PROGRESSIVE
ARCHITECTURE
PENCIL POINTS]

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THE ARCHITECTS CAN TAKE IT

We started something when we began experimenting with architectural criticism last year. As we said editorially at that time, we knew the dangers: hurt feelings, frightened contributors, angry clients. We moved carefully.

After our first Critique, when the sky failed to fall in on us, we went on. Sometimes we called on an expert in a given field for an analysis of a project. We allowed ourselves in captions and text to become more objective. These efforts have been generally approved; actually, in some instances, architects have been disappointed when we published their work without critical comment.

When we began rounding up material for this issue, we told the designers what we planned: a group of structures selected for their basic excellence, a "jury" discussion of these jobs, a chance for the architects to reply, and finally an analytical Critique which would be the editors' synthesis and interpretation of the jury's conclusions. The comment back and forth has been constructive and useful. Everyone whose work is reviewed in this issue has applauded our intention and has cooperated fully.

We seem to have broken the ice. Perhaps the profession is now ready to be judged on its merits. Perhaps the designers can *stand* real criticism instead of insisting that their journals applaud everything, evaluate nothing. If this is so, there is opening up a great new possibility—and a responsibility—for the architectural press.

The new possibility lies in the fact that we will be able to publish work which, in the past, we have had to reject because of some one aspect of design that seemed wrong to us. If we could have published it and said, in effect, "we think this is excellent architecture, but we believe this one thing could have been done better," everyone might have benefited.

The responsibility is obvious. Any critic, anyone assuming the right to judge another's creative efforts, must feel the need to be careful, honest, objective, and constructive. We shall move slowly, we shall seek expert help, and we shall depend, to a great extent, on your reaction to this new approach to architectural journalism.

The Editors

New aluminum combination

Aluminum storm panels for metal casements also available

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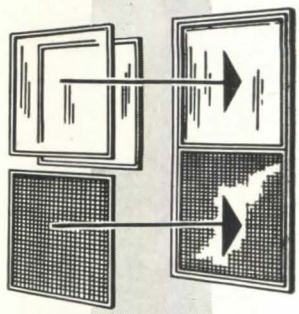

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Pictured here are a few of the 182 comfortable homes built during the past year by John R. Worthman, Inc., in Ft. Wayne, Indiana. These and similar homes are an ideal answer to the current housing shortage. Each of 35 Worthman homes now under construction is being speeded to completion, thanks to the Ingersoll Utility Unit.

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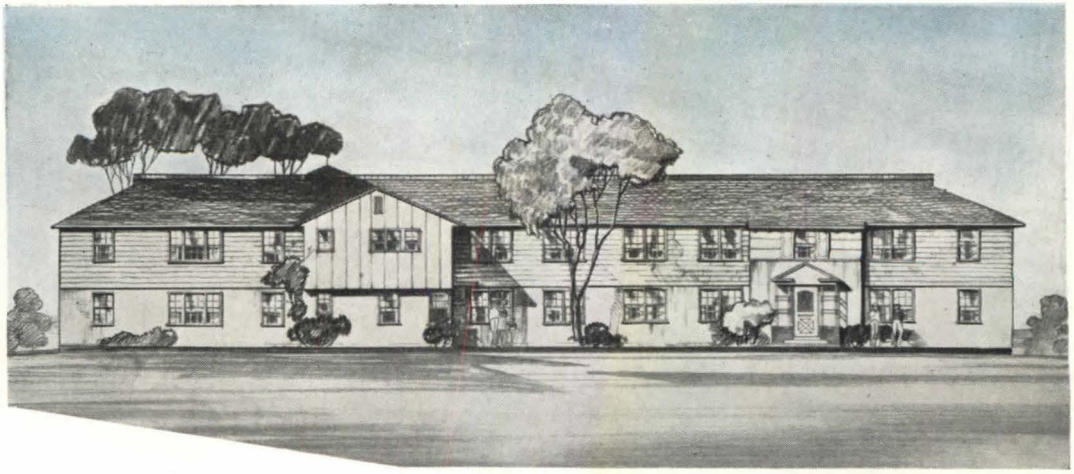
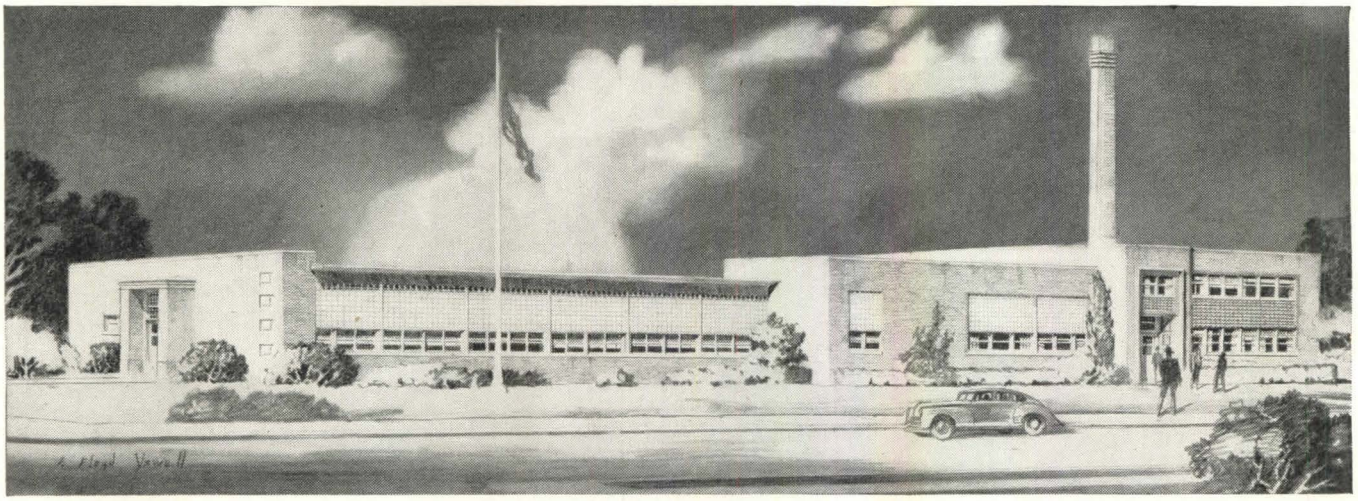
All over the country forward-looking builders, convinced of the efficiency, convenience and adaptability of the Ingersoll Utility Unit, are ordering thousands of these single-engineered assemblies for immediate installation. In modern housing developments in New York, Dayton, Detroit, Indianapolis, Boston, San Francisco, in towns and cities everywhere, more and more of these easy-to-install units are daily proving the means to economy of space and lower all-around cost. With each part engineered to fit snugly in its place, this practical, compact and sturdy unit, complete from one source, contains everything needed for comfort and homemaking efficiency.

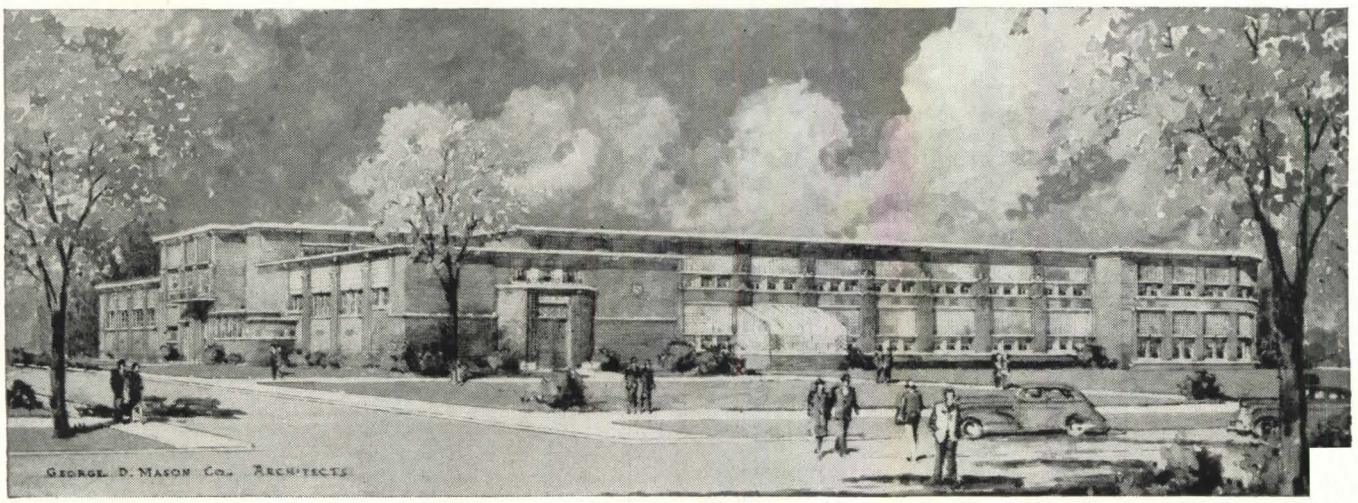


One of the buildings that will house 544 attractive, modern apartments being built by Nettleton & Baldwin, Inc., Seattle, Washington. Each will include easy-to-install, time and space-saving Ingersoll Utility Units. Adaptability of the unit to individual plans enable them to incorporate more living space for less money in these multiple-unit dwellings.

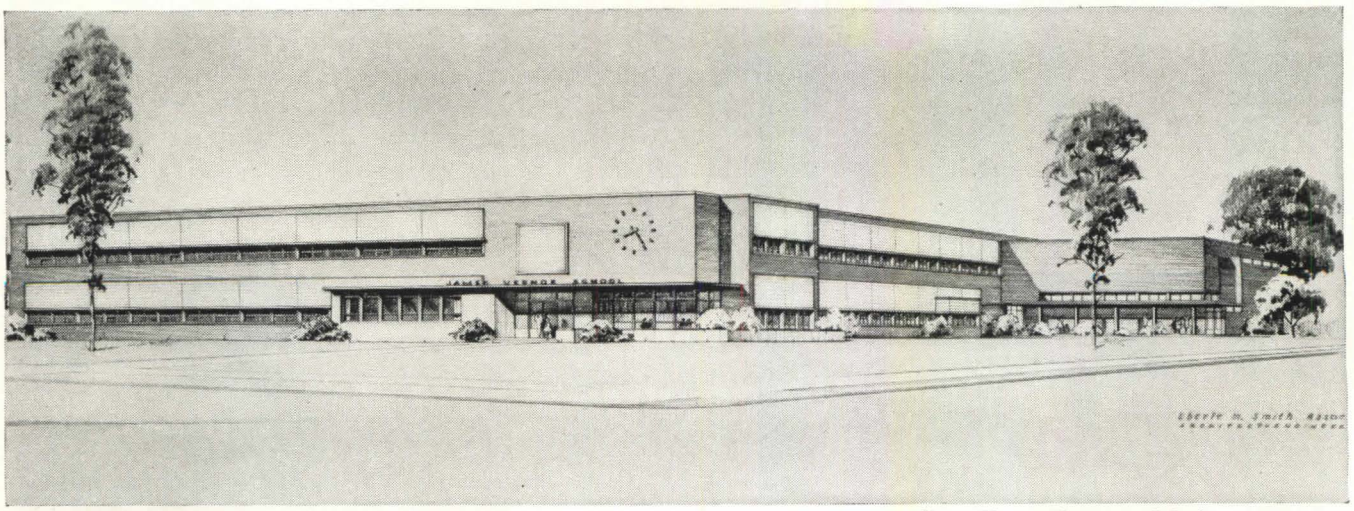
New Detroit schools use advanced



Ann Arbor Trail Elementary School
N. Chester Sorensen Company
Joseph Peter Jogerst, Architects and Engineers



Dr. Zina Pitcher Elementary School
Geo. D. Mason & Co., Architects



James Vernor Elementary School
Eberle M. Smith Associates, Architects-Engineers

methods to insure quality lighting

More Uniform Task Brightnesses Throughout Classrooms —Lower Brightness Contrasts in Child's Field of Vision Made Certain by Scientific Use of Daylight

NEW and improved methods of using daylight for classroom lighting are being built into a group of new schools in the City of Detroit. Designs are by some of the leading architectural firms in Detroit under the supervision of G. L. Schulz, Director of Building, Detroit Board of Education.

Low Brightness Contrasts. In the schools pictured here and in others still in various stages of design, the brightness of the light-transmitting source has been reduced and the effectiveness of the light source has been retained through scientific direction of daylight.

The result is less interfering brightness to be tolerated and higher brightnesses above eye line to be utilized—a higher ratio of useful brightness to tolerated brightness. This means lower contrasts than are typically found in schools—the lowest contrasts that have yet been obtained through daylight utilization—approximating those recommended by lighting authorities.

Predictable Task Brightnesses. Through the medium of prismatic glass block, daylight is transmitted into the classroom and redirected upward toward the ceiling and upper half of the room. Task brightnesses near the window are reduced. Task brightnesses farthest from the windows are increased. Diversity in task brightness from desk to desk across the room is reduced.

And the actual results are now predictable. It is possible to design a school classroom with prismatic glass block and forecast task brightnesses, wall and ceiling brightnesses and brightnesses of the fenestration itself for any condition of outside lighting.

Visible areas of bright sky are greatly reduced and dependence on manual regulation of light-transmitting areas is minimized.

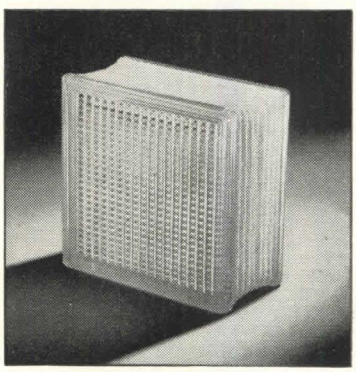
To make the job complete these new schools are employing up-to-date techniques in artificial lighting and interior decoration and treatment. Scientific use of daylight does not minimize the need for good artificial lighting or good interior treatment. Furthermore, the new principles of lighting employed in these schools have been adapted to well recognized and well established standards of classroom design.

OWENS-ILLINOIS

INSULUX

GLASS BLOCK

The result is good functional architecture—planned to give the child the best seeing environment possible, and to secure all that good lighting can contribute to his health and educational growth.



Insulux prismatic block No. 351 has been developed for accurate daylight control. The pattern, utilizing the four faces of the block, turns light upward. The ceiling acts as a huge reflector to re-direct light downward.

Now Available for the First Time...

New Comprehensive Data on Daylight Applied to Classroom Design

Anyone familiar with the problems of daylight use will recognize the accompanying predictions of daylight utilization in these schools as little short of revolutionary.

These are not just pleasing generalities. All of these factors of quality lighting have been measured and evaluated by recognized lighting authorities. The background information has been correlated and adapted to standard classroom design by the Owens-Illinois Glass Company.

Almost all of this information is original unpublished work, now available for the first time. It will give the architect the design data he needs, and will answer a multitude of questions on interior brightnesses and brightness contrasts. This information will be sent in reply to your letter, or, for convenience, use the coupon.

OWENS-ILLINOIS GLASS COMPANY,
Insulux Products Division, Dept. D-29
Toledo 1, Ohio

Gentlemen:
Please send me information on school lighting.

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VIEWS

THE HIGHEST ORDER

Dear Editor: Your editorial policy and interest in trying new ideas in disseminating technical and professional information is of the highest order, in my mind.

I do hope you will continue the series on standard specifications by Beacham and include all the trades. This information is "A-1" and if complete would save many hours for me. I'm sure it would do the same for others.

Also, my vote for serious criticism. Personally I would welcome such information from others, even though extremely negative. Believe it would do the profession much good, but I can see its limitations from a publisher's standpoint.

PHILIP F. HALLOCK
State College, Pa.

TOO "JOURNALESE"?

Dear Editor: It is most important that an architectural magazine publish examples of research, experiment, and investigation. On the other hand, there is an apparent tendency towards what might be called "journalese" architecture—overly dramatized, tricky and yet smart, admirable in many respects but as ephemeral as the issue of the magazine in which it is displayed. Perhaps this is the viewpoint of our times and therefore a great proportion of our architecture mirrors and expresses it. Or it may be the result of competitive pressure between you and your competitors.

Saarinen's Opera Shed (PROGRESSIVE ARCHITECTURE, March 1947) reminds me to bring to your attention the Salle Pleyel in Paris, the concert auditorium designed some 20 years ago by Dr. Gustave Lyon. I have never seen it or the principles underlying its design published in this country. The same acoustic principles were used by Le Corbusier for the Grand Assembly Hall of his League of Nations design and in the auditorium of the Centrosoyous Building in Moscow. The Salle Pleyel is an amazing auditorium architecturally as well as acoustically, although as I remember, it is only a great white plastered enclosure.

NORMAN N. RICE
Philadelphia, Pa.

MILTONIC BEAUTY

Dear Editor: You are to be commended for including Tanglewood's Opera Shed in your March issue.

Putting it tritely, pages 54 and 55 are "Miltonic" in their delineation of beauty through strength.

I like that structural system. I like those five sweeping arches. With apologies to Saarinen, Swanson & Saarinen for my vulgarity, I like the whole damn thing!

GEORGE E. TINGLEY
Mystic, Conn.

KEEP THE PLAN ALIVE

Dear Editor: Although the material from which your presentation (of the Daytona Beach Plan, PROGRESSIVE ARCHITECTURE, March 1947) was made, is mostly proposals for the future, these recommendations were the result of a great deal of factual research. Land use maps, traffic and parking studies, population density, rental, income, and other studies were made as a basis for the plan.

The main planning problem *facing* Daytona Beach now is that of keeping the plan alive by accomplishing the objectives laid down, and sustaining public support over a period of years. Your presentation is of great benefit toward that objective.

ARTHUR MCVOY
Assistant Professor of City Planning
Massachusetts Institute of Technology
Cambridge, Mass.

ESTHETICS OR SALES

Dear Editor: The Rue de Rivoli is still one of the outstanding business streets of the world and in searching for reasons one can easily see that it is a question of amenity or esthetic resulting from design. Considering only the built-upon side of the street, the salient difference between this scene and so many others is the boldness of the combined building mass and the resultant strength of the spatial volumes described. The arcades and the period surface treatment are incidental to the continuous flank of the building, and perhaps it was with similar intent that the designers of the Corning storefronts adopted a continuous facade treatment (PROGRESSIVE ARCHITECTURE, March 1947).

However, Corning is a far cry from the Tuileries. Looking at the proposed elevation of the street one perceives the original massing of small building units through Sanders & Malsin's admirable facaderie. The individual buildings remain, though purged of the tolerable surface mementos that gave reason to the form, and the neutral result merely accentuates the uneven skyline. The constituent fact of the original development is only emphasized by the subterfuge veneer.

If esthetic considerations were not those that guided the designers in this solution, then it must have been a question of merchandising. In that case, it is difficult to justify the over-all masking of the upper stories which certainly eliminates recognizable proprietorships. Most merchandising takes place at the level of vision and what goes on above is important only insofar as it relates to the functional operation going on below, and to the rest of the community. On both scores the over-all false front seems to be unjustified. It might be argued that Corning is competing as a community and the shock value of the proposed design will bring in new trade. I don't think tributary areas can be altered so easily.

As long as exterior architecture is considered the province of architects it must be judged by architectural standards, among the most important of which are honesty and directness of expression. Skin-deep styling of the type

(Continued on page 10)

"I kept telling him he was spending too much time at the drawing board."

UNDERPINNING JOBS are special jobs and require special planning and often special equipment. Here we show an unusually difficult underpinning job in the confined space of a sub-basement room . . . and within these small, narrow quarters a powerfully-built driver was operated by experienced Raymond men—men who have spent many years on piling and special underpinning contracts. Whether the job is large or small . . . difficult or easy . . .

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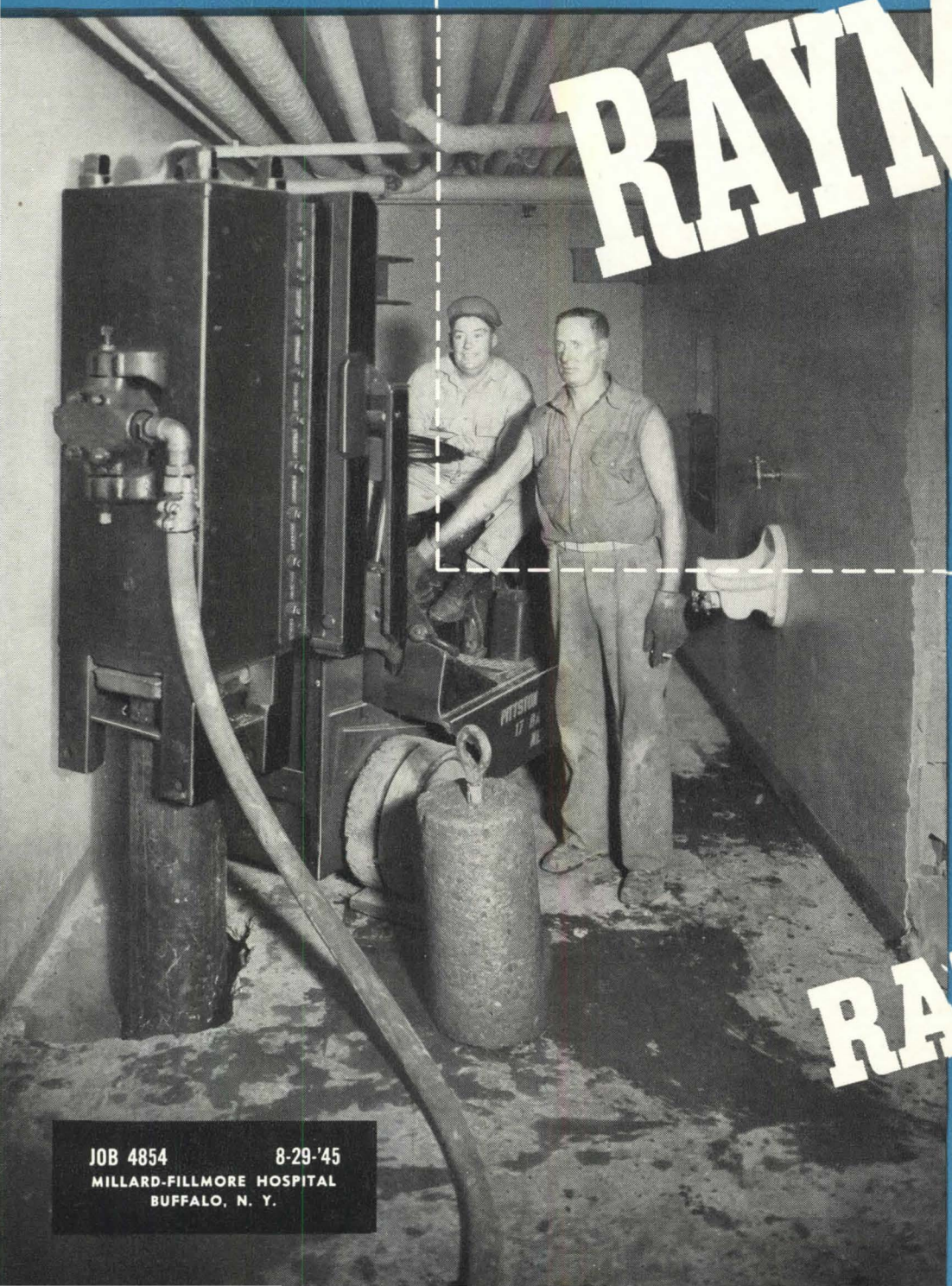

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VIEWS

(Continued from page 8)

under discussion doesn't measure up in either respect and, what is worse, is basically parasitic. I would consider it a loss of dignity and certain human values for Corning to masquerade as this vision of the future.

HARRY WEESE
Architect and Engineer
Barrington, Ill.

SIMPLER DIMENSIONING

Dear Editor: In his thoughtful review of the "A62 Guide for Modular Coordination" in your January issue, John Rannells brings out points of vital interest to architects. It is to be hoped that his careful comment will result in their having the "airing" which he suggests. Of first importance is the question of dimensioning. Although this has had their careful study, the members of Committee A62 will welcome a full discussion and thorough airing. The considered opinion of the entire industry is needed.

The question at issue pertains mainly to joint center-line dimensions for masonry layout. Apparently the reviewer's doubts concerning their use relate chiefly to their acceptance by the contractor rather than the architect. This is logical, for surely the elimination of fractions from dimensions on small-scale drawings will meet with the architect's approval. Similarly, the grid is "an excellent instrument for studying the problems of detailing modular products and for determining the most direct and economical solutions," and will, when once tried on the board, be quickly recognized as such. How much of this gain should then be sacrificed because of the architect's concern for the builder is open to question. De we know that the builder will object?

While there has been nothing like an adequate survey on this question with brick contractors, the few large firms of contractors in New York were unanimous in their preference for joint center-line dimensions, particularly in view of the simplicity characteristic of modular masonry. As one contractor expressed his views: "Any experienced mason knows joint center-line dimensions and likes them. It is common sense to use these simple dimensions. All that is needed is a clear note on the drawings that all masonry dimensions are to joint center-lines." A verification of these views from various sections of the country is needed.

Of considerable importance is the fact that joint center-line dimensions provide a very desirable flexibility in the specification of masonry. If, as often happens, a last-minute change in brick has to be made, no change in dimensions is involved. This can save many a headache for the architect and the builder. The same flexibility applies to the size of brick delivered on the job. With joint center-line dimensions, the usual variations can be taken in stride.

As Mr. Rannells suggests, it is always possible for the architect to develop modular details on the grid and then use conventional dimensions on the working drawings. However, this involves the use of fractions, which not only complicate the drawings but add considerably to drafting time and greatly increase the chances of error. I know of one office that tried this method with the result that they were soon convinced of the advantages of joint center-line dimensions.

PRENTICE BRADLEY
Boston, Mass.

PROGRESS BEING MADE

Dear Editor: While modular products, including modular masonry, "are not yet as widely produced as the Guide seems to imply," I am glad to report that the brick and tile industry is now making rapid progress in converting its production to the new modular sizes.

However, a sufficient number of manufacturers have now converted, or are in

(Continued on page 12)

24 HOUR GUARDIAN

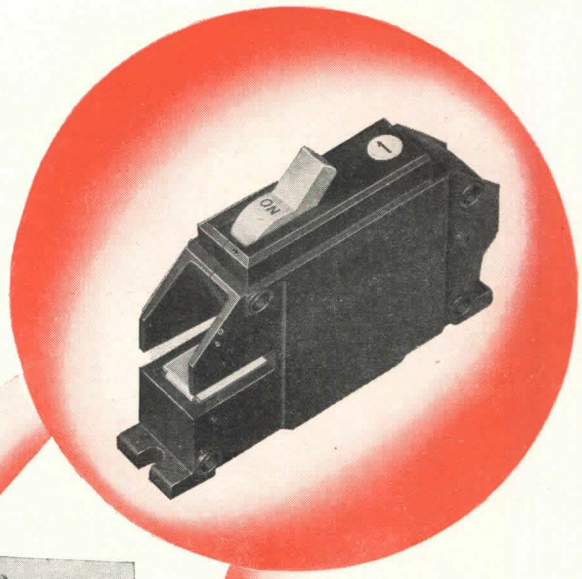
against

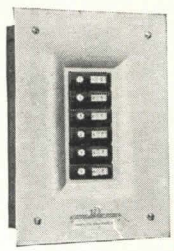
SERVICE INTERRUPTIONS

TYPE AC and THERMAG

Automatic

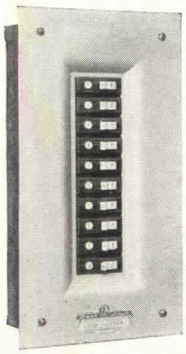
CIRCUIT BREAKERS





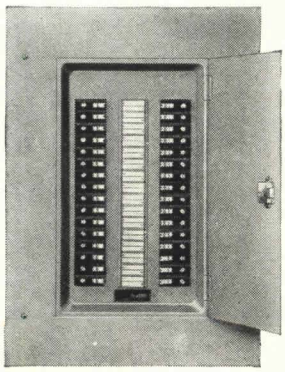
SERVICE EQUIPMENT

6 circuits or less; main lugs or main circuit breakers. For home installation.



LOAD CENTERS

16 single pole circuits or less; or combination of single and double pole circuits totalling 16 poles maximum. For larger homes and commercial installation.



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SERVICE EQUIPMENT
SAFETY SWITCHES
LOAD CENTERS
ELECTRIC QUIKHETER

VIEWS

(Continued from page 10)

the process of converting, to the new sizes to assure the general availability of modular brick and tile for 1947 construction, to assure also the ultimate adoption by the entire industry of modular sizes.

HARRY C. PLUMMER
Director, Engineering and Research
Structural Clay Products Institute

HOUSE AND HOME

Dear Editor: In your review of our circular, *Insulation in the Home*, page 80, PROGRESSIVE ARCHITECTURE, February 1947: We enjoyed your criticism of our use of the word "home." We are trying to make the layman understand that the modern conception of building a house involves its function as a home and that the house, the land, and all that go into them are going to make the home.

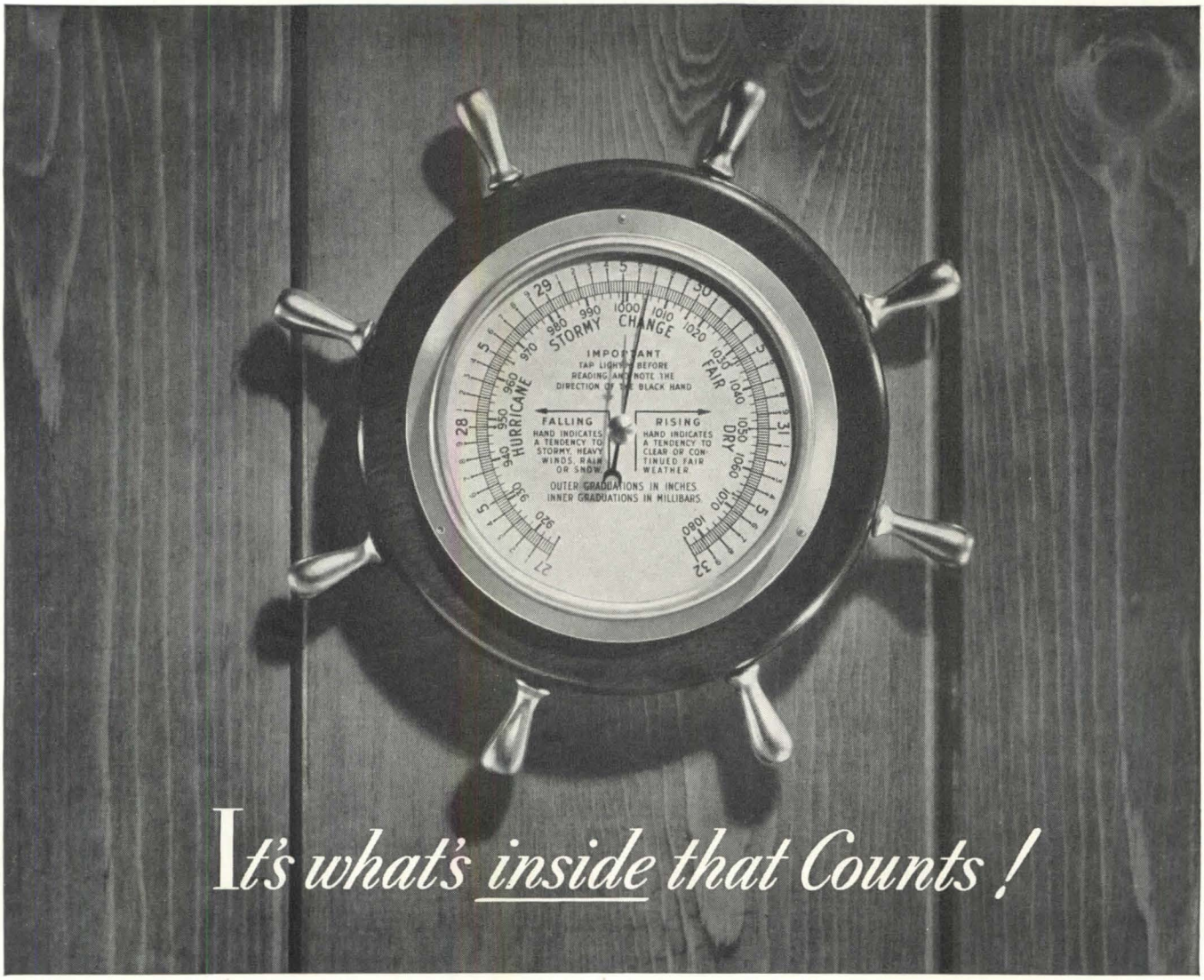
WILLIAM H. SCHEICK
Coordinator, Small Homes Council
University of Illinois

NEXT MONTH

● Winners of the first annual PROGRESSIVE ARCHITECTURE Awards will be presented in our next issue. The jury selecting the best private residence constructed during 1946 in the United States and the best non-residential building constructed during the same period have made the Award to *two* buildings in each class. Dean William W. Wurster of the School of Architecture and Planning, M.I.T., who served as chairman of the jury, has prepared a detailed report on the Awards. Other members of the jury were Eliel Saarinen, Dr. C.-E. A. Winslow, Fred N. Severud, Morris Ketchum, Jr. (replacing George Howe, who just at the time of the judgment was busy with details of the Jefferson Memorial Competition), Kenneth Reid, and Thomas H. Creighton. Names of the winners of the Awards will be announced at a dinner to be given by the magazine in New York early in May.

● The exciting exhibition, "Pittsburgh in Progress," produced and presented by Kaufmann's, a leading store in the Pittsburgh area for 75 years, will be reported in some detail in the June issue. Proposals by the firm of Mitchell & Ritchey, architects of Pittsburgh, for more agreeable use of downtown blocks, for introduction of new and diversified industry, for better communities connected by broad parkways, for generally more economical land use, will be reviewed. Also included in the feature section will be presentations of Waddle's Coffee Shop, a drive-in restaurant near the Interstate Bridge spanning the Columbia River, designed by Pietro Belluschi, architect of Portland, Oregon; James Steak House near Baton Rouge, Louisiana, designed by A. Hays Town, architect of Baton Rouge; from Klamath Falls, Oregon, photographs of architect Sheldon Brumbaugh's model for a new county and city jail, a venture in city-county cooperation to provide better facilities than either could otherwise afford. In this same section we will present an authentic Cape Cod house, the work of David Fried, architect of Boston, Massachusetts—"authentic" since it is actually built near one of the finest beaches on the Cape, and is nearer in its practical utility to the simple early houses of this name than are the countless misnamed copies that have been jerry-built as far afield as the Arizona desert or in the palm groves of Biscayne Bay.

● Two significant articles for the reference library will be presented in the June Materials and Methods section. The adoption of welding in steel construction prompts a survey of its advantages as a building technique, its application, and the *potentialities* of architectural expression of welded structures. This pertinent subject will be discussed for our readers by Paul Weidlinger, consulting engineer. There will also be a timely survey of "Precipitators," with notes on their appropriate location and installation.



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THIS MONTH

In this issue we present the second in our series of Critiques, a new form of constructive criticism applied to Hospitals in the November 1946 PROGRESSIVE ARCHITECTURE, and this month to Retail Stores. Nine stores have been evaluated by the editors in consultation with a panel of distinguished leaders in contemporary store design — Kenneth Welch, John Matthews Hatton, and Walter Sanders. Kenneth Welch, well known Grand Rapids, Michigan, architect and expert in store lighting, is vice-president of the Grand Rapids Store Equipment Co. John Matthews Hatton, who practices in New York, N. Y., has long been associated with the best in modern store design, and is at present retained by the chain of Peck & Peck specialty shops. Walter Sanders is a member of the firm of Sanders & Malsin, architects of New York, N. Y., whose street of remodeled stores for Corning, N. Y., was presented in the March 1947 PROGRESSIVE ARCHITECTURE. He has instructed in architectural design at Yale University and is now teaching at Pratt Institute.

The first of the nine stores discussed, Rich's, Atlanta, Georgia (p. 53), was designed by Toombs & Creighton, Atlanta architects. **Henry J. Toombs** received both his B. Arch. and M. S. Arch. from University of Pennsylvania, and then continued his studies abroad. Prior to formation of the partnership with Creighton in 1946, he worked in the offices of Paul P. Cret and McKim, Mead & White, was associated with Eric Gugler, and then established his own practice in Georgia. A member of the A.I.A., he is a registered architect in seven states. Likewise receiving his architectural training at University of Pennsylvania, **William J. Creighton** (no relation to our own editor) has practiced with many firms, including the Olmstead Brothers, Hewitt & Brown, Welles Bosworth, McKim, Mead & White, and LaFarge, Clark & Creighton (as a partner), in addition to teaching at his alma mater and practicing independently (1930-1945) in New York. He is vice president of the Georgia Chapter, A.I.A., and holds registration in ten states and with the N.C.A.R.B.

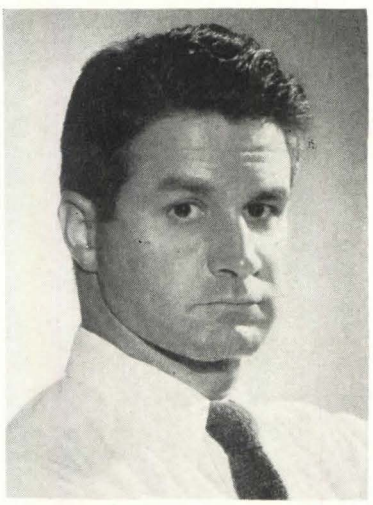
The firm of Ketchum, Gina & Sharp, architects of New York, N. Y., is twice represented in the pages of this issue. The Valdiri Store, Bogota, Colombia, the second store treated in the Critique (p. 61), and the portfolio of modern store designs by the Kawneer Company (p. 84 in the Materials and Methods section) both come from this active partnership established in 1945. **Morris Ketchum, Jr.**, is a graduate of the School of Architecture, Columbia University, and has taught in the fine arts schools of Yale, New York University, and Cooper Union. After six years' experience with a number of architectural firms in New York, he started his independent practice in 1934. Also a graduate of the Columbia School of Architecture, **Francis X. Gina** went on to teach architectural design at New York University and then began his private practice in 1938. **J. Stanley Sharp** received his B. Arch. from the School of Architecture & Allied Arts, New York University, also working with various well known New York architectural firms before starting on his own practice. Like his two partners, he has devoted his time and attention to the field of architectural education. (There is an interesting postscript to the Kawneer portfolio story, mentioned above: Ketchum first came to the attention of the Kawneer Company through his fine work as chairman of the Jury of Award for the *Pencil Points*-Kawneer "Storefronts of Tomorrow" Competition, results of which were presented in the February 1943 *Pencil Points*.)

Ross Frankel, Inc., New York, N. Y., designers, is the firm credited with Mangel's, Birmingham, Alabama, presented on page 68. **Evan M. Frankel** is president of the 25-year-old organization which now operates nationally in the field of store design and construction.

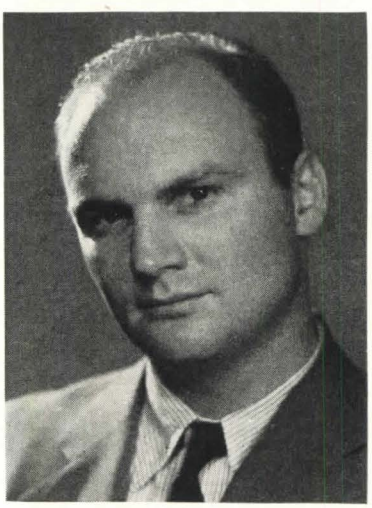
Although kept busy as resident architects of Rockefeller Center, Inc., New York, N. Y., Carson & Lundin manage to fit other outstanding jobs into their schedule, as seen in their design for the Guild House, Boston, Massachusetts (p. 78). After graduating from University of Pennsylvania, **Robert Carson** started his architectural career as designer for Raymond Hood. Following Mr. Hood's death Carson became affiliated with Harrison & Fouilhoux. In

(Continued on page 16)

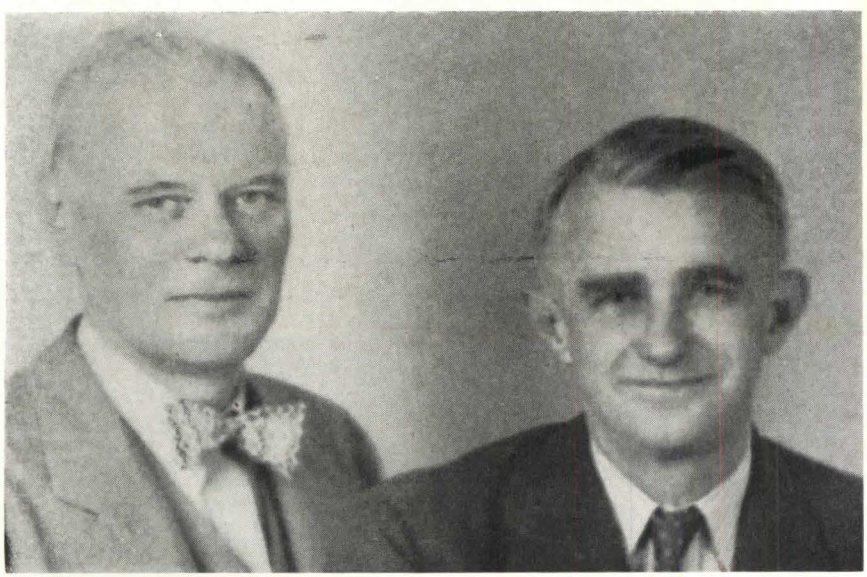
MORRIS KETCHUM, JR.



FRANCIS X. GINA

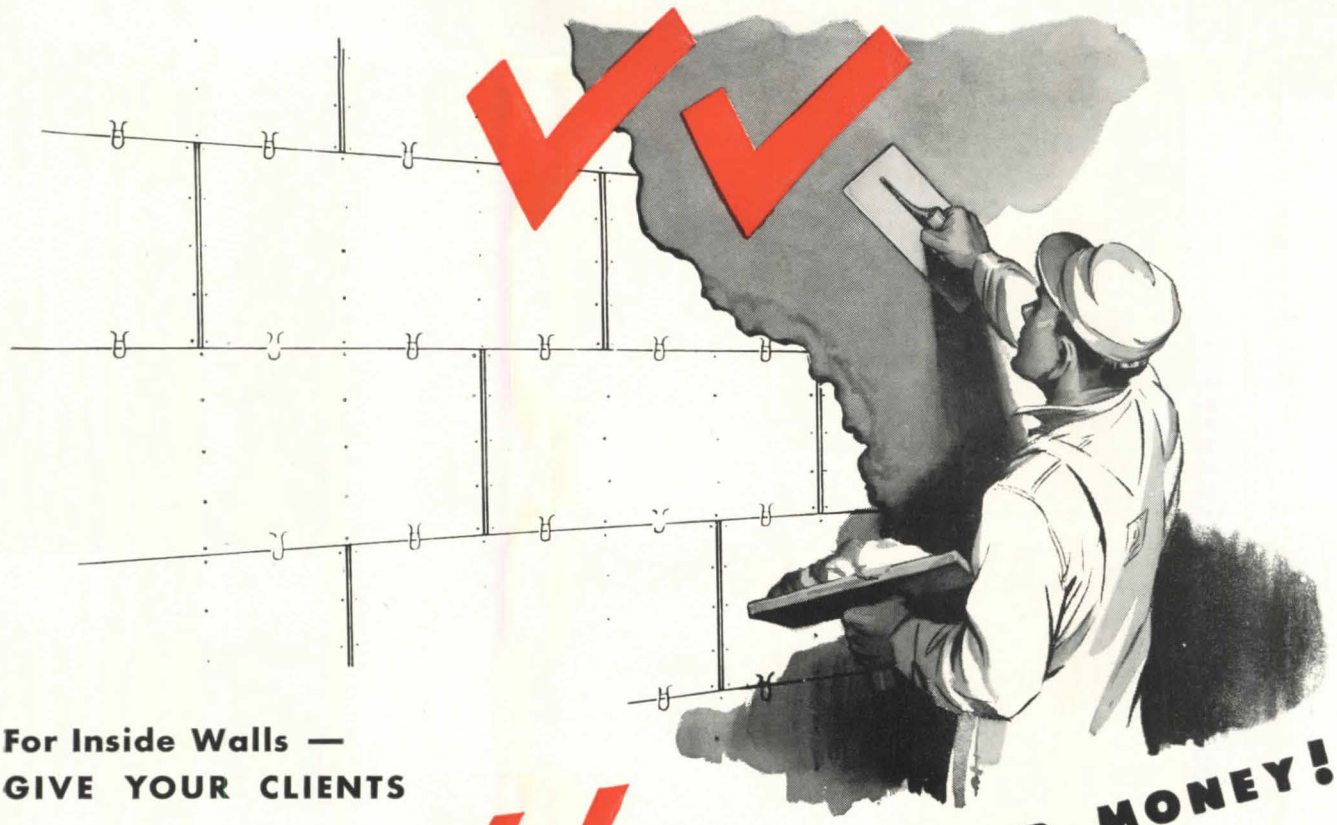


J. STANLEY SHARP



WILLIAM J. CREIGHTON

HENRY J. TOOMBS



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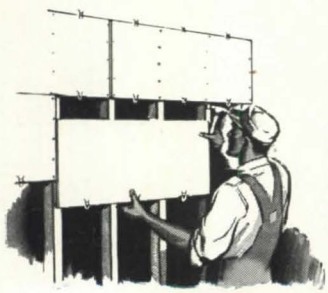

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Architectural Section 10 a/9

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THIS MONTH

(Continued from page 14)

1939 he accepted the position with Rockefeller Center, where he serves as consultant on all problems of esthetics, as well as architectural design. **Earl H. Lundin** is a graduate of University of Michigan, and worked with Smith, Hinchman & Grylls of Detroit, Michigan, from 1923 to 1930. From there, he went to New York to take a position in the office of one of the original architects of Rockefeller Center, working as job captain from the start of sketch drawings to completion of the buildings. In 1938 Lundin was named managing architect of the Center, and together with Carson has completed many projects for the famous group.

From Falmouth, Massachusetts, on Cape Cod, comes the work of **Gunnar Peterson,** whose design for Fay's, also in Falmouth, is presented on page 80. Upon completing his architectural studies at M. I. T., Peterson worked for about three years in Boston and "then came down to go native on Cape Cod," where he has been practising in a contemporary manner for the past ten years. Says architect Peterson, "My feeling has been all along that Cape Cod provides perhaps a more dramatic background for contemporary architecture than most other places, due to the antagonism toward it . . . The work we have done on Cape Cod, in view of the . . . antagonism, has won widespread comment, much of it favorable, and we look forward to more and more contemporary work being done in this area."

(Continued on page 18)

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EARL H. LUNDIN

GUNNAR PETERSON

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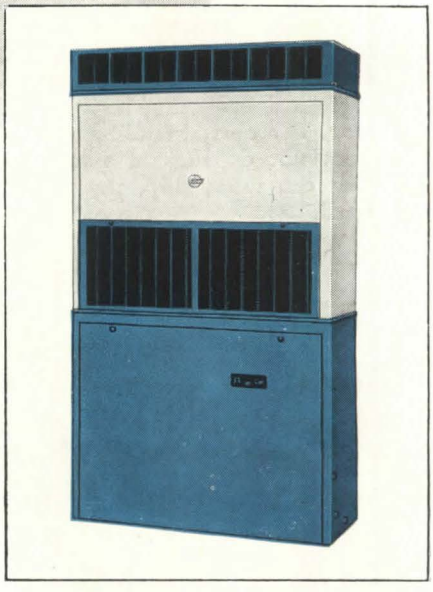

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THIS MONTH

(Continued from page 16)

The last of the nine stores comprising the Critique group, Jellett's, Lafayette, California (p. 81), is from the offices of Confer and Willis, architects of Oakland, California. A graduate of University of California, **Frederick L. R. Confer** established his own practice in 1932 after four years' apprenticeship in East Bay architectural offices. He has designed predominantly in the small commercial and residential fields, and is at present chairman of the group of architects engaged in preparation of a master plan for civic center development for the City of Oakland. Also a graduate of University of California, **Raymond G. Willis** has been associated with Confer for the past year and a half. Preceding this association, Willis worked with the engineering departments of the Kraftile Company and the Kaiser Company, and also with Korlett & Anderson, architects and engineers.

The important article in the Materials and Methods section this month entitled, "The Solar House: Analysis and Research," (p. 90), is by **Francis W. Hutchinson**, one of the outstanding authorities in the field of heating and air conditioning. Hutchinson received his engineering training at the California Institute of Technology and University of California, obtaining his B.S., M.S., and M.E. degrees. He remained at the latter school as assistant professor of mechanical engineering until 1945 when he joined the Purdue University staff as a full professor. Professor Hutchinson has spent the last ten years in research on panel heating, studying installations in this country and abroad.

FREDERICK L. R. CONFER

RAYMOND G. WILLIS

FRANCIS W. HUTCHINSON

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PROGRESS REPORT

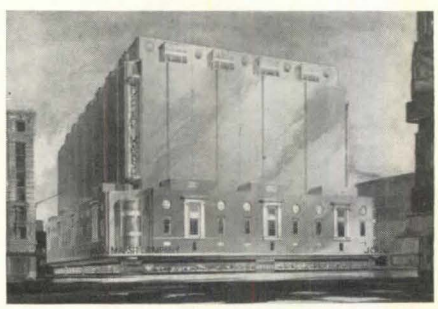
At times recently it has been difficult to keep sight of progress through the fog of misunderstanding emanating from opponents of planning. Our current almost hysterical defense of "the American way" has turned out to be a ready weapon for many to misuse. When seventy architects and planners gathered recently at Princeton University to discuss "planning man's physical environment," it was not the serious two-day discussion by professionals that made the headlines, but rather the final after-dinner talk by Robert Moses, who had attended none of the sessions. Only those who were at Princeton heard Sert's call for a trained architect-planner, and Bauer's plea for an architect-planner-politician. The whole nation read Moses' smug slaps at "glib promisers" and "rabble rousers," but no one outside heard of Wurster's brave protest that this was a dishonest note on which to end the conference.

Anti-planning is contagious. Oscar Niemeyer may have to interrupt his work for U.N. and return to Brasil to try to prevent cancellation of his contract for the design of a planned city—a commission he won as the result of a competition.

However, along with setbacks come some steps forward. The Hospital Survey and Construction Act (Public Law 725), passed by the last Congress, appears sure of an appropriation to implement its aims. This measure has been supported by the A.I.A. through its stormy career, and good architectural advice is evident in the written standards of construction and equipment which the Surgeon General, as required by the law, has now issued.

The omnibus housing and urban redevelopment bill has been reintroduced in Congress. Principal change from last year seems to be its title. Known formerly as the Wagner-Ellender-Taft (WET) bill, it is now called the Taft-Ellender-Wagner (TEW) bill. Despite some de-watering, it is still TEW WET for the realtors, builders, and building products' manufacturers, who see no need for public housing or federal aid in city redevelopment; in fact, as the Structural Clay Products Institute says, it might "upset the market for housing." However, the Urban Planning Committee of the A.I.A. has given the bill "qualified" approval, Louis Justement announces, in a statement which *supports* federal financial assistance in housing "because neither private enterprise nor the municipalities can solve urban housing and redevelopment problems" without such help, and because "an over-all program of redevelopment can be made of enormous importance to the national economy in smoothing out the sharp ups and downs of the business cycle." The bill's provisions for urban redevelopment were approved by the committee with reservations, as "a step in the right direction," but definitely not the complete program that had been hoped for as "a rational procedure . . . for the gradual and methodical rebuilding of our cities."

Uncertainty about construction costs during the planning stage is one deterrent to many projects now on architects' boards. Orders for materials placed well in advance of delivery are usually subject to an "escalator clause," providing that the actual price will be the price prevailing at the time of shipment. The E. L. Bruce Company of Memphis, Tennessee, manufacturers of hardwood floorings, now announces that all of their orders will be received on a "firm price" basis. This policy deserves applause; if it spreads it should do much to help the architects advise their clients. Now if those firm prices could be reduced. . . .



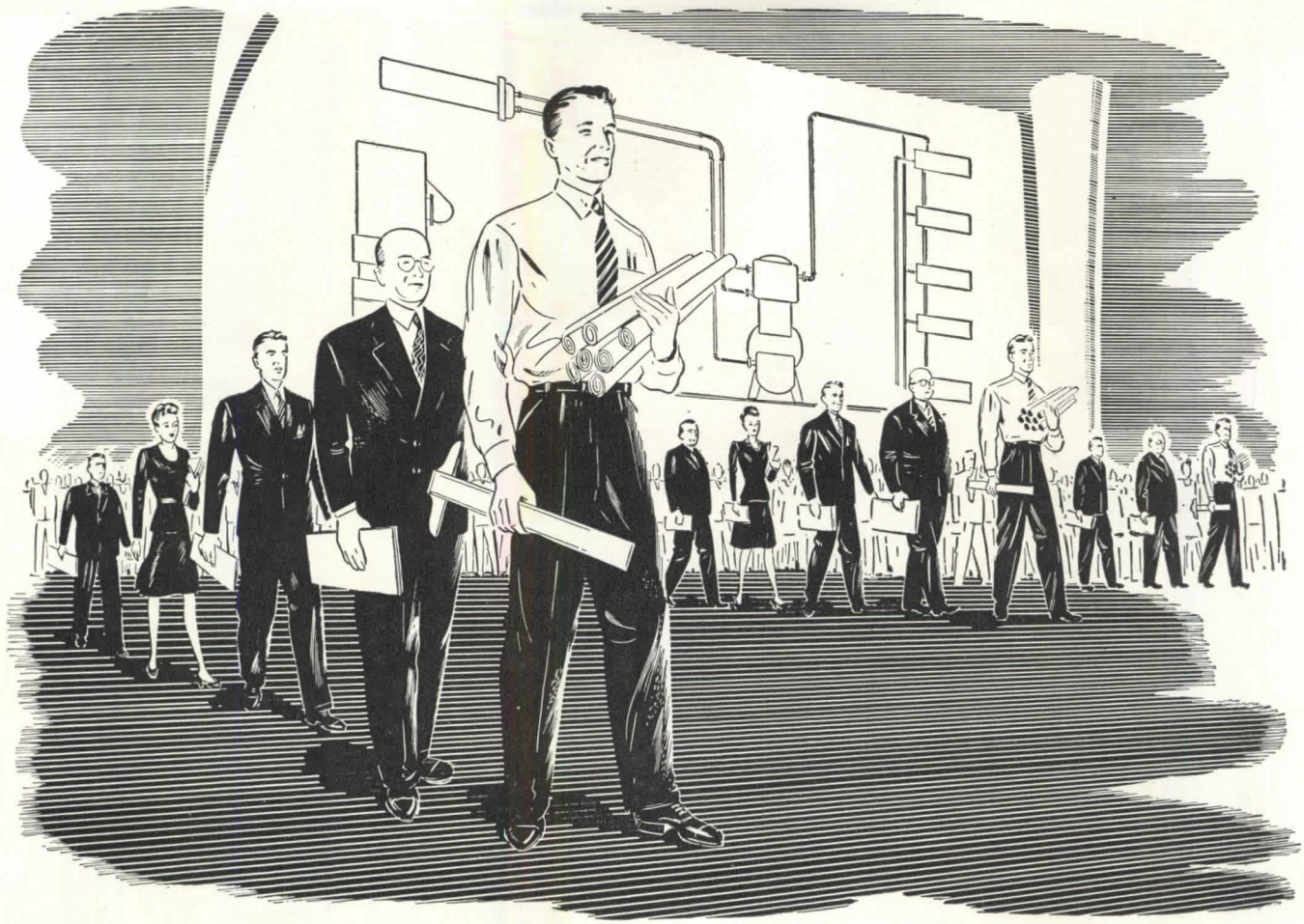
When we started this page we said progress reports sometimes report: "No Progress." Here are two stages in Perry, Shaw & Hepburn's design for the new Jordan Marsh store in Boston. The architects are quoted as saying that the structure will "stay in the Boston tradition as it continued to evolve—just as would be done if we had continued the tradition of Bulfinch right down to the present." Modern construction methods will be expressed by "the touch and color and some details reminiscent of the people of 1800." Clerks and customers will presumably wear modern dress.

