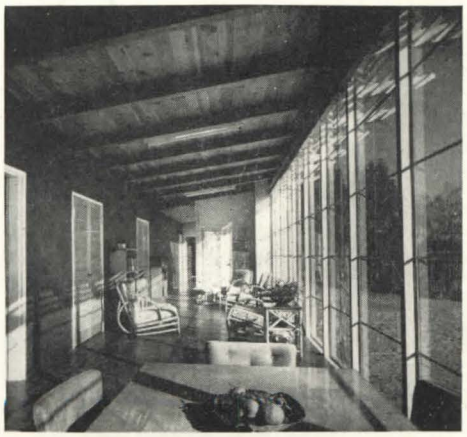
HOUSE, PASADENA, CALIFORNIA

The plan of this house was greatly admired—"could be said to be the best floor plan in all submissions, really near-perfection." The economy of the plan, with the entrance door placed so that communication is direct to all parts of the house, was especially noted. Indeed, this house might well have reached even a higher level in the Award judgment, if the documentation had been somewhat more inclusive—a point worth remembering in submitting work for jury consideration. Lack of a plot plan was particularly regretted.

Originally published in The Architectural Forum, October 1946.



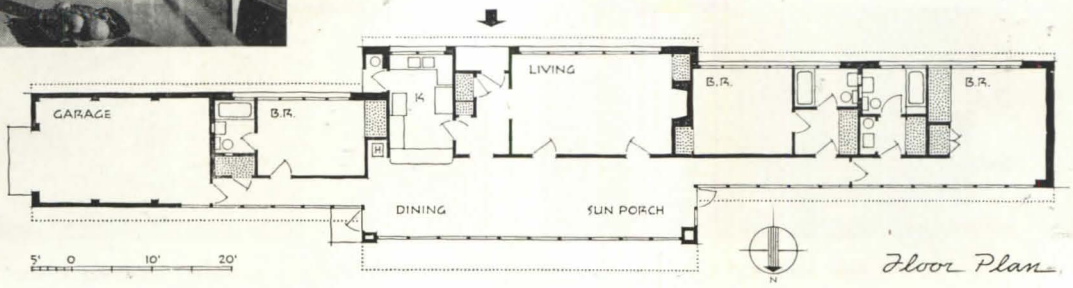


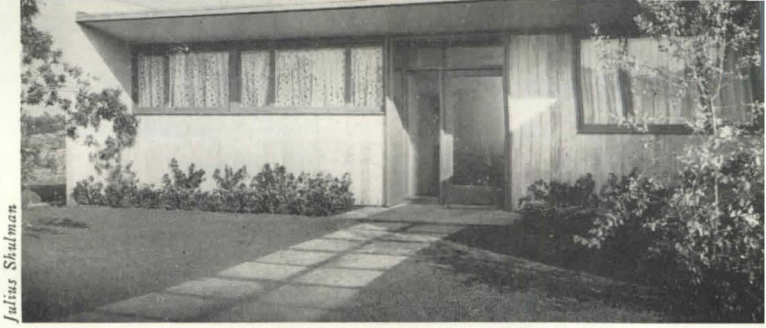


ARTHUR T. BROWN, Architect

HOUSE, TUCSON, ARIZONA

The particular element that placed this unusual house in the Special Mention class was the serious attempt to design the house "to *use* the solar heat in a part of the world where the usual stress is to combat it." To accomplish this, a barrier wall, in effect, is constructed down the center of the house, inside of the glass corridor wall. This enables the owner to be in or out of the sun as the weather—or his pleasure—may dictate. The side toward the sun acts as a "heat storage" area. The architect points out that "it has not been necessary to use the furnace at night, after a clear day, or in the morning, after nine o'clock."





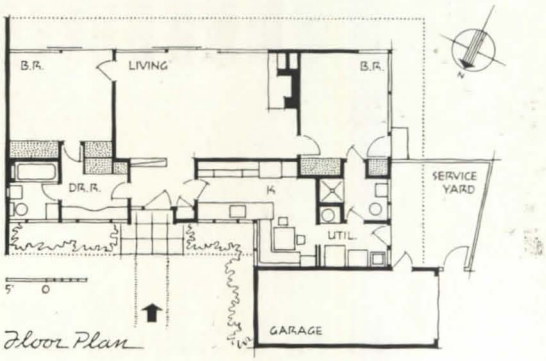
Julius Shulman

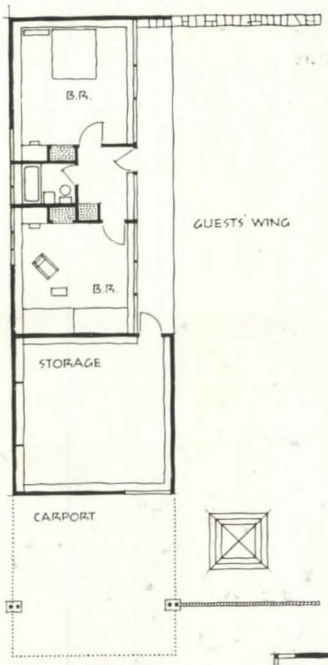
J. R. DAVIDSON, Designer

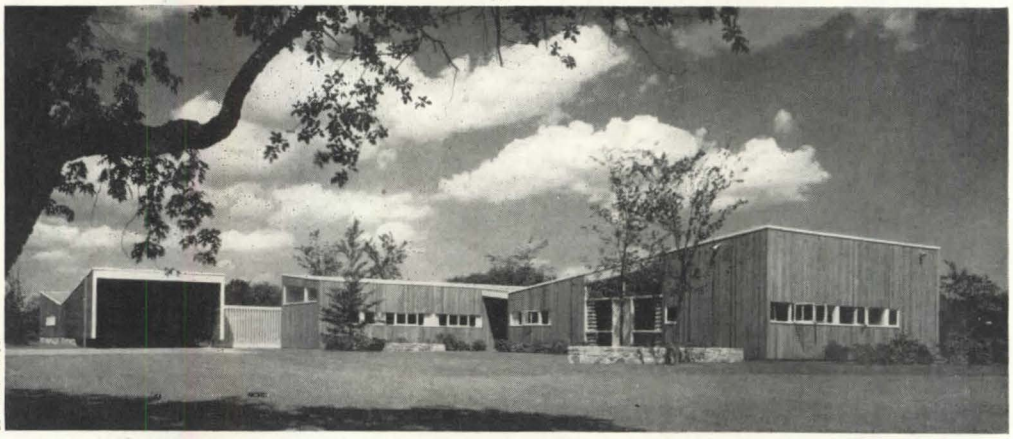
HOUSE, LOS ANGELES, CALIFORNIA

One of the "Case Study" houses promoted by the West Coast magazine, *Arts and Architecture*, this house rose high in the Jury's estimation chiefly for its protected space for outdoor living, through the sliding windows of the living area. The plan was also considerably praised, though some felt that the circulation to the southwest bedroom was a little devious. Other jury comments: "The entry really works in that plan." "That is a very practical kitchen." "Something very nice on a small lot."

Originally published in The Architectural Forum, October 1946.





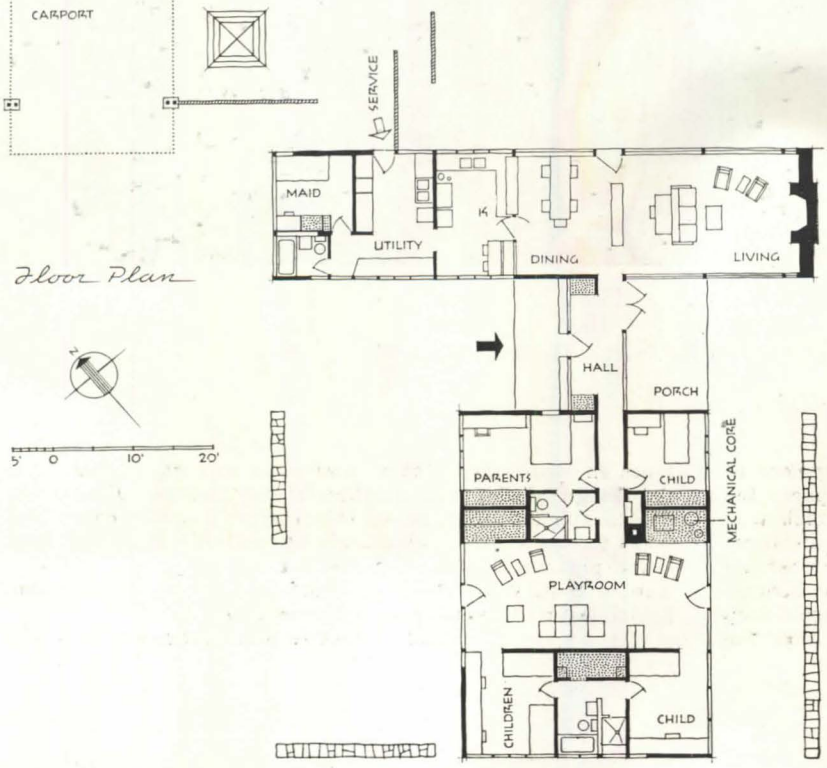


Ezra Stoller

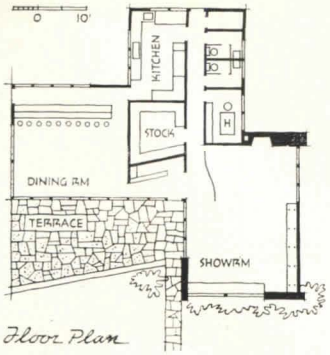
MARCEL BREUER, Architect

HOUSE, LAWRENCE, LONG ISLAND, N. Y.

A remarkable plan, boldly dividing the sleeping and day-living rooms, distinguished use of materials, and beautiful detailing placed this house, presented fully in PROGRESSIVE ARCHITECTURE, February 1947, in the special citation group. The unused height of the garage was questioned, and some felt that the maid's quarters were rather isolated and restricted. Other comments: "Tremendous imagination." "In the plan, he has considered all the facts of happy living."



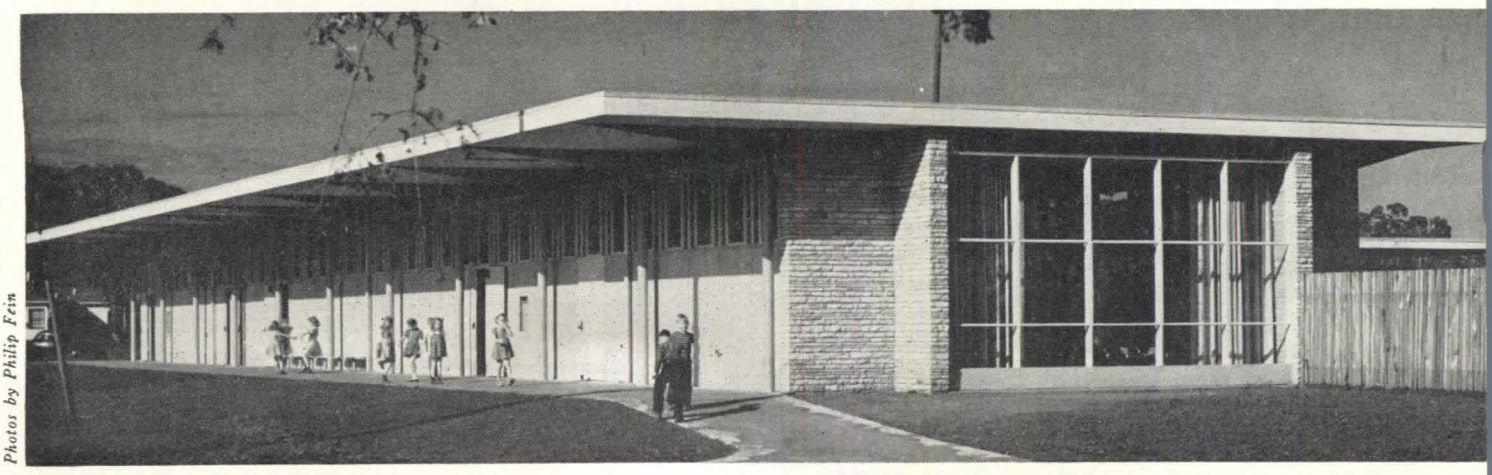
Photos by Pati and Bob Meservey



E. H. and M. K. HUNTER, Architects

HIGHWAY SHOWROOM-RESTAURANT, QUECHEE, VERMONT

One of the first-prize winners in the "buildings other than private residences" classification, this combined-use structure for the A. G. Dewey Co., woolen cloth manufacturers, will be fully presented in PROGRESSIVE ARCHITECTURE in a forthcoming issue. For now, suffice it to say that all jurors agreed that this was a nice, clean-cut job—"a wonderful contrast to the usual commercial venture when placed out of the usual shopping area." The design is worked out on a modular base—4" x 4" posts, at 4' intervals; practically the whole south wall is of glass, opening up the interior to view of passing motorists and cutting down heating requirements on sunny winter days. The building includes a shop for the retail sale of wool products, as well as a restaurant along a highway where few eating places exist.



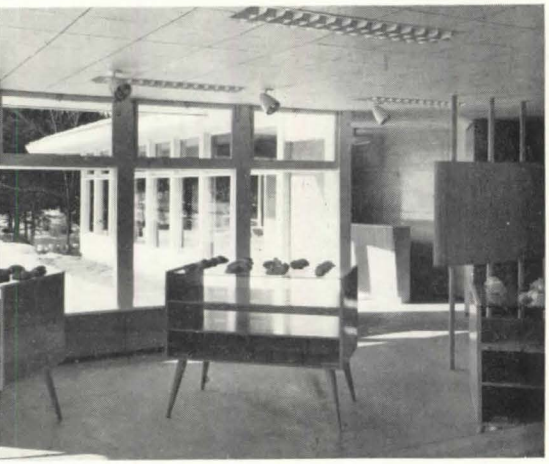
Photos by Philip Fein

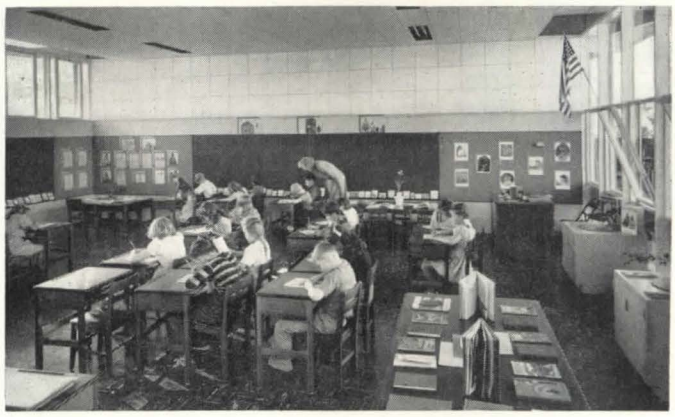
ERNEST J. KUMP, Architect MARK FALK, Structural Engineer

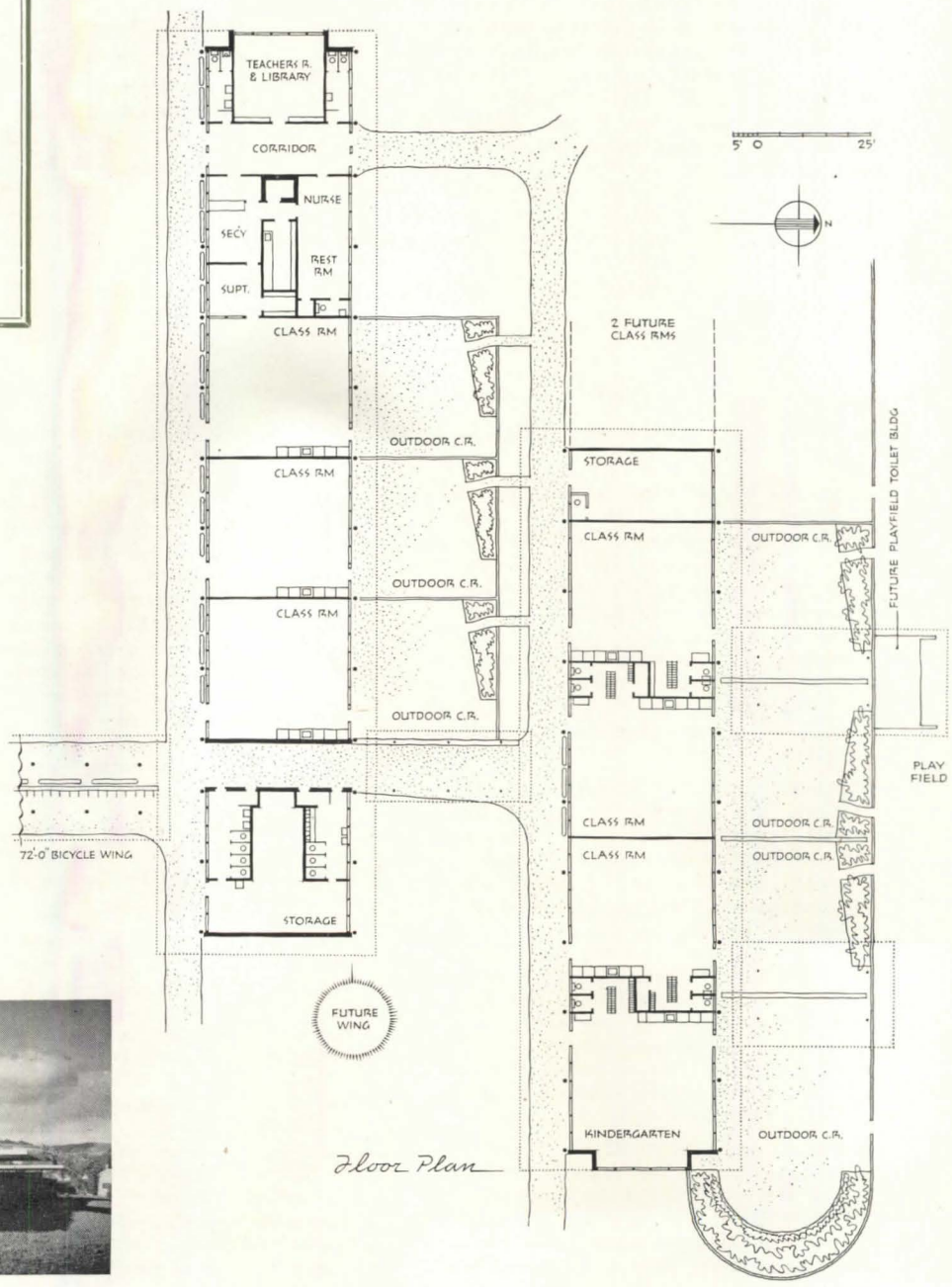
ELEMENTARY SCHOOL, SAN CARLOS, CALIFORNIA

To use the words of the Jury Report, "the development of schools in separate wings, the use of outdoor space, the beauty and appropriate use of materials, are all combined" in this first-prize winner in the non-residential classification. The entire school consists of two single-storied classroom wings, with all classrooms arranged to face the most-favored orientation, and, through the device of the one-room-deep plan, well cross-lighted and ventilated. Some felt that the fence enclosing the outdoor classrooms was out of scale with the design of the building, but it was pointed out that the photograph that emphasized this (directly across page) was taken from a very peculiar angle—practically at ground level—and presumably distorted the relationship. The Jury commented that, while this is a California school, its excellent principles are adaptable to other regions.

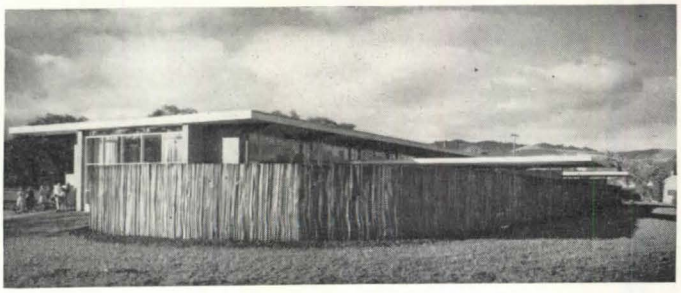
Originally published in Architectural Record, March 1946.



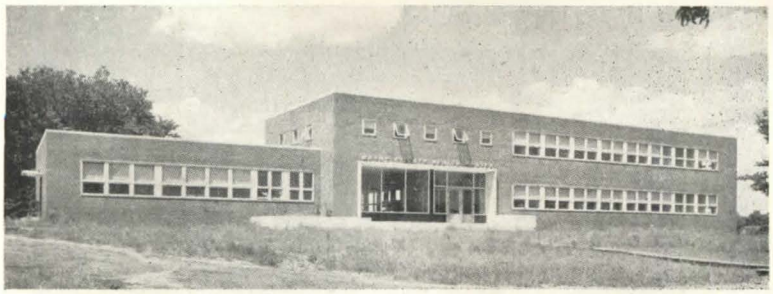


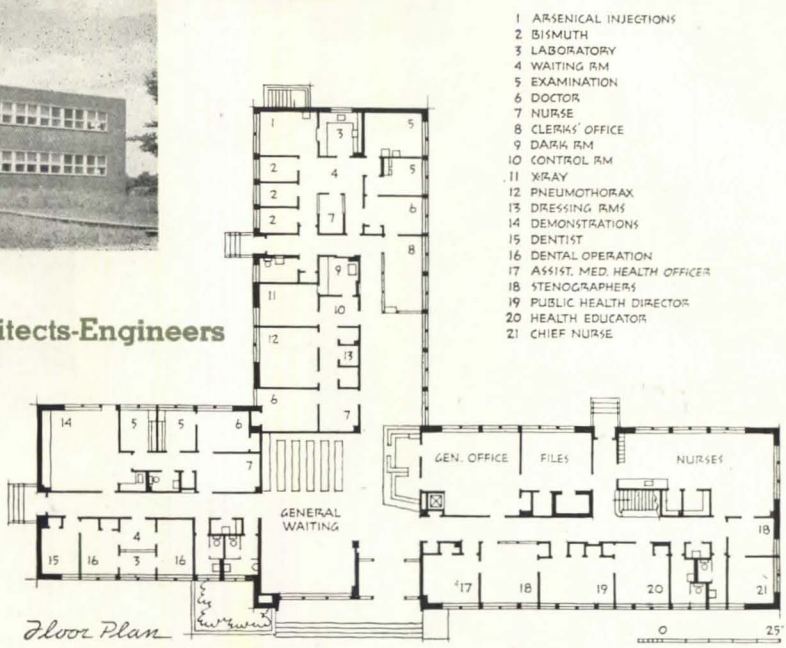

TEACHERS R. & LIBRARY
CORRIDOR
NURSE
SECY
REST RM
SUPT.
CLASS RM
OUTDOOR C.R.
CLASS RM
OUTDOOR C.R.
CLASS RM
OUTDOOR C.R.
72'-0" BICYCLE WING
STORAGE
FUTURE WING
5' 0
25'
N
2 FUTURE CLASS RMS
STORAGE
CLASS RM
OUTDOOR C.R.
FUTURE PLAYFIELD TOILET BLDG.
PLAY FIELD
CLASS RM
OUTDOOR C.R.
CLASS RM
OUTDOOR C.R.
KINDERGARTEN
OUTDOOR C.R.

Floor Plan



SPECIAL MENTION





EBERLE M. SMITH ASSOCIATES, Architects-Engineers

WAYNE COUNTY HEALTH CENTER, MICHIGAN

The only Special Mention in the non-residential group, this new health center, to appear in PROGRESSIVE ARCHITECTURE in detail at some later date, rose above the non-premiated buildings because of its fresh, workmanlike solution—"far ahead of the usual building for this purpose." A key to the efficiency of operation is the central location of the information desk, providing control of the entire first floor.

REPORT OF THE JURY *(Continued from page 53)*

the public at present is willing to accept.

Two other houses have real distinction in design and admirable plans. The Davidson house shows a beautiful use of an exterior space for living. The plan is good—possibly a little devious in its circulation. The Smith house does not show its plot plan, a serious lack when one is considering the entire aspect of design. The house plan, however, could be said to be the best floor plan in all submissions—really near-perfection.

Two more projects are singled out for citations for special features. The Breuer house has beautiful detailing and a distinction in the use of materials. The plan, too, is to be mentioned, with the separation of the sleeping and play rooms. (A certain heaviness seems too great a price to keep the roof slopes as now built; the height of the garage opening gives little protection. The lack of a sitting room for the servant in such a large house was mentioned.) It is presumed this house was begun in the time of non-restrictions; it violates the rules later enforced.

The house designed by Brown in Tucson is an attempt to *use* solar heat in a part of the world where the usual stress is to combat it, but the jury felt that in over-all esthetic distinction other mentioned houses were more successful.

On the second day, decisions were made on buildings other than the private residence. There was a feeling that the submissions in this group lacked the excellence of the private dwellings. This was felt by Eliel Saarinen to represent actual conditions in the field; he noted that domestic architecture is more highly developed than commercial and industrial, which is so often overly influenced by advertisement and styling. This same difference was further realized when we felt there were only three designs for real mention out of 30 submissions, while there were six out of 20 submissions of private residences.

The first citation is made equally to the Hunter project in Vermont and the school by Kump in California.

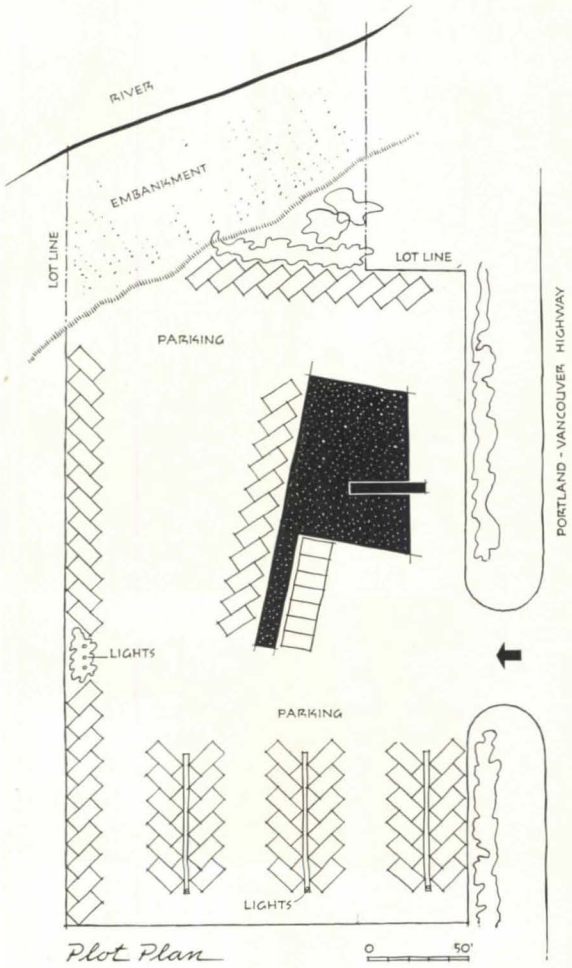
As with the residential classification, this represents with great exactness the feeling of the jury. The simple conception of the Vermont showroom by E. H. and M. K. Hunter provides a wonderful contrast to the usual commercial venture when located outside a shopping area. This is a development which we as a group hope may continue, and thus we were delighted to have this submission. Some discussion developed over the size of the chimney. Eliel Saarinen and William W. Wurster felt that the masonry mass was over-scaled, both in relation to the project as a whole and from the viewpoint of function.

The development of schools in separate wings—the use of out-of-door space—the beauty and appropriate use of materials are all combined in the San Carlos school by Ernest Kump and Mark Falk. Eliel Saarinen felt a certain disharmony in character between the rough redwood fence and the building itself. Morris Ketchum suggested that things might have worked out even better if the end glass bay window of the kindergarten had been placed off center toward the darker side of the room—a location that he felt might also have helped with the method of placing the redwood fence at the building. Mr. Saarinen and Mr. Wurster agreed. Lest this wing plan might be thought to be too regional in character, it was mentioned that schools in several central and eastern states have been advantageously done in the same manner.

Dr. Winslow thought it appropriate to mention the Wayne County Health Center by Eberle Smith as being a fresh, workmanlike solution far ahead of the usual building for this purpose. Mr. Wurster, joined by others, found the modernity a trifle stylistic, however. As an instance, they noted that the continuous, recessed front window suggested its extent from wall to wall of the waiting room, while the plan illustrates that this is not actually the case.

By WILLIAM W. WURSTER, Chairman

Photos by P. A. Dearborn, except as noted



Plot Plan

DRIVE-IN RESTAURANT NEAR JANTZEN BEACH, OREGON

PIETRO BELLUSCHI, Architect

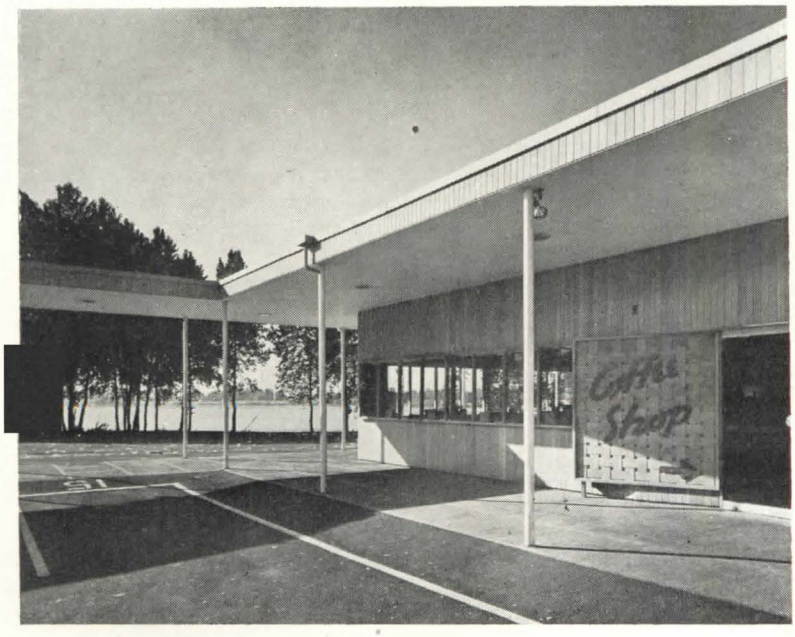
Located on Highway 99, near the south approach to the Interstate Bridge spanning the Columbia River, Waddle's Coffee Shop is planned to handle fast meal-serving to travelers. For those who prefer to leave their cars, ample parking is provided, and there is counter and booth service within the building.

The site is the crown of a pleasant slope, bordered by cottonwood trees, above an inlet of the Columbia. The centrally located restaurant building, with parking provided on the three sides toward the view, is reached by a broad drive in from the Portland-Vancouver Highway.

The huge billboard-type sign (which is floodlighted at night) is visible for a great distance from both main approaches. It also serves to conceal the kitchen stacks. Car service is provided both immediately adjacent to the building and along the covered walkway that projects into the parking area. Exterior walls of the wood-stud-frame building are finished with vertical tongue-and-groove cedar boarding.

THE HUGE BILLBOARD-TYPE SIGN towers above the horizontal mass of the building and covered walkway.

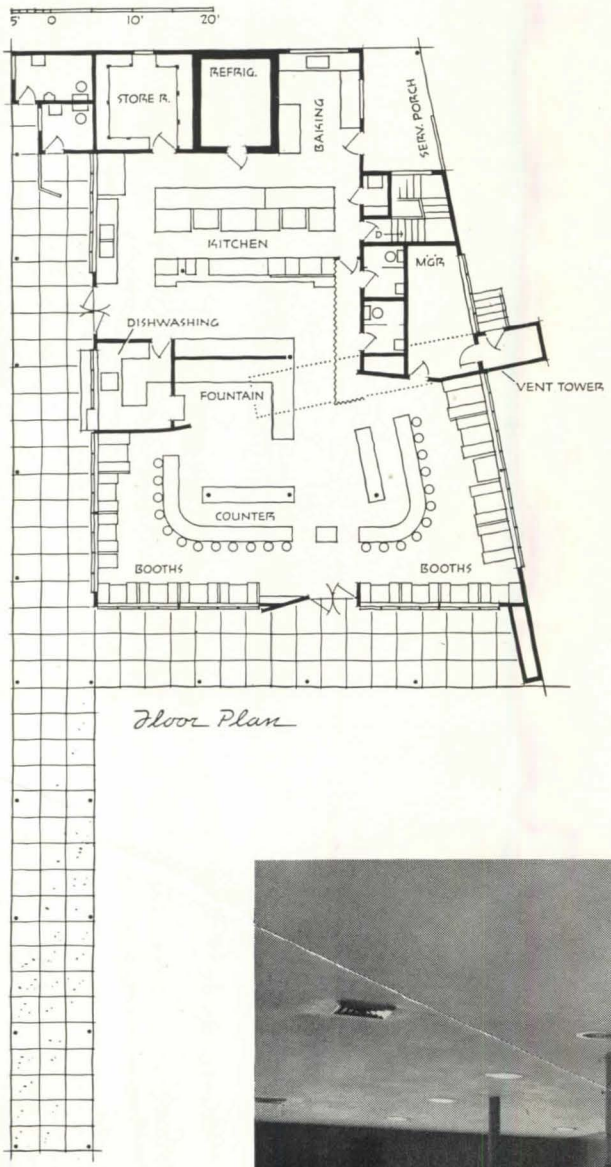
DRIVE-IN RESTAURANT PIETRO BELLUSCHI, Architect



A SQUARE SIGN made of woven spruce slats indicates the entrance.

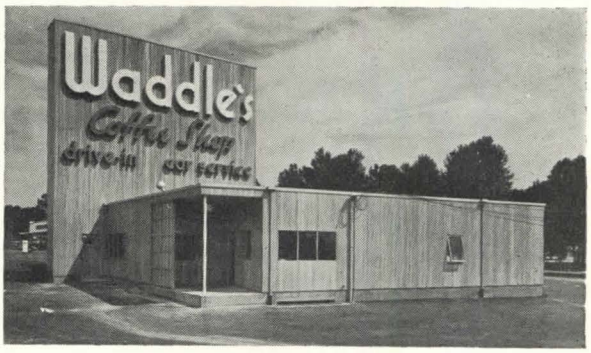
At peak hours, an enormous amount of food has to be served quickly. Therefore, circulation in and out of the kitchen, both to the parking area and the interior restaurant, was the basic planning problem. To solve this, the "assembly-line" food preparation area is located in the heart of the building, with broad, unobstructed corridors leading to serving areas. The building is fully air-conditioned.

Booths in the restaurant border the continuous window strips, affording good natural daylighting and a view of outside activities and beyond, to the river. The building is framed with both pipe columns and wood studding; interior walls are of plaster, sheet aluminum, or corrugated glass. Acoustic ceilings occur in all major areas.



Floor Plan

AT NIGHT, the big sign is floodlighted; downlights illumine the walk.



Leonard Delano

THE SERVICE ENTRANCE (shielded by the sign).

Asphalt tile floor; aluminum walls in service space. Corrugated glass defines the corridor to the toilets.

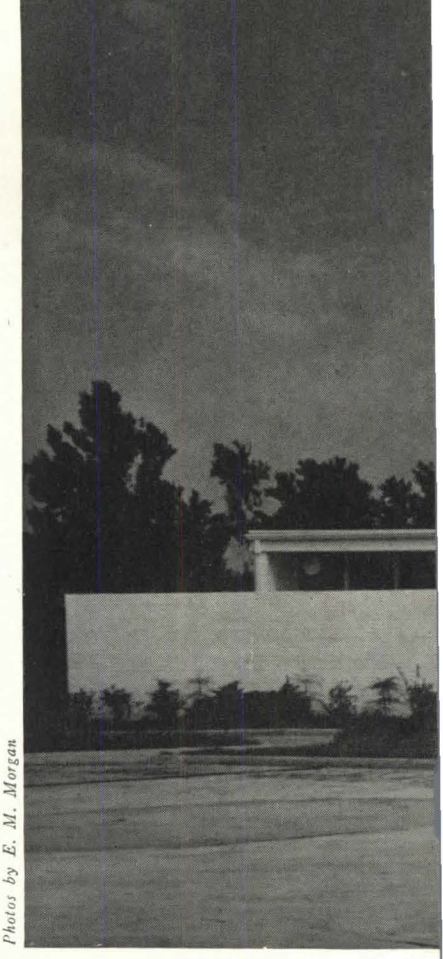
HIGHWAY RESTAURANT, BATON ROUGE, LA.

A. HAYS TOWN, Architect

Located but three miles from the city's downtown business district, but on the main highway between Baton Rouge and New Orleans, this restaurant is used equally by transient and city patrons. Service is entirely at tables, whether in the main dining room, cocktail lounge, or patio.

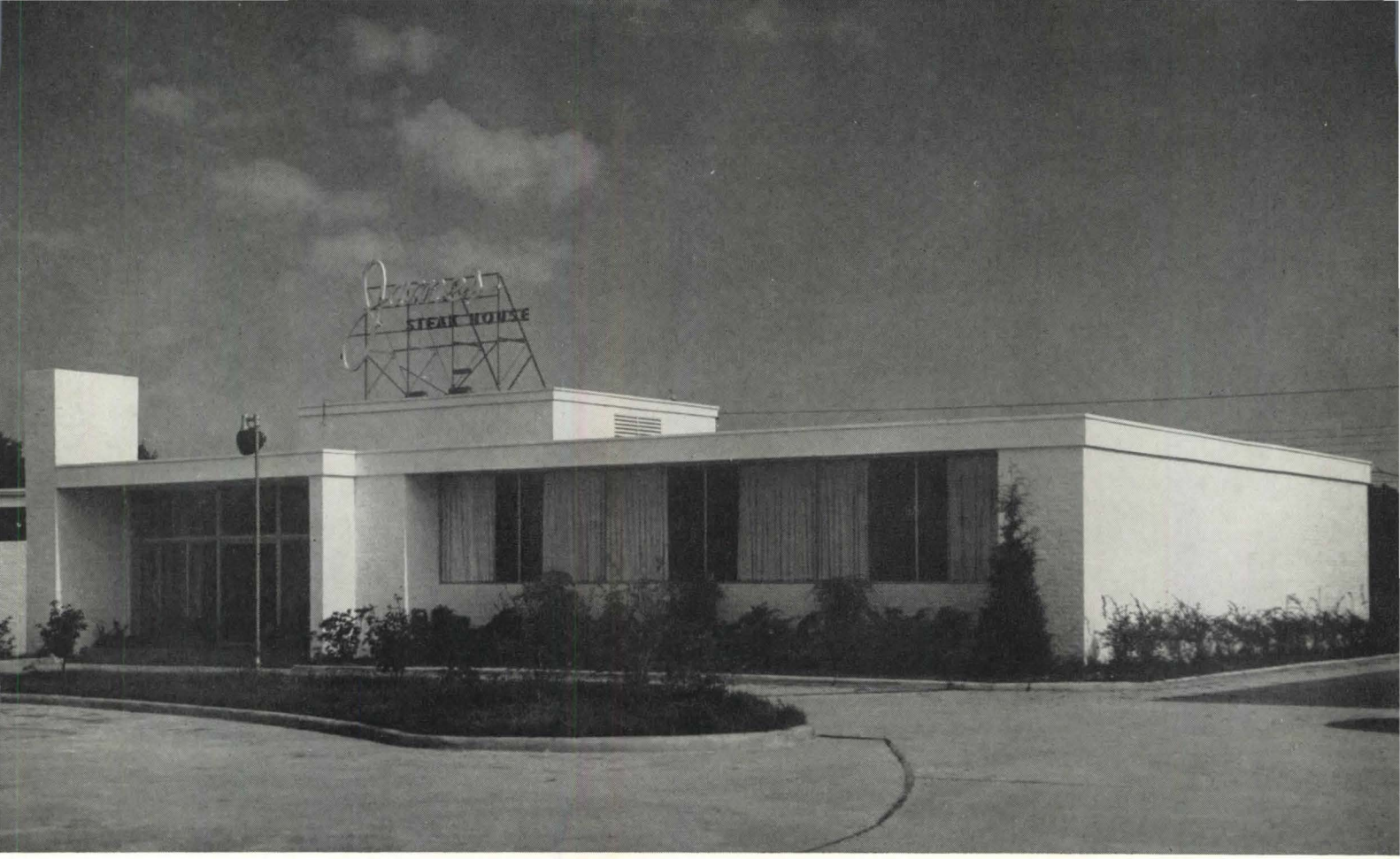
Facing south along the highway and entrance driveway, the building is angled back to gain a secluded outlook toward the walled patio, bordering the cocktail lounge. Placement of the kitchen and service pantry at the rear angle facilitates serving to the main dining room, private dining rooms, bar, cocktail lounge, and patio. From the entrance lobby, all of these public areas are visible through the wall-height window walls.

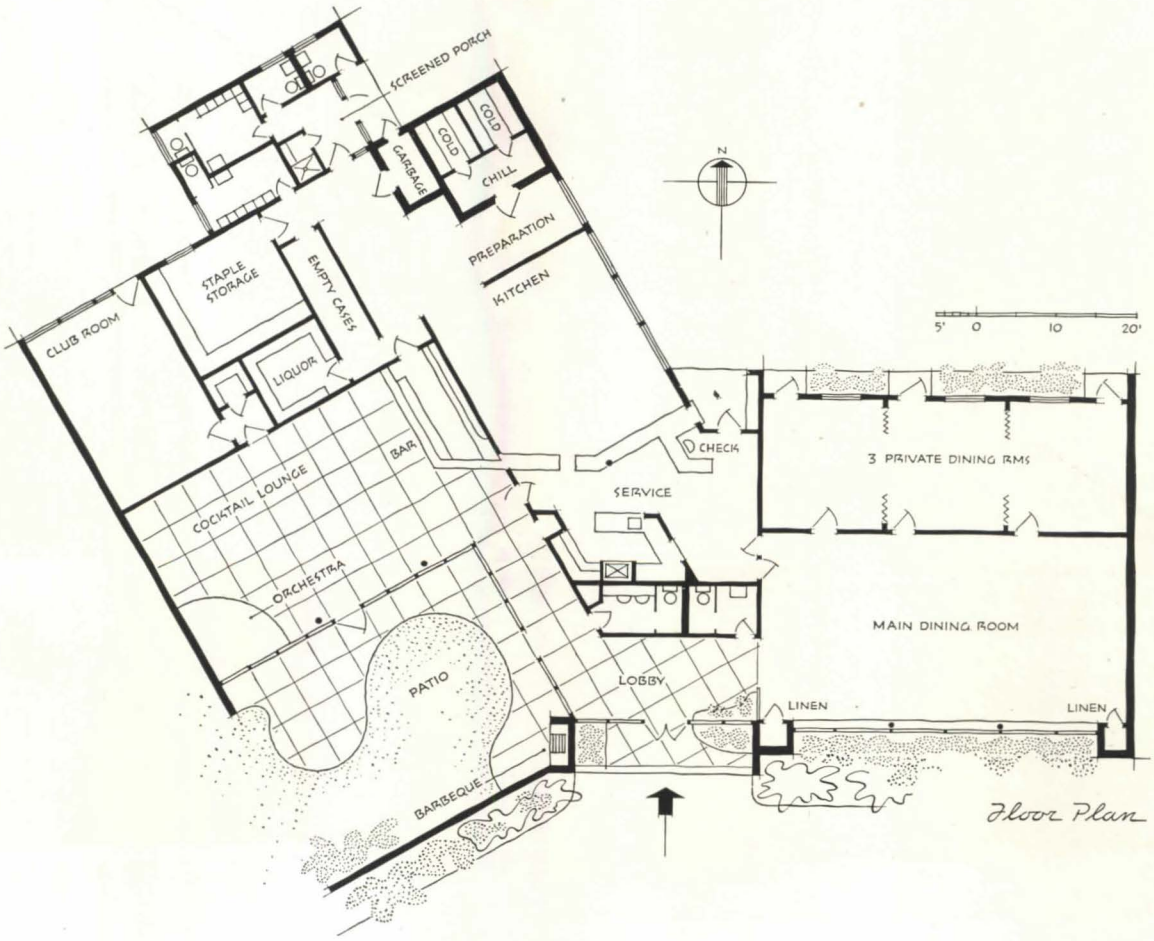
Brick bearing walls are the chief structural element, though rear walls are wood stud construction, surfaced with asbestos board. Roof framing is entirely of wood. Provision has been made for later installation of year-round air conditioning.



Photos by E. M. Morgan

PATIO, with barbecue fireplace in the corner; cocktail lounge at left.


STEAK HOUSE


SCREENED PORCH
COLD
COLD
CHILL
GARBAGE
PREPARATION
KITCHEN
STAPLE STORAGE
EMPTY CASES
LIQUOR
CLUB ROOM
BAR
COCKTAIL LOUNGE
ORCHESTRA
PATIO
BARBEQUE
SERVICE
CHECK
LOBBY
3 PRIVATE DINING RMS
MAIN DINING ROOM
LINEN
LINEN
N
5' 0 10 20'

Floor Plan

MAIN DINING ROOM. Curtaining controls the sunlight along the southern window wall.

ENTRANCE LOBBY. Window walls provide view of all main areas.

HIGHWAY RESTAURANT
BATON ROUGE, LA.

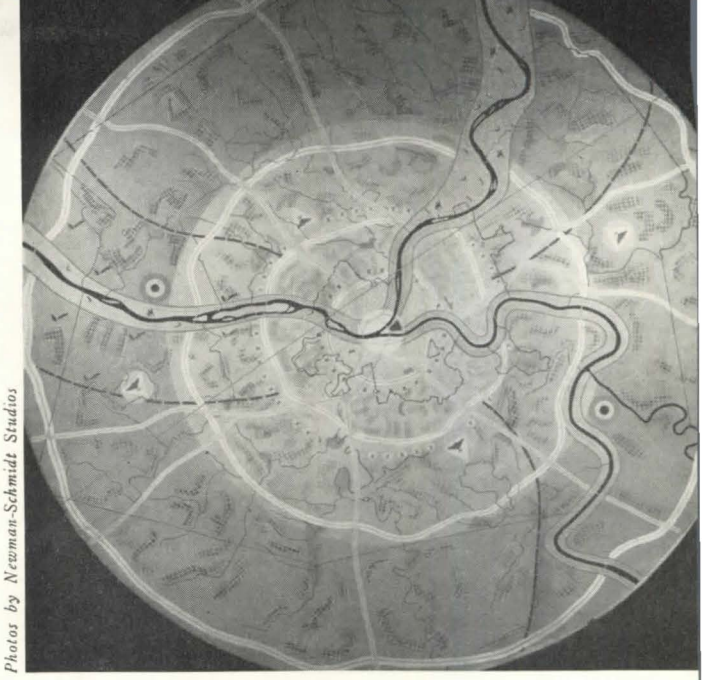
A. HAYS TOWN, Architect

Continuous windows line the south wall of the main dining room. In back of this room is a space, 16 feet deep, running the full length of the main room, which may be used either as a single private dining room, or (by closing patented folding partitioning) divided into two or three smaller dining rooms. Private entrances into this space are provided at the rear of the building. The floor of the main room is surfaced with terrazzo; the ceiling is acoustically treated.

PITTSBURGH *in* PROGRESS

TOWARD A MASTER PLAN

Sponsored by Kaufmann's Department Store
MITCHELL & RITCHEY, Architect Planners
Wallace Richards and Park H. Martin, Consultants



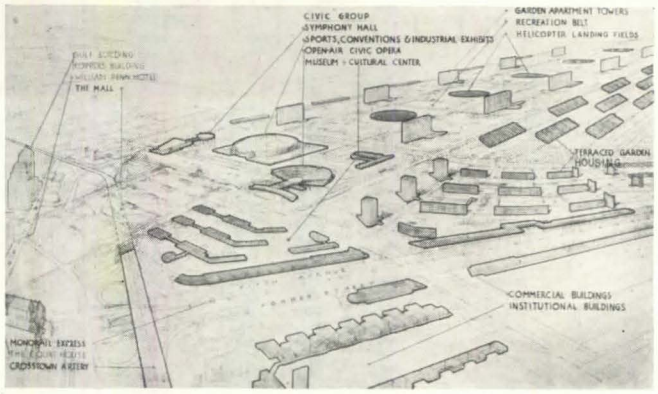
Photos by Newman-Schmidt Studios

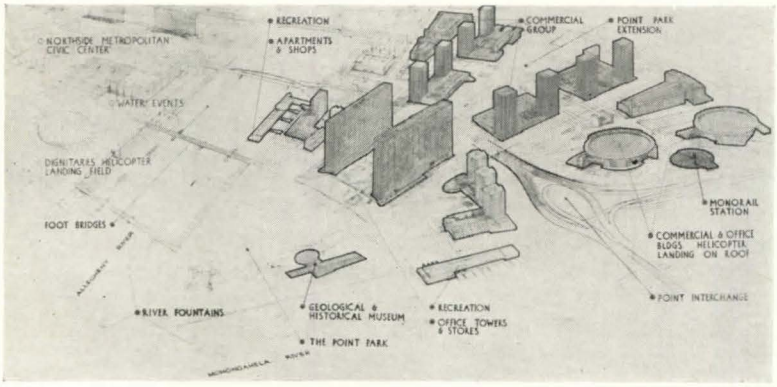
Chief characteristics are an exceptionally rugged terrain, with two rivers—the Allegheny and the Monongahela—joining to form the Ohio. The land use plan (above) envisions eventual decongestion of the crowded hub (the river meeting), with a series of areas of decreasing density ringing this center to produce an integrated and pleasant metropolitan community.

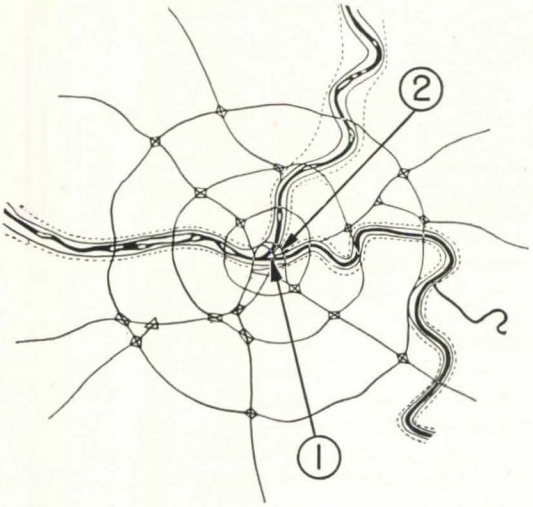
A bold attack on the unplanned growth, congestion, dirt, and deterioration which confronts Pittsburgh (as it does so many other cities), the plan constitutes an exciting educational venture. But it is not fantastic; its elements are based on sound research, and the grand esquisse integrates within the larger potential a number of actually scheduled municipal projects.

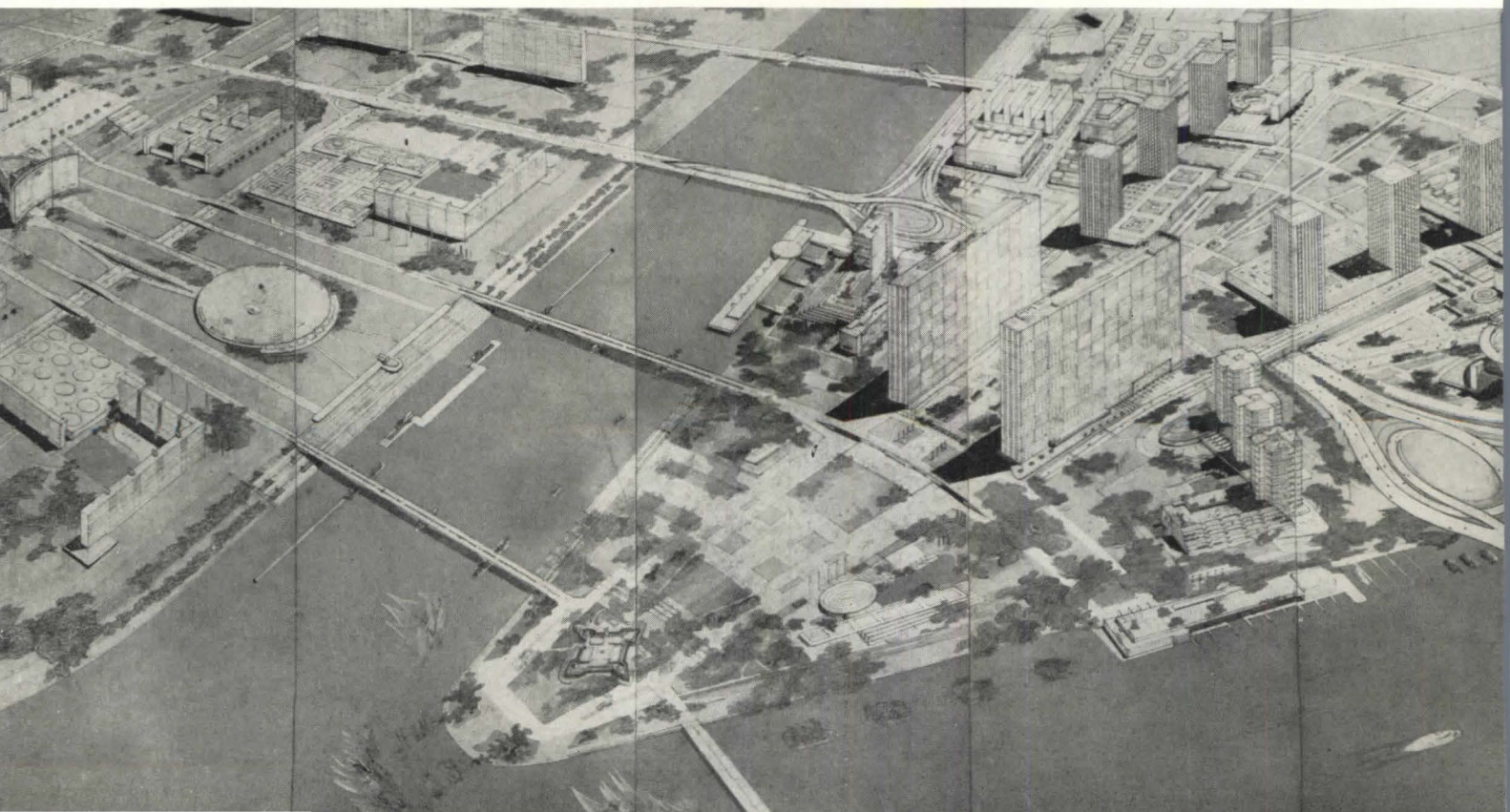
In developing a brilliant future for their city, the architect planners lift their sights to include an area 38 miles in diameter, with the river triangle as the center. In place of the do-nothing or defeatist attitude, the approach is positive and realistic, taking into account the vast commercial investments found in the core, the great industrial installations, and the plentiful labor market available and housed in this area. Recognizing the commercial core as the city's major source of revenue, the plan for gradual improvement of surrounding areas looks to the enhancement and permanent security of this economic base. A continuous, though gradual, process would eventually relocate major heavy industry in rings of less density toward the southeast; the lighter industrial belt would move out along the Ohio toward the northwest. Most elements of the city seem aware of the need for major improvements and reclamation. Attacks on the smoke nuisance and river pollution are already under way. Numerous traffic and housing schemes are beyond the proposal stage. But, while the drawings shown here are most painstakingly worked out, the architect planners are the first to admit that no static plan is here proposed, but rather "a pattern in broad strokes indicating a direction and philosophy for further study and articulation." In the words of Walter Gropius, these proposals "keep the imagination spinning . . . They constitute the first forward step in converting the nation's industrial centers into a place where people may both work and play in a comfortable atmosphere."

THE TRIANGLE: Monongahela at left; Allegheny, right; Ohio, straight ahead.


CIVIC GROUP
SYMPHONY HALL
SPORTS, CONVENTIONS & INDUSTRIAL EXHIBITS
OPEN-AIR CIVIC OPERA
MUSEUM - CULTURAL CENTER
GARDEN APARTMENT TOWERS
RECREATION BELT
HELICOPTER LANDING FIELDS
THE MALL
TERRACED GARDEN HOUSING
COMMERCIAL BUILDINGS
INSTITUTIONAL BUILDINGS
MONORAIL EXPRESS
CROSSTOWN ARTERY


NORTHSIDE METROPOLITAN CIVIC CENTER
RECREATION
APARTMENTS & SHOPS
COMMERCIAL GROUP
POINT PARK EXTENSION
WATER EVENTS
DIGNITARIES HELICOPTER LANDING FIELD
FOOT BRIDGES
MONORAIL STATION
COMMERCIAL & OFFICE BLDGS HELICOPTER LANDING ON ROOF
POINT INTERCHANGE
RIVER FOUNDAINS
GEOLOGICAL & HISTORICAL MUSEUM
RECREATION
OFFICE TOWERS & STORES
THE POINT PARK
MONONGAHELA RIVER


2
1

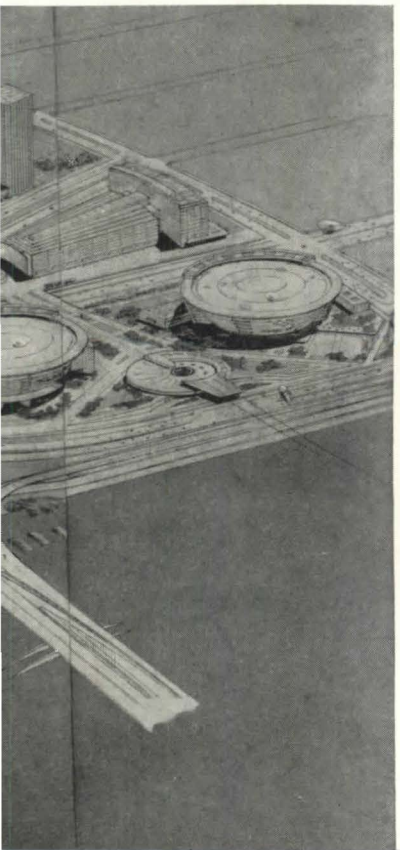


2. LOWER HILL

PITTSBURGH *in* PROGRESS

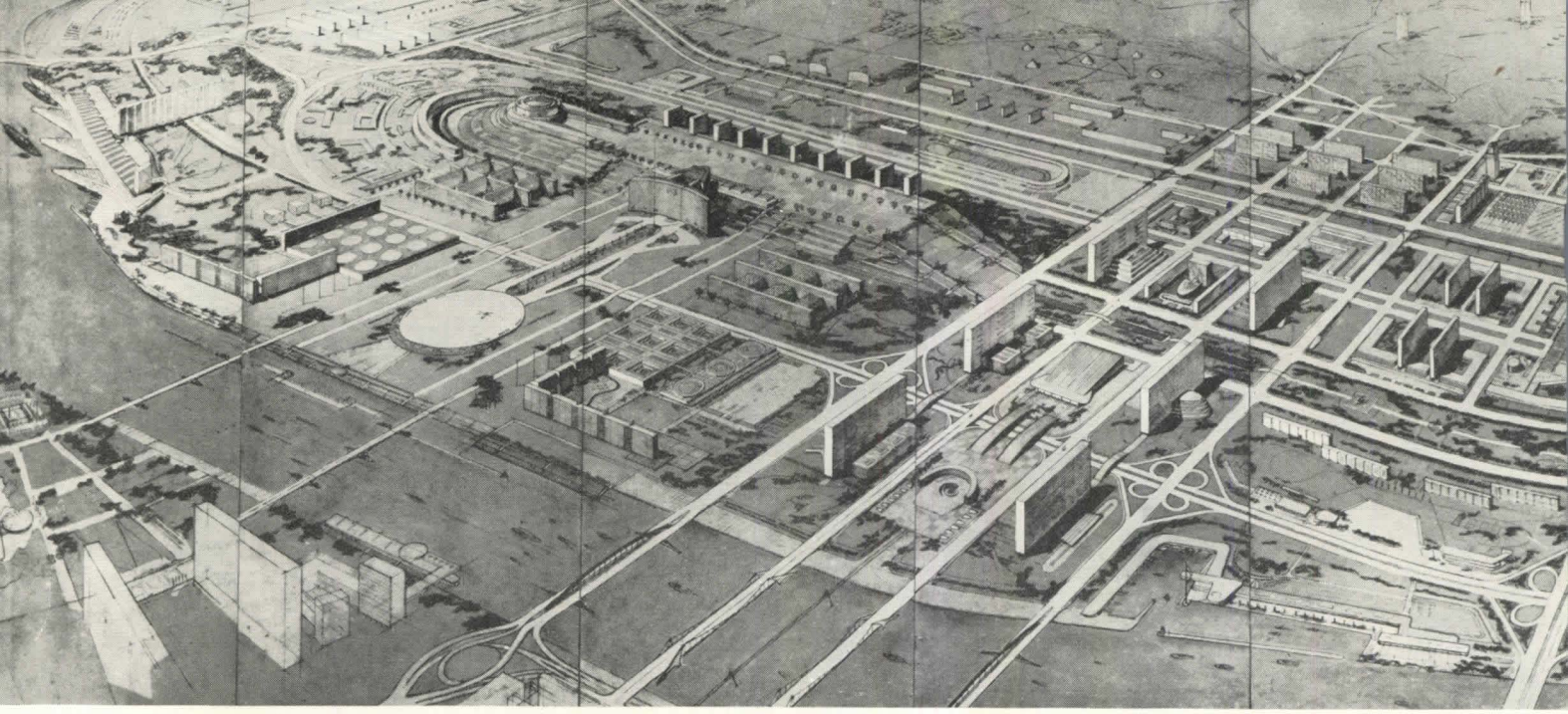
MITCHELL & RITCHEY, Architect Planners

1. POINT PARK



Point Park, the site of the original Fort Duquesne, is described today as "a dingy freight yard squeezed between two rivers." The scheme proposes a park development around the fort, bridges joining the Point with both north and south banks (the one nearest the Point being carried underground through a tunnel) ; the cleared site is used for a park, a geological and historical museum, and a civic plaza suitable for major ceremonies. To the east, office buildings and apartment houses are arranged around landscaped areas. The round building beside the big traffic circle on the bank of the Monongahela is an office structure, with helicopter landing platform on the roof. Beyond the area shown in the rendering immediately across page are blocks of the existing downtown area, with major buildings left intact.

Beyond this area again is the so-called Lower Hill, for which the planned development is indicated at top of this page. Note the existing tall buildings at left of the rendering. At present, one of the worst substandard areas in the city, the Lower Hill emerges in the new proposals as Pittsburgh's major cultural center, including a huge circular convention hall, a symphony hall, and an open-air amphitheater. Alongside and beyond this cultural center are various apartment and housing developments, all organized around sweeping parks and highways. Light and sun and air replace dirt and gloom.



3. NORTH SIDE

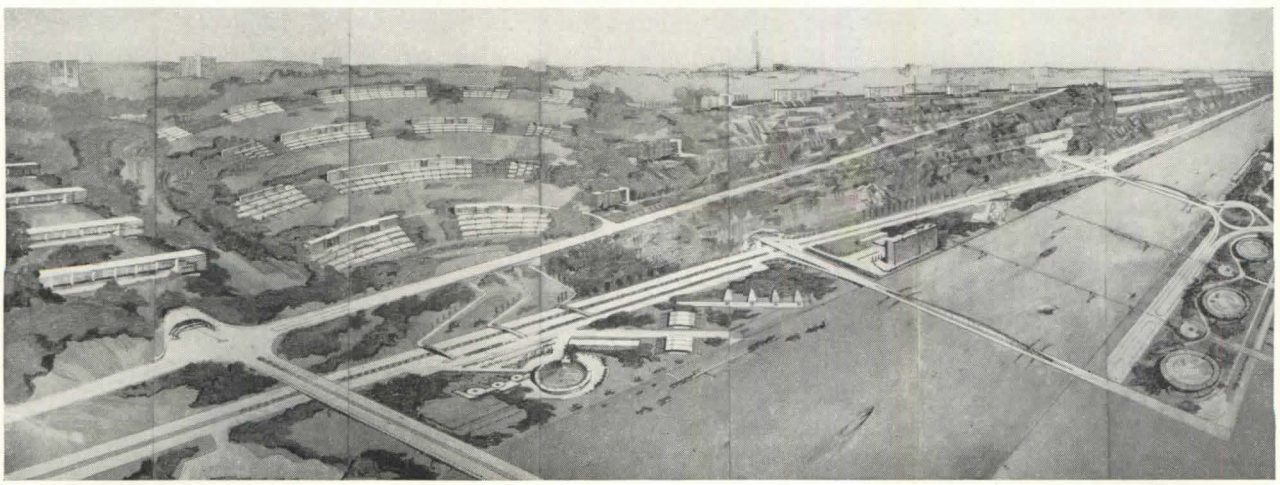
PITTSBURGH *in* PROGRESS

MITCHELL & RITCHEY, Architect Planners

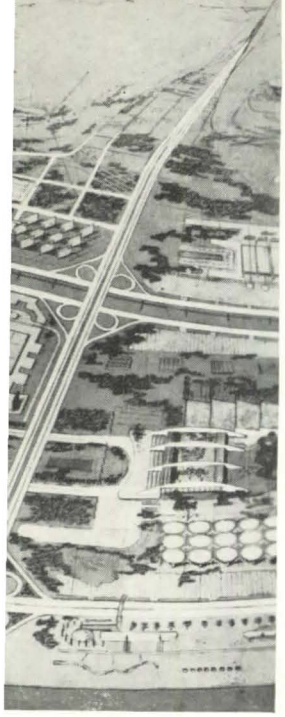
The proposed development of the North Side, across the Allegheny from the Point Park (lower left corner of the rendering, above), includes a civic plaza directly across from the park (with circular landing field in the center) backed up by an impressive group of civic and governmental buildings behind, on what is known as Monument Hill. To the east, accessible across several bridges from the triangle area, is the North Side commercial area, with stores and towering apartment buildings. In the center of this area is one of the stations for a monorail system, the transportation system recommended for the city by the architect planners "because of the extremely hilly nature of the terrain."

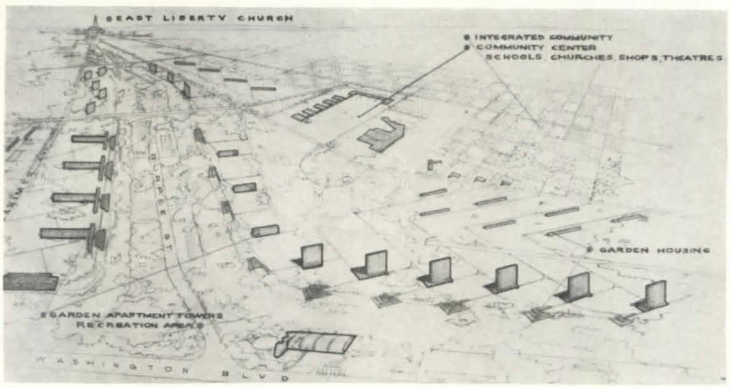
Across the Monongahela from Point Park are the precipitous slopes of Mount Washington. Here, in place of the present barren hills and traffic snarls, the plan suggests an ordered series of roadways leading to hanging-garden apartments, which would enjoy a breathtaking view of the city and rivers below. Near the river level, two traffic tunnels burrow under the hills to speed traffic flow.

Ordered development of three planned neighborhoods, each worked out in accord with the actual terrain conditions that exist, are shown in the drawings on the facing page. Apartments are widely spaced in green areas; through and local traffic are separated and interrelated, and each of the neighborhoods includes its own community and shopping center.

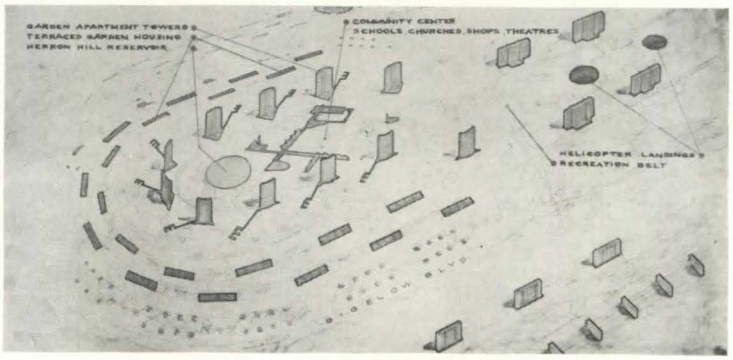


4. SOUTH SIDE

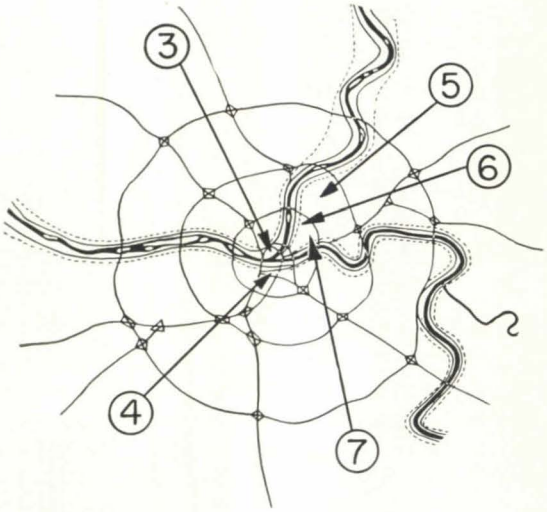


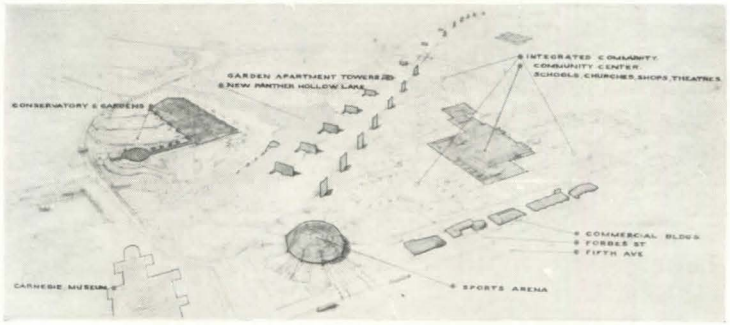


5. NEGLEY RUN

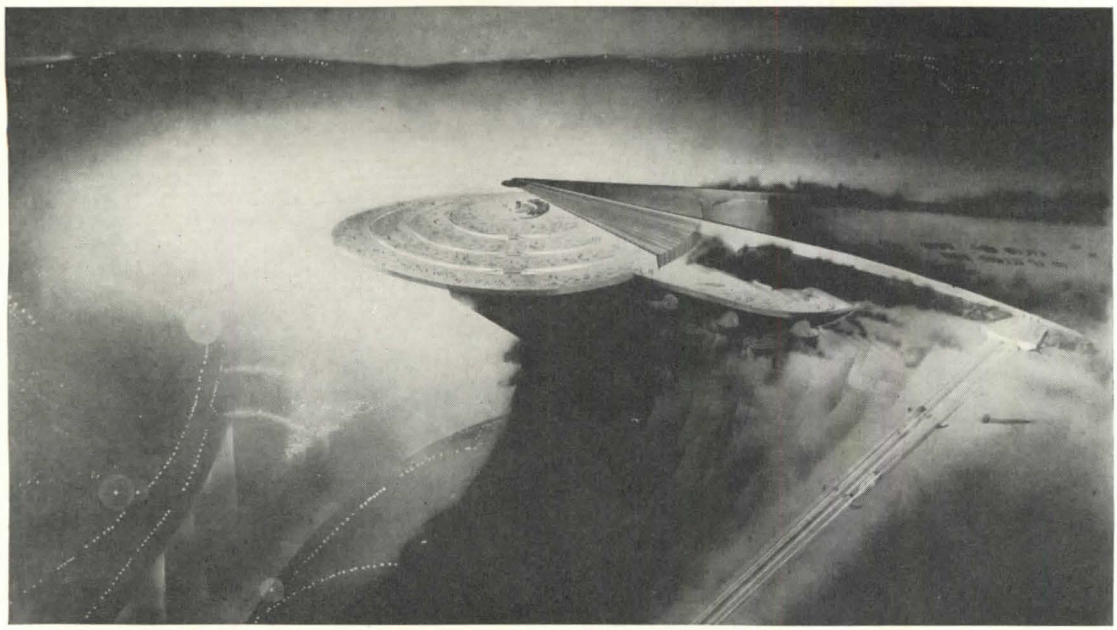


6. HERRON HILL





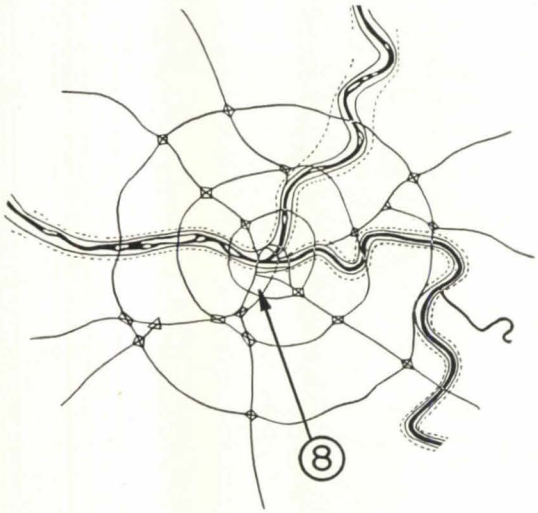
7. PANTHER HOLLOW



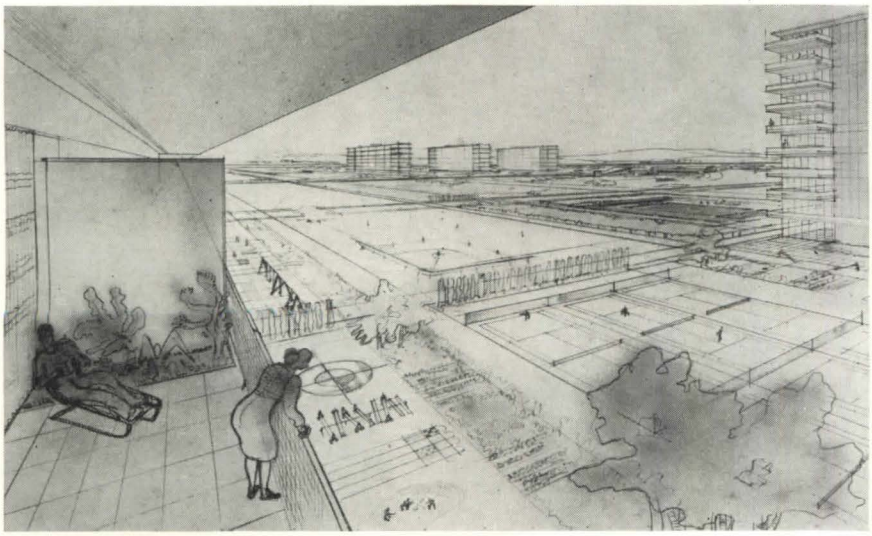
8. RESTAURANT ATOP MOUNT WASHINGTON, looking down on the reborn city.

PITTSBURGH *in* PROGRESS

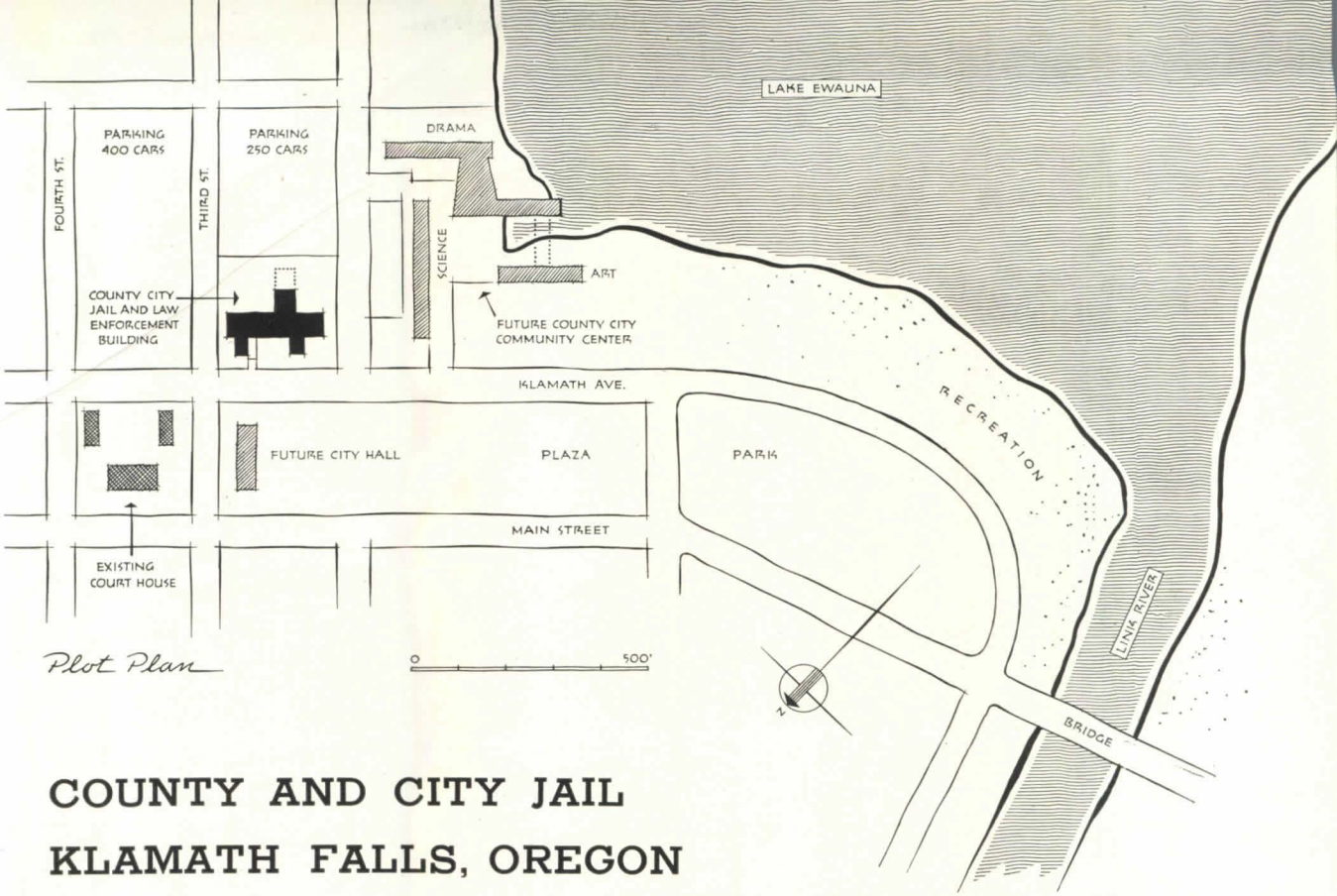
MITCHELL & RITCHEY, Architect Planners



The plan has the backing of the Allegheny Conference on Community Development and the Pittsburgh Regional Planning Association. The Mayor and City Council have voiced general approval. Local club groups are much enthused. Financing has been arranged for development of the park at the Point. Mitchell & Ritchey have been retained to develop specific studies for part of the Lower Hill district. Other cities may well consider their laurels.



SPACIOUSNESS, light, and air—hallmarks of the new Pittsburgh.



Plot Plan

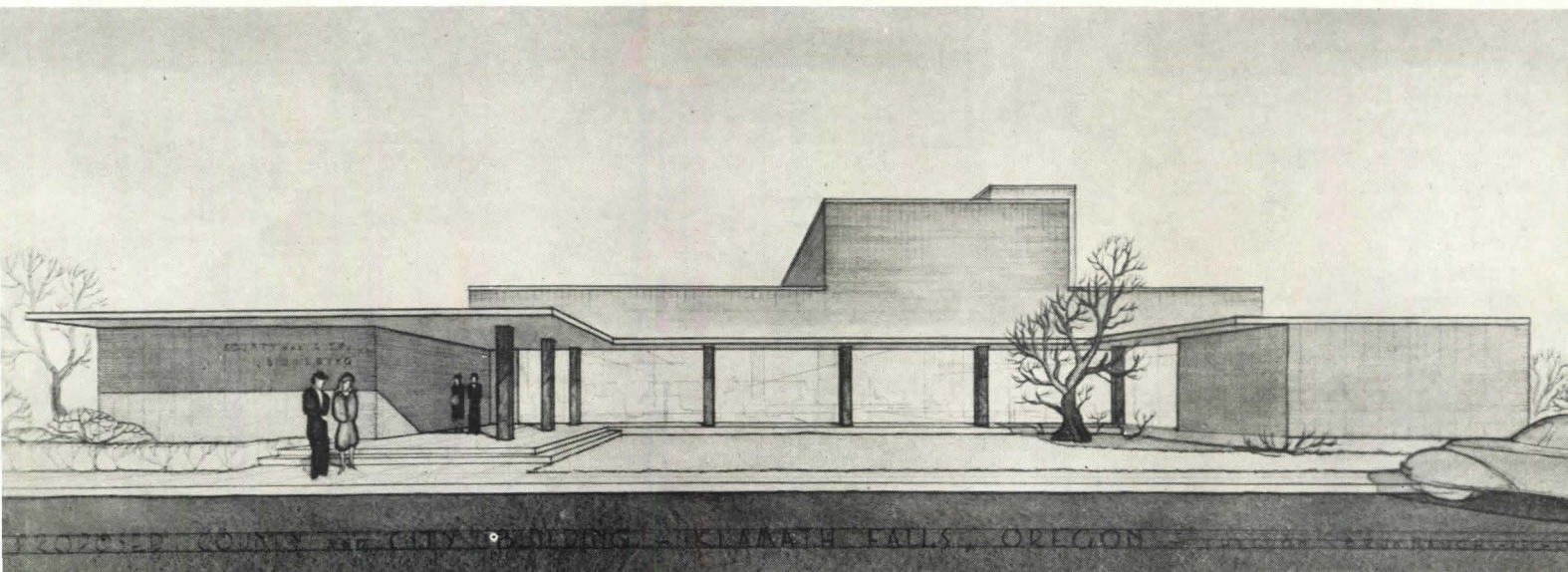
COUNTY AND CITY JAIL
KLAMATH FALLS, OREGON

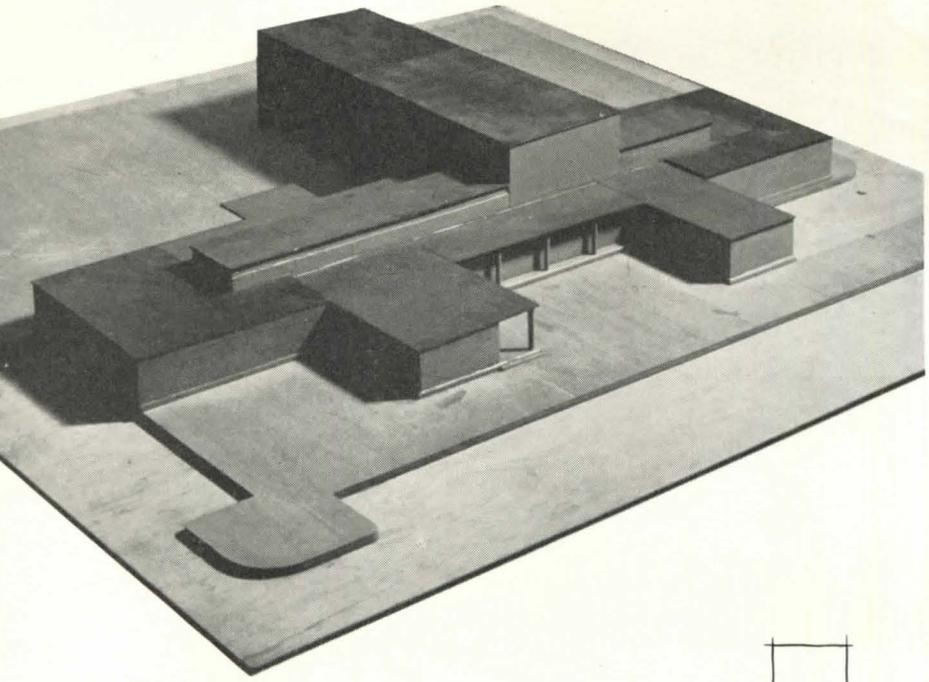
SHELDON BRUMBAUGH, Architect

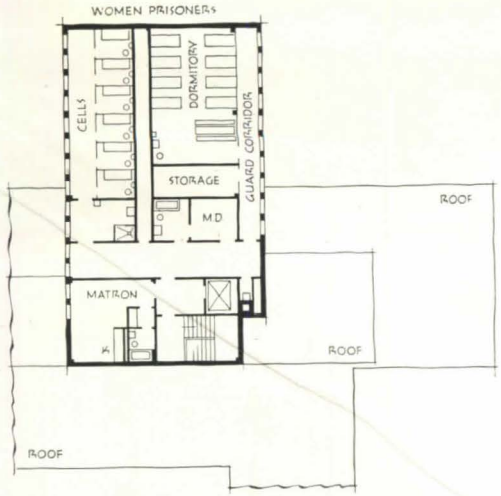
Mr. Brumbaugh has been notably successful in conducting a contemporary practice in one of our smaller cities. His work has ranged all the way from major city planning projects down to the individual small house. In a forthcoming issue, we plan to explore the opportunities that the small city offers the architect, using Mr. Brumbaugh's experience as an encouraging reference point. Herewith is one of his latest buildings, planned in relation to an evolving Civic Center.