Change, if not progress, is being forced upon lawmakers harassed by motor traffic snarls. Air traffic demands attention before car parking has met, in most places, any solution more satisfactory than more and more miles of speedways to keep 'em moving. A number of state legislatures have under consideration bills that would create municipal or district parking authorities to handle causes of traffic congestion. Off-street parking seems to be favored, either in regulated lots or parking garages. Two cities, Wheeling and Bluefield, West Virginia, are building their own garages to be municipally operated. Pittsburgh has been urged to lease, then operate present parking garages in her downtown section. San Francisco, which built a 1700-car garage under Union Square, turned that facility over to a private concessionaire. An increasing number of shopping centers are being planned to provide parking areas and even urban department stores, in some instances, have made provision to accommodate their customers' cars.

But at the same time, aviation and airport legislation is before 42 state legislatures now in session, we are told by Council of State Governments. A concerted effort is being made to channel federal grants for airport construction through state aviation agencies, emphasizing the pattern of federal-state cooperation. Local leaders and planners are envisioning "air cities" with commercial concessions developed around airports, as well as "shoppers' airports" near commercial centers to bring more customers in from surrounding country or smaller communities. Retail centers would be developed adjacent to such fields.

Another instance of the relation between community planning and transportation—this time transportation by rail—is the plan of an investment combine to purchase and link all metropolitan railways in the Greater New York City area. Homer Hoyt Associates, studying the advantages of such coordinated rail service, contend that lower fares and reduced travel time, by extending "the belt of suburban development into areas where there is an ample supply of vacant land and where its acquisition cost is cheap" will result in the creation of integrated communities away from "the confused jumble of houses and factories built during the region's early unplanned growth." Bankers William R. Daley and Cyrus S. Eaton have not yet been termed either "glib promisers" or "rabble rousers."

Two opportunities are announced for architects and advanced students to go abroad this summer. For students, the Fontainebleau School of Fine Arts will reopen from July 1 to September 1, with a course in architecture conducted by Jean Labatut and Georges Legendre. Applications are being received at the School's New York office, 206 E. 62nd Street. For architects, planners, and engineers, World Study Tours, of 417 W. 121st Street, New York, N. Y., is conducting a six- or seven-week study trip on reconstruction and town planning in England, Czechoslovakia, Poland, and probably Russia, with stopovers in France and Germany. The tour will be led by Hermann H. Field, A.I.A., who knows those countries well. Mr. Field wants a small, flexible group which is interested in sober fact-finding and serious conferences. Cost will be about $1595.



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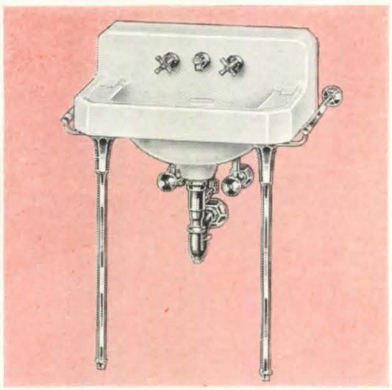

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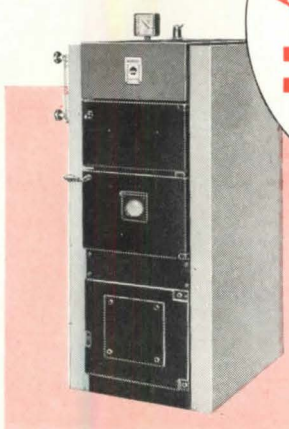

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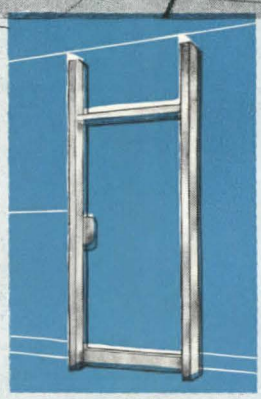
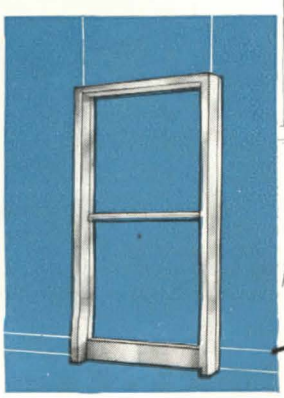
entrances that say "Come In"

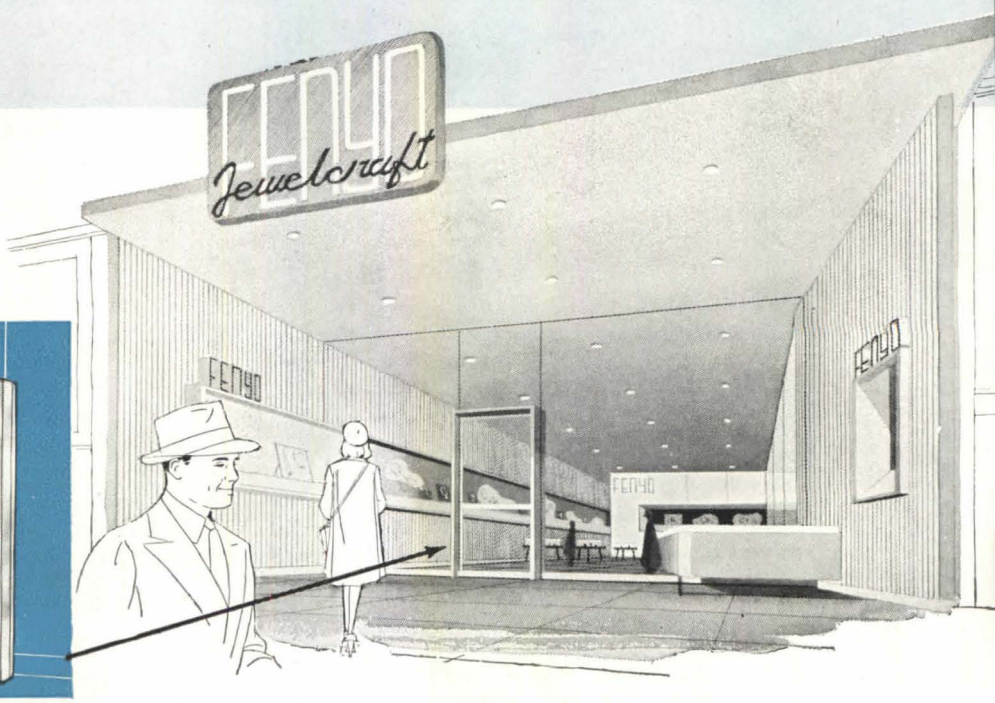
Shopper's eyes are drawn to the scri
sign on its striking aluminum backing-
then to the interior which is fully di
played by floor-to-ceiling glazing and b
the stream-lined Full Vision Entrance.

KAWNEER OFFERS A COMPLETE LINE OF DOORS, FRAMES, AND TRIM FOR STORES, THEATRES, AND COMMERCIAL BUILDINGS OF ALL TYPES



Doors should make people want to enter—and this Kawneer Free Standing Entrance fulfills this function. It draws attention because of its location and because it is completely surrounded with glass.

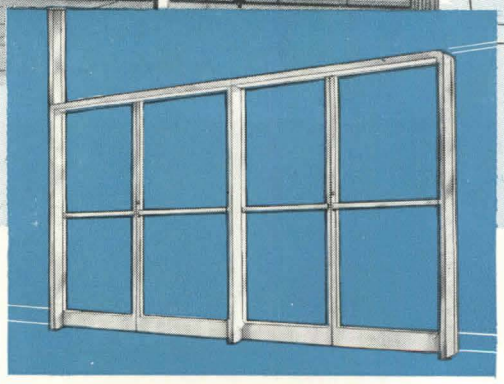




This Free Standing double-door offers a compelling and friendly invitation to enter. The entire front—sign, showcases, and walls—were designed to bring out the entrance as the main point of interest.

The Fenyo, Catty Patty, and Gregory Stores were designed by Ketchum, Giná and Sharp, Architects, New York City. The Bakeshop was designed by the Design Department of the Kawneer Company.

To handle Gregory's large volume of traffic, two Full Vision double-doors are placed in a prominent location where they are quickly seen, yet they do not interfere with the internal operation of the store.



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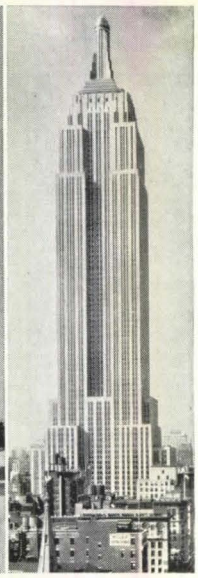

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Los Angeles, Curlett & Beelman, Architects

GENERAL MOTORS
Detroit, Albert Kahn, Inc., Architect

GULF
Pittsburgh, Trowbridge & Livingston, Architects

JEWEL TEA
Barrington, Ill., Holabird & Root, Architects

KOPPERS
Pittsburgh, Graham, Anderson, Probst & White, Architects

LEVER BROTHERS
Cambridge, Mass., Shreve, Lamb & Harmon, Architects

MERCHANDISE MART
Chicago, Graham, Anderson, Probst & White, Architects

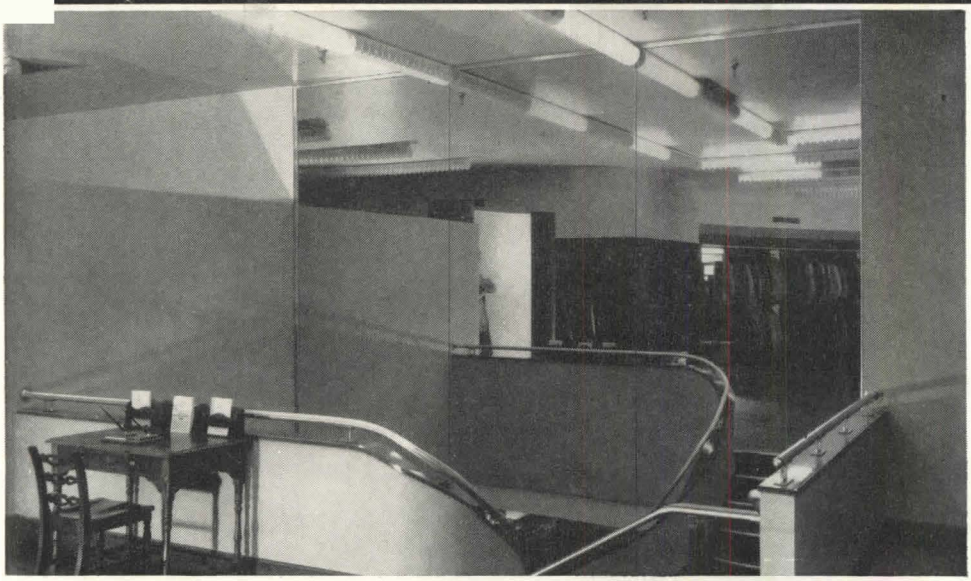
PALMOLIVE-PEET
Chicago, Holabird & Root, Architects

ROCKEFELLER CENTER
New York, Reinhard & Hofmeiser; Raymond Hood, Godley & Fouilhoux; Corbett, Harrison & MacMurray, Architects

STALEY
Decatur, Ill., Aschauer & Waggoner, Architects

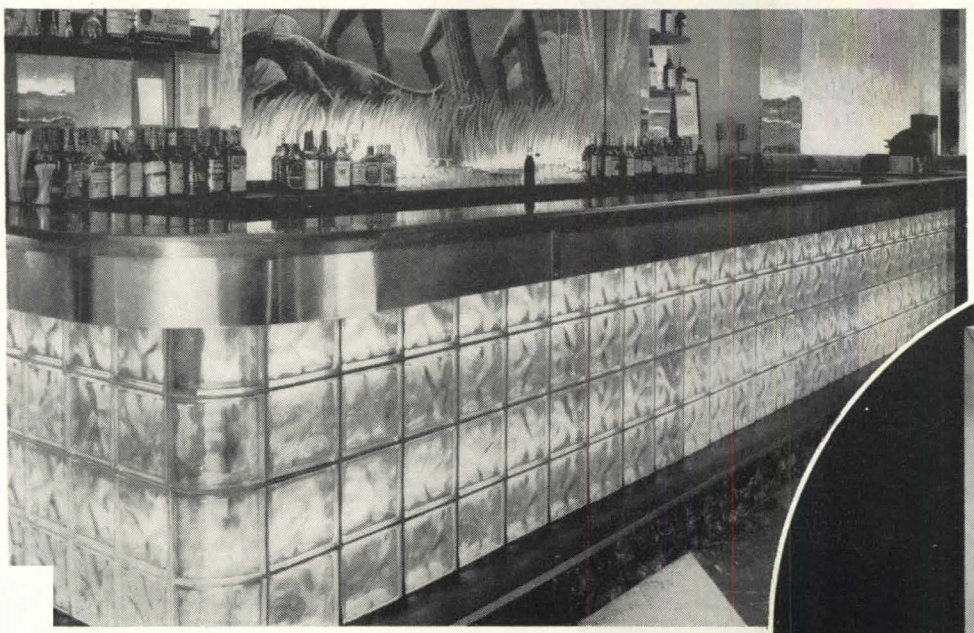
TISHMAN
(New York, world's first completely air-conditioned office building), Kahn & Jacobs, Architects

UP-TO-DATE use of *Glass* in



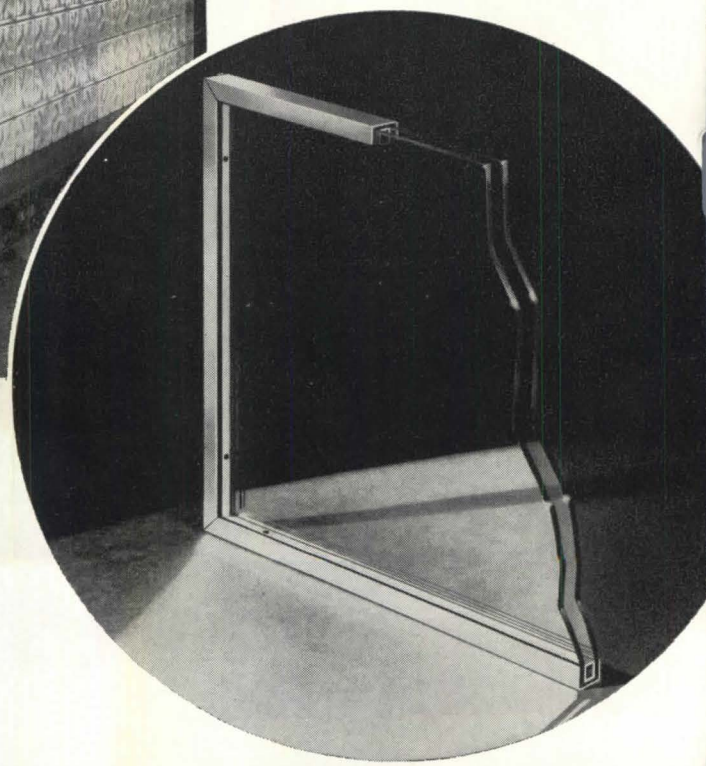
Customers linger longer—and buy more—in attractive, up-to-date stores. The proper application of mirrors can do much to enhance the decor of any interior. "Pittsburgh" offers regular polished Plate Glass, and blue, green and flesh tinted Plate Glass with silver, gold or gunmetal backing . . . a wide range to meet any design problem. Architect: K. C. Welch.

• • •



PC Glass Blocks are an increasing favorite with architects and builders. Easy to install and easy to clean, they combine modern good looks with exceptional versatility. They transmit daylight generously. They preserve privacy. They aid temperature control. And they can be used decoratively, as in the bar at left, with striking effect. Architect: Frank Smart.

←

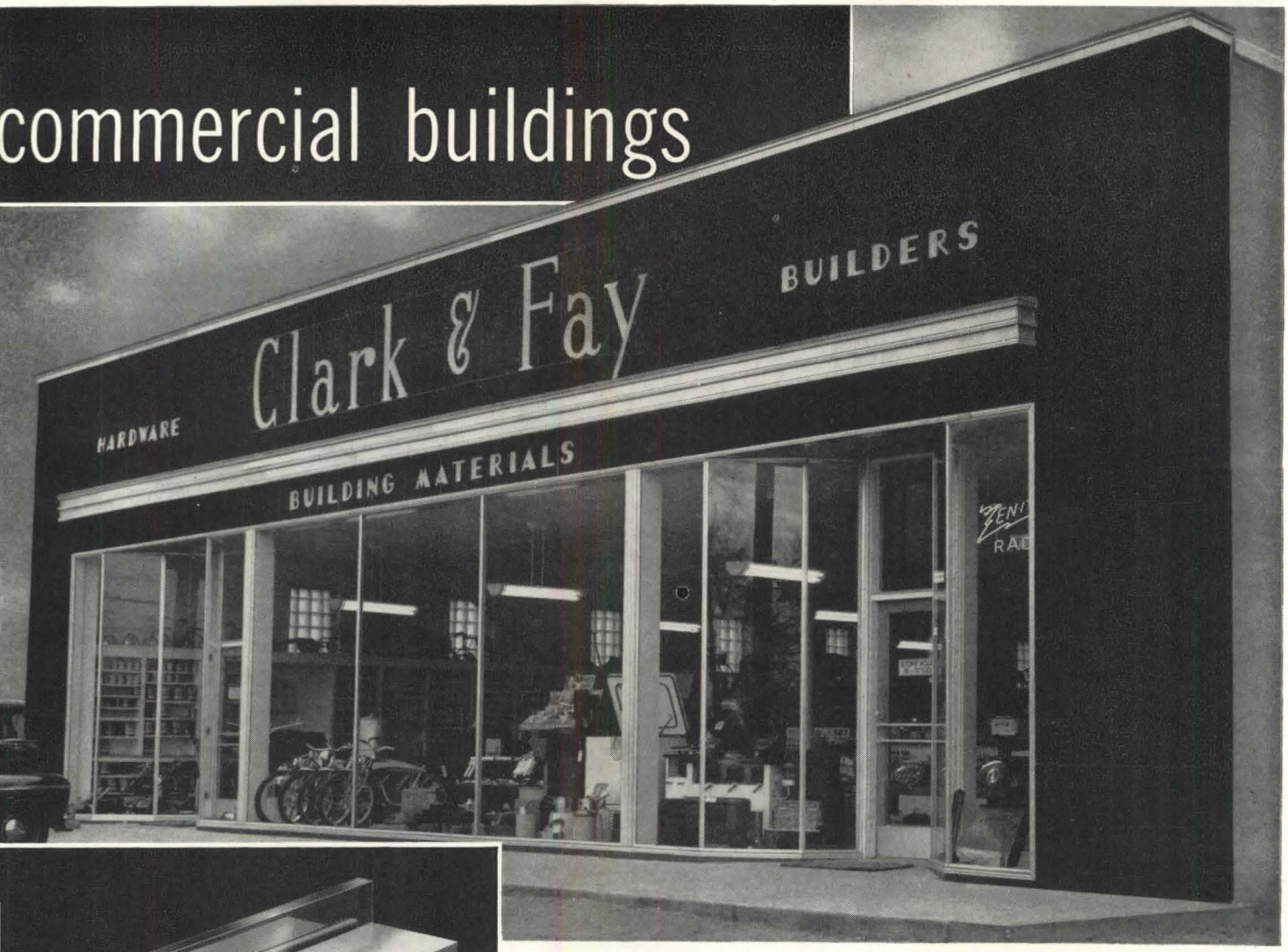


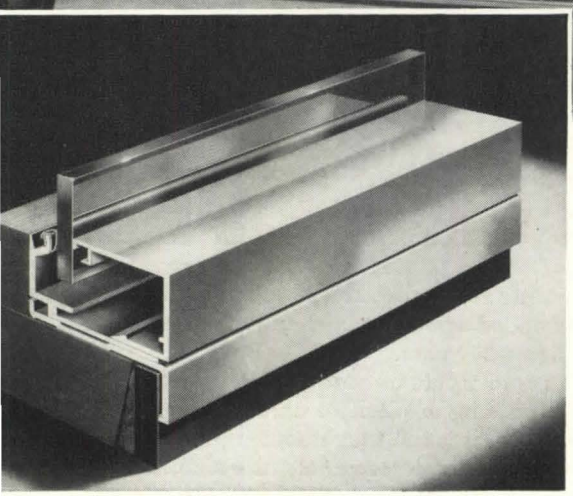
→

Twindow—"Pittsburgh's" new window with built-in insulation, consists of two or more panes of "Pittsburgh" Glass separated by hermetically sealed air spaces, and enclosed in a protecting frame of stainless steel. The 2-pane Twindow unit cuts heat loss through windows nearly in half—and has even greater insulating effectiveness when made with three or more panes of glass. It minimizes downdrafts near windows, contributes increased comfort as well as economy to stores, hotels, restaurants, office buildings and factories.

PITTSBURGH PLATE GLASS COMPANY

commercial buildings





"Open vision"—the new trend in store design—has emphasized the need for *quality* in the glass products used to build distinctive store fronts and interiors. "Pittsburgh" products, such as Carrara Structural Glass, Polished Plate Glass, Pittsburgh Mirrors, Herculite Tempered Plate Glass and Twindow, the window with built-in insulation, have proved themselves outstanding quality leaders in the store field. You can depend upon them for the faithful and effective execution of your store designs. Architect: Austin K. Hall.

This rectangular sash is a recent addition to the Pittco De Luxe Store Front Metal line. It gracefully harmonizes with modern store front design. Its extruded method of manufacture assures rugged strength and a clean, sharp profile. Its beauty and practical utility are typical of the Pittco De Luxe line. Where economy is of prime importance, Premier, the other Pittco line of store front metal, is the ideal choice.

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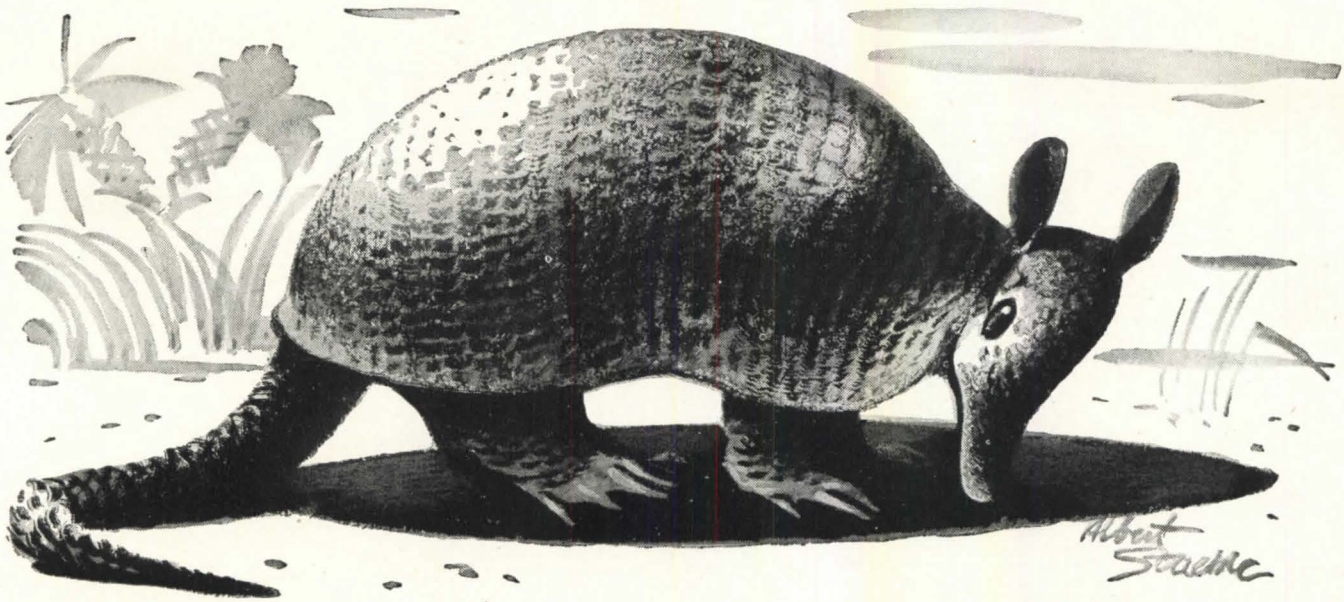
★ **Design it better with**

Pittsburgh Glass

"PITTSBURGH" *stands for Quality Glass and Paint*

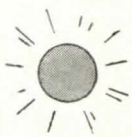
PITTSBURGH PLATE GLASS COMPANY

What keeps the armadillo dry can keep your clients happy, too!

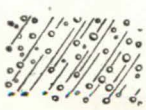


Over 90 years of successful roofing experience has demonstrated the sound value of the gravel or slag wearing surface of a Barrett Specification Roof:

1. It holds in place the heavy-poured (not mopped) top coat of coal-tar pitch—providing a doubly thick waterproof covering.



2. It provides protection against the sun's actinic rays which otherwise dry out the valuable oils in roofing bitumens.



3. It protects the roof against mechanical damage, hail and wind, wear and tear.

4. It interposes a surface of fireproof rock between the building and flying embers—makes a roof that carries Fire Underwriters' Class A Rating.

No roofing problem bothers the Armadillo. Inside his *armored wearing surface* he's safely protected from his natural enemies.

The Barrett Specification* Roof, with its armored wearing surface of gravel or slag, provides comparable protection for building structures. It's so tough and long-wearing it can be bonded against repairs and maintenance expense for as long as 20 years.

Built up of alternate layers of coal-tar pitch and felt, topped by a thick *pouring* of pitch to *anchor* the gravel or slag wearing surface, it is the toughest, longest-lasting built-up roof made. It is waterproof, fire-safe, sun-resistant, and *armored* against mechanical damage.

Protect your clients against roof failure. Recommend Barrett Specification Roofs on the buildings you design. The Atomic Bomb Plant at Oak Ridge, Tenn., the Empire State and R.C.A. buildings in New York, and many other famous American buildings — all Barrett-roofed — will confirm the soundness of your recommendation.

Barrett Specification* Roofs

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Allied Chemical & Dye Corporation
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2800 So. Sacramento Avenue Chicago 23, Ill. Birmingham Alabama
In Canada: The Barrett Company, Ltd., 5551 St. Hubert Street, Montreal, Canada

*Reg. U. S. Pat. Off.

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

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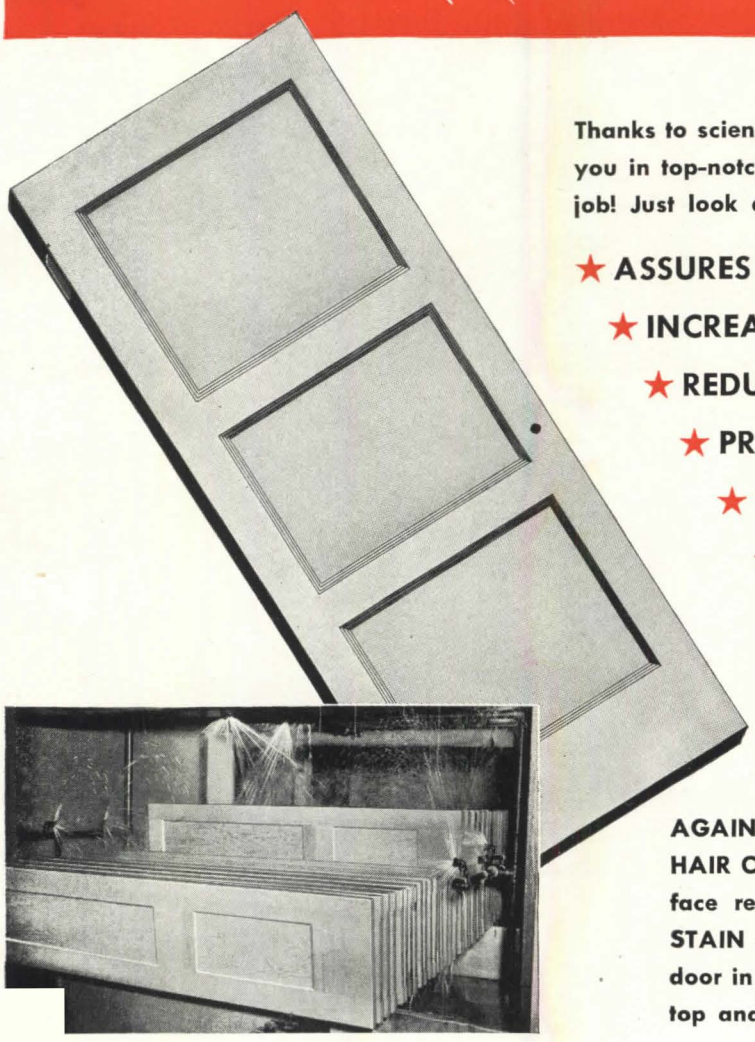

Automatic sprays, as pictured above, put a protective prime coating of high-quality tested resin sealer over every inch—top, bottom, ends and sides—of Wheeler Osgood Tru-sized Doors.

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.

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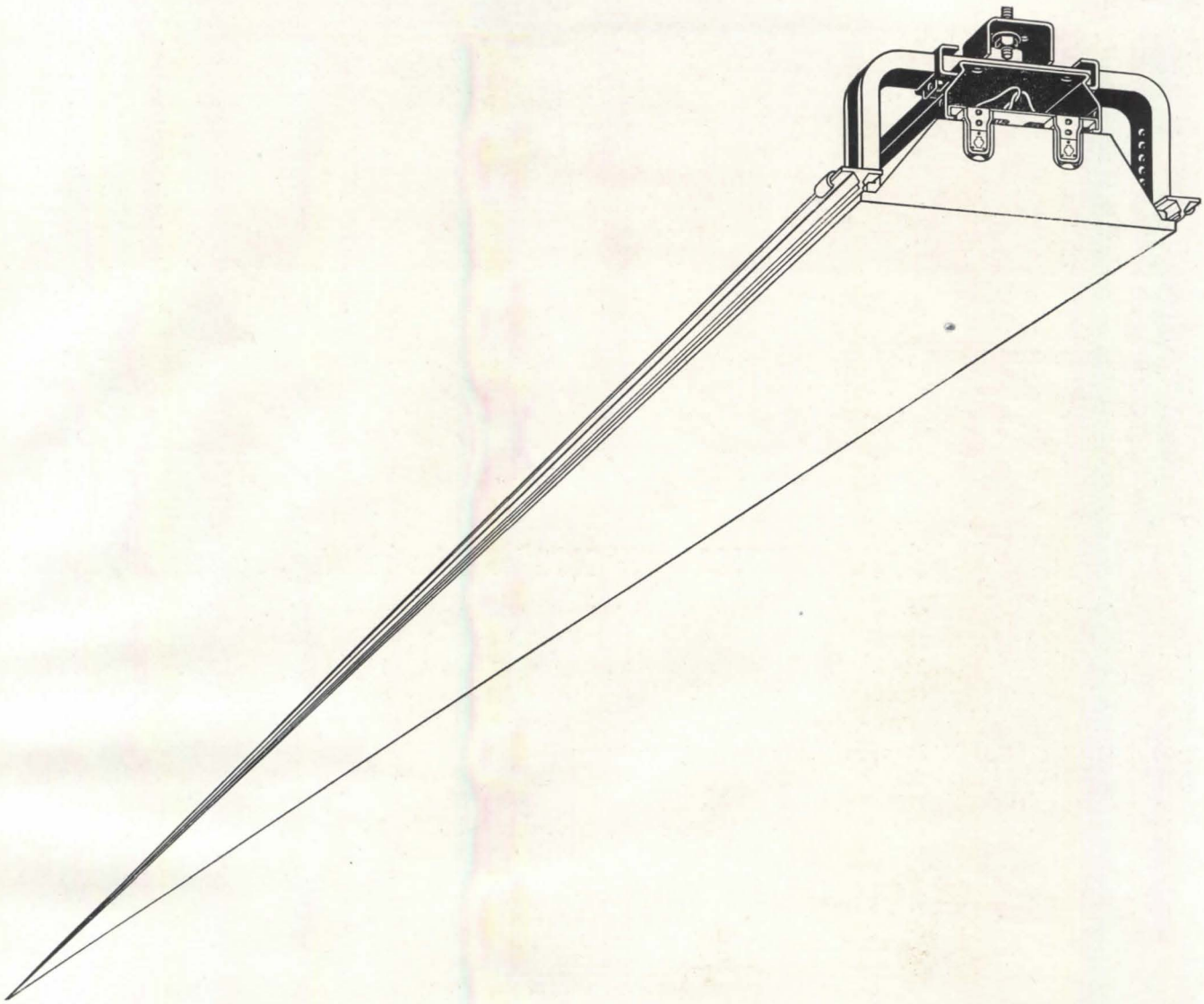

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MILLER FLUORESCENT TROFFER LIGHTING SYSTEMS not only provide light for "easy seeing"...they make it possible for the interiors of stores, offices, schools, factories and public buildings to be planned around the lighting — to use the lighting as a structural aid to form any ceiling pattern desired — CEILINGS UNLIMITED! The MILLER CEILING FURRING HANGER (patented), hung from structural ceiling, supports both furred ceiling and lighting system and makes possible a boundless versatility of lighting application. Simplified installation. 50 to 80% cut in wiring, conduit and conduit fitting costs. More "above ceiling space" for piping and air-conditioning ducts.

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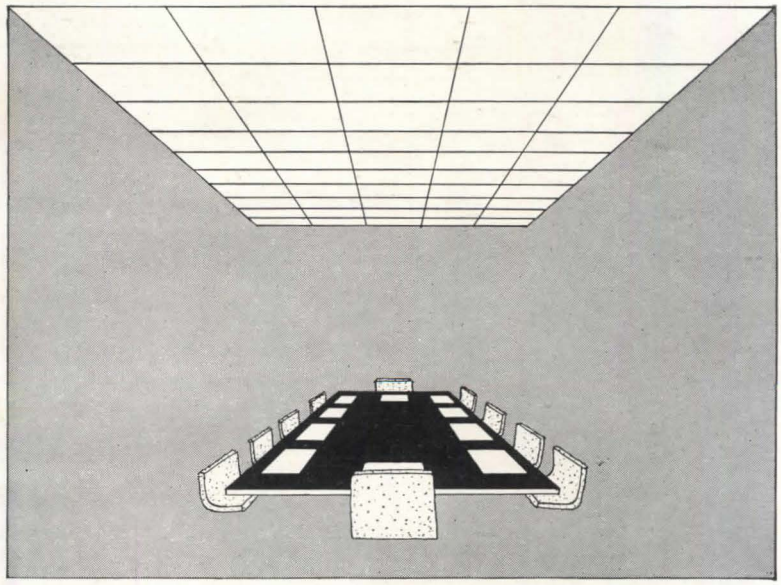

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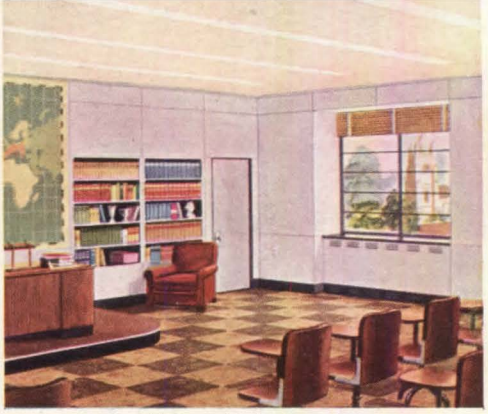

. . for University Lecture Rooms

. . . for Laboratories

For colorful . . . quieter

1. J-M ACOUSTICAL CEILINGS*— *noise-quieting, economical, attractive*

There's a Johns-Manville sound-absorbing ceiling for *every* kind 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, Johns-Manville not only provides the correct acoustical materials for each specific condition, but follows through by *installing* the materials *properly* with its own construction crews. In other words, you get "J-M materials installed by Johns-Manville" for best results.

That's the all-inclusive service . . . the *undivided responsibility* Johns-Manville gives every project.

For further details, send for brochure entitled, "J-M Sound Control." Describes such J-M acoustical products as Sanacoustic, Fibracoustic, Fibretex and Fibretone, Transite Acoustical Panels and special materials for Broadcasting Studios.

2. J-M TRANSITE WALLS*— *movable, to provide for change*

Rooms when and where you want them . . . that's the magic of Johns-Manville Transite Walls—the attractive and sturdy asbestos walls that are *movable*. Now you'll never again need to send partition walls to the dump every time space changes are required!

With the least inconvenience—almost *overnight*—you can enlarge, decrease, or rearrange areas as often as your needs require. Transite movable panels are easy to handle, readily assembled, interchangeable, and can be used over and over again. Made of asbestos and cement, Transite Walls have all the qualities of solid and permanent construction. They provide rigid, double-faced partitions, and can also be used as the interior finish of outside walls.

To make sure your interiors will provide for *change*, write for booklet, "J-M Transite Movable Walls."

3. J-M ASPHALT TILE FLOORS*— *for beauty and greater comfort underfoot*

They're colorful! They're more resilient! More restful to walk on! And they're extra long-wearing—reinforced with fibers of indestructible asbestos. Even a carelessly dropped lighted cigarette won't mar their built-in beauty.

Johns-Manville Asphalt Tile is the modern flooring that can take *heaviest* foot traffic, yet stay fresh and unmarred with practically no maintenance.

And you'll *like* the unlimited range of possible color combinations—from striking patterns with strong contrasts to solid fields of marbleized colors. Easy on the eyes, J-M Asphalt Tile Floors are easy on the budget, too!

For areas exposed to oil or grease, use J-M *Grease-Proof* Asphalt Tile. Send for full-color brochure, "Ideas for Decorative Floors."

* Use all three products for Johns-Manville Unit Construction . . .

To provide for ever-changing space needs, give your interiors *complete flexibility* with J-M Unit Construction. This new method combines movable Transite Walls, demountable Acoustical Ceilings, Asphalt Tile Floors — in other words, the *complete interior*, under *one* specification, *one* manufacturer's responsibility. Write for brochure on J-M *Unit Construction*.

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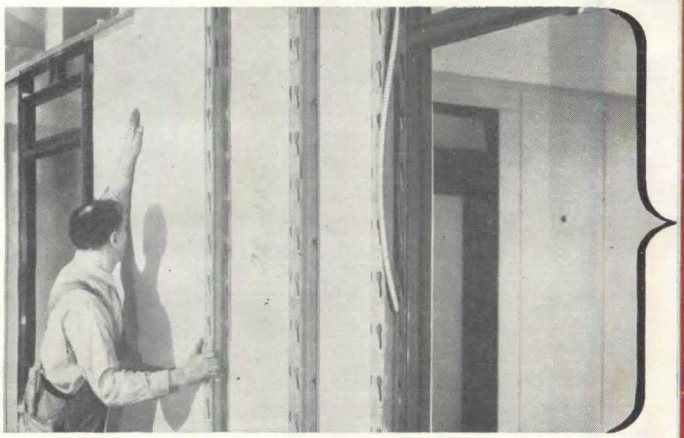
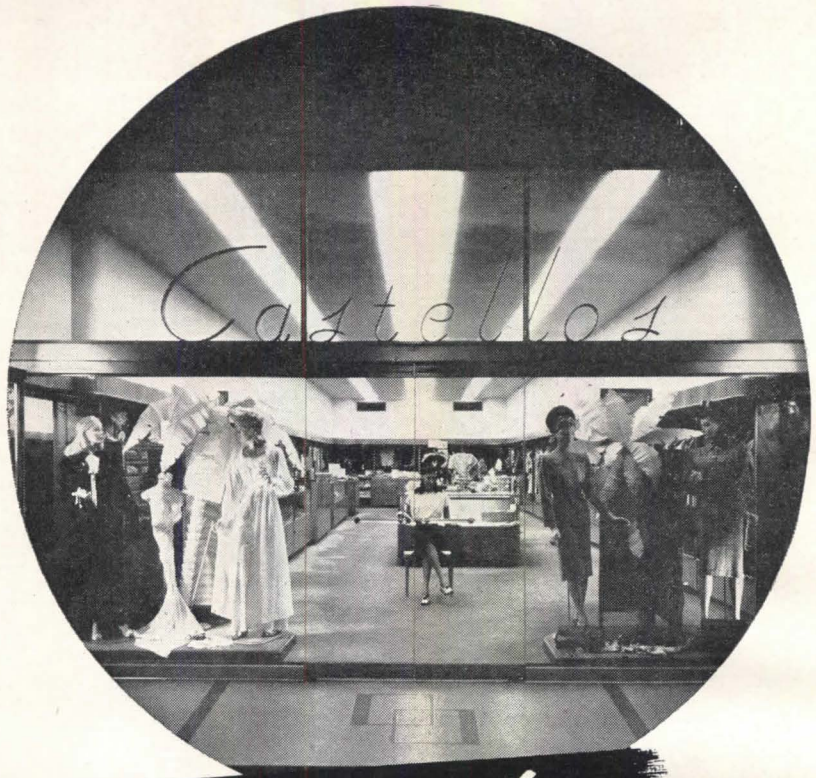


Typical example of Johns-Manville Unit Construction — a beautiful, completely flexible interior . . . with movable Transite Walls, Asphalt Tile Flooring, and a demountable Sanacoustic Ceiling to absorb noise.

Tuf-flex doors are an important element of this Visual Front in Houston which displays the entire store to window shoppers.



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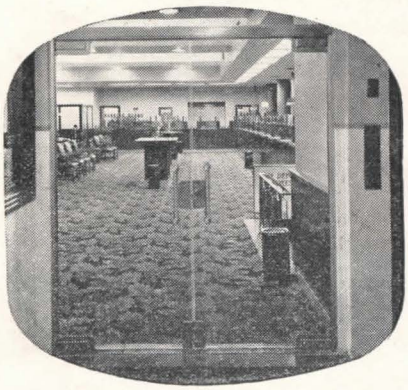
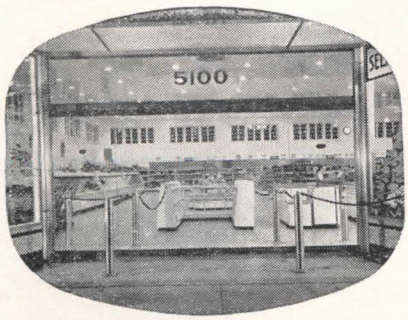


Attractive *Tuf-flex* doors make this bank in Toledo an inviting place in which to do business.



In this modern Montreal grocery *Tuf-flex* doors accentuate the openness of the Visual Front.

TUF-FLEX DOORS OF L·O·F TEMPERED PLATE GLASS

No need to dwell on the look of smartness and openness that *Tuf-flex** doors give a storefront, building entrance or interior. They are a key element in modern design . . . particularly in the Visual Front.

The big news is that *Tuf-flex* doors again are available. Your L·O·F Distributor now carries them in stock, in sizes determined to fit most architectural needs. When you make your plans, get in touch with him regarding available and desired sizes which will enable you to meet your construction schedule.

Plan to add the distinctiveness of these doors to buildings you design—whether new construction or remodeling. And write us for our new *Tuf-flex* door books, which illustrate many uses and give information on hardware fittings and other data. Libbey·Owens·Ford Glass Company, 7157 Nicholas Building, Toledo 3, Ohio.

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VISUAL L·O·F FRONT

LIBBEY·OWENS·FORD
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Nancy does the dishes.....while Mother starts the laundry

Thanks to a farsighted architect who specified "oversize" pipe

HOUSEWORK really speeds along in a home whose water supply is adequate--where the flow at the kitchen sink, for example, doesn't die down to a weak dribble when somebody else turns a faucet upstairs or in the laundry.

Maybe Nancy and Mother don't realize what every original planner should know--that a satisfactory flow of water at every outlet is not just a lucky accident, but is the result of specifying and installing steel piping in a size adequate to serve all needs.

When you plan the houses of tomorrow, or remodel older ones today, you can protect the time and temper of Nancy, Mother, everybody, by putting in steel pipe of ample size--what you might have considered "oversize" by yesterday's standards. Remember to provide generously for all of today's outlets, plus the extra ones that will go in later--for another shower, maybe an automatic laundry or an air cooling system, or some other home improvement that depends for its successful operation on free-running water.

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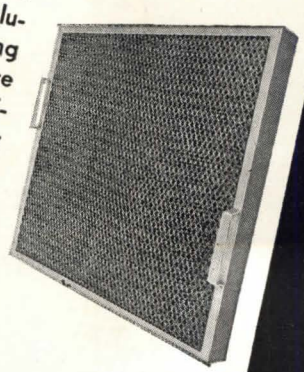

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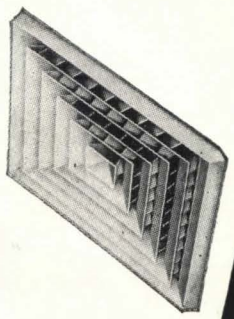
Agitair Air Diffusers with Diffusion Pattern Control permit 100% control of air distribution—with no drafts, no blank corners, no hot spots, no cold spots. Available in attractive, highly efficient styles, both rectangular and circular, to fit any installation.



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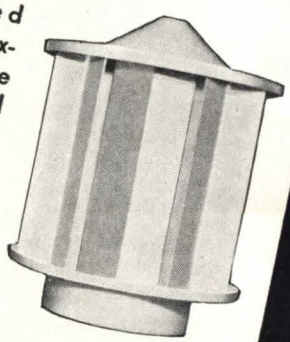
Wind Actuated Agitair Exhausters exhaust up to 50% more air at average wind velocity . . . will not retard natural ventilation even with no breeze. Ideal for both gravity and mechanical air exhaust systems.



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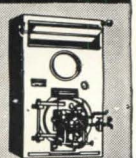
and also DIRECT-FIRED HOT GAS GENERATING FURNACES *etc.*



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Here's the answer: install an Elliott Fisher Electric Lettering Machine. This will relieve your high-paid technical men of practically all tedious hand lettering. It will enable them to employ their skill on work which requires their special knowledge.

Operation of the Electric Lettering Machine is simplicity itself. An office typist, after a little practice, can turn out superior lettering jobs. She can letter plans, charts, schedules with mechanical accuracy . . . and at typing speed.

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ELECTRIC KEYBOARD . . . a full standard, electric keyboard . . . fast, simple and easy to operate . . . many times faster than hand methods.

SHARP AND CLEAR IMPRESSIONS . . . a Special Blue Print Ribbon plus Dual Stroke Control of the electrically operated type bars assure proper density of every type impression to provide sharp and clear reproductions.

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Because an Otis elevator, when properly maintained, will give dependable, trouble-free service for the life of a building.

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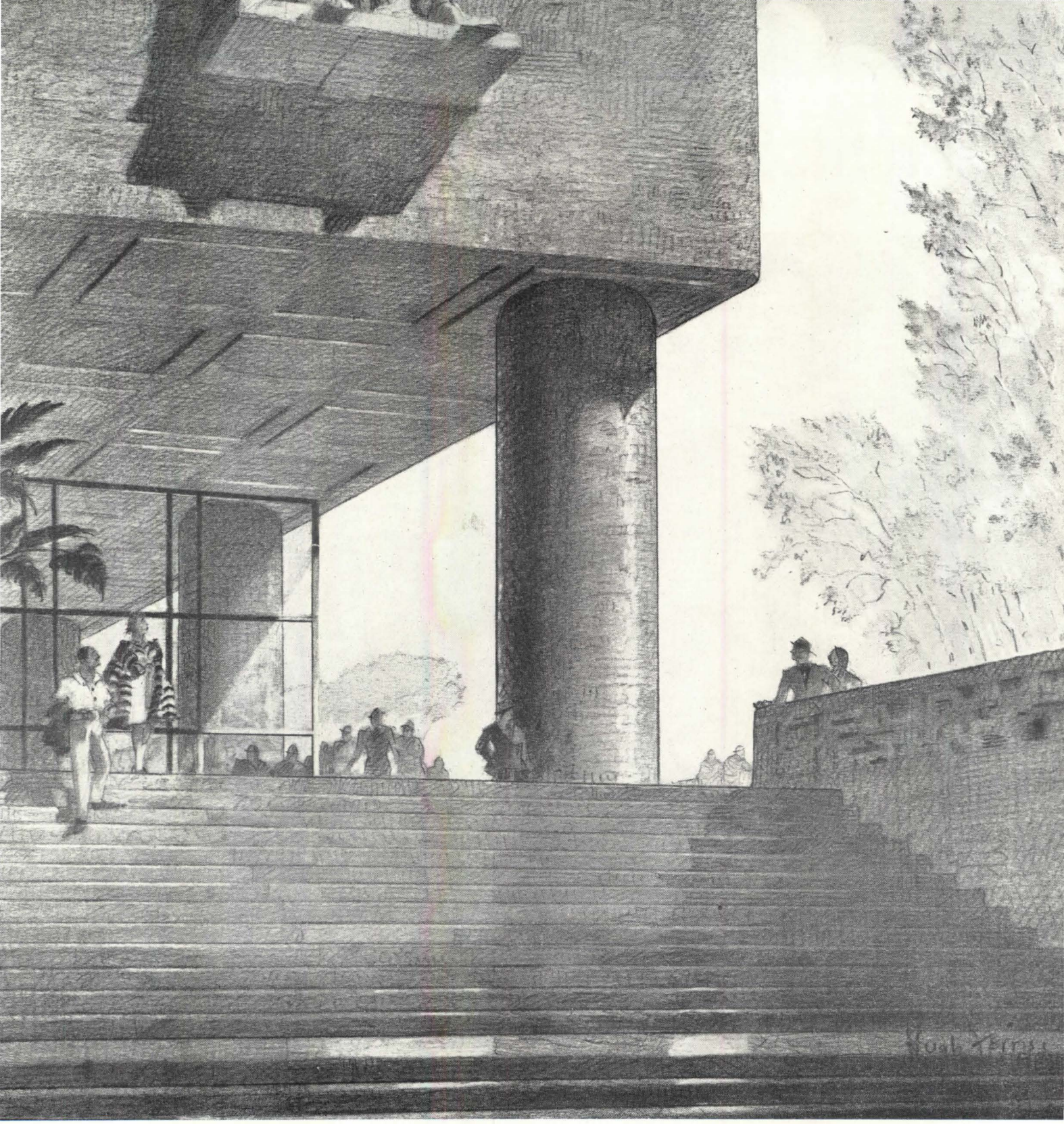


ARCHITECTURAL CONCRETE

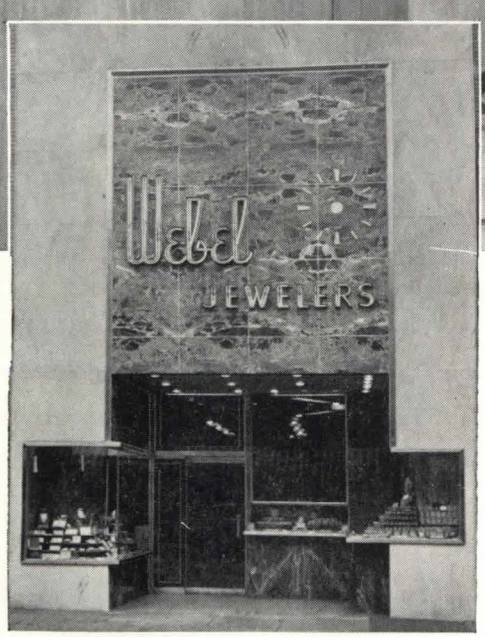
How striking design effects may be integrated with the dynamic structural strength of Architectural Concrete is shown in this detail of a building corner and plaza approach drawn by Hugh Ferriss. Any design effect an architect may conceive for apartment houses, schools, hospitals, industrial or office buildings may be produced economically in firesafe, rugged, enduring concrete.

PORTLAND CEMENT ASSOCIATION

DEPT. A5-25, 33 WEST GRAND AVENUE, CHICAGO 10, ILLINOIS

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

"Profits up...workers' morale and



MODERN INSIDE as well as out, the attractive jewelry store of Mr. Henry Webel at Ridgewood, Long Island, offers customers the year-round comfort of Servel *All-Year* Gas Air Conditioning.

CUSTOMERS find this attractive shop a welcome refuge from summer heat and winter cold, thanks to the comfortable indoor climate provided through every season by Servel *All-Year* Gas Air Conditioning.

efficiency higher

. . . since installing the Servel

All-Year Gas Air Conditioner!"

That's what typical commercial users say about this new Servel equipment

Yes, you can specify Servel *All-Year* Gas Air Conditioning for your clients' stores, offices, laboratories and other commercial buildings with complete confidence that this equipment will more than justify its cost.

In fact, typical comments received from commercial and professional users the country over indicate you will be safe in telling your clients that the Servel *All-Year* Gas Air Conditioner can actually *pay for itself* in a very few years! Everywhere users report increased summer profits, greater store traffic, less sick time lost from work, higher employee morale and efficiency—all advantages that pay off in dollars and cents.