The site is a full city block adjoining the County Court House and the area allocated for Klamath Falls' new Civic Center and Park. The building is oriented so that all interior rooms receive sunlight, and a plan has been worked out for enlightened jail administration after consultation over a two-year period with authorities throughout the country. Joining the needs of both city and county (and thereby obtaining a better building than either could afford alone), the building is planned in conjunction with a complete program of work, recreation, rehabilitation, and medical care. In place of a full-time jailer, the city Chief of Police and the County Sheriff assume the joint responsibility of managing the jail.

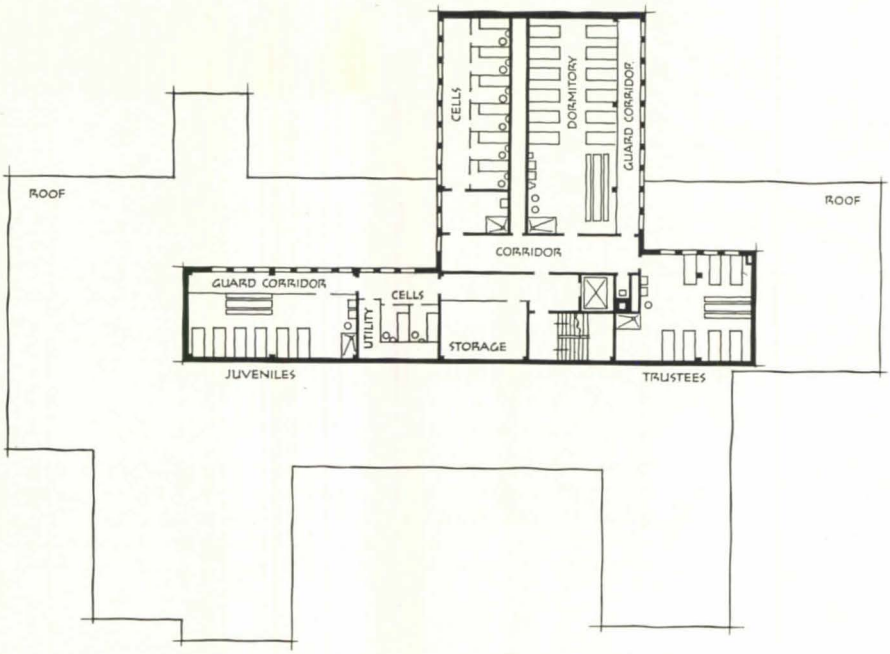
Rendering by L. R. Swansen



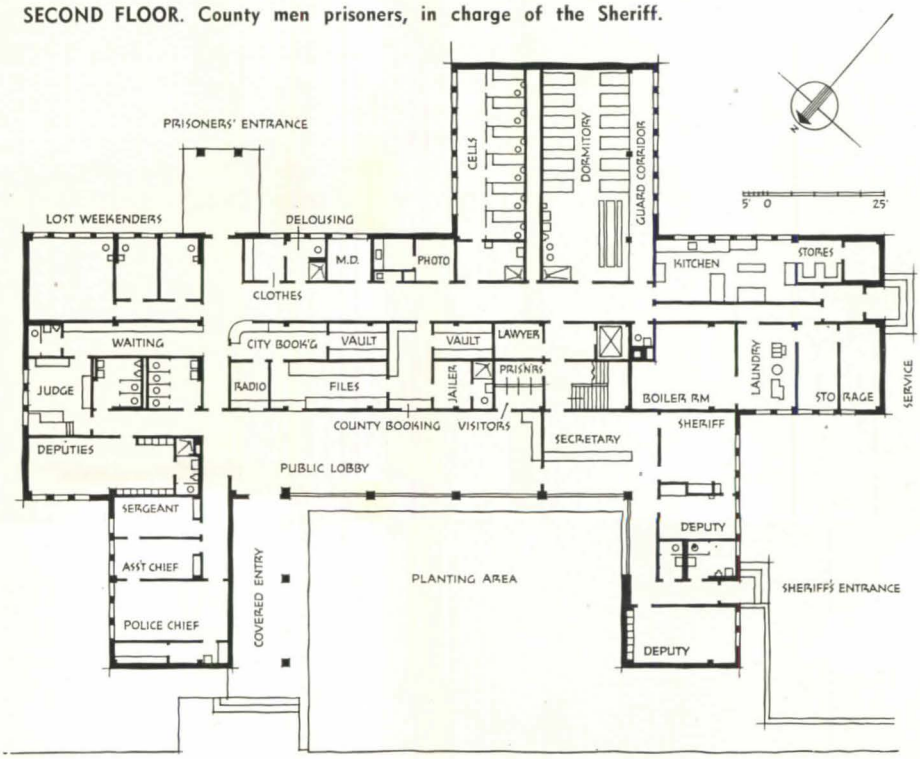




THIRD FLOOR. All women prisoners, in charge of a Matron.



SECOND FLOOR. County men prisoners, in charge of the Sheriff.



FIRST FLOOR. City men prisoners, in charge of the Chief of Police.

COUNTY AND CITY JAIL
KLAMATH FALLS, OREGON

SHELDON BRUMBAUGH, Architect

Both jail-block and service wings may be readily extended in the future. Two main types of custody are used —individual cells and dormitories; drunk cells are provided for sobering up, and there are separate quarters for boys.

A prisoner enters from the rear with an officer, is booked, given a shower, deloused, and issued jail clothing; next come a physical exam, fingerprinting, photographing, and placement in cell. Sentenced prisoners not requiring individual custody are assigned to dormitories. While relation of dormitory bunks, eating table, and toilet facilities seems crude, the program required that all prisoners be in view of all others at all times, and the prison guards preferred that toilets be located near the entrance.

Organization of the front porch and door skilfully centralizes control of all public access—to the Chief of Police, Sheriff, Judge's chamber, visiting room, rest rooms, and booking office. Structure is reinforced concrete with brick facing; partitions are tile in office areas and steel or concrete in prisoners' space. In general, floor and roof construction is a one-way slab system. The building is heated by forced hot air, supplemented by radiation in exterior offices.

Photos by Haskell

CAPE COD COTTAGE, WEST DENNIS, MASS.

DAVID FRIED, Architect

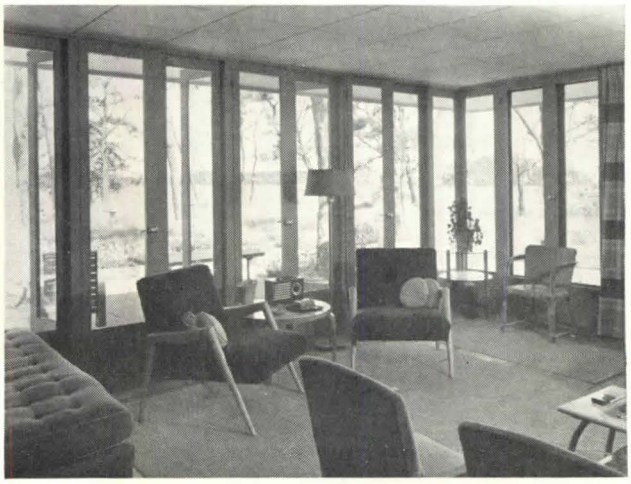
In the latter eighteenth and early nineteenth centuries, few regions could surpass Cape Cod for its architectural modernity and inventiveness. In more recent years, this vitality has been largely replaced by copybookism and banality. It is pleasant, therefore, to present a sparkling new house on the Cape which, like its predecessors, employs the techniques and materials of its day to produce a home designed around the needs and pleasures of its occupants.

The site is a typical bit of the Cape, a scrub-pine grove, separated from a magnificent beach by a quarter mile of marshland. On the view side (east) and on the south, walls of the house are largely of glass, welcoming both the outlook and the sunlight. Here, too, are the paved living terraces, shielded from the road by the house itself. Designed primarily as a summer home, the house has a heating system for use on occasional holidays throughout the year.

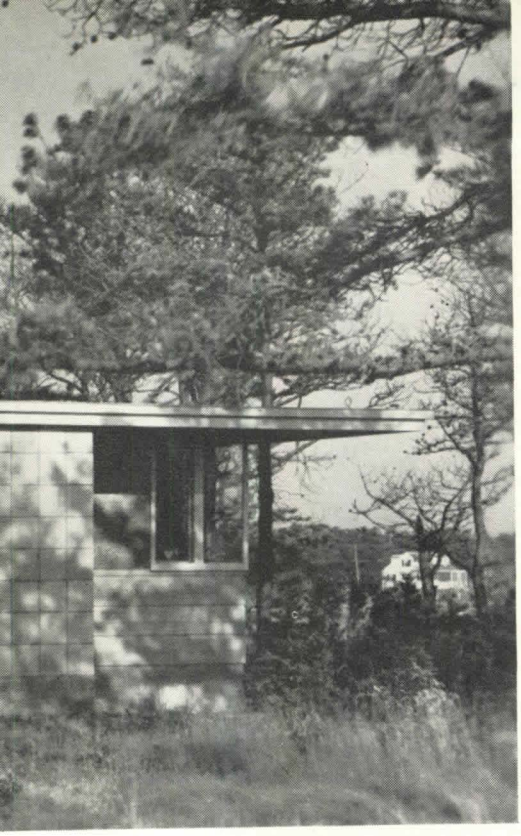
CAPE COD COTTAGE, WEST DENNIS, MASS.

The house faces the road toward the west; window areas on this side are restricted to a high band opening into the master bedroom and toilet and shower rooms. The utility room, accessible from the outside, has walls of terra cotta blocks which reduce the fire hazard, form the fireplace wall of the living room, and produce an important exterior design element. Otherwise, the house is frame, on a modular basis, with 3″ x 3″ posts spaced 2 ft. on centers: ceiling joists line with these members. Two-foot-wide glazed doors run from floor to ceiling, and fixed doors are screwed to the posts with rubber weatherstripping between; alternate doors are hung on the fixed doors, eliminating all frames and trim.

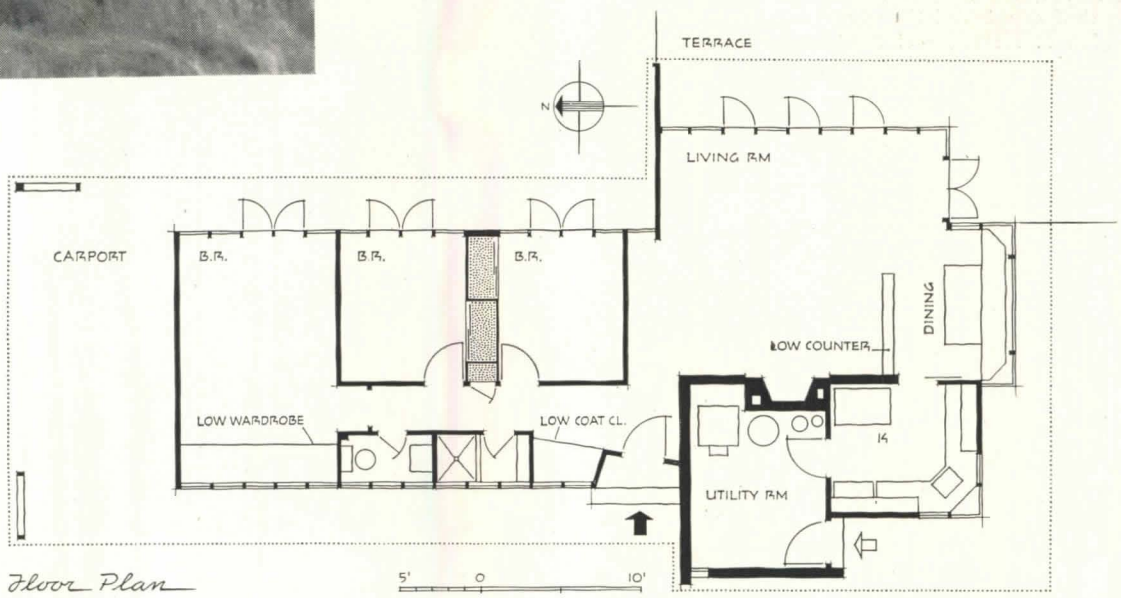
DAVID FRIED, Architect



THE 2-FT. FRAMING MODULE is exposed on both the interior and big windows of the opposite wall, providing excellent cross ven- 2-ft. squares; ceiling is of acoustic tile.



HIGH WINDOWS at the end of the master bedroom occur above storage units and produce a venturi effect, in conjunction with the big windows of the opposite wall, providing excellent cross ventilation.



Floor Plan

THE DINING-SPACE BAY WINDOW faces south. Sash, like the wall height glazed doors, are worked out on the 2-ft. module.

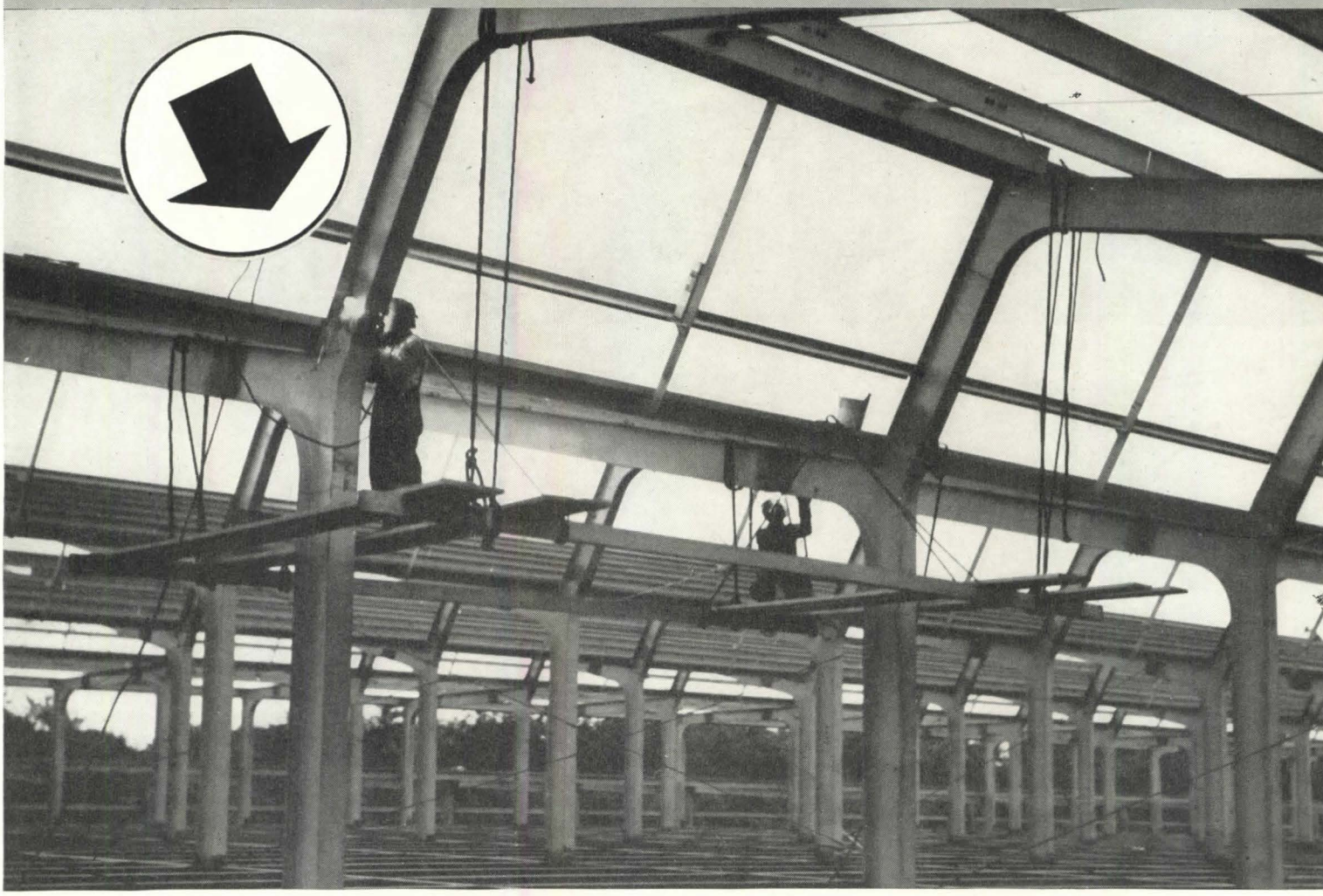
THE FIREPLACE WALL of the living room is made up of the terra cotta blocks that enclose the utility room. The dining bay, toward the south, occurs just beyond the shelf case behind the sofa at left. Photo at right shows fixed panel of glass at the corner of the living room, facing the entrance.

CAPE COD COTTAGE, WEST DENNIS, MASS.

DAVID FRIED, Architect

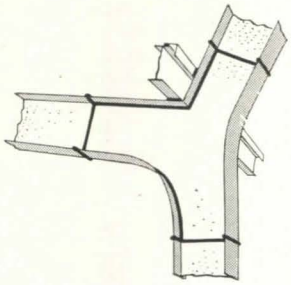
The warm-air heating system is simply schemed, with the ceiling of the bedroom corridor furred down to form a heat duct to these rooms. The corridor itself serves as the return duct. A supply duct is brought around into the living room by a louvered ceiling duct.

ONE OF THE BEDROOMS is equipped with double bunks; all bedrooms open out to the living terrace.



WELDING:

ITS IMPLICATIONS AND APPLICATIONS



By PAUL WEIDLINGER

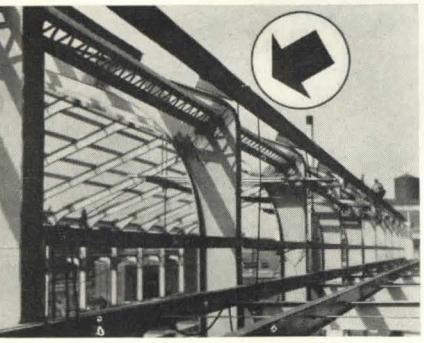
PART I. *The second portion of this important article will appear next month.*

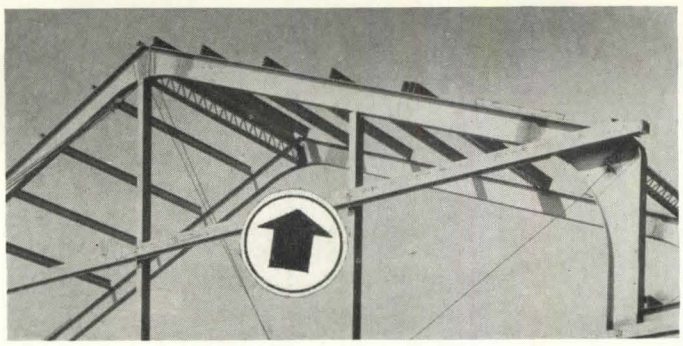
The adoption of welding in steel building construction—a development of the last two decades—is a definite advance in building technique. Along with certain benefits, however, it brings to some bewildered designers and builders added confusion, which, though it cannot be blamed entirely on any complexity of the basic concept, cannot be denied. Yet the welded steel structure has actual practical advantages — simplicity and economy — which make it decidedly worthwhile to investigate the process.

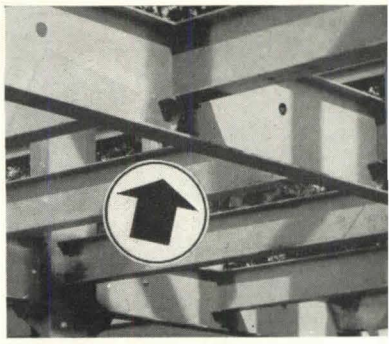
Even if it were possible, it is not necessary for the practicing architect (or for that matter, the practicing engineer) to comprehend fully all aspects of the welding process in order to grasp at least those qualities of welded steel structures which set them apart from others. That some confusion should exist is understandable; the excellent *Welding Handbook*[1] opens with this significant explanation: "Welding involves more sciences and variables than any other industrial process, which may explain why most of those concerned are satisfied with a very crude understanding of its problems. . ."

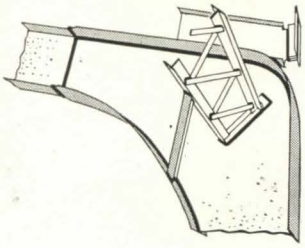
Nor are these technological matters the sole difficult ones; when and where should a steel structure employ welding? The answer to this question, which is important to the architect, can be derived from the same considerations and knowledge which will help to decide whether a given building shall be built of stone, brick, lumber, concrete, or riveted structural steel. No architectural cook book can provide a recipe which will be a satisfactory substitute for factual knowledge of construction methods. However, familiarity with the characteristics of welded structures, coupled with intelligent reasoning, should indicate the place of this method in contemporary architecture. Lack of familiarity is at least a partial explanation of the fact that, so far, only a very limited architectural expression of welding can be found in contemporary work. Reinforced concrete and riveted steel have found their particular architectural forms; is it too much to expect the same for welded structures?

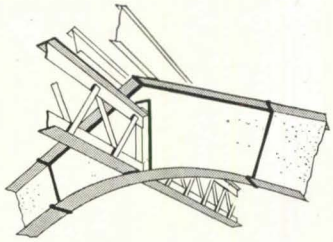
[1] Welding Handbook, *American Welding Society, New York.*

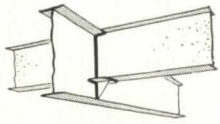












The Welded Structure: Rigid Frames vs. Column-Beam Frames

Welding may be so employed that the resulting structure is either rigidly or flexibly framed.

The typical welded structure is a rigid frame, a homogeneous unit in which columns, beams, and girders are rigidly connected. In this sense it has more than a superficial similarity to reinforced concrete construction. The so-called difficulties of rigid frame analysis which in the past have almost prevented general acceptance of reinforced concrete, now appear again. The *Welding Handbook*, in discussing the advantages of rigid frame construction in welded structures, makes the following interesting confession: ". . . . the work involved in rigid frame analysis to determine the maximum stresses, occurring at the joints under all reasonable conditions of loading, has discouraged any general use of this type of construction except where the framing system is relatively simple. This condition continues in spite of the fact that savings of material can be achieved through the utilization of continuity and in spite of the simplification that has been brought about in the mathematics of rigid frame solutions. . ." What a sad comment this is on the structural engineer in our brave new atomic age!

The analysis of rigid frames was for a considerable time, and probably still is, a controversial issue, although the controversy is somewhat one-sided, centering around the larger amount of work which has to be put into the analysis of such structures as compared to the simplified calculations which are considered satisfactory for "column-girder" construction. This latter type of analysis is used in riveted steel structures, where the connections between column and girder are assumed to be flexible enough to permit the column to be designed for compression alone, and the girder as a simple beam. In such an analysis each member can be designed independently, disregarding loading conditions of other members.

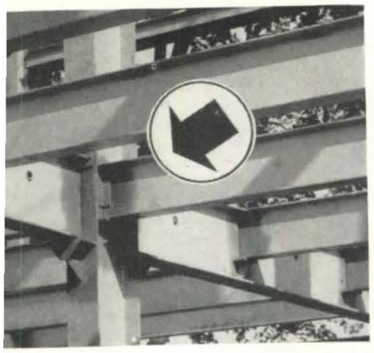
The rigid frame requires a more refined approach: loading on any one member of the frame will influence other girders and columns. Columns are subjected to bending as well as compression; girders cannot be considered "simply supported." These characteristics do not make the design of such frames more *difficult*, merely more *complex;* they require more accurate strength evaluation and hence better balanced design. Rigid frame design requires somewhat different, unfamiliar methods, and somewhat more time. The practicing engineer usually will not invest additional time either in acquiring new knowledge or in more complex analysis without financial recompense. Advantages gained by welding will offset the additional cost of the design work; but if the savings have to be demonstrated by alternate designs, you have what sounds very much like a vicious circle.

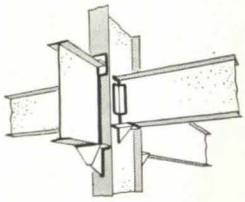
The architect, on the other hand, is in a strategic position to eliminate this deadlock, provided he is familiar with the advantages of the welded frame and appreciates the complexity of the design procedure. The recent wider use of reinforced concrete has probably familiarized a great number of engineers and architects with this type of design procedure. Welding should benefit from this; but the analogy between the design of reinforced concrete and of welded structures is only partial: while welding is especially suited to rigid frame design, connections between members can be designed for any degree of flexibility, even approaching the standard "column-girder" structure of riveted framing. This fact, if not misused just to simplify the design procedure, becomes a great advantage in the hands of the competent designer by distributing rigid or flexible joints in the structure so as to obtain the maximum amount of savings in both steel and labor, including design work.

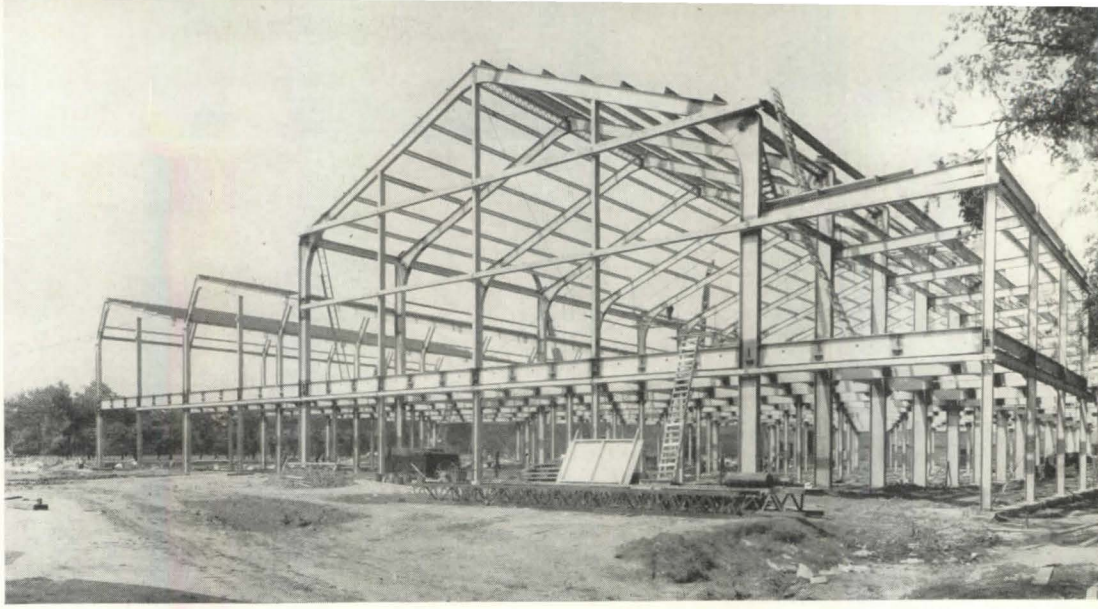
The fascinating combination of highly mechanized instruments and human skill used in welding results in greatly simplified forms, which is the method's chief merit. *The completely welded structure, in contrast to riveted, is not an assembly of independent structural elements, joined together with intermediate connecting pieces, but is a homogeneous, organic unit.* This, its major characteristic, sets it apart from riveted or bolted construction. To be fully exploited this quality requires different design methods and will result in structures having unique characteristics.

There are four fundamental types of non-pressure welds: bead, fillet, groove, and plug; and there are five basic forms of joints: butt, corner, edge, lap, and tee. Welded structures can always be reduced to these elements. Basic advice to designer-engineers is set forth in the *Welding Handbook:* ". . . foremost of the precepts which could be laid down is the rule that the simplest and most straightforward treatments of the problem will produce the most satisfactory results with the least cost . . . (although) curved work at joints may be justified on esthetic grounds, it usually tends to increase the fabricating costs . . . it is better to keep the number of component parts in a joint at a minimum, using comparatively heavy material if necessary, to avoid the introduction of reinforcing plates and elaborate stiffener systems. . . ."

Although this advice is directed to structural engineers, it agrees curiously with some basic concepts of contemporary architecture, disregarding the methods and materials used. The principles, however, have a very particular importance for welded structures, in which are emphasized the benefits to be achieved by carrying simplicity of design to the utmost.







Photos above and on preceding pages show the all-welded rigid frame of an industrial building, and details at typical joints. Curved work was shop-welded; straight members, joints with latticed struts, etc., field-welded to the shaped members. (Photos courtesy Lincoln Electric Co.) The *Manual of Design for Arc-Welded Steel Structures* (see page 82) shows standardized connections and methods of stress calculation which simplify welding design and erection.

The Welding Process and Its Testing

To understand fully the implications of welded steel structures one must have a clear conception of the welding process, not only of the physical laws involved, but also of the actual manual process, of supervision, and of testing.

Welding is usually defined as the joining of two or more pieces of metal by the application of heat and (sometimes) pressure. The accompanying chart of welding processes gives an over-all view of the somewhat bewildering maze of processes now available to those who design for welded fabrication. In welded steel structures, at present, only two of these are in general use—metal arc and gas welding, and metal arc is by far the more common.

Metal arc welding employs heat obtained from the electric arc formed between the electrode and the parts to be welded, in which the electrode melts and unites with the base metal. The operation itself is easy to understand. One terminal of a generator is clamped to the steel to be welded; the other is connected by insulated cable to a mild steel electrode (rod or wire). The electric circuit is closed for a fraction of a second by bringing the electrode into contact with the steel parts to be welded, then the electrode is withdrawn, opening a short gap between it and the steel. First this establishes a short-circuited current flow, then the opening of the gap draws an arc. Usually direct current is used, although A-C welding has increased rapidly in the last four or five years. The operator must maintain a nearly constant gap between electrode and base metal, although the electrode's tip melts away continuously. The gap is determined by the arc length, which is in turn influenced by the voltage used. Simultaneously, a second motion is necessary along the line of the weld. Therefore, besides depending on choice of electrode and welding current, the quality of the work depends on a number of other variables.

MASTER CHART OF WELDING PROCESSES

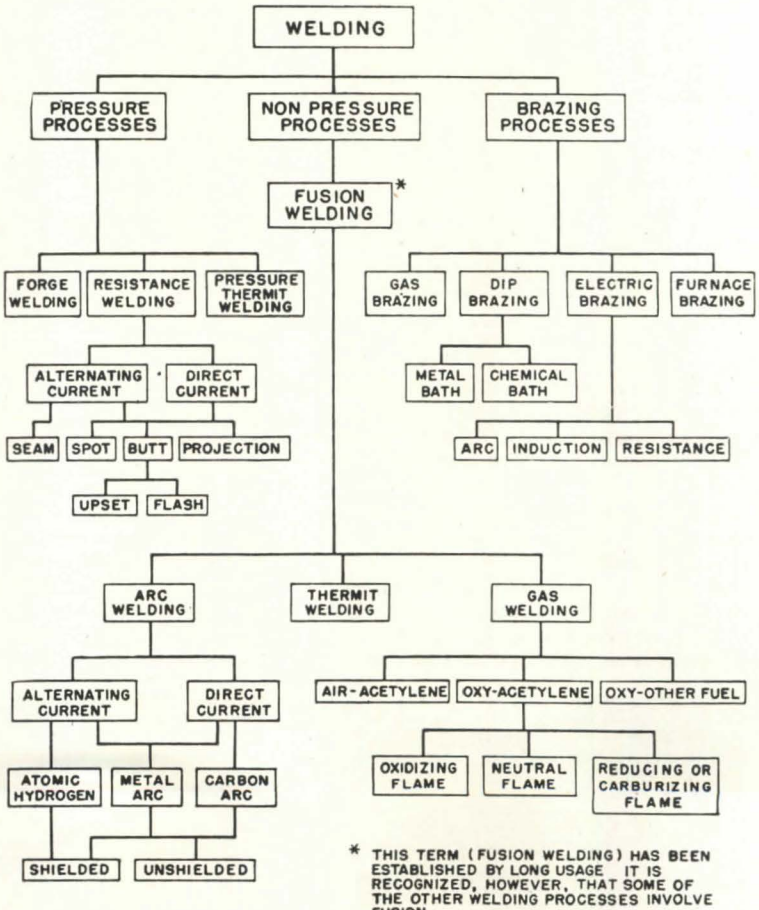
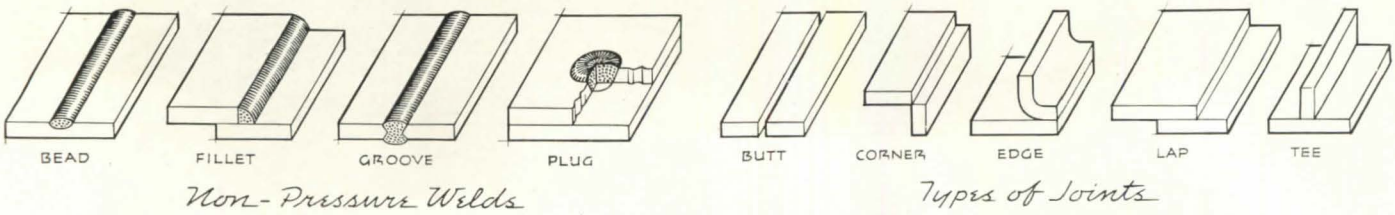


Chart courtesy American Welding Society

In gas welding, heat is obtained from a gas flame, usually from the combustion of acetylene and oxygen. The base metal is brought up to proper temperature, after which the welding rod is introduced into the flame. In this case the operator manipulates torch and welding rod so as to fuse the base metal to a desired depth simultaneously with the



Fundamental types of welds and welded joints used in building construction (courtesy American Welding Society).

rod. The motion of the operator is continuous, the molten metal from the rod flows against the fused surface and merges with it. The gas supply valves have to be adjusted to produce a suitable flame, which, together with choice of welding rod, will greatly influence the quality of the weld.

Although it is not the purpose here to give a comprehensive explanation of welding processes and equipment, this short description should convey a basic fact about welding: *considerable skill is required to perform either of the above described operations.* Nor is this all; in addition to the skill of the operator the laws of chemistry, metallurgy, and physics govern the results of welding operations. While it is not essential for the operator or designer to comprehend them fully, such branches of physics as heat, elasticity, plasticity, electricity, magnetics, optics, X-rays, and crystal theory are involved in the complete understanding, control, and testing of welding. The paradoxical (but not necessarily unusual) combination of highly complex exact sciences and almost medieval handicraft skill is striking. The simultaneous existence of these factors might explain the air of mystery which too often surrounds the welding process. In view of this, testing of welded joints and of the weld itself becomes quite important, if for no other than psychological reasons; of course for research and development good testing methods are an absolute necessity.

Mechanical tests for welds are similar to those used for the base metal. Although there is agreement as to properties to be determined and procedure to be employed, there is still, particularly among local building codes, wide disagreement as to shape and size of test specimens and certain procedural details, even though at higher technological levels agreement is quite general. Standardization of the various code requirements would certainly increase usefulness and decrease cost of routine tests. Mechanical testing includes examination of soundness and tensile strength of both the weld metal and the joint.

Non-destructive examination of welds is also employed; the visual inspection method is the simplest. Certain flaws in welds can thus be detected immediately. Reference works usually describe the appearance of sound welds in great detail and call attention to common mistakes. One most important function of visual inspection is to ascertain whether the operator has actually executed all the required welds. Other non-destructive methods, while they give excellent results, are usually expensive and cumbersome for building construction, although two may have wider application in the future.

The **magnaflux** or **magnetic powder** method is based on a property of ferromagnetic powder, which assumes, near abrupt discontinuities in magnetized materials, a position which outlines the shape of such discontinuities or cracks. **Radiography** (with either X-rays or gamma rays) also affords valuable information as to soundness of the weld and adjacent material, revealing subsurface defects such as gas cavities, non-metallic inclusions, lack of complete penetration, imperfect fusion, and cracks. Of course, there are conditions "on the job" which may make it difficult to employ present-day types of X-ray equipment; and in any case the inspector has to be technically competent in reading the photographs. Radiographic examinations are at present required only for boilers and pressure vessels; however, their advantages in examining more important joints in welded structures are obvious—and the method is also cheaper than removing and replacing portions of welds.

The widespread use of "exographs" or "gammagraphs" might completely remove uncertainty from welded structures. When such scientific certainty is accompanied by equal architectural sureness of touch, welding will have gained a place beside other structural systems as a fully independent method with its own individual characteristics.

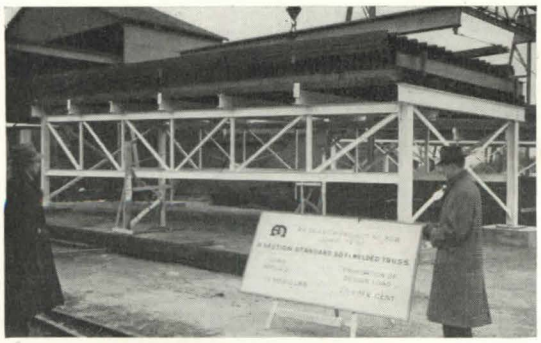
Advantages and Savings

In view of the complexity of design procedure for rigid framing and the skills and equipment required to execute welding, the question, can welding be justified economically and technologically, is natural. The answer, based on both theoretical considerations and practical experience, is usually yes; welded structures are in most respects superior to riveted ones. Such a statement needs qualification, but only to emphasize that welding is not a cure-all process which can make an otherwise unsatisfactory structure acceptable. Nor should it be employed indiscriminately; to repeat, its application will depend on over-all considerations of the type which determine the selection of any construction method.

The most striking characteristic of all welded structures is the saving in quantity of structural steel which can be obtained through welding.

The *Manual of Design for Arc Welded Steel Structures*[2] gives the following percentages in saving of structural steel

[2] *Compiled by La Motte Grover, Air Reduction, New York, 1946.*



Left, mechanical test conducted by The Austin Co. on prefabricated welded trusses formed of H sections. Failure occurred by buckling of a member at 240,000 lbs., 253% of the design load; all welds remained intact at failure despite distortions. Center and right-hand photos (courtesy Lincoln Electric Co.) show improved lighting and head room obtained in rigid-framed, welded industrial buildings, an advantage when cranes or other high equipment must be accommodated, etc.

material, reported for various classes of work properly designed for welding:

Class of Structure	Saving in Weight
Rigid-frame or arched-roof large mill buildings, auditoriums, hangars, etc...	20-26%
Mill buildings, etc., with roof trusses..	10-15%
Industrial handling equipment.....	15-30%
Girder and arch bridges.....	15-30%
Truss bridges	10-20%
Continuous rolled beam bridges, with coverplates, splices, stiffeners, etc.....	10-15%[3]
Conventional tier buildings.....	5-10%
Class of Member or Unit	
Truss-type bents for mill buildings.....	20-30%
Built-up plate girders.....	20-35%
Trusses	15-28%

Savings are due not only to the characteristics of the rigid frame and reducing midspan moments of girders, but also, in both rigid and column-beam framing, to the simplicity of welded connections, which, furthermore, contributes to reduction of handling and fabricating costs. The reduced quantity of steel has indirect implications in additional savings of other materials and corollary advantages—the lesser weight of the structure can be reflected in lighter foundations and other load-bearing members.

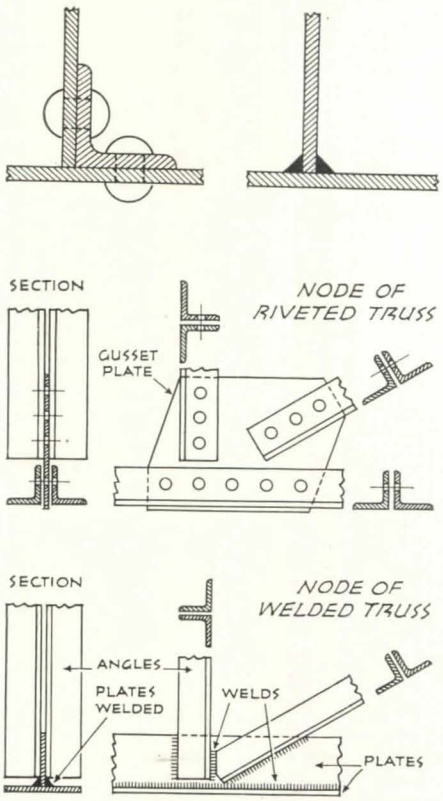
The lightness of the structure results in reduced height of framing members: girders, beams, floor construction. This may mean a considerable saving in outside walls of tall buildings as well as in total cubage for a given area. The actual reduction in the height of girders is influenced by too many variables to permit any generalization to be wholly accurate, but a simple calculation gives convincing proof of the proportionate savings involved. The reduction is due mainly to the lower moments to which continuous beams are subject, as compared to simply supported beams. The depth of the beam is proportional approximately to the square root of the bending moments; hence the reduction in height can be calculated from $\sqrt{8/10} = 0.9$, which is the square root of the ratio of the midspan moment of simple beams to the average maximum moment of continuous beams. It is therefore logical to expect that, with the continuous beams made more economical by welding, thickness of the over-all floor construction can be reduced by approximately 10 percent in comparison with simply supported beam construction.[4]

To make a simple riveted connection *three* pieces have to be handled: the two pieces to be connected and the connecting element, usually an angle or plate. A welded connection can be made with only *two* pieces. In riveted connections holes must be punched in all these members; *three* separate operations and *two* different machines are required. The welded connection can be done with *two* operations and *one* type of equipment. These are the factors which contribute to the economy of welded construction; but that economy can be fully realized only when the simplicity of welding is completely, ingeniously exploited.

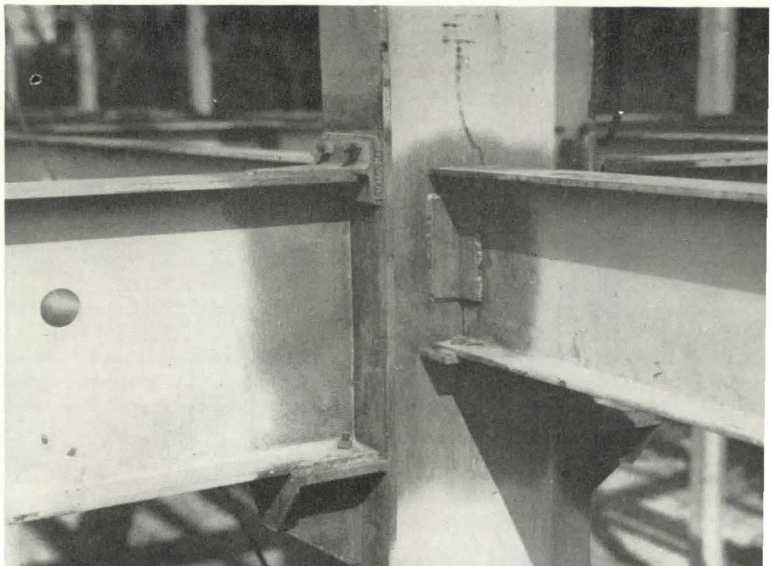
Besides these tangible advantages, there are others no less important. Erection of welded structures is noiseless, which is an advantage not only to occupants of nearby buildings, but also to the workmen. Some field cutting may be required; use of the cutting torch will eliminate the noise of shearing and clipping in both shop and field. Noise elimination is especially important in remodeling work (for which welding is well suited since extra members can be added by welding without drilling—and thereby weakening—existing parts of the structure). Welded structures are more resistant to corrosion than riveted ones due to the smooth surfaces which can be obtained at joints through welding. In riveted steelwork, corrosion usually starts at the rivets, where corrosive matter can accumulate, while welds done with coated electrodes are more resistant to corrosion than the base metal. This advantage is especially important in exposed welded steel structures, which make capital of the attractively smooth surface and lack of small detail.[5]

As to disadvantages, we have mentioned the great degree to which the quality of the weld depends on the skill of the individual operator. This can be reduced by designing the structure to permit fabrication of large portions in the shop, under favorable, well controlled conditions. Shop-welding is also more economical than field-welding. Too, there is the previously reported difficulty of inspection. Except for certain errors which are visible or can be detected by gauges, no suitable, positive, inexpensive, non-destructive method exists for checking of the soundness of structural welds. This, of course, is not unique with welding; it is true of reinforced concrete and, to a degree, of riveted or bolted structures; but the fact remains that flaws in welded construction are difficult to detect. For this reason inspection and supervision are important, perhaps more than in other construction methods. The exacting requirements for inspection and testing also affect psychological factors: the operator has to know that his work, especially the important welds, will be inspected, supervised, and possibly tested. (On the other hand, the exacting requirements and conservative specifications of current welding codes could be also justified on the basis of general unfamiliarity with welding procedures.)

(Concluded next month)



Comparison of arc-welded and riveted design: top sketches show an advantage of a simple welded connection, which does not require any additional member to make the joint. Lower sketches, comparing truss joints, show elimination of gussets in welded work.



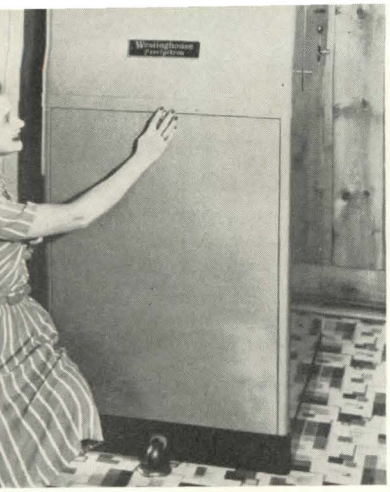
Right, welded beam and girder column connections showing lighter weight of connecting material; bolts hold members temporarily until welding is completed. Riveting noise is eliminated. (Illustrations courtesy Lincoln Electric Co.)

[3] *Cost savings up to 33%.*

[4] *The two wide-flange steel sections, 30X15 WF-172 lbs and 27X14 WF-154 lbs, illustrate this point. The moments which these members can resist are about in the ratio of 8:10, which is also the ratio of their section moduli. The difference between their depths and weights is 10% of the heavier member.*

The ratios apply, strictly speaking, only to certain geometric shapes of constant width, where the section modulus is proportional to the square of the height (rectangles, circles, etc.).

[5] *There is considerable difference of opinion on the corrosion-resistance of the weld.*

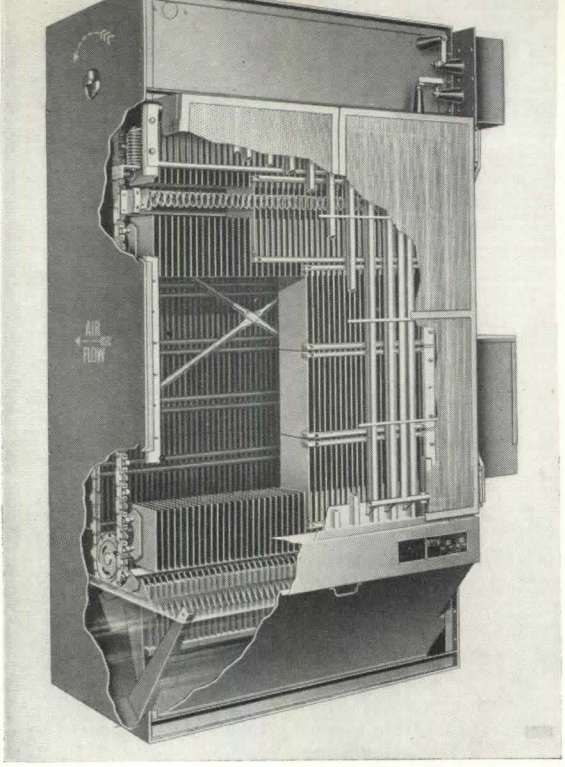


The household "Precipitron" (Westinghouse) is about the size of a gas furnace.

AIR CLEANING

BY ELECTRONIC PRECIPITATION

Briefly, electronic air cleaning, known



Industrial models and installations: left, American Air Filter's pre-assembled and factory-tested "Electro-Matic," in which the collector plates travel through *an oil bath for cleaning,* is available in a wide range of capacities; right, winder room in a southern textile mill showing duct work through which "Precipitron"-cleaned (Westinghouse) air is supplied. Dust is completely absent from horizontal surfaces; duct louvers are not discolored.

the air stream, giving them a positive surface charge. To operate efficiently, the ionizer of an electronic precipitator must produce ions in sufficient quantity to make certain that all the dust and smoke particles receive a positive charge of optimum intensity. Ionizers operate at 12,000 or 13,000 volts.

The actual ionizing element consists of fine tungsten wires. Free electrons (liberated by many existing forces, including ultraviolet light, radioactive materials, cosmic rays, temperature changes, etc.) are attracted to the ionizing wire; their acceleration as they approach it increases so rapidly that they collide with gas molecules, causing displacement of electrons from the molecules. The resulting molecular ions are those which are attracted to the negative collecting surfaces. The number of free electrons and ions multiplies rapidly, due to repeated collisions, until the space between the wires and electrodes is said to be "ionized."

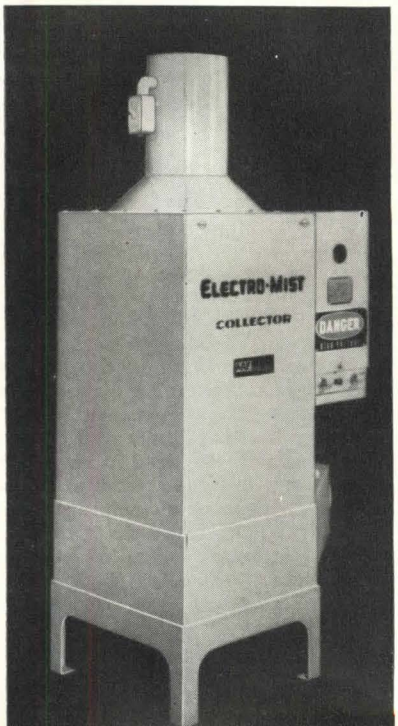
An individual with normal eyesight can see a dust particle of about 10 microns in size. The micron, a unit of microscopic measurement, is approximately 1/25,000 of an inch. Tobacco smoke, which the electronic precipitator can remove from atmosphere, is made up of individual particles which are about ¼ micron in size. This comparison indicates not only the relative possibility of the ions hitting molecules of atmospheric impurities; it also indicates why the process is so effective in removing impurities consisting of extremely small particles.

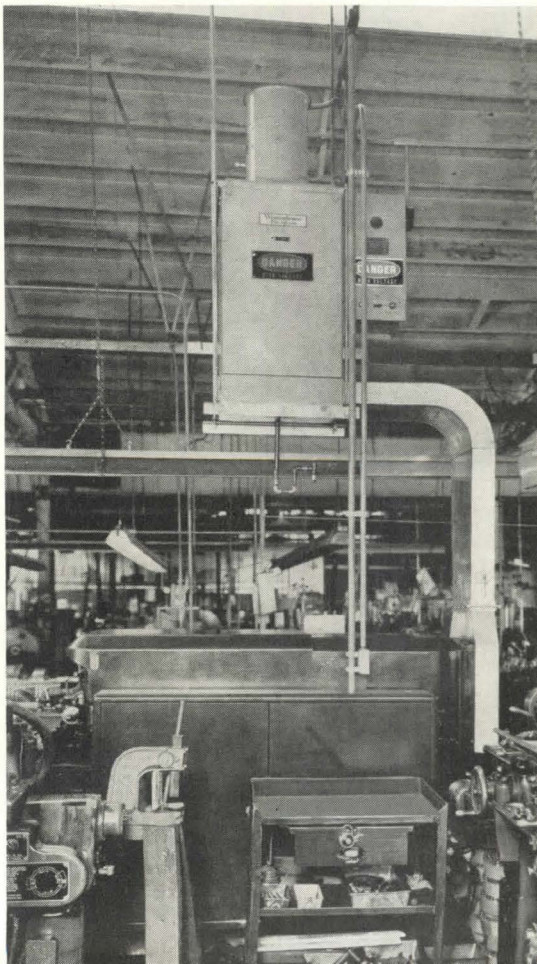
Upon leaving the ionizer, the air stream, whose impurities have now become electrically charged, enters the collecting element. For efficiency the charged collecting surfaces are relatively large. Once the impurities have collected they must be disposed of. In some types of equipment this is accomplished with a water spray, in others by submersion of the collector surfaces; in still others, disposable collectors are discarded and replaced with new ones.

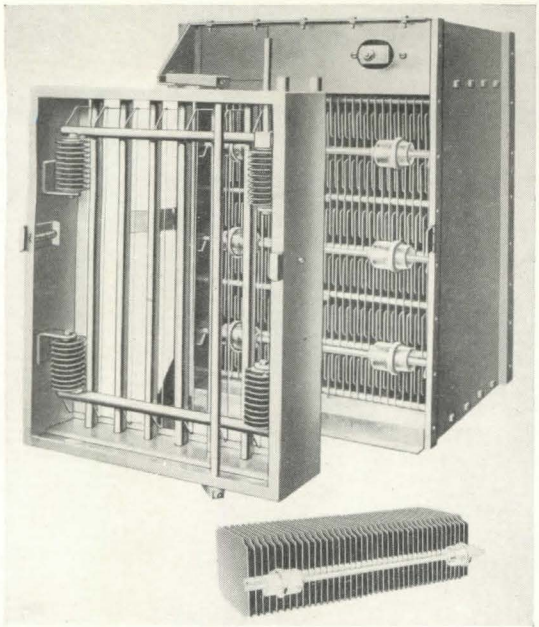
Types of Equipment

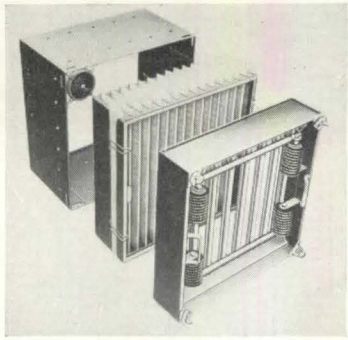
All electronic precipitators consist essentially of a **power-pack,** which steps up the voltage and converts AC to direct current; an **ionizer** made of hair-thin tungsten wires suspended between electrodes; and a **collector** usually made

Models and installations for collecting oil mist, etc.: below, American Air Filter's "Electro-Mist"; at right, Westinghouse oil-mist "Precipitron" installed on high speed grinder collects mist from coolant, preventing air contamination, and returns portion of coolant to the machine.









Two types of American Air Filter precipitators: left, "Electro-Cell," showing hinged ionizer, collector plate assembly, and, beneath, collector plate unit removable for cleaning; above, "Electro-Airmat," showing ionizer, collector (disposable cellulose fiber sheet which is also a mechanical filter), and frame. Both types can be assembled into precipitators of desired capacity.

of parallel metal plates, alternately charged positive and negative, and set edgewise to the direction of air flow.

For residential use there is a cabinet-enclosed Precipitron (Westinghouse) which is also suitable for small stores. In size it is comparable to a modern gas furnace (52" high, 27" wide, 34" deep); it can be connected to the ductwork of a forced air heating system. Installation requires a hot water supply and drainage outlet, an electrical connection to standard 115-V, AC supply, and whatever ductwork is necessary. The collector is cleaned, about as often as a mechanical refrigerator requires defrosting, by turning a handle which operates five warm water sprays. This flushing operation lasts about three minutes, depending on water pressure and amount of dirt collected. Cost of the household Precipitron is currently less than $500, plus installation charges.

For ordinary large commercial and industrial uses, where no special machines are to be serviced by precipitators, there are both "packaged" models and assemblies of stock parts to meet individual needs. Westinghouse Precipitrons of this type are assembled units. The American Air Filter Co. manufactures several types, each in a wide range of capacities. Their *Electro-Matic* precipitator incorporates automatic cleaning of the collector plates, which are mounted on endless chains which rotate, passing the negative plates through an oil bath. The stationary (positive) plates, cleaned by special wipers, collect little dirt, since most of the dust molecules are attracted by the negative plates. 115-V, AC is required. American Air Filter's *Electro-Cell* precipitator employs removable collector plate units, for either manual cleaning at convenient water and drainage locations, or automatic washing in place. These are also 115-V, AC; water and sewer connections are needed for the automatic-cleaning type. American Air Filter's *Electro-Airmat* operates on a somewhat different principle. Instead of metal plates, a disposable cellulose sheet forms the collecting surface; the dirty cellulose sheet is discarded and a new collector surface is inserted either manually or by a special mechanical loader. Spare collector cells loaded with clean cellulose can be kept on hand for convenience in servicing. The cellulose tissue is porous; when electrostatically charged the plies tend to separate, with each fiber becoming a collecting electrode. The cellulose sheet is also an effective mechanical filter. This type of unit, weighing 40% less than electronic filters having metal plate collectors, requires less floor area and operates on 110-V, 60 cycle, single phase current.

For high-speed cutting tools, welding fumes, etc., both companies manufacture special units to remove metallic dust, oil mist, etc., from the atmosphere. Exhaust from the machine hood directs the air, first, through a mechanical filter which removes metallic dust and large oil droplets, then through an electronic unit in which the collector plates are mounted vertically. The remaining oil mist accumulates on the collectors, drips down through the mechanical filter, and can be salvaged if desired.

Installation

Water, sewage, and electrical connections required have previously been noted. Within the air distribution system, the precipitator is located between the air intake (outside, return, or both) and the heating and humidifying or cooling mechanisms. A perforated plate is installed in front of the precipitator unit to insure even air distribution over its entire face. A preheater, located between the air intake and the precipitator, may be required in regions where snow or heavy fogs are prevalent, in order to keep free moisture from entering the filter, possibly to keep out rain when space is limited.

It should be remembered that electronic precipitators, in general, are designed to remove impurities from normal atmospheric air, and that heavy dust concentrations, excessively high temperatures, or atmospheric pressures substantially varying from normal may demand special installations, such as combination with mechanical filters, etc. Access doors, preceding and following the precipitator, and ample space inside the air duct are necessary for servicing and inspection. Usually there are furnished with the precipitator automatic devices which, when access doors are opened, cut off the electrical supply and ground any portion of the unit which may hold a static charge. In large systems, there should be a manual device for the same purpose so that, if a maintenance man enters the duct, inadvertent closing of an access door will not close the electrical circuit. In cabinet models, removal of an access panel for servicing automatically disconnects the current supply and grounds any charged sections when necessary.

Typical Applications

Precipitators have been found advantageous in many types of manufacturing, including steel mills, electrolytic plating plants, precision instrument, parts, and motor plants, equipment industries, etc.; in several kinds of commercial establishments, including laboratories, offices, banks, stores, etc.; in food processing; chemical plants; spinning, weaving, and dyeing operations; printing plants; in hospitals, where their value in increasing sanitation is obvious; and in hotels, restaurants, night clubs, etc. When it has been necessary to remove odors as well as impurities, as for instance in railroad coaches, activated carbon or other adsorptive odor filters have been used in conjunction with precipitators.

There are numerous case histories which illustrate the advantages. Electronic precipitators have been used to remove wild yeast spores entirely from the air in yeast culture rooms. In manufacturing photographic film, warm air used in drying the emulsions has been successfully treated with electronic precipitators. Super-clean air is essential in textile manufacturing; for instance, in the spinning process high-speed spindles literally whip any atmospheric dirt into the yarn, creating permanent discoloration; electronic air filtration has helped master this problem. Installation of similar equipment in a large department store, located in a city noted for its atmospheric pollution, eliminated the necessity for maintaining a dry-cleaning establishment for the store's soiled merchandise; in the same store, the installation drastically reduced the number of hours once spent in covering merchandise and in cleaning displays of gifts, china, etc. In addition, the period between renovations and repaintings due to accumulations of grime was substantially lengthened. In another store, where delicate pastel shades were used in decoration, this last advantage is even more appreciated.

PRODUCTS

BRITAIN'S NEW STRUCTURAL PLASTIC

Holoplast, pictured below, is made by the British firm of Holoplast, Ltd., New Hythe, Kent, England. It is an advance over many familiar products in rigidity, dimensional stability, impact strength, strength-weight ratio, and thermal and acoustical properties. Essentially Holoplast consists of a core of resin-impregnated paper tubes, rectangular in section, with surfacing sheets (of laminated, impregnated paper or wood veneer) resin-bonded to the core. Half-cells at the edges of sheets are filled with densified wood strips to facilitate fixing and joining. The sturdy, homogeneous product is a war development, first used in aircraft and shipbuilding, now being applied to the vast British construction program.

Holoplast boards are 4 ft wide by either 8 or 8½ ft long and 1 in. thick. Final thickness of both surface layers and webs is ⅛ in.; webs are 2 in. on centers (see photos). Surfaces may be obtained sprayed smooth in any color or rough in a finish resembling plaster; with wood veneer integrally bonded; or with special patterns reproduced on them. For curved surfaces (when needed) the company supplies more conventional laminated products with matching surface. For flooring, a special paper surface, embossed, non-slip, and wear-resistant, is provided. Holoplast has been used successfully as partitioning, either single or double; its cells have been filled with acoustic absorbent to increase its already-high acoustic properties; it can be obtained with some interior cells filled with densified wood to facilitate cutting to size. Its cells have been used as raceways for BX cable. The product has been used for concrete forms. Holoplast resists most solvents, oils, organic acids, and dilute mineral acids; is impervious to vermin, including termites; and—of great importance—will not support combustion.

INTERESTING ITEMS

American Type Founders, Inc., of Elizabeth, N. J., have been recommended to the Reconstruction Finance Corp. (by NHA) for a guaranteed market contract to produce a precast concrete wall panel for residential construction. The panels, called *Fabricon,* are 8 x 4 ft, 4 in. thick, made of two lightweight concrete surfaces separated by a light steel frame or "cage" between. Panels are joined with metal fasteners; joints are sealed with mastic. We've heard of this and similar developments, unofficially, for some time.

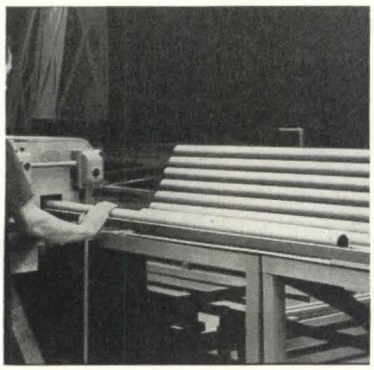
One other is a system of concrete house construction using road building equipment, under investigation for many months by NHA; at one time it might have been an answer to a prayer but so many obstacles were put in its way that now, experiments at last having been successfully concluded, materials bottlenecks have loosened sufficiently so that it is of merely academic interest.

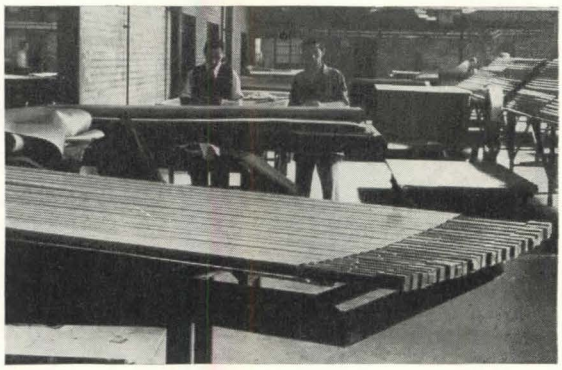
Then there's Robert Moses (currently leading New York into the building wilderness under a new title, that of "City Construction Co-ordinator"). The newspapers tell us he has discovered the precast concrete slab, and expects to see to it that precast slabs are used for walls, floors, and ceilings of housing projects for U.N. personnel. Progress, it would seem, has donned a technical disguise and infiltrated Mr. Moses.

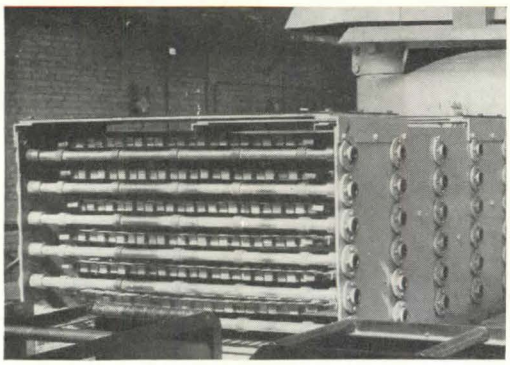
CONDUCTIVE RUBBER FOR HEATING

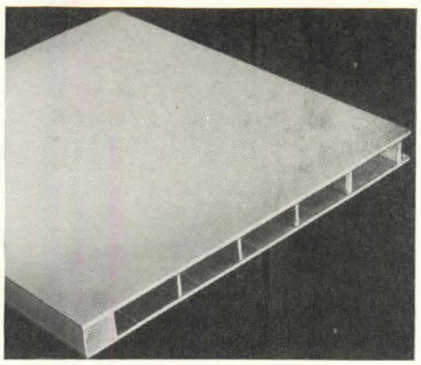
The newest wrinkle in electric radiant heating is a conductive rubber blanket adapted for use as ceiling surfacing, where it becomes a heat source. The U. S. Rubber Co., Rockefeller Center, New York, N. Y., developed the system, which has been in operation in an experimental house in Knoxville, Tenn., during the past heating season. The house, designed and built by the Fonde Construction Co., of Knoxville, contains living room, bedroom, hall, combined kitchen-dining room, enclosed porch,

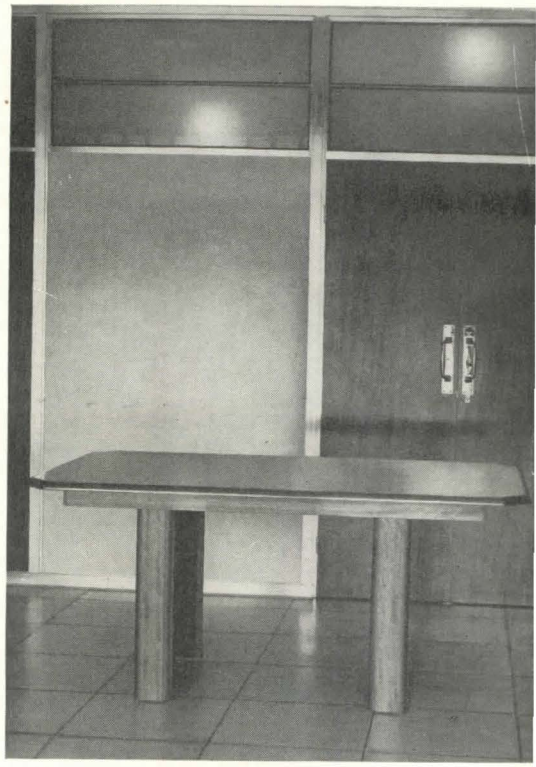
Small photos show manufacture of *Holoplast* (see text): tubes of spiral-wound, resin-impregnated paper are cold-formed into rectangular section, assembled between surfacing sheets, and cured in a 3500-ton hydraulic press. Large photo shows table, panelling, doors made of Holoplast.











U. S. Rubber's new conductive rubber surfacing for electric radiant heating (see text).

and hall, all rubber-ceiling heated. The attached garage is not heated. On the basis of their limited experience and other available data, the Fonde Co. estimates a year's heating costs for this house would average $72. With proper design and insulation, they believe the system practical for any part of the country, basing their belief on the fact that the Knoxville house consumed 1960 kw in 24 days in March. (TVA power for this purpose costs 3¢ for the first 50 kw per month, then descending on a sliding scale to ¾¢ when consumption exceeds 1400 kw.)

Special features of construction of the house are cinder block walls (hollows filled with insulation), 8 in. of mineral wool above the heated ceilings, and large glass areas facing south. Insulation is considered to reduce heat loss 60 to 65 percent. The house has no basement; its concrete slab floor has a special integral surface. Surface temperature of the ceiling when in operation is 110F, which maintains a room temperature of 69 or 70F; during a test for maximum capacity of the system, room temperature was temporarily raised to 80F when the outdoor temperature was 5F. To operate the system, the householder simply snaps a switch at the beginning and end of the heating season. Individual room thermostats regulate the flow of current to the ceiling panels automatically.

The conductive rubber ceiling surfacing, like some other products now being adapted to construction, is a "war baby." Developed for aviation, the conductive material consists of a layer of rubber to which a high percentage of carbon black has been added. This layer is sandwiched between two coverings of resin-impregnated fabric. U. S. Rubber is contemplating its use in decorative screens (for use as portable heaters) as well as ceiling panels. Production on a commercial scale, not yet under way, will not be possible for several months.

THIS MONTH'S PRODUCTS

AIR AND TEMPERATURE CONTROL

Agitair Type R Air Diffusers. Air distributor with a diffusion pattern control for almost any type or shape of ceiling. This unit agitates the supply air stream by forcing it to be deflected from various vanes at different angles; air is discharged at a uniform velocity. Air Devices, Inc., Dept. TR, 17 E. 42nd St., New York 17, N. Y.

Dravo Counterflo Heater. Oil or gas burning direct-fired heater with stainless steel combustion chamber. Need for a refractory lining within combustion chamber is eliminated because of high temperature capacity of stainless steel. For commercial and industrial buildings. Dravo Corp., 300 Penn Ave., Pittsburgh 22, Pa.

DOORS AND WINDOWS

Copco Commercial Projected Steel Windows. Ventilators swing outward from bottom and slide down from top. Available in six sizes. Copco Steel and Engineering Co., Detroit 27, Mich.

"Draft-Bloc." Draft-eliminating door seal to prevent drafts and infiltration of dust, noise, insects, etc. Metal; molded rubber sealing blade automatically pressed against floor when door closes, snaps up as door is opened. Fits standard doors. V & L Home Utilities Corp., Rockford, Ill.

FINISHERS AND PROTECTORS

Plymouth Fire-Guard Fabrics. Noncombustible Fiberglas yarns and flame-proofed cotton combined to provide fire-resistive fabrics. Available in variety of colors, designs; can be cut, sewed, and ironed, will not stretch, can be dry-cleaned without losing their fire-resistive qualities. Plymouth Fabrics, Fall River, Mass.

Para-Plastic Joint Sealing Compound. A "Hot Poured Rubber Seal" used to seal expansion joints in all types of concrete construction; available in green, red, gray, cream, and yellow. Servicised Products Corp., 6051 W. 65th St., Chicago 38, Ill.

INSULATION (THERMAL, ACOUSTIC)

Presstite Barrier Paper. Moisture and vapor-resisting kraft paper saturated and coated with Gilsonite, asphalt, and wax compound for protecting insulation. For frame and masonry construction, cold storage areas, and locker plants. Presstite Engineering Co., St. Louis, Mo.

LOAD-BEARING STRUCTURES

Hi-Production Concrete Block Machine. Automatic concrete block machine that produces over 20,000 concrete 8x16x8" blocks in three shifts. Blocks of varying densities can be produced. Constructed of welded steel. Henry & Hutchinson, Inc., Blair Bldg., Decatur, Ga.

Aluminum Prefabricated House. Basementless, one-story, prefab aluminum house erected on a concrete slab foundation. Stucco-like appearance due to asbestos-impregnated plastic-paint finish. Not available at present but may be after further experimentation. Goodyear Aircraft Corp., Akron, Ohio.

SANITARY EQUIPMENT, WATER SUPPLY & DRAINAGE

Aquatemp. Pressure controlled valve which balances hot and cold water volume, prevents scalding or chilling due to sudden water pressure changes. For any type of shower fitting. The Milton-Griffith Co., 8619 Mack Ave., Detroit 14, Mich.

Table-Top Water Heater. Electric water heating unit resembles a 24-in. base cabinet in kitchen, has a 4-sq ft work top. Immersion type heating element; Fiberglas insulation. Westinghouse Electric Corp., Appliance Div., Mansfield, Ohio.

SPECIALIZED EQUIPMENT

Amplicall. An electronic intercommunication system in a walnut plastic case. Up to 24 Master Stations, permitting 12 conversations simultaneously. Has "on-off" volume control, plug-in cable connections, balanced line wiring system preventing cross-talk, and push buttons for station selection. Rouland Corp., Chicago, Ill.

Drain-O-Matic. Electric waste food eliminator for connection to any municipal sewage system or 500-gal septic tank; sinks must have 3½" to 4" drain openings. Waste food, scraped into drain with water running, is shredded by heat-treated alloy grinders. Rousselle Corp., Los Angeles 1, Calif.

Ford-V-Neer. New siding material using Fiberglas as the base material. Weather-, fire-, and vermin-resistant. Available in either brick or stone pattern, wide variety of colors, large sheets. Ford Roofing Products Co., Chicago 2, Ill.

Sana-Wall. Wall covering of plastic-treated sheets bonded to a cellulose fiber back. Surface is impregnated with resin and desired color, then coated with a clear resin. Said to be fadeproof, washable with soap and water; easily installed. Sandura Co., Inc., Philadelphia 3, Pa.

Gilsalume. An aluminum roof paint that provides year-'round weatherproofing and summer cooling. Deflects 85% of sun's heat rays, can be applied to asphalt shingles, smooth or slate roll roofing, built-up slag or metal roofs, non-porous masonry and outside metal work. United Gilsonite Laboratories, Scranton, Pa.

TRAFFIC EQUIPMENT

Multiple Stroke Hydraulic Pallet Truck. Equipped with plastic wheels and "Spring-Lift" booster rollers mounted in back of rear wheels. Truck is built in capacities from 1000 to 6000 lbs and is adaptable to either single or double, 2- or 4-way pallets. Lewis-Sheppard Products, Inc., Watertown 72, Mass.

Hydraulic Elevators. Standard-sized hydraulic elevators; plunger construction; freight or passenger service; travel limited to 36 ft. Corrosion protected; friction reduced; pit stays dry without a drip pan. Montgomery Elevator Co., Hydraulic Div., Moline, Ill.

MANUFACTURERS' LITERATURE

PROGRESSIVE ARCHITECTURE—330 West 42nd Street, New York 18, N. Y.
I should like a copy of each piece of Manufacturers' Literature listed.

We request students to send their inquiries directly to the manufacturers.

No.	No.	No.	No.
No.	No.	No.	No.
No.	No.	No.	No.
No.	No.	No.	No.

NAME

POSITION

FIRM

MAILING ADDRESS ☐ HOME ☐ BUSINESS

CITY STATE

6/47

PLEASE PRINT

★ *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

1-111. *World's Economy Champion (PB-10)*, Anchor Fence Post Co., Fluid Heat Div. Reviewed May

1-112. *Hydro-Flo Heating (E-246)*, Bell & Gossett Co. Reviewed May.

1-115. *Open for Inspection (Bul. AE-247)*, 4-p. illus. booklet on "hydro-flo" heating system that heats house and hot water at the same time. For residential, commercial, industrial, or apartment buildings; can be used with any form of radiant heating as well as standard heating units. Bell & Gossett Co.

1-116. *Dravo Counterflo, AIA 30-C-43 (Bul. 516)*, 12-p. illus. booklet on oil or gas burning direct-fired heaters with stainless steel combustion chambers, for industrial and commercial buildings. Operating and installation data; specifications. Dravo Corp.

★ **1-117.** *Radiant 'Sun Warmth' in Every Room (Form 3089)*, 20-p. illus. booklet on "Panelaire" system of radiant ceiling panel heating with warm air for new houses with any automatically fired heater. Operating and installation details and data. International Heater Co. (25 cents per copy—make check or money order payable to International Heater Co.)

1-113. *A Spiralating Heat Wave (Form 956)*, The Miller Co., Heating Products Div. Reviewed May.

1-108. *Miller Oil Burner and Controls (Form 952)*, The Miller Co., Heating Products Div. Reviewed May.

1-114. *Automatic Control*, 4-p. illus. booklet on selection of controls for heating and air conditioning systems. Operating characteristics. White-Rodgers Electric Co.

Doors and Windows

4-93. *How To Make The Most of Your Cellar*, 16-p. illus. booklet of suggestions for fixing up basements as extra playrooms, laundries, etc. Suggests use of steel cellar doors and stair units. Construction features and installation data on these units. The Bilco Co.

4-88. *Prestomatic Industrial Doors*, 4-p. illus. pamphlet on "prestomatic" complete units that automatically open and close doors. Advantages, operating details. Clark Door Co., Inc.

4-94. *Space-Saver Kennatrack for Interior Sliding Doors*, 4-p. illus. booklet on the advantages of sliding vs. hinged doors in residences. Installation details. Jay G. McKenna, Inc.

4-89. *Dexter Tubular Locks and Latches*, National Brass Co. Reviewed May.

4-90. *Practical Beauty for Homes (Cat. 145-R), AIA 16-M*, New Castle Products. Reviewed May.

From J. S. Thorn Co. Reviewed May:
4-91. *Aluminum Windows (Cat. A-46).*
4-92. *Metal Windows (Cat. SA-47).*

Electrical Equipment and Lighting

5-73. *The Story of Certified Ballasts*, 6-p. illus. booklet discussing certified ballasts built to specifications for quiet operation, heating, rated wattage, current, and voltage. Ballasts are tested, then rechecked under operating conditions. Lists of manufacturers. Certified Ballast Mfrs.

5-74. *Processing Cold-Cathode Fluorescent Tubes*, 4-p. illus. bulletin written by Paul Kober on "proper tube processing." Reasons for tube impurities, general procedure of processing. Also Fluorescent Lighting Association Membership List, December 1946. Fluorescent Lighting Assn.

5-69. *Home?*, General Electric Co. Reviewed May. (10 cents per copy—make check or money order payable to General Electric Co.)

★ **5-75.** *Number "44"-A Catalog, AIA 31-F-28, 2-1-47*, 44-p. illus. catalog on line of fluorescent and incandescent lighting equipment available. General information, fluorescent data, engineering dimensions, data and charts, detailed drawings. Ordering data and prices. Edwin F. Guth Co.

5-70. *Tymzit—Miracle Switch*, T. J. Mudon Co., Inc. Reviewed May.

★ Four booklets on sound systems for commercial, industrial, and institutional buildings. Application, advantages, operating data. Accessories and models of equipment available. Stromberg-Carlson:

5-76. *Sound Systems for Churches.*
5-77. *Sound Systems for Hospitals.*
5-78. *Sound Systems for Industrial Plants.*
5-79. *Sound Equipment for Schools.*

5-71. *Sylvania Indirect Bolite (EN-163)*, Sylvania Electric Products, Inc. Reviewed May.

5-72. *Planning The Kitchen Electrically, Manual No. 1*, Westinghouse Electric Corp., Better Homes Dept. Reviewed May. ($1.00 per copy—make check or money order payable to Westinghouse Electric Corp.)

Finishers and Protectors

6-91. *Fire Protection for Oils and Flammable Liquids*, Grinnell Co., Inc. Reviewed May.

6-92. *Architects Condensed Painting Guide*, M. J. Merkin Paint Co. Reviewed May.

2 booklets on color in industrial and residential buildings, to combat body fatigue, ease eye strain, and as a safety precaution. In industry color should be applied to machines as well as walls, ceilings, and floors, to break tension on eyes and nerves. Suggestions for color schemes for both interior and exterior painting. Pittsburgh Plate Glass Co.:

6-94. *Pittsburgh Color Dynamics for the Home.*
6-95. *Pittsburgh Color Dynamics in Industry.*

6-96. *Hydrocide Colorless (BP-3007)*, 4-p. illus. booklet on a water-repellent treatment for exterior concrete and masonry walls above grade. Coverage figures and application data. L. Sonneborn Sons, Inc.

6-93. *Valspar Deep Penetrating Floor Sealer*, Valentine & Co., Inc. Reviewed May.

Insulation (Thermal, Acoustic)

9-65. *Armstrong's Cushiontone*, Armstrong Cork Co., Building Materials Div. Reviewed May.

9-66. *Armstrong's Industrial Insulations*, 26-p. illus. booklet on low-temperature installations of corkboard, mineral wool board, and Foamglas insulation. General data, installation details, and specifications. Armstrong Cork Co.

Load-Bearing Structures

12-110. *Calcium Chloride for Concrete and Cinder Blocks (No CB-1)*, Calcium Chloride Assn. Reviewed May.