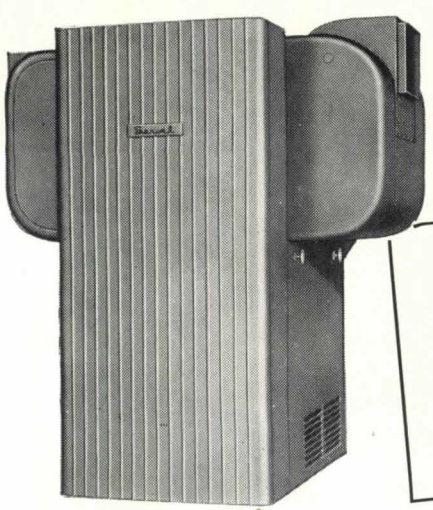
A typical experience with Servel *All-Year* Gas Air Conditioning is that of Mr. Henry Webel, of 57-36 Myrtle Avenue, Ridgewood, Long Island. He says:

"I've been more than satisfied with the clean, comfortable indoor climate the Servel Conditioner has provided the year round in my jewelry store. The Servel unit has proved efficient, economical, and simple to operate. Best of all, it has increased my summer business—and hence my profits—to the point where the Conditioner will have actually paid for itself in a very few years!"

Hundreds of similarly enthusiastic letters are in our files from commercial as well as residential users from coast to coast.

There's a simple reason for the striking popularity of Servel *All-Year* Gas Air Conditioning in commercial installations. This unique equipment provides *all* the functions of year-round air conditioning. And does it with *a single unit!* In summer, the Servel unit cools and dehumidifies the air. In winter, it heats the air and adds just the right amount of humidity for comfort. Year round, Servel circulates filter-cleaned air, without drafts, and always at a comfortable temperature and humidity.

If you'd like more information on how you can bring the year-round comfort—and the money-making benefits—of Servel *All-Year* Gas Air Conditioning to your commercial and professional clients, get in touch today with your local Gas Company. Or write direct to Servel, Inc., 4705 Morton Avenue, Evansville 20, Indiana.



TRIED . . . PROVED . . . SUCCESSFUL . . . *From Boston to San Diego . . . From Bismarck to Miami . . .* The Servel *All-Year* Gas Air Conditioner is operating in hundreds of installations from coast to coast. Some have been running for more than four years. The equipment is tried, tested . . . and *approved* by users everywhere.

Servel

All-Year GAS AIR CONDITIONER

"Heaven's face doth glow"

America has been called "The Workshop of the World." It is. It is also much more!

The crimson glow of furnace fires on the evening sky, symbolizes not alone our industrial might but also the will of a people to express themselves through progress. A young and vigorous people, unfettered by the past and unafraid of the future.

The kind of people who dream Golden Gate bridges, then fling them across untamed waters. Who dare to think that even the humblest citizen may own an automobile, and then produce a million "tin Lizzies" to make that fable a fact!

Thus is our industry a reflection of the American will to *do.*

You would know, then, that when progress was impeded by lack of adequate facilities to convey water, gas, steam, oil and other liquids in the processes of industry, someone would develop ways and means of producing inexpensive, durable, reliable *steel pipe* to solve the problem.

So for nearly sixty years *steel pipe* has paced the growth of industry. From steel mill to machine shop, from refinery to service station, from fabricating plant to food factory . . . modern industry is a veritable maze of *steel piping.* Yes, *steel pipe makes it possible,* and with this vital servant the wheels of industry will keep turning . . . and the face of the heavens will continue to glow in the evening sky.

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

Committee on
Steel Pipe Research
OF
AMERICAN IRON AND
STEEL INSTITUTE
350 FIFTH AVENUE, NEW YORK 1, N. Y.

STEEL PIPE MAKES IT POSSIBLE!

. . . better living through pipes of steel for plumbing and heating purposes.

Blends like the Siamese Twins!

Any two shades of PRISMACOLOR will merge perfectly in a clear intermediate tone.

Smooth as a Greased Pig!

PRISMACOLOR work goes faster, for every particle of pigment has a coating of wax to glide on.

Waterproof as a Mermaid!

Neither moist hands nor accidental wetting can damage your drawings, for the pigments are insoluble.

Vivid as a Gypsy Shawl!

Every one of the 36 glowing colors is packed with rare pigments for rich, full-bodied coverage.

PRISMACOLOR pencils give a brilliant performance

Made to Stand up Under Strain!

A patented process puts thousands of "muscles" in every PRISMACOLOR lead . . . tiny fibres that interlock to prevent point breakage.

You'll thrill to PRISMACOLOR'S versatility . . . its wondrous ease of application . . . its smooth-flying speed. You'll delight in its rugged strength and amazing endurance.

10¢ *EACH*
. . . less in quantities

Step right up and see for yourself!

Just write us, naming your pencil dealer and this publication, and Ernest Eagle will send you a FREE SAMPLE of PRISMACOLOR in any color you select from the canopy above.

EAGLE TURQUOISE

PRISMACOLOR

EAGLE PENCIL COMPANY, 703 E. 13TH ST., NEW YORK 9, N. Y.
EAGLE PENCIL COMPANY OF CANADA, LTD., TORONTO

Park Avenue entrance to The Waldorf-Astoria, New York. Anaconda Architectural Nickel-Silver, fabricated by the General Bronze Corporation, Long Island City, New York, is used extensively at entrances and doors. Architects: Schultze and Weaver (now Leonard Schultze & Associates), New York.

To make First impressions Last . . .

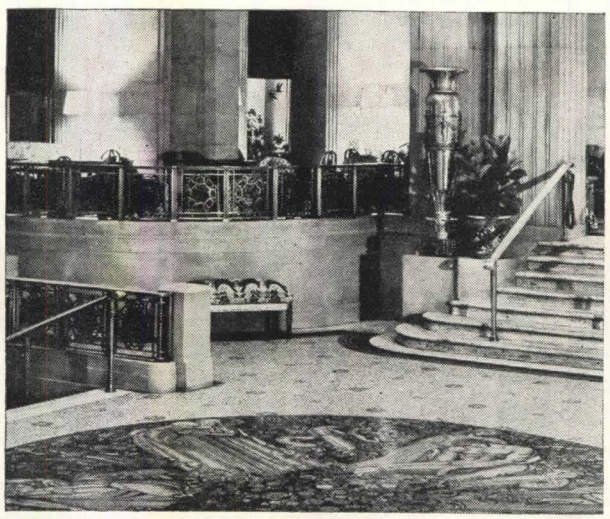
ANACONDA METAL

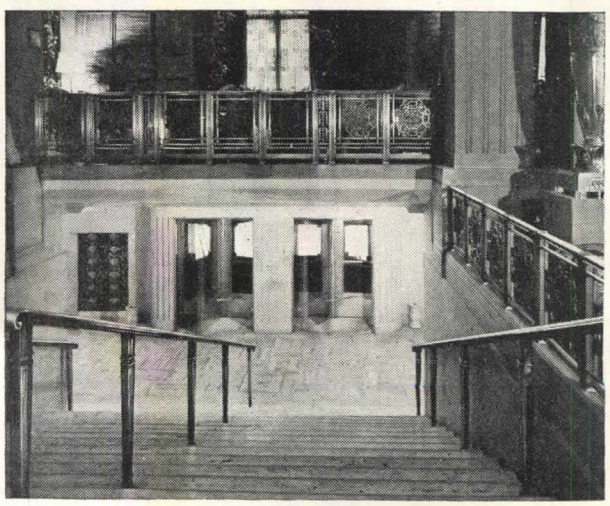
FOR CREATING lasting first impressions of beauty, dignity and prestige, no ornamental materials are more universally accepted than architectural bronze and nickel-silver.

Anaconda Nickel-Silver, for example, is used extensively at the famous Waldorf-Astoria hotel. This impressive metal, with its deep, silver-like color, adds a note of inviting luxury to this block-square, twin-tower structure — and helps to symbolize the tradition of worldly hospitality established by the original "Waldorf."

The American Brass Company produces Anaconda Architectural Bronze and Nickel-Silver in extruded and drawn shapes, for ornamental work of almost every description. These timeless metals offer high resistance to corrosion and economical fabricating qualities.

4714





Two views of the foyer at the Park Avenue entrance to The Waldorf-Astoria. Lustrous Anaconda Nickel-Silver, in balustrades, hand rails and trim, adds a note of inviting luxury to the main floor foyers and lounges.

ANACONDA
from mine to consumer

Anaconda

ARCHITECTURAL BRONZE

THE AMERICAN BRASS COMPANY

General Offices: Waterbury 88, Connecticut

Subsidiary of Anaconda Copper Mining Company

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

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.

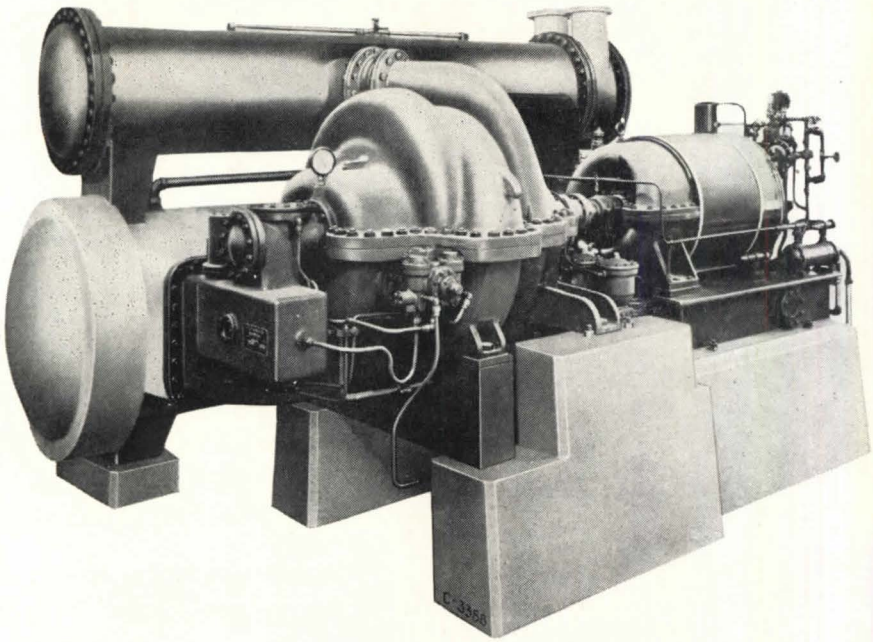
Andersen Horizontal Gliding Window Units combined in a corner installation. Home designed by St. Paul chapter, American Institute of Architects.

Andersen Corporation · BAYPORT · MINNESOTA

WORTHINGTON

Air Conditioning and Refrigeration Report

Worthington Pump & Machinery Corporation, Harrison, New Jersey



WORTHINGTON OFFERS NEW, IMPROVED CENTRIFUGAL REFRIGERATION SYSTEMS

Recently improved designs now enable Worthington to offer Centrifugal Systems for use with most refrigerants, including the lighter hydrocarbons, and for any air conditioning or cooling process — chilling water, brine, chemicals, lubricating oils, etc. — at temperatures to meet any requirement. Now designed for temperatures as low as −160°F.

In the 450-TR Centrifugal Refrigeration Unit illustrated, for example, every one of the essential elements — 3-stage compressor, water cooled condenser, specially designed horizontal evaporator and powerful steam turbine — is Worthington designed and made.

This means perfect coordination, with the added advantage that the Worthington user can place full responsibility for his system's operation on a single manufacturer.

Other compact, space-saving units are available in capacities of 150 to 2600 tons, each engineered by Worthington to give you many years of trouble-free, low-cost refrigeration.

Worthington Pump and Machinery Corporation, Harrison, N.J. Specialists in air conditioning and refrigeration for more than 50 years.

A7-B

WORTHINGTON *Air Conditioning and Refrigeration*

Famous N. Y. Hotel Selects Worthington Air Conditioning

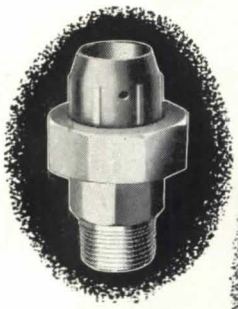
Famed for its luxurious appointments, New York's huge Commodore Hotel counts on Worthington centrifugal refrigeration equipment for a year-round supply of clean, invigorating air. Today's comfort-wise guests have learned to expect such up-to-date air conditioning as an essential feature of every modern hostelry.

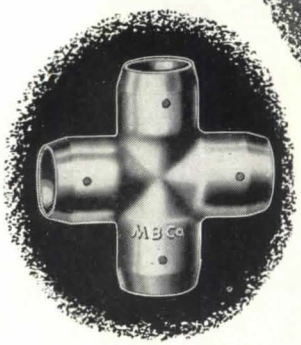
Air Conditioning in Smaller "Packages"

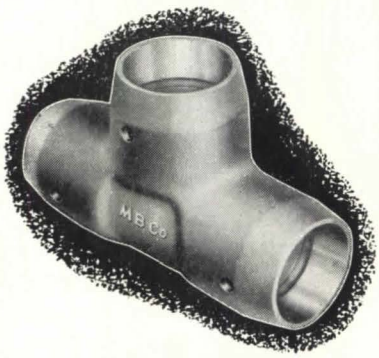
Worthington's Self-Contained Air Conditioners, Model SYC, are built in 3 and 5 ton refrigeration capacities. These amazingly efficient "packaged" units are ideal for promoting better health and better business in every type of smaller business and industrial organization.

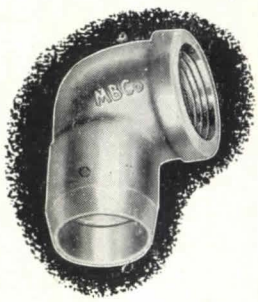
The Advantages of Worthington "Integration"

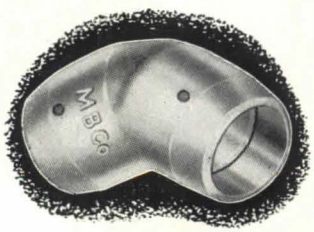
Worthington, making so many of the "inner vitals" — compressors, condensers, pumps, turbines, valves, fittings, etc. — of its air conditioning and refrigeration equipment, is able to combine these units into a completely "integrated" system that will assure you long, efficient, economical service . . . another reason why *there's more worth in Worthington*. See your nearby Worthington distributor for details.

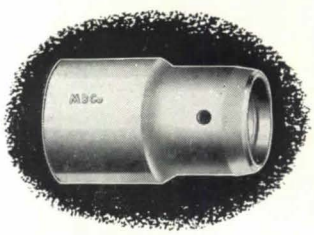












—MUELLER BRASS CO—PORT HURON MICH—STREAMLINE—MUELLER BRASS CO—PORT HURON MICH—STREAMLINE—MUELLER BRASS CO—PORT HURON MICH—STREAMLINE—

WHEN THE ARCHITECT *Specifys* THE CLIENT CAN BUY— WITH *Confidence*.....

EVERY architect knows he builds his reputation upon his recommendations because the very livability of the homes and buildings he designs depends upon his specifications. A reliable piping system for plumbing and heating is one of the most important factors in the building, and your clients' confidence in your recommendations should be proven by years of efficient, trouble-free service.

When you specify Streamline Copper Pipe and Solder Type Fittings, you may feel assured your recommendations for a permanently reliable piping system have been met.

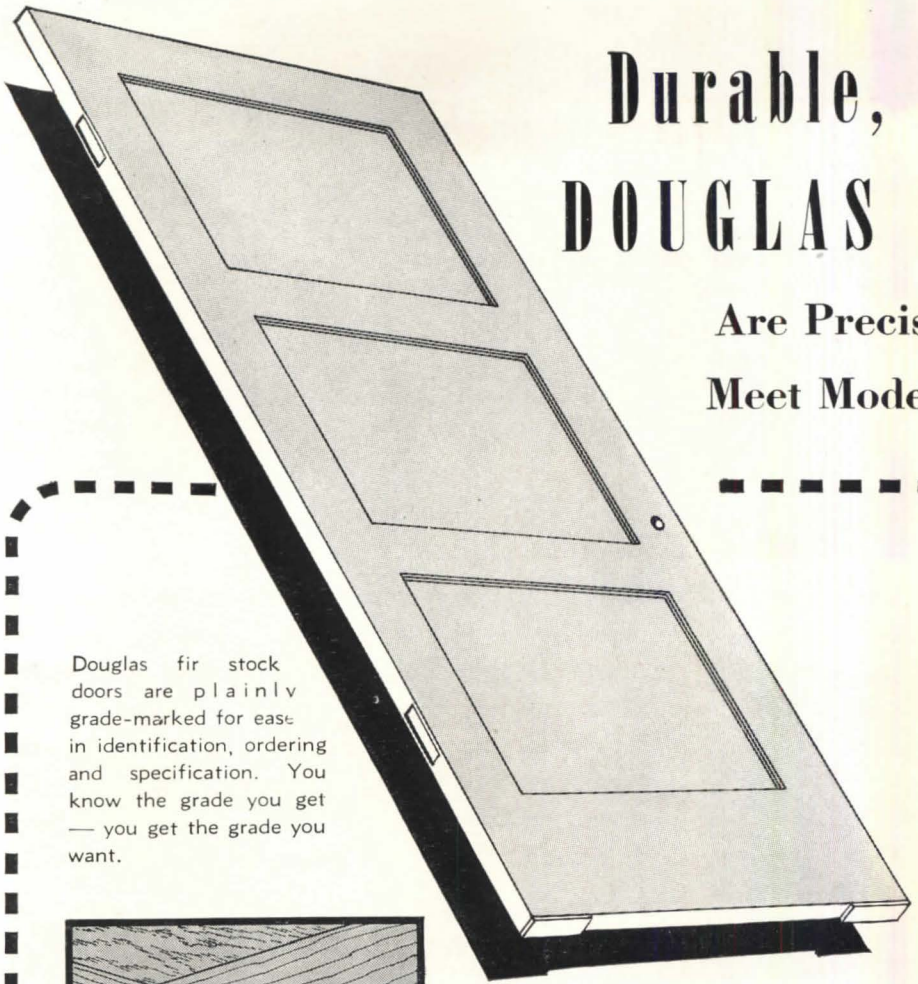
Streamline Copper Pipe connected with Streamline Solder Type Fittings provide a piping installation incorporating a tremendous resistance to rust and vibration. Copper and Brass have long proved to be superior piping materials. They are practically indestructible under normal conditions of soil and water, or the wear and tear of everyday use.

A plumbing and heating system of Streamline Copper Pipe and Solder Fittings installed under normal conditions means efficient, trouble-free performance year after year for the life of the building. For the latest modern designs on your board plan now to recommend Streamline for dependable, life-long service.

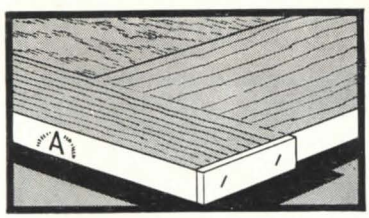
STREAMLINE
PIPE AND FITTINGS DIVISION
MUELLER BRASS CO.
PORT HURON, MICHIGAN

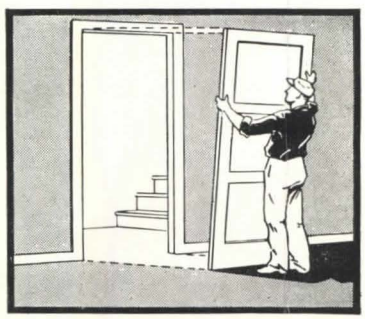
Durable, Attractive DOUGLAS FIR DOORS

Are Precision-Made to Meet Modern Demands



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





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.

FACTRI-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.

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 stock doors offer real advantages all along the line. Dealers offer them with the knowledge that their precision-made features meet the needs of every customer. Builders save time and money on every installation. Architects specify these fine doors knowing they will result in trimmer, more attractive installations. Prefabricators use them to speed line production. Check the advantages detailed at the left! The slight additional costs are more than offset by on-the-job economies.

Douglas Fir DOORS

FIR DOOR INSTITUTE

Tacoma 2, Washington

Remember! NATURE MAKES DOUGLAS FIR *Durable!*

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

THE NATIONAL ASSOCIATION OF FIR DOOR MANUFACTURERS

Color Dynamics

. . . Pittsburgh's painting system which uses the energy in color to promote health, comfort and safety—stimulates energy—increases efficiency—at the same time that it enhances appearance.

It's Easy to Apply . . .

once you know these simple principles!

SCIENCE has established the fact that color is a source of power. Authoritative tests have shown that some colors are stimulating, others restful, still others depressing — even causing irritation and discomfort.

Pittsburgh uses the principles of this *energy in color* as the basis of COLOR DYNAMICS—a new method of painting which utilizes color for functional as well as decorative purposes.

With COLOR DYNAMICS you can specify attractive color arrangements that will retard eye fatigue, help office workers to relax and feel more cheerful, increase their efficiency, add to their safety, improve their morale.

Rooms can be made to seem more inviting and spacious, longer or wider, higher or lower. Halls and stairways can be made brighter and safer. Even the exterior appearance can be made more pleasing to the eye by the emphasis given to architectural features.

You can apply these principles of the *energy in color* with scientific accuracy. What you can do with COLOR DYNAMICS—and why—is told in our revised and profusely illustrated book on "Color Dynamics".

Write for your free copy. Pittsburgh Plate Glass Company, Paint Division, Dept. PA-5 Pittsburgh 22, Pennsylvania.

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.*

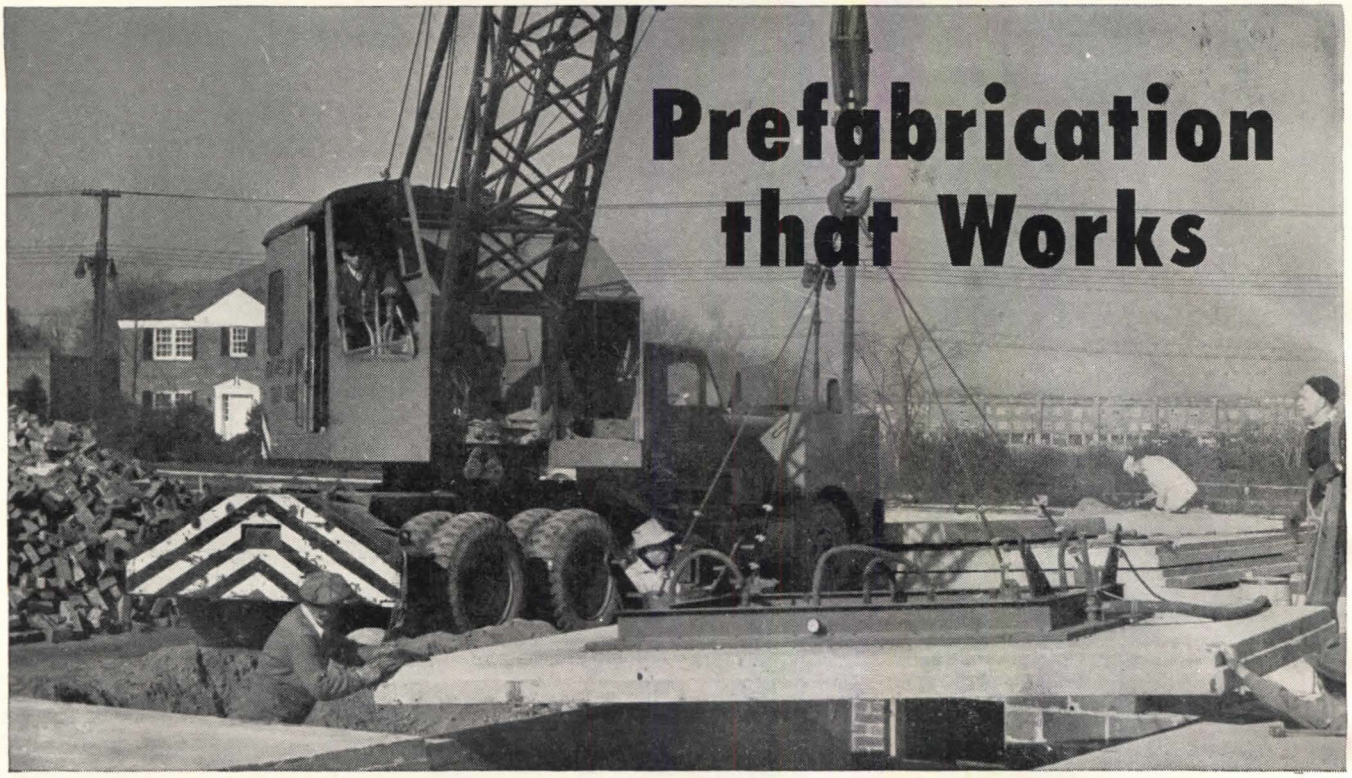
WATERSPAR ENAMEL — for furniture, woodwork, metal trim—its rich gloss resists marring and abrasion.

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

PITTSBURGH PAINTS

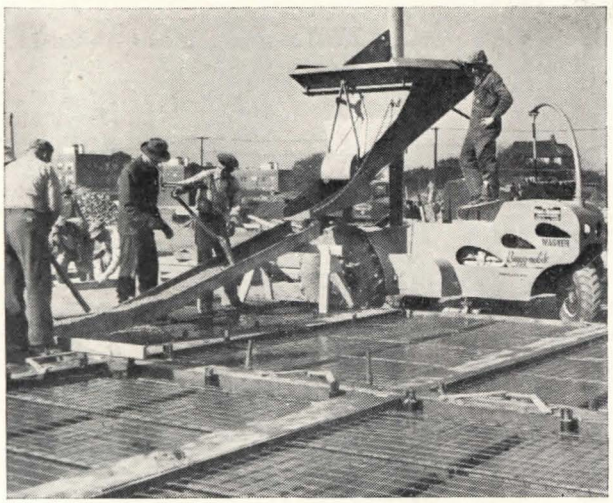
PITTSBURGH PLATE GLASS COMPANY, PITTSBURGH, PA.

PITTSBURGH STANDS FOR QUALITY PAINT AND GLASS



Prefabrication that Works

PRECAST CONCRETE FLOORS PROVIDE UTMOST FIRE-SAFETY AT MINIMUM COST IN 110-BUILDING U.N. HOUSING PROJECT



HERE is construction history in the making. The project is Parkway Village, 110 well-designed, garden-type, apartment buildings for United Nations personnel, at Jamaica, L. I. Floors are reinforced concrete slabs, up to 14 x 14 ft. in size—a total of 6800 slabs precast at the job in 115 'Incor' concrete molds. Ribs in floor slabs, running in two directions, share the load; so the floor system averages only 2½ in. thick, including beams, slabs and girders, and uses only about half as much concrete and steel as conventional construction.

Dependable high early strength with 'Incor'* 24-Hour Cement makes it possible to lift slabs day after pouring, for lowering onto concrete foundations and walls. This method of floor construction provides stability, fire-safety and low upkeep of good concrete at minimum cost—and has great possibilities for industrial as well as residential buildings.

*Reg. U.S. Pat. Off.

• Floor slabs for Parkway Village, 110-building U. N. housing project, Jamaica, L. I., are cast at job in molds of 'Incor' concrete. Slabs are vacuum treated and lifted by vacuum lifting frame day after pouring. With 7¼-bag 'Incor' mix, cylinders are testing over 8000 lbs. psi. at 28 days.

• Parkway Village, Jamaica, N. Y. Owner: Savings Banks Trust Company, representing a number of participating Mutual Savings Banks. Architects: Leonard Schultze and Associates; Engineers: Madigan-Hyland; Contractor: George A. Fuller Company, all of New York City.

LONE STAR CEMENTS MEET EVERY CONSTRUCTION NEED

LONE STAR CEMENT CORPORATION

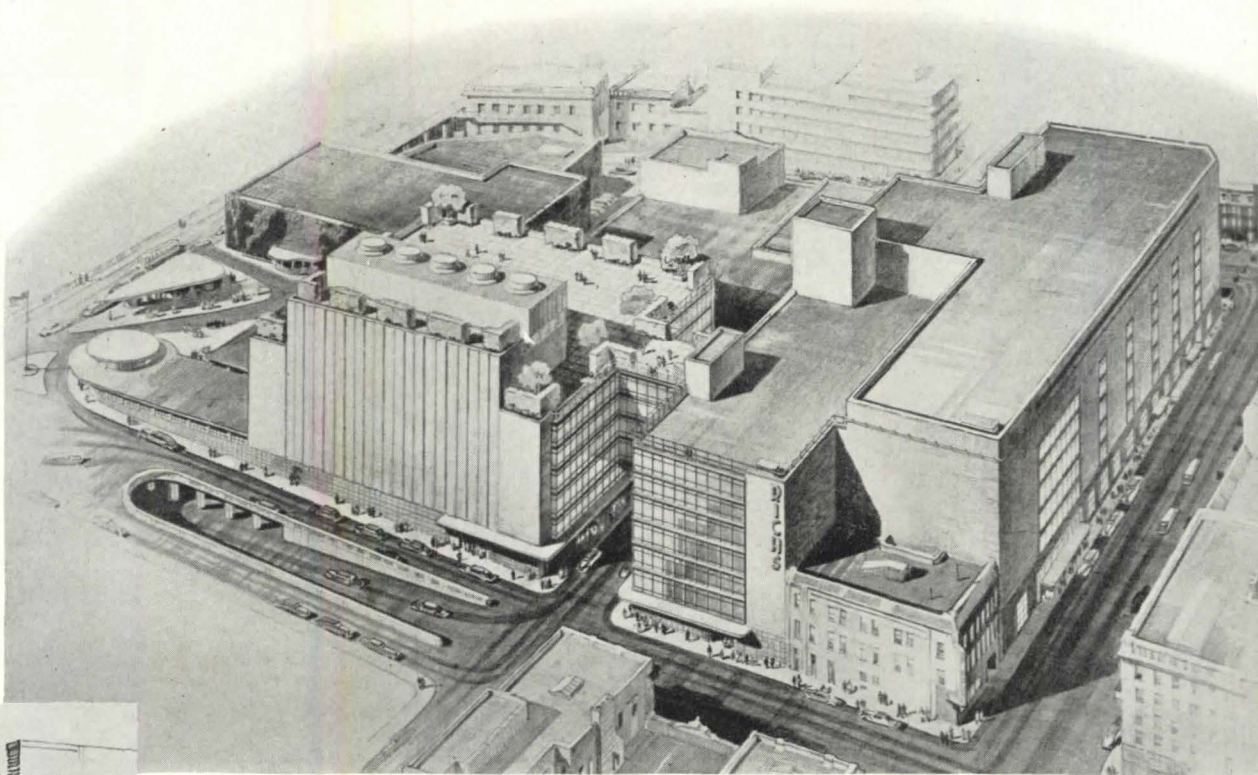
Offices: ALBANY • BETHLEHEM, PA. • BIRMINGHAM • BOSTON • CHICAGO • DALLAS • HOUSTON • INDIANAPOLIS • JACKSON, MISS.
KANSAS CITY, MO. • NEW ORLEANS • NEW YORK • NORFOLK • PHILADELPHIA • ST. LOUIS • WASHINGTON, D. C.

LONE STAR CEMENT, WITH ITS SUBSIDIARIES, IS ONE OF THE WORLD'S LARGEST CEMENT PRODUCERS: 15 MODERN MILLS, 25,500,000 BARRELS ANNUAL CAPACITY

RETAIL STORES

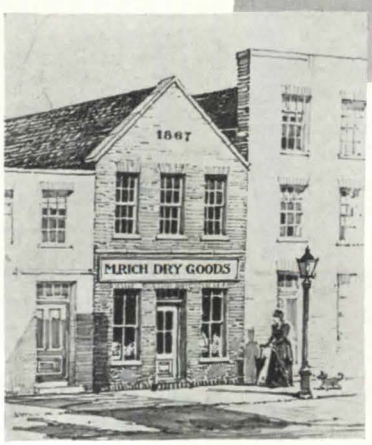
A CRITIQUE

The second of PROGRESSIVE ARCHITECTURE's critique presentations (the first, on HOSPITALS, appeared in November, 1946), this study of a group of retail stores has been made with the advice and criticism of a consulting panel of store-planning experts—John Matthews Hatton, Walter Sanders, and Kenneth Welch. These gentlemen sat down with the editors, studied the drawings and photographs, and made such comments and asked such questions as occurred to them. These criticisms were then relayed to the designers of the buildings for their rebuttal. To the extent that you find this type of thoroughgoing appraisal interesting and useful—and let us know it—we shall plan to include more of them in future months.



1947

J. W. Morgan



Ted Kautzky

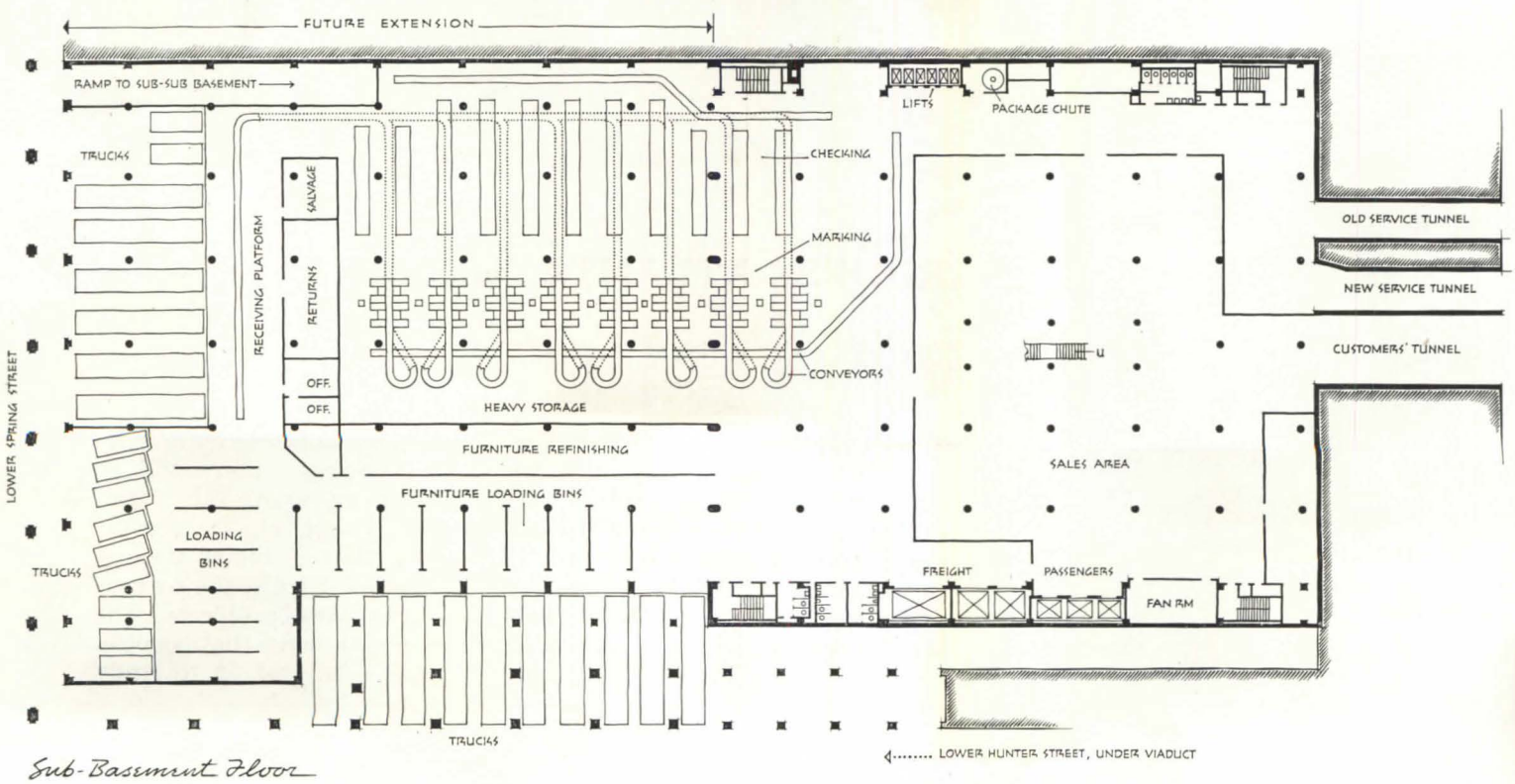
1887

RICH'S, ATLANTA, GEORGIA

TOOMBS & CREIGHTON, Architects

Many experts feel that the large city department store is on its way out; that individual shops and dispersed shopping centers will, in time, replace the vast store in the downtown area. Why? Importantly because of the difficulty involved in reaching these ever-more-crowded parts of the city and the fact that if one arrives by car, parking is a headache. In the expansion of Rich's, the owners and architects make a bold attack on these basic problems. The scheme includes several vigorous design elements, some that bespeak the forthright logic of today, others that are interesting to study and question.

VIEW OF MODEL FROM THE WEST. Customers' plaza (also for outdoor selling) at left; Bridge Building, center, and the old store at rear. Note ramp up from Hunter Street.

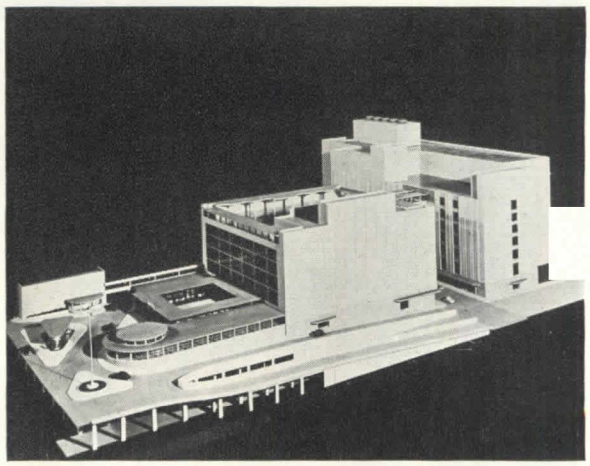


Sub-Basement Floor

RICH'S, ATLANTA, GEORGIA

TOOMBS & CREIGHTON, Architects

To the east is the present store, a 6-story block containing 369,588 square feet of floor space. Eventual development includes enlargement of the present building and a new unit, called the Bridge Building, on a 200 by 400 plot across Forsythe Street to the west. When completed, this new Bridge Building will consist of three basements and seven floors, giving Rich's a total of around 800,000 square feet of floor space. The old building and the Bridge Building will be connected by a bridge, four floors high, across Forsythe Street, and by a tunnel at the subbasement level. By no means the least of the new facilities is the proposed viaduct-level plaza toward the west, to which passenger cars may be driven from the Hunter Street ramp, where attendants will greet customers and take the cars to an adjacent garage. This two-level system also provides offstreet, underground space for trucking and handling of merchandise.

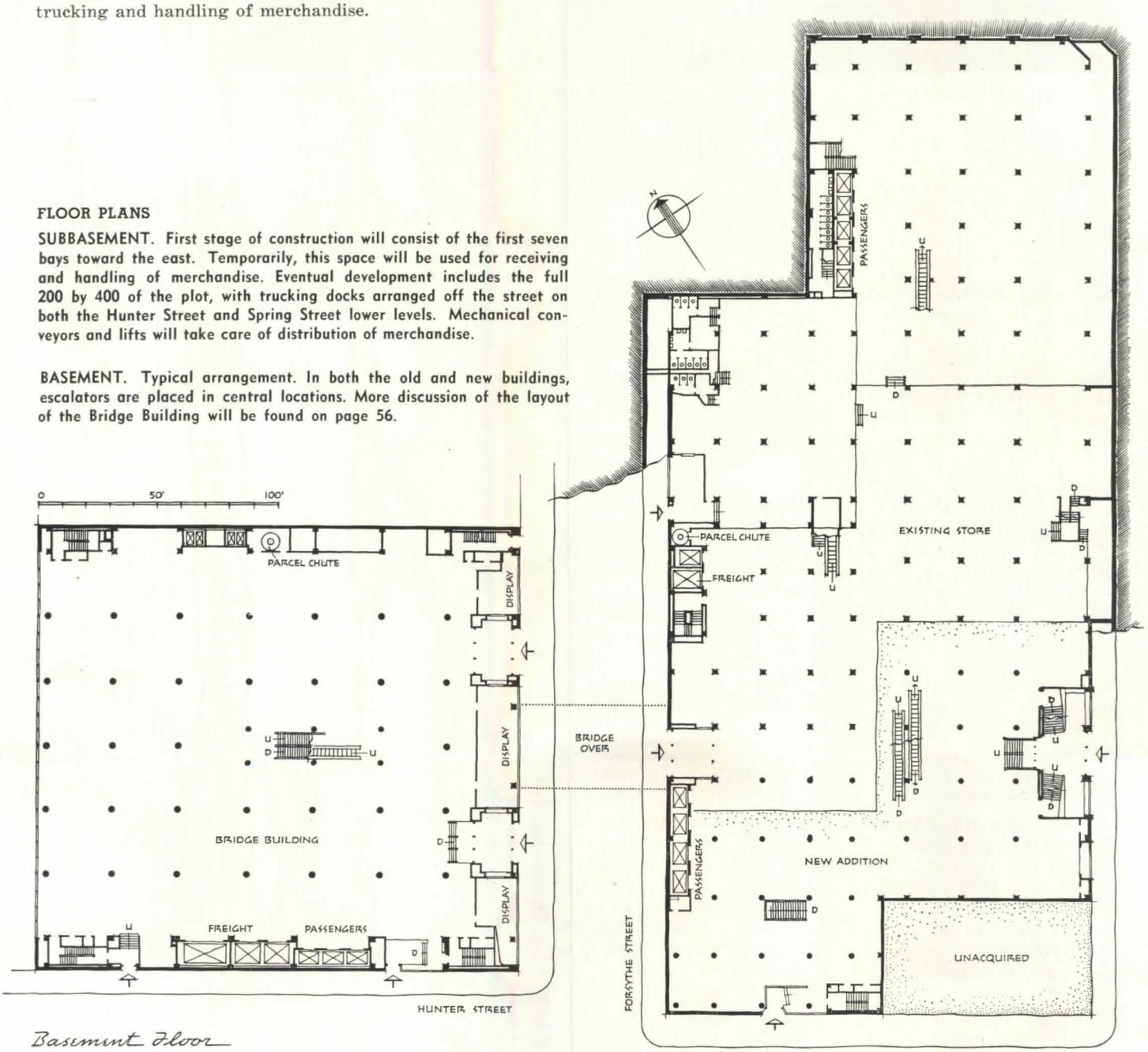


GENERAL VIEW OF MODEL, showing relation of old and new buildings and the two-level arrangement under the plaza.

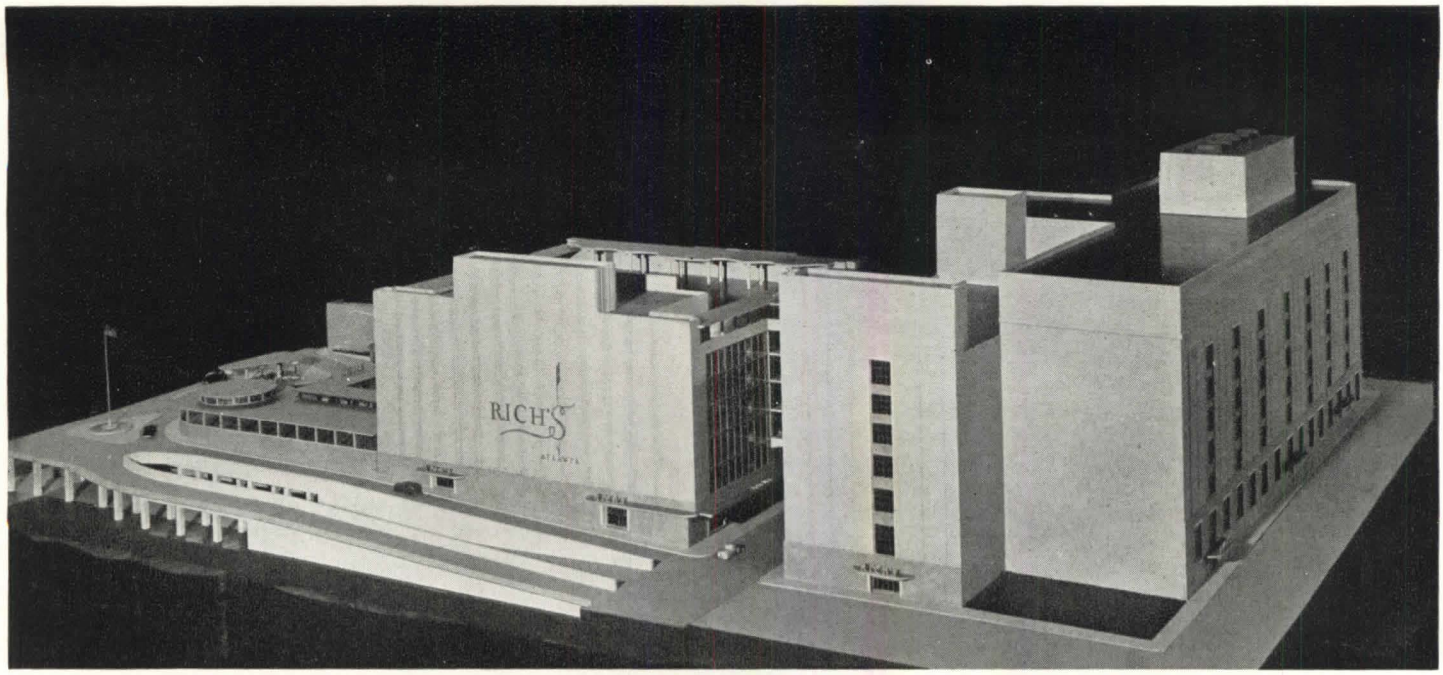
FLOOR PLANS

SUBBASEMENT. First stage of construction will consist of the first seven bays toward the east. Temporarily, this space will be used for receiving and handling of merchandise. Eventual development includes the full 200 by 400 of the plot, with trucking docks arranged off the street on both the Hunter Street and Spring Street lower levels. Mechanical conveyors and lifts will take care of distribution of merchandise.

BASEMENT. Typical arrangement. In both the old and new buildings, escalators are placed in central locations. More discussion of the layout of the Bridge Building will be found on page 56.



Basement floor



THE WINDOWLESS WALL of the Bridge Building is surfaced with brick, arranged in alternate convex and concave panels.

RICH'S, ATLANTA, GEORGIA

It was around the basic scheme for the new Bridge Building—a squarish block, with two sides windowless and two sides mostly of glass—that much of the consulting panel's discussion centered—particularly the glazed end walls.

The two masonry walls grew out of the wish to provide complete flexibility within the building for display and sales. To clear the center of the floor, it was decided to segregate the utilities—elevators, stairs, duct space, etc.—along two outer walls, and research determined that the most efficient placement for elevators (controlled by the arrangement of the eventual receiving and shipping departments at subbasement level) would be along the south wall. A parallel scheme places toilets and additional services, and reciprocating lifts for handling stock along the north wall.

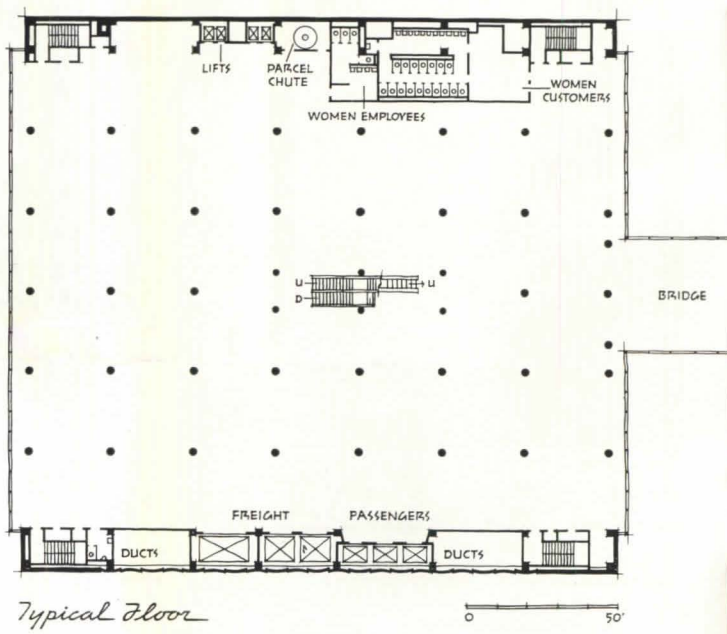
The management wished to arrange things so that customers could look out from almost any point in the store. Hence the glass east and west walls, as well as side walls of the bridge.

Members of the consulting panel questioned this solution: With so much daylight, wouldn't it be difficult to maintain desirable light conditions?

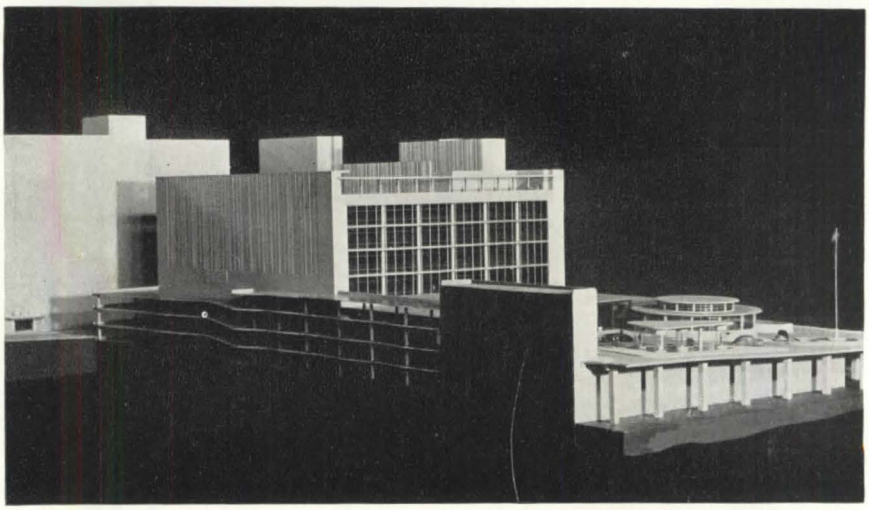
While the ability to look out reduces feelings of claustrophobia, would not the big window area be a distraction and interfere with maximum selling? Someone posed the problem of the dazzling effect of stepping from an elevator out onto a daylighted sales floor. Finally, granted that the outlook toward the west, above the landscaped plaza, would be pleasant, the one toward the east, across Forsythe Street, would simply look out on the rear wall of the old store and not introduce much daylight.

All of these points were taken up with the architects. The glass wall idea was introduced as a flexible device, so that total daylighting could be employed or (where desired) the daylight could be controlled by Venetian blinds or wholly blanked out.

On the sixth floor, for example, in the tearoom, the full glass wall would undoubtedly be used; on a floor where artificial light was preferable, there might be a line of casework or



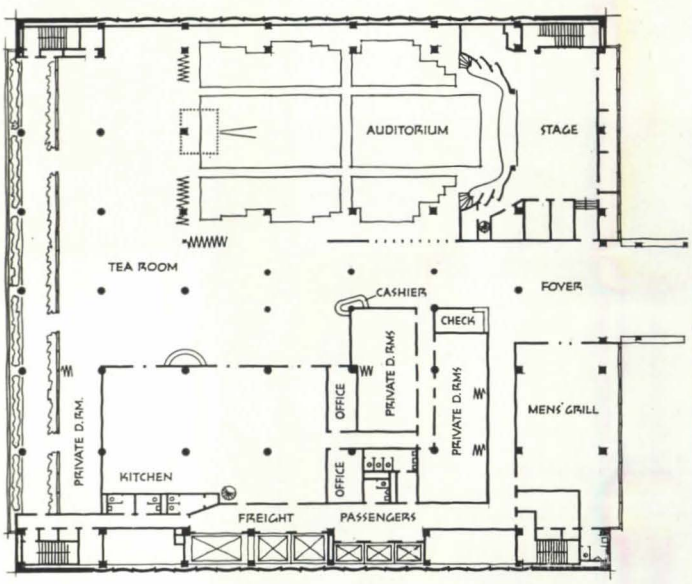
Typical floor



REAR VIEW. Plaza and outdoor sales, right; Bridge Building, center.

TOOMBS & CREIGHTON, Architects

some form of partitioning between the window wall and the sales floor space. One of the panel pointed out that the glass would undoubtedly cost less than masonry; it furthermore makes dramatic use of a material that is available at a time when many materials are still in short supply. The glazed east wall was frankly worked out to tie in with the design of the all-glass bridge. In the last analysis, however, one must question whether, if most floors would require partial or total blanking out of the window area, the original all-glass scheme is more of a problem to cope with than an element of flexibility.



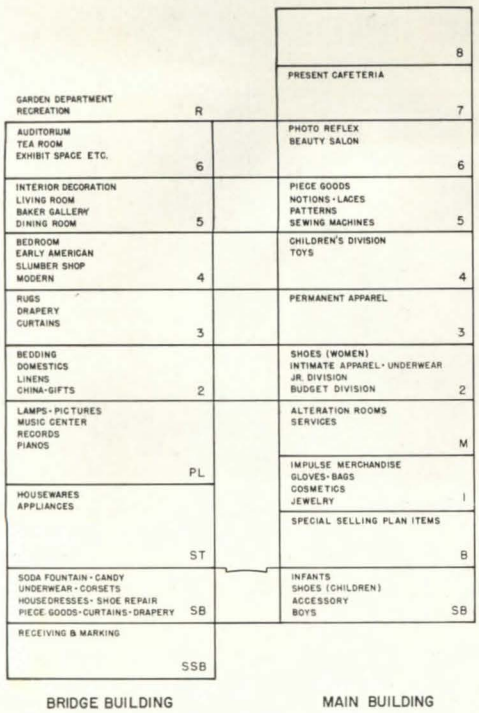
Sixth Floor

Exterior treatment of the solid walls is a veneer of gray brickwork planned in alternating concave and convex sections 7 feet wide to produce a vertical-lined texture. In working things out with the contractor, the architects found that by using a special metal frame, the scalloped brickwork could be laid up almost as fast as standard construction, and all agreed that the added cost (around $10,000) was justified, in that this treatment would give Rich's a highly individual appearance.