12-112. *Glued Prefabricated Houses*, 6-p. illus. booklet to guide prefabrica-

tors interested in glued construction in selection of adhesives, and to offer suggested assembly and production methods for producing glued, prefab buildings. Casein Co. of America, Div. of The Borden Co.

12-113. *Some Facts About Mankato Stone,* 4-p. illus. pamphlet on the use of dolomitic limestone in building. Available in five colors. Physical properties, selecting aids. T. R. Coughlan Co.

12-111. *The Rigid Steel Standard Building,* McCloskey Co. Reviewed May.

★ **19-130.** *Concrete Floors Designed for Comfort, Research Study 13,* John B. Pierce Foundation. (See No. 19-130 under "Surfacing Materials.")

★ **12-114.** *Production Line Structures,* 8-p. illus. booklet on FHA approved prefab houses based on a "trussed modular system." One-story, well-designed, modern houses with large window areas, sizeable rooms, and large closet space. Shipped from factory in one package, reasonably priced. Layouts of some available models, and prices. Production Line Structures.

★ **12-115.** *Building Code Requirements for New Dwelling Construction (BMS-107, supersedes BMS-88), Jan. 1, 1947.* 43-p. indexed booklet in which National Bureau of Standards and National Housing Agency record their "views on what constitutes reasonable building code requirements for dwellings." U. S. Dept. of Commerce, National Bureau of Standards. (20 cents per copy—make check or money order payable to Supt. of Documents.)

Materials of Installation

12-112. *Glued Prefabricated Houses,* Casein Co. of America, Div. of The Borden Co. (See No. 12-112 under "Load-Bearing Structures.")

13-53. *The Use of Radio Frequency Heating for Gluing Wood (Tech. Bul. 106),* 7-p. illus. pamphlet on the principles of setting resin glues by radio frequency heating. Advantages, types, operating data, general suggestions for gluing and types of glue recommended. Glossary of terms. Casein Co. of America, Div. of The Borden Co.

13-54. *Lignotite Casein Glues, No. 1034 and No. 4156,* 2 pp. on the advantages of using lignotite casein glues which are highly water-resistant and can be used anywhere as long as temperature is above freezing. Physical properties; mixing and application data. List prices. Paisley Products, Inc.

13-52. *Teco Trip-L-Grip Framing Anchors,* Timber Engineering Co. Reviewed May.

Non-Load-Bearing Structures

14-26. *Multi-Weaving-Electronics Specialties Manual (No. 6900),* General Electric Co., Electronics Dept. Reviewed May.

14-27. *Gunite Buildings,* 4-p. illus. folder on construction of Gunite buildings. Steps in construction, details of wall column and section, framed openings. Application data. Johnson Western Co.

14-28. *Nelson Electric Arc Stud Welder (Cat. 47),* Nelson Stud Welding Corp. Reviewed May.

14-29. *Pittsburgh Data Sheet Handbook,* Pittsburgh Plate Glass Co. Reviewed May.

14-30. *Aluminum Alloys and Mill Products Data Book,* Reynolds Metals Co., Inc. Reviewed May. ($2.00 per copy—make check or money order payable to Reynolds Metals Co., Inc.)

★ Two spiral-bound books, Sections I and II, on combinations of surface finishes of aluminum. Section I discusses characteristics, applications, and types of finishes. Section II supplements with shop data on materials, equipment, and procedure. Standard Process Bulletins sent to those filling out Registration Card supplied with Section I. Reynolds Metals Co. ($2.00 for both Sections—make check or money order payable to Reynolds Metals Co., Inc.):

14-31. *Finishes for Aluminum, Section I.*
14-32. *Finishes for Aluminum, Section II.*

14-33. *The Vermont Marble Front, AIA 8-B-1 (Producers' Council Bul. 50),* 4-p. illus. pamphlet giving construction data on marble veneer. Characteristics, dimensions, physical properties; details. Vermont Marble Co.

Sanitary Equipment, Water Supply & Drainage

19-110. *American Radiator and Standard Sanitary Catalog (postwar edition),* American Radiator and Standard Sanitary Corp. Reviewed May.

19-122. *B. J. Hydropress Pump (Bul. 46-600C),* 12-p. illus. booklet on double-volute centrifugal pumps for efficiency at low volume and high pressure (up to 5000 psi). Capacities, 20 to 300 gpm; head, 55 to 250 ft. Technical data, drawings, outline dimensions. Byron Jackson Co.

19-111. *B. J. Submersible Pumps (Bul. 46-5000),* Byron Jackson Co. Reviewed May.

19-123. *Delany Flush Valves,* 4-p. illus. booklet on line of diaphragm type valves; a vacuum breaker type that protects against back syphonage. Roughing-in dimensions; drawing showing installation of the vacuum breaker unit. Coyne & Delany Co.

19-112. *The Modern Automatic Electric Water Heater,* 4-p. illus. booklet on electric water heaters for residences. Installation details. Electric Water Heater Section, National Electric Mfrs. Assn.

★ **19-124.** *Powers Water Temperature Control (Cat. 3035),* 15-p. illus. catalog on line of hot and cold water mixing valves, regulators, and controllers. Operating details, dimensions, capacities. Ordering suggestions, price lists. Roughing-in dimensions. Powers Regulator Co.

19-125. *Sperzel Sanitary Toilet Seats,* 4-p. illus. booklet on self-raising sanitary toilet seats for public washrooms. Models available, construction and dimensions of self-sustaining hinges. Sperzel Co.

Specialized Equipment

19-113. *Furniture for Your Church,* American Seating Co. Reviewed May.

19-114. *1947 School Seating (Form 6037),* American Seating Co. Reviewed May.

★ **19-126.** *Architects Handbook, AIA 35-D,* 40-p. illus. book on planning a home laundry: space needed, basic equipment, electrical wiring, and plumbing; 11 plan arrangements; installation data. Bendix Home Appliances, Inc.

19-115. *Elkay Lustertone Cabinet Sinks,* 4-p. illus. folder on stainless steel sinks and drainboards. Sizes, dimensions. Elkay Mfg. Co.

19-127. *Gemaco Freezer (F-47-1),* 4-p. illus. booklet on a vertical home freezer unit. Advantages, construction and operation data. General Machine Co.

19-128. *Portable Tile Saw (Model CR),* 4-p. illus. booklet on a portable diamond saw machine which can be operated at 1/5 hp. for cutting tiles. Self-contained flushing system. Specifications. Hyatt Lapidary Equipment Co.

19-116. *Widdicomb Modern Originals,* Widdicomb Furniture Co. Reviewed May.

Surfacing Materials

From Atlas Mineral Products Co. Reviewed May:

19-117. *Floors for the Food Industries.*
19-118. *Industrial Floors.*

19-129. *Built-Up Roofs Built Cold,* 12-p. illus. booklet on cold process roofing applied by brush or spray. Advantages, application, physical properties, and specifications. Flintkote Co., Building Materials Div.

19-119. *Flintkote Building Materials (BK216),* Flintkote Co., Building Materials Div. Reviewed May.

19-120. *How To Make Your Floors Important (46-D-1),* David E. Kennedy, Inc. Reviewed May.

★ **19-130.** *Concrete Floors Designed for Comfort, Research Study 13,* 12-p. illus. booklet describing "Comfort Concrete," a resilient type of concrete which absorbs about 90% of the energy of impact; asphalt emulsion replaces most of the mixing water. Application and construction data, mixes, and physical properties. John B. Pierce Foundation. (35 cents per copy—make check or money order payable to John B. Pierce Foundation.)

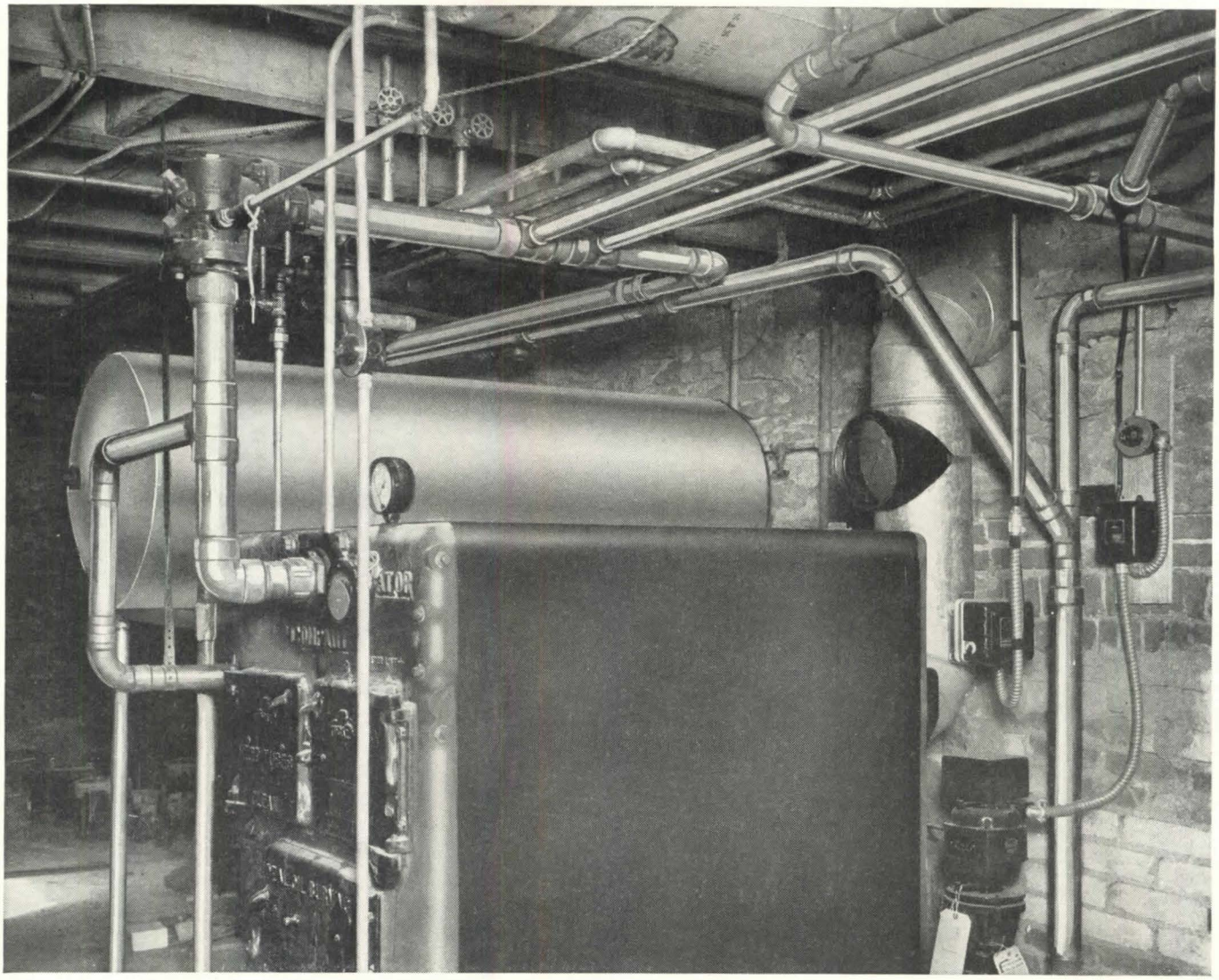
19-131. *Plasteel Roofing and Siding,* 4-p. illus. booklet on roofing and siding made of "Plasteel" (a combination sheet of steel, asphaltum, and mineral mica), which resists rust, corrosion, etc. Available in corrugated sheet, also flashings and accessories. Standard forms available, application data. Protected Steel Products.

19-121. *Duormit Floors, AIA 4i3,* Washington Concrete Co. Reviewed May.

Traffic Equipment

20-38. *Montgomery Hydraulic Elevators,* 4-p. illus. booklet of engineering data on standard hydraulic freight and combination freight-and-passenger elevators. Includes details of installations. Montgomery Elevator Co.

★ **20-39.** *Otis Escalators,* 20-p. illus. booklet on the locating, maintenance, and operation of Escalators for department stores, railroad stations, restaurants, etc. Perspective of "insides" of typical Escalator; installation and safety data. Otis Elevator Co.



Trouble always costs more than REVERE COPPER WATER TUBE

If a red light flashed the instant a leak started in a water or heating line, the cost of repairs might be minor. But the first sign of a leak is usually wet plaster, soaked furniture, ruined decoration. And leaks are only one kind of trouble. Rusty tap water, inadequate flow, faulty circulation due to rust-filled lines . . . these call for major repairs.

The way to avoid such troubles is to specify Revere Copper Water Tube. Completely installed, it costs little or no more in the first place, and much less in the long run.

Made for heating, water supply, air conditioning and other services in all types and sizes of buildings, Revere Copper Water Tube is rust-proof and has a smooth gun-barrel interior finish that insures an unrestricted flow of water through the lines. Joints made with either soldered or compression fittings help further to cut down friction loss. The Revere name and the type, stamped on this tube at regular intervals, insure full wall thickness and the close gauge tolerances so essential for tight sweated joints.

You can also specify such long-lived Revere materials as Red-Brass Pipe; Sheet Copper and Herculoy for tanks, ducts, pans and trays; Copper Tube . . . and, of course, Sheet Copper for roofing, flashing and other sheet metal construction. Revere materials are handled by leading distributors in all parts of the country. The Revere Technical Advisory Service, Architectural, is always ready to serve you.

REVERE

COPPER AND BRASS INCORPORATED

Founded by Paul Revere in 1801

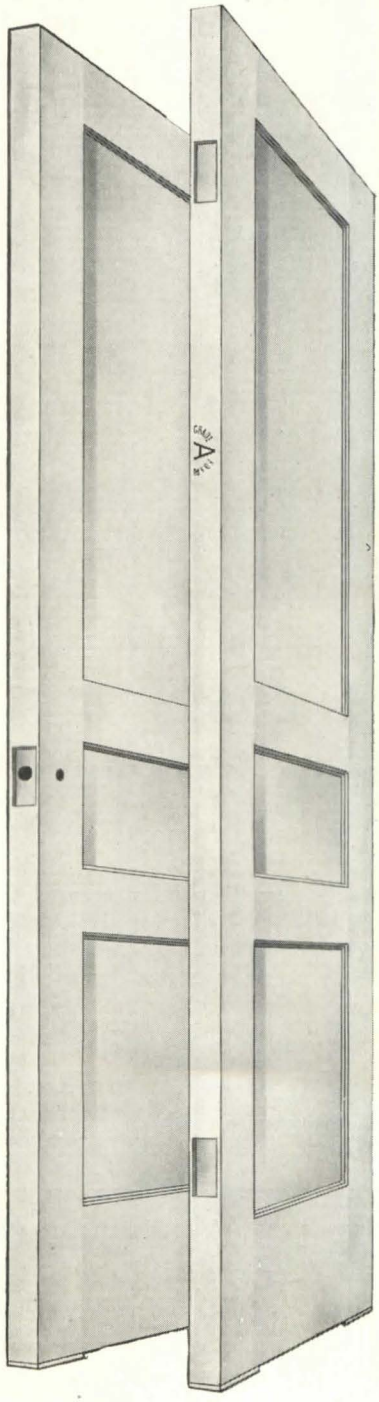
230 Park Avenue, New York 17, New York

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

"I'm sure of cleaner more attractive installations when I specify modern

PRECISION-MADE

Douglas Fir Doors"



PRE-FIT

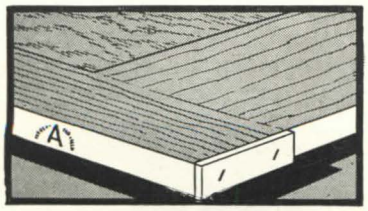
Douglas fir stock doors are pre-fit to exact size. No on-the-job fitting or cutting is necessary. Doors are scuff-stripped for protection in shipping.

PRE-SEALED

Douglas fir stock doors are pre-sealed — a feature which improves dimensional stability, reduces moisture absorption, and eliminates the need for one prime coat.

FACTR-FIT

Douglas fir doors may also be ordered completely machined—not only pre-fit, but gained for hinges and mortised for locks as well. All work is done at the factory by modern, high-speed precision tools.



GRADE-MARKED, TOO!

Douglas fir stock doors are plainly grade-marked for ease in identification, ordering and specifying. You know the grade you get — you get the grade you want.

ARCHITECTS AND BUILDERS agree that durable, attractive, precision-made Douglas fir stock doors offer real advantages. Pre-fit and pre-sealed Douglas fir stock doors save time and money on the job. Factri-fit features offer still greater savings—and assure a trim, clean-cut installation every time. Machining is done at the factory—and that means far less danger of on-the-job marring or "butchering" due to unskilled help or improper tools. Savings in time and labor more than offset the slight additional cost of pre-machining.

More Doors Soon!

It is a fact that the supply of Douglas fir doors will continue critical for a number of months. Two factors make this true: the present overwhelming demand — and the shortage of shop lumber. But production IS stepping up. Warehouse and dealer stocks should soon reflect this increased production. We suggest that you keep in touch with your regular source of supply.

Douglas Fir DOORS

Remember! NATURE MAKES DOUGLAS FIR Durable!

Durable Douglas Fir Doors are made from all-heart, wood, vertical-grain, soft, old-growth Douglas Fir.

FIR DOOR INSTITUTE — Tacoma 2, Washington

The National Association of Fir Door Manufacturers

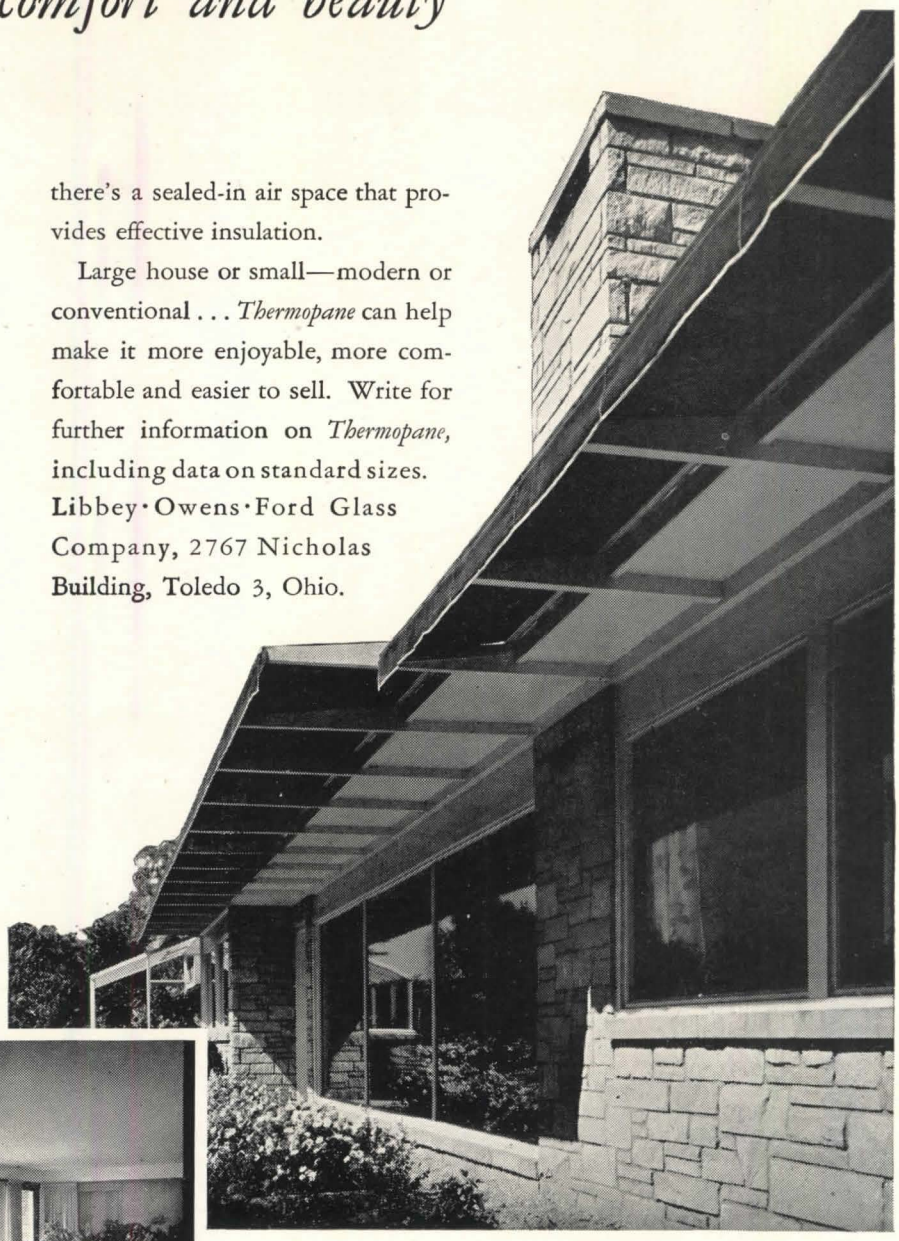
CONTROLLED SUNSHINE...

for year-round comfort and beauty

In this attractive house of Mr. and Mrs. H. M. Sloan of Glenview, Illinois, Architect David S. Barrow added the beauty and spaciousness of the outdoors to indoor living. He provided the extra comfort and economy of solar heating with window walls of *Thermopane,* the complete multiple-pane insulating unit.

All year the beauty of the landscape is enjoyed with indoor comfort. In summer, the *Thermopane* units, shaded from the direct rays of the high sun, help keep the house cooler. In winter, sunshine floods the room, warming the walls, floors and furnishings. *Thermopane* helps keep this heat in, for between its two panes there's a sealed-in air space that provides effective insulation.

Large house or small—modern or conventional . . . *Thermopane* can help make it more enjoyable, more comfortable and easier to sell. Write for further information on *Thermopane,* including data on standard sizes. Libbey·Owens·Ford Glass Company, 2767 Nicholas Building, Toledo 3, Ohio.



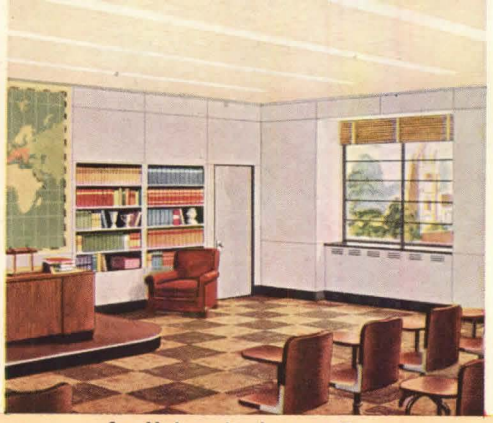
● The overhang is carefully calculated to admit sunshine in winter and keep it out in summer. Notice how the shadow falls along the sill in this summer picture—a shorter overhang being used for the bedroom windows with higher sills at the right. The canvas portion of the overhang is removed in winter to permit the heat-giving rays of the low winter sun to enter.

ONLY LIBBEY·OWENS·FORD MAKES

Thermopane
REG U S PAT OFF

LIBBEY·OWENS·FORD
a Great Name in **GLASS**

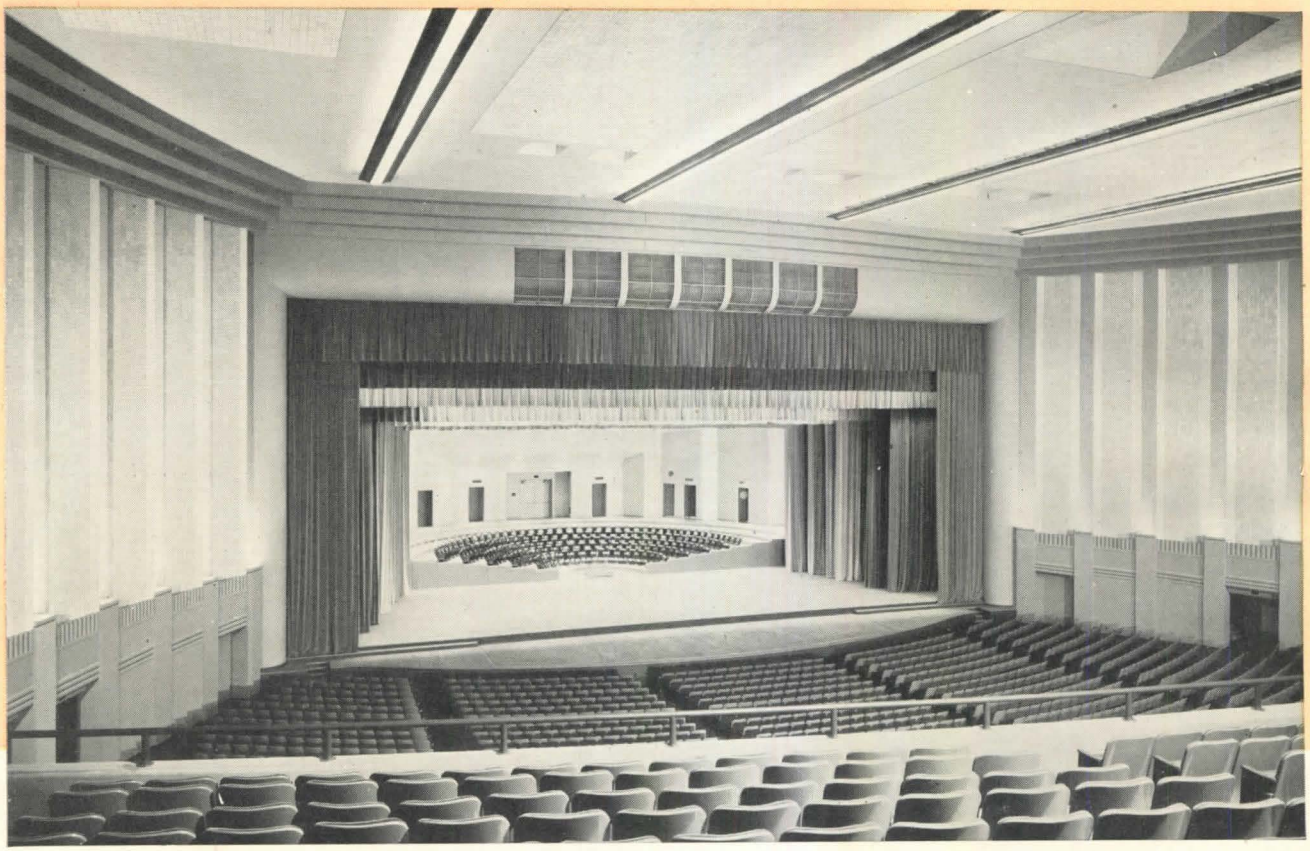
For Offices



. . for University Lecture Rooms

. . . for Laboratories

Whatever your noise problem . .



Johns-Manville Acoustical Materials can be combined with J-M Walls and Floors for UNIT CONSTRUCTION

J-M Movable Transite Walls

Using these J-M products together in a system of Unit Construction, you can provide your interiors with such important advantages as *structural flexibility* to meet changing needs . . . greater architectural beauty . . . increased comfort.

J-M Unit Construction combines demountable Acoustical Ceilings, movable Transite Walls, and resilient Asphalt Tile Floors —in other words, the *complete interior*, under *one* specification, *one* manufacturer's responsibility.

Write for colorful brochure, "J-M Unit Construction."

J-M Asphalt Tile Floors

J-M FIBRACOUSTIC UNITS—inexpensive light in weight. Available in several size and colors.

. . . for Institutions and Hospitals

. . . for Schools

. . . for Factory Areas

Johns-Manville undivided responsibility solves it better

"J-M acoustical materials installed by Johns-Manville." That's the *undivided responsibility*—the all-inclusive service Johns-Manville gives your acoustical project . . . large or small . . . simple or complex.

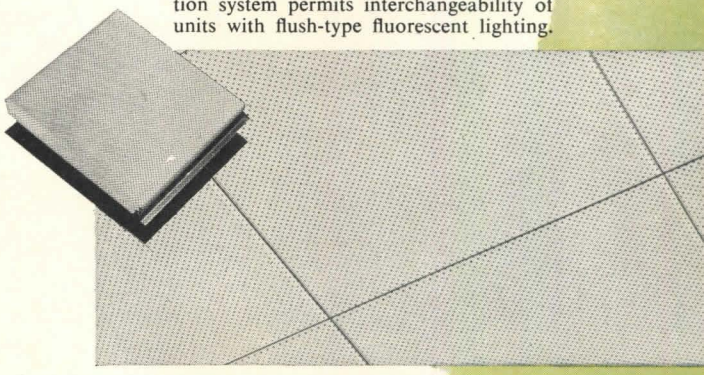
There's a Johns-Manville acoustical material to give you the best in sound control, no matter what the type of interior, whether it's a school or a hospital, an office or a restaurant, a large auditorium or a noisy factory.

To assure you the *maximum* in noise-quieting and sound control, Johns-Manville not only provides the correct acoustical material for each specific condition, but follows through by *installing* the material properly.

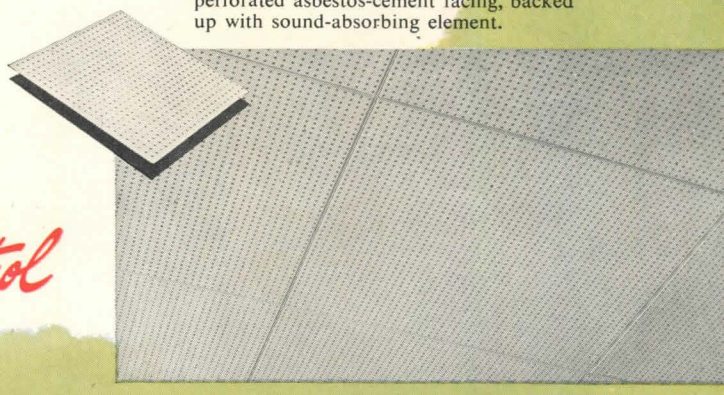
J-M construction crews are trained in the correct methods of application, assuring you the greatest possible benefit.

That's what we mean by *undivided responsibility* for the complete job. It's one of many reasons you can *rely* on Johns-Manville for effective sound control. For the complete story that tells how to "put a ceiling on noise," write for brochure, "Sound Control." Johns-Manville, Box 290, New York 16, N. Y.

J-M SANACOUSTIC UNITS—attractive, demountable, easy to clean. Perforated enameled steel panels, containing sound-absorbing element. Patented J-M construction system permits interchangeability of units with flush-type fluorescent lighting.



J-M TRANSITE PANELS—particularly resistant to moisture and fire. Consist of a perforated asbestos-cement facing, backed up with sound-absorbing element.

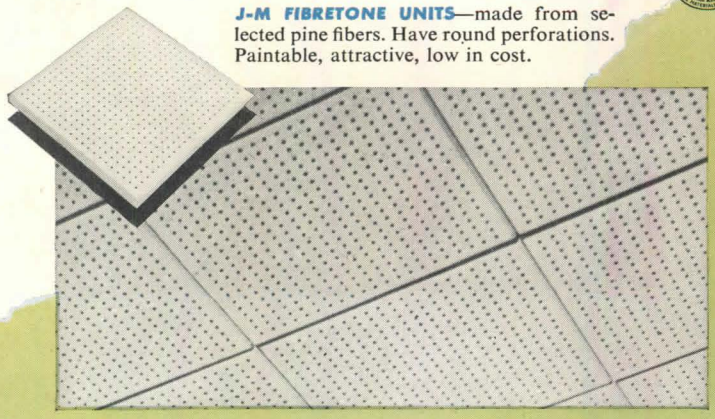


JOHNS-MANVILLE JM PRODUCTS

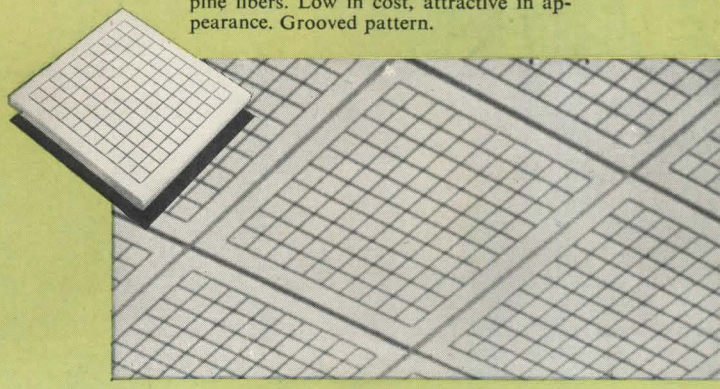
Johns-Manville *Sound Control*

Member of

J-M FIBRETONE UNITS—made from selected pine fibers. Have round perforations. Paintable, attractive, low in cost.



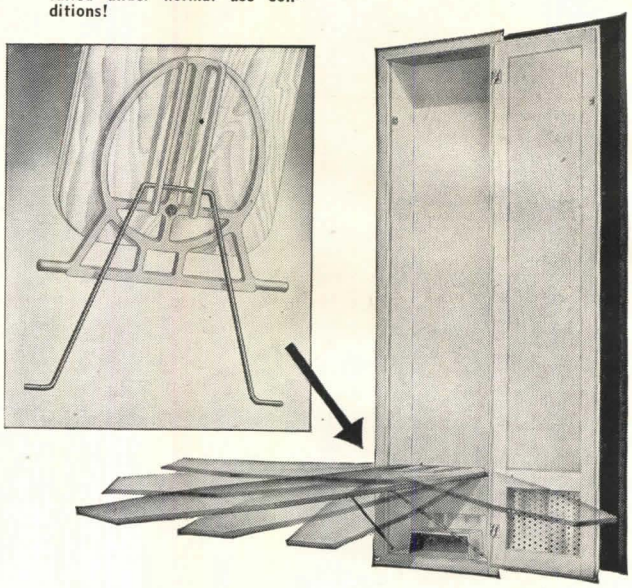
J-M FIBRETEX UNITS—made from selected pine fibers. Low in cost, attractive in appearance. Grooved pattern.



In this utility room there's only one possible place for a modern cabinet-type ironing board — next to the door. The conventional cabinet board would be impractical; would block the entrance, could be used from only one side.

The Eubank Swivel-Type cabinet board is ideal. Swings easily toward window to get best light, allows door to be opened even when ironing is being done. Just one practical installation of this modern Swivel-Type cabinet board.

The secret's in the swivel! Eubank patented cast aluminum support gives this improved cabinet board the important advantage of flexibility. Holds board firmly upright in cabinet, keeps it steady when in use. Eliminates sagging. Built to last, too. Not one has ever failed under normal use conditions!

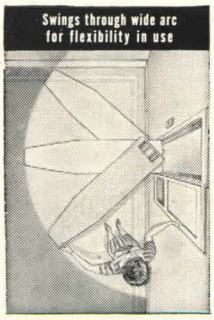


Even The Smallest Home Can Have The Convenience of a *Eubank*

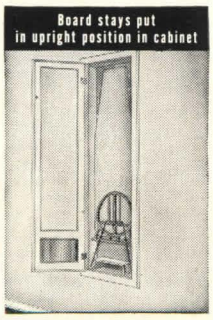
SWIVEL-TYPE CABINET IRONING BOARD

Planning small homes — the kind today's market demands? Planning to modernize older, larger homes? Planning apartments, bungalow courts, duplexes? Then this Eubank Swivel-Type Cabinet Ironing Board will answer one of your biggest problems—the problem of getting modern conveniences into smaller, more compact space. The Eubank board—because of its patented cast-aluminum swivel support—can be installed and used where the conventional cabinet board would be utterly impractical. The installation illustrated above is just one of scores of examples.

In your current construction —in your future planning— make full use of Eubank's many advantages. See your lumber dealer!



Swings through wide arc for flexibility in use



Board stays put in upright position in cabinet

CHECK THESE FEATURES!

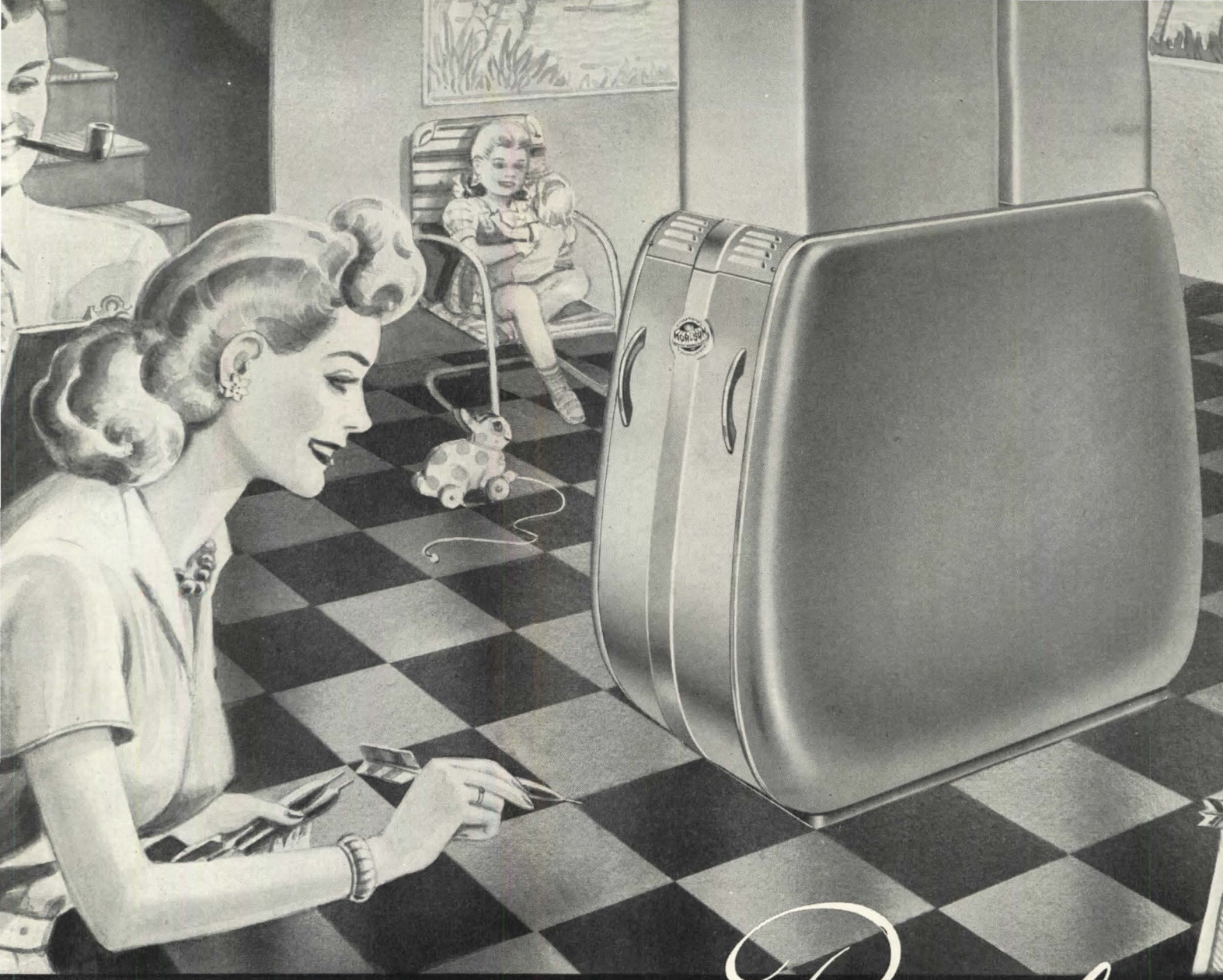
- ***Swings through wide arc; ideal where space is limited — in hall, kitchen, small utility room.**
- ***Attractive cabinet requires a rough opening only 14" x 57¼" x 3¾"; recesses in wall.**
- ***For old or new homes, apartments, courts. Easily installed before or after plastering.**
- ***No projecting parts to tear fabric; firesafe iron storage with aluminum door ventilator.**
- ***Patented cast aluminum support; strong, sturdy. Not one has ever failed in normal use.**
- ***Available NOW for immediate delivery. Contact your nearest distributor.**

Eubank
AMERICA'S MASTER CABINET BUILDERS
QUALITY PRODUCT
INGLEWOOD, CALIFORNIA
TRADE MARK REG. U.S. PAT. OFF. PEND.

Built by
L. H. EUBANK & SON
Inglewood, California

National Sales Agents
HARBOR PLYWOOD CORPORATION
Hoquiam, Washington

DISTRIBUTORS: Arizona - Arizona Sash & Door Co., Phoenix; Southwestern Sash & Door Co., Phoenix & Tucson **Arkansas** - Dyke Bros., Fort Smith, Little Rock & Texarkana **California** - L. H. Eubank & Son, Inglewood **Connecticut** - Wm. H. Short Lumber Co., West Hartford **District of Columbia** - Harbor Sales Co., Inc., Washington **Florida** - Harbor Plywood Corp., Jacksonville, Miami & Tampa **Georgia** - Harbor Plywood Corp., Atlanta **Idaho** - W. P. Fuller & Co., Boise; Morrison-Merrill & Co., Pocatello **Illinois** - Harbor Plywood Corp., Chicago **Indiana** - E. W. Camp Plywood Co., Inc., Indianapolis **Iowa** - Tip Top Distributing Co., Cedar Rapids, Des Moines, Ottumwa & Storm Lake **Kansas** - Walling Sash & Door Co., Wichita **Kentucky** - E. W. Camp Plywood Co., Inc., Louisville **Louisiana** - Davidson Sash & Door Co., Alexandria & Lake Charles; New Orleans Sash & Door Co., New Orleans **Maryland** - Harbor Sales Co., Inc., Baltimore **Massachusetts** - Kimball Lumber Co., Watertown **Michigan** - E. E. Anderson Lumber Co., Detroit; Anderson-Dietrich Lumber Co., Lansing **Mississippi** - Woods Builders Supply Co., Jackson **Missouri** - Dyke Bros., Joplin & Kansas City **Montana** - W. P. Fuller & Co., Missoula **Nebraska** - Omaha Hardwood Lumber Co., Omaha **Nevada** - Morrison-Merrill & Co., Reno. **New Jersey** - Jersey Millwork Corp., Jersey City; J. R. Quigley Co., Gloucester City **New Mexico** - Southwestern Sash & Door Co., Albuquerque; The Mexico Co., Albuquerque **New York** - Alpert Woodworking Corp., Brooklyn; Davis Plywood Corp., Rochester **Ohio** - E. W. Camp Plywood Co., Inc., Cincinnati; Davis Plywood Corp., Cleveland, Columbus & Toledo **Oregon** - W. P. Fuller & Co., Portland **Pennsylvania** - J. R. Quigley Co., Cressona, Harrisburg, Lancaster & Philadelphia; Wholesale Distributing Co., Pittsburgh **Tennessee** - Cole Manufacturing Co., Memphis **Texas** - Davidson Sash & Door Co., Austin; Houston Sash & Door Co., Houston; Southmost Sash & Door Co., Harlingen; Texas Sash & Door Co., Fort Worth; Geo. C. Vaughan & Son, San Antonio **Utah** - Morrison-Merrill & Co., Salt Lake City **Washington** - Harbord Mercantile, Aberdeen; W. P. Fuller & Co., Spokane; Lundgren Dealers Supply, Tacoma.



The Furnace that brought *Beauty* to the Basement .....

MOR-SUN
PRESSED STEEL FURNACES

"The Sun Never Sets with MOR-SUN!"

Architects must be practical. Dream castles are all right on paper... but Home, Sweet Home needs a heating system . . . a healthful and automatic heating system.

And there's no law against it being beautiful too. In fact, what with rumpus rooms and basement bars, a thing of beauty in a heating system can be a joy forever!

And that means the MOR-SUN . . . the winter air-conditioning furnace that gives Beauty as well as BTU's!

MOR-SUN . . . the *pressed steel* factory-assembled packaged furnace that heats, conditions, circulates, filters, humidifies and continuously renews the air . . . and brings beauty to the basement!

MORRISON STEEL PRODUCTS, Inc., BUFFALO 7, N. Y.

Morrison's nationwide dealer organization is at your Service. Write us for the address of our representative nearest you.

FROM THE TECHNICAL PRESS

JOHN RANNELLS

HANDBOOKS, PAMPHLETS, MANUALS

American Sterilizer Company Data. *(White prints, specifications, etc., for sterilizers suitable for Veterans Hospitals.) Available from The American Sterilizer Co., 500 Fifth Ave., New York 18, N. Y., to architects engaged in public hospital programs.*

This loose-leaf collection of technical data has the sort of information that hospital architects crave for detailing all the sterilizer rooms, utility rooms, laboratories, and such in a big hospital project. The prints are mostly roughing diagrams—the sort of invaluable information that so frequently comes in too late and results in "extras" because it wasn't taken into account in the first place. The collection is entirely lacking in information which would organize the data for architects not fully conversant with hospital work.

Farmstead Wiring. *Westinghouse Electric Corp., 306 Fourth Ave., Pittsburgh, Pa. 42 pp., 8½" x 11", illus., charts, tables. 25 cents.*

A brief text with good discussion of how to plan. A check list of 70-odd specific uses, containing equipment ratings and average energy consumption, serves as a guide in selecting the proper wiring. A similar tabulation gives locations of electric outlets for the various buildings. The text and illustrations are clear and lively.

Lightweight Aggregates for Concrete. *A survey by the Office of the Housing Expediter, Washington 25, D. C. 8½" x 11", maps, tables. Free.*

Concise information gathered from producers of six types of lightweight aggregates: expanded shale or clay (Haydite), expanded slag, pumice, diatomite, perlite, and vermiculite. U. S. map showing distribution and a tabulation of data from producers are given for each type.

School Sound Systems. *Basic standards developed by the U. S. Office of Education and the Radio Manufacturers Assn. Joint Committee on Standards for School Audio Equipment. Radio Manufacturers Assn., American Building, Washington 4, D. C. 31 pp., 8½" x 11". Free.*

Non-technical discussion of audio instructional devices and their place in the school program, with general specifications of equipment to be included in the various standard types of systems. Engineering standards are being developed and will be made available as they are released by the Radio Manufacturers Assn.

Specification for the Design of Light Gage Steel Structural Members. *American Iron and Steel Institute, 350 Fifth Ave., New York 1, N. Y.*

This specification establishes design standards to govern the use of light gage steel members for structural purposes.

The basic design principles are the same as those employed for the heavier hot-rolled shapes. However, the uniform thickness (or thinness) of the sections necessitates consideration of buckling stresses. These are taken into account by eliminating (for design purposes) certain areas from the cross-section of the member in question. In other words an "effective cross section" is used.

Westinghouse Data Book for Architects and Engineers. *Westinghouse Electric Corp., 306 Fourth Ave., Pittsburgh, Pa. 362 pp., 8½" x 11". 1947-1948. $5.00*

Westinghouse flatters the architects—this is strictly engineering data (but data organized as the architect wants it).

All the way from stokers, generators, and switchgear to commercial and industrial lighting equipment, and residential electric planning, the data for each piece of equipment is arranged in terms of application, features, how to select, dimensions, typical specifications, and engineering data. This information is generally supplied to the architect by his electrical engineer but it's time the architect had much of it at his own fingertips.

FROM OTHER PUBLICATIONS

Aspects of Post-War Building Technique. *Richard H. Shepard. A paper read before the Royal Institute of British Architects on Nov. 26, 1946.* Journal, Royal Institute of British Architects, *66 Portland Place, London W. 1, England. Jan. 13, 1947.*

This paper, in dealing with the "relation between design of buildings and the evolution of technique displayed in their construction," pretty well covers the great change that has taken place during the past 25 years or so in the architect's approach to his problems.

We like to think that new materials and new techniques automatically bring about new forms characteristic of our newly acquired achievements. Actually, new materials are usually forced into the old forms and it takes years for us to catch up and realize the possibilities. Look at cast iron and reinforced concrete, for example. The author believes that "the most important contribution in this epoch will prove to be the development of the building board or sheet.

"The contribution of science and scientific method . . . is not inimical to art and these two forms of activity are complementary to one another . . . in the last few years building science has begun to make great strides and although this development is limited in its objective, it has reached a point where it will enrich and diversify architecture and give a sure and certain background to imagination. To take one instance, the work which is now being done in daylighting, in the effect of light contrasts and intensity, must clearly have an enormous effect upon design, in the proportion and arrangement of windows as well as wall surfaces and textures. We are badly in need of such guidance and I believe the scientist will help us to find and replace that intellectual and emotional content which has been so sadly lacking in architecture."

This whole paper and the subsequent discussion show the broad understanding that is necessary if the profession is to measure up to its responsibility in a democracy to develop an architecture that is "understood and accepted by all and not by the few."

Response and Lag in the Control of Panel Heating Systems. *F. W. Hutchinson.* Heating, Piping and Air Conditioning, *6 N. Michigan Ave., Chicago 2, Ill. Feb. 1947.*

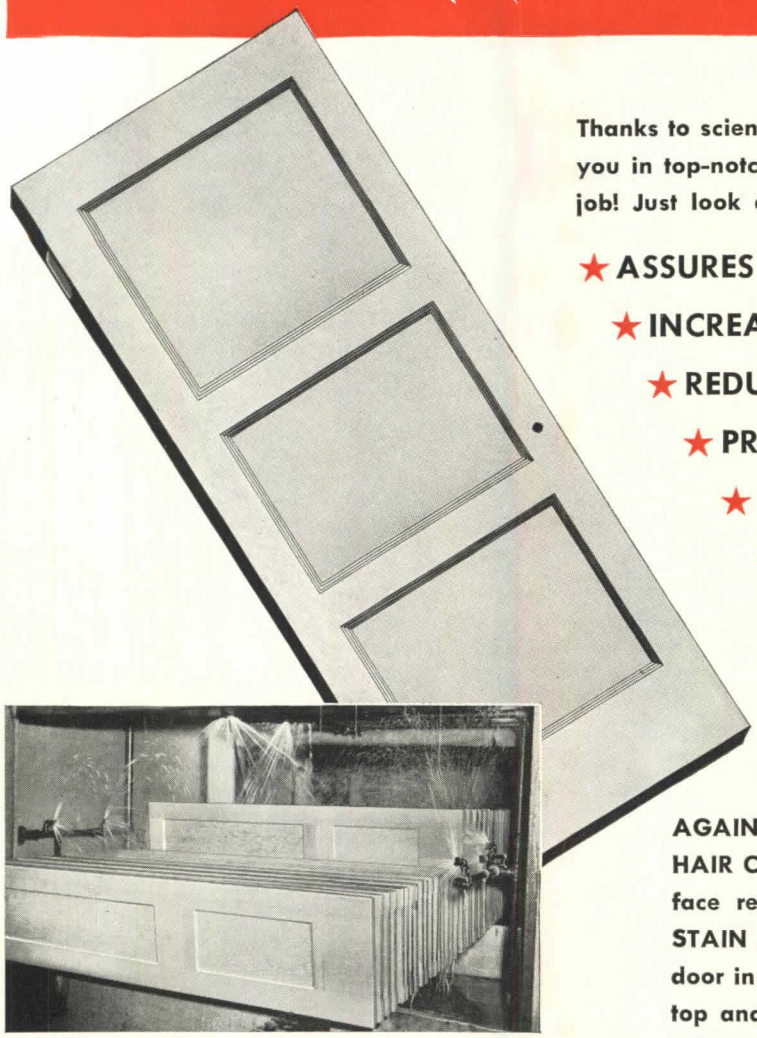
A five-room, panel-heated test house on the Purdue University campus was specially designed as a heating and cooling laboratory. The experimental work reported in this paper gives the perform-

(Continued on page 100)

NOW— SCIENTIFIC RESIN SEALING

PROTECTS WHEELER OSGOOD FACTRI-FIT *Tru-sized* DOORS FROM FACTORY TO YOU!

Reg. U.S. Pat. Off.



Thanks to scientific resin sealing, Wheeler Osgood Doors reach you in top-notch condition . . . ready to do a better job on the job! Just look at these advantages over non-sealed doors—

- ★ **ASSURES SMOOTHER PAINT JOB!**
- ★ **INCREASES SCUFF RESISTANCE!**
- ★ **REDUCES HAIR CHECKING!**
- ★ **PROTECTS AGAINST DIRT!**
- ★ **REPELS MOISTURE!**
- ★ **COMPLETELY PRIME COATED— INCLUDING TOP AND BOTTOM!**

Wheeler Osgood's resin sealing helps doors retain EXACT NET SIZE of original machining . . . controls grain raising and PROTECTS FACTORY-SANDED SURFACE . . . PROTECTS AGAINST DIRT, DUST AND SMUDGES . . . MINIMIZES HAIR CHECKING of panels and assures a uniform surface resulting in a BETTER, SMOOTHER PAINT OR STAIN JOB . . . imparts SCUFF RESISTANCE to protect door in handling . . . plus added advantage of having top and bottom of door sealed.

Automatic sprays, as *pictured* above, put a protective prime coating of high-quality tested resin sealer over every inch—top, bottom, ends and sides—of Wheeler Osgood Tru-sized Doors.

THE WHEELER, OSGOOD COMPANY

Plants and General Office: Tacoma 1, Washington

NEW YORK OFFICE	1326 Empire State Building, New York 1, New York	Phone: Penn. 6-2954
CHICAGO OFFICE	134 So. LaSalle Street, Chicago 3, Illinois	Phone: State 5335-6-7
SAN FRANCISCO OFFICE	3045 19th Street, San Francisco, California	Phone: Valencia 2241
LOS ANGELES OFFICE	P. O. Box 7685 Del Valle Station, Los Angeles 15, California	Phone: Vandike 6326
TACOMA OFFICE	1216 St. Paul Avenue, Tacoma 1, Washington	Phone: Main 8101

REVIEWS

(Continued from page 98)

ance of five different systems for controlling the energy supply to the panels (ceiling panels in this case). The house is built with four independent systems of sinuous-coil hot-water panels: floor; ceiling; exterior walls; interior walls. It is not occupied. The glass areas are moderate. The results of these and subsequent experiments should add considerably to the engineer's knowledge of the control problems in panel heating systems.

LIGHTING

Brightness Distribution in Rooms. *Report No. 4 of the Committee on Standards of Quality and Quantity for Interior Illumination of the Illuminating Engineering Society.* Illuminating Engineering, *51 Madison Ave., New York, N. Y. Feb. 1947.*

Tables for determining brightness distribution were developed for six types of lighting: indirect, trough, wall, direct, combined wall and ceiling, diffusing globes. These tables allow the illuminating engineer for the first time to predetermine in what shapes of rooms and for what reflectances a given type of lighting will be satisfactory.

Further Data on Glare Ratings. *Ward Harrison and Phelps Meaker. Paper presented at the Annual Convention of the Illuminating Engineering Society, Quebec, Canada, Sept. 1946.* Illuminating Engineering. *Feb. 1947.*

This highly technical paper is followed by an interesting discussion which shows how the illuminating engineers are at last coming to grips with the complex problems of "comfortable" lighting.

Model Classroom, One Year Later. *P. T. Fallon, Principal, Bowditch School, Salem, Mass., and Willard Allphin, Applications Engineer, Sylvania Electric Products, Inc.* The School Executive, *470 Fourth Ave., New York 16, N. Y. Jan. 1947.*

An example of what can be accomplished by relighting and redecorating a typical classroom, this report proves again that the whole visual environment must be considered for successful results. The fixtures used are standard fluorescents placed at right angles to the windows and modified by replacing the glass on one side with a denser glass with a reflecting coating on the inside. This gave about half as much brightness on the pupil side as on the front side of the room, maintaining a high foot-candle level without glare. For controlling the lighting an indicator was developed which shows by a pointer when the daylight diminishes or increases enough to warrant turning the lights "on" or "off."

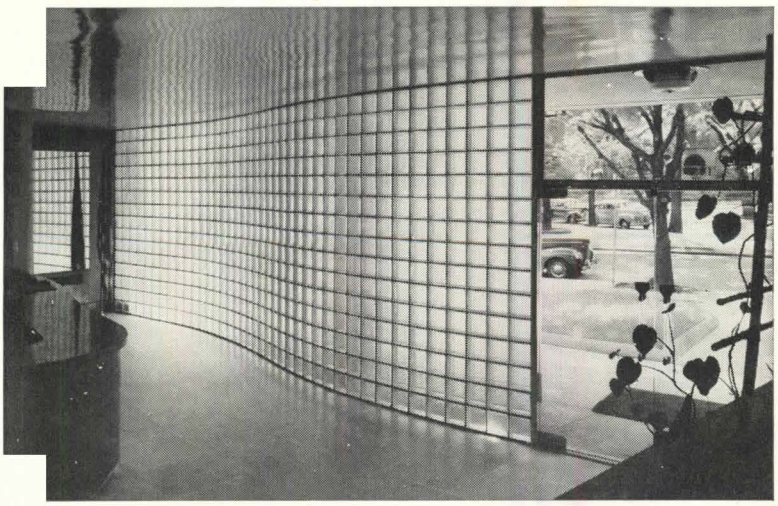
Daylight was controlled by fixed louvers at right angles to the windows. Experiments with plywood mock-ups proved that adjustment is unnecessary. The whole assembly swings up for window washing.

Colors were chosen (light shades of "coral" and "peach") which look about the same under daylight and fluorescent. To achieve a comfortable brightness pattern, blackboards were replaced with white glass chalkboards on the front wall and tackboards on the other walls. Light gray asphalt tile floors and light finished desk-chair units help keep the brightness ratios within proper limits.

Educational results were not analyzed

(Continued on page 102)

In residential design Insulux Glass Block panels open the way to new and flexible plans. Usually dark and gloomy spots are cheerfully lighted with Insulux. One example, the hallway of this San Francisco home is flooded with softly diffused daylight—and full privacy is maintained.



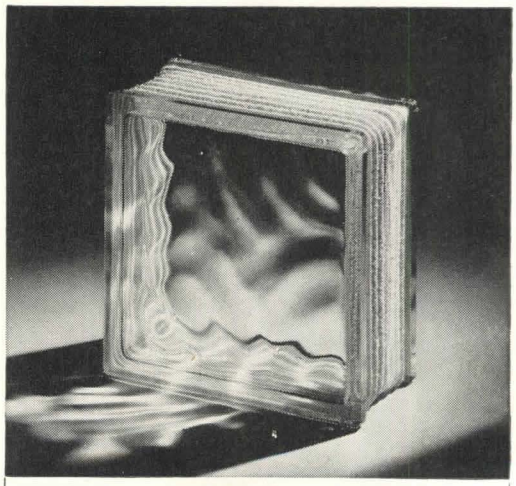
How about daylight and privacy for an apartment lobby? A gracefully curved floor-to-ceiling panel of Insulux was the answer in the Croydon Apartments, Washington, D.C. An occasional washing keeps Insulux fresh, sparkling. Architects: Berla and Abel.

Answer to the call for private daylight

THERE'S a definite demand for lighter, brighter living—in residences, in apartments.

A blessing to architects meeting this demand is the ability of Insulux Glass Block to transmit and diffuse daylight while barring vision. Panels of Insulux are easily installed in a manner similar to ordinary brick. Once in place these panels are permanent, high in insulating value, and remarkably easy to maintain. There's nothing to rot, rust or corrode and no painting is needed.

In residences, commercial and industrial buildings, architects are solving problems with Insulux. For complete technical data, specifications and installation details on this versatile, modern material, see the "Glass" Section of Sweet's Architectural Catalog, or address Dept. D-30, Owens-Illinois Glass Company, Insulux Products Division, Toledo 1, Ohio.



OWENS-ILLINOIS

INSULUX

GLASS BLOCK

Insulux Glass Block is a functional building material, designed to do many things other materials cannot do. It is manufactured in three sizes, many functional and attractive face patterns. Investigate!

REVIEWS

(Continued from page 100)

as a controlled situation was lacking. However, the pupils did maintain a high degree of interest and took excellent care of their novel surroundings so that the light finishes did not prove costly in maintenance.

1946 Progress Report. *Paper presented by the Committee on Progress at the Annual Convention of the Illuminating Society, Quebec, Canada, Sept. 1946.* Illuminating Engineering. *Jan. 1947.*

A survey of improvements noted in all fields of lighting, especially the development of new equipment and indication of trends.

Studies of Illumination and Brightness in Residential Interiors. *E. W. Commery. Paper presented at the Annual Convention of the Illuminating Engineering Society, Quebec, Canada, Sept. 1946.* Illuminating Engineering. *Jan. 1947.*

This paper (despite its title) is mainly a well detailed study of an executive office with ideal lighting on one desk, achieved by perimeter lighting plus a large panel over the desk. It contains a good discussion of seeing comfort in terms of Zone 1, "the task," Zone 2, "the immediate surroundings," and Zone 3, "the general surroundings." Available tools for achieving desired results are analyzed: slimline fluorescents in parabolic reflectors for wall or ceiling lighting; direct-lighting down-lights and portable lamps for increasing illumination in Zone 1, etc.

BOOKS

THERMAL INSULATION OF BUILDINGS

Paul D. Close. Reinhold Publishing Corp., 330 W. 42nd St., New York, N. Y., 1947. 104 pp., illus. $1.75

Insulation Made Easy would have been an appropriate title to this 104-page, highly fact-charged treatise on the principles of thermal building insulation for dwellings and farm buildings. Busy architects and those concerned with construction problems will find its two-hour reading time a worthy investment in insulation know-how. With pedagogic skill the author lucidly guides the reader through 35 excellent reference tables and ordinarily stuffy formulae pertaining to fuel savings, estimating insulation requirements, calculating heat losses.

The book is generously sprinkled with well illustrated, non-technical definitions of unit of heat, heat content of fuels, heat transfer by conduction, convection and radiation, radiation transfer across air spaces (for cavity wall addicts, no doubt), thermal conductivity and conductance, relative humidity, and many others.

A thoughtful study of Chapter 6 ("Preventing Surface Condensation") and Chapter 7 ("Preventing Condensation Within Walls and Ceilings") should do much toward the elimination of this construction cancer. Consideration might have been given to thermal capacities of dense plasters. In spite of the figured "U" value in properly designed structures, it is seldom possible to get enough heat into either plaster or concrete to raise the temperature to within that degree F where the surface is above the dew point. This means that while water may not be running down a wall, there is sufficient moisture con-

(Continued on page 104)

THIS DEPARTMENT STORE STOPPED A *Thief!*

AND GAVE ITS CUSTOMERS CLEANER, MORE EVEN HEAT *Central Heating* MADE IT POSSIBLE!

BEFORE... An outgrown power plant occupied valuable space, produced smoke and dirt right at the store site.

Smoke was stealing selling space from Sibley, Lindsay & Curr Company, of Rochester, N. Y. until this progressive institution began obtaining all power and steam from the central distribution system of the Rochester Gas & Electric Corp. Now it is a cleaner, lighter department store, now a new economy of space has been achieved.

When expansion proved too much for the store's own power plant, the changeover to central heating, made without interference to store operation, resulted in many advantages of interest to architects. Comparing favorably in dollar cost, purchased service eliminated a source of noise and dirt, freed valuable space for further use. To meet increased demands upon its system by other companies recognizing these benefits, the Rochester Gas & Electric Corporation has constructed a tie-line which provides the city's business district with 200,000 lbs. additional steam per hour. In this tie-line, as in hundreds of other major central heating systems, the steam travels underground through Ric-wiL prefabricated insulated conduit, specified for economy, for thermal efficiency.

AFTER... Complete elimination of power plant frees space for efficient use, frees management of the smoke problem.

RIC-WIL

INSULATED PIPE CONDUIT SYSTEMS

THE RIC-WIL COMPANY • CLEVELAND, OHIO

CABLE ADDRESS: RICWIL, BENTLEY'S CODE

(Continued from page 102)

densed on the surface to shorten the life of paint and act as a repository for dust. It is this latter which causes fresh paint to acquire a dirty look quickly. Vermiculite plaster either as a surface insulation or as a fire retardant may have been worthy of mention. It has an extremely low thermal capacity, giving its surface a rapid response to room temperature changes. For this reason plaster sweating is obviated. Since the temperature of the surface is so close to room temperature, a feeling of bodily warmth at lower ambient temperatures may be achieved.

The architect will be more than gratified with the book's many installation drawings and photographs as will the specification writer with its excellent "what is it and who makes it" glossary. It would have been helpful to have had the moisture, fire, and vermin characteristics of insulating media added to the glossary.

Paul Close's generic analysis of some 30-odd types of insulation materials alone makes this treatise a worthy addition to any technical library. I wish we had a "Technical Book-of-the-Month-Club." This would be it.

BEN JOHN SMALL

LIBRARY FUNDAMENTALS

The American Public Library Building. *Joseph L. Wheeler and Alfred M. Githens. American Library Assn., 50 E. Huron St., Chicago, Ill., 1947. 484 pp., illus.*

A reprint of the original treatise on the principles of library planning which first appeared in 1941, this book contains floor plans and photographs which have already proven valuable to librarians and architects planning new buildings or remodeling.

The fundamentals of the modern library building, the elements and their relationships, analyses of recent library plans, and the building structure and equipment are some of the pertinent subjects discussed. Distribution of the book is scheduled for August.

PANEL HEATING AND COOLING ANALYSIS

B. F. Raber and F. W. Hutchinson. John Wiley and Sons, Inc., 440 Fourth Ave., New York, N. Y., 1947. 204 pp., 5½" x 8½", charts, diagrams, index, $3.50

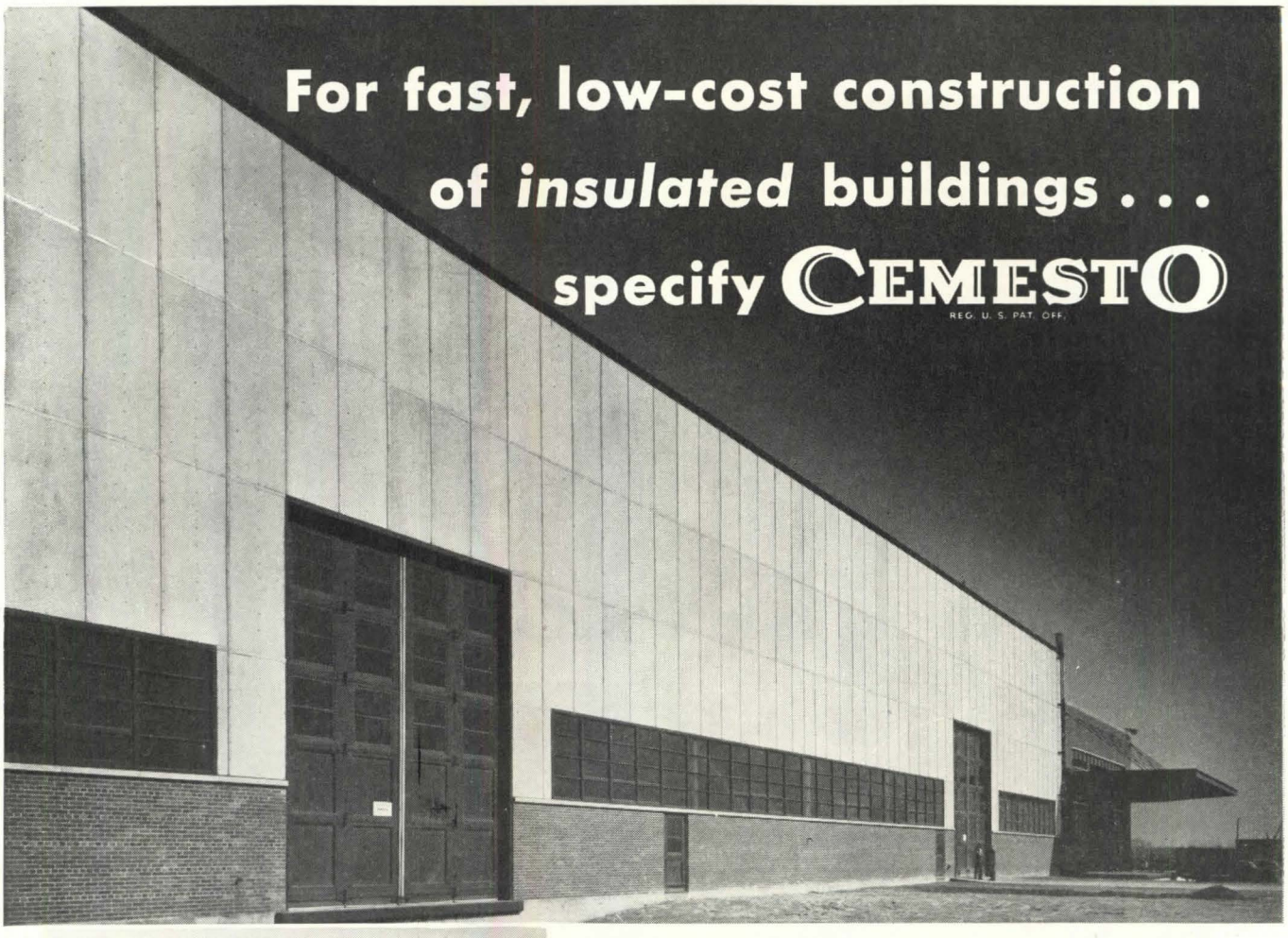
Four chapters of "non-technical" descriptive material are followed by a detailed treatment of theory and analysis. The first section discusses the history, types of installations, advantages, and disadvantages of panel heating and cooling. The following seven chapters provide sufficiently detailed and exact understanding of rational procedures to permit the physicist-engineer or advanced student to carry out a completely rational design or to examine critically and evaluate the various simplified methods in use. The last two chapters present simplifications of the rational design procedure, particularly a method based on "equivalent conductance" which is simple and accurate.

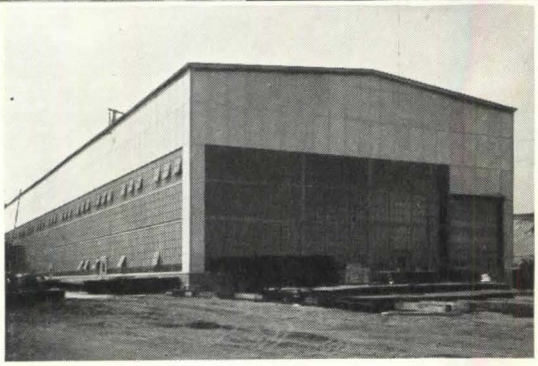
JOHN RANNELLS

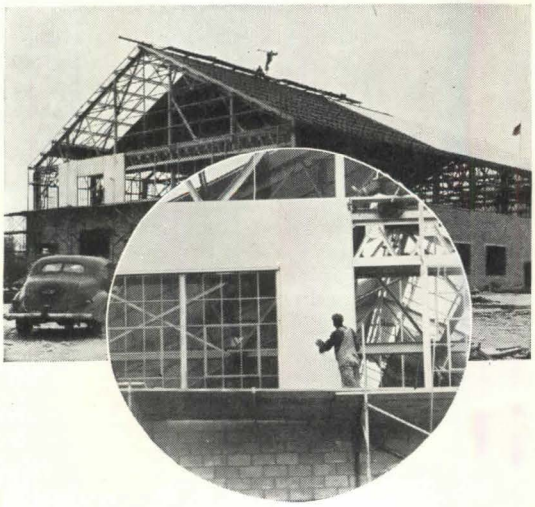
PROTECTION BY PLANNING

Design For Safe Living: A Handbook on Home Safety for Architects. *Prepared by Division of Public Health Education, New York State Department*

(Continued on page 106)







SHOWN HERE are only a few of the many commercial and industrial buildings built better and faster with Celotex *Cemesto* Board.

Cemesto is perfect for speedy, low-cost construction of insulated buildings. It offers thermal insulation, weather resistance inside and out, structural strength and siding . . . all at *one low cost*. In addition, Cemesto core is Ferox-treated to resist dry rot, fungus growth and termites.

Cemesto comes in standard size sheets in 1⅛″, 1-9/16″ and 2″ thicknesses; can be easily cut to fit job conditions; can be attached by nailing to wood, by bolts or clips to steel.

Thus Cemesto is an ideal material for use in exterior walls, roof decks or interior partitions. It does not require painting, so maintenance costs are low.

Write the Architectural Sales Service Department for complete details illustrating several methods for applying Cemesto for roof decks, exterior walls or interior partitions.

If you wish to furnish plans to us, we will be glad to prepare shop erection drawings showing the exact size of Cemesto panels required, together with estimate on cost of material pre-cut to fit.

THE CELOTEX CORPORATION • CHICAGO 3, ILLINOIS

REVIEWS

(Continued from page 104)

of Health. Reinhold Publishing Corp., 330 W. 42 St., New York 18, N. Y., 1946. 16 pp., illus. 25 cents per copy; $15.00 for 100 copies.

Accident Facts *(1946 Ed.). National Safety Council, Inc., 20 N. Wacker Drive, Chicago 6, Ill., 1946. 96 pp. 50 cents each for 1-99 copies; 40 cents each for 100 or more copies.*

Design for Safe Living was prepared under the sponsorship of the New York State Department of Health to assist the architect in making the home as accident-free as possible. Responsibility for reducing the appalling number of accidents and deaths from accidents in the home devolves especially upon the architect and requires him to design safety into the home. In this booklet eight articles by different authors consider from the viewpoint of safety the design of rooms, interior equipment, stairs, closets, lighting and electrical fixtures, landscaping, and the elimination of possible fire hazards. Its comprehensive check list for safety in residence design is useful for drafting room reference.

The booklet, *Accident Facts*, ranges over a wider field and tabulates data about accidents and deaths from accidents in the home, on the farm, in occupations, in schools, from motor vehicles, in transportation, and from other causes. The annual peacetime toll of 96,000 accidental deaths in the United States equals the population of a city the size of Lynn, Massachusetts, or El Paso, Texas. Practically all these deaths and the annual ten million accidental injuries are unnecessary and avoidable, as this booklet points out. To promote the study of safety measures, facts and figures are classified according to types of accidents, causes, locations, occupations, ages, sexes, time, seasons, etc. Architects, city planners, industrial designers are here offered much helpful material.

LAWRENCE E. MAWN

ARQUITECTURA PERUANA

Héctor Velarde. Fondo de Cultura Economica, Panuco, 63, Mexico, 1946. 182 pp., illus. $3.95

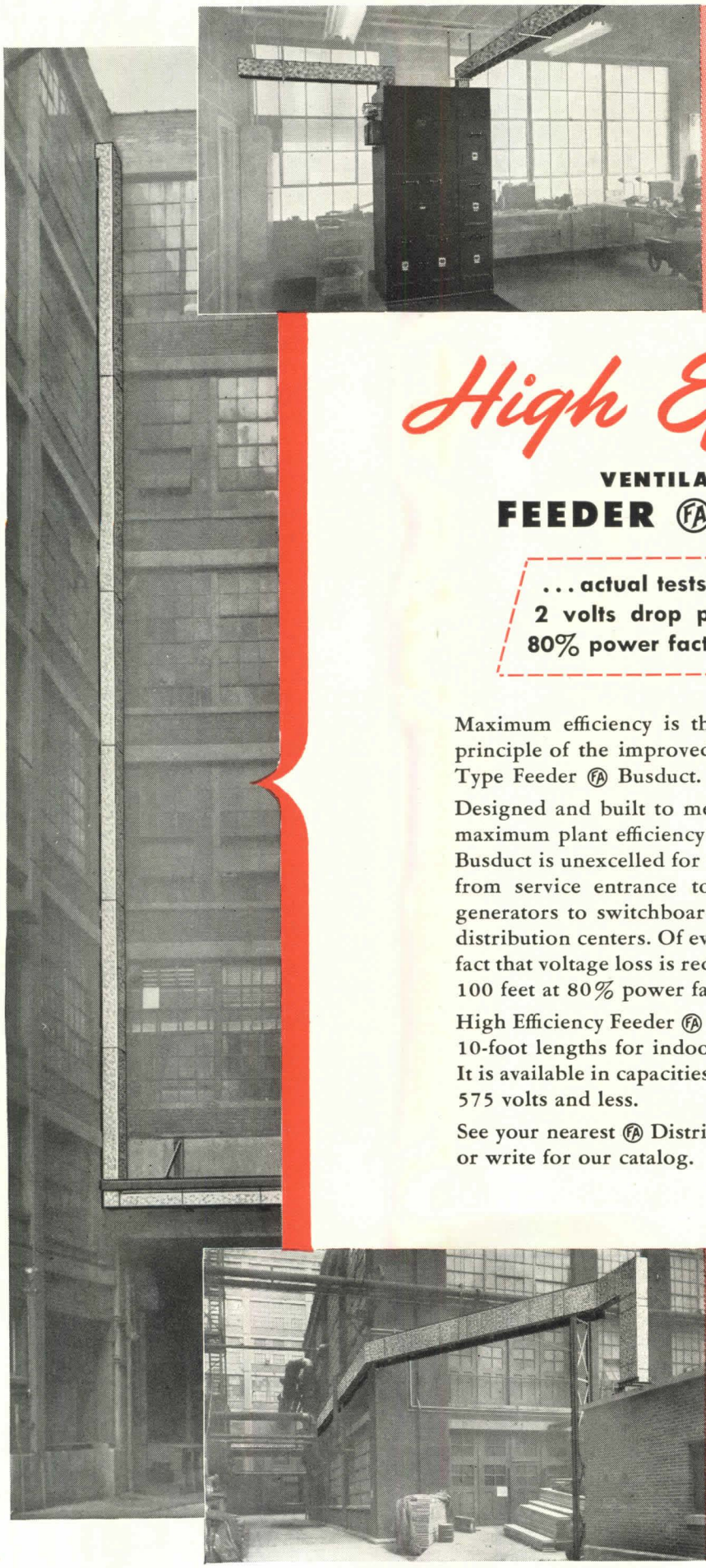
Senor Velarde offers in these interesting pages an historical and artistic survey of Peruvian architecture from the Pre-Inca period down to the present. He is a Paris-trained architect, professor, author of several architectural treatises, president of the Society of Architects of Peru. Obviously the limitations of the work did not permit a complete study of the subject. However, the development of Peruvian architecture appears to be adequately presented. A generous allotment of photographs supplements the Spanish text and compensates the non-Spanish reader with a graphic abridgment. Some of the illustrated Pre-Inca, Inca, and Hispanic details are excellent examples of stonework and sculptural carving.

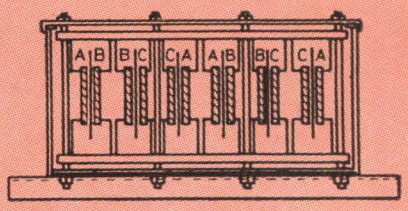
Three architectural epochs — Pre-Hispanic, Spanish Colonial, Republican— are studiously considered. The work of the middle period, principally the art and architecture of churches, convents, and monasteries, is segregated as to geographical location. The rich ornamentation may seem alien to modern Americans, but as a product of its era, great merit attaches to it. The modern buildings which are shown are not impressive.

The typography and design of this paper-bound book are in good taste; pen illustrations at the chapter headings lighten and effectively enrich the page. A bibliography and index add to the book's value and usefulness.

LAWRENCE E. MAWN

(Continued on page 108)





HIGH EFFICIENCY
FEEDER FA BUSDUCT

High Efficiency

VENTILATED TYPE

FEEDER FA BUSDUCT

. . . actual tests show less than 2 volts drop per 100 feet at 80% power factor.

Maximum efficiency is the fundamental engineering principle of the improved High Efficiency, Ventilated Type Feeder FA Busduct.

Designed and built to meet today's requirements for maximum plant efficiency and productivity, Feeder FA Busduct is unexcelled for the transfer of heavy current from service entrance to distribution center, from generators to switchboards or from switchboards to distribution centers. Of even greater importance is the fact that voltage loss is reduced to less than 2 volts per 100 feet at 80% power factor.

High Efficiency Feeder FA Busduct is made in standard 10-foot lengths for indoor and outdoor installations. It is available in capacities from 600 to 4000 amperes, 575 volts and less.

See your nearest FA District Representative for details, or write for our catalog.

FA TRADE MARK

Makers of

BUSDUCT SERVICE EQUIPMENT
PANELBOARDS SAFETY SWITCHES
SWITCHBOARDS LOAD CENTERS
ELECTRIC QUIKHETER

Frank Adam
ELECTRIC COMPANY
ST. LOUIS, MISSOURI

REVIEWS

(Continued from page 106)

BATTLE FOR CHICAGO

Wayne Andrews. Harcourt, Brace & Co., 383 Madison Ave., New York, N. Y., 1946. 358 pp., illus. $3.75

Chicago has seen many encounters in its history—first with swamp and mud for its very site, later with the tides of a rising economic and social life which it encouraged, and now, Mr. Andrews would have us believe, for the influence of its press.