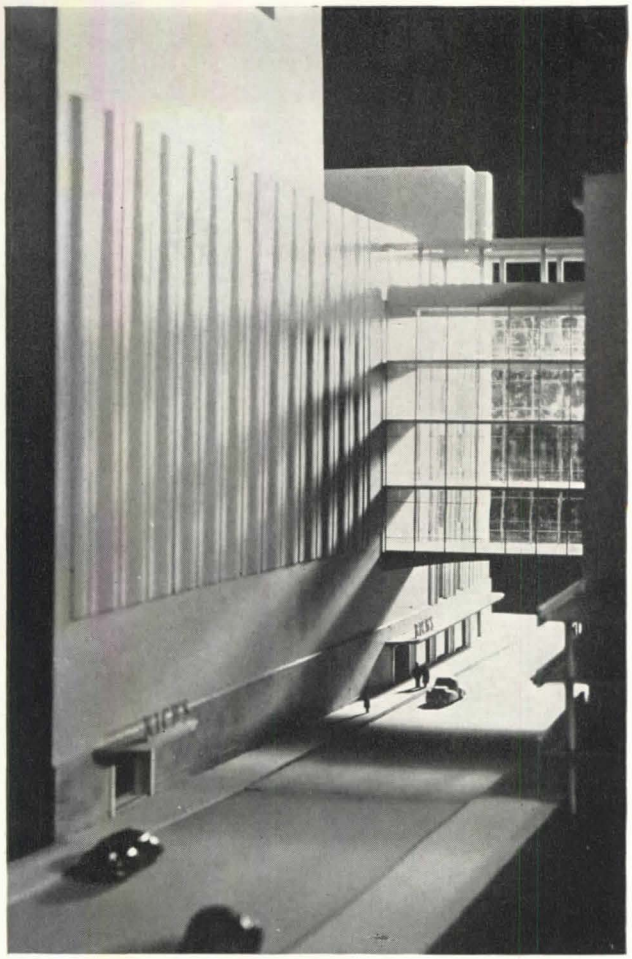
Structure is a flat-slab reinforced concrete system. A 28-foot square bay arrangement of columns was adopted to provide efficiency and flexibility for receiving, marking, and delivery operations, as well as convenience in layout of fixtures, lighting, and sprinkler systems.

The entire store will be air conditioned. Because of the heavy radiation through the two glass facades, separate zones are set up to handle each of these areas. Air diffusers are mounted in the center of each 28-foot bay. Heating is accomplished by coils in conjunction with the air conditioning system. Along the window walls, a continuous row of convector radiators runs the full length of the glass. Entrances are heated with unit heaters.

General lighting comes from 80 w. fluorescent fixtures, with three equally spaced rows of lights in each 28-foot width; in addition, there are numerous ceiling outlets for specialty lighting; a duplex power outlet occurs at the base of each column.



EVENTUAL location of departments.

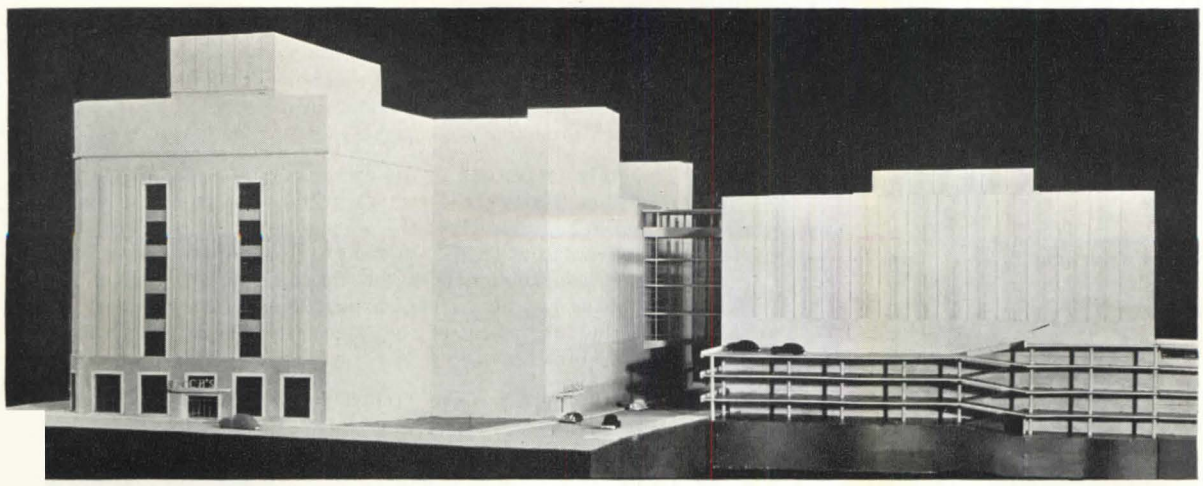


DETAIL OF BRIDGE, with old store at left.

RICH'S, ATLANTA, GEORGIA

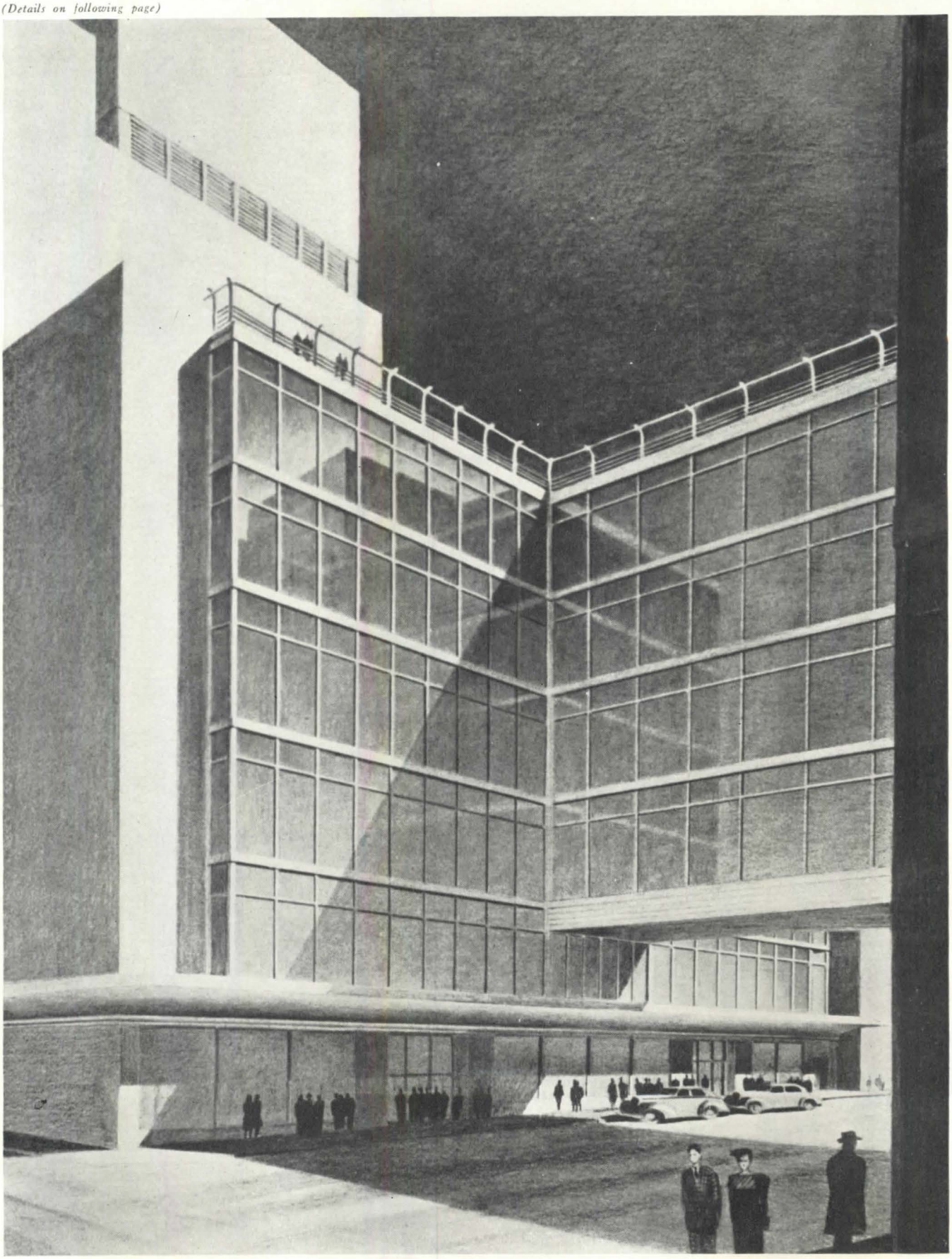
TOOMBS & CREIGHTON, Architects

An imporportant design factor—one that helped produce the much-windowed treatment of the new Bridge Building itself—is the 35-foot-wide, four-floor, glass-surfaced bridge connecting the old and new buildings. Light and graceful in design, it was consciously schemed to serve as an agent in advertising the store. To keep the window area clean, outriggers on the roof (top of guard railing) are equipped with a trolley member from which a window-washing cab is suspended. This same system is used for the window walls of the Bridge Building. Heating of the bridge is handled by continuous radiation inside the glass walls.



CUTAWAY (right) shows multilevel garage, to which attendants drive customers' cars arriving at rear plaza.

(Details on following page)



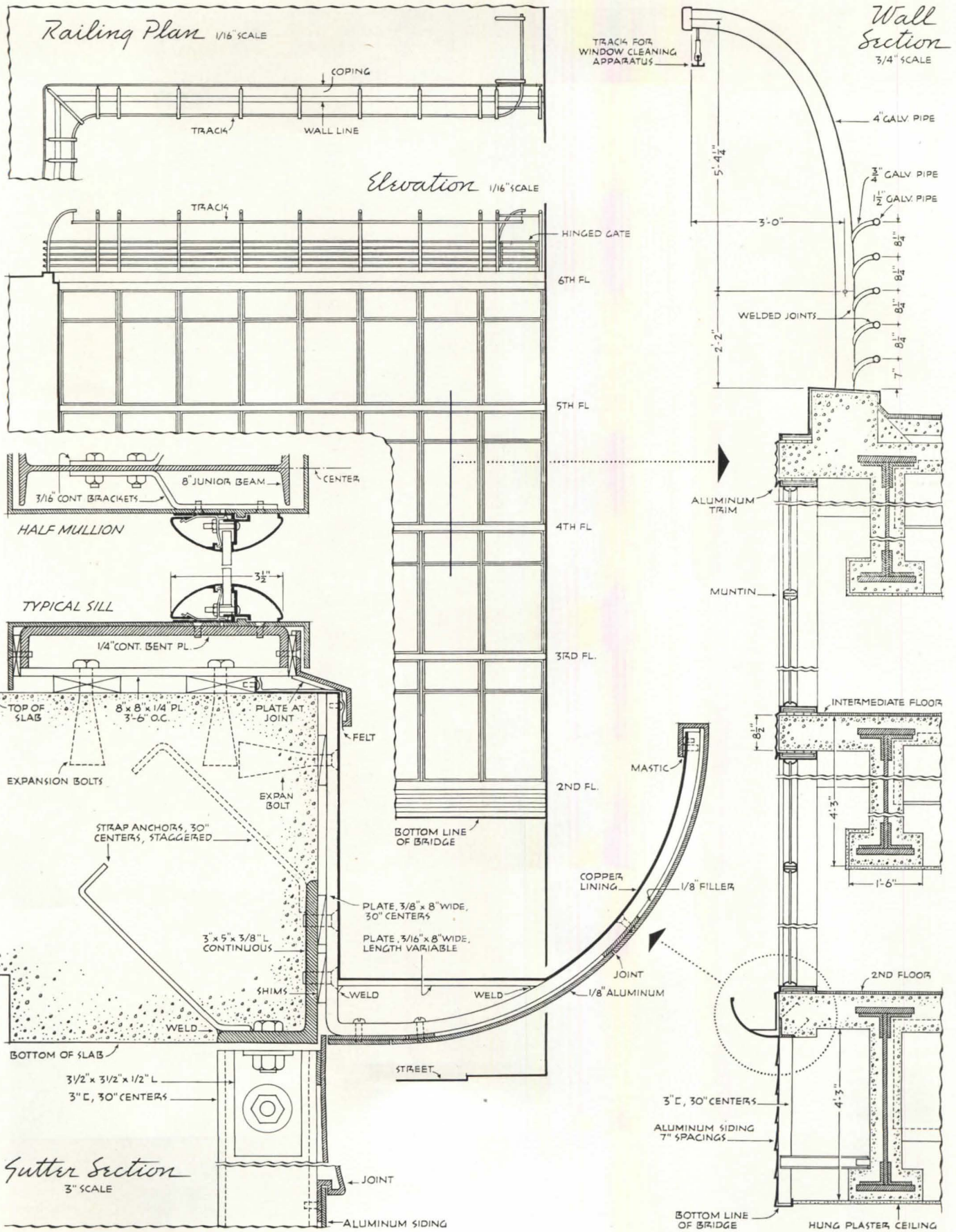
BRIDGE between TWO BUILDINGS

RICH'S DEPARTMENT STORE

TOOMBS & CREIGHTON, Architects

ATLANTA, GA.

(Rendering on preceding page)



BRIDGE between TWO BUILDINGS

RICH'S DEPARTMENT STORE

TOOMBS & CREIGHTON, Architects

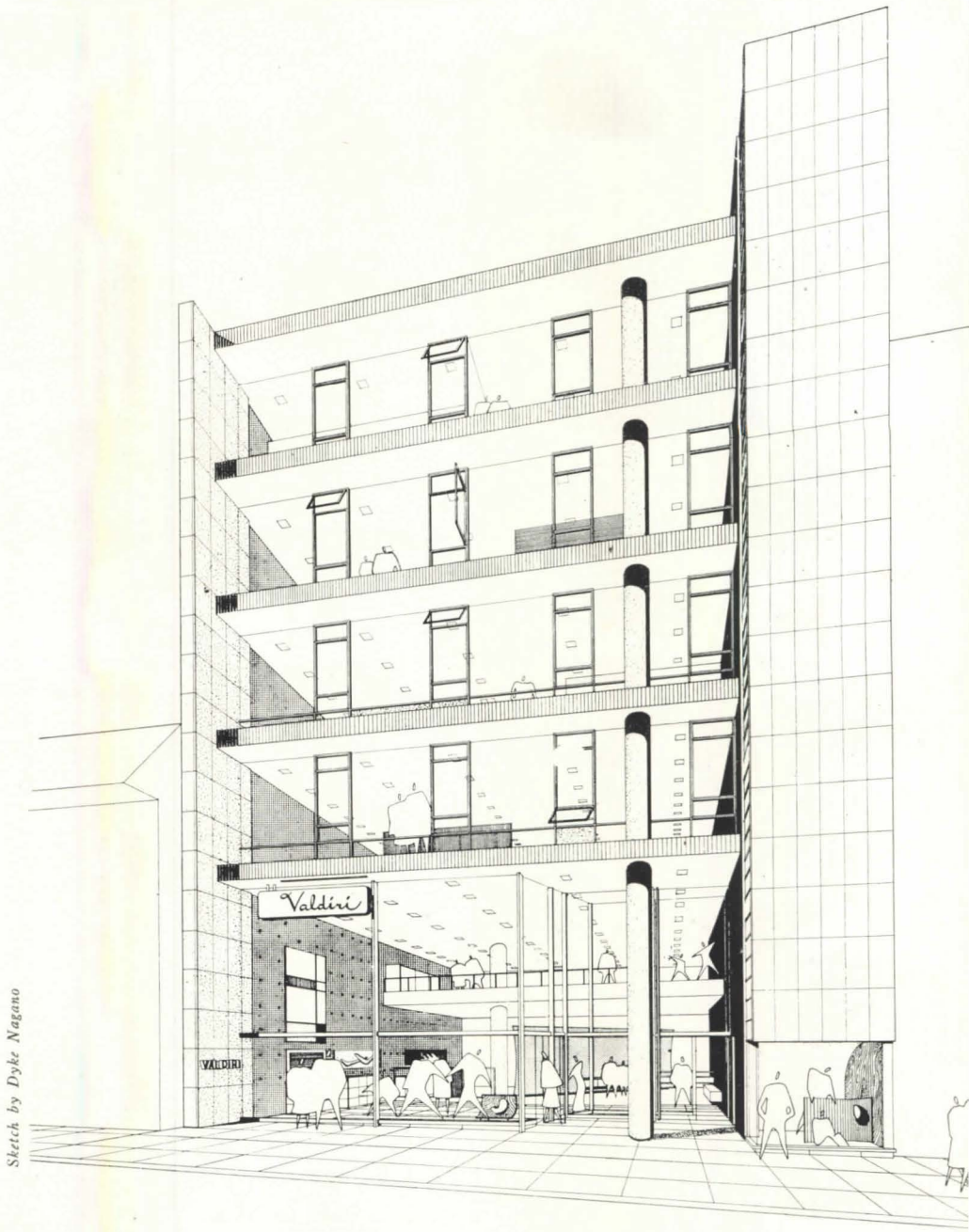
ATLANTA, GA.

RETAIL STORES

A CRITIQUE

In the discussion of department store planning in general, one of the consulting panel observed that in the prewar period, from around 1929 up to 1940, there were strong indications that the centralized large department store was tending to become an obsolescent type of facility. Based on actual percentage of income figures, it appeared that the decentralized store and the smaller specialty shop were gaining ground over the vast emporium at the main cross streets. This matter-of-fact consideration, interestingly enough, is a good omen to those whom Robert Moses usually refers to as "long-haired theorists"—those plan-minded professionals who prefer to anticipate obsolescence rather than cope with the obsolete. Since this is a far from perfect world, however, the larger store in the midst of unplanned downtowns is still much with us. And while we may not applaud this time-honored type of facility as progressive in itself, we look for its planning, within its limitations, on as intelligent a level as possible.

Perhaps more in line with actual trends (whether the short-haired "non-theorists" like it or not) is the smaller department store, a facility that falls somewhere between the multi-departmented store and the small retail shop or dispersed shoping center. While still confronted by the outrageous building conditions imposed by solid blocks of "developed" property, it nonetheless offers a somewhat freer area for planning, if only because it is a less complex instrument. One of the most forward looking examples in this median category of retail selling establishments is the remarkable Valdiri store being built in Bogota, Colombia, presented herewith.



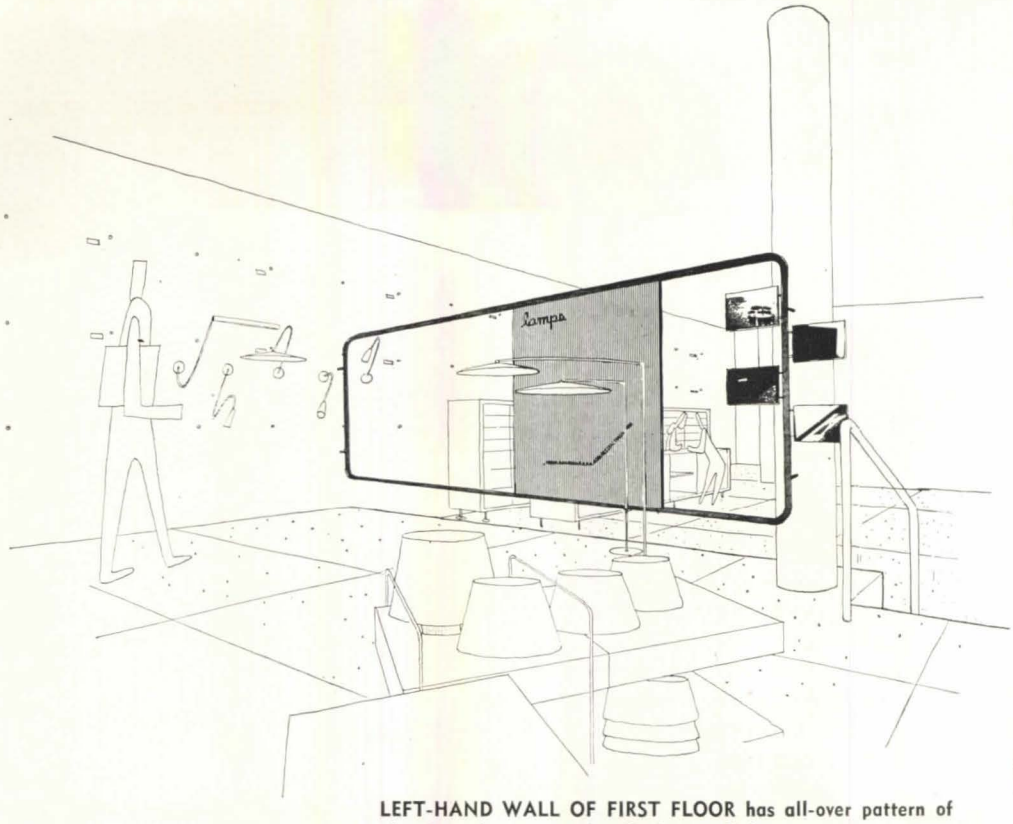
Sketch by Dyke Nagano

VALDIRI'S, BOGOTA, COLOMBIA

Associated Architects: HENRY C. HUDGINS & CO. (Bogota)
also Engineers and Contractors

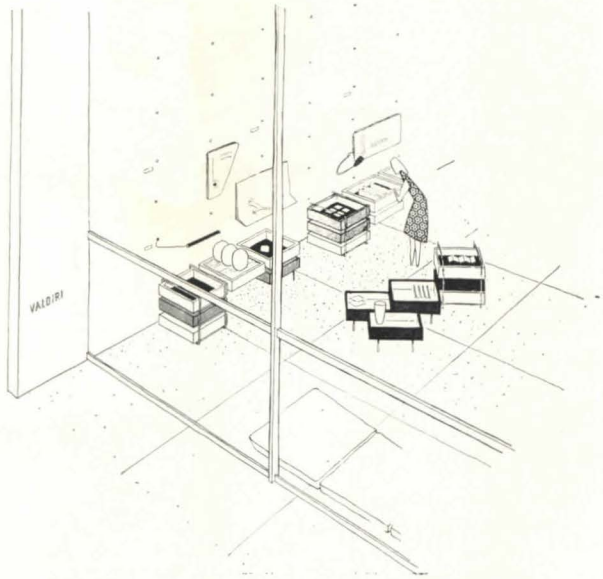
and KETCHUM, GINA & SHARP

A joint design performance, the Valdiri Building is also a dual-use structure. Initially, the first floor, mezzanine, and second floor are to be used for a high class specialty store; the three upper floors, for rental office space. In time, the upper floors will become part of the store space, and the structure is so designed that two additional floors may then be added to the building. The South American firm handled study of site and building regulations, preparation of final working drawings and specifications, construction and supervision; the New York architects developed the basic parti and the structural and mechanical design, design of the merchandising layout, cabinet work and equipment, and selection of materials, colors, and finishes. This latter work, under the immediate supervision of Joseph Amisano of the K. G. & S. office, also included design of packaging, trademark, letterheads, etc.



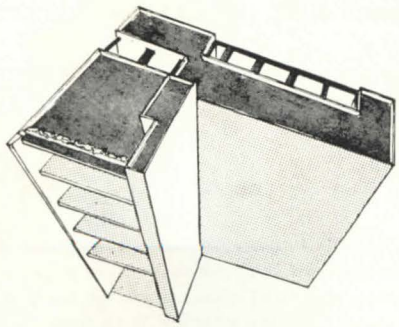
LEFT-HAND WALL OF FIRST FLOOR has all-over pattern of plug-in sockets to receive displays or light sources.

Interior sketches by Jules Gregory



GIFT DEPARTMENT as seen through the all-glass, 2-floor-high storefront.

VALDIRI'S, BOGOTA, COLOMBIA



STRUCTURE

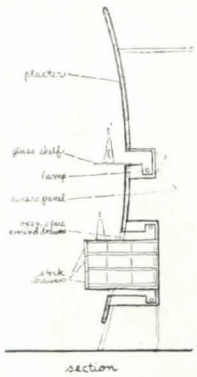
Reinforced concrete, with ribbed floor beams (similar to slag-block construction). Exterior walls of local brick. Floors, except street (terrazzo) have monolithic concrete finish. Roof finished with precast concrete slabs.

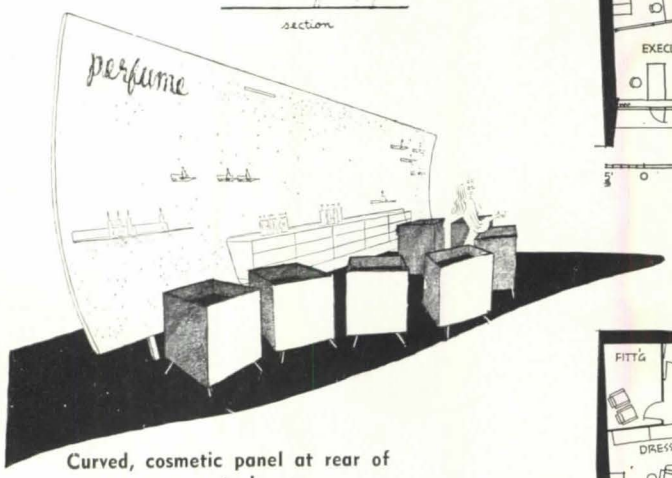
The narrow L-shaped lot is surrounded on all sides except along the street by existing buildings. A new, reinforced concrete building on the right has a basement and footings that go below the basement level of Valdiri's; at the left and to the rear are old colonial structures which have neither deep foundations nor heavy structural loads. These factors, plus the fact that the land is marshy and hence exerts water pressure, limited the basement space and determined the placement of the structural columns near the boundary walls between the Valdiri Building and the new building on the right. Thus need for expensive underpinning of existing foundations was avoided.

The City of Bogota plans to widen the street on which Valdiri's faces. To anticipate this, the front wall is placed back on the future building line.

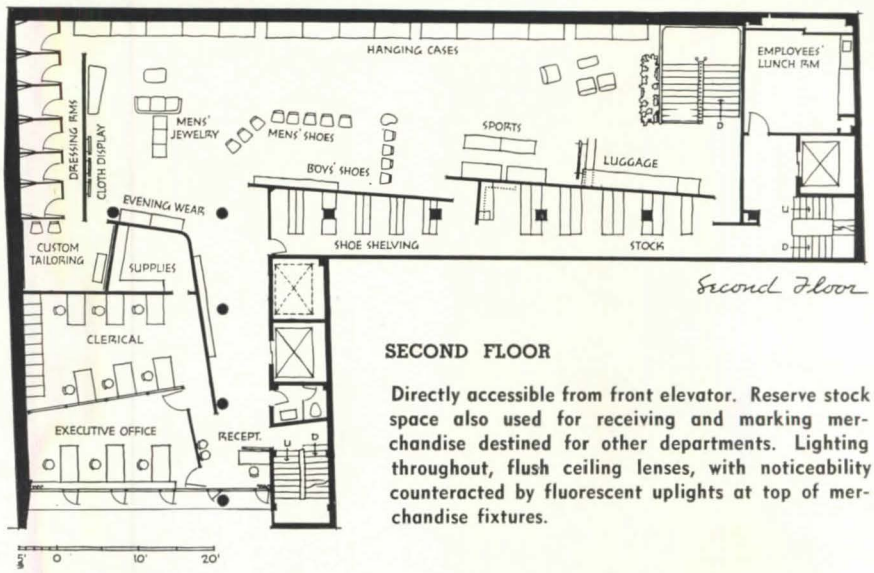
Since the basement is small, it is used only for receiving and unpacking merchandise, which arrives by way of a sidewalk elevator. Storage of goods is handled adjacent to sales areas.

Since Bogota regulations for this street



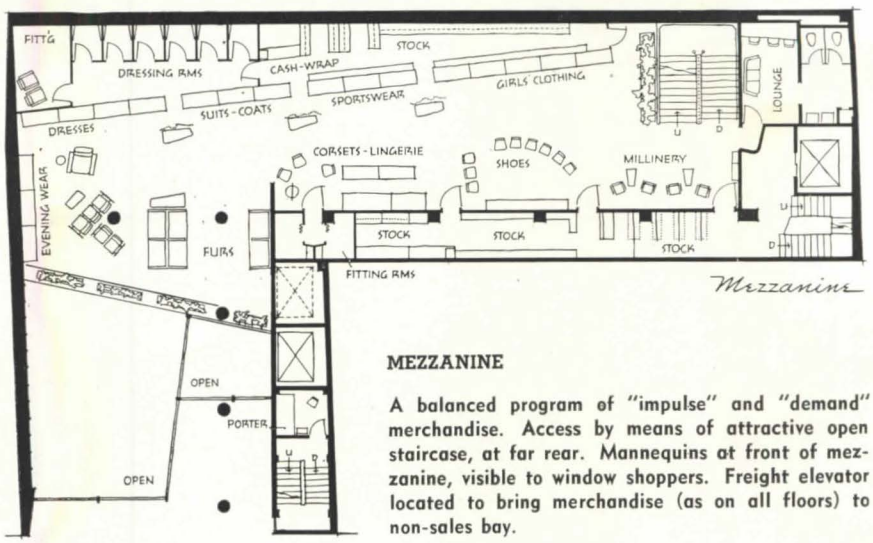


Curved, cosmetic panel at rear of store screens a stock room.



SECOND FLOOR

Directly accessible from front elevator. Reserve stock space also used for receiving and marking merchandise destined for other departments. Lighting throughout, flush ceiling lenses, with noticeability counteracted by fluorescent uplights at top of merchandise fixtures.

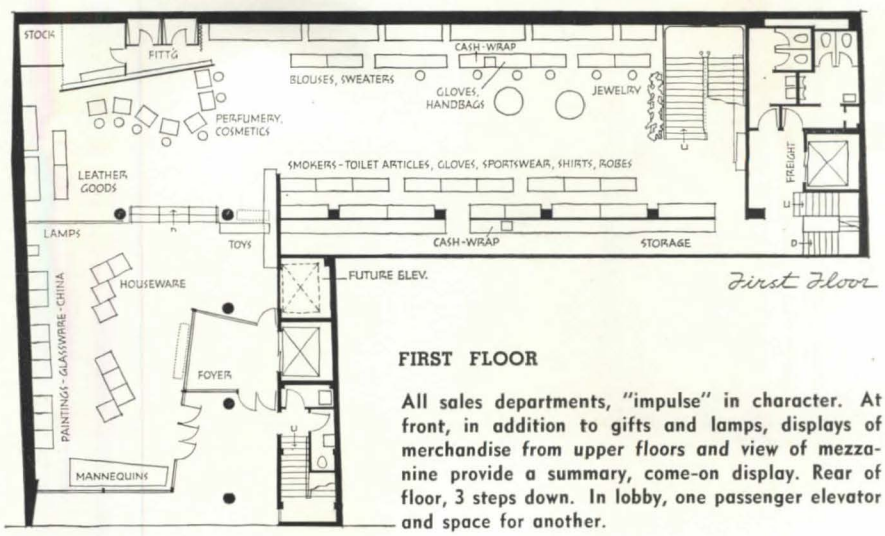


MEZZANINE

A balanced program of "impulse" and "demand" merchandise. Access by means of attractive open staircase, at far rear. Mannequins at front of mezzanine, visible to window shoppers. Freight elevator located to bring merchandise (as on all floors) to non-sales bay.

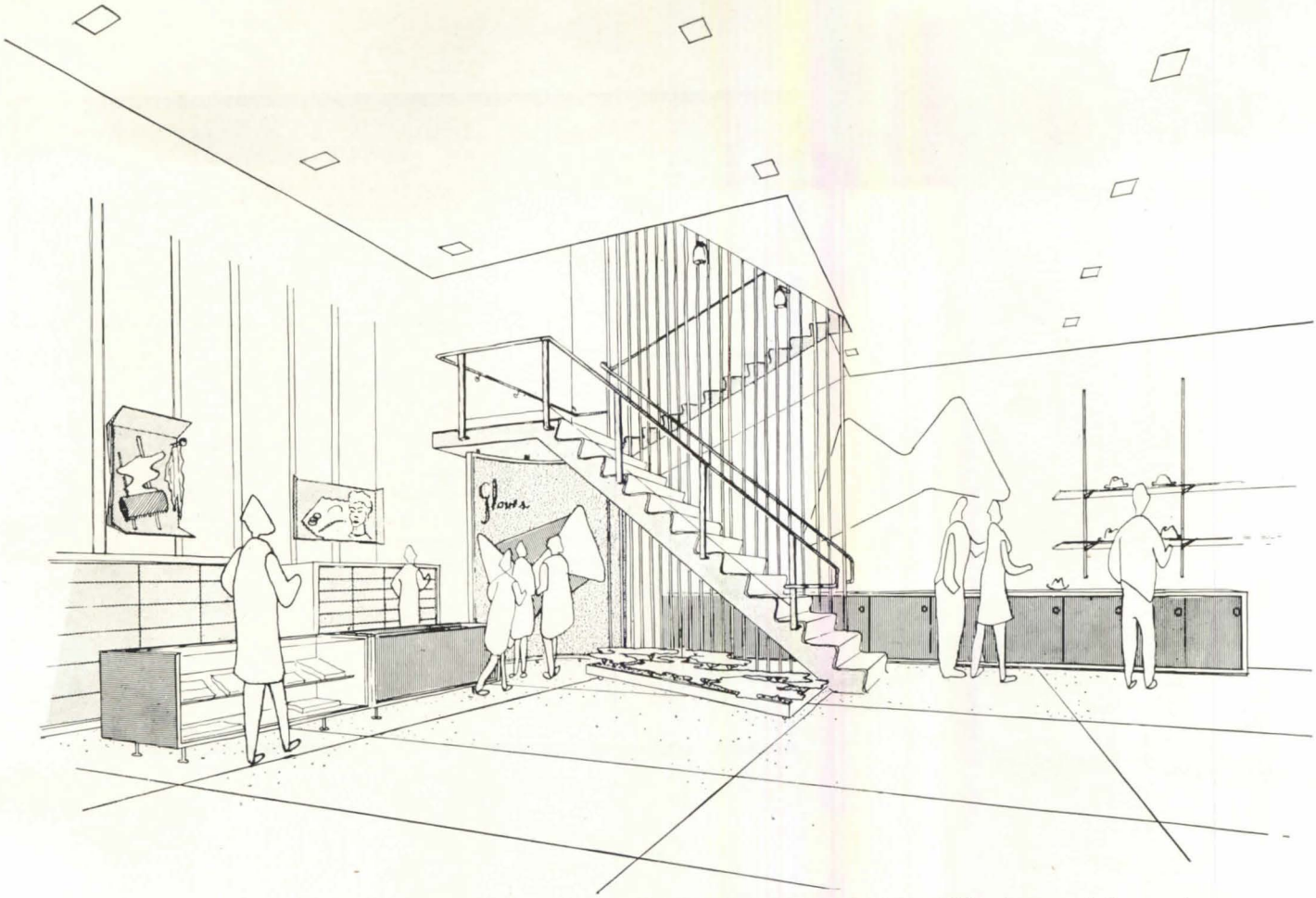
Associated Architects:
HENRY C. HUDGINS & CO.
and KETCHUM, GINA & SHARP

limit building height before a setback to 82 feet, and seven (eventually) stories were required, ceiling heights become quite low—8'-4". To help overcome this and also to provide a dramatic storefront, the mezzanine is introduced, giving a full two-floor height to the store on the street face. Placement of the mezzanine rail, well back in the short, front leg of the L, is significant in connection with the chief questions raised by our consulting panel (see next page) concerning the problem of attracting customers back into the rear sales areas of the store.

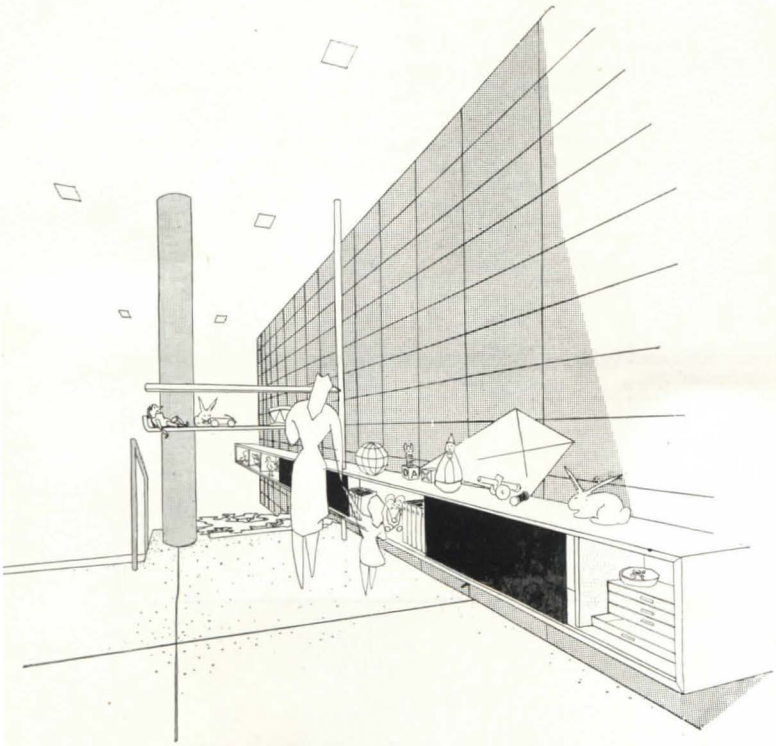


FIRST FLOOR

All sales departments, "impulse" in character. At front, in addition to gifts and lamps, displays of merchandise from upper floors and view of mezzanine provide a summary, come-on display. Rear of floor, 3 steps down. In lobby, one passenger elevator and space for another.



DRAMATIC STAIR UP TO MEZZANINE. In general, fixtures simply stock merchandise, except where stocking and display functions combine. Displays come on top of fixtures or on wall.



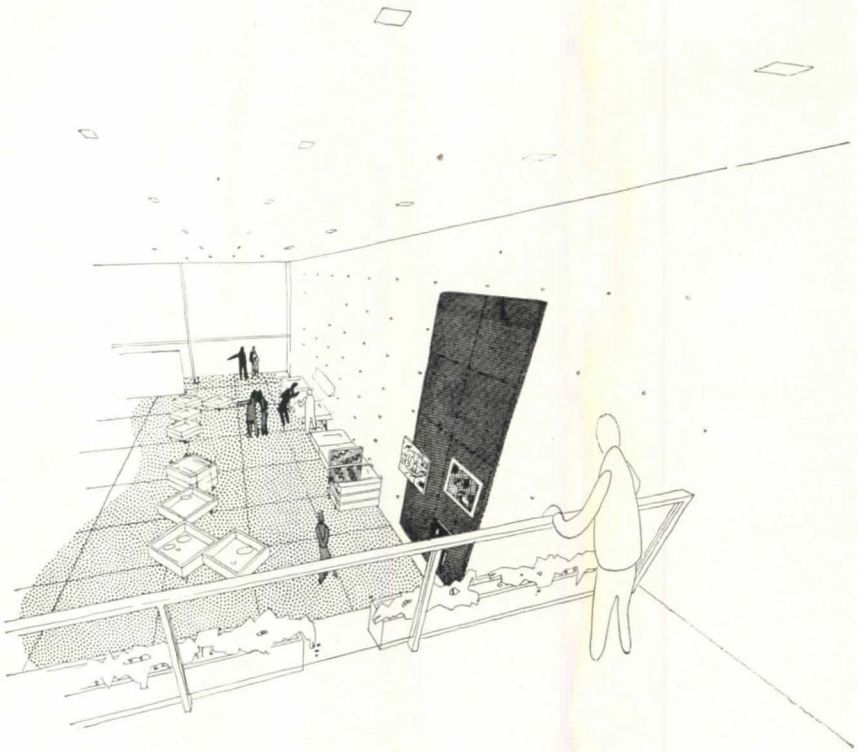
TOY CASE between entrance level and rear of store. On one level, at child's height; on the other, at adult's.

VALDIRI'S, BOGOTA, COLOMBIA

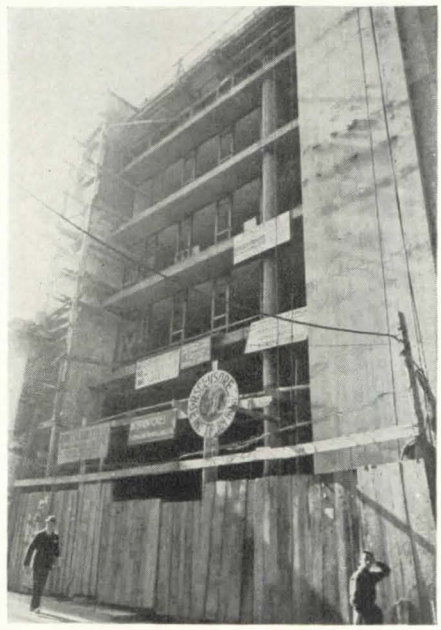
Associated Architects:
HENRY C. HUDGINS & CO.
and KETCHUM, GINA & SHARP

How, our panel of store planners asked, with the forward placement of the elevator lobby (required so that the store and upper office space could both be directly served) will customers be lured around the corner into the rear of the store?

Among the plan devices worked out to solve this problem are (1) the merchandise layout of the first floor (gifts, lamps, toys, and similar impulse merchandise near the entrance; cosmetics and accessories dramatically viewed in the rear of the store, 3 steps down from the entrance level); (2) the placement of the stairway to the mezzanine (the only access) at the far rear corner of the sales space; (3) the open-rail treatment of the front of the mezzanine, an inviting element to both passers-by and customers within the store; and (4) the second-floor plan which places offices at the front and allows the customer no choice but to enter the rear portion, whether he arrives by the elevator or the stairway up from the mezzanine.

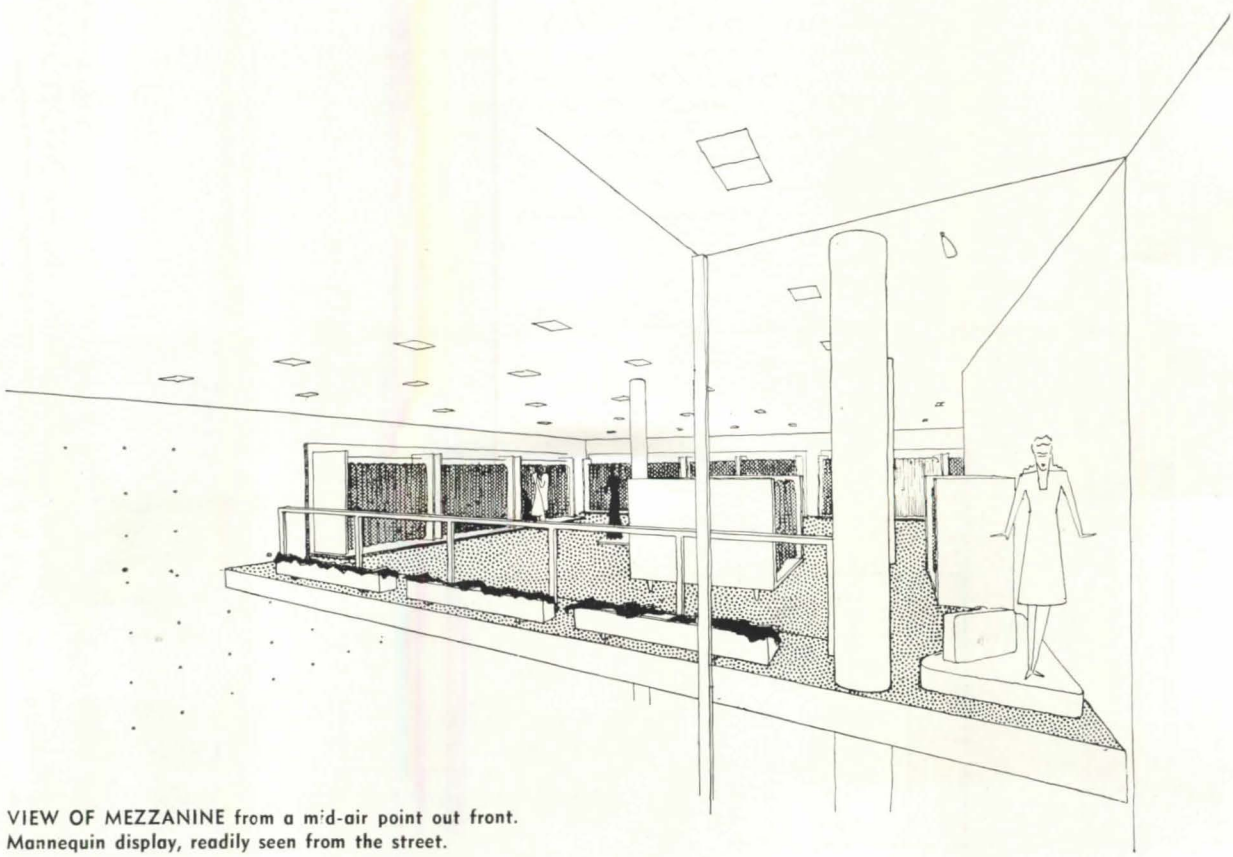


LOOKING DOWN ON GIFT DEPARTMENT and glass front wall of store. Wall at right pierced to receive endless combinations of display elements.

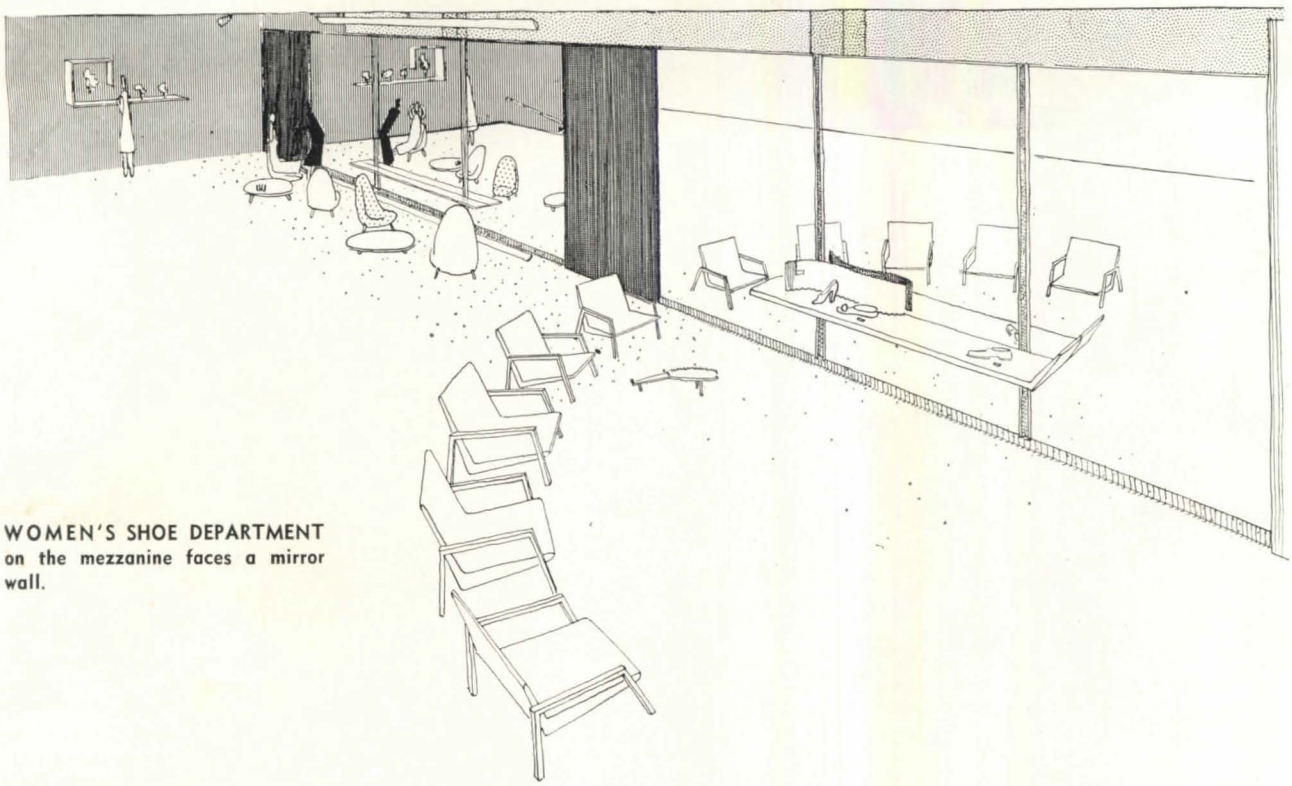


Hermi

FIRE LAWS require access from street on every floor level; hence continuous windows (aluminum frames), consisting of alternating fixed and ventilating sash. End wall and stair tower to be surfaced with limestone; exterior column: glass mosaic; spandrel beams: ceramic tile.



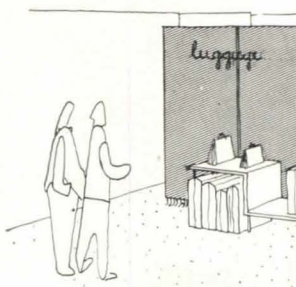
VIEW OF MEZZANINE from a mid-air point out front. Mannequin display, readily seen from the street.



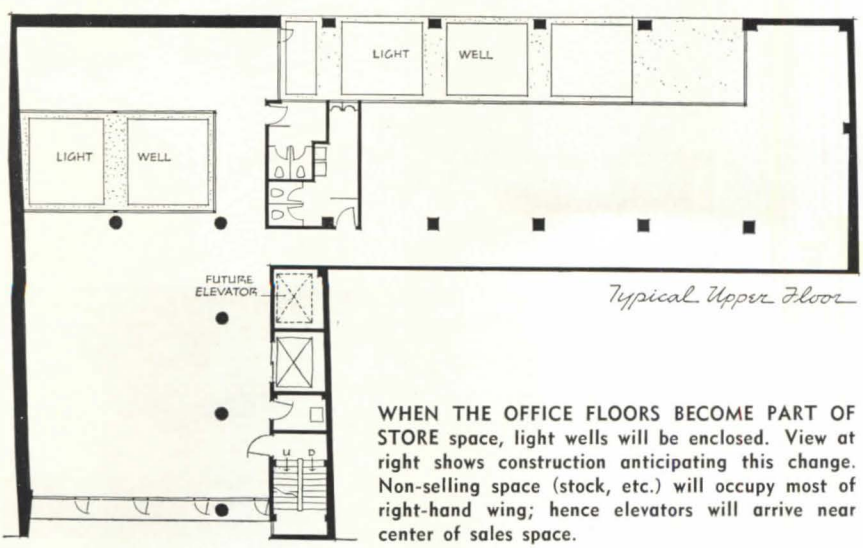
WOMEN'S SHOE DEPARTMENT on the mezzanine faces a mirror wall.

VALDIRI'S, BOGOTA, COLOMBIA

Associated Architects:
HENRY C. HUDGINS & CO. and KETCHUM, GINA & SHARP



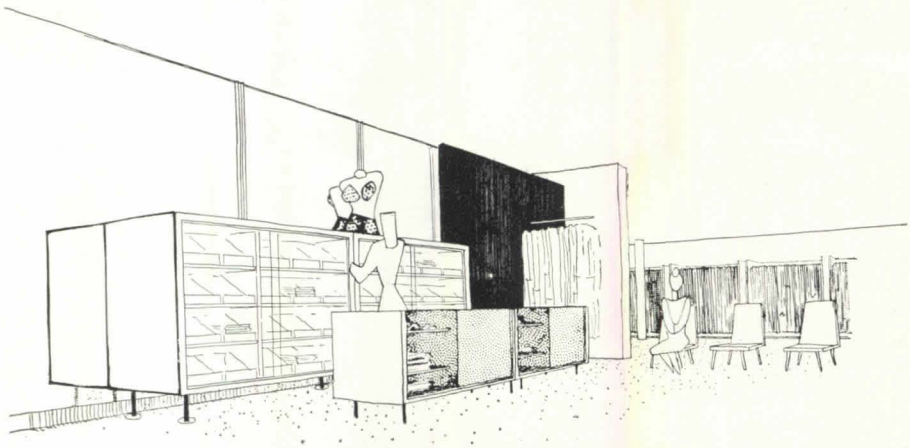
Local regulations affected both the plan and structural design of the upper floors, temporarily to be used as rental office space. Fully air-conditioned space (the store proper) may be windowless; space not air conditioned (the rental offices) must have outside light and air. The answer was to provide light courts for the three upper floors. But since this space will eventually be part of the store, columns and beams are run beyond these courts out to the building line. When this space is added to the store and will, therefore, be air conditioned, it will be a simple matter to fill in the open spaces between the existing structural elements.



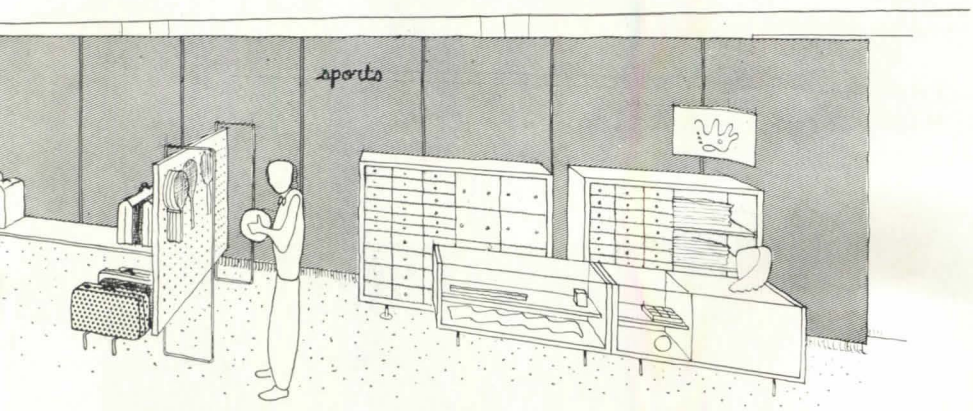
Typical Upper Floor

WHEN THE OFFICE FLOORS BECOME PART OF STORE space, light wells will be enclosed. View at right shows construction anticipating this change. Non-selling space (stock, etc.) will occupy most of right-hand wing; hence elevators will arrive near center of sales space.

Hermi



LINGERIE DEPARTMENT on the mezzanine. Floors of the mezzanine and the second floor will be covered with carpeting.



SPORTS AND LUGGAGE, second floor. An alterations department occupies a portion of the third floor. Otherwise, offices.

RETAIL STORES

A CRITIQUE

While the smaller department store —both physically smaller and having fewer departments—seems to be a tolerably reasonable compromise between the huge department store and small shop or group of dispersed shops, there is an in-between type of retail selling unit which has much importance both numerically and in volume of sales—the small department store with very few departments and these all closely related. An obvious instance is the store dealing with women's and children's clothing, which extends slightly beyond its prime function to include accessories, toys, etc.

The selling problem is precisely the same as that of the larger stores—effective display and merchandising facilities of desirable goods for sale; lures to attract potential customers who are passing by; an overall design that, if possible, will have a stronger attraction than its neighbors'. This sort of Alice-in-Wonderland problem (since obviously not **all** stores on Main Street can be the best or shout the loudest) offers a peculiar challenge to the professional designer. His objective wish to do a superb piece of architecture is tempered by the need to provide his client with a profitable selling tool. Hence, in evaluating work in these categories, one cannot judge it in a vacuum. Before the final architectural results can be fairly weighed, one must inquire into the site opportunities, the particular public to be served, the type of merchandise, and the competitive situation. That forthright and imaginative work can result from so many delimiting factors is a tribute to the ingenuity of designers. Two stores in this general category are shown on the following pages.