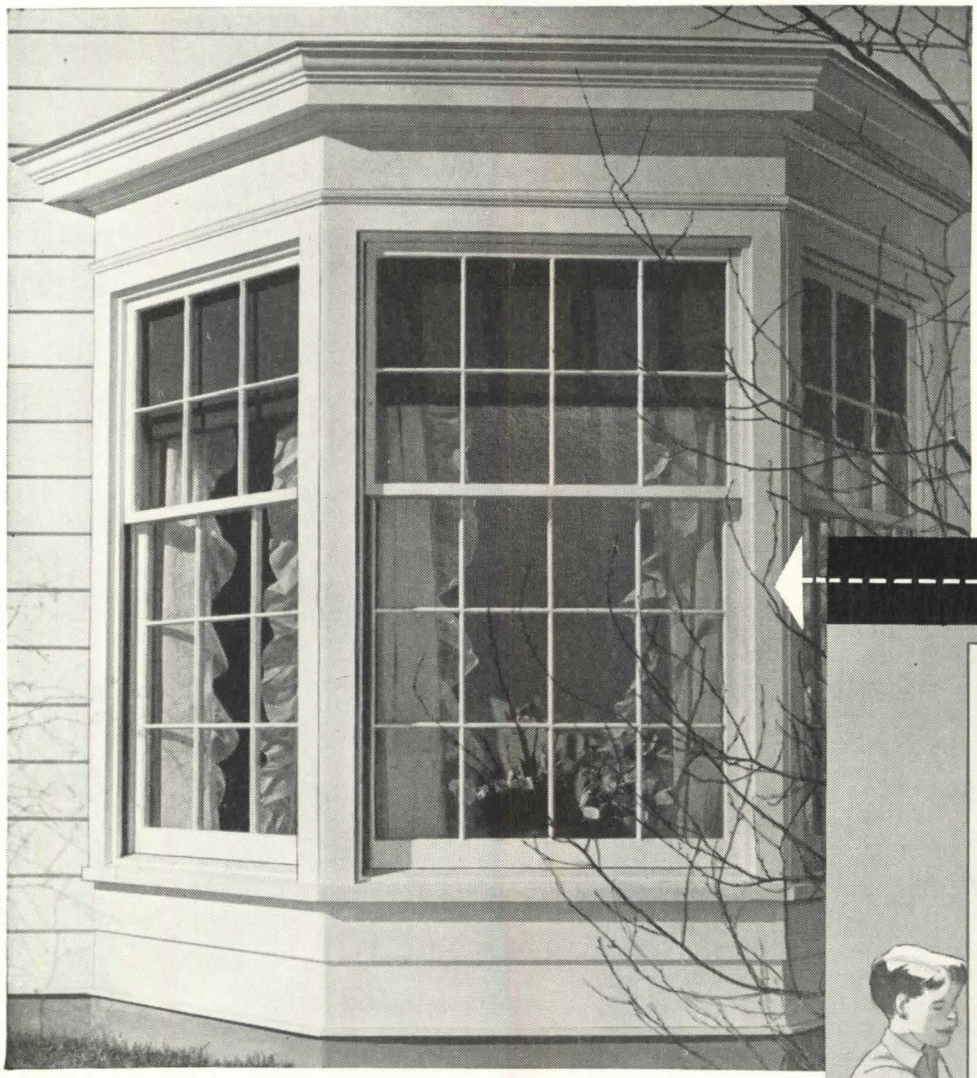
Mr. Andrews' concern is for the people who made great fortunes in the course of the prolonged battle, of the dynasties which were founded but in general have not survived. He has, as needs be, devoted his energies to presenting the methods by which money was accumulated, from the sound merchandising of Marshall Field to the paper pyramid manipulations of Samuel Insul. Money has been accumulated by men in Chicago; their names and their methods are here given. *Battle for Chicago* deals with the men who, with initiative, vision, and manipulating acumen, both economic and political, built Chicago to her present place in the world.

Men striving to build fortunes incidentally built a city. From the year 1837, when John Mills Van Osdel designed a home for William Butler Ogden, to the present noticeably feeble attempts to provide housing, the battlefield of Chicago has been built upon and rebuilt. Architects of the stature of Burnham, Root, Sullivan, McKim, Platt, Hood, Van der Rohe, and a multitude of their lesser imitators have substantially assembled wood, brick, stone, concrete, and steel in the sometimes questionable improvement of Chicago real estate. An architect of today cannot but regret that so much construction was achieved in the era following the great Chicago fire—an era that produced buildings of such ostentation, bad taste, and unfortunate solidity that much of it remains. It has become obsolete by the technical development which it encouraged, obsolete by the tempo of living and the social pattern which Chicago has been instrumental in moulding. Yet many of these buildings stand, involved in the estates of the founders, blighted by their failure to realize the necessity of zoning, of a forward looking, nonpolitical building code, and of a realistic evaluation of land.

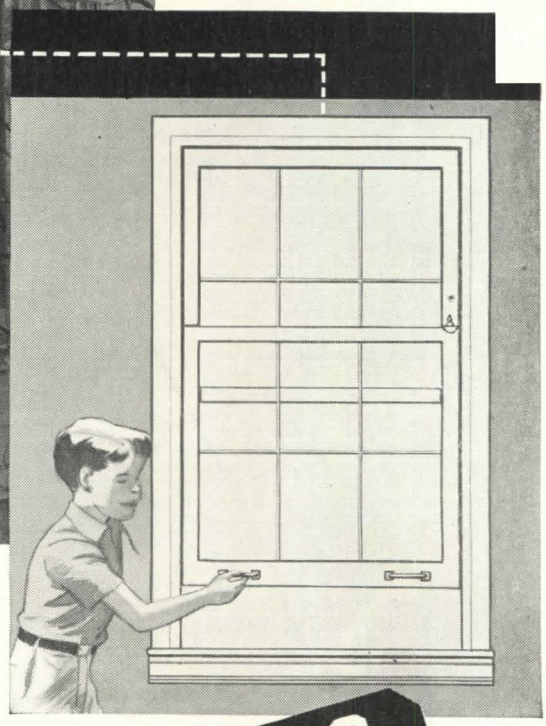
Chicago is a city to which people have come for the avowed purpose of making money. If you would know who the titians of this group were, how they did it, how much they made, and who has it now, this is a book for you.

JOHN C. SEWARD

(Continued on page 110)



When in New York, visit the Curtis Woodwork display at Architects' Samples Corporation, 101 Park Avenue.



It "FLOATS"

YET IS ALWAYS

WEATHER SEALED

new self-fitting SILENTITE

Design a window so easy to operate that it actually seems to "float" . . . yet which is constantly sealed against air infiltration . . . far more weathertight than ever before.

That is the problem which Curtis engineers solved in the new self-fitting Silentite. Famous Silentite spring suspension creates a window that even a child can easily open. Yet the full length double-Z type bronze weather-strips in the jambs press sliding bars against the edges of the sash, providing a constantly tight fit. This new type weather-stripping, plus improved weather-stripping at head, sill and meeting rail, makes the new self-fitting Silentite fully 20% more weathertight even than the original Silentite window introduced by Curtis in 1932.

Silentite windows are made of wood—because Curtis has found wood to be the most completely satisfactory of all window materials. Yet Silentite windows have the streamlined appearance that fits today's idea of window beauty. Let us tell you all about the new self-fitting Silentite and its new achievements in window design.

1866 CURTIS WOODWORK

SILENTITE PRE-FIT the "Insulated" window

Curtis Companies Service Bureau
PA-6S Curtis Building, Clinton, Iowa

Gentlemen: Please send booklets on the new Curtis Woodwork and the new Silentite Window.

Name.....

Address.....

City.....*State*.....

I am ☐ Architect, ☐ Contractor, ☐ Prospective Home Builder, ☐ Student

(*Please check above*)

REVIEWS

(Continued from page 108)

MORE PREFABS COMING

Prefabricators and Prefabricating Systems. *The Housing Institute, Inc., 350 Fifth Ave., New York, N. Y., 1947. $1.00*

As a helpful guide for those interested in establishing a working familiarity with the prefabricated house, the Housing Institute has just released *Prefabricators and Prefabricating Systems.* The book is written by the staff of the Institute and covers units by 94 of the country's leading fabricators.

Name and address of each manufacturer, description of the house and type of construction put out by each, and in many cases the specific size, price, and number of rooms are included. Readers will find especially interesting the rate of production of each unit and the states in which it is marketed. Names and addresses of some distributors of various types of prefabricated units are listed.

In connection with the book, Housing Institute comments: "In 1946, prefabs constituted as much as 9% of all permanent dwelling units completed. This year an even greater percentage is predicted. Production of 100,000 prefabs is expected. Therefore, if the most optimistic forecast for permanent homes to be begun in 1947 is realized—750,000 units—prefabs will account for almost 14% of the total. And should the conservative estimate of 500,000 permanent units be achieved, one in every five would be prefabricated units."

NOTICES

COMPETITIONS

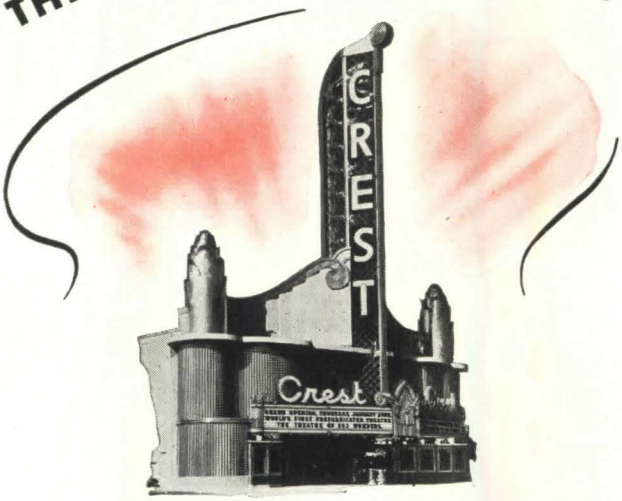
Isadore Rosenfield, architect and hospital consultant of New York, N. Y., and Velez, Posada Y Rodriguez, Ltda., architects of the Republic of Colombia, have been awarded first prize in the competition for the 300-bed industrial hospital at Medellin, Colombia, sponsored by the National Association of Industrialists.

The Sylvania Electric's Third Annual Fluorescent Fixture Design Competition, devoted this year to improve schoolroom lighting, was won this year by Lynn L. Sweetland, Jr., of the New York State Electric & Gas Corp., Binghamton, N. Y. Second prize went to Gerald E. Parks of the Metropolitan Edison Co., Reading, Pa.; third to Robert M. Francis, Public Service Co. of Northern Illinois; and fourth to Warren E. Weiss, Pacific Gas & Electric Co. of San Francisco, Calif.

The National Board of Trustees of the American Designers' Institute has an-

(Continued on page 112)

THIS YOU CAN DO WITH Q-PANELS



and... NOW!

Architects are using them—not only because Q-Panels actually are available now—but also because their efficiency overcomes many everyday problems.

You can get Robertson Q-Panels in aluminum, steel, stainless or Galbestos on either or both of the flat or fluted surfaces. The panels are fabricated 2′ wide and up to 25′ long. Between the fluted and flat elements is 1½″ of insulation. Q-Panels surpass in thermal value a 12″ dry masonry wall. They weigh less than 5 pounds per sq. ft., and can be erected so fast that a crew of only 25 men has often erected a wall area equal to ⅓ acre in just one day.

It's a lot easier to hang a wall than to pile it up.

This efficiency recommends Q-Panels wherever conventional, heavy masonry walls have been used in commercial and industrial buildings.

With flat and fluted surfaces to vary, architects are achieving effects in shadow and light of noteworthy beauty. Typical of important Q-Panel structures now in construction are:

Federal Telecommunications Inc., Nutley, N. J.
Architects, Giffels & Vallet and L. Rossetti, Detroit

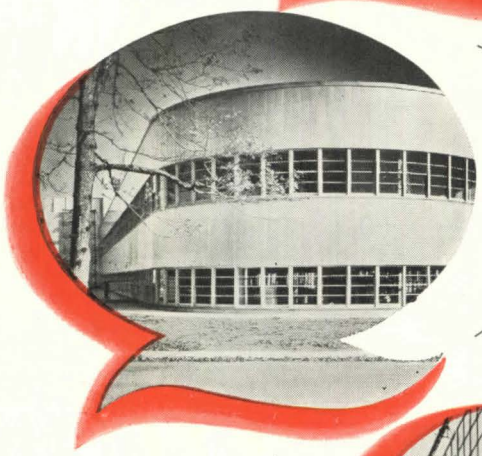
J. S. Dillon & Sons Food Stores Co., Hutchinson, Kan.
Architects, McCrakin & Hiett

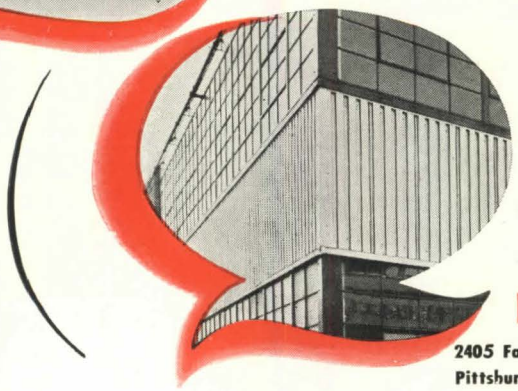
Freuhauf Trailer Co., Avon Lake, Ohio
Engineers, J. Gordon Turnbull, Cleveland, Ohio

Duplan Corp., Winston-Salem, N. C.
Architects, Lacey, Atherton, Wilson and Davis, Harrisburg, Penna.

Doubleday Doran Country Life Press, Garden City, L. I. and Hanover Press, Hanover, Pa.
Architect, H. T. Lindeberg, New York City

General Electric Research Laboratories, Schenectady, N. Y.
Architects, Voorhees, Walker, Foley & Smith, New York City





For information please call your Robertson representative or write:

H. H. ROBERTSON CO.

2405 Farmers Bank Building
Pittsburgh 22, Pennsylvania

Offices in 50 Principal Cities
World-Wide Building Service

NOTICES

(Continued from page 110)

nounced Fellow Memberships for distinguished service to the industrial designing profession and to the Institute have been conferred on the following: Alfons Bach, New York; Ann Franke, New York; Ruth Gerth, San Francisco; Marie Kirkpatrick, Grand Rapids; Belle Kogan, New York; Alexander Kostellow, New York; Ben Nash, New York; Gordon Obrig, New York; Ernest Swarts, Rockford, Ill.; and John Vassos, Scott Wilson, and Edward J. Wormley, New York.

Grand prize of $2,000 for a study tour in *Charm* magazine's annual traveling fellowship awards has been won by Betty Jane Crisp, Benton, Ill., a graduate of Washington University at St. Louis, Mo. Second and third prizes in the competition for original fashion design were awarded to Rhoda Miller, Brooklyn, N. Y., and Mary Beth Stine, Henrietta, Tex.

STORE SHOW IN JULY

The First Annual Store Modernization Show will be held at Grand Central Palace, New York, N. Y., the week of July 7th. The show will present a full panorama of store interiors and exteriors including store fronts, lighting fixtures, floorings, wall coverings, show cases, display equipment, escalators, business machines, air conditioning and merchandise-handling equipment.

The New York Chapter of the A.I.A. will have an exhibit at the show. Advisory committee for the show includes executives of a dozen national retail trade associations, editors of architectural and retail trade magazines, store planning executives, and Deans of Columbia and New York Universities. Under the sponsorship of the show management a number of architectural schools are conducting special programs in store modernization, the best of which will be exhibited at the show.

NEW ADDRESSES

C. William Palmer, 2675 Penobscot, Detroit 26, Mich.

Berry Door Corp., 4060 Sophia St., Wayne, Mich.

Stevens & Wilkinson, Inc., 157 Luckie St., N.W., Atlanta, Ga.

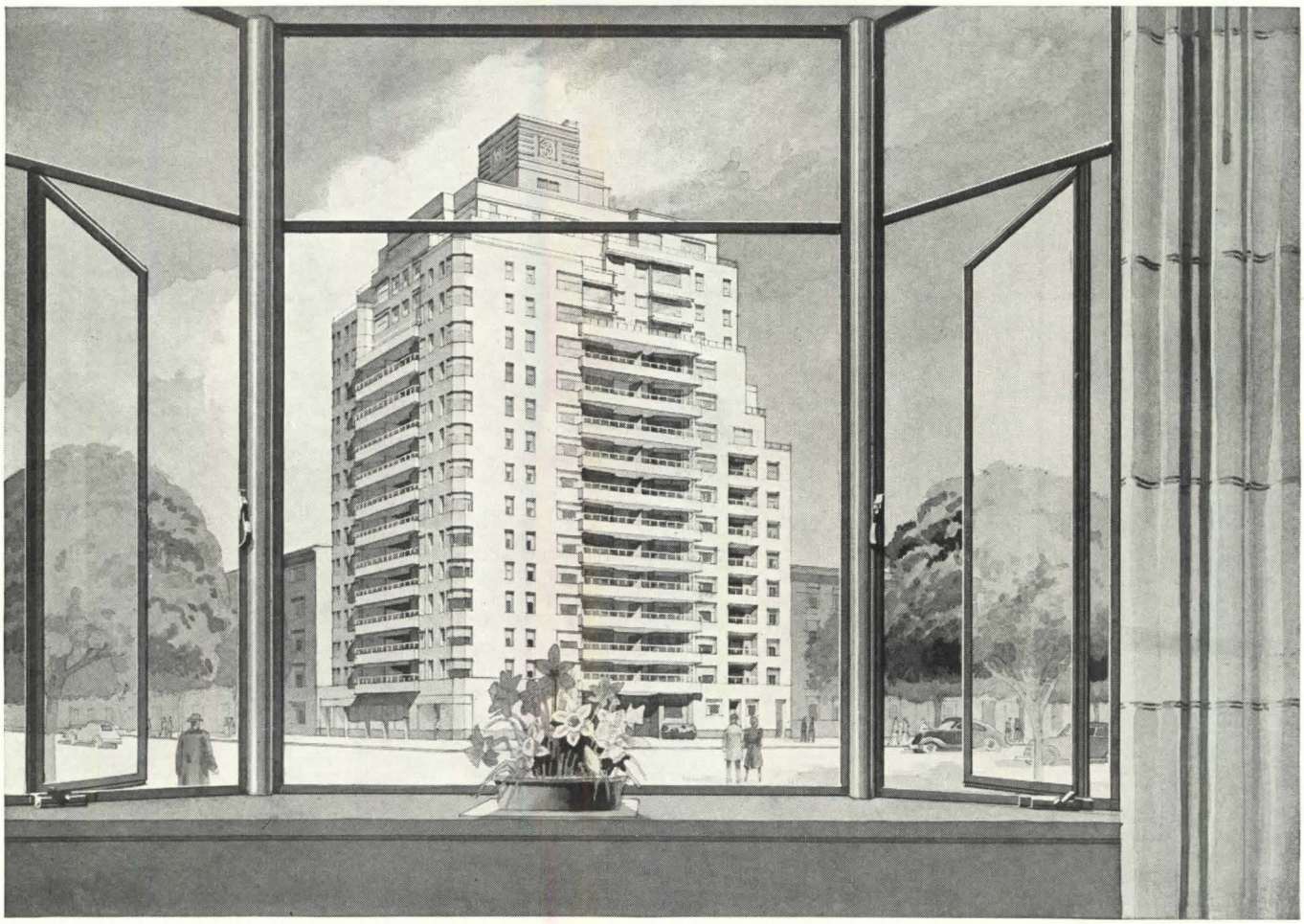
Sutton, Whitney & Aandahl, 512 Failing Bldg., Portland, Ore.

M. M. Konarski, 844 W. Market St., Akron 3, Ohio.

Vincent Furno & Richard Boring Snow, 120 E. 65th St., New York 21, N. Y.

Eugene & Max Fuhrer, 120 S. LaSalle St., Chicago, Ill.

Milton B. Weissman, 516 N. LaJolla Ave., Los Angeles 36, Calif.



Apartment House, 20 E. 74th St., New York City. Architect: Sylvan Bien, New York. Contractors: S. Minscoff & Sons, New York. Adapted from the original rendering in color by J. Floyd Yewell.

Compact planning, so necessary in apartment house construction, requires the conveniences and comforts available with Lupton Metal Windows. The narrow frames of Lupton Metal Windows increase glass area and harmonize with contemporary design, giving each room the appearance of spacious surroundings and gracious living. Controlled natural ventilation without harmful drafts, and simple operation increase tenant satisfaction. Modern in appearance, flexible in design, there is a Lupton Metal Window for every type of building. Write for our new 1947 Catalog or see it in Sweet's.

MICHAEL FLYNN MANUFACTURING CO.
700 East Godfrey Avenue, Philadelphia 24, Penna.
Member of the Metal Window Institute

LUPTON
METAL WINDOWS

JOBS AND MEN

NOTICE: *Advertisements for this section must be addressed to* Jobs and Men, C/O PROGRESSIVE ARCHITECTURE, 330 West 42nd St., New York 18, N. Y. Legible copy, accompanied by check or money order for $3.00, will be accepted **not later than the 5th of month preceding publication.** Insertions may not exceed 50 words.

MEN WANTED

EXPERIENCED ARCHITECTURAL DRAFTSMAN—with good habits and interested in a future. Living apartment assured. G. H. Bugenhagen, Architect, Minot, N. D.

ARCHITECTURAL DRAFTSMEN—capable of taking preliminary sketches and developing working drawings and details for public works consisting of schools and hospitals. Housing facilities will be made available. Give details of training and experience in first letter. Jos. W. Radotinsky, Architect, 312 Commercial National Bank Bldg., Kansas City, Kan.

SEVERAL EXPERIENCED DRAFTSMEN — Wisconsin firm of architects has several openings. Work consists of schools, churches, mercantile, and industrial buildings. Golfing, and in close to good fishing. In applying give experience and salary expected. E. F. Klingler & Associates, 218 S. Barstow St., Eau Claire, Wis.

ARCHITECT-ARTIST AND DELINEATOR — of long experience offers services for free-lance architectural renderings and perspectives, bird's-eye views of architectural treatment of engineering structures such as highways and bridges. Theodore A. de Postels, A.I.A., Studio at 644 Riverside Drive, New York 31, N. Y. AUdubon 3-1677.

SEVERAL ARCHITECTURAL DRAFTSMEN, thoroughly experienced, able to prepare preliminaries, working drawings, etc., familiar all phases architectural drafting. Must think, draw along modern trend. Work on postwar theaters and diversified projects. Excellent opportunity for permanent position. Write education, experience, salary, to M. J. DeAngelis, R.A., 1404-1405 Temple Bldg., Rochester, N. Y.

INSTRUCTORS — architectural design, structural design, building materials and equipment, and freehand drawing instructors needed at architectural schools for Summer and Fall sessions. Those interested apply to Professor Paul Weigel, Chairman of the Committee on Employment for the Association of Collegiate Schools of Architecture, Kansas State College, Manhattan, Kan.

CHIEF DRAFTSMAN—wanted to handle drafting room. Must be experienced in all phases of architecture, such as hospitals and commercial buildings. Submit references, salary expected, and samples of work to Michael J. DeAngelis, 1403 Temple Bldg., Rochester 4, N. Y.

GENERAL ARCHITECTURAL DRAFTSMAN—for long term employment in Youngstown, Ohio, or Sharon, Pa. Must forward complete qualifications and name salary desired. Box 33, PROGRESSIVE ARCHITECTURE.

ARCHITECTURAL DESIGNER — fully experienced on theatres, stores and industrial work. Must be capable of executing working drawings and details and of directing such effort. Permanent connection can be offered to qualified applicant in large architectural-engineering organization. Send record of experience and samples of work. Marr and Holman, 701-703 Stahlman Bldg., Nashville, Tenn.

STRUCTURAL ENGINEER—with good experience who can design and make drawings for structural and reinforced concrete. Permanent position can be offered to properly qualified applicant in large architectural-engineering organization. Send record of experience and samples of work. Marr and Holman, 701-703 Stahlman Bldg., Nashville, Tenn.

MECHANICAL ENGINEER—fully experienced in making designs, working drawings, and writing specifications for heating, plumbing, and air conditioning. Permanent connection in large architectural-engineering office can be offered to properly qualified applicant. Send record of experience and samples of work. Marr and Holman, 701-703 Stahlman Bldg., Nashville, Tenn.

JUNIOR DRAFTSMAN—aptitude designing; versed English, French, Renaissance orders; modern trend unessential. Diversified practice, office, board, field work. Ambitious, apply himself; convert ideas into neat drawings—schools, hospitals, churches, houses; good letterer. Future, medium sized architect's office, New York City. Salary open, advancement commensurate with ability. Application full particulars. Box 11, PROGRESSIVE ARCHITECTURE.

ARCHITECTURAL DRAFTSMAN AND STRUCTURAL DRAFTSMAN—experience in the design and construction of service stations and oil bulk plants preferred. Major petroleum company in Chicago. Give complete details first letter. Box 23, PROGRESSIVE ARCHITECTURE.

(Continued on page 116)

JOBS AND MEN

(Continued from page 114)

JOBS WANTED

ARCHITECTURAL AND STRUCTURAL WORK WANTED—by two top men who specialize in free-lance work for architects and engineers. Fast, neat work. All phases of design and details. Residential, commercial, industrial, educational, and public buildings; heavy construction, bridges. Tortorelli & Driscoll, 204-07 33rd Ave., Bayside, Long Island, N. Y.

DRAFTING WORK WANTED—structural plans for architects and engineers. Shop plans for steel fabricators; bending details and bar schedules for concrete work; mechanical designs, details, and developments. By competent, registered engineers. Georgia Detailers Association, P. O. Box 191, East Point, Ga.

ARCHITECT-DESIGNER, draftsman, engineering school graduate, European, age 48, extensive background including town planning. Desires position with firm of architects doing housing, public buildings, projects covering large areas, neighborhood centers, etc. Prefers diversified, interesting work, any location. Box 27, PROGRESSIVE ARCHITECTURE.

ARCHITECTURAL FIELD—exceptional mature and versatile young man of 19, desires educational position with architect or building firm. Two years' varied drafting, estimating, and field experience in the store construction field. University evening engineering student, with primary interest in furthering architectural talent. Salary secondary. New York or Long Island area. Box 28, PROGRESSIVE ARCHITECTURE.

DESIGNER, STORE PLANNER—functional layout, design detail, modern interiors, furniture, and fixtures. Large experience includes department store work and fixture line. Position desired with designing firm, manufacturer, or large retail organization. Salary or fee basis. Box 29, PROGRESSIVE ARCHITECTURE.

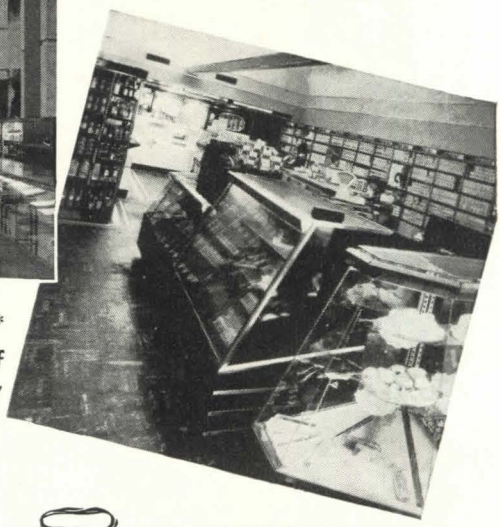
REGISTERED ARCHITECT—age 38, will associate with architectural or engineering firm. Excellent university and design training, 20 years' experience. At present successfully operating own office with variety of work. Offers progressive design and thorough technical service, including delineation, sketches, detailed plans, specifications, supervision. Chicago area. Box 30, PROGRESSIVE ARCHITECTURE.

ARCHITECTURAL MODEL MAKER—desires work on free-lance basis in field of residences and stores. Box 31, PROGRESSIVE ARCHITECTURE.

COMMERCIAL DRAFTSMAN—27 years old, veteran. Has degree in architecture and three years' drafting experience. Desires commercial drafting. Married. Box 32, PROGRESSIVE ARCHITECTURE.

Five things to remember

WHEN YOU PLAN AIR CONDITIONING FOR A RETAIL STORE



1. COOLING*

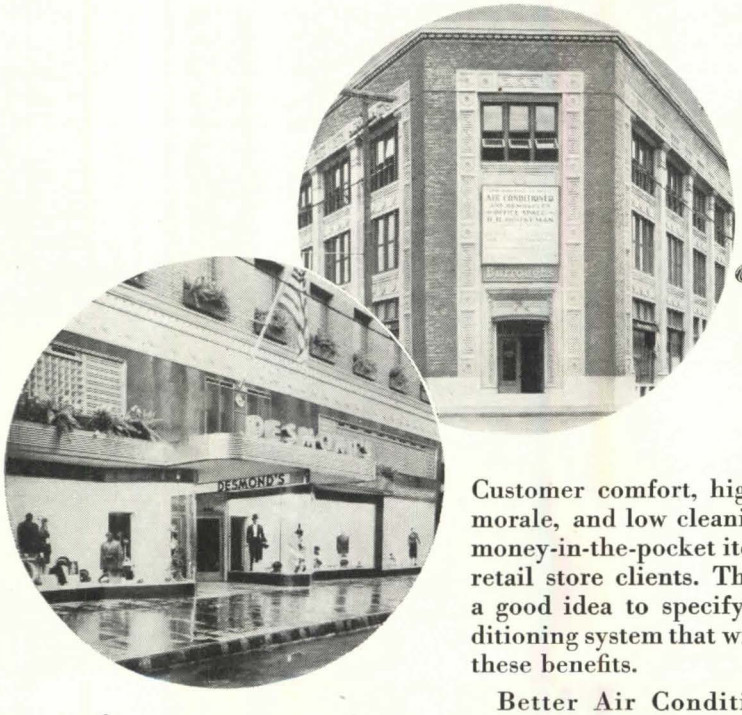
Not too cold nor too warm —cool comfort even on hottest days.

2. DEHUMIDIFICATION*

Wrings mugginess out of the air. Proper humidity level all year round.

3. CIRCULATION

Air is gently circulated for uniform coolness throughout the conditioned area.



4. FILTRATION

Dust and dirt are removed by large, efficient filters.

5. VENTILATION

Maintains fresh atmosphere by introducing plenty of outdoor air.

Customer comfort, high employee morale, and low cleaning costs are money-in-the-pocket items for your retail store clients. That's why it's a good idea to specify an air conditioning system that will bring him these benefits.

Better Air Conditioning—the General Electric kind—means much more than just cooling. It dehumidifies, circulates, filters and ventilates the air, too.* *All five* features are needed to assure complete client satisfaction.

Work out the design and layout for retail store air conditioning with your General Electric distributor or contractor. He'll have many helpful suggestions.

For summary specifications see Sweet's Architectural File, Section 29A-6. *General Electric Company, Air Conditioning Dept., Section 7506, Bloomfield, New Jersey.*

** In winter, Better Air Conditioning includes controlled heating and humidification.*

GENERAL ELECTRIC

Better Air Conditioning

HOFFMAN

THE MOST COMPLETE LINE OF HEATING SPECIALTIES

It's smart business to concentrate on Hoffman Specialties . . . it's the only line that offers *all* these satisfaction guarantees. *It's the complete line.* For either steam or hot water installations, Hoffman Specialties provide a single source of supply for all necessary equipment. *It's the tested, quality line.* Hoffman superiorities of design, workmanship and dependability are well established. Yet Hoffman Products *cost no more than the ordinary kind.*

Guardian of Your Fuel and Comfort

Hoffman Specialties are handled through recognized heating and plumbing wholesalers throughout the country. There is always a stock at a convenient location. Hoffman sales-engineers are ready to serve you.

HOFFMAN SPECIALTY CO., INC., Dept. PP6, 1001 York St., Indianapolis 7, Ind.

RADIATOR VENTS

MAIN VENTS

HOT WATER VENTS

VENT VALVES

Venting requirements of both gravity and vacuum steam heating systems are satisfied by a complete selection of SIPHONLESS Hoffman Valves offering many time-tested and exclusive features. A selection of main air and vacuum vents is also available.

THERMOSTATIC

TRAPS

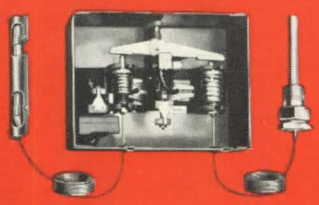
Low, Medium and High Pressure Traps have renewable thermal units and seats—assuring long life, low cost service.

SUPPLY VALVES

Reinforced Packless construction, with reversible cone disc, and in wide selection of patterns.

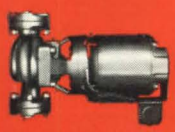
FORCED HOT WATER HEATING SYSTEM

CONTROLS



Series 90 Comfort Controller balances supply water temperature to outdoor temp. changes.

Hoffman Control Valve admits boiler water to circulating steam as needed.



Hoffman Circulator continuously circulates water through the system—provides smooth, uniform comfort.

FLOAT AND THERMOSTATIC

TRAPS

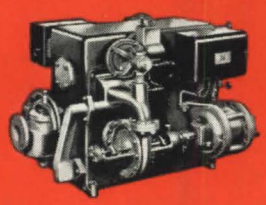
All working parts are mounted on the cover and readily accessible without breaking pipe connections.

AND INVERTED BUCKET TRAPS

Bucket, valve and seat connected to bonnet and removed with it for cleaning. Straight-through pipe connections. Working pressures to 200 lbs.

CONDENSATION AND VACUUM

PUMPS



Hoffman-Economy Pumps, both Vacuum and Condensation types, have established a sound reputation with exacting engineers for their ability to keep a heating plant clear of condensate and air—quietly, economically and dependably.

NEWEST MEMBERS OF THE HOFFMAN LINE

PRESSURE REDUCING

VALVES

For steam, water, air, fuel-oil, gasoline—"dead end" or continuous service.

TEMPERATURE

REGULATORS

Sizes from ½" to 1½" inc. Steam pressures to 150 lbs./sq. in.

Temperature range from 80° F. to 250° F. For thermostatic water heaters, converters, cookers, plating tanks, processing tanks, sterilizers, fuel-oil pre-heaters, etc.

HOFFMAN HEATING SPECIALTIES ARE SOLD EVERYWHERE BY LEADING WHOLESALERS OF HEATING EQUIPMENT

Façade of new lithographic plant designed by R. N. Friedman of Friedman, Alschuler & Sincere, Architects. Robert Hattis, consulting engineer, designed air conditioning installation.

Controlled Air Supply with "Freon" Safe Refrigerants Produces Better Printing . . . Promotes Employee Comfort and Efficiency

OFFICIALS of The Newman Rudolph Lithographing Company have reason to be proud of their new plant . . . one of the first postwar commercial structures built in Chicago. It's an immense 4-story, virtually windowless building air conditioned throughout. Modern equipment, utilizing "Freon" safe refrigerants, insures ideal working conditions.

All 53,000 square feet of the plant, completed early in 1947, are maintained at a temperature of 72° to 76°F. with relative humidity of 41% to 43% or less. Thermostatic control holds both temperature and humidity within one degree or percent of the desired level for maximum working efficiency and employee comfort in different departments.

Uniformly controlled climate conditions are of the utmost importance in quality color lithography. Paper is sensitive. Changes in temperature or humidity cause it to buckle, shrink or stretch. Presses, paper-folding machines and other production units are also affected by such changes and function at top efficiency only when both temperature and humidity remain constant. So, fully controlled air conditioning was a prime requisite in designing the plant.

The conditioning equipment, housed in the tower of the $1,900,000 building, consists of a Carrier installation of 400-ton capacity. "Freon" is the refrigerant used because it is simple, safe, non-toxic, non-flammable, non-explosive. Its purity and uniformity further insure long, efficient and trouble-free performance of the system.

Whenever air conditioning plays an important part in your plans, be sure specifications call for equipment in which "Freon" safe refrigerants are used. There is a "Freon" refrigerant for every commercial, industrial or household need. Technical data on request. Kinetic Chemicals, Inc., Tenth and Market Sts., Wilmington 98, Delaware.

KINETIC
REG. U. S. PAT. OFF.

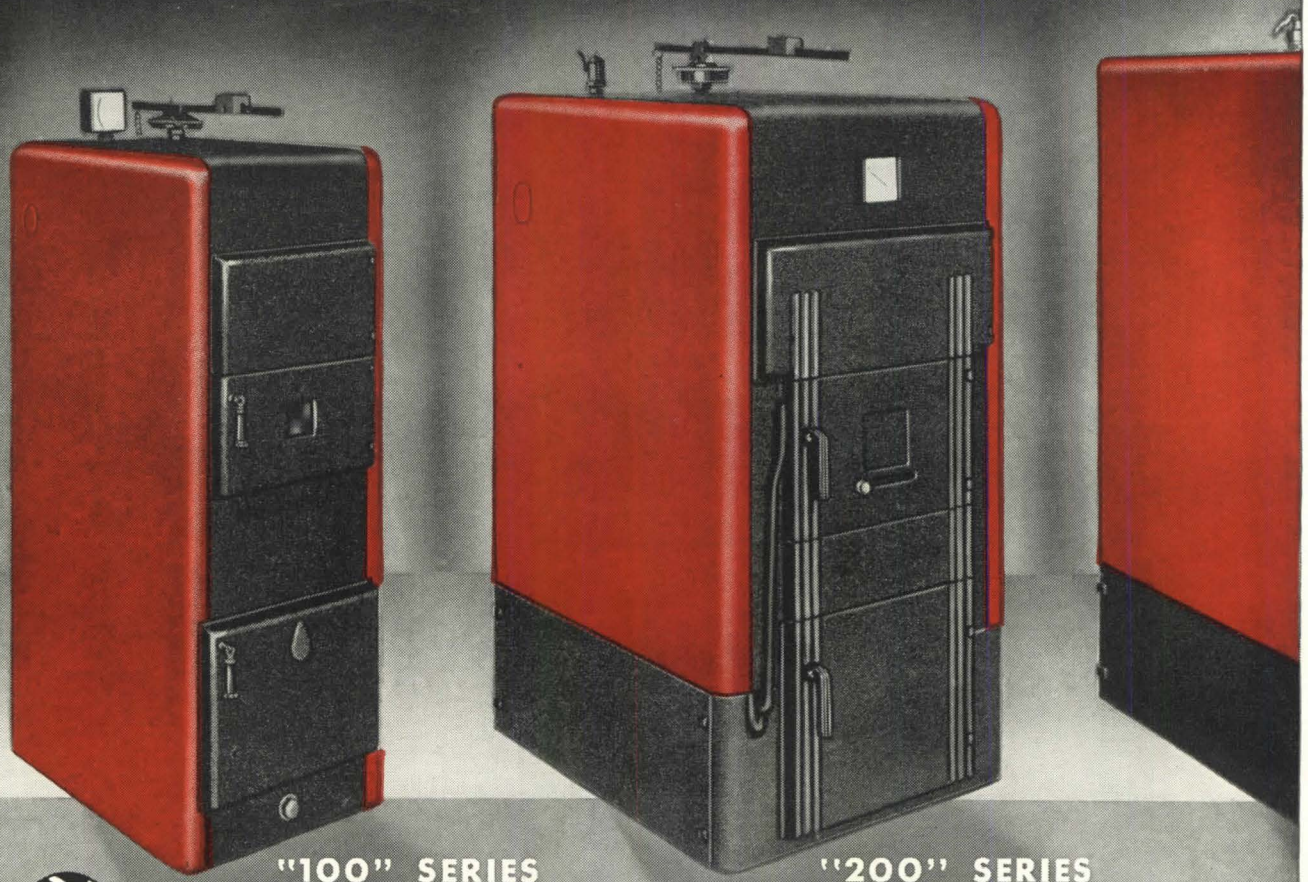
FREON
REG. U. S. PAT. OFF.

safe refrigerants

"FREON" IS KINETIC'S REGISTERED TRADE MARK FOR ITS FLUORINE REFRIGERANTS AND PROPELLENTS

A NEW, STILL BETTER GENERATION

The Complete Line of NATIONAL HEAT EXTRACTORS for coal, oil or gas firing



"100" SERIES
Smart and compact for small home installation in kitchen, basement or utility room.

"200" SERIES
Big boiler performance for homes of medium size and some commercial installations.

I.B.R
APPROVED RATINGS

MORE HEAT FROM EVERY FUEL DOLLAR!

That is the aim of National's design and research engineers—and their success is reflected in this new line of famous HEAT EXTRACTORS. A new, still better generation of a distinguished family—the result of more than seven years of engineering design and research.

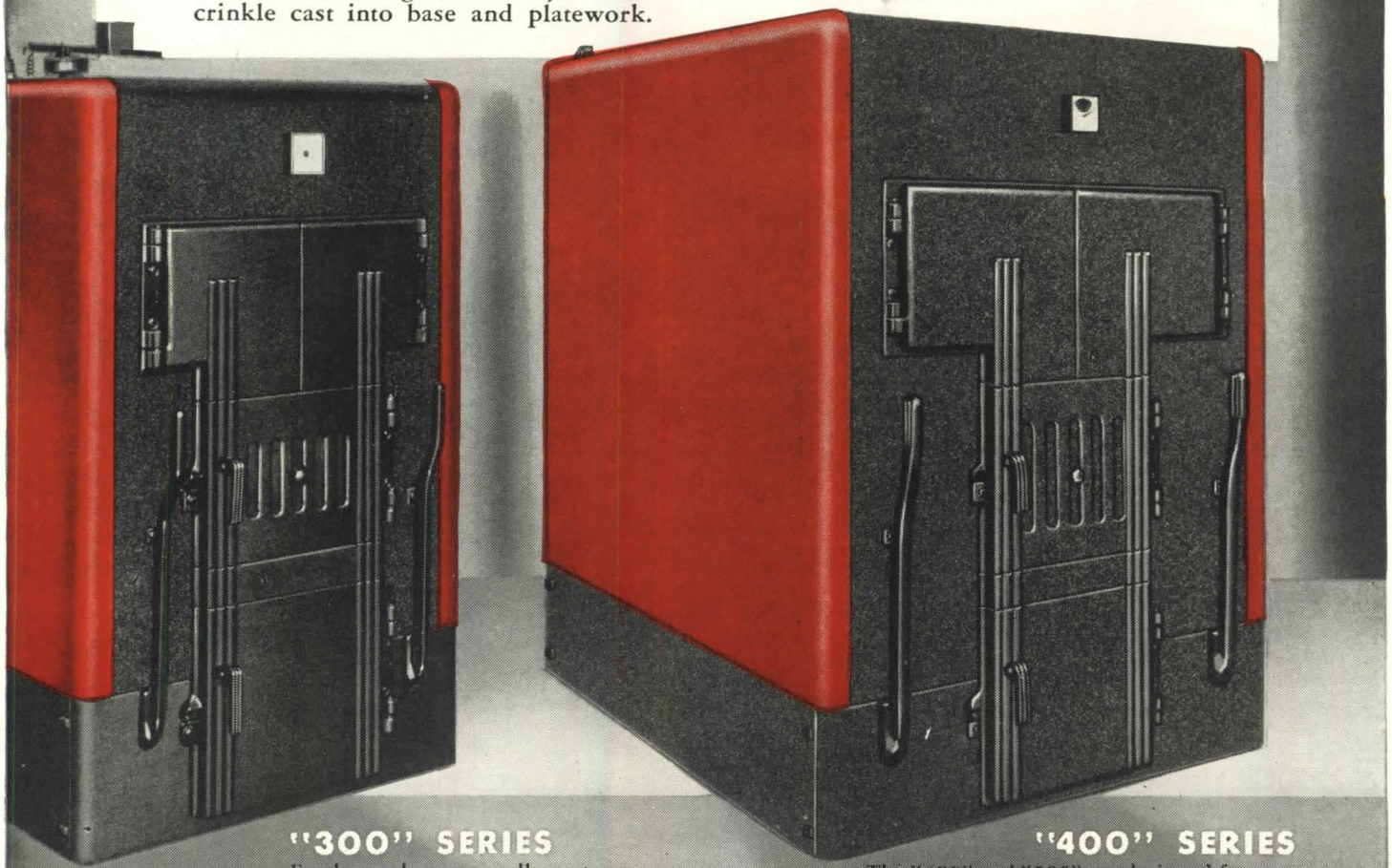
OF A DISTINGUISHED FAMILY . . .