Photos by BEN SCHNALL

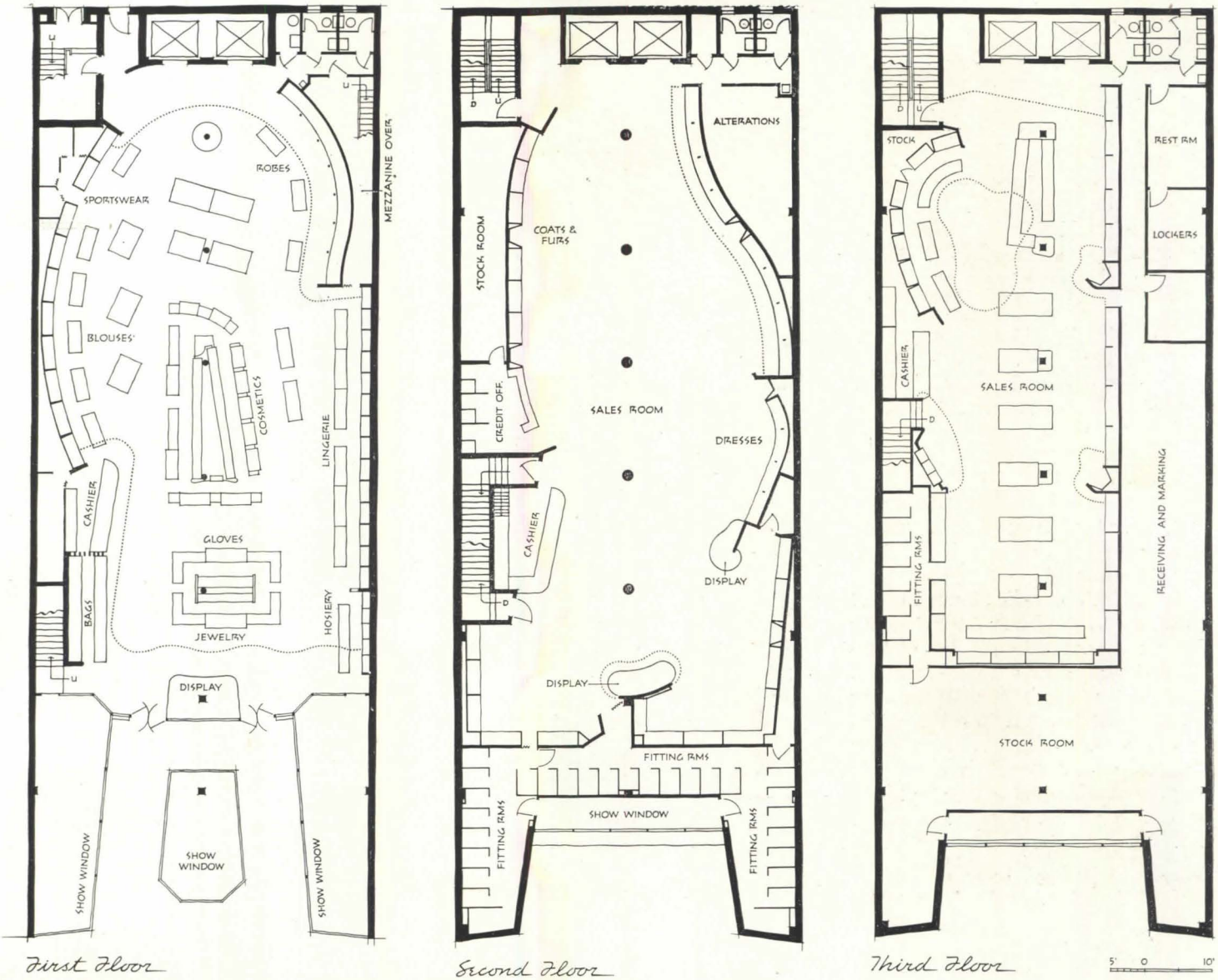
MANGEL'S
BIRMINGHAM, ALABAMA

ROSS FRANKEL, INC., Designers

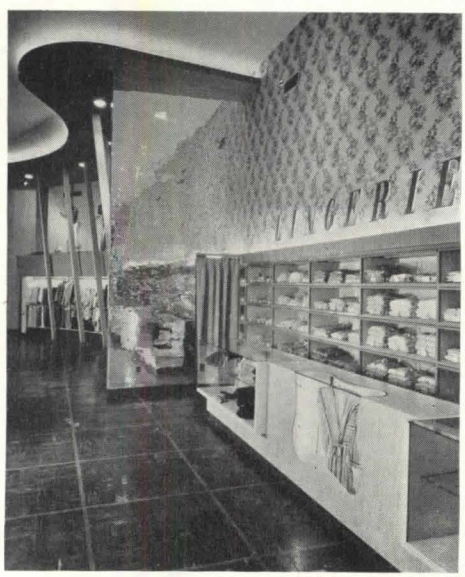
Designed on the basis of "a series of specialty shops within a specialty shop," Mangel's is one of a large chain handling popular-priced clothes for women and children. The plans explain the merchandising organization. With elevators placed at the rear of the store, customers have plenty of opportunity to make a purchase en route.

The store front, above the combined display-window, open-front street level, consists of an insloping showcase two stories high, set in a frame of blue terra cotta. Our consultants raised the question of its value for display purposes. The designers point out that it was provided and is customarily used for seasonal and civic displays, such as Christmas settings, Red Cross drives, etc., rather than for merchandise as shown in the photographs. No one questioned its effectiveness as an eye-catcher.

NIGHT LIGHTING emphasizes the store name and the merchandise.

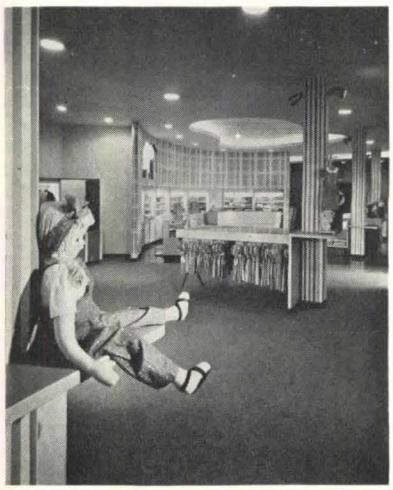


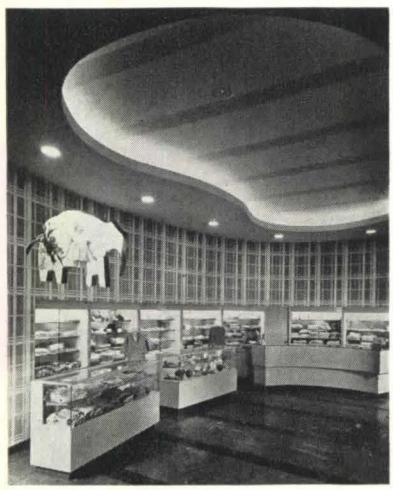
SALES FLOORS are treated as entirely interior spaces with controlled light conditions. Though U-arrangement of fitting rooms might seem to offer traffic problems, actually customers are taken to a vacant room by a salesperson.

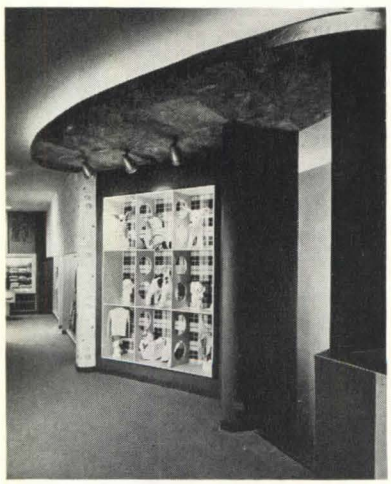


EACH FIRST-FLOOR department is highly individualized. **Lighting:** fluorescent lamps (for general and case lighting) and incandescent downlights.

SECOND FLOOR. Carpet is in peach tones; walls, green and gray.







THIRD FLOOR. In addition to fluorescent lighting and downlights, spotlights, mounted on columns, highlight displays. Color scheme is yellow, with green and brown contrasting tones. Rubber-tile flooring sets off children's department.

MANGEL'S, BIRMINGHAM, ALABAMA

ROSS FRANKEL, INC., Designers

The second and third floor are rather more harmonious in design than the ground floor—partly because the merchandise is more related (dresses and coats on the second floor; teen age and children's clothes on the third) and partly because it is more of a "demand" variety than the "impulse" things on the first floor, each demanding attention. Divisions between the distinguishable departments are handled by change in shape of the background casework or by alternation of plain and wallpapered surfaces. The entire store is air conditioned.

RETAIL STORES

A CRITIQUE

Mangel's provides an environment for volume sale of fairly low priced merchandise. By contrast, the store that follows deals chiefly in so-called quality merchandise. The desirability of lures or "impulse buying" articles still exists, but a great many customers who come to this store arrive with a plan to buy things—and not infrequently, things that will total a pretty penny.

Thus architectural character becomes an expression of the type of merchandise and the type of customer. Emphasis on appeal and sales lure, on the one hand, gives rise to a busy design where shopping can be accomplished with a minimum of effort, often on the spur of the moment; on the other, there is room for restraint, quiet, dignity—elements which might well prove disastrous in the other type of store. Ultimate progress, therefore — as in other types of buildings—must be searched beyond the restrictive limits of the particular design problem. In either type of store, one can study and evaluate efficiency of plan, skillful devices for merchandise sale and display, effective lighting, schemes for handling traffic, and so on, and—perhaps above all —the coordination of all these elements, not (necessarily) into a quiet whole, but into a consistent unit that constitutes a good environment for the business at hand.

A fortunate factor in store design of every category is that, through the nature of their business, merchants are eager to try the new—IF it can be proved that the new will redound to their benefit, which (happily) is frequently the case. Hence, the progressive architect, if he is also persuasive, often has the opportunity to go further, faster, than his brother architects who work in more sentimental areas of architectural design.

Photos by ROGER STURTEVANT

JOSEPH MAGNIN
SACRAMENTO, CALIFORNIA

Designed by GRUEN & KRUMMECK ASSOCIATES
HARRY DEVINE, Resident Architect
FRANCIS ERNEST, Structural Engineer

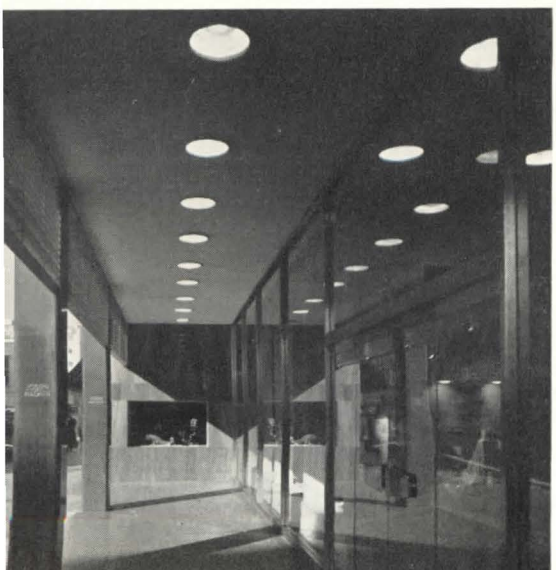
A new shop at a prominent downtown corner, this store for the sale of quality merchandise to women introduces a number of noteworthy plan elements. One of the happiest of these is the recessed shopping arcade bordering the display windows on the south side. While hardly a new plan feature (Rue de Rivoli, etc.), it gains fresh importance when introduced, as here, with operable aluminum louvers (at the exterior column line) which can be lowered to shade the colonnade from the hot midday sunlight—*a real problem* in this interior valley city. The windowless upper floors offer an interesting contrast in treatment to the daylight schemes employed in other stores included in this study.

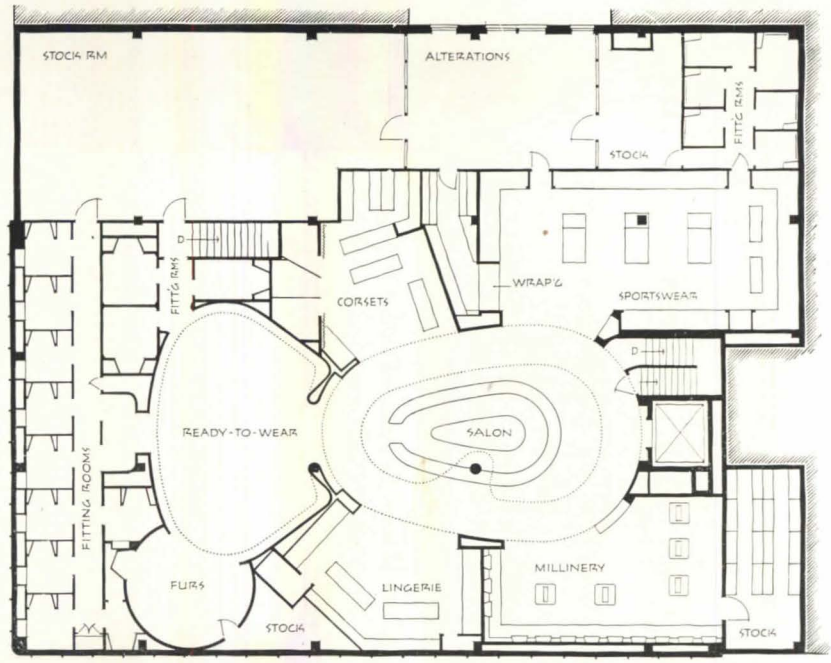
JOSEPH MAGNIN, SACRAMENTO

Designed by
GRUEN & KRUMMECK ASSOCIATES
HARRY DEVINE, Resident Architect

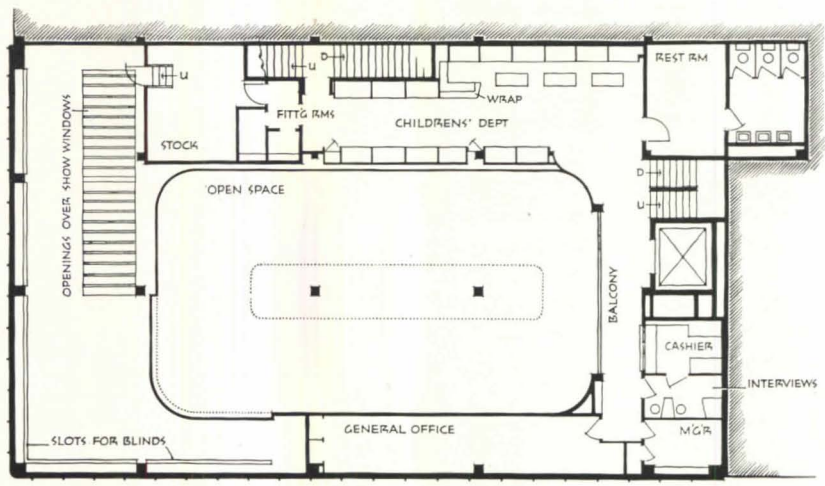
In considering the shopping colonnade, the consulting experts admired the comfort this would provide for window shoppers, at the same time noting that it would not eliminate the troublesome reflections which confront any vertical window surfaces along a street. The designers explain that no direct sunlight ever strikes the buildings across the street; the shaded passage does reduce reflection of things in the immediate foreground, and it increases the effectiveness of the high-level display window lighting in meeting the challenge of daylight. The building is framed with steel columns; wood is used for floor and roof construction; and the exterior surface of the upper levels is of architectural concrete with stainless steel dividers. In many regions, the exposed concrete walls would become badly streaked and stained with age, but the small subdivisions appear to be a good answer to cracking and spalling problems.

LOUVERS between the marble-surfaced columns may be raised or lowered, depending on the sunlight condition.

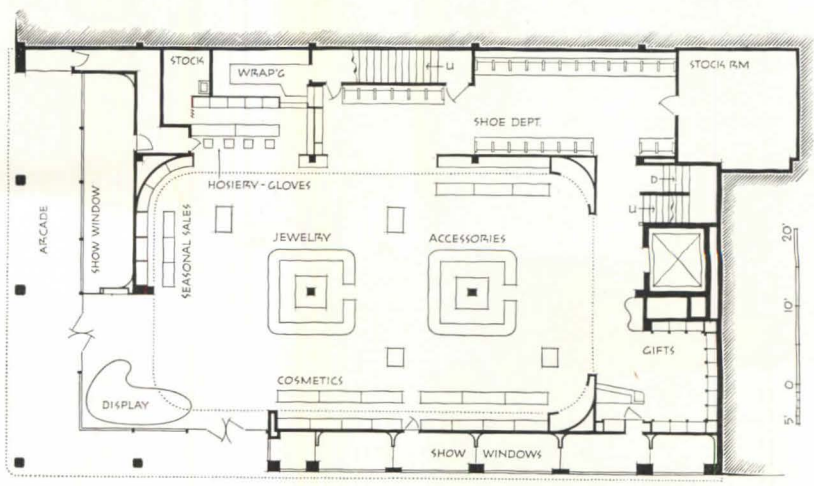




SECOND FLOOR. Windowless scheme; precise control of light and air.



MEZZANINE. Would daylight have been preferable in the office space?



FIRST FLOOR. Access above arcade show window allows for lighting flexibility.

AN OPEN-FRONT CORNER provides an unhindered view of the main shopping floor. Show windows are arranged behind a continuous glass wall.

MAIN FLOOR looking toward open entrance corner. The island cases have a terrazzo base (continuation of the flooring) and a bronze-edged light trough and display counter at top. Arrangement of this sales floor consists of individual shops surrounding the central area.

Canvas-backed walnut veneer surfaces the upper walls of the MAIN SALES FLOOR. The elevator is at the rear of the store so that customers see considerable impulse merchandise on their way up to or down from the upper floors.

JOSEPH MAGNIN, SACRAMENTO

Designed by GRUEN & KRUMMECK ASSOCIATES HARRY DEVINE, Resident Architect

Arrangement of the lighting and the light emphasis on the perimeter shops of the main floor were admired by the consulting panel of experts, with the exception of the brightness contrast between ceiling and light sources, particularly in the uplighting above the lowered fin. This is undoubtedly exaggerated in black and white reproduction of the pictures, however. On the windowless upper floor (see photos across page), separate specialty shops border a central salon. The store is air conditioned.

HANDBAGS, HOSIERY, *and* GLOVES at the front of the store; the SHOE DEPARTMENT, immediately to the rear.

THE SECOND FLOOR LOBBY opens onto six separate departments . . .

. . . such as the **CORSET SHOP**, on the right . . .

. . . and the **MILLINERY SHOP**, at left.

RETAIL STORES

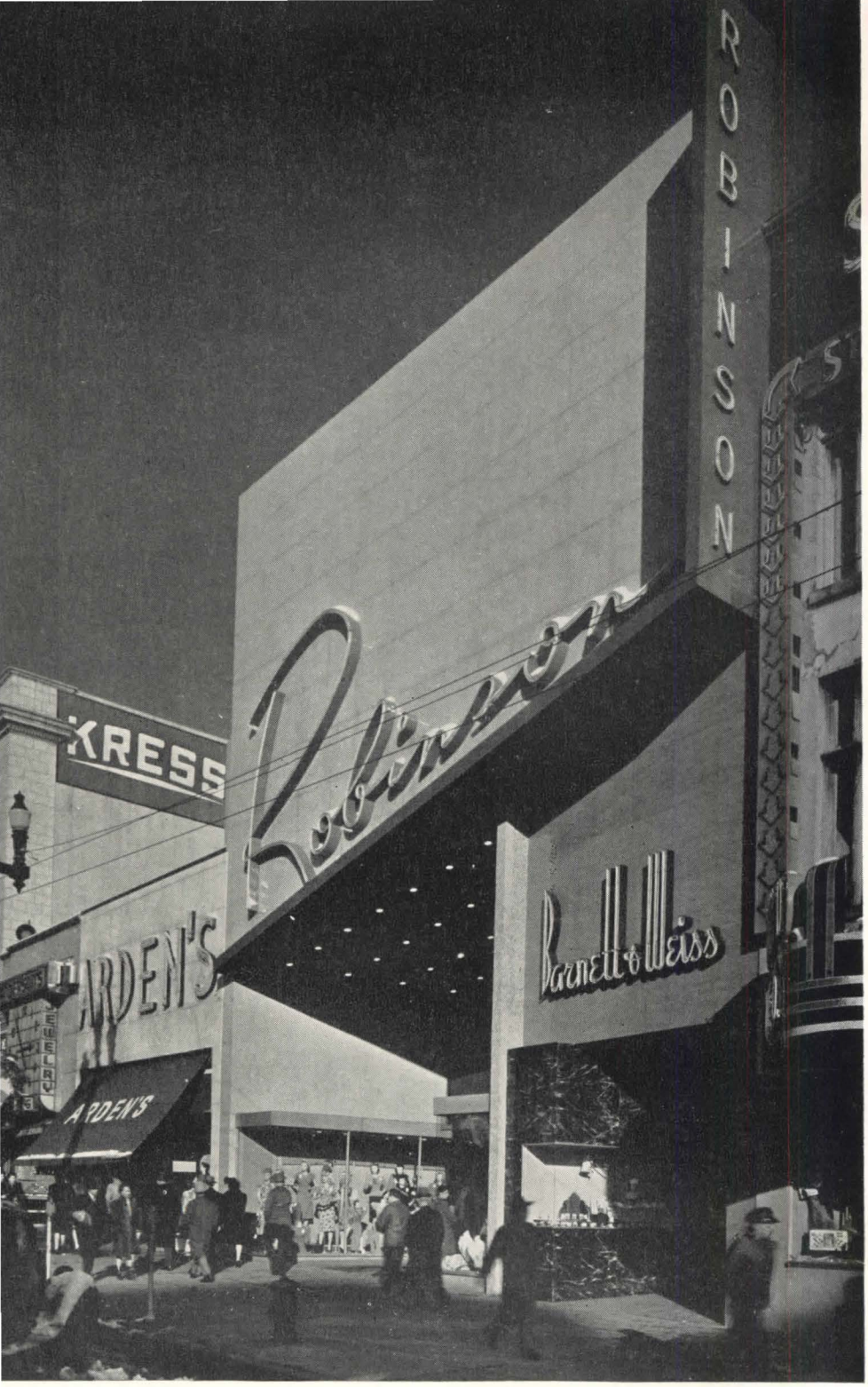
A CRITIQUE

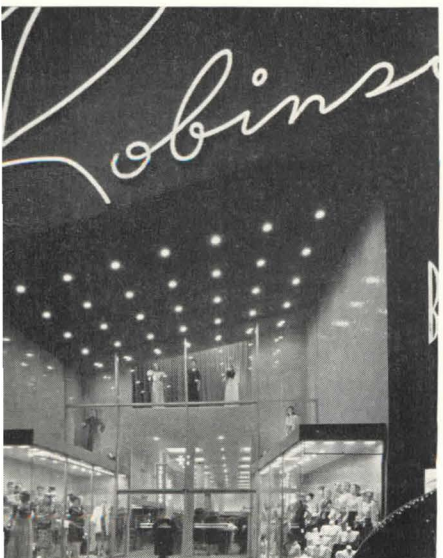
One factor in all of the stores shown up to this point is that each is a highly individual unit, unrelated, except in a purely physical sense, to its neighbors or to the larger phases of community planning. This is the typical situation, of course. Yet, to the degree that one believes that the design of the unit is conditioned by its proper relation to its neighbors, to its area, its city, its region, etc., one realizes how fragmentary these successes are.

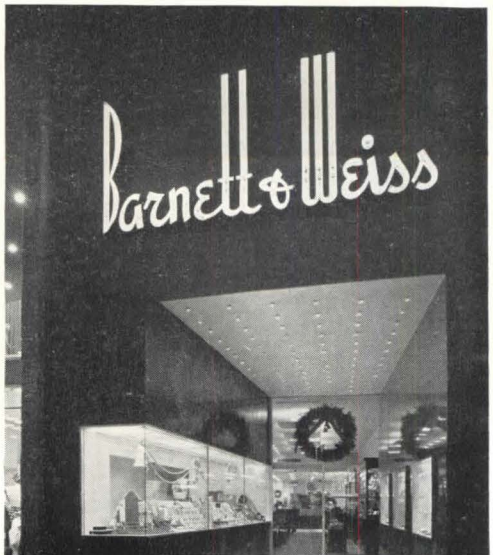
One thing is certain. As the design of the smaller unit improves and makes intelligent use of the materials, structural, and design techniques of today, slowly but surely the greater whole will improve also. Other influences are at work to influence the over-all betterment. For the cacophony of inharmonious design that constitutes the "symphony" of Main Street today includes in its score even more blatant and discordant elements. Not only is the street hard on the ears and the eyes, but it is increasingly crowded and offensive. Eventually things will become too bad, and planning will result. Planning leads to harmonious development. So, while at the moment the isolated store is admittedly but a partial success, the excellence of some work in this field is heartening to anyone concerned with architectural progress.

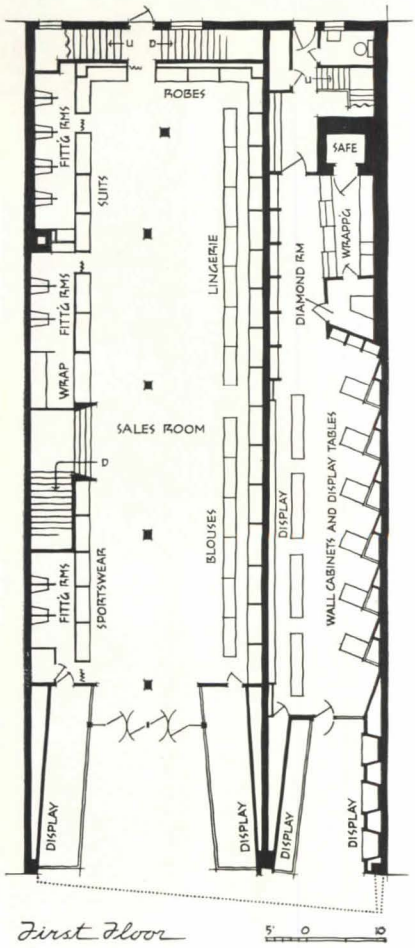
Immediately following, we present an interesting example where one architectural firm had the opportunity to combine two stores in a single design. Only a grain of sand in the general turbulence, granted. But indicative of a trend, a progressive trend.

For the remainder, we show another interesting retail shop in Boston, Mass.; a display and sales room on Cape Cod; and a remarkable dispersed shop group along a California highway.


ROBINSON
KRESS
Robinson
ARDEN'S
Barnett & Weiss
ARDEN'S


Robins


Barnett & Weiss


ROBES
FITTG RMS
SUITS
SAFE
WRAPPG
LINGERIE
DIAMOND RM
WRAP
SALES ROOM
BLOUSES
DISPLAY
WALL CABINETS AND DISPLAY TABLES
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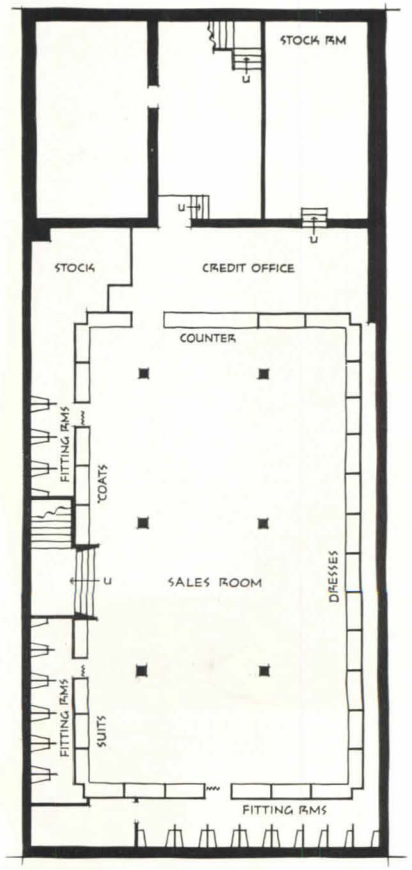
DISPLAY
DISPLAY
DISPLAY
First Floor
5' 0 10


STOCK RM
STOCK
CREDIT OFFICE
COUNTER
FITTING RMS
COATS
SALES ROOM
DRESSES
SUITS
FITTING RMS
FITTING RMS
Basement Floor

MAIN FLOOR, Robinson's. Our consultants found the square light fixtures a little insistent. The designers tell us "they appear much stronger and distracting than they actually are."

TWO-IN-ONE, SALT LAKE CITY, UTAH

GRUEN & KRUMMECK ASSOCIATES, Designers

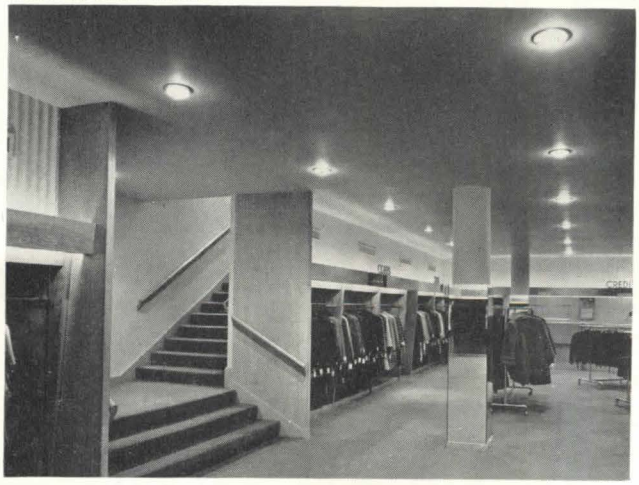
GEORGE S. NELSON, Structural Engineer

Here, the designers had the challenge of designing two stores of widely different character—a low priced ready-to-wear store for women (Robinson's) and a jewelry shop (Barnett & Weiss) —within a single structure.

Robinson's occupies all of the basement and two-thirds of the ground and second floors; Barnett & Weiss has one-third of the ground and second floors. This size difference is reflected in the exterior design; yet the novel upsweep of the fin across the front of the building allows reasonable height and prominence to the smaller shop. The vertical fin division is so worked out that design unity is not seriously affected.

Color and material schemes for the two stores are coordinated. The upper portion of the Robinson store and left-hand arcade wall are sand-colored marble; arcade ceiling and vertical sign fin at extreme right, dark green stucco; green glass mosaic surfaces the right-hand arcade wall. Walls around Barnett & Weiss display cases are verde antique marble; other walls, gray-beige marble. Lighting of the B & W arcade ceiling is unusual—lucite rods embedded vertically, with one inch protruding. Light sources are above the ceiling.

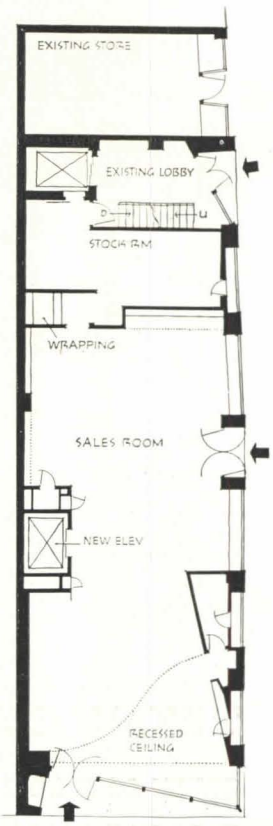
Photos by Roger Sturtevant



BASEMENT clothing store, Robinson's. The whole store is air conditioned.

Gottscho-Schleisner

Cushing



First Floor

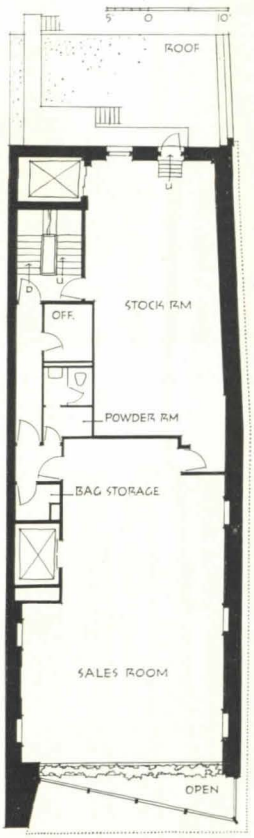
George M. Cushing, Jr.

Cushing

FIRST FLOOR. Cases lacquered in red, green, and yellow; one wall, striated plywood; others, pale green, pale yellow, and white.

GUILD HOUSE, BOSTON, MASS.

Architects:
CARSON & LUNDIN and
HARRY E. DAVIDSON & SON



Second floor

Gottscho-Schleisner

IN THE PROMINENT up-front location is the jewelry department—both a supplement and impulse to the prime business of selling shoes.

A remodeling job, this shoe and specialty shop for women is of particular interest on two counts: it reverses customary merchandising procedure by placing the higher priced shoes on the upper floor; it is a bold treatment of a two-story scheme, with both floors frankly expressed and visible through a full-height, open-front scheme.

In addition to shoes, this shop carries a number of specialties—jewelry, hosiery, bags, and gloves. These, along with "casual shoes," are organized on the ground floor. The upper balcony shop handles better quality shoes and is planned as a restful, pleasant room, with a view across the railing out to Boston Common. The storefront is splayed for two reasons: to face it toward the heaviest foot traffic and to provide off-sidewalk room for outswinging doors, which the Boston law requires. Since this is but a two-floor scheme, the windowed end appealed to our jury as altogether satisfactory. Someone felt that the front window framing members were a trifle heavy; a check with the architects revealed that the job had originally been designed for lighter members, but local engineers insisted on the heavier sections since the store is on an exposed, windy corner.

Cushing

Gottscho-Schleisner

SECOND FLOOR. Window frame provides a panorama of the Common. Tilted downlights in ceiling floodlight area at bottom of mirrors.

Photos by P. A. Dearborn

DEEP ROOF OVERHANG protects the windows from southern summer sun.

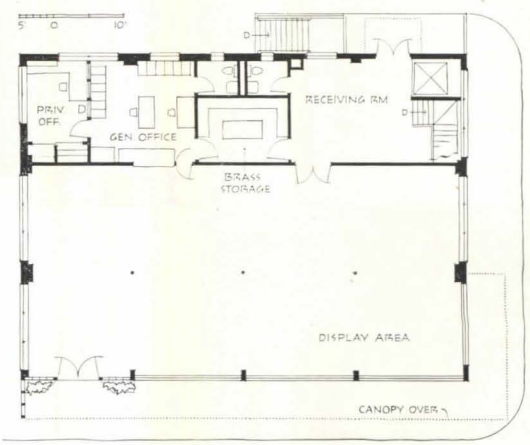
FAY'S
FALMOUTH, MASS.

E. GUNNAR PETERSON, Architect

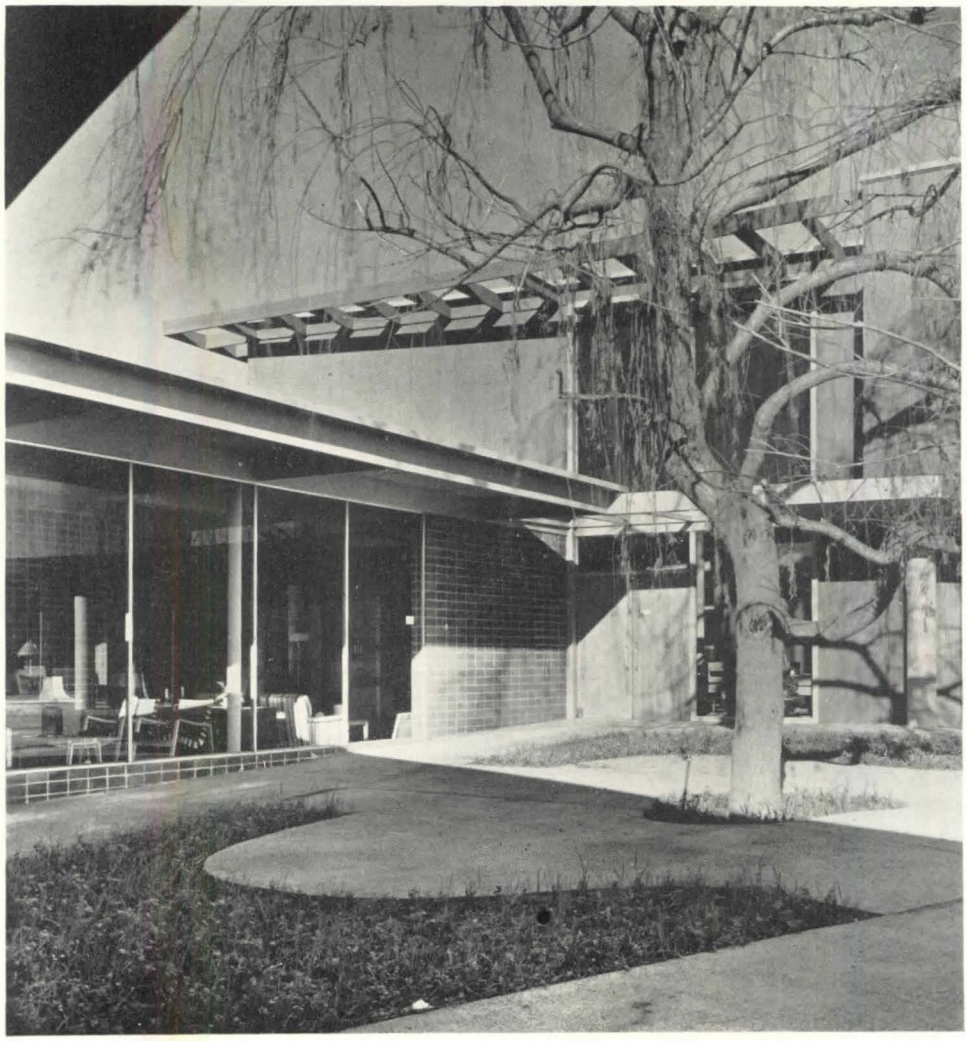
Construction of this showcase for plumbing, heating, and electrical appliances is of concrete block; radiant heating coils are integral with the concrete floor slab. Tar and gravel surface the wood-framed roof.

The consulting jury's comments were generally favorable, with only such minor matters of personal preference brought up as clear glass vs. glass block around the entrance and whether or not the cold cathode lighting might have been better with translucent shields.

LIGHTING is from cold cathode tubing.



FIRST FLOOR. Basement contains stock and workshop for plumbing and heating business.

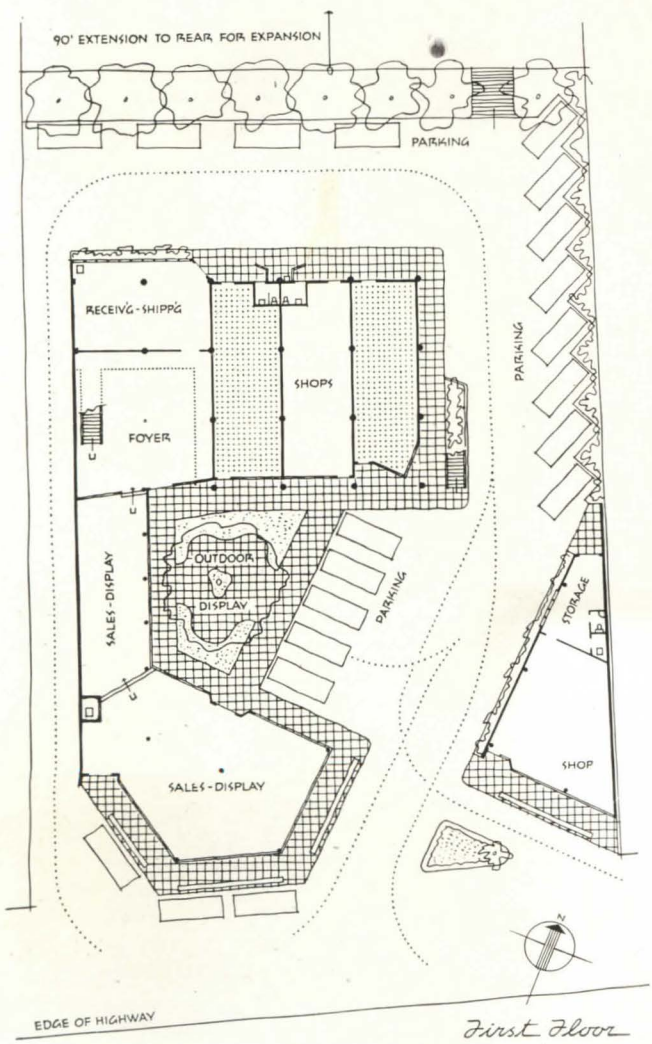


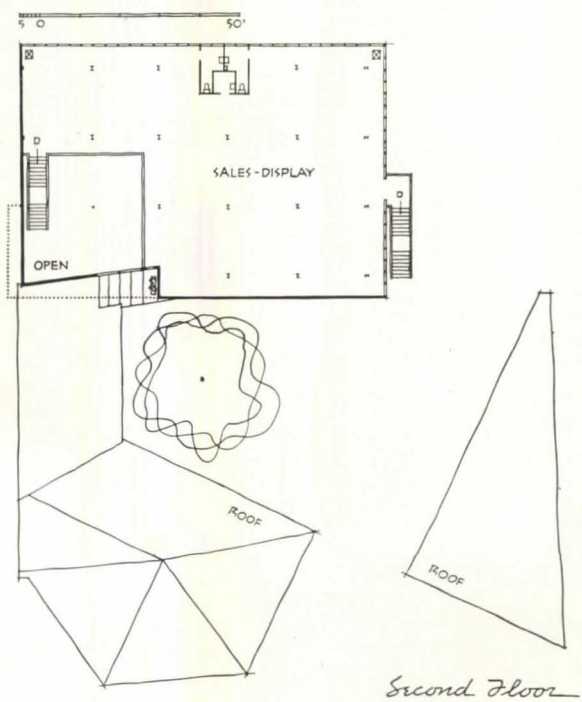
JELLETT'S, LAFAYETTE, CALIFORNIA

FREDERICK L. R. CONFER, Architect; RAYMOND G. WILLIS, Associate
I. THOMPSON, Structural Engineer; NED RUCKER, Landscape Architect

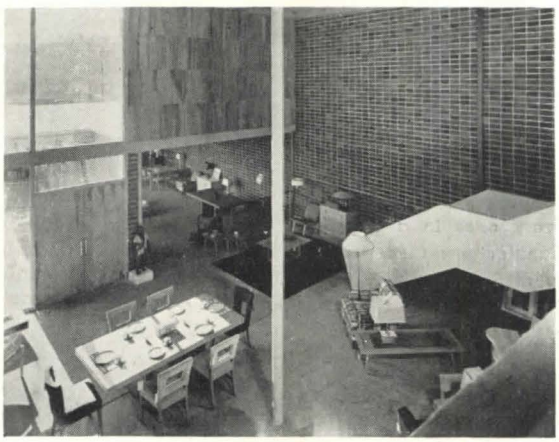
The only instance in this study of the decentralized group of shops, this project along the highway consists of a large, retail furniture store (occupying all of the left-hand wing of the building and the second floor of the rear portion) and four rental shops (three in the rear of the main structure; one in a separate structure at right). Car parking is provided both within the main court and on the perimeter. The owner, Matthew H. Jellett, has nothing but praise for the buildings provided by the architects: "We can think of no changes which we would like to make, either from a design or utility standpoint." With one slight exception, this opinion was generally shared by our consulting panel of experts.

BROAD OVERHANGS provide all-weather protection. Exterior walls, redwood or brick.





TO HELP DISPLAYS look "at home," dimensions are schemed within residential scale.



VIEW DOWN from second-story sales space.

JELLETT'S, LAFAYETTE, CALIFORNIA

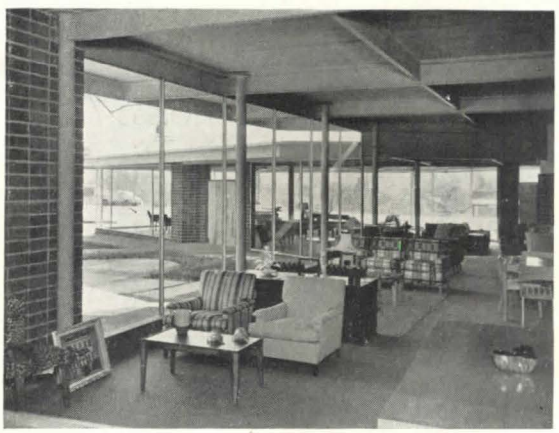
F. L. R. CONFER, Architect

R. G. WILLIS, Associate

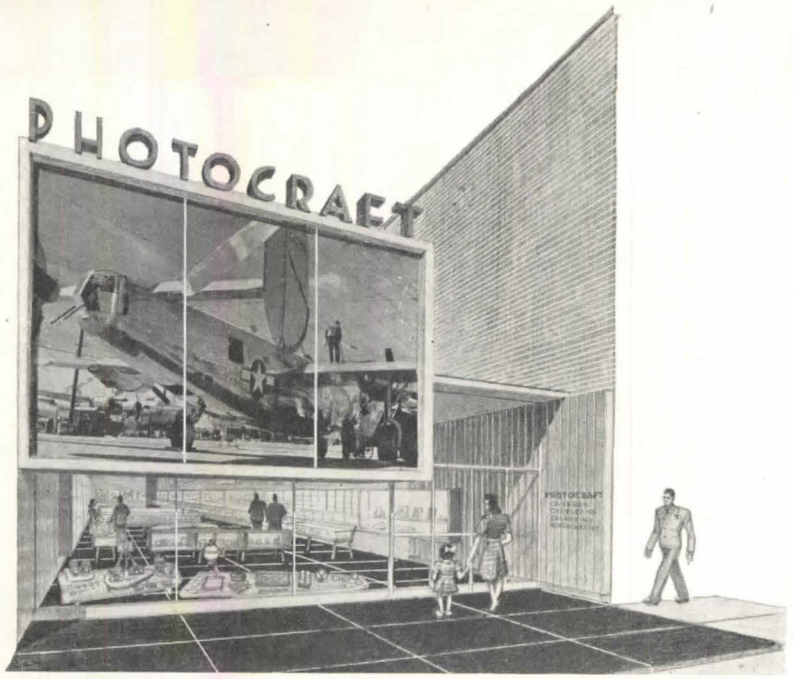
In studying the plot plan, our consultants felt that the parking space was inadequate for a group of shops whose customers would mainly arrive by car. On checking with the architect, it developed that the property extends 90 feet further to the rear of the present area and could be made into additional parking space when the proper time comes. For the moment, the owner is satisfied with the provisions, since the limited space gives the impression of activity and—as things have worked out so far—appears to be sufficient.

The theory of the over-all design was to provide a group that would attract the passing motorist; the splayed window treatment of the front show room also reflects this intent. Our consultants noted the success of the handling of the plain wall of the second-story portion of the structure, serving as both billboard and commanding frame for the shopfronts below.

The one-story portions and the second floor of the rear block are framed in light steel, with exposed 2-in. T. and G. sheathing; the first floor of the two-story portion is built on an exposed concrete slab.



LIGHT STEEL FRAME on a concrete slab.



MACHINES FOR SELLING

MODERN STORES DESIGNED FOR Kawneer BY KETCHUM, GINA & SHARP, ARCHITECTS

Every once in a while a building product manufacturer aids architects and designers so distinctively that full editorial presentation of his efforts is warranted. Such an occasion is the publication of MACHINES FOR SELLING by The Kawneer Company of Niles, Mich. This handsome, large (17½" x 23¼") portfolio on contemporary store design will be available from the Kawneer Company's local offices on a loan basis.

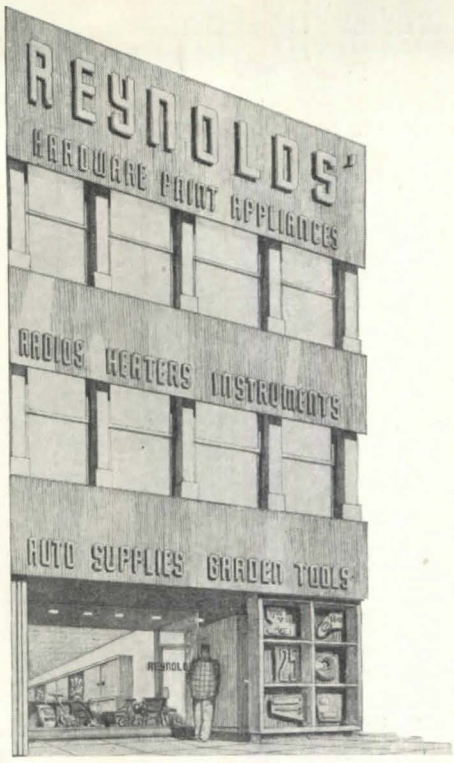
Back in 1942 the magazine *Pencil Points*, as we were then known, conducted a competition for the design of storefronts which was sponsored by The Kawneer Company. Morris Ketchum, Jr., chairman of the Jury of Award, so impressed the sponsor with the desirability of professional architectural advice that he was retained by the company as a consultant. During the recent war Kawneer redesigned its entire line—a job upon which Morris Ketchum and his partners spent more than 3 years in research, design, and ironing out production difficulties. One result of that monumental work is the current Kawneer line of storefront and surfacing materials; another is the portfolio reviewed here.

Machines for Selling is a particularly valuable book for architects because it is concerned not only with the publisher's products, but also with the store design problem as a whole, with merchandising problems which the store must solve, and with down-to-earth structural details which insure the practicality of the extremely imaginative examples it contains. The book starts with a discussion of merchandising principles and their translation into buildings; contains a brief description of the value of flexibility in storefront materials (where, of course, stock Kawneer parts become important), interior fixtures, planning, lighting systems, etc.; and then presents over fifty individual designs of complete stores, with renderings, plans, and large-scale details of the special structural situations encountered.

The discussion of merchandising and design covers the classes of goods available in most stores—"impulse" or luxury items, "convenience" or staple goods, and "demand" goods or necessities; from there it progresses to the internal organization of the store, departmental layout along the indoor "shopping street"—"stores are designed for moving (pedestrian) traffic"—relating service areas, displays, lighting, color, textures to the problem. Principles of design of various types of fronts are thoroughly explored, and a first, typical example is dissected. The discussion of flexibility is likewise inclusive; subjects range from storefronts and storefront materials to displays, lighting, advertising, and stock parts, winding up with four different design treatments of an identical basic scheme.

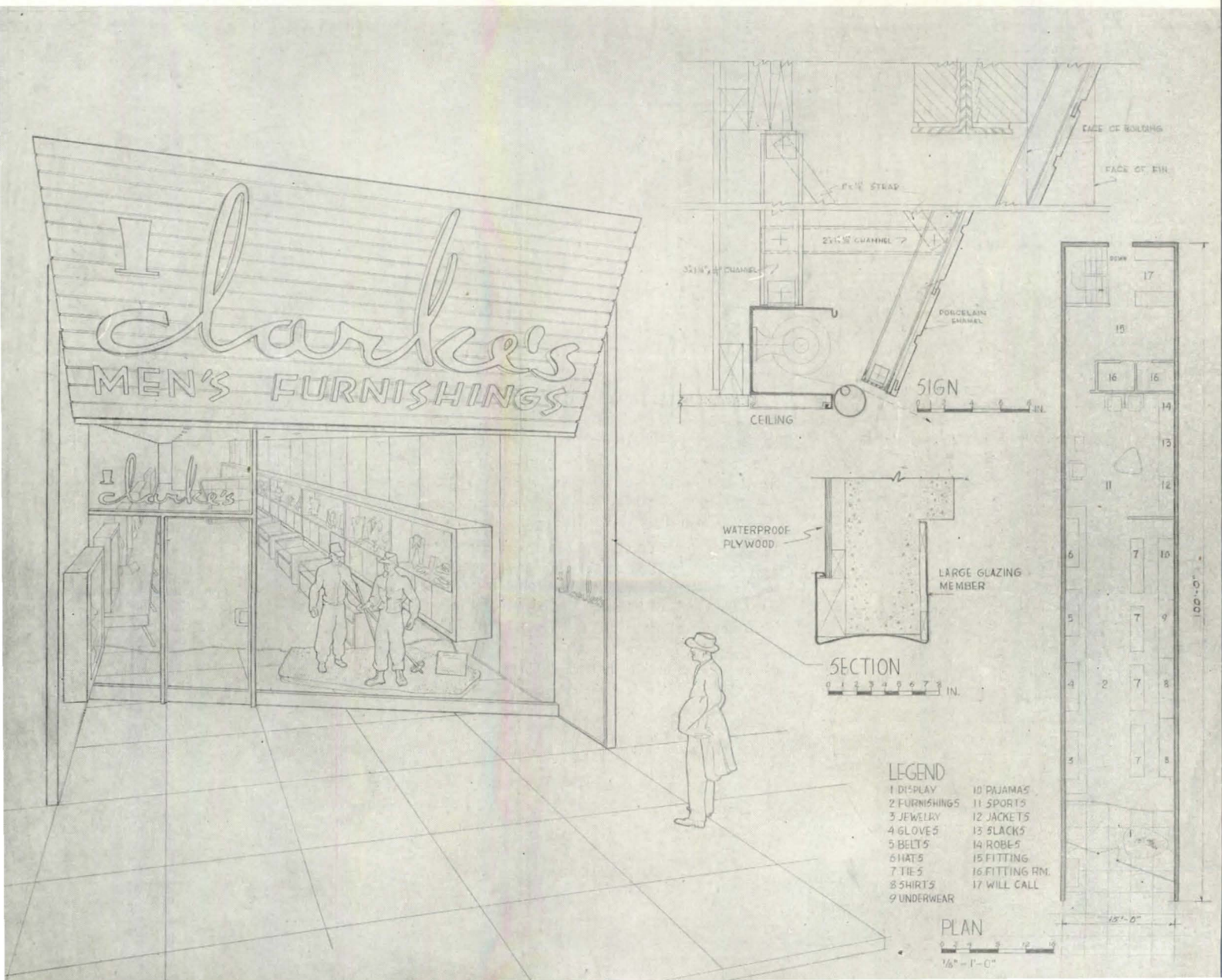
Then come the design pages, many of them in color. This, perhaps the most stimulating section, is divided into drug, food, furniture, clothing, hardware, and many other categories of stores. Examples from this section appear on the following pages. The details have practical use: a designer uncertain of how to detail for a certain condition may find here that his problem has been worked out for him; at the least, he will find comparable situations which will help him solve his own. And we understand that The Kawneer Company will furnish to architects stock details which can be incorporated into the contract documents for a job, thus not only eliminating much costly, tiresome drafting, but also helping to reduce construction costs by providing simplified, tested procedures which are recommended by the manufacturer.

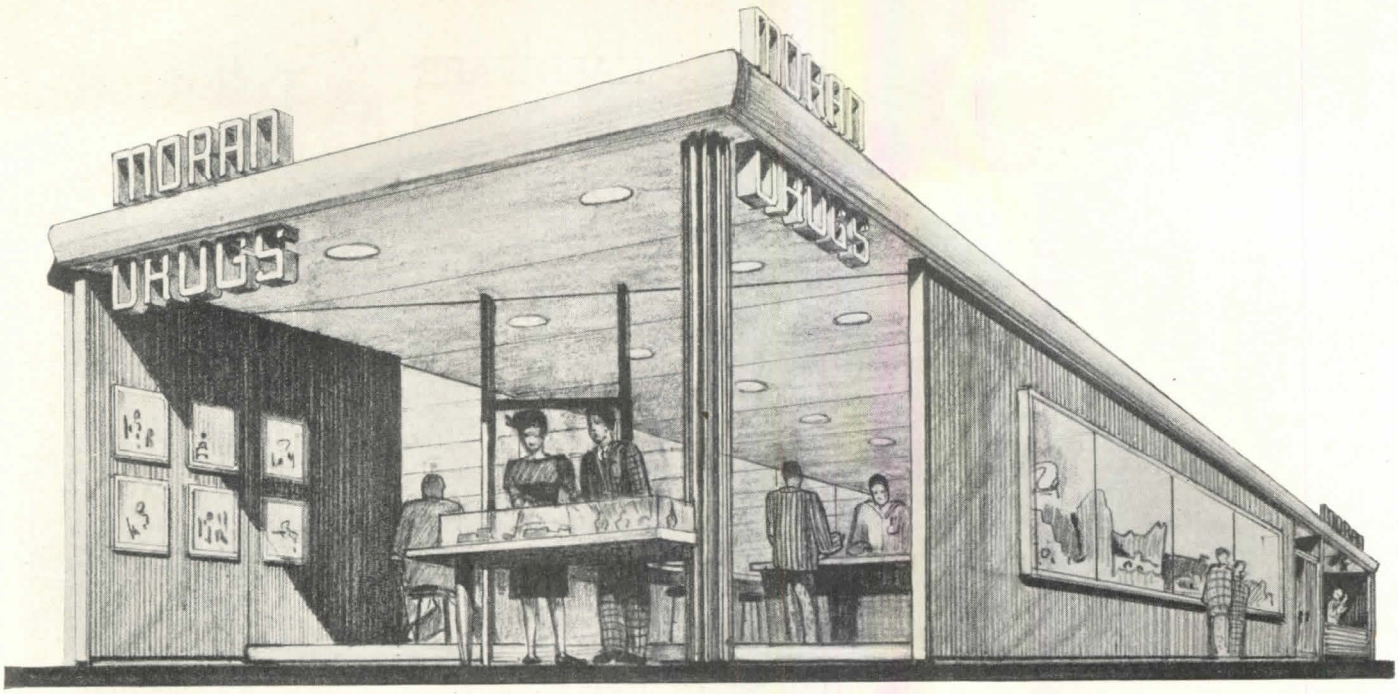
HARDWARE

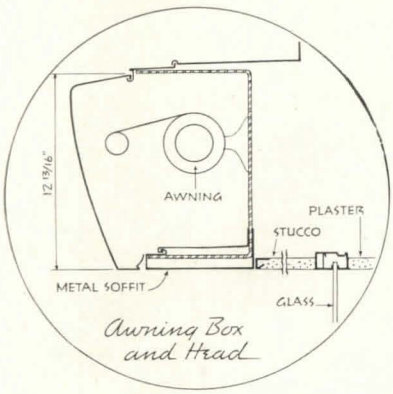


The camera store (left), for an interior lot approximately 30 ft wide, has a front refined to the point where absolutely nothing interferes with its two prime functions: identification and display. The billboard dominates by reason of its size and its appearance of "floating" in the composition; it might be used for a photomural, illuminated transparency, or movies projected from inside the store. The front, otherwise completely transparent, displays both the interior and special window groupings, inviting the shopper in. *The hardware store* (right), solves a common yet difficult problem: modernizing the building with almost no structural alteration. Kawneer's new corrugated sheet metal surfacing, "Zourite," is attached to the existing structure with metal strips and clips. *Men's furnishings store* (below), is also for a mid-block location; interior and exterior are carefully integrated to make the most of the 15 x 100-ft lot. The architects suggest eliminating one sales aisle by combining counter and wall cases (left side of store). Note that all three of these examples have transparent fronts, recessed from the sidewalk to aid window-shopping.

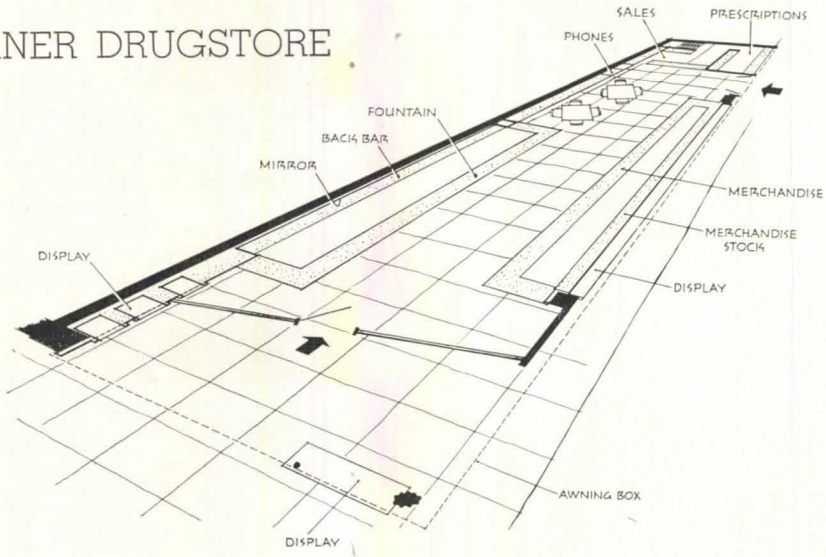
MEN'S FURNISHINGS

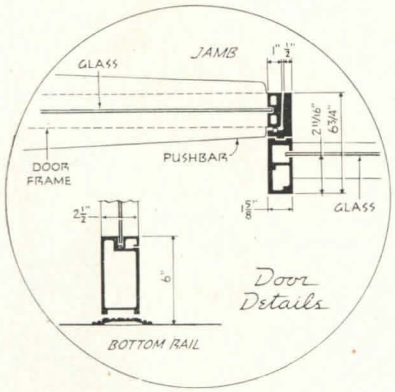


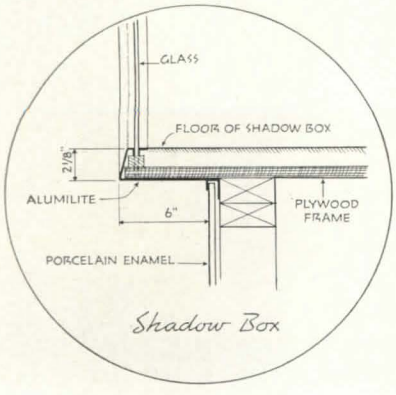




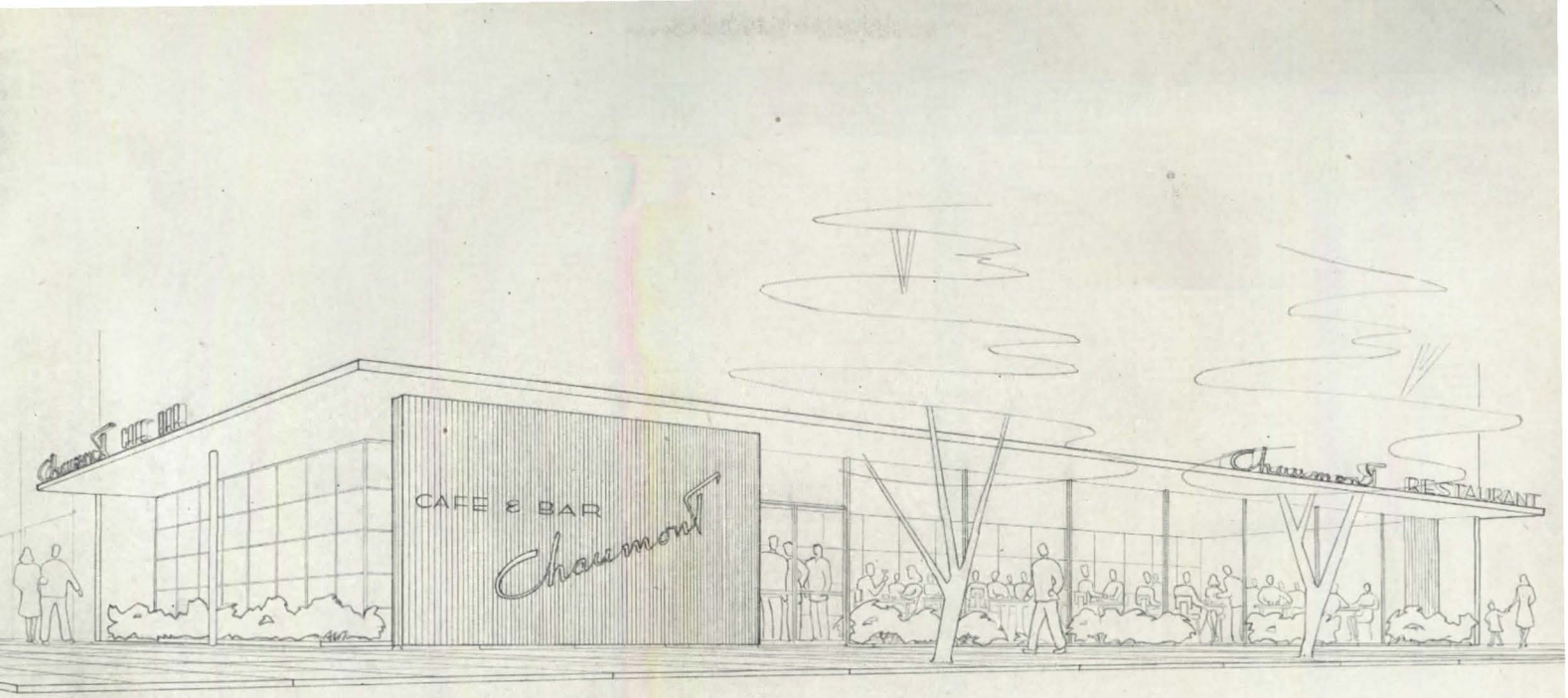
CORNER DRUGSTORE

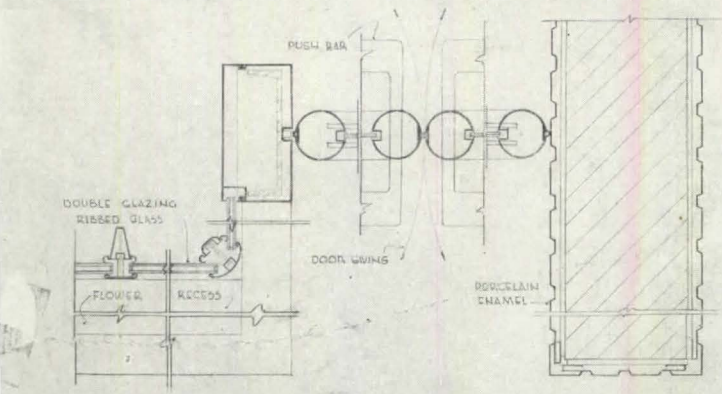




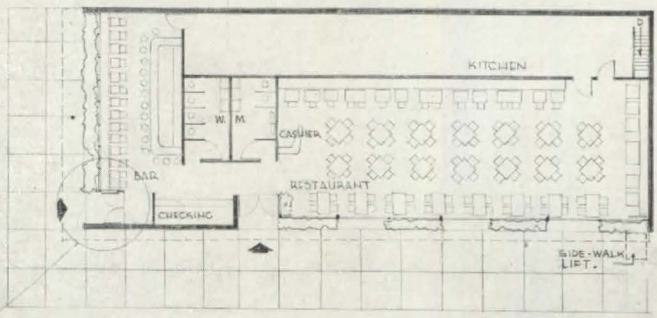


The corner lot affords certain design and merchandising opportunities which are fully exploited in the *drugstore*, above. In addition to typical merchandise the usual drugstore has two focal points, soda fountain and prescription counter. Here the fountain is visible from the main street, across the sheltered lobby with its outdoor display island, while the pharmacist works behind a picture window on the side street. *The restaurant and bar* (upper right), likewise exploits a corner site, with the bar fronting on the main street behind a glass block wall, and the restaurant opening out to the quieter side street. Interior organization: note the service areas, compactly organized to meet the needs of both bar and restaurant. In the exclusive *jewelry store* (right), also on a corner lot, transparent walls are discreetly restricted and materials, colors, etc., are selected to achieve a feeling of high quality. Although small show windows are commonly used for small objects such as jewelry, the architects have deliberately used a wall-high window, backed it with rich fabric, and shown against it a few choice items which thus become part of an effective yet restrained poster type of display.





PLAN SECTION

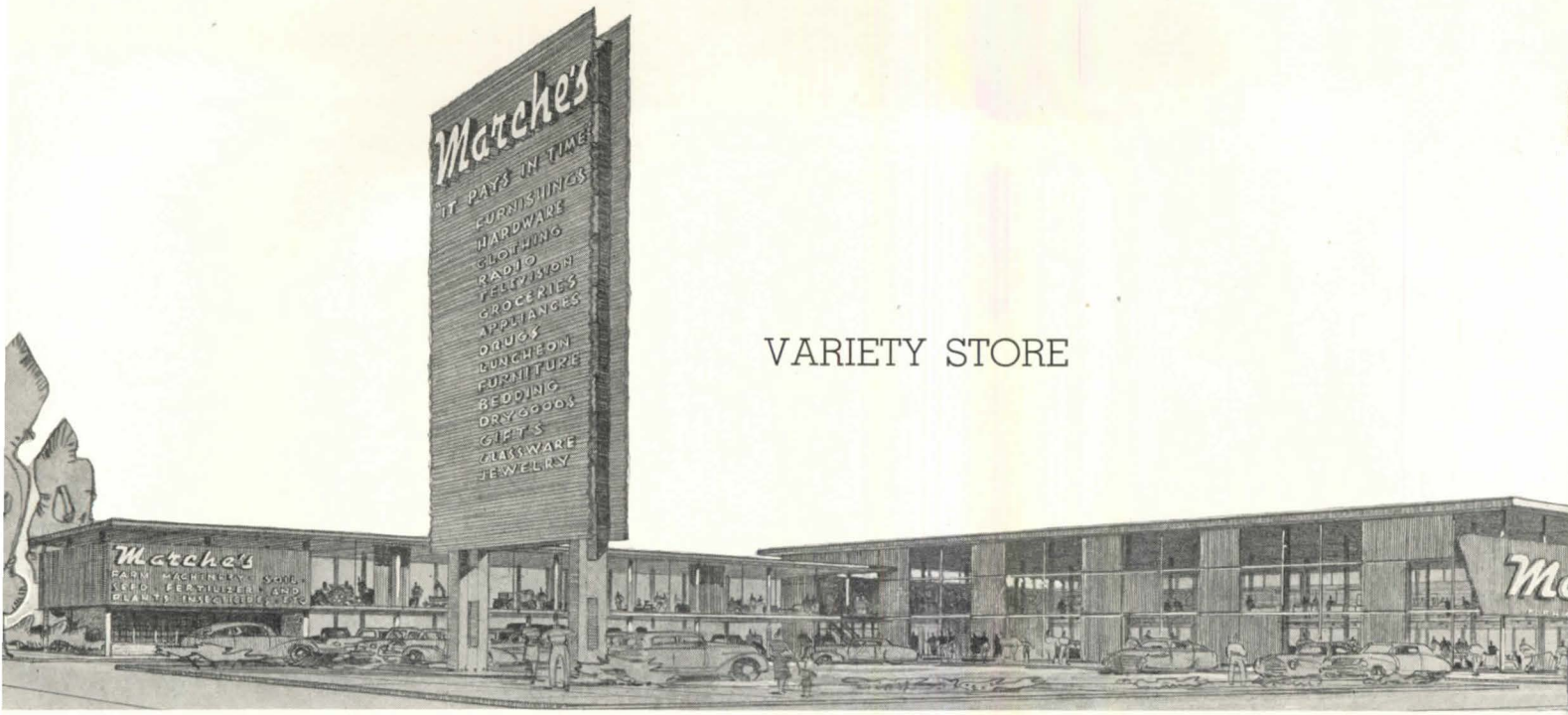


PLAN

RESTAURANT AND BAR

JEWELRY

VARIETY STORE



PLANS

ONE INCH = 32 FEET.

MEZZANINE LEVEL

GROUND FLOOR

MINOR STREET

MINOR STREET

HIGH-WAY

LEGEND

1 AUTO LOADING PLATFORM
2 DISPLAY
3 DRUGS AND NOTIONS
4 APPLIANCES
5 SOFT LINE
6 SHOES
7 WOMEN'S APPAREL
8 MEN'S CLOTHING
10 KITCHEN
11 FOOD STORAGE
12 REFRIGERATION
13 LOADING
14 ELEVATOR
15 CUSTOMER DELIVERY CONVEYOR BELT
16 PARCEL RACKING
18 FARMING EQUIPMENT AND SUPPLIES
19 HARDWARE AND TOYS
20 FOOD AND MEAT
21 STORAGE
22 FURNITURE
23 MODEL ROOMS
24 ADMINISTRATION

WALL SECTION—X

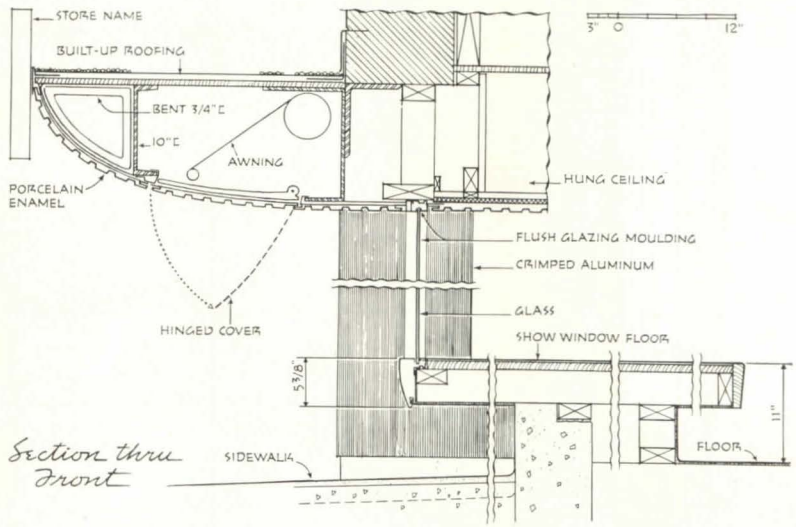
SCALE 1½" = 1'-0"

SECTION A

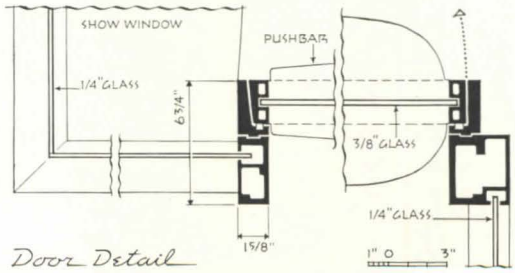
SECTION B SIMILAR

SCALE 1½" = 1'-0"

The variety store (left), is an example of the trend toward decentralized shopping facilities—branch department store, shopping center, or highway shopping group. The site here is the equivalent of an entire city block, fronting on a main thoroughfare, with secondary streets on the remaining sides. The store must attract the passing motorist, provide easy entrance, exit, and parking for autos, attract local pedestrian traffic, and display and sell a variety of merchandise. The advertising pylon or some similar device is an essential element. This scheme has auto entrances from the main highway, entrances for local pedestrians from the side streets. The interior offers much the same planning problems as a conventional department store. Exterior surfacing is a simple modular system of interchangeable panels of glass or Kawneer's "Zourite" strips mounted on aluminum frames. *The service store* (below), selling gifts, stationery, toys, etc., and including travel service and lending library, has a ceiling surfaced with "Zourite" which extends from the curved outdoor sign ledge all the way to the rear of the store.

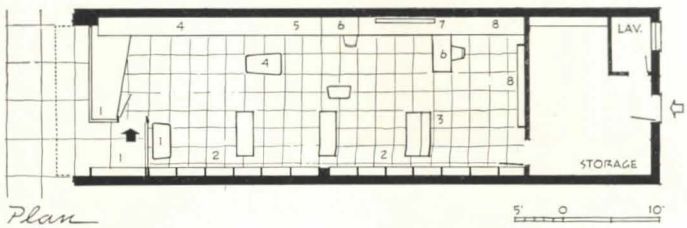


Section thru Front



Door Detail

1 DISPLAY
2 BOOKS
3 CASH & WRAP
4 GIFTS
5 STATIONERY - CARDS - WRAPPINGS
6 WRITING DESK
7 TRAVEL PAMPHLETS
8 TOYS



Plan

SERVICE STORE

Fig. 1. **Two test houses on the Purdue campus are thermally, structurally, architecturally identical except for window area.**

THE SOLAR HOUSE: ANALYSIS AND RESEARCH

By F. W. HUTCHINSON*

PROGRESSIVE ARCHITECTURE presents herewith an analysis of solar house design based on research being conducted at Purdue University. To date, conclusions are that the available solar gain for double windows in south walls in most cities in the U.S.A. is more than sufficient to offset the excess transmission losses through the glass. The deductions made, principles stated, and data tabulated provide a reliable means of evaluating solar designs for most American localities; it is possible to determine the theoretically exact amount of south glazing which will result in maximum benefit. The article was prepared in cooperation with the Housing Research Division of the Purdue Research Foundation: G. Stanley Meikle, Research Director of the Foundation; Carl F. Boester, Housing Executive.

Introduction

The two test houses shown in **Fig. 1** were erected on the housing research campus of Purdue University during the summer of 1945; since then they have been under continual test in an attempt to collect necessary basic data on the performance characteristics of solar versus orthodox construction. Thermally, structurally, and architecturally the two houses are the same except that one has a substantially greater window area than the other. Double glass windows are used in both houses and the amount of roof overhang is the same for the house of orthodox construction as it is for the so-called solar house.

* *Professor of Mechanical Engineering, Purdue University, Lafayette, Indiana.*

The Purdue solar research program is comprehensive, and has been made possible by a grant established by the Libbey-Owens-Ford Glass Co. It includes an analytical project that equals in scope and magnitude the experimental one. Analyses have been and are being made to determine the extent of gain, or loss, ideally attributable to various types of solar construction when used in different parts of the United States. Comprehensive and relatively exact analysis is possible in terms of fixed latitude, known weather conditions and known position (as a function of date and of time) of the sun. Such an analysis permits determination of the maximum amount of energy that can enter a house through solar windows and hence provides the architect and the designer with a "boundary" condition from which he can ascertain the maximum availability of solar energy—in a given locality and for a given house—for possible utilization in house heating.

Whereas analysis provides information on the availability of solar energy, experiment alone can determine the extent to which this available energy can be captured, controled, and effectively utilized within the structure. Once solar radiation has passed through a window the essential problem is a structural and thermal one of achieving its absorption under conditions such that the energy will be released at a time and rate which will allow unit-for-unit reduction in the make-up energy requirement of the house heating system. A unit of solar energy released within a house in midsummer is obviously undesirable. *A unit of solar energy released within a house in midwinter may also be undesirable;* if the rate of release in midwinter is less than the rate of heat loss from the structure the solar energy will serve to reduce heating requirements and hence heating costs; if, however, the release rate exceeds the rate of heat loss the solar energy will tend to raise the temperature level within the house and thereby cause a loss of control and a marked degree of discomfort. This fact is clearly shown in **Fig. 3**, where the inside air temperature in the *unheated* solar house was observed at 80° on January 15 with a simultaneous outside air temperature below freezing.

In such a case there would not necessarily, in an occupied residence, be a discomfort condition; the residents could draw the shades and thereby reduce the rate of introduction of solar energy. Note, however, that such an expedient is as costly as it is successful since it prevents admission of energy which—if absorbed under controled conditions—might be held for delayed release at a later time. Thus it is evident that *ineffective control may require the exclusion of relatively large amounts of solar energy that might otherwise be used effectively in reducing furnace heat requirements.* Only through experiment with full-scale test houses can sufficiently detailed performance data be obtained to permit accurate reduction of the analytical figure for "available" energy to a practical figure for effective utilization. Analysis is principally concerned with the quantity of solar energy that can be introduced into a house; experiment is principally concerned with the mechanisms by means of which this energy can be released—under controled conditions—from the house.

For all usual types of residential construction the basic question with respect to the economics of solar heating can be readily and simply expressed: *Will the increased first cost of a heating system for a solar house be offset by possible reduction in the operating cost?* Neglecting solar effect, the rate of heat loss through a double glass window will be from two to ten times that through the opaque wall which the window replaces. Since the heating plant for any house must be capable of maintaining comfortable warmth on days when there is no sun, it follows at once that *the use of large glass areas will necessarily require installation of a larger heating plant.* Thus, irrespective of geographical location, or of any other factor, the use of large glass areas will necessarily require a more costly heating system.

Further, except coincidentally, the maximum possible gain of solar energy is independent of outside air temperature at a fixed latitude. Indirectly there seems to be a relationship; this appears because both solar gain and outside temperature vary in relation to latitude. Solar effect—net gain or loss—will be of least importance in localities where transmission losses are great; that is, where outside temperatures are low. But transmission losses through the glass increase as a function of the air-to-air temperature difference, so it follows that the operating penalty of large glass areas—excess transmission losses from the structure—increases with decreasing outside temperature whereas the operating advantage—solar gain—remains constant. If, therefore, glass affords reduced seasonal house heating requirements the reduction will be greatest in mild climates and least (or possibly non-existent) in localities which have very cold winters.

The overall problem is thus seen to be one of evaluating the first cost disadvantage of solar construction and comparing it with the possible saving in operating cost. If such a comparison shows solar heating to be economical the advantage will always be greatest in warm climates; whereas if the comparison shows a penalty for solar construction the magnitude of this disadvantage will be greatest in cold climates.

Available Solar Energy

Contrary to popular opinion, the quantity of solar energy received through an unshaded south-exposure window on an average sunny day in winter is substantially *more* than that received through the same window on an average sunny day in summer. This is true for a number of reasons:

1. Although there are more hours of possible sunshine in summer than in winter there are more hours of possible sunshine *on a south-exposed window* in winter than in summer. As an example consider latitude 35° and compare the time of south wall irradiation for the longest and the shortest days of the year. On June 21 the sun comes up at approximately 5 a.m. and sets at approximately 7 p.m.; thus there are 14 possible hours of sunshine. On December 21 the sun rises shortly after 7 a.m. and sets shortly before 5 p.m., with a total of approximately ten hours of possible sunshine. But *on December 21 the sun is on the south wall for the entire 10 hours* whereas on June 21 the sun remains north of east until after 8:30 a.m. and goes to north of west before 3:30 p.m., so that exposure of the south wall to direct sunshine occurs for only 7 hours in June as against 10 in December. On the average, south wall irradiation is possible (assuming that the sun is shining) for 42% of the time during the seven-month heating season, but for only 37% of the time during the three summer months.

2. The intensity of solar irradiation on a plane normal to the sun's rays, located at sea level, is approximately the same in winter as in summer. In winter the sun is closer to the earth and the intensity outside the earth's atmosphere is greater than in summer; but for the range of latitudes that occur in the United States the sun remains closer to the horizon in winter than in summer (that is, the solar altitude is less) with a consequent longer path of the solar rays through the atmosphere and a greater absorption and scattering due to water vapor, dust, ozone, and to a lesser extent to the other materials which constitute the atmosphere. Depletion of solar radiation due to the longer winter atmospheric path is approximately offset by the increased extra-atmospheric intensity (due to the shorter distance between the sun and the earth) hence the sea-level intensity can be considered almost the same for all seasons of the year.

3. The intensity of irradiation of a south window (energy units received per unit area of window) is greater in winter than in summer, due to the fact that the sun is closer to the horizon; hence the rays strike the window more nearly at right angles. Specifically, the average angle of incidence for summer can be taken as 68° (from normal to the window) whereas in winter the corresponding angle is 53.3°. The intensity normal to the window is equal to the intensity normal to the sun's rays (which can be taken as 260 Btu/hr/sqft) multiplied by the cosine of the angle of incidence; carrying out this calculation will show that 151 units of solar energy impinge on a square foot of south window during an average winter hour whereas 98 units would impinge on the same area during an average summer hour.

4. Because winter solar altitude is less,

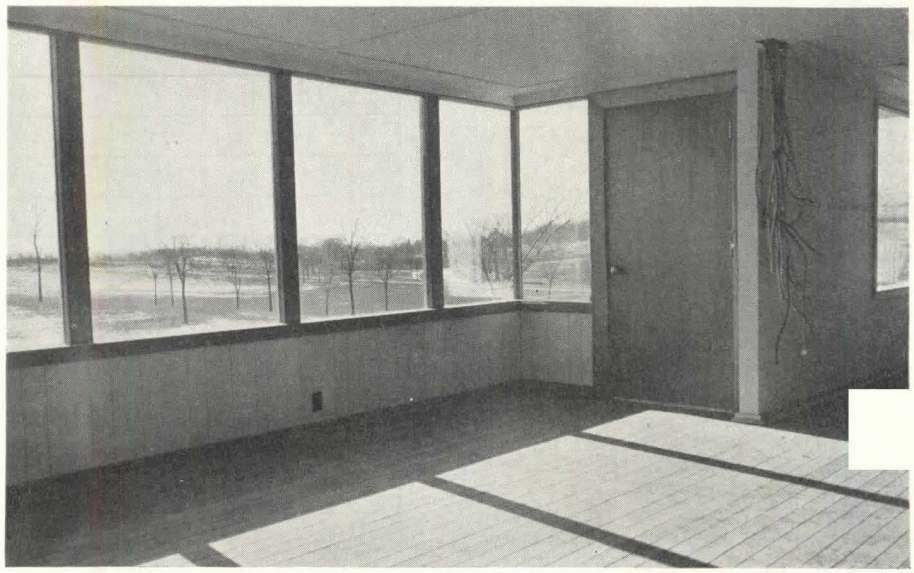


Fig. 2. Living room of the solar test house shown in Fig. 1. Photo taken at noon in January shows nearly maximum irradiation.

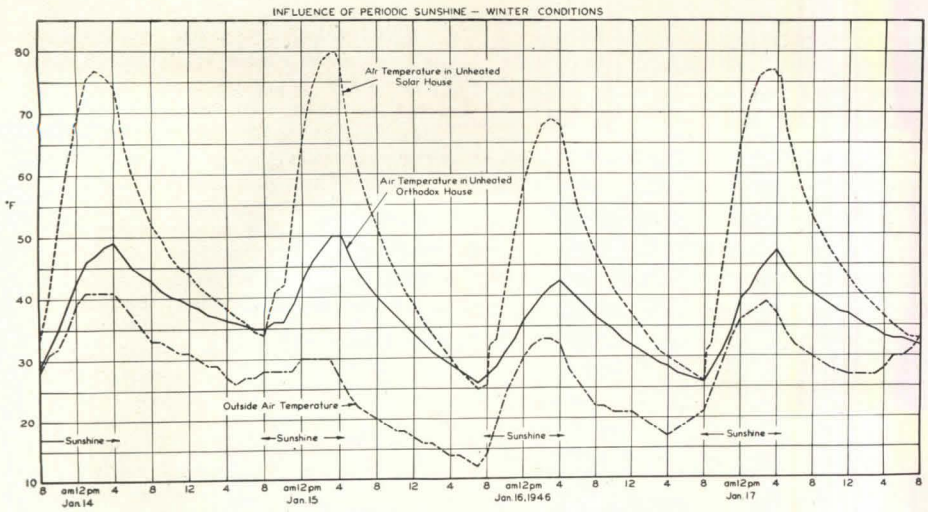


Fig. 3. **Test results from operation of both houses without any heating.**

the scattering effect of dust and water vapor in the atmosphere is greater, and the reception at sea level of indirect solar radiation (called sky radiation) is much greater. Average winter sky radiation can be taken as 32 Btu/hr/sqft whereas average summer sky radiation is approximately one half as great. Thus the total reception of energy per unit area of south window is at a rate of 183 Btu per hour in winter and 114 Btu per hour in summer. Reducing these figures to equivalent irradiation rates for a 24-hour day gives .42 x 183 = 77 Btu/sqft/hr over the 5,088 hours of a seven-month heating season as against .37 x 114 = 42 Btu/sqft/hr over the three summer months.

5. The factors so far considered have to do with energy striking the south window. Of this energy some is transmitted, some absorbed, and the remainder reflected. The percent transmitted increases as the path of the sun's rays more nearly approaches a perpendicular to the window, so the transmission factor is greater in winter than in summer. The percent absorbed is greater in summer, but by so little that the total fraction of solar energy absorbed and transmitted is greater in winter (76%) than in summer (63%).

Thus the average rate of reception of solar energy during the heating season is .76 x 77 = 58.5 Btu/hr/sqft of south window whereas the corresponding summer rate is .63 x 42 = 26.5 Btu/hr/sqft.

6. The rates of solar gain given above are for *unshaded* windows. If solar windows are provided with sufficient roof overhang to exclude all solar energy *only* at solar noon on June 21 and to allow all noon sunshine to enter *only* on December 21, the resultant seasonal shading factor during the heating period will be found to be in excess of 96%; that is, on the average 96% of the window will be exposed to direct irradiation during those hours that the sun is shining. During the summer months, however, the fraction of window directly irradiated will be substantially less. As an approximation an average summer shading factor of 75% can be used. On this basis the reception of solar energy during the heating season averages 57.2 Btu/hr/sqft as compared with 19.8 Btu during the summer months.

The above analysis is based on average summer versus average heating-season conditions and shows that *the rate of gain of solar energy during the heating season is 220% as great as the rate of gain in summer;* this is for an unshaded south window and means, specifically, that more than twice as much solar heat enters a south window during a 24-hour clear winter day as during a 24-hour clear summer day. If the window is in a house with solar-designed roof overhang the reception of solar heat during the winter day will be almost three times as great (293%) as during the comparable average summer day.

Practical Application of Analysis

An exact evaluation of solar gain through a south window during the heating season would require integration of the hourly energy reception rates over the 5,088 hours of the heating season. A separate integration would be required for each latitude and for each different thickness of glass or air space in the window. Such an analysis, requiring some 10,000 unit calculations, has been made[1] for four types of double windows in latitudes 35° and 40°; examination of the graphical solution given in this analysis will show that the influence of window type (all types being double glass with intervening air space), and of latitude, is relatively small as compared with the effect of outside air temperature and of percent sunshine for the locality in question. Thus an approximate solution for use in practical design computations can be obtained by taking solar gain as a constant for all types of ordinary clear glass windows when used in any part of the United States. The average solar constant of 57.2 Btu per hour (on a 24-hour day basis) per sqft of solar-shaded south window checks closely with the average solar gain as calculated from the integrated total gain given in the exact analytical paper; hence this value will be used in subsequent calculations. Solar energy reception by a single-pane glass window would be slightly greater than that through double glass so use of the same solar energy constant for such a window will be conservative.

Table I provides approximate design data for 48 cities in the United States. The first column gives the usage factor, **F**, which is defined as the ratio of the

[1] *"A Rational Basis for Solar Heating Analysis," F. W. Hutchinson and W. P. Chapman, ASHVE Journal Section,* Heating, Piping and Air Conditioning, *July 1946.*

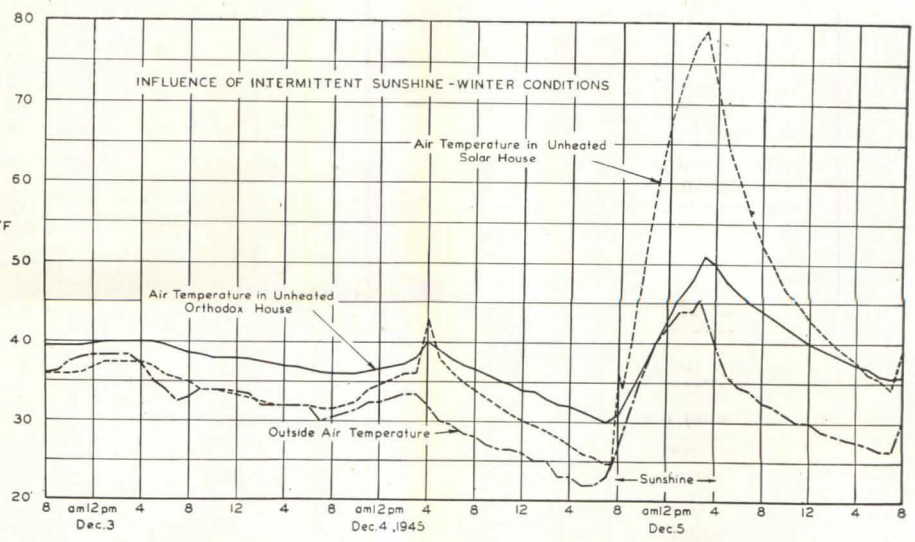


Fig. 4. **Typical test results for winter periods of intermittent sunshine.**

average number (over a period of years) of sunshine hours during the period from October 1 to May 1 to the maximum possible sunshine hours (at the latitude of the particular city) for the same period. The F values are based on data from a recent article[2] published in *Heating and Ventilating*. The second and third columns give the normal and design outside air temperatures (taken from the 1946 edition of the ASHVE *Guide*) for the same cities. The last two columns show design values of the transmission losses through single and double windows; these values are based on the design outside air temperature and represent the capacity of heating plant that is needed to offset maximum losses through each square foot of window; such losses are for use in determining the size and first cost of the heating plant, but they have no significance with respect to operating cost.

The fourth and fifth columns of Table I give the net gain of energy (a negative number represents a loss) resulting from the use of unit glass area. For double glass windows it appears that there is a seasonal heat gain through south windows for all parts of the United States. This means that—assuming complete utilization of solar energy—such a window allows more heat to enter the house than to leave it. With single glass the situation is different; for 20 of the cities listed the heat loss through a south window exceeds the gain. In interpreting this loss, however, it should be noted that an effective comparison will require consideration of the average seasonal loss through the type of exposed wall which the window replaces. If the wall loss exceeds the glass loss the use of single glass south window area would still be more economical than use of opaque exterior wall.

The seasonal advantage (or disadvantage) resulting from use of a south window in a given structure can be obtained by multiplying the gain shown in Table I by the window area and by the number of hours (5,088) in the seven-month heating season.

To permit a more effective direct comparison of south wall windows with opaque south walls, **Table II** has been prepared. Here the rates of net gain through the two types of window have been compared with the transmission loss through a replacing uninsulated (assumed overall heat transfer coefficient of .25 Btu/hr/sqft/deg temperature difference from inside air to outside air) and average insulated (overall coefficient assumed as .10) wall. The numbers given in the table are the square feet of wall through which the total transmission losses would be equal to the net gain (solar gain less transmission loss) which is realized through a unit area of window. Thus in New York one square foot of double glass window will, in effect, provide sufficient thermal gain to compensate for the loss through 2.88 square feet of average uninsulated wall, or 5.7 square feet of average insulated wall.

[2] *"Heat Gain from Winter Sunshine in the U. S.,"* Heating and Ventilating, *March 1946.*

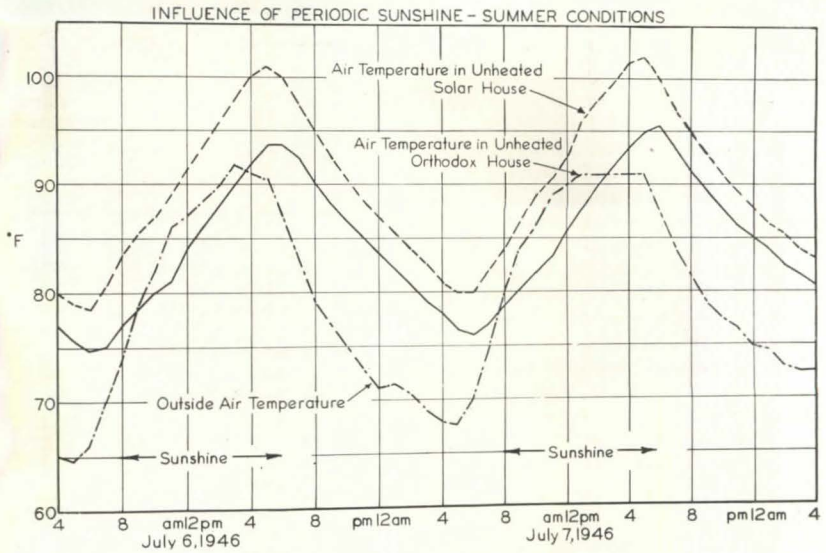


Fig. 5. **Effects of periodic sunshine for typical clear summer weather.**

Table II should be used only as an approximation of the maximum possible advantage to be derived from the use of glass. The actual advantage will always be less than that indicated in the table for two reasons:

1. As previously discussed, the analysis assumes complete utilization of all solar energy that enters the house, and further assumes that the householder will not at any time during the heating season exclude solar energy. Both of these assumptions are incorrect since on many occasions—particularly in spring and fall—the house of average construction will not permit controled use of all the sun's energy that would enter through an average-size south window; during such periods shades or drapes would undoubtedly be used with a consequent reduction in the seasonal effectiveness of the solar heating.

2. The analysis does not take account of solar absorption by opaque south walls. In usual calculations for load during the heating season such allowance is not made, but the effect of wall gain is of considerable importance[3] and neglect of it favors the window.

Experimental Results

Some conception of the difficulty involved in realizing a high utilization factor on solar energy can be obtained from an examination of **Fig. 2**, which shows the living room floor of the solar house that appears in **Fig. 1.** This photograph was taken at noon in January and represents close to maximum irradiation of the floor. The parts of the floor that are receiving direct solar irradiation obviously rise in temperature with consequent increased transmission losses and resultant ineffective dissipation of some of the energy received through the south windows. (If the house were occupied there would be additional problems with respect to glare and furniture fading, that might necessitate exclusion of some sunshine even though the room air temperature did not exceed a comfortable value.)

[3] *"The Solar House: A Research Progress Report,"* *F. W. Hutchinson,* Heating and Ventilating, *March 1946.*

Fig. 3 shows test results from operation of both houses without any heating. For the four-day period shown in the graph the weather was clear and periodicity of inside air temperatures was very marked. As previously mentioned the temperature in the solar house exceeded comfort value on a number of occasions even though the outside air temperature remained low and no heat source was located in the house. The rapid rise of solar house air temperature during periods of sunshine is evident as, also, is the more rapid drop in air temperature of the solar over the orthodox house. For the two test houses under consideration the thermal capacities happen to be such that the solar house temperature rarely drops below that of the non-solar house, but for different constructions different results would have been expected. Fig. 3 is representative of the winter results for these two houses during periods of clear weather.

Another factor of interest from Fig. 3 is the temperature rise of air within the house of orthodox construction. Calculation shows that this rise is substantially greater than could be expected from window reception of solar energy, and both calculation and experiment indicate that the greater part of the rise should be credited to solar gain of the opaque wall.

Fig. 4 is typical of test results for winter periods of intermittent sunshine. Here the inside air temperature of the solar house drops below that of the orthodox house, and during periods of changing outside air temperature may even be lower than the outside air. When sunshine does occur, however, the

inside air temperature rises at a rate of approximately 10F per hour.

Fig. 5 shows periodic sunshine for a typical summer period of clear weather. The diurnal variation in outside air temperature is seen to be greater in summer than in winter and the extent of departure of inside air temperatures from outside is substantially less. The difference between air temperatures in the solar and orthodox houses is of the order of 7F, but it is noteworthy that this difference—for the days shown in the figure—is always one that increases the condition of indoor discomfort. (In an occupied house this condition might well be nullified by opening doors and windows, and by addition of awnings or other shading means.)

The fact that the unheated winter air temperature in the solar house is higher, on the seasonal average, than that in the unheated orthodox house means that *fewer degree-hours of heating would be required for the solar house.* Research during the 1945-1946 heating season showed that this reduction is of the order of 10%, but this must not be interpreted as meaning that the energy required to heat the solar house to a condition of optimum comfort would be less by 10% than that needed for the orthodox house. The value of one degree-hour, measured in heating units, is greater for the solar than for the orthodox house hence the actual saving in heating costs, if any, would be less than the indicated saving in degree-hours. For the 1946-1947 heating season the two houses are being electrically heated to a fixed inside temperature of 70°; results of these tests are expected to show the difference in actual energy requirements — for these particular houses—over a full winter season.

Conclusion

Analysis of windows in south walls shows that the available solar gain for double windows in most cities of the United States is more than sufficient to offset the excess transmission losses through the glass. When single glazing is used there will be a net loss in about half the major cities of the country. Analytical data for east and west walls, or for walls facing east or west of south, have not yet been compiled.

Experimental results from test houses on the Purdue Housing Research Campus show a substantial reduction in required degree-hours of heating for a solar over an orthodox house, but data are not yet available on comparative direct heating costs for the two types of houses. From the standpoint of practical application of analytical results on solar heating, more data are needed on the effect of different types of residential construction, and on the effectiveness of a house in absorbing solar energy which enters through the windows and releasing it, under controled conditions, at a later time when this energy can effectively serve to reduce the output of the heating plant.

TABLE I

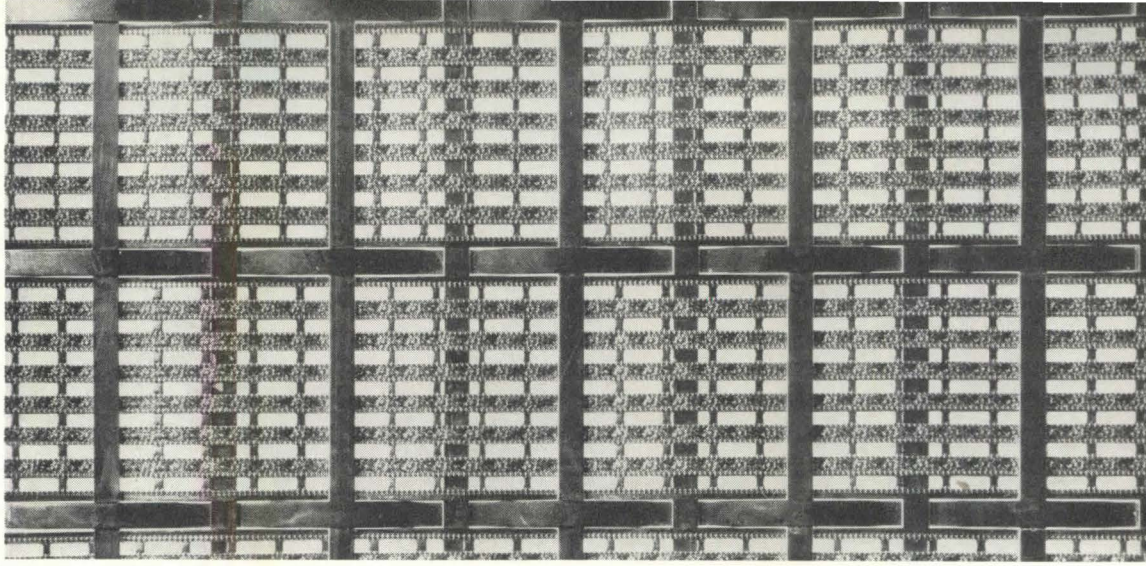
City	Fraction, F, of maximum possible sunshine.	Normal temperature during seven month heating season. t_n.	Design outside winter air temperature, t_o.	Net energy gain, Btu/hr/sqft due to use of glass.		Glass transmission losses, Btu/hr/sqft.	
				Single glass	Double glass	Single	Double
1. Albany, N. Y.	.463	35.2	—24	—12.8	5.6	106.2	56.0
2. Albuquerque, N. M.	.770	47.0	—10	18.05	30.2	90.4	48.0
3. Atlanta, Ga.	.522	51.5	—8	9.0	18.8	88.1	46.8
4. Baltimore, Md.	.553	43.8	—7	2.0	15.9	87.0	46.2
5. Birmingham, Ala.	.510	53.8	—10	10.9	19.5	90.4	48.0
6. Bismarck, N. D.	.546	24.6	—45	—20.1	4.0	129.9	69.0
7. Boise, Id.	.540	45.2	—28	22.9	16.0	110.7	58.8
8. Boston, Mass.	.540	38.1	—18	5.2	11.7	99.44	52.8
9. Burlington, Va.	.419	31.5	—29	—19.5	.9	111.9	59.4
10. Chattanooga, Tenn.	.503	49.8	—10	5.9	16.7	90.4	48.0
11. Cheyenne, Wyo.	.666	41.3	—38	5.7	20.3	122.0	64.8
12. Cleveland, Ohio	.408	37.2	—17	—13.7	3.7	98.3	52.2
13. Columbia, S. C.	.511	54.0	—2	11.2	19.6	81.4	43.2
14. Concord, N. H.	.515	33.3	—35	—12.0	7.4	118.6	63.0
15. Dallas, Texas	.470	52.5	—3	7.1	16.4	82.5	43.8
16. Davenport, Iowa	.539	40.0	—27	—3.1	12.8	109.6	58.2
17. Denver, Colo.	.705	38.9	—29	5.2	21.7	111.9	59.4
18. Detroit, Mich.	.429	35.8	—24	14.1	44.0	106.2	56.4
19. Eugene, Ore.	.439	50.2	—4	2.7	13.2	83.6	44.4
20. Harrisburg, Pa.	.495	43.6	—14	—1.5	12.5	94.9	50.4
21. Hartford, Conn.	.532	42.8	—18	—.3	14.1	99.4	52.8
22. Helena, Mont.	.521	40.7	—42	—3.3	12.2	126.6	67.2
23. Huron, S. D.	.579	28.2	—43	—14.1	8.0	127.7	67.8
24. Indianapolis, Ind.	.507	40.3	—25	—4.6	11.2	107.3	57.0
25. Jacksonville, Fla.	.400	62.0	—10	13.9	18.1	67.8	36.0
26. Joliet, Ill.	.530	40.8	—25	2.9	12.8	107.3	57.0
27. Lincoln, Neb.	.614	37.0	—29	—2.2	15.3	67.8	59.4
28. Little Rock, Ark.	.513	51.6	—12	8.5	18.3	92.7	49.2
29. Louisville, Ky.	.514	45.3	—20	1.5	14.6	101.7	54.0
30. Madison, Wis.	.504	37.8	—29	—7.6	9.5	111.9	59.4
31. Minneapolis, Minn.	.527	29.4	—34	—15.74	5.8	117.5	62.4
32. Newark, N. J.	.550	43.4	—13	1.4	15.5	93.8	49.8
33. New Orleans, La.	.370	61.6	7	11.7	16.1	71.2	37.8
34. Phoenix, Ariz.	.590	59.5	16	21.9	27.5	61.0	32.4
35. Portland, Me.	.525	33.8	21	—7.2	12.0	55.4	29.4
36. Providence, R. I.	.542	37.2	—1/	—6.1	11.3	98.3	52.2
37. Raleigh, N. C.	.570	50.0	—2	—10.0	20.6	81.4	43.2
38. Reno, Nev.	.637	45.4	—19	8.6	21.7	100.6	53.4
39. Richmond, Va.	.594	47.0	—3	8.0	20.2	82.5	3.8
40. St. Louis, Mo.	.567	43.6	—22	2.6	16.6	104.0	55.2
41. Salt Lake City, Utah	.592	40.0	—20	0.0	15.9	101.7	54.0
42. San Francisco, Cal.	.615	54.2	27	17.3	25.7	48.6	25.8
43. Seattle, Wash.	.340	46.3	3	—7.3	5.2	75.7	40.2
44. Topeka, Kan.	.613	42.3	—25	3.8	18.4	107.3	57.0
45. Tulsa, Okla.	.560	48.2	—16	7.4	19.0	97.2	51.6
46. Vicksburg, Miss.	.447	56.8	—1	—10.7	17.7	80.2	42.6
47. Wheeling, W. Va.	.408	46.1	—18	3.7	9.0	99.4	52.8
48. Wilmington, Del.	.558	45.0	—15	3.7	16.9	96.1	51.0

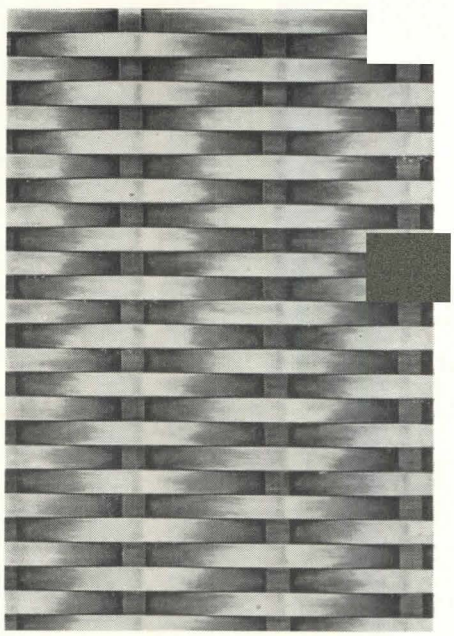
TABLE II

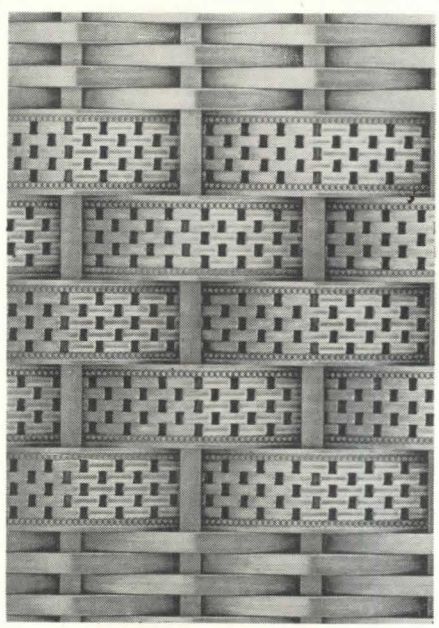
City	Normal Temperature during seven month heating season, t_n.	Fraction of maximum possible sunshine, F.	Square feet of opaque south wall through which average transmission losses would equal net gain through one square foot of south-exposed window.			
			Uninsulated (U = .25) wall		Insulated (U = .1) wall	
			Single glass	Double glass	Single glass	Double glass
New York	40.7°F	.550	.76	2.88	.40	5.70
Minneapolis	29.4	.527	—.54	1.42	—2.88	2.04
Indianapolis	40.3	.507	.40	2.52	—.50	4.80
New Orleans	61.6	.370	—2.52	—.40	—7.80	—2.50
San Francisco	54.2	.615	5.36	7.48	11.90	17.20

Example: A structure in New York City having 570 sq ft of insulated exterior wall and 100 sq ft of double glass in the south wall would theoretically not require any seasonal heat input for comfort; with glass in greater proportion the structure would be too hot; with glass in lesser proportion some heating would be necessary.