✔ **"HEAT EXTRACTOR"** is the modern term for heating boilers made by National which take full advantage of the "Heat Extractor Principle"—extended heating surface and multiple flue passes.

✔ **SMART APPEARANCE** marks the complete new 100, 200, 300 and 400 Series National HEAT EXTRACTORS. Jackets are in colorful flame-red (crinkle finish) contrasting with the jet black crinkle cast into base and platework.

✔ **ECONOMICAL** cost of operation is a feature of National HEAT EXTRACTORS. National engineers have designed each Series for fuel economy regardless of the type of firing or fuel recommended.

✔ **CONVERTIBILITY** from hand firing to fully automatic firing is a feature of the HEAT EXTRACTOR line. Conversion may be easily accomplished after installation.



"300" SERIES

For larger homes, small apartments and various commercial installations where more heat is needed.

"400" SERIES

The "400" and "500" are designed for very large installations where plenty of heat is required to serve many purposes. Characteristic HEAT EXTRACTOR construction.

YOU'LL WANT ALL THE FACTS!

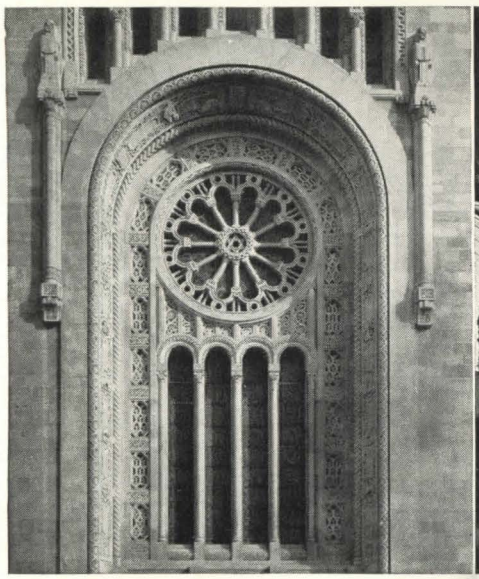
Contact your nearest National Radiator Company Heating Sales Branch, or write directly to The National Radiator Company, 221 Central Avenue, Johnstown, Pennsylvania for full NRC product information—without obligation.

NRC

The NATIONAL RADIATOR Company

JOHNSTOWN, PENNSYLVANIA

Temple Emanu-El



Cathedral of St. John the Divine (Stuyvesant Baptistry)

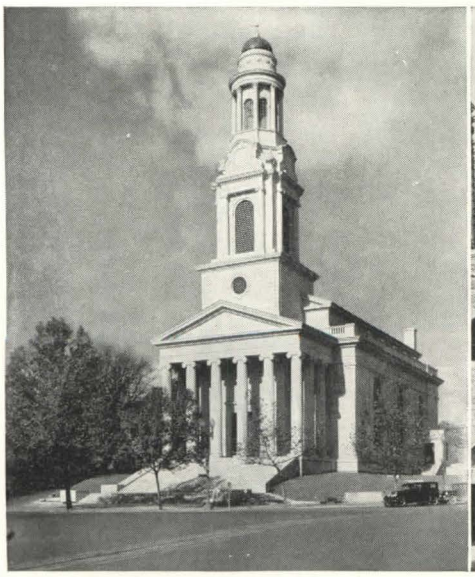
Indiana Limestone: Still Church Builders' Gospel

★ These are only a few of the hundreds of beautiful American Churches, large and small, made of durable, inexpensive Indiana Limestone. Our Technical Division, with a century's experience in all applications of the nation's *most frequently specified* building stone, offers you personal counsel on questions unanswered by our Sweet's File Catalog.

You are invited to forward plans and specifications to the Institute for competitive cost estimates by our 20 member companies. P.O. Box 471, Bedford, Indiana.

BUFF • GRAY • VARIEGATED • RUSTIC • OLD GOTHIC

INDIANA LIMESTONE INSTITUTE



National City Christian Church

Our Lady of Sorrows Church

CATHEDRAL OF ST. JOHN THE DIVINE
New York City (Stuyvesant Baptistry)
Cram & Ferguson, Architects

CHRIST THE KING
Atlanta • Henry D. Dagit & Sons, Architects

FIRST BAPTIST
Cleveland • Walker & Weeks, Architects

FIRST CHURCH OF CHRIST, SCIENTIST
Boston (Mother Church) • Brigham, Coveney & Bisbee, Architects

FIRST PRESBYTERIAN
Kalamazoo, Mich. • Charles Z. Klauder, Architect

MARTIN LUTHER
Youngstown, Pa. • William E. Foster, Architect

METROPOLITAN
Toronto • J. Gibb Morton, Architect

NATIONAL CITY CHRISTIAN
Washington, D.C. • John Russell Pope, Architect

OUR LADY OF SORROWS
South Orange, N.J. • Maginnis & Walsh, Architects

QUEEN OF ANGELS
Chicago • McCarthy, Smith & Eppig, Architects

RIVERSIDE
New York City • Henry C. Pelton, Allen & Collens, Architects

STS. PETER AND PAUL
Norwood, O. • E. J. Schulte, Architect

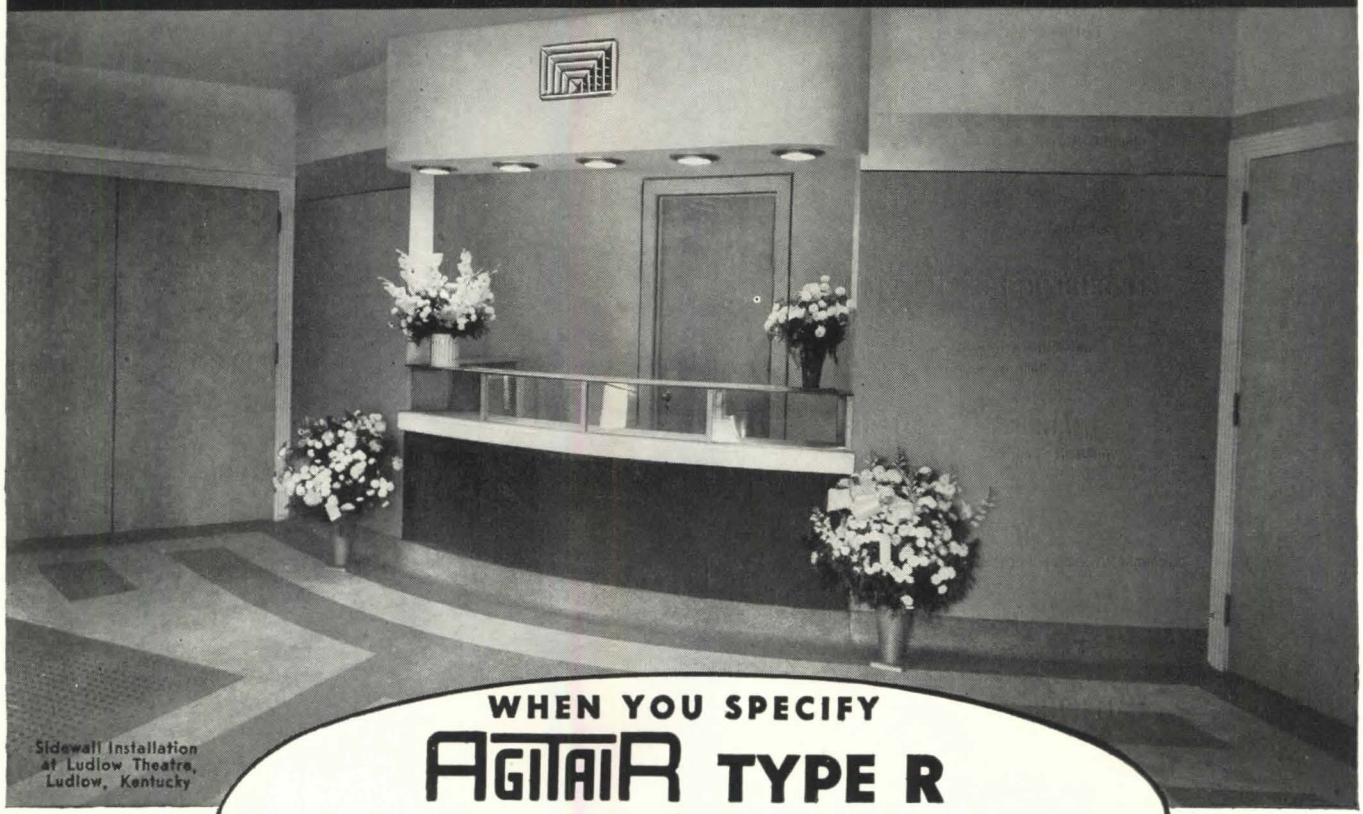
ST. VINCENT'S
Los Angeles • Albert C. Martin, Architect

TEMPLE EMANU-EL
New York City • Kohn, Butler & Stein, Architects

TRINITY
New York City • Thomas Nash, Architect

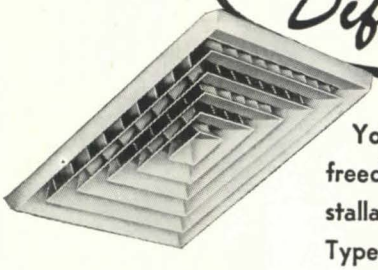
WASHINGTON CATHEDRAL
Washington, D.C. • Frohman, Robb & Little, Architects

WHERE? ANYWHERE!



Sidewall Installation at Ludlow Theatre, Ludlow, Kentucky

WHEN YOU SPECIFY AGITAIR TYPE R with *Diffusion Pattern Control*



You can have complete freedom in air diffuser installation—thanks to Agitair Type R with Diffusion Pattern Control. Put it anywhere—in the center of the ceiling, off-center or corner . . . put it on sidewall or baseboard.

Agitair Type R is the only diffuser that gives you 100% air distribution in any shape area, from any location — with no drafts, no blank corners, no hot spots, no cold spots. That's because Patented Construction permits it to be assembled into numerous patterns which divide the air and distribute it noiselessly in one, two, three, or four directions in proportion to the area served. Assembled from standard parts, even the most complicated shapes are economical.

Take a tip from men who know—get the facts on Agitair Type R and discover new design freedom and air distribution efficiency that's almost unbelievable.

Write today for Complete Data

AT KEY POINTS IN AIR CONDITIONING—AGITAIR SERVES BEST

AIR DEVICES, INC. · 17 EAST 42nd STREET · NEW YORK 17, N. Y.

First, INDUSTRIAL TRUCKS . . .

Then, PALLETIZED UNIT LOADS . . .

Now, STANDARDIZED

POW-R-TRUCK ELEVATORS!

This latest addition to the Otis line of standardized freight elevators—previously available only as a custom-built "special"—adds *floor-to-floor travel* to the many other time- and labor-saving advantages of industrial trucks . . . effectively increasing their usability.

With a Pow-R-Truck elevator an industrial truck becomes *completely* mobile, free to take unit loads direct to destination on any floor. No productive time need be lost in loading, picking up or re-handling.

Pow-R-Truck elevators are designed (1) to withstand off-balance loading and impact loading, (2) to carry both truck and pay-load, when required, and (3) are built to Otis standards of performance and *safety.*

If you use, or expect to use power trucks, an Otis Pow-R-Truck elevator can be the vital link in your materials-handling system.

For illustrated folder please address Otis Elevator Company, 260 Eleventh Ave., New York 1, N. Y.

Otis ELEVATOR COMPANY

OFFICES IN ALL PRINCIPAL CITIES

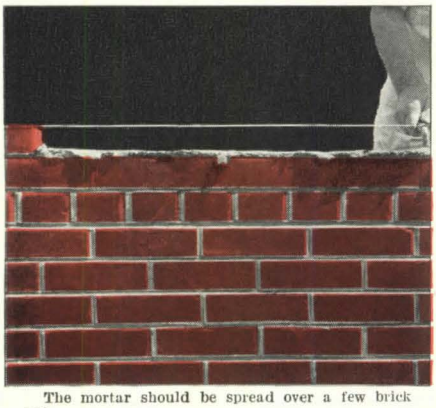
BRIXMENT Makes Good Workmanship EASIER!

The pictures below show an example of good workmanship — and of bad workmanship. They also explain why mortar such as Brixment makes it *easier* for the bricklayer to deliver good workmanship.

No. 2 OF A SERIES—

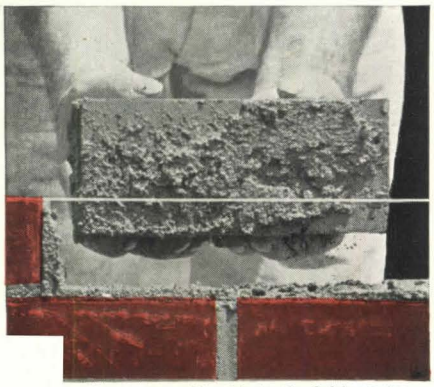
THE RIGHT WAY AND THE WRONG WAY—IN BED JOINTS

When absorbent brick are used, especially in hot weather, mortar should be spread out over only a few brick at a time. The brick should be placed on this mortar immediately, before it can stiffen.



The mortar should be spread over a few brick only.

So the mortar will still be soft and plastic when the brick are bedded.



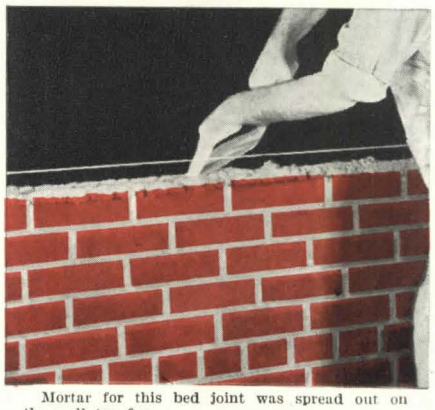
en the mortar will stick to the brick on top of it as well as to the brick below it.

BRIXMENT makes good workmanship *easier* because it holds its moisture longer than ordinary mortars, when spread out on the wall. This enables the bricklayer to properly bed the brick before the mortar has stiffened too much.

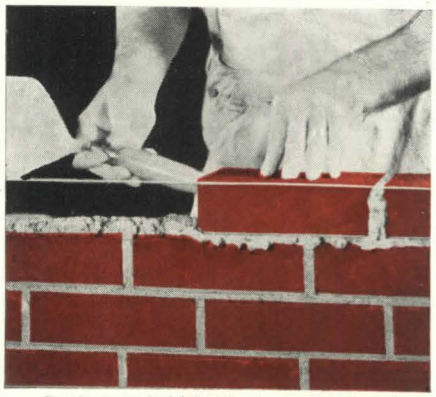
Brixment mortar has greater plasticity, higher water-retaining capacity and bonding quality, greater resistance to freezing and thawing, and freedom from efflorescence. Because of this combination of advantages, Brixment is the leading masonry cement on the market.

LOUISVILLE CEMENT COMPANY
Incorporated
LOUISVILLE, KENTUCKY

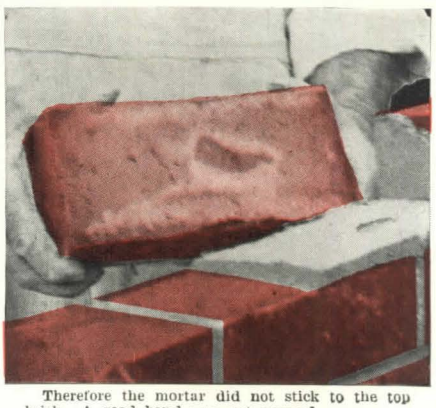
If the mortar is spread out too far, or if any delay occurs between spreading the mortar and placing the brick, the mortar will be sucked dry and will not stick to the brick placed on top of it.



Mortar for this bed joint was spread out on the wall too far.



So the mortar dried out too much before the next course of brick was placed on top of it.



Therefore the mortar did not stick to the top brick. A good bond was not secured.

Children's Aid Building, Delaware Avenue, Buffalo, N. Y. James W. Kideney, Architect.

Extra working space... *and Quiet, too!*

DESIRABLE features in any new office building are roomy, sound-conditioned offices with a minimum of distracting noise from adjoining offices. The new Children's Aid Building on Delaware Avenue in Buffalo has all these features—thanks to Gold Bond!

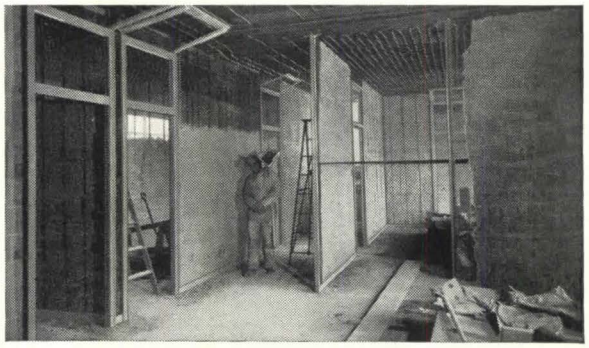
The *extra working space* results from the use of the famous Gold Bond 2 inch solid partition with patented flush type metal base, in place of old style 6 inch walls. These sturdy metal and gypsum partitions, which are fireproof and crack resistant, greatly reduce the transmission of room-to-room noises, too! From the architect's standpoint, they also mean less weight, faster construction, and *lower costs.*

To cut down and absorb noises *inside* each office, Gold Bond Macoustic ceilings were specified. These ceilings of Macoustic acoustical plaster combine a comparatively smooth monolithic finish with unusually high sound absorption—.50 at 512 frequency. Macoustic, a gypsum-base product, is fireproof, vermin-proof, and absolutely permanent. No special tools or specially trained applicators are required.

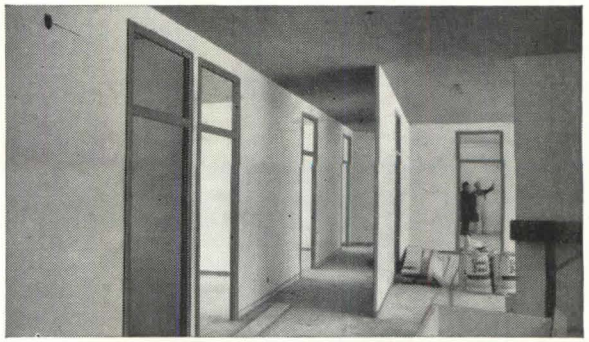
You'll find Gold Bond partition systems and sound control products described in detail in our section of Sweet's. For special information, write to,

NATIONAL GYPSUM COMPANY
BUFFALO 2, N. Y.

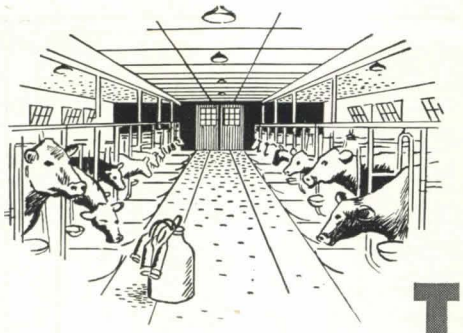
Over 150 Gold Bond Products including gypsum lath, plaster, lime, wallboards, gypsum sheathing, rock wool insulation, metal lath products and partition systems, wall paint and acoustical materials.



THE EARLY STAGES. Showing the Gold Bond 2 inch solid partitions in place with the patented flush type metal base. Partially scratch coated job shows sturdy metal reinforcement.

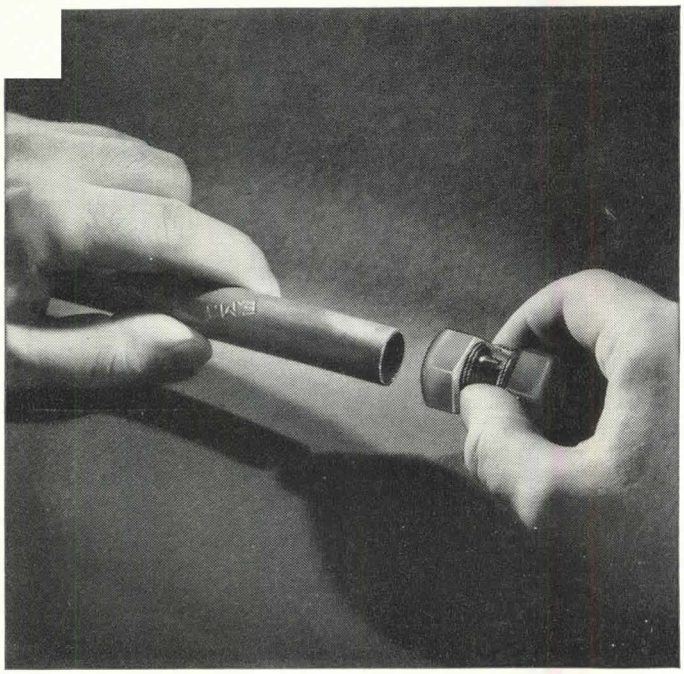


THE JOB WELL ALONG. The finished space-saving walls are trim looking, fireproof, and highly resistant to impact and cracks. Ceilings of fireproof Macoustic acoustical plaster.



for Rural Wiring

THE MODERN WAY IS THE ELECTRUNITE WAY



Because its protective zinc coating is unbroken by threads, an ELECTRUNITE E.M.T. installation provides continuous, unbroken corrosion protection throughout the entire raceway system. Simple, water-tight couplings—slipped between tube ends and tightened with wrench or pliers—provide strong, lasting joints.

ELECTRUNITE E.M.T. PUTS SAFE LOW-COST WIRING PROTECTION WITHIN EVERY FARMER'S REACH

● *Fire protection . . . corrosion protection . . . rodent protection . . .* here are but three of the *important* reasons why up-to-date farmers are ready customers for electrical raceways of modern, lightweight Republic ELECTRUNITE E. M. T. (Electrical Metallic Tubing).

In barns and power tool shops—and in homes, too—countless farmers already have found that ELECTRUNITE E. M. T. provides the wiring protection they need—at a price they can afford. Literally thousands of others are waiting to be shown the advantages of modern rigid steel wiring protection.

Remember that ELECTRUNITE E. M. T.—the *original* threadless raceway—meets Underwriters' Laboratories requirements for adequate mechanical and electrical protection. And remember, too, that it is approved by the National Electrical Code for exposed, concealed and concrete slab construction.

Like full information? See your Steel and Tubes Division Representative or write to:

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

SEE SWEET'S FILE
or write us for detailed information on these Republic Steel Building Products:

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

REPUBLIC STEEL REG. U. S. PAT. OFF.

Republic
ELECTRUNITE E.M.T.
REG. U. S. PAT. OFF.

LIGHTWEIGHT THREADLESS RIGID STEEL RACEWAY

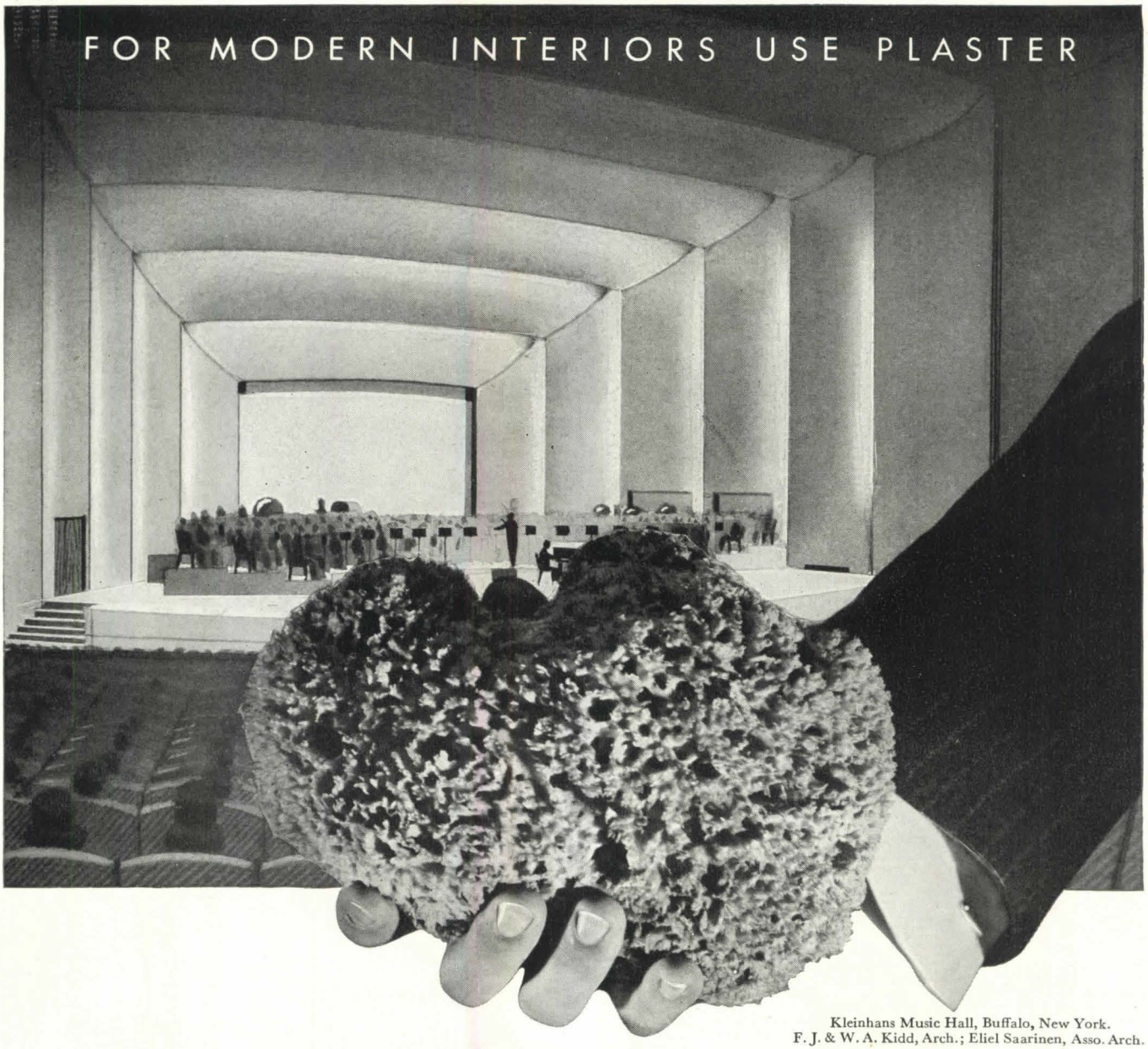
The one big difference between small homes of 1940 and the small homes of 1947 is in the area devoted to windows.

Homes like this two-bedroom job have become the rule, rather than the exception.

Here Andersen WINDOWALLS help achieve the feeling of size in the living room . . . and, as usual, they serve both as windows and as walls.

Andersen Horizontal Gliding Window Units combined in a corner installation. Home designed by St. Paul chapter, American Institute of Architects.

Andersen Corporation · BAYPORT · MINNESOTA



Kleinhans Music Hall, Buffalo, New York.
F. J. & W. A. Kidd, Arch.; Eliel Saarinen, Asso. Arch.

SABINITE* PLASTER *absorbs noise*

Like a dry sponge soaks up water . . . SABINITE absorbs noise and reduces reverberation.

The architect employs SABINITE to provide modern quiet offices—better reception in auditoriums and churches—a more restful atmosphere in restaurants and hospitals.

A welcome advantage is the fact that both the design and application follow standard practice. For the unbroken surface of SABINITE acoustical plaster finish is as unobtrusive as the plastered walls themselves.

SABINITE combines sound absorption, decoration, light reflection, fire resistance—all in one material which is applied by any good plaster craftsman. It is easily cleaned and maintained. This results in saving time and money which means full value in noise quieting per dollar.

Send for literature giving complete details.

*SABINITE used above is a registered trademark which distinguishes the acoustical plaster manufactured only by the United States Gypsum Company.

United States Gypsum

For Building • For Industry

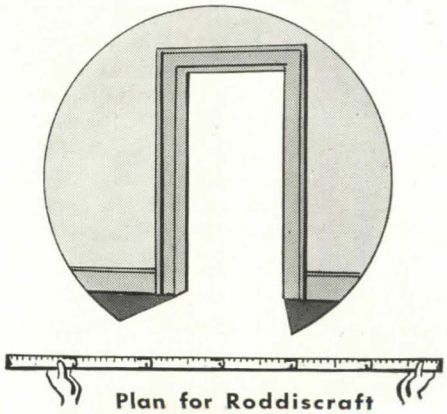
Gypsum · Lime · Steel · Insulation · Roofing · Paint

When a Couple of Inches Mean a Lot...

YOU need doors and plywood. Our ability to meet your needs largely hangs on a couple of inches in the width of the doors and plywood you specify.

The production of stock sizes means multiplied production—more doors and plywood for more customers. On the other hand, odd-size doors and plywood mean manpower wasted — production slowed — orders unfilled.

So plan for stock sizes only and we'll plan to meet your needs.



Plan for Roddiscraft doors and plywood in stock sizes—

Roddiscraft WAREHOUSES:

CAMBRIDGE 39, MASS. ..... 229 Vassar Street
CHICAGO 8, ILL. ..... 1440 W. Cermak Road
CINCINNATI 2, OHIO ..... 457 E. Sixth Street
DALLAS 10, TEXAS ..... 2800 Medill Street
DETROIT, MICH. ..... 11855 E. Jefferson Ave.
KANSAS CITY 8, MO. ..... 2729 Southwest Blvd.
LOUISVILLE 10, KENTUCKY .... 1201-5 S. 15th Street
LONG ISLAND CITY, N.Y. ....Review & Greenpoint Ave.
LOS ANGELES 11, CALIF. ..... 2860 E. 54th Street
MARSHFIELD, WIS. ..... 115 S. Palmetto Street
MILWAUKEE 8, WIS. ..... 4601 W. State Street
NEW YORK CITY, N. Y. ..... 920 E. 149th Street
SAN ANTONIO, TEXAS ..... 727 N. Cherry Street

DEALERS IN ALL PRINCIPAL CITIES

Roddiscraft

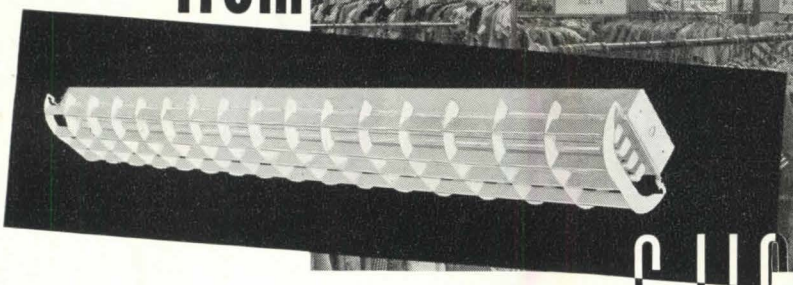
Roddis Lumber & Veneer Co.

MARSHFIELD, WISCONSIN

Roddiscraft warehouses, located at strategic points throughout the country, have been set up to save you time and serve you better — by making stock size doors and plywood available when and where you want them. Roddiscraft warehouse service is based on production and stocking of doors and plywood in stock sizes. Only by limiting ourselves to stock sizes can we give you the additional value of "on hand" service at convenient locations.

store modernization

gets *new* impetus from



FEDERAL Cold Cathode LIGHTING

SEE OUR EXHIBIT
STORE MODERNIZATION SHOW
JULY 7th TO 12th
GRAND CENTRAL PALACE
NEW YORK CITY

Federal's functional fixtures are easily installed and allow for creative lighting that will blend into any plan. Each fixture is compactly complete in itself containing all ballasts, sockets, wiring and convenient knock-outs and is smartly fashioned for easy conversion into continuous-run lighting.

Federal's clean-cut designs and full range of fixtures give that up-to-date look even without additional remodeling and are responsible for this increasing demand. More and more maintenance-minded customers specify Federal's longer-life cold cathode lighting as the first step in store modernization.

Installation of Federal Cold Cathode Fluorescent units is a far-sighted investment insuring utmost efficiency in operation. The low depreciation, long life of the cold cathode lamps and the year's guarantee on both lamps and fixtures (except for lamp breakage) insure low maintenance cost.

REG. U.S.

FEDERAL ELECTRIC COMPANY, Inc.
8700 SOUTH STATE STREET CHICAGO 19, ILLINOIS

New... free booklet

helps plan better washrooms

Send today for your free copy of this handy guide to planning more practical, more efficient washrooms—illustrated with floor plans and details—compiled by Scott Washroom Advisory Service—the result of years of research in washroom design.

Good washrooms begin at the drawing board—and here is a booklet that helps you plan *good* washrooms . . . washrooms that are "Health Zones"—not "Germ Exchanges"... "Morale boosters"—not "Temper-testers." Send for it today!

What Washroom Advisory Service is

Scott Washroom Advisory Service has studied every kind of washroom and found what is most efficient in industrial plants, office buildings, schools, theaters, stores, restaurants and service stations. The result of all this experience is yours—for the asking—a service of the Scott Paper Co.

SCOTTISSUE TOWELS

Largest selling Tissue Towels in America!

Thirsty Fibre REG. U. S. PAT. OFF.

Trade Marks "ScotTissue," "Washroom Advisory Service," "Duralose" Reg. U. S. Pat. Off.

TABLE OF CONTENTS (Partial) Planning for Personal Services . . . Control of Traffic Flow . . . Large Plant Locker and Washrooms . . . Small Plant Locker and Washrooms . . . School Washrooms . . . Office Washrooms . . . Recreation Rooms . . . Lounges . . . Supply Closets . . . Clothes Locker Sections . . . Fixture Locations . . . Washroom Equipment . . . Special Adhesive . . .

Washroom Advisory Service, Dept. B
Scott Paper Company, Chester, Pa.
Please send me Scott Washroom Advisory Service booklet free.

Name:_____

Address:_____

City:_____ Zone:_____ State:_____

INDEX TO ADVERTISERS

•

Advertising and Executive Offices
330 West Forty-Second Street, New York 18, N. Y.
JOHN G. BELCHER, *Publishing Director*
FRANK J. ARMEIT, *Production Manager* • JOHN ANDREWS, *Promotion Manager*
Advertising Representatives
DOUGLASS G. PILKINGTON, *District Manager*, 22 West Monroe St., Chicago 3, Ill.
D. B. WILKIN, *District Manager*, 1133 Leader Building, Cleveland 14, Ohio
EDWARD D. BOYER, JR., *District Manager*, 330 West 42nd St., New York 18, N. Y.
HAROLD D. MACK, JR., *District Manager*, 330 West 42nd St., New York 18, N. Y.
DUNCAN A. SCOTT & CO., Mills Building, San Francisco, Calif.
448 South Hill St., Los Angeles 13, Calif.

OBSERVATIONS

WHAT ARE THE ETHICS INVOLVED IN REMODELING AN EXISTING BUILDING? I don't mean the basic question of whether old buildings that have outlived the usefulness of their original design should be torn down to allow new structures, conceived for modern usage with modern technics. (This question agitated the Princeton Bicentennial Conference.) Let's assume, unhappily, that the present mortgage amortization period, the present tax structure, and general planning apathy require many present buildings to catch up with the times by remodeling rather than dynamiting. Let's say there's a department store, or an office building, structurally sound, but outdated in appearance and amenity. Moral considerations begin to appear; the new designer discovers that he feels a responsibility toward the old. An artist's distaste for destruction of any creative effort stays his hand. Should he wipe off the old facade and rip out the old interior, or should he try to wed twentieth century function with nineteenth century forms?

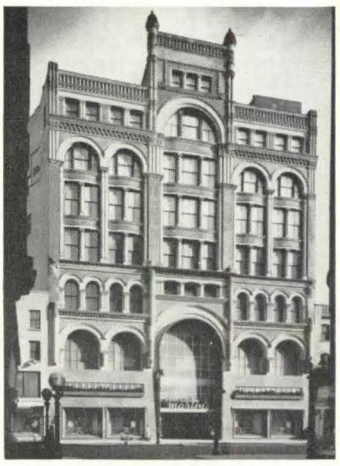
I hadn't thought much about this until Harry Weese wrote us a thoughtful letter (May 1947 PROGRESSIVE ARCHITECTURE) in which he spoke disparagingly of "subterfuge veneer" on old buildings which then "masquerade as the vision of the future."

Then I noticed, in the *Empire State Architect*, that that articulate eclectic, Guy Baldwin (who confuses all of his contemporaries by being, not a bearded ancient, but a young man), is gloating over the fact that Frank Lloyd Wright's Larkin Building, in Buffalo, N. Y., is on the market. Like any building forty years old, it is not well adapted to present industrial or commercial use. Who would have the temerity to "remodel" this landmark? It will never be preserved as a historical monument so long as Mr. Baldwin is around upstate New York. If, financially, it would make sense to do some interior alteration and some face lifting, what are the morals?

●

I'D FORGOTTEN THE WHOLE MATTER, WHEN A LETTER AND A BATCH OF PHOTOGRAPHS CAME FROM MORRIS LAPIDUS, an architect with the active, sensitive conscience of a reformed sinner. He had faced this moral problem and solved it in a way which made him proud, when commissioned by Martin's—a department store in Brooklyn, New York—to "modernize" their building. Says Morris: "The problem here was to design a modern or contemporary store and building front for the lower portion of a building built during the Gay Nineties, to provide good show windows and a suitable entrance. The problem thus stated seemed to be a very simple one. My first reaction was to design a slam-bang modern store front and let the upper part of the building go hang, but somehow as the sketches progressed, I felt that I was lacking in reverence or respect for the efforts of the architect who originally designed the building. I felt that I just could not design a completely modern contemporary store front which only occupies two stories at the most and let the other seven stories become the forgotten floors.

"My ultimate conclusion was that no style was worthy of its name if it meant it could not be adapted to an architecture which pre-dated it. Whether my solution was successful or not, I feel that the lower portion of the building fits graciously into the entire scheme. I may not have set a new trend in contemporary architecture, but at least I feel that I have wedded clean modern functional design with the Romanesque-like structure above it."



Gottscho-Schleisner

P. A. Dearborn

Before and after. Modern lower stories designed to "fit graciously into the entire scheme." Martin's Department Store, Brooklyn, New York. MORRIS LAPIDUS, Architect.

A great deal of this seemed to make sense. Certainly the work of one period has been merged with that of another before now in architectural history. Of course, here we aren't dealing with a true historic development as the basic structure, but rather with an imitative "style." The ornament above Lapidus' new lower floors is appliqué, hanging to the surface, structurally rather meaningless. Hence the pure design problem is very difficult and almost impossible to judge. As a matter of fact, to say that the new work seemed consistent with the old would be a doubtful compliment. The building now *functions* well; no principles of good merchandising and display are violated; the show windows and the entrance are effective. I think it must be said, however, that the new lower floors separate themselves from the old upper ones, despite the use of the great arched entrance to blend the two.

●

THE PRECISELY CONTRARY POINT OF VIEW WAS BROUGHT TO OUR ATTENTION AT THE SAME TIME BY WILLIAM B. WIENER, OF LOUISIANA. Altering the Palais Royal, a 1900 structure in Shreveport, for use as a store, Wiener applied a new surface to the old masonry. After cleaning off protrusions, a light channel frame was used for exterior furring and was covered with stucco, divided into panels by stainless steel expansion strips. New windows were introduced where they were wanted. The result is a consistent design, which looks like a new building.

J. E. Hampton

Before and after. Complete resurfacing and refenestration of an old downtown building. Palais Royal, Shreveport, Louisiana. WILLIAM B. WIENER, Architect.

No stranger looking at it would realize that the surfacing is simply that—skin-deep surfacing.

I'm beginning to think we should go back to the premise that I ruled out in the beginning—that structures (perhaps all structures; certainly commercial ones) should be so designed and so financed that they can be torn down after a generation's use. Certainly nothing stands in the way of urban redevelopment so much as the persistent investment in outmoded, often ill-placed, buildings. It would certainly let us stop worrying about this moral problem.

●

I DON'T KNOW, UNDER PRESENT CIRCUMSTANCES, WHETHER THE LAPIDUS OR THE WIENER APPROACH IS ETHICALLY CORRECT. I suspect that in each case the choice was dictated by investment balanced against anticipated income. That's architecture for you.

Thomas H Creighton