PRODUCTS







Three of the many types of Multi-Weave described in adjoining column. Not shown are examples incorporating structural materials such as wood 2x4's, steel channels, etc.

General Electric's New Woven Material

Multi-Weaving is a new process developed by the General Electric Co., in which metals, plastics, wood, rubber, and certain fabrics may be combined to produce a composite material in a great variety of designs and shapes. The products woven together may be of the same base family group, of different types, or in almost unlimited combinations. Stiff materials may be combined with lightweight products; the end product can be rigid, flexible, or resilient. Strands and fillers are held in position under tension at the points of intersection, and the composite material can thus be so designed that it will not vibrate under acoustical or mechanical force. Weight, tensile strength, and other properties will, of course, vary according to the base materials used.

The material has obvious applications in such fields as electronics, aircraft construction, furniture, etc. It also has structural potentialities as well as decorative applications in the building field. Screens, grilles, enclosures, and lighting fixtures are a few of the latter; it may be used in partitions. The photographs do not include the entire range of base products. When composed of such materials as wide, flat, sheetmetal channels and narrow separators, or heavy-gage metal channels, or common 2 x 4" joists and channel separators, it would appear useful for combined forms and reinforcement for concrete, or for various structural purposes.

At the present stage of development Multi-Weave is custom-made for special applications. For further information see listing in *Manufacturers' Literature*, under "Non-Load-Bearing Structures."

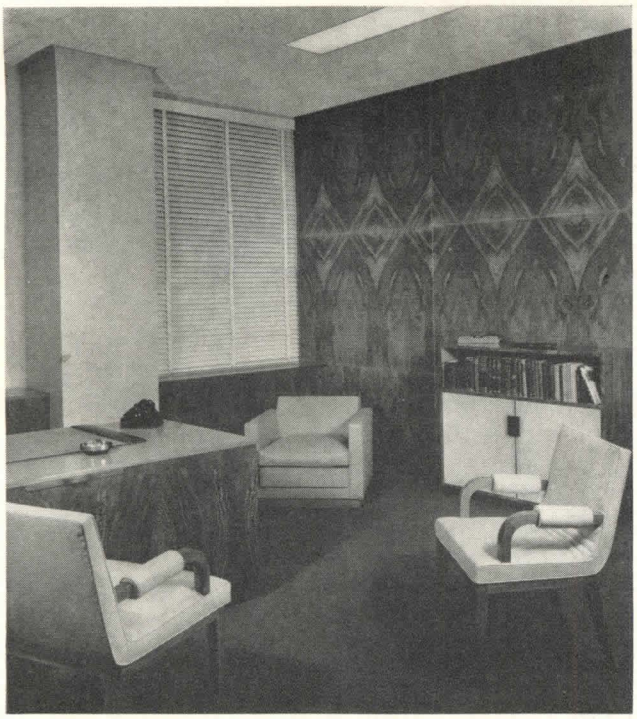
Pierce Foundation Researches "Comfort Concrete"

The Housing Research Division of the John B. Pierce Foundation, of Raritan, N. J., has been exploring the feasibility of making satisfactory low cost floors for houses by stabilizing the earth at the site. Although this particular aim was not realized, the Division's studies led eventually to development of a resilient type of concrete which has proved satisfactory in experimental installations in agricultural buildings.

Materials used are all standard. Standard Type I (ASTM) Portland cement is used, along with crushed stone, slag, or gravel aggregate. A minimum of 25% of the fine aggregate should pass a 50-mesh screen. Grading of the aggregate depends on thickness of the floor slab. An asphalt emulsion prepared from high-penetration asphalt has been found most satisfactory. The particular blend employed is 90 parts of "Hydropel" and 10 parts "Vinsol" emulsion, which is now available from the American Bitumuls Co. under the name "Aquapel No. 1." The limited air entrainment induced by the vinsol resin is desired to improve workability, impact absorption, and thermal properties. Care in mixing is essential to prevent excessive foaming.

A typical formula for one cubic yard is: 2000 lbs. crushed stone passing a ¾" screen but retained on a ⅜" screen; 1800 lbs. stone sand (or 1600 lbs. natural concrete sand) passing a 4-mesh screen; 4 bags Portland cement; 7 gals. asphalt emulsion. Asphalt is introduced with a minimum of water—just enough to make the mix glisten without being sloppy. After mixing the concrete is dumped in the forms, spread, rodded, and rolled in two directions until the surface is smooth. Then a batch of the same mix, but with coarse aggregate omitted, is spread thinly over the surface, screeded, rolled or trowelled, and floated. At time of initial set the floor is trowelled—hand-trowelled if a very smooth finish is required.

A floor thus constructed is unaffected by animal acids and cleaning materials, has wear resistance approximately equal to that of hard maple, resists indentation about as well as 1:2:4 concrete, will not shatter readily, is relatively warm to the touch, and—most important—absorbs about 90% of the energy of impact; it is remarkably resilient. The only disadvantage at present apparent is its frangibility; care must be taken to protect sharp exposed edges.



Remodeled New York offices of the Bakelite Corp. (Walter Dorwin Teague, Designer; Reino E. Aarnio, Associate) employ Vinylite film draperies, vinyl-coated fabric upholstery, extruded Vinylite baseboards, resin-fortified lacquers, counter and desk tops of laminated Bakelite, Realwood paneling and cabinetwork (wood veneer on laminated plastic), resin-bonded plywood, Vinylite flooring.

THIS MONTH'S PRODUCTS

AIR AND TEMPERATURE CONTROL

Gemco Conditioner. Packaged air conditioner for stores, restaurants, offices, etc. Has aluminum semi-hermetically sealed motor and compressor housing, 2-stage type compressor; motor is cooled by the refrigerant gas instead of with oil. Can be connected with ½" or ¾" water pipes, plugged into any 220-volt, 3-ph, 60-cycle electrical outlet. General Engineering & Mfg. Co., St. Louis, Mo.

Ilgvent 8-In. Packaged Fan. Electric vent fan with 3⅜" sleeve for mounting in thin walls, steel sash, other small-panel sash. 350 cfm; 2-min. air change in kitchens up to 700 cu ft in area. Ilg Electric Ventilating Co., Chicago 41, Ill.

Oil-Burning House Heater. Has horizontal burner which allows low heat chamber for heat at ankle height; 45,000, 55,000, 75,000 Btu. Evans Products Co., Detroit 27, Mich.

Tri-Flex Grilles and Registers. For control of air distribution on commercial, institutional, industrial air conditioning systems. Available in 26 standard sizes, with grille and deflector blades, dampers. Tuttle & Bailey, Inc., New Britain, Conn.

DOORS AND WINDOWS

Terminix Ventilator. Foundation ventilator of cast aluminum; built-in screen and adjustable glass shutter. Opened or closed from outside. E. L. Bruce Co., Memphis 1, Tenn.

ELECTRICAL EQUIPMENT AND LIGHTING

Electric Fixture Stud, Type FS-3 "No-Bolt." Diecast aluminum alloy with ⅜" pipe thread. Tested to breaking point of 600 lbs vertically; now furnished less locknut. Cannon Electric Co., Los Angeles 31, Calif.

Bacteria-Lite. Cold cathode gaseous discharge lamp combining visible fluorescent and invisible ultra-violet radiation from a single source. For hospitals, dental offices, operating rooms, restaurants, dairies, etc. Libbey Electric Div. of Libbey Engineering Co., Elgin, Ill.

FINISHERS AND PROTECTORS

Reducite. All-purpose paint thinner for reducing almost any type of paint product except shellac and lacquer. Substitute for turpentine. Cleans brushes; no disagreeable odor. O'Brien Varnish Co., South Bend 21, Ind.

Agraseal. "One-coat" protective and sealing coating for cinder blocks, light-weight aggregate or concrete blocks. Applied with scrub brush; available in white, ivory cream, light buff, stone grey, yellow, and light green. Tamms Silica Co., Chicago 1, Ill.

INSULATION (THERMAL, ACOUSTIC)

Ferro-Therm Steel Insulation. Now available to the public is Ferro-Therm Steel Insulation for use in cold storage and all-weather rooms. Ferro-Therm reflects 90 to 95% of radiant heat, and, being metal, is vermin-proof, gives fire protection, and is odorless. Standard-sized sheets of 24" x 32", in 38 ga. For refrigeration heavier gage is obtainable. American Flange and Mfg. Co., Inc., New York, N. Y.

LOAD-BEARING STRUCTURES

Rigidsteel Construction. Prefabricated rigid-framed, welded all-steel buildings; welded frames eliminate many members ordinarily required in roof trusses, etc.; standard bays 14 to 24 ft in 2-ft multiples. Suitable for agricultural, warehousing, single-story manufacturing purposes, etc. Field erection and alteration much simplified. McCloskey Co., Pittsburgh, Pa.

MATERIALS OF INSTALLATION

Teco Trip-L-Grip Framing Anchors. Secondary timber connectors made of 18 ga zinc-coated, corrosion-resistant sheet steel that is joined to wood with non-splitting, full bodied nails. Timber Engineering Co., Washington 6, D. C.

NON-LOAD-BEARING STRUCTURES

Multi-Weaving. A process for weaving metal, plastic, fabric, or wood in which a wide range of grades, gages, and meshes can be produced. Can be used in ventilating grills, prefab housing, flooring, partitions, etc. General Electric Co., Electronics Dept., Bridgeport, Conn.

Richglaze. Plastic glazing material admits 60% of the sun's ultra-violet rays. Waterproof, flexible, shatterproof. Can be used in poultry houses, barns, cold frames, safety glazing under glass skylights, heat and dust barriers in greenhouses, warehouses, etc. The Richkraft Co., Chicago, Ill.

SPECIALIZED EQUIPMENT

Elastichuck Pencil. New aluminum drafting pencil; has rubber collet in neck of the chuck to grip lead and cushion it against undue pressure. Single or double end. Elastichuck Sales Co., Inglewood, Calif.

Automatic Washing Machine. Soaks, washes, rinses, damp-dries, at one setting of dial. May be some time before it is generally available. Hotpoint, Inc., Chicago 24, Ill.

Perspectigraf. Consists of five components ("perspectiscale," 2 "vanishing arcs," "perspectivedge," "basedge"). Said to enable anyone to draw perspectives. Letterite Co., Fort Washington, Pa.

Wallmaster. Wall-washing machine of large lightweight trowels covered with terrycloth pads for washing, rinsing, drying interior wall surfaces. Maintenance Co., Inc., New York, N. Y.

Vant Rule. Transparent drafting scale with eight different scales on one side. Calibrations and numerals in red. $2.00 with case. Stewart-Jackson Instrument Co., Los Angeles 14, Calif.

SURFACING MATERIALS

Neotron. Resin-impregnated, pigmented pulp made into a reinforced panel which can be laminated to any backing. Texture and dull finish are noteworthy. Macrolyn, Inc., Houston, Tex.

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

5/47

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

From American Foundry and Furnace Co. Reviewed April:

1-101. *The Climatemaker Slide Rule.*
1-102. *Gas or Oil Fired (Series 40 Ogah) Unit Heater (Section 6A).*
1-103. *June-Aire Oilfired Air Conditioner.*
1-104. *June-Aire Winter Air Conditioning.*

★ **19-110.** *American Radiator and Standard Sanitary Catalog.* American Radiator and Standard Sanitary Corp. (See No. 19-110 under "Sanitary Equipment.")

1-111. *World's Economy Champion (PB-10)*, 4-p. illus. folder. Fluid Heat oil burner with intermittent ignition for economy, for houses or small commercial buildings. Rating table. Anchor Fence Post Co., Fluid Heat Div.

1-112. *Hydro-Flo Heating (E-246)*, 8-p. illus. booklet on a forced hot water heating system with automatic heat modulation. Bell & Gossett Co.

1-105. *Line-O-Flo*, Barber-Colman Co. Reviewed April.

1-95. *Dependable Automatic Oil Heater*, Catskill Metal Works, Inc. Reviewed April.

From S. T. Johnson Co. Reviewed April:

1-106. *Data No. 30 AVH-LFS & MF.*
1-107. *Data No. 20 AVH-2.*

★ **1-113.** *A Spiralating Heat Wave (Form 956)*, 6-p. illus. booklet on a compact, automatic oil-fired unit for heating small houses and domestic hot water. Two models: one for under counter installation is 34" high, 23" x 34½" in area (for kitchen, laundry, etc.); one, with jacket, free-standing, has linoleum top at worktable height, is 24" x 36". Spiral baffles increase utilization of fuel energy. For use with radiators, radiant baseboards, radiant panels. Specifications, operating details. Miller Co., Heating Products Div.

1-108. *Miller Oil Burner and Controls (Form 952)*, 10-p. illus. booklet; vaporizing, mechanical-draft burner for small houses, complete with all controls. Steam, water, warm air systems. Miller Co., Heating Products Div.

1-109. *Frigid-Freeze*, Refrigeration Corp. of America—Div. of Noma Electric Corp. Reviewed April.

1-99. *U. S. Airco Unit Coolers (Bul. 90)*, United States Air Conditioning Corp. Reviewed April.

1-110. *Webster Type WI Extended Surface Radiation (Bul. B-1550A, supersedes Bul. 1550)*, Warren Webster & Co. Reviewed April.

Doors and Windows

4-84. *Automatic Storm Window Regulator*, Award Mfg. Co. Reviewed April.

4-85. *Balch Exit Door Release*, Balch Glass Exit Door Release Co. Reviewed April.

4-86. *Howie Fire Prevention*, John D. Busch & Sons, Inc. Reviewed April.

4-87. *Lemco Residence Steel Casements*, Lundell-Eckberg Mfg. Co., Inc. Reviewed April.

★ **4-89.** *Dexter Tubular Locks and Latches*, 6-p. illus. pamphlet on locks and latches for residences. All working parts contained in small tubular case; for front, back, bathroom, and screen doors. Working and installation data. National Brass Co.

★ **4-90.** *Practical Beauty for Homes (Cat. 145-R), AIA 16-M*, 6-p. illus. booklet on "Modernfold" accordion doors that are top hung and require no floor track. Installation details and dimensions. Specifications. New Castle Products.

★ **14-28.** *Pittsburgh Data Sheet Handbook*, Pittsburgh Glass Co. (See No. 14-28 under "Non-Load Bearing Structures.")

Two booklets on pivoted, commercial projected, and continuous windows; casements and intermediate casements for housing projects and residences; double-hung windows and basement windows in both aluminum and steel. Construction and installation details and data. Specifications. J. S. Thorn Co.

4-91. *Aluminum Windows (Cat. A-46).*
4-92. *Metal Windows (Cat. SA-47).*

Electrical Equipment and Lighting

5-65. *Luminous Tube Transformer Handbook (Bul. LT-156)*, Acme Electric & Mfg. Co. Reviewed April.

5-66. *Lighting to a "T," AIA 31-F-1*, Cutler Light Mfg. Co. Reviewed April.

5-69. *Home?*, 34-p. illus. consumer booklet excellently setting forth the desirability of ample provision for electrical conveniences and ingeniously leading the client into some understanding of technical requirements, but also stating that only the electrified house can be a "home." Wiring and material specifications. General Electric Co. (10 cents per copy—make check or money order payable to General Electric.)

5-70. *Tymzit—Miracle Switch*, 3¼ x 6¼ folder on an electric light switch that combines a delayed action and instant "off" unit. Can be adjusted to turn off light after you leave garage, etc. Application data. T. J. Mudon Co., Inc.

5-71. *Sylvania Indirect Bolite (EN-163)*, 5 pp., illus., on a new bulb designed to make indirect lighting units out of ordinary floor and table lamps. Shade frames to fit over bolite bulb are available. Technical data, installation details. Sylvania Electric Products, Inc.

5-67. *Data for Designing Interiors Illumination*, Westinghouse Electric Corp. Reviewed April.

★ **5-72.** *Planning The Kitchen Electrically, Manual No. 1*, 72-p. spiral-bound book on kitchen design and electrical equipment; lighting, ventilating, and wiring requirements for various layouts. Design details, kitchen plans. Westinghouse Electric Corp., Better Homes Dept. ($1.00 per copy—make check or money order payable to Westinghouse Electric Corp.)

5-68. *Ballasts for Fluorescent Lamps*, The Wheeler Insulated Wire Co. Reviewed April.

Finishers and Protectors

6-89. *Sight Perfection (Form 309)*, The Glidden Co. Reviewed April.

6-91. *Fire Protection for Oils and Flammable Liquids*, 10-p. illus. booklet on three types of nozzles and projectors for use in fighting oil and flammable liquid fires with water. Application, operation and installation data. Grinnell Co., Inc.

6-92. *Architects Condensed Painting Guide*, 4-p. illus. pamphlet of technical data on selection of metal-protective coatings, Aquaseal dampproofing plaster bond, industrial and architectural interior and exterior finishes, and one-coat finishes. M. J. Merkin Paint Co., Inc.

MANUFACTURERS' LITERATURE

★ **14-28.** *Pittsburgh Data Sheet Handbook,* Pittsburgh Plate Glass Co. (See No. 14-28 under "Non-Load-Bearing Structures.")

6-90. *How to Use Color on Concrete Block,* The Reardon Co. Reviewed April.

6-93. *Valspar Deep Penetrating Floor Sealer,* 4-p. illus. folder on a penetrating waterproof sealer for wood floors. For gymnasium and dance floors and other floors that take hard wear. Application data. Valentine & Co., Inc.

Insulation (Thermal, Acoustic)

9-61. *Ferro-Therm Steel Insulation for Refrigerated Construction,* American Flange & Mfg. Co., Inc. Reviewed April.

9-65. *Armstrong's Cushiontone,* 4-p. illus. folder on perforated acoustical tile; light density, fibrous composition. AMA laboratory tests reports, methods of application, specifications. Armstrong Cork Co., Building Materials Div.

9-62. *Foamglas . . . Insulation for Low Temperature Rooms,* Armstrong Cork Co., Building Materials Div. Reviewed April.

9-63. *Kimsul Insulation Application Data File, AIA 37 B (Form KLF-6),* Kimberly-Clark Corp. Reviewed April.

9-64. *Cemex-Incombustible Structural Insulation,* Structural Insulation Corp. Reviewed April.

Load-Bearing Structures

12-110. *Calcium Chloride for Concrete and Cinder Blocks (No. CB-1),* technical page on advantages gained by adding calcium chloride in manufacturing concrete and cinder block; rules on how to use calcium chloride. Calcium Chloride Assn.

12-107. *Architectural Catalog, 1946,* Douglas Fir Plywood Assn. Reviewed April.

12-108. *Steel Buildings for Every Industrial Purpose (Cat. No. B-37),* International Steel Co. Reviewed April.

12-111. *The Rigid Steel Standard Building,* 6-p. illus. booklet on the use of rigid frame design versus truss design. Advantages, equipment, materials, construction and erection of rigid frame buildings. McCloskey Co.

12-109. *Plastiment, "The Concrete Densifier,"* Sika Chemical Corp. Reviewed April.

Materials of Installation

13-51. *Pyramid Mouldings in Stainless Steel (Form W3),* Pyramid Metals Co. Reviewed April.

13-52. *Teco Trip-L-Grip Framing Anchors,* 4-p. illus. folder on a new secondary timber connector made of 18 ga zinc-coated, corrosion-resistant sheet steel that is joined to wood with nonsplitting, full bodied nails. Type anchors available, installation details, specifications. Timber Engineering Co.

Non-Load-Bearing Structures

★ **14-26.** *Multi-Weaving-Electronics Specialties Manual (No. 6900),* 4-p. illus. booklet on a new process for weaving metal, plastic, fabric, or wood into a wide range of grades, gages, and meshes. Can be used in ventilating grills, prefab housing, flooring, partitions, etc. Suggested applications, physical properties. General Electric Co., Electronics Dept.

14-22. *Handbook of Gold Bond Building Products—1947,* National Gypsum Co. Reviewed April.

14-28. *Nelson Electric Arc Stud Welder (Cat. 47),* 36-p. illus. booklet on electric arc stud welders for end-welding studs to metal surfaces. For use in building construction: for securing metal lath, as lag "screws," attaching insulation; securing reinforcing, acting as spacers, etc. Nelson Stud Welding Corp.

14-23. *Design for Die Casting,* The New Jersey Zinc Co. Reviewed April.

★ **14-29.** *Pittsburgh Data Sheet Handbook,* 70-p. illus. loose-leaf book (4¼ x 7) containing technical information on various glass, paints, and metal products available. 13 sections give characteristics, specifications, application, installation, and details of twindow insulating unit, carrara, pittco, architectural glass, paints, etc. As additional sheets are published copies will be sent to all requesting original handbook. Pittsburgh Plate Glass Co.

★ **14-30.** *Aluminum Alloys and Mill Products Data Book,* 245-p. illus. spiral-bound book (6 x 9) giving technical data on aluminum alloys and mill products: sheet and plate, extruded shapes, tubing and piping, roll formed shapes, press forgings, ingot metal, etc. Specifications and mechanical properties. Reynolds Metals Co., Inc. ($2.00 per copy—make check or money order payable to Reynolds Metals Co., Inc.)

14-24. *Metal Lath and Accessories (No. B-430),* Truscon Steel Co. Reviewed April.

14-25. *Porcelain Enamel on Steel in Architecture,* United States Steel Corp. Reviewed April.

Sanitary Equipment, Water Supply & Drainage

★ **19-110.** *American Radiator and Standard Sanitary Catalog* (postwar edition), 342-p. illus. loose-leaf catalog (8 x 10) on plumbing design and equipment available; floor plans and suggested layouts for bath and powder rooms. A section on heating and air conditioning equipment with ratings, data, and specifications. American Radiator and Standard Sanitary Corp.

19-111. *B. J. Submersible Pumps (Bul. 46-5000),* 10-p. illus. booklet on a motor pump unit that operates entirely submerged in water at any depth. For pumping applications of 7,000 gpm to 20,000 gpm and heads to 1500 ft. Installation data, sizes, and capacity. Bryon Jackson Co.

19-100. *Presenting the 1947 Crane Plumbing and Heating Line,* Crane Co. Reviewed April.

19-101. *The Home Appliance That Turns Hard Water Into Soft Water (2816),* The Permutit Co. Reviewed April.

19-102. *Revere Tube and Pipe,* Revere Copper and Brass, Inc. Reviewed April.

Specialized Equipment

19-113. *Furniture For Your Church,* 47-p. illus. booklet of church furniture and equipment available—altars, pulpits, lecterns, baptismal fonts, communion and clergy chairs and rails, carved panels of biblical subjects, pews, etc. Suggested designs for church interiors. American Seating Co.

19-114. *1947 School Seating (Form 6037),* 10-p. illus. booklet on desk and seat units with bookrest combined with desk top to form correct reading position. Also study table with tip-tilt top for reading position; tablet-arm chairs, auditorium folding tablet-arm chairs. American Seating Co.

From Chicago Dryer Co. Reviewed April:

19-103. *Chicago Gas Heated Cabinet Clothes Dryer, AIA 35d (Bul. G-2460).*
19-104. *Chicago-Francis Electrically Heated Cabinet Clothes Dryer, AIA 35d (Bul. G2480).*

19-105. *Today's Master Architect and The Modern Bank,* Herring-Hall-Marvin Safe Co. Reviewed April.

19-106. *Mobilcore,* Timber Structures, Inc. Reviewed April.

19-107. *Fold-A-Way Gymnasium Stands (Type XL),* Universal Bleacher Co. Reviewed April.

★ **19-116.** *Widdecombe Modern Originals,* 6-p. illus. booklet on "flexi-unit" horizontal and vertical furniture in modern sectional styles that can be composed to form endless combinations. Suggested arrangements; sections available—chairs, tables, chests for bedroom groups, living room wall units, bookcases, etc. Widdecomb Furniture Co.

Surfacing Materials

19-108. *Armstrong's Quaker Wall Coverings (No. F-359),* Armstrong Cork Co., Floor Div. Reviewed April.

Two folders on industrial floors composed of acid-proof, alkali-proof, brick, tile, and concrete. Jointing compounds, brick, and tiles are chosen with consideration for chemicals, etc., which may be used where constructed. Selection, installation and estimation data. Specifications. Atlas Mineral Products Co.

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

19-119. *Flintkote Building Materials (BK216),* 14-p. illus. booklet on asphalt and asbestos-cement shingles and sidings, roofing, and insulating board and wool. Application and installation data. Flintkote Co., Building Materials Div.

19-120. *How To Make Your Floors Important (46-D-1),* 6-p. illus. folder (3¼ x 6¼) on colored and patterned "Kentile" (asphalt tile) for floors in kitchens, living rooms, etc. Installation data, suggestions. David E. Kennedy, Inc.

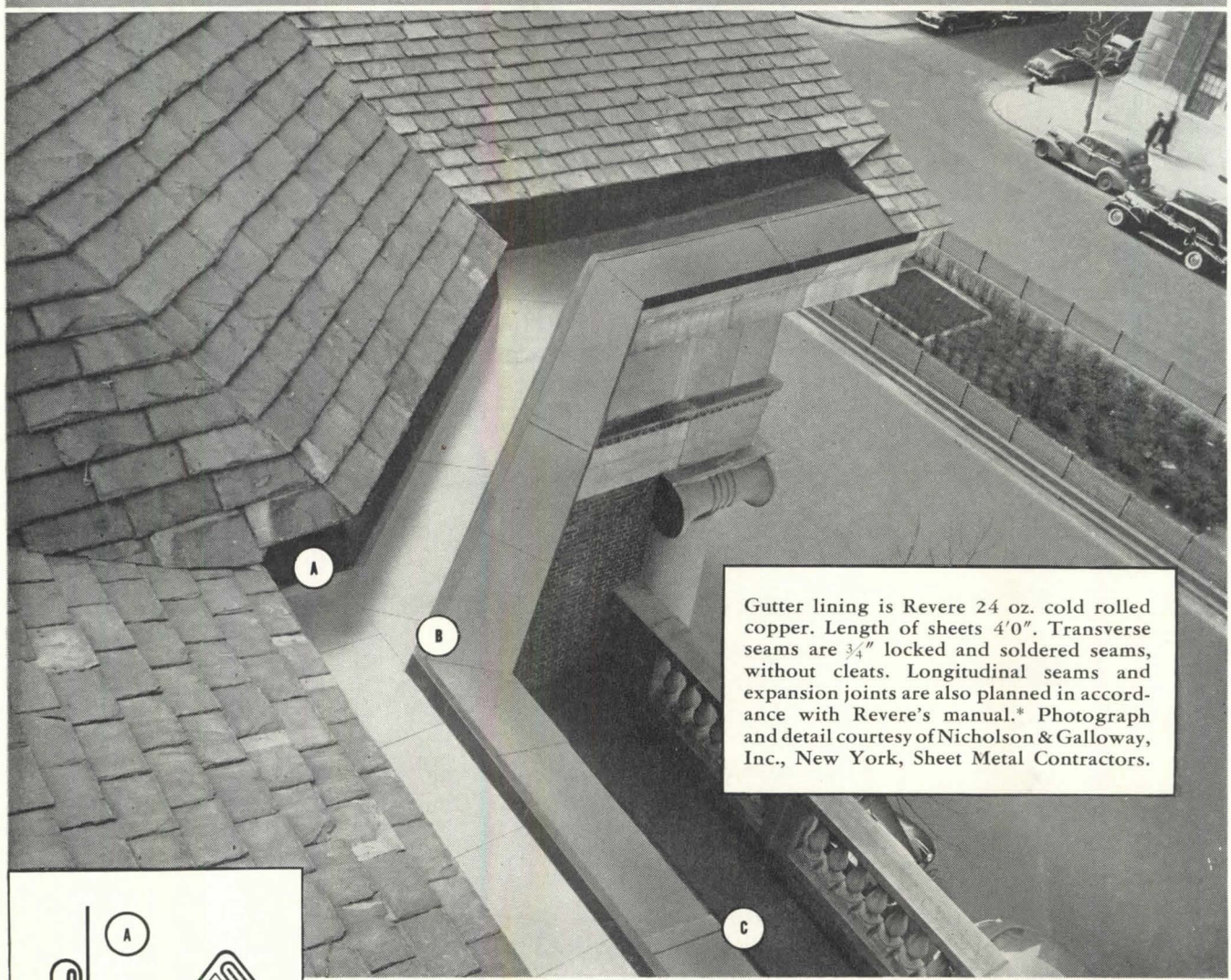
19-109. *Vikon Tile,* Vikon Tile Corp. Reviewed April.

19-121. *Duromit Floors, AIA 4i3,* 4-p. illus. folder on custom-built cement floors that are resistant to abrasion, acids, chemicals; for bakeries, warehouses, dairies, etc. Washington Concrete Co.

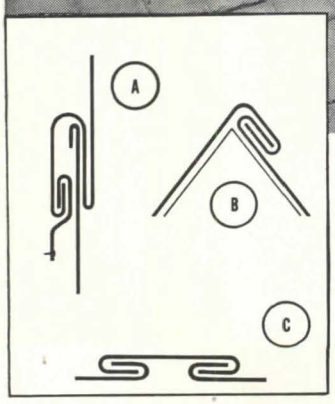
Traffic Equipment

20-37. *New Power Jacklift,* Lewis-Sheppard Products, Inc. Reviewed April.

Now Gutter Linings Can Give EXTRA YEARS OF SERVICE



Gutter lining is Revere 24 oz. cold rolled copper. Length of sheets 4′0″. Transverse seams are ¾″ locked and soldered seams, without cleats. Longitudinal seams and expansion joints are also planned in accordance with Revere's manual.* Photograph and detail courtesy of Nicholson & Galloway, Inc., New York, Sheet Metal Contractors.



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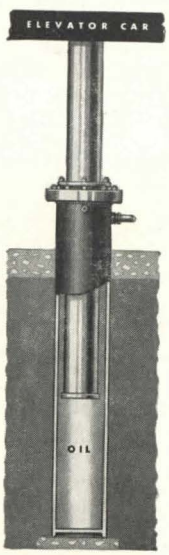

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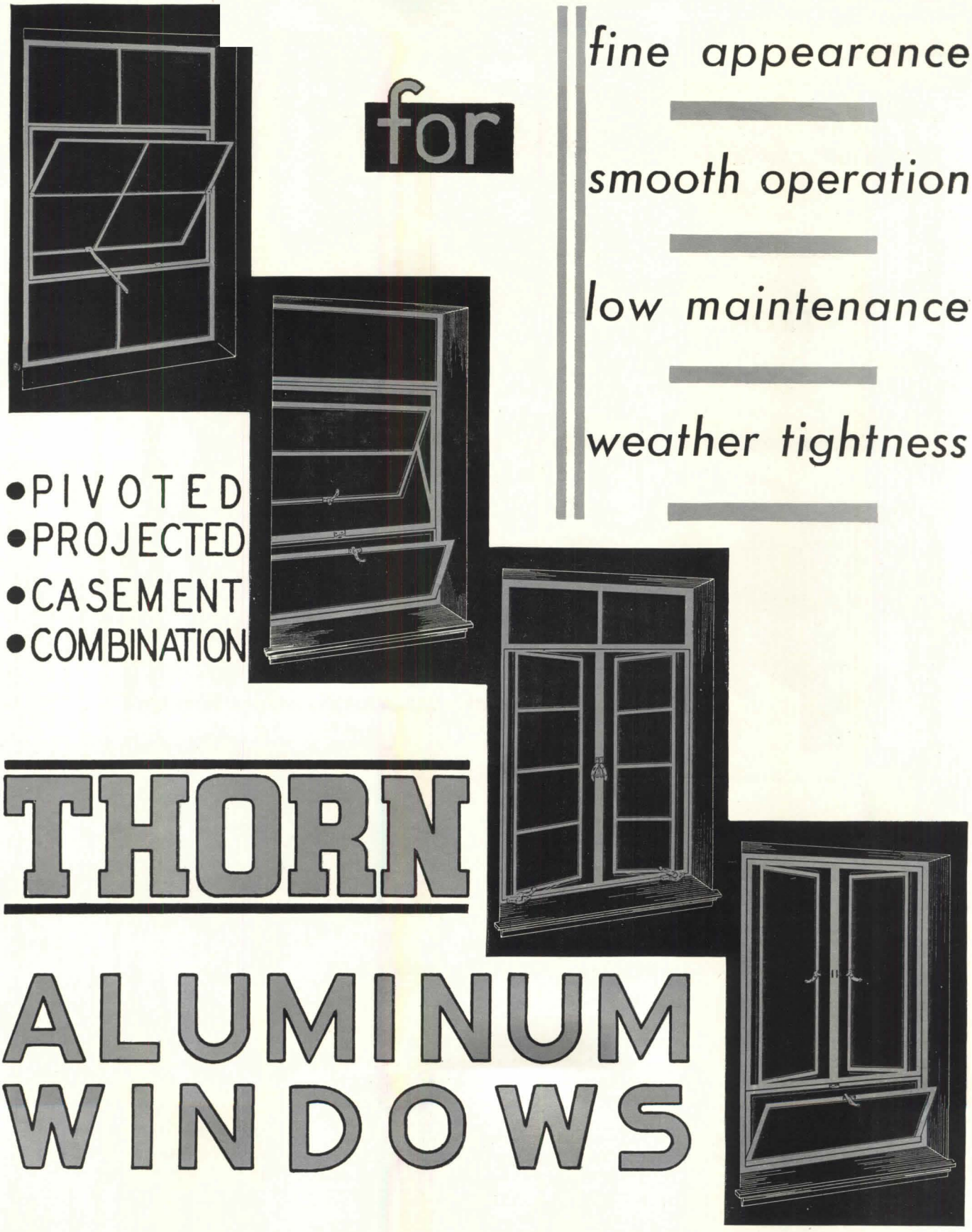

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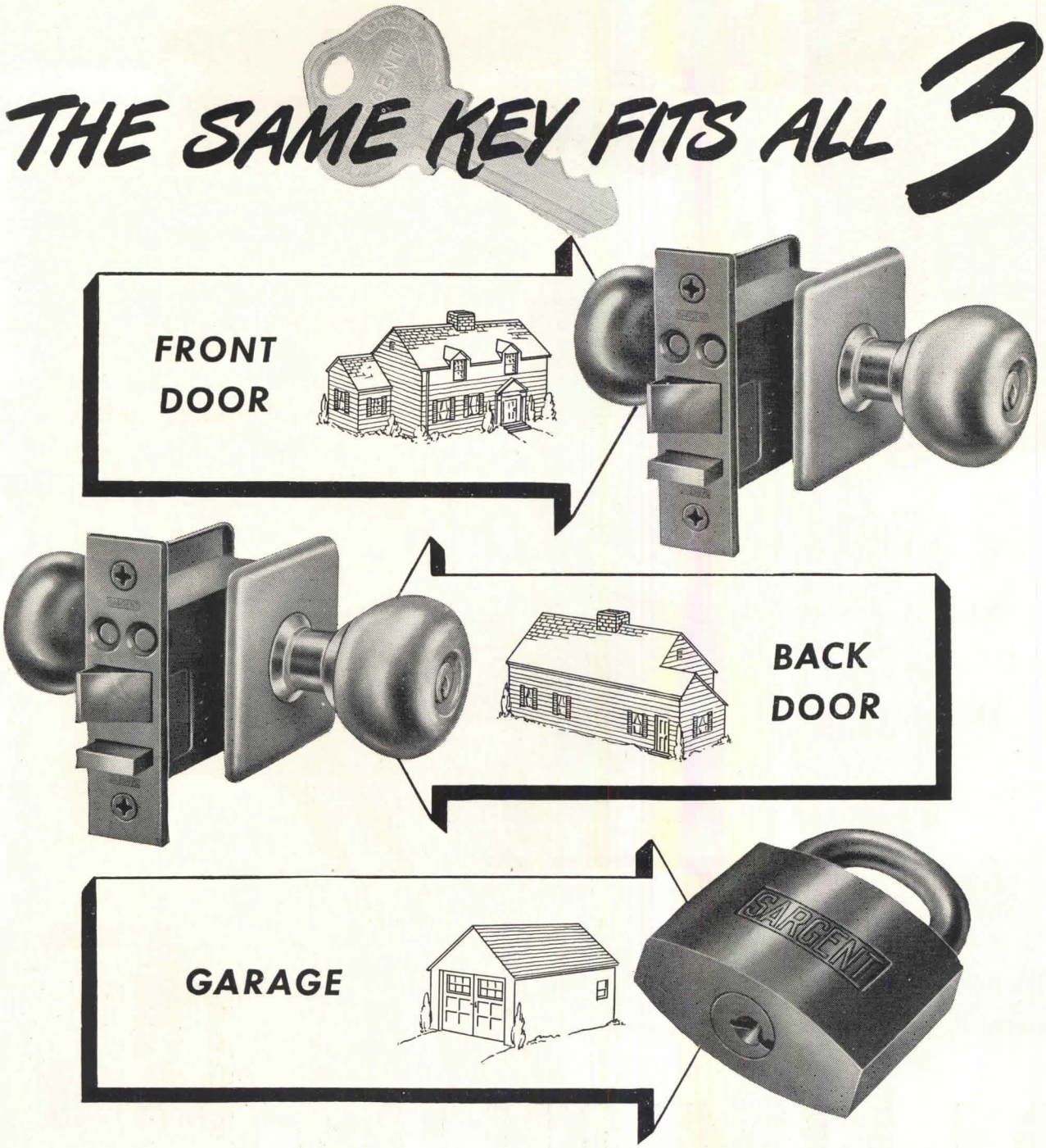

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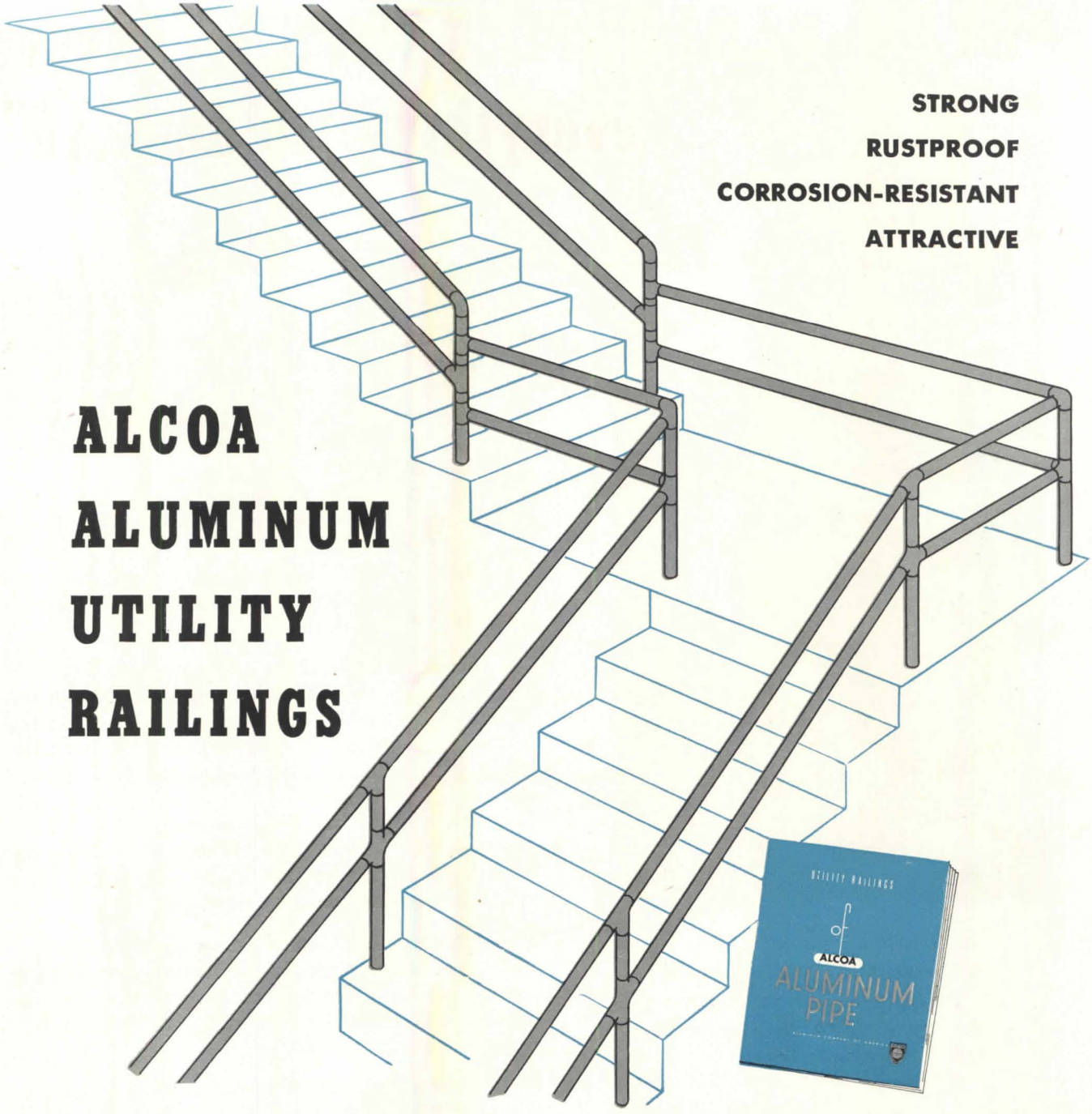

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REVIEWS

FROM THE TECHNICAL PRESS

JOHN RANNELLS

PAMPHLETS, MANUALS

Concrete Floors Designed for Comfort, Research Study No. 13. *The John B. Pierce Foundation, Raritan, N. J., 1947. 12 pp., illus., 8½" x 11", diagrams. 35 cents*

By adding asphalt emulsion to regular Portland cement, a mix was discovered that absorbs 90 percent of impact and is considerably drier and warmer than regular concrete. Used experimentally in farm buildings, shops, laboratories, etc., the new flooring has stood up well, with a war resistance about equal to maple flooring. Costs are essentially equal to regular 1:2:4 concrete.

Specification for the Design of Light Gage Steel Structural Members. *American Iron and Steel Institute, 350 Fifth Ave., New York 1, N. Y., April 1946. 39 pp., 6" x 9", diagrams, tables.*

The use of sheet and strip steel for structural purposes has become fairly commonplace. Application of standard design principles to these shapes requires certain supplementary investigations, due to thin sections, unstiffened edges, etc. This specification is based on several years of research at Cornell University.

FROM OTHER PUBLICATIONS

Institut Technique du Batiment et des Travaux Publics, *12 Rue Brancion, Paris, France.*

In reading through a half dozen circulars published in 1946 by *The Institut Technique* one is impressed with the difficulties in France today of building anything. One does not expect extensive research studies or reports on costly new projects because repairing damaged structures ranks at the top of the priority list along with housing for the homeless. An architect by the name of Dufornet in describing the reconstruction of the railway workers' town of Tergnier (500 lodgings), and giving detailed data on the stabilized earth walls, makes several observations on the difficult building situation, including shortages and inefficiency of workers due to undernourishment, etc. There are about 25 pages of material on compressed earth and soil cement construction, including data on what we would call adobe houses—all assembled with characteristic French thoroughness and illustrated with sketches of different kinds of forms and bonding devices.

(Compte Rendu des Recherches Effectueés en 1944-1945—Laboratoires du Batiment et des Travaux Publics)

The new data on the old subject of mud houses, or compressed-earth houses if you will, is concerned with records of the stability of existing walls and with developing simple and exact tests for the proper proportioning of sand, clay, and gravel. The inducements of low cost and readily available materials are the principal advantages of this type of construction; if it were possible to measure the ingredients of the soil in a given locality and be assured either that it would make a stable, waterproof wall in its natural state, or that x percent of x ingredient is required, a distinct contribution to the field would be made.

The circular published by the Institute on August 5, 1946 (Series F, No. 28) deals with the *Reconstruction of Partially Destroyed Works of Reinforced Concrete.* The conclusion is that partially destroyed reinforced concrete work can be repaired successfully, with great saving of time and money; and as both commodities are at a premium in France today, the examples given are probably representative of many more restorations. Data has been included on sizes and spans of the structures and in some cases plans showing the location of the various bomb hits. *(Translated and reviewed by Priscilla O. Dalmas.)*

Flat Slabs on Cast-Iron Columns Increase Usable Space. Engineering News-Record, *330 W. 42 St., New York 18, N. Y. Feb. 6, 1947.*

In a building for a meat-packing plant, the designers solved a corrosion problem and added useful interior space by employing unprotected round cast-iron columns supporting all flat-slab floors. Caps and drop panels were eliminated by incorporating steel grillages in the slabs, attached to the columns, to furnish shear resistance.

Planning School Building Programs. *N. L. Englehardt, Assoc. Superintendent of Schools, New York City.* The American School Board Journal, *540 N. Milwaukee St., Milwaukee 1, Wis. Jan. 1947.*

Dr. Englehardt, who has been in charge of the present immense postwar program of the New York City Board of Education, analyzes in some detail ten categories of problems which arise in planning a school building program:

1. Analysis of population in all its combinations and subdivisions pertinent to the educational program.

2. Survey of community, residential, industrial, and commercial growth; future trends, and rapidity of transitions.

3. Integration with the work of community planning agencies, serving traffic, recreation, housing, and other areas.

4. Review of existing educational organization and the future projection of its subdivisions.

5. Consideration of all parts of the existing school plant and the determination of their roles in the future building program.

6. Agreement on determinants affecting sizes and locations of sites to fit each educational subdivision in the approved organization.

7. Professional projection of the program of space requirements for satisfactory educational service in each type of school, and agreement on educational specifications for each type of space.

8. Measurement of the financial ability of the community to meet its school building needs, and suggestion of a financial plan to meet future obligations.

9. Selection of school sites with due regard to a comprehensive community plan, with full recognition of all community needs, and with full understanding that the future, with its possible educational changes, must also be served on sites chosen.

10. Determination of the building program with inclusion of the rehabilitation projects, the new construction of total and partial units, and the time spacing of these projects over a five-or ten-year program.

Techniques et Architecture *(Monthly Review). 78 Rue de Prony, Paris 17e, France. 82 pp., 9½" x 11½". No. 1-2, 1946.*

This issue of a French magazine, now in its sixth year, is devoted entirely to various aspects of lighting; it contains articles by engineers, architects, and physicists, and a wealth of charts, diagrams, and photographs that should make it a valuable reference work. It begins with two general articles which deal with 1) manifestations of light in different kinds of matter, and 2) physical workings of the eye in relation to different kinds of light. The author of the second article speaks of the desirability of designing buildings which will not subject the people in them to excessive contrasts of light. He deplores the fact that while in the United States the science of color measurement is widespread, in France it is still little used except by specialists.

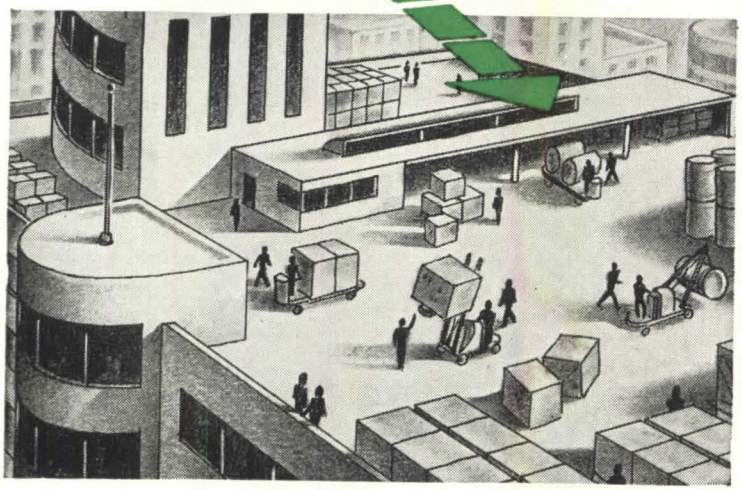
The remainder of the magazine is divided — about half is on natural or solar lighting, and half on artificial lighting.

Most of the material is no longer new but it is good to have important data assembled in such usable form. And some of the articles are as readable as anything we have seen in connection with daylighting. *(Translated and reviewed by Priscilla O. Dalmas.)*

(Continued on page 110)

Don't waste the roof!

PHOTO BY FAIRCHILD AERIAL SURVEYS



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REVIEWS

(Continued from page 108)

BOOKS

MODERN STORE DESIGN

Gene Burke and Edgar Kober. Institute of Product Research, Pershing Square Building, Los Angeles 13, Calif., 1946. 182 pp., illus. $12.00

According to the authors there has developed during the last decade a new profession—that of modern store design. It is claimed that the most successful examples of store modernization have been those which employed the specialist in this new profession who, due to his particular training and experience, is qualified to handle problems which are only occasional and incidental to either the owner or architect.

It would appear extremely doubtful that this sort of specialization goes beyond the scope of complete, efficient architectural service; goes beyond that service already rendered by many architectural offices. It is also doubtful that such specialization has yet obtained or even requires the identification and standing of a separate "profession." Architects have specialized for years and their specialization has been more than confinement to one building type. It has comprised cooperation with others in the fields of research, fabrication, distribution, utilization — all going to make up the "specialization" involved.

More important is the authors' interpretation of what constitutes "modern" store design. After classifying modern design as a "style" produced by a new "school," they state that:

(1) The Romanesque and other rich and colorful motifs which have stood the test of time are resuming their proper place in the most advanced and effective of modern design.

(2) It cannot be assumed that modern design is always the answer to a merchant's problems because there are certain types of stores where modern design would not be fitting.

(3) Stores die because they become outmoded, old-fashioned, or otherwise obsolete in a "style" sense, since the merchant sells "style and modernity" first of all.

This interpretation of design is a clue to the authors' understanding and to the quality of their observations and illustrations. Their opinions are generously distributed throughout the book. Motifs and clichés are seized and exploited to the degree that the book becomes a badly presented display of pseudo-design virtuosity. Unfortunately, few new facts are to be found.

WALTER SANDERS

SKETCHY AND NAIVE

When the Cathedrals Were White. *Le Corbusier. Reynal & Hitchcock, 8 W. 40 St., New York, N. Y., 1946. 217 pp., illus. $3.00*

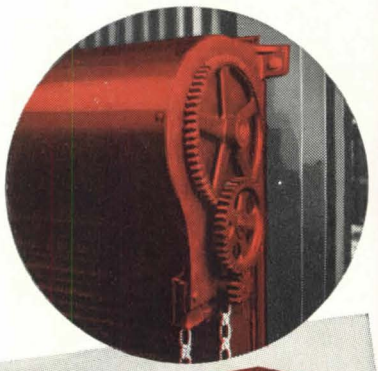
Le Corbusier's latest book may do him and the cause of rational design much harm. From sketchy contacts and some travel he makes observations about the United States—its people, its buildings, its schools, its cities—which are often pompous, sometimes misinformed, always naive. For example, it will interest a number of subway commuters to know that "you have cocktails at the homes of various friends after your day's work in the city. Thirty people, fifty people, even more. You stand up."

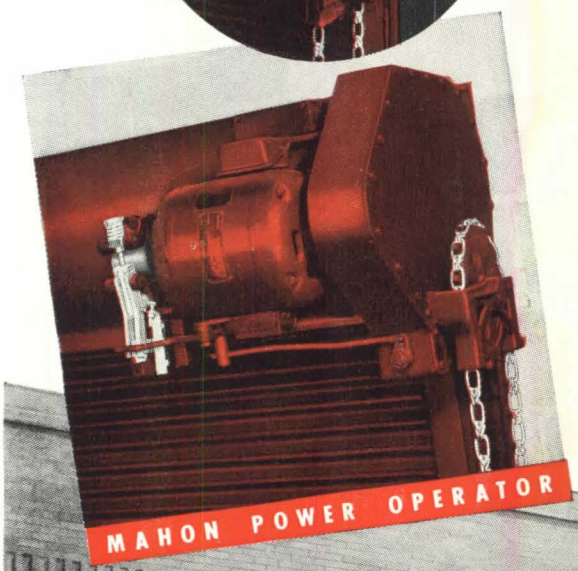
It should be clear that no one can form opinions about the housing and planning of a great sprawling country by viewing the "fairy catastrophe" of Manhattan from a friend's penthouse. There is more to the planning of America—even urban America—than building taller skyscrapers. Le Corbusier knows this, but his new readers in "the country of timid people" will never suspect it from this book.

T. H. C.

(Continued on page 112)

Rolling Steel DOORS





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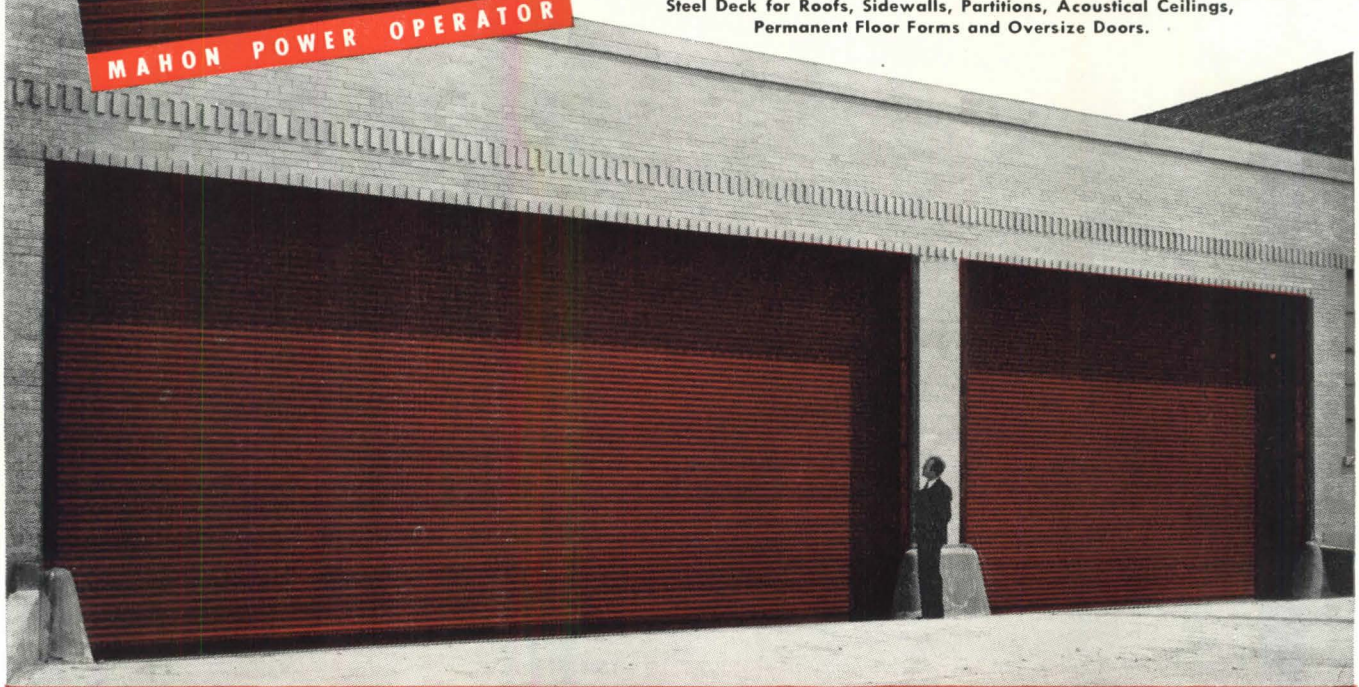

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MAHON

REVIEWS

(Continued from page 110)

HOSPITALS—INTEGRATED DESIGN

Isadore Rosenfield. Reinhold Publishing Corp., 330 W. 42 St., New York 18, N. Y., 1947. 308 pp., illus. $10.75

For many years there has been very little definite literature on the design of hospitals. The classic work of Stevens has been antiquated for some time. The Duke Foundation Bulletin No. 3 on small hospitals, prepared by Samuel Hannaford & Sons, has been practically the only publication on the small hospital. It is true that numerous miscellaneous articles of a specialized nature by Erickson, Hannaford, and Riley have appeared in the hospital journals. But in a field as complex as hospital construction there were few guideposts for the architect. Fortunately, the situation is changing. Several years ago the American Hospital Association started a compilation of material for free distribution through its Bacon Library. The Modern Hospital Publishing Company incorporated designs submitted in a competition for small hospitals and community health centers into a single volume, adding considerable valuable material. Butler and Erdman published an outstanding work which brings Stevens' classic book up to date. However, the most important volume to be published to date has been *Hospitals—Integrated Design.* The scope of this volume is very wide, covering such diversified fields as the general hospital and various specialized hospitals and departments. It also includes special chapters on the small hospital, the mechanical plant, construction costs, and other special aspects.

Mr. Rosenfield, the author, was for many years the chief architect in charge of hospital planning for the City of New York. In this position, he had extensive contacts with medical and hospital personnel. He also had at his command technical men specializing in the various complex fields which entered into the design of a hospital. He has drawn from all of these sources for this volume, augmenting his own knowledge with that of specialists in this highly varied and complex field. As a result, he has given the architectural profession an outstanding treatise on hospital design. No architect contemplating the design of a hospital should overlook it. Mr. Rosenfield's treatment of various controversial phases of hospital work is especially to be commended. He always gives pro's and con's; if no final answer is available, he does not insert a personal dogmatic view of the problem.

Here at last is a volume which the hospital field has long been waiting for.

MARSHALL SHAFFER

THE HIGH ROAD—LOW ROAD

The Future of Housing. *Charles Abrams. Harper & Brothers, 49 E. 33 St., New York, N. Y., 1946. 428 pp., illus. $5.00*

Mr. Blandings Builds His Dream House. *Eric Hodgins. Simon & Schuster, 1230 Sixth Ave., New York, N. Y., 1946. 237 pp., illus. by William Steig. $2.75*

These two recent books approach the same subject—housing—with entirely different attitudes, yet they arrive at the same conclusions: the cost of living quarters is out of scale in our economy and the factors concerned in the process function clumsily. Abrams' book is a serious study, the most comprehensive and objective one that has yet appeared. Hodgins' story is a humorous tale, making sport of the expensive individual house.

Eric Hodgins' fictional character runs a $10,000 budget up to $56,000 during his buffeting by a dishonest real estate man, an incompetent architect, a weak-

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REVIEWS

(Continued from page 112)

willed architect, and various unscrupulous contractors, clumsy workmen, insulting mortgagors, and uninterested materials dealers. This is all very funny because Mr. Blandings can presumably squeeze enough income from his advertising business to pay the difference. Charles Abrams' heroes, on the other hand, are "the people everywhere who want homes, the veterans who deserve to have them, the slum dwellers who seek escape into civilized surroundings. . . ." Neither to them nor to Abrams is the situation at all funny. It is possible that Hodgins' book may do as much good as Abrams' simply because it could serve as a powerful argument for drastic overhauling of the cumbersome, inefficient complex that calls itself the "building industry." With all its exaggerations, the story rings true and one suspects the author of drawing on his own experiences. The Hodgins' "Connecticut farmhouse, modern version," designed by Allan MacDowell and George H. Van Anda, was published in *Architectural Record*, August, 1943. Thus the book might be viewed as an exaggerated case history, funny because the author writes it that way, sad because of the implications.

Charles Abrams begins his able study by stating the problem—people and slums, the romance of home ownership, the relation of homes and jobs. He reviews, with great clarity, the parts played in housing by the real estate and construction enterprises, the moves forward toward a more enlightened attitude on housing, and the history of government agencies up to and including the short-lived Wyatt program. The author is no propagandist: he deals objectively with government housing, he is optimistic about the ability of private enterprise to do a job if a real program is adopted. Abrams states his recommendations for such a program clearly and persuasively in ten "aims." He would revitalize the building industry (although he is inclined to brush off a new industrialized approach); he would extend urban redevelopment schemes; he would make home ownership a sounder investment; and he would reorganize mortgage systems and stabilize real estate. Finally, he recommends a simplified coordination of housing agencies.

If Mr. Abrams' aims are realized, Mr. Blandings may have less trouble with his next house.

T. H. C.

BOOK NOTES

By RITA DAVIDSON

COMMUNITY ORGANIZATION

Cooperative Communities at Work. *Henrik F. Infield. The Dryden Press, 386 Fourth Ave., New York, N. Y., 1945. 201 pp. $3.00*

In answer to the query about resettlement of displaced persons, this Rural Settlement Institute Research study describes cooperative communities throughout the world. It analyzes and reports Farm Security Administration communities of the United States, the Palestinian *Kvutzot*, the Soviet *Kolkhozy*, the Mexican *Ejidos*, as well as the earlier American settlements of New Llano, of the Hutterites, and Sunrise Community.

The Peckham Experiment, A Study of the Living Structure of Society. *Innes H. Pearse and Lucy H. Crocker. The Yale University Press, New Haven, Conn., 1945. 333 pp., illus. $3.50*

A club established "around the family" and for practice of health rather than medicine was the answer of an experimental project in a London district seeking to lessen the tensions of urban life. The Peckham health center, in many ways the 20th century agora of its English community, is an institution which merits further application. Other centers modeled on Peckham are spring-

(Continued on page 116)

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REVIEWS

(Continued from page 114)

ing up in England and this report of the subject should find response in this country.

Country Towns of Victoria, A Social Survey. *A. J. and J. J. McIntyre. The Melbourne University Press, Melbourne, Australia, in association with The Oxford University Press (G. E. Stechert & Co., 31 E. 10 St., New York, N. Y., American distributor), 1944. 292 pp. $3.00*

Victoria communities ranging from 250 to 10,000 persons were observed by the authors of this "Middletown" study for rural Australia. The towns are described fully and there is information about the economic base, form of government, cultural aspects, attitudes, religion and entertainment, location, siting, landscape, and utilities. Planners will find interesting the complete accounts of location, size, layout, and appearance of each town; may demand comparable studies of American towns.

Community Organization for Social Welfare. *Wayne McMillen. The University of Chicago Press, 5750 Ellis St., Chicago, Ill., 1945. 658 pp. $4.75*

Particularly useful as a reference work for those planners who work at community level, this book comprehensively treats the process and structure of community organization.

REGIONALISM

The Geographical Basis of Government: Especially Applied to New South Wales. *J. MacDonald Holmes. Angus & Robertson, Ltd., Sydney, Australia, 1944. 168 pp., illus.*

The political objective described in this book is questionable, but the data and the regional approach are interesting. The theses are that Australia, to become one of the world's great granaries, must keep her population small and of "European type"; that regional reorganization is required to bring up standards of rural areas. The reading list and maps are excellent.

Midwest at Noon. *Graham Hutton. The University of Chicago Press, 5750 Ellis St., Chicago, Ill., 1946. 351 pp. $3.50*

DeTocqueville, Bryce, and more recently Brogan have offered us views of America through foreign eyes. Now another distinguished European writing about us has chosen to focus on one area. Hutton's analysis and vibrant report make a significant regional study.

In Search of the Regional Balance of America. *Edited by Howard W. Odum and Katherine Jocher. The University of North Carolina Press, Chapel Hill, N. C., 1945. 162 pp. $3.00*

Sociologists at Chapel Hill have long been (1) making regional studies and

(Continued on page 118)

Accuracy

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REVIEWS

(Continued from page 116)

(2) pointing up Southern potentialities for a new future based on economic balance and use of resources. This is a review of the work of the Institute for Research in the Social Sciences over the past 25 years.

PUBLIC ADMINISTRATION

New York Advancing. *The Municipal Reference Library, Municipal Building, New York, N. Y., 1945. 393 pp. $1.00*

Third book of a series, this covers the period from 1939 to 1945 and offers a valuable handbook of facts about the government and organization of the metropolis.

The Management of Your Government. *Harold D. Smith. McGraw-Hill Book Co., 330 W. 42 St., New York, N. Y., 1945. 179 pp. $2.50*

Must reading for those who want clear understanding of administrative problems and inter-Departmental relationships of our Government is this book by the former Director of the Budget Office of the United States.

THE POSTWAR WORLD

Economic Reconstruction. *Edited by Seymour E. Harris. McGraw-Hill Book Co., 330 W. 42 St., New York, N. Y., 1945. 424 pp. $3.75*

Various aspects of economic conversion are discussed by 24 top-ranking economists and public servants. Non-economists will be most interested in the treatment of postwar taxes, social security, industrialization (regional), and labor.

Problems of the Postwar World. *Edited by Thomas C. T. McCormick. McGraw-Hill Book Co., 330 W. 42 St., New York, N. Y., 1945. 526 pp. $3.75*

Less technical than the book noted above, this volume is addressed primarily to the "educated and thoughtful layman." Especially good is John Gaus' chapter on "The Planning Process in Government."

Values for Survival: Essays, Addresses, and Letters on Politics and Education. *Lewis Mumford. Harcourt, Brace & Co., 383 Madison Ave., New York, N. Y., 1946. 314 pp. $3.00*

Spiritual solace for our society is offered in this collection of Mumford's writings (1938-1946). A sequel to his *Faith for Living*, this places responsibility for world salvation firmly on the individual and calls for the formulation of new social ideals, if cataclysm is to be avoided. This collection of essays is Mumford at his best.

(Continued on page 120)

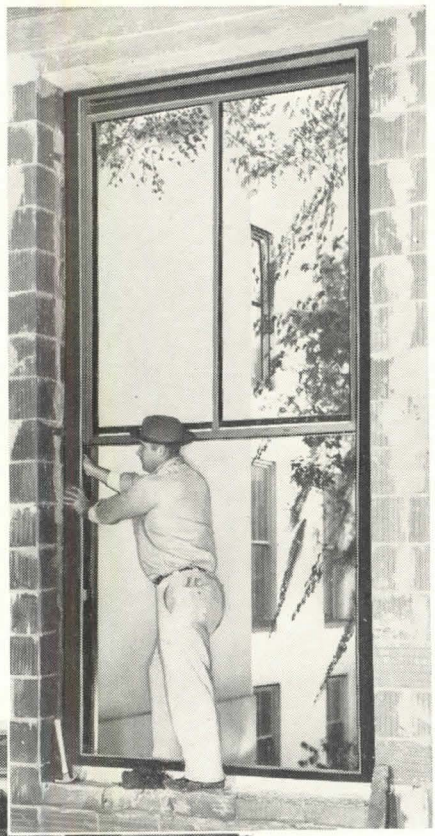
The PLANNING BOARD

The Truscon Planning Board says: "Right now, April 15, our shipping schedules read like this: Series 46 Double-Hung Windows, 12 to 14 weeks; Reinforcing Bars, 4 to 6 weeks; Light Tube Doors, manually operated, 10 to 12 weeks; Structural Doors, manually operated, 12 to 14 weeks; shipments of doors with motor operators are contingent upon our ability to secure electrical equipment. Keep in touch with the Truscon sales representative in your district for latest information."

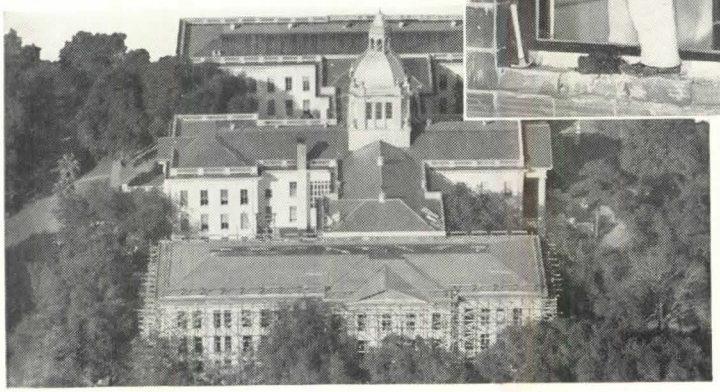
Big, Big Steel Windows

Recent expansion operations at the State Capitol Building, Tallahassee, Florida, included the exclusive use of Series 46 Truscon Double-Hung Steel Windows in large sizes. These windows permitted the generous introduction of Florida sunshine and fresh air into the structure, while helping enhance the architectural design of the building.

The Series 46 Double-Hung Steel Window is designed especially for use in important office and public buildings or for openings where Underwriters' label of approval is required. Maximum window sizes of 6′ 0″ by 10′ 0″ for single units and 10′ 0″ by 10′ 0″ for integral twin units are obtained through the use of heavy 12 gauge staff bead and sill sections, 16 gauge frame sections and tubular shape 18 gauge sash members. Weatherstripping of spring bronze at head, meeting rail, sill and jambs provides constant weathertightness and easy operation. Lever type lift handles are a convenient operation feature. The molded design of the tubular sash sections and muntins materially adds to the appearance. New billet steel, electrogalvanized, combined with Bonderizing and baked-on paint applied to all exposed and interior surfaces insures long life and low maintenance. Screens, storm sash and window cleaner bolts are available for this design when and if desired.



State Capitol Building, Tallahassee, Florida



Write for new catalog giving complete mechanical and installation details of the Series 46 Truscon Heavy Double-Hung Steel Windows, together with the data on the entire line of Truscon Steel Windows and Industrial Steel Doors.

For Better Reinforcing

Truscon Steel Bars for reinforcing are applicable to a wide range of concrete work, such as concrete slabs, beams and girders, columns, walls and footings; in the construction of buildings, bridges, tanks, and all other concrete structures subject to tension and compression stresses.

These concrete reinforcing bars are special rolled sections of high grade steel, with a series of longitudinal and diagonal ribs so designed as to provide the maximum bond with the surrounding concrete.

Truscon Reinforcing Bar

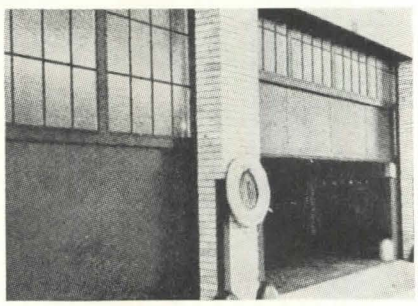
Truscon concrete bar fabricating plants are strategically located throughout the country in order to economically serve our customers. Bars are fabricated in these plants to meet the engineering requirements of individual jobs. They are delivered to the job cut to length, bent, bundled and properly tagged. If desired, our engineering department furnishes completely detailed placing drawings for the convenience of the steel erectors. Write for details.

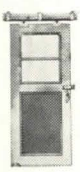
Truscon Steel Company Announces Purchase of Knapp Brothers Plastering Accessories

Truscon Steel Company announces the purchase of that portion of Knapp Brothers Manufacturing Company's facilities developed for the manufacture of Bull Nose and Scalloped Edge Corner Beads, Special Base Grounds and Screads, Picture Mold, Casings, Fittings and other plastering accessory items. The equipmen and dies are being moved from Joliet, Illinois to Youngstown, Ohio and it is expected that production on these products will begin within the next six to eight weeks. Knapp Brothers have been manufacturing Plastering Accessories and Trim for approximately forty years and have an excellent reputation for quality products both in the architectural and building fields. This standard of quality will be continued. The acquisition of these products from Knapp Brothers Manufacturing Company will give Truscon Steel Company a more complete line of plastering accessories to supplement their present line of metal lath items.

Steel Doors for Every Industrial Purpose

Give serious consideration to the in-and-out and interior traffic problems of the structures you are designing, for you can do much to speed the efficiency of traffic movement with the proper doors.





There's a range of Truscon Steel Doors to meet every type or size needed in any type of structure, from 2′ 7⅝″ swing type for residences, schools, stores, etc., to great mechanically operated doors for airplane hangars with openings of hundreds of feet in width. The types include swing and slide industrial doors, two-section vertical lift doors, two-section turnover doors, accordion doors, crane and canopy doors, pier doors and hangar doors. Write for details.

New Literature

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REVIEWS

(Continued from page 118)

FULL EMPLOYMENT

The Road to High Employment: Administrative Controls in a Free Society. *Douglas B. Copland. The Harvard University Press, Cambridge, Mass., 1945. 137 pp. $1.75*

The Godkin lecturer at Harvard for 1945, a distinguished Australian economist, gives one of the clearest statements of what "institutional economists" are up to. Providing a rationale for economic planning under democratic conditions, it also is in a sense an answer to Hayek's *Road to Serfdom* (as Herman Finer's *Road to Reaction* answered for the political scientist).

Fiscal Policy for Full Employment. *Alvin Hansen.* **Full Employment in Practice.** *John H. G. Pierson. The Institute for Post-War Reconstruction, New York University, New York, N. Y., 1946. 23 pp.; 26 pp. 25 cents each*

To-the-point pamphlets explaining the fiscal policy required for full employment.

Financing Full Employment. *J. Philip Wernette. The Harvard University Press, Cambridge, Mass., 1945. 126 pp. $2.00*

There can be no quarrel with Wernette's desire for full employment and prosperity, but the means he sees thereto and his evident faith in private enterprise and the *Full Employment Standard* he advocates are doubtful. Copland's grasp of the problem of full employment appears far sounder.

NOTICES

COMPETITIONS

A nationwide architectural competition for the design of a Federal Memorial to Thomas Jefferson has been announced by the Jefferson National Expansion Association which will award $125,000 in prizes. The memorial will be built on an 80-acre site recently cleared on the riverfront of downtown St. Louis, Mo. Information and applications may be obtained from George Howe, A.I.A. Fellow who is Professional Advisor, c/o Jefferson National Expansion Memorial Competition, Old Courthouse, 415 Market St., St. Louis 2, Mo.

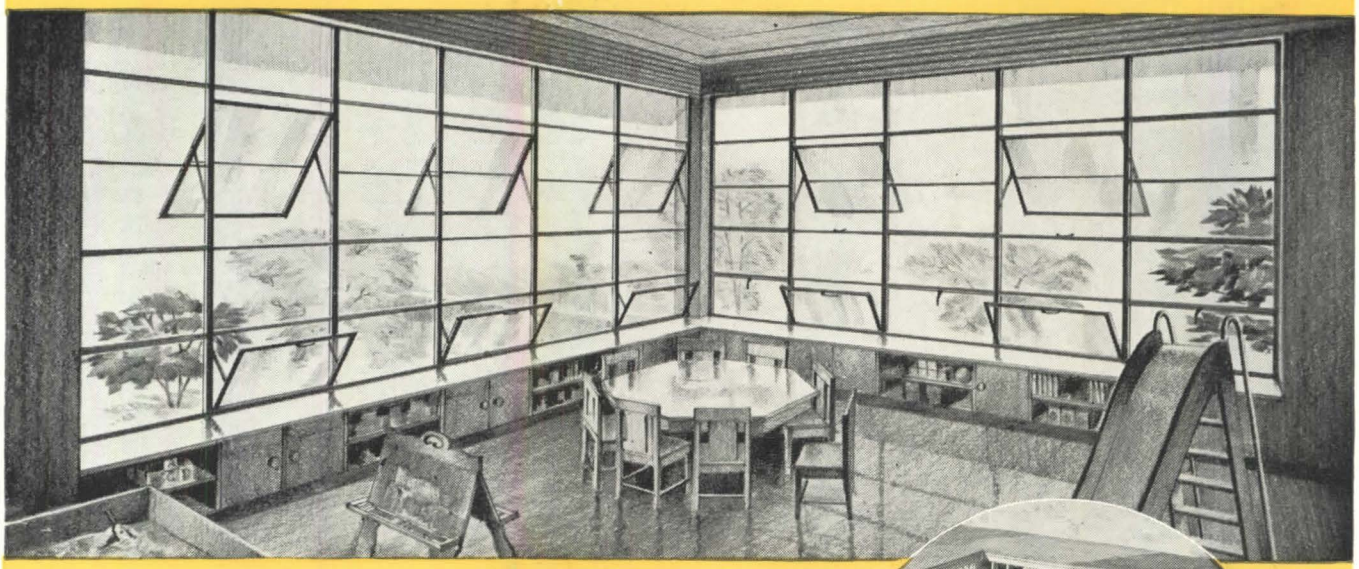
The Interdenominational Bureau of Architecture has appropriated $500 for a competition in church design by students of Schools of Architecture in the United States. Information may be obtained from Elbert M. Conover, Director of the Bureau, 297 Fourth Ave., New York 10, N. Y.

(Continued on page 122)

How to meet a specific window need - Economically

SELECT FROM THE NEW STANDARDIZED FENCRAFT WINDOWS

CASEMENT . . . PROJECTED . . . COMBINATION



A school's kindergarten room, for example, needs ample daylight for young eyes . . . with windows low so youngsters can see out . . . with abundant fresh-air ventilation . . . with all vents so designed that when open the children cannot fall out of windows.

Such windows are offered in the three new lines of Fencraft units which provide new high quality, lower cost and important installation economy.

Built of specially-designed steel casement sections, by craftsmen in the shops of America's oldest and largest steel window manufacturer, all Fencraft Windows beautify both the outside and the inside. They provide permanently easy operation, safe cleaning, lasting weather-tightness, firesafety and low maintenance cost.

For singular economy in cost, all types and sizes are standardized. And installation cost is minimized by the use of uniform installation details, plus the co-ordination of window dimensions with those of wall materials.

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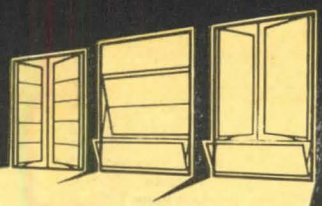
Suggestion:

In a school's kindergarten room, combine units of Fencraft Standard Intermediate Projected Windows, such as type 416 (illustrated). Note that sill vents, opened, guard against drafts, prevent children from falling out.

Fenestra



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

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Company_____

Address_____

NOTICES

(Continued from page 120)

APPOINTMENTS

The American Academy in Rome has announced the appointment of a new director, LAURANCE P. ROBERTS, formerly director of the Brooklyn Museum. GEORGE HOWE will be the architect in residence at the Academy for 1947-48.

Prof. JAMES G. VAN DERPOOL, formerly head of the Department of Art, University of Illinois, has been appointed librarian of the Avery Library and a member of the faculties of the School of Architecture and School of Library Service at Columbia University.

BRADFORD N. CLARK has been named manager of the construction division of EGGERS & HIGGINS, architects, New York, N. Y.

The School of Architecture, University of Oklahoma, has announced the appointment of BRUCE A. GOFF as professor of architecture; RICHARD N. KUHLMAN as assistant professor of architecture and chairman of the School's administrative committee; and CECIL D. ELLIOTT as instructor in architecture.

NEW PARTNERSHIPS, PRACTICES

ALEXANDER GIRARD has established new design offices at 379 Fisher Rd., Grosse Pointe, Mich.

CHILDS & SMITH, architects, have opened new offices at the Opera Bldg., 20 N. Wacker Drive, Chicago, Ill.

JOHN J. DONOVAN and RALPH N. KERR announce the formation of an architectural partnership with offices at 950 Parker St., Berkeley, Calif.

LEO H. RICH, INC., industrial consultants, have opened offices at 1 Wall St., New York, N. Y.

JAMES BENNETT HUGHES and HARRY M. DENYES have formed an architectural partnership with offices at 187 S. Woodward Ave., Birmingham, Mich.

SAUL EDELBAUM has opened an architectural office at 624 Madison Ave., New York, N. Y.

OLIVER INGRAHAM LAY has joined the firm of CHARLES DOWNING LAY of 15 Vanderbilt Ave., New York, N. Y., and Stratford, Conn.

NEW ADDRESSES

HENRY GEORGE GREENE, 1741 Broadway, New York 19, N. Y.

A. H. KNAPPE & ASSOCIATES, 368 E. 149th St., New York 55, N. Y.

KUHN & NEWCOMER, 310 Washington Rd., Pittsburgh, Pa.

JENS RISOM DESIGN, INC., 668 Fifth Ave., New York 19, N. Y.

CLAUDE H. LINDSLEY, 2314 MacGregor Way, Houston, Tex.

HOLABIRD & ROOT, 180 N. Wabash Ave., Chicago, Ill.

JAMES C. ROSE, landscape architect, 624 Madison Ave., New York 22, N. Y.

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Entire diffusing assembly—translucent plastic panels and louvers—is hinged to top housing . . . swings down for easy cleaning!

No loose fastenings to be dropped or lost during lamp replacement. High temperature baked enamel louver and reflector wipe clean in a jiffy

Not a single nut or screw need be removed to change starters or 4 40-watt lamps!

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ARCHITECTURAL DESIGNER—fully experienced on Gothic church and institutional projects. Must be capable of executing working drawings and details, and of directing such effort. Permanent connection can be offered to properly qualified applicant. Giffels & Vallet, Inc., 1000 Marquette Bldg., Detroit 26, Mich.

ARCHITECTURAL DRAFTSMAN—excellent opportunity for man experienced in apartment, hotel, and industrial work. State education, experience, and salary desired in first letter. Clinton Gamble, Architect, 1407 E. Las Olas Blvd., Fort Lauderdale, Fla.

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.

ARCHITECTURAL DESIGNER—must be top. Starting salary—bonus basis. Permanent for right man. Send record of training, experience, and samples of design sketches. Box 24, PROGRESSIVE ARCHITECTURE.

ARCHITECTURAL DRAFTSMEN, DESIGNERS, STRUCTURAL ENGINEERS—State of California offers opportunity for experienced personnel. Long-range permanent civil service employment in a progressive architectural office. Veterans receive preference. Address letters of inquiry to Veterans' Personnel Section, State Personnel Board, 1015 L St., Sacramento, Calif.

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.

ARCHITECTURAL AND CIVIL ENGINEERS—25-40 years, with building construction knowledge, free to travel, headquarter locations Atlanta, Chicago, Cleveland, New York, Washington. To contact large architects and engineering offices to obtain acceptance of company products. Future with nationally known manufacturer of building materials. State age, education, experience, ambitions, salary expected, when available. Box 25, PROGRESSIVE ARCHITECTURE.

JOBS WANTED

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.

YOUNG MAN—now studying architecture, desires position with an architectural firm where he can gain practical experience in all building phases. Lee MacDonald, 60 Riveredge Rd., Lincoln Park, N. J.

REGISTERED ARCHITECT — two states, B.S. architectural engineering, age 31, wishes position with West Coast firm on share basis or leading to future partnership. Wide experience with all types of buildings. Box 15, PROGRESSIVE ARCHITECTURE.

GENERAL PRACTITIONER—for 21 years. Registered 2 states, A.I.A. member. 48 years old, wants to locate in the Middle West. State working and living conditions, salary. Box 16, PROGRESSIVE ARCHITECTURE.

DESIGNER—with excellent references, would like exciting varied work with or without possibilities toward partnership. Graduate University of Minnesota, Master's from Harvard; 3 years as ship builder in Navy. 28 years old, married, 2 children, veteran. Box 17, PROGRESSIVE ARCHITECTURE.

ARCHITECT — 30, registered New York State, 13 years' varied experience, desires association leading to partnership. Can handle projects from renderings through working drawings, including structural design and specifications. Box 18, PROGRESSIVE ARCHITECTURE.

DRAFTSMAN, DESIGNER — competent, adaptable young woman. Graduate of architectural school plus five years' experience including field work, drafting, construction, perspective, etc., of various building types. Specialized experience designing mass-produced housing. Prefer northeastern location but will consider attractive offer elsewhere. References, samples, if desired. Box 19, PROGRESSIVE ARCHITECTURE.

CHIEF ARCHITECT, DESIGNER — desires position requiring imagination and responsibility. Registered, 20 years' experience in practically all building types. Position should offer both professional and financial future. Have had three years' foreign experience; will consider out-of-country opening. Please reply in detail. Box 20, PROGRESSIVE ARCHITECTURE.

(Continued on page 126)

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In short, Anemostat fully meets the five air-conditioning tests which you must of necessity apply — Comfort, Health, Fine Appearance, Long Life, Trouble-Free Operation. Yes, *Anemostat is a name you can proudly add to yours!*

Include Anemostat air-diffusion in all of your future air-conditioning plans — you'll be proud of the results! Complete details gladly sent on request — and there's no obligation.

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JOBS AND MEN

(Continued from page 124)

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.

STRUCTURAL ENGINEER—graduate, young (27), alert progressive with four years' structural design and construction experience. At present employed but have intention of relocating in Southwest—Los Angeles, California—about May, June. Desire to obtain connection with progressive architectural or structural firm. Box 21, PROGRESSIVE ARCHITECTURE.

ARTIST, DESIGNER, INTERIOR DECORATOR, MURAL PAINTER—with long practice and wide experience abroad. Desires connection or partnership with progressive individual or firm with good future prospects. Location immaterial. Box 22, PROGRESSIVE ARCHITECTURE.

ARCHITECTURAL DRAFTSWOMAN—college and Columbia Architectural School graduate with one year's experience in New York office preparing working drawings and taking job measures. Desires work either full or part time in the vicinity of Cape Cod or Boston. Box 26, PROGRESSIVE ARCHITECTURE.

NOTICES

NEW PARTNERSHIPS, PRACTICES

DOMINIC E. CAMPANELLA is a new partner in the firm of TELCHIN AND CAMPANELLA, architects, 114 E. 32nd St., New York, N. Y.

WALTER GORDON, architect, has opened an office in the Mead Bldg., Portland 4, Ore.

WALTER BAERMANN and MARC PETER, JR., have left Norman Bel Geddes to establish the firm of BAERMANN AND PETER, 317 E. 51st St., New York 22, N. Y.

RICHARD E. BISHOP, architect and planner, has opened an office at 401 Board of Trade Bldg., Indianapolis, Ind.

NEMBHARD N. CULIN has rejoined the firm of FREDERICK G. FROST, architects, as an associate member. The firm is located at 144 E. 30th St., New York, N. Y.

ROLAND E. COATE, has established an office at 161 E. California St., Pasadena, Calif.

WILLIAM E. RICHARDSON, industrial lighting engineer, has opened offices at 419 W. 55th St., New York, N. Y.

JOHN W. FLOORE, architect, has opened an office at 815 American Fidelity Bldg.. Fort Worth, Tex.

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End Traffic Jams . . .
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REVOLVING DOORS by International are designed by skilled door craftsmen to make your store entrance inviting, provide maximum safety, handle more customers, increase usable floor space and, in fact, to meet every day-to-day—and emergency—traffic control problem. International Van Kannel doors are made of the finest available cabinet woods, stainless steel, nickel, aluminum, bronze and colorful plastic to match or harmonize with any architectural or decorative scheme.

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2. Cuts heating and cooling costs
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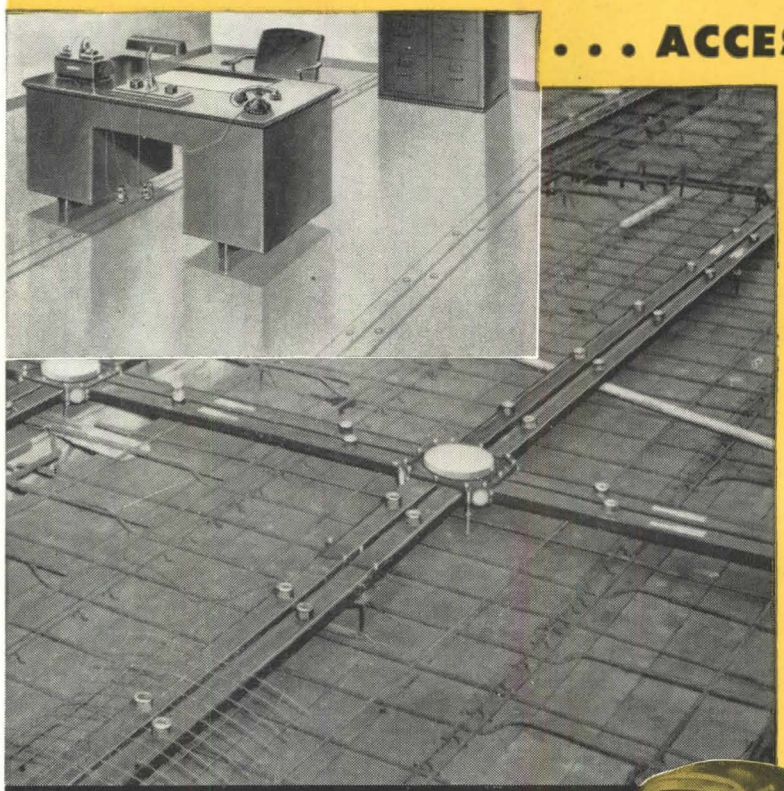
if you want . . . SIMPLICITY . . . PERMANENCE . . . ACCESSIBILITY



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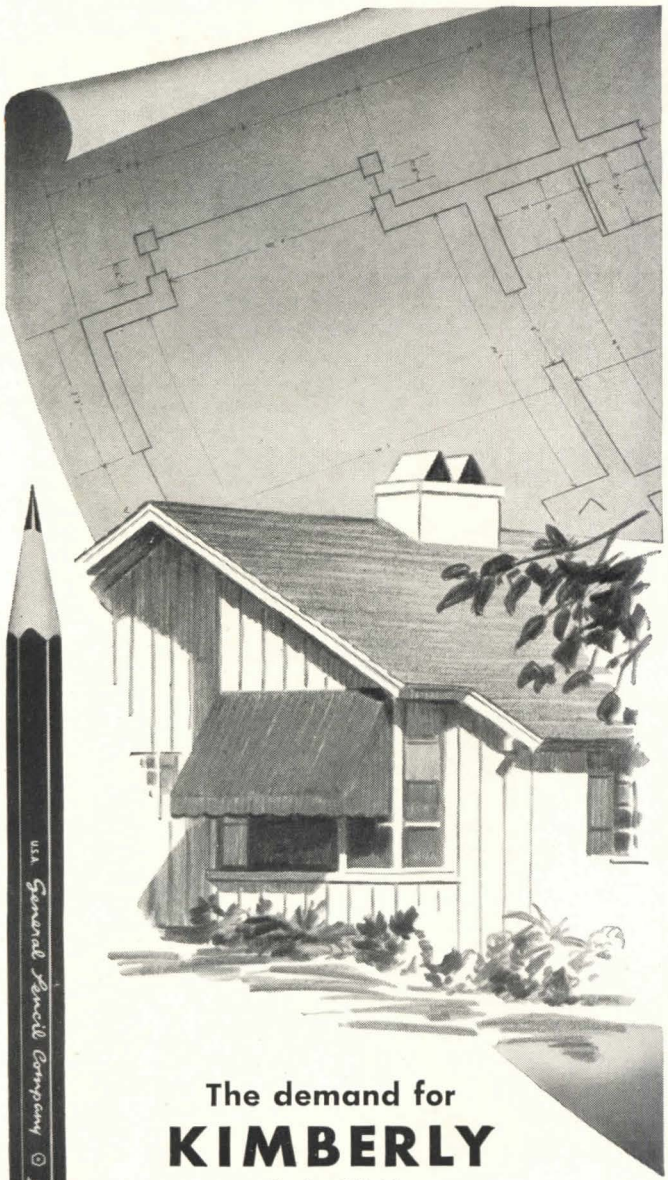

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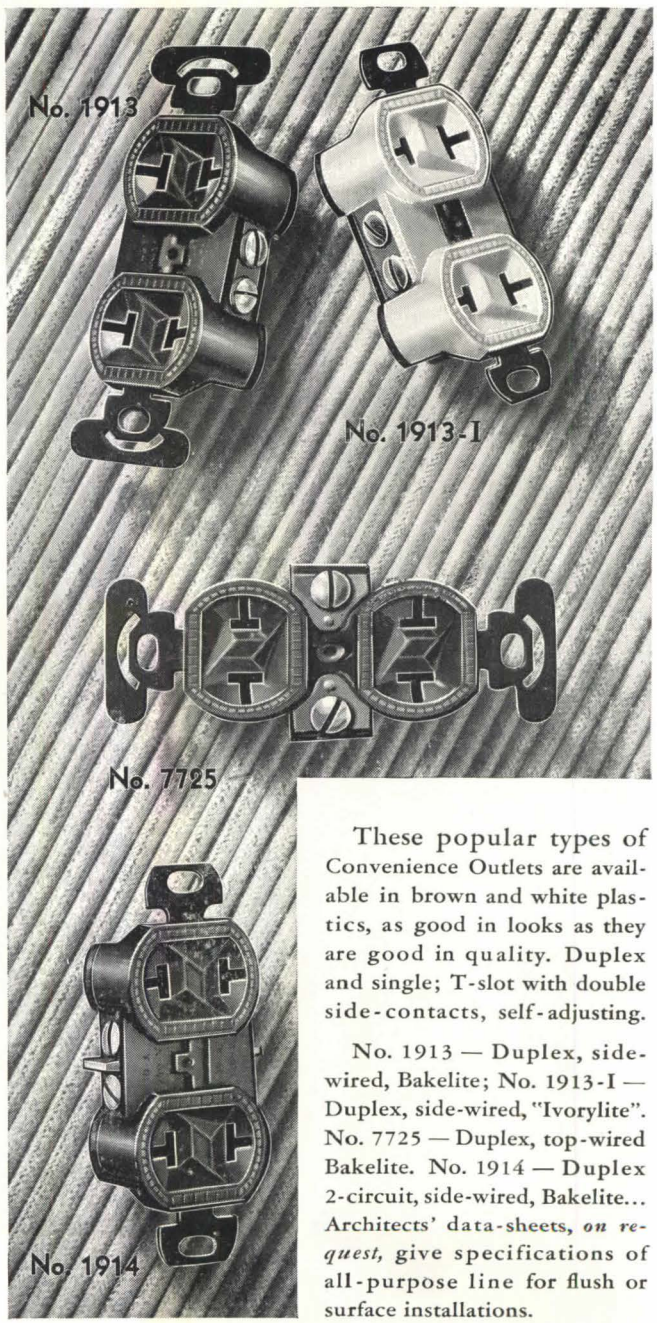

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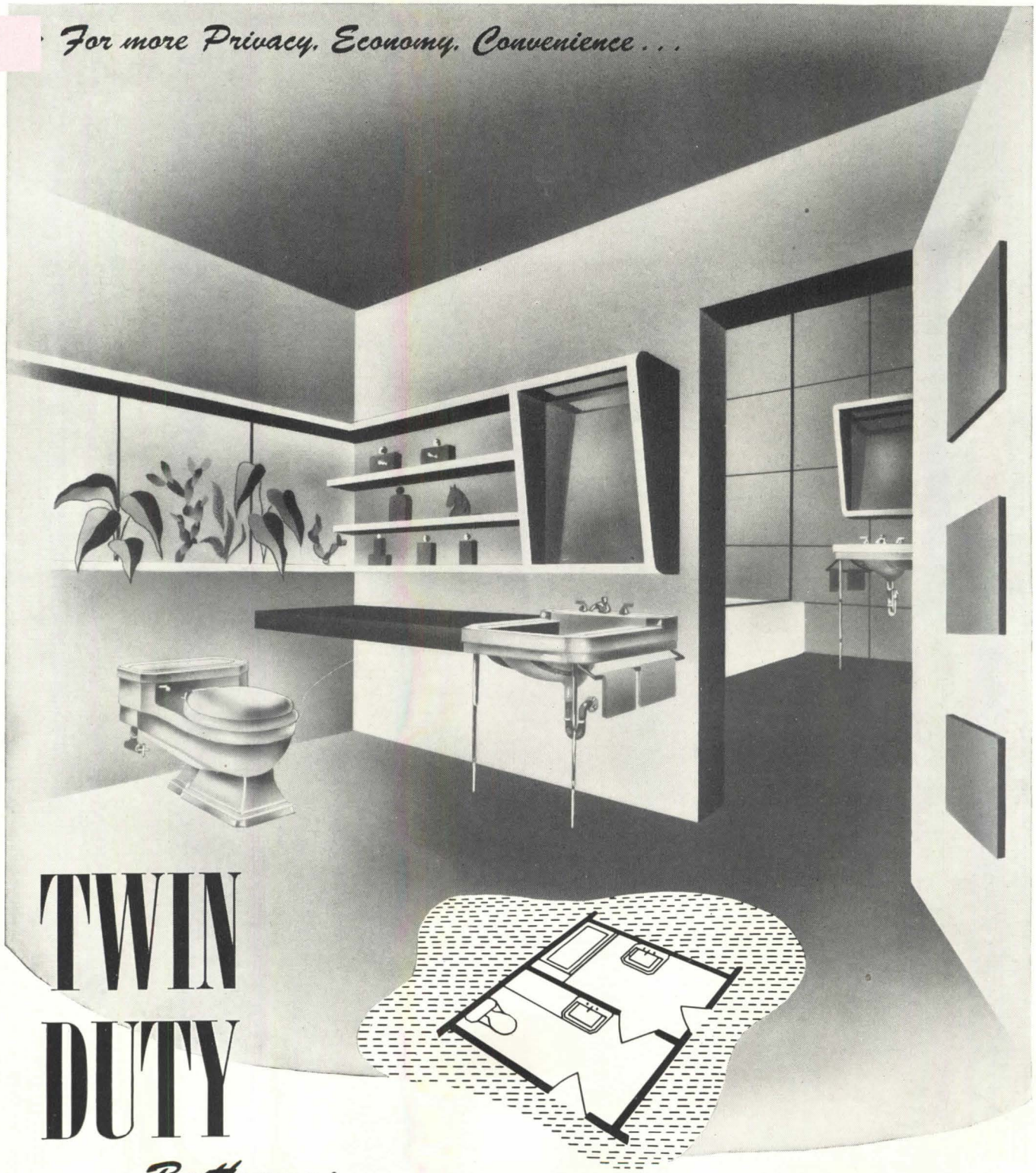

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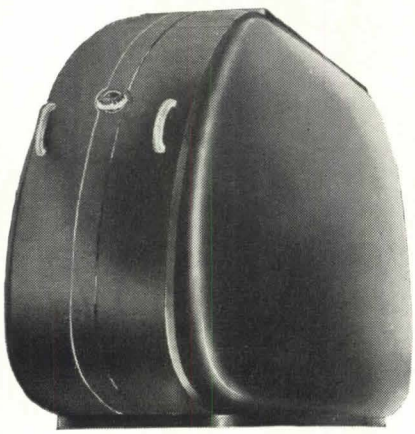
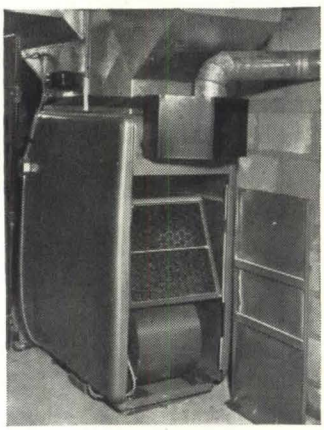


Mor-Sun Model T-6-G gas-fired furnace, made by Morrison Steel Products, Inc., Buffalo, N. Y. Equipped with 3 DUST-STOP Air Filters.



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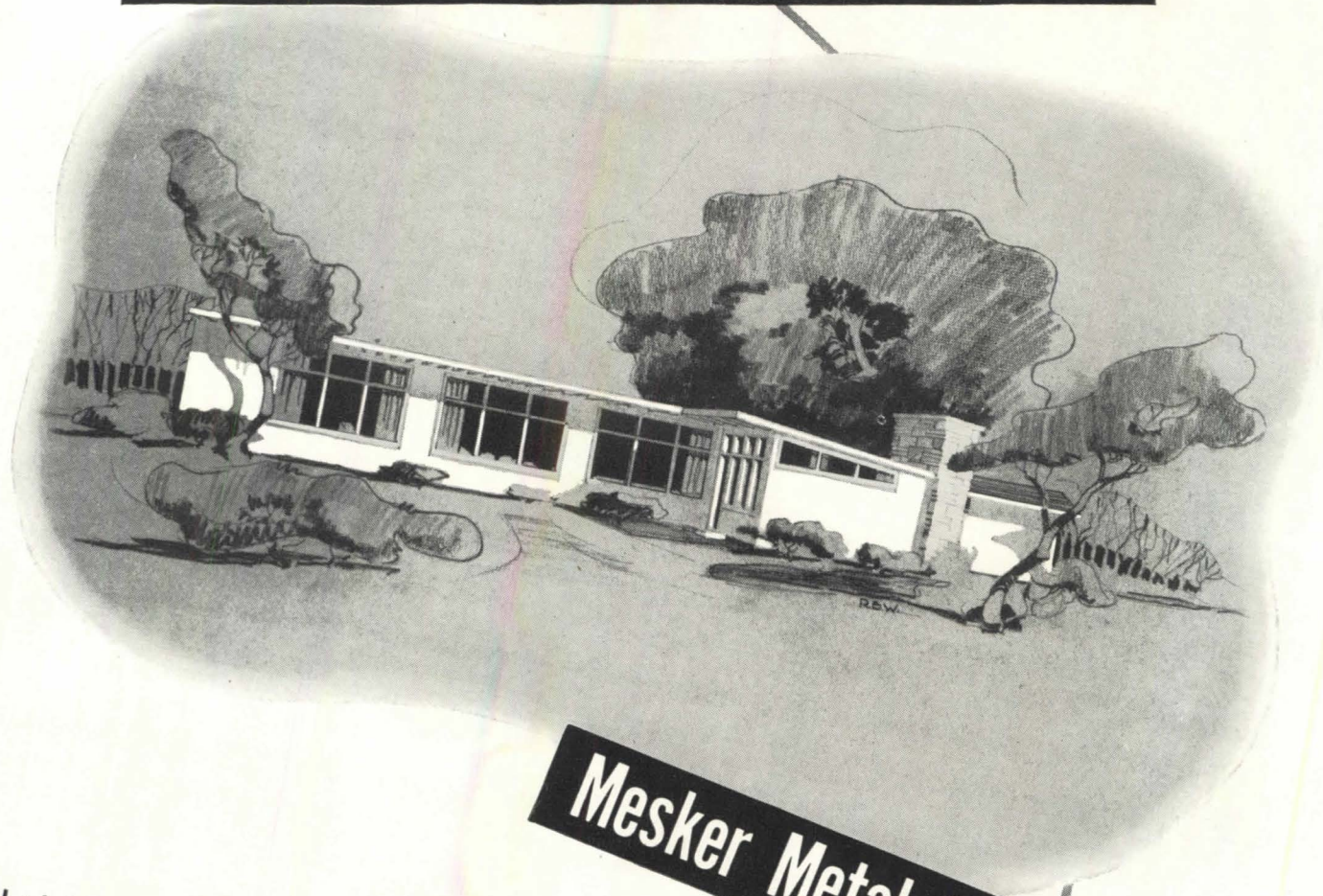
Royal Barry Wills designs a house...



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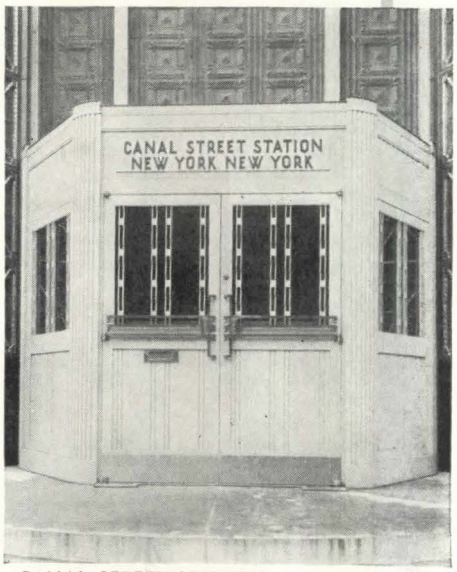

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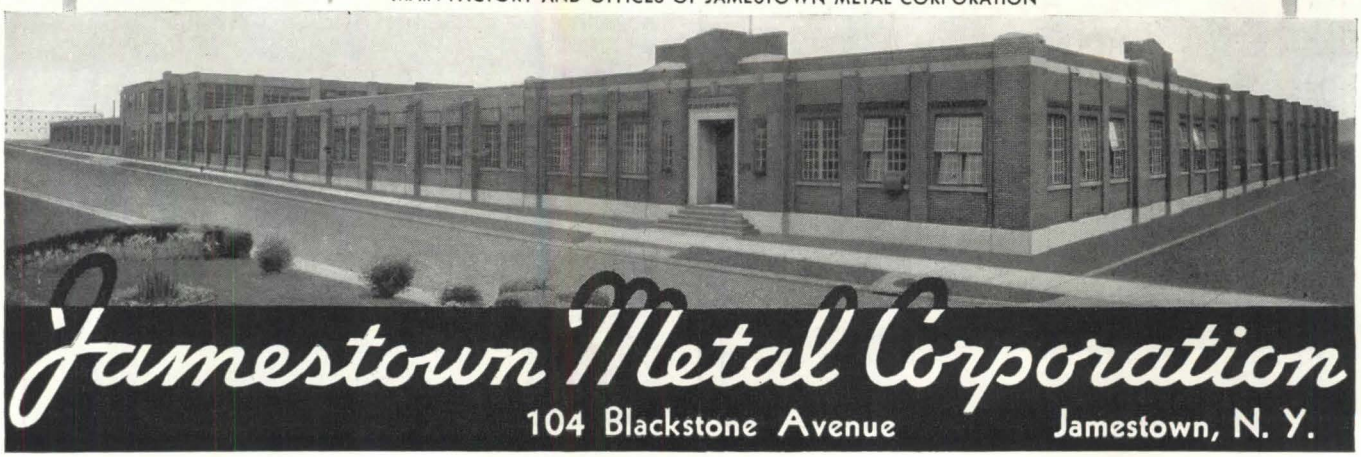

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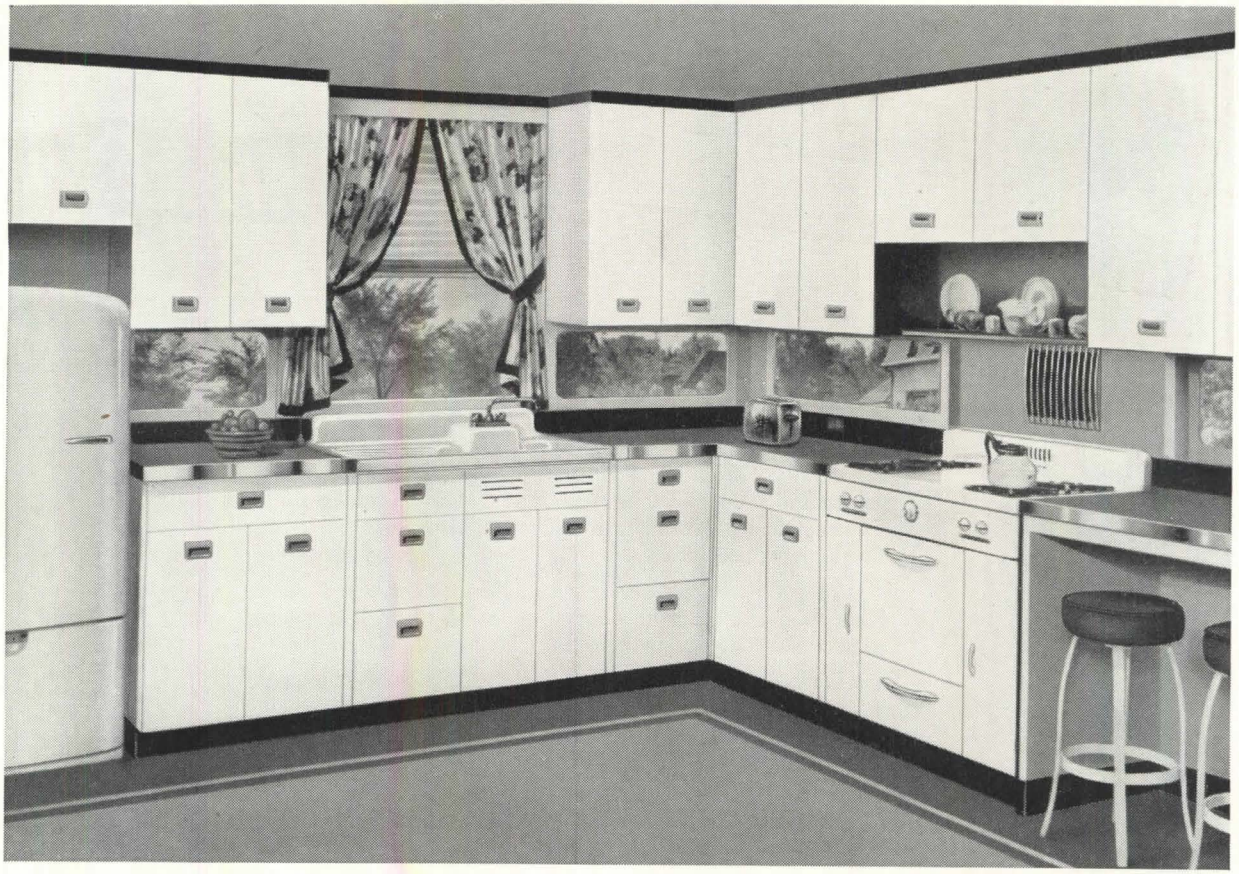

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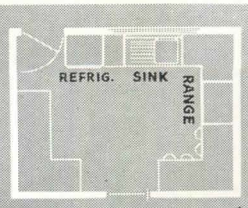
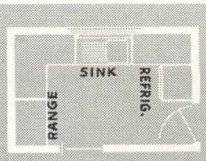
Refer to your copy of the recently published "Crane Service for Architects." If you have not received a copy, call your Crane Branch for one.



Approx. Size: 13′ 11″ x 10′ 3″

Shown at the left is a floor plan of the kitchen illustrated above. The Crane Stewardess Sink can, of course, be used in smaller kitchens as suggested in the two layouts at the right.



Approx. Size:
11′ 0″ x 7′ 4″

Approx. Size:
10′ 10″ x 6′ 11″

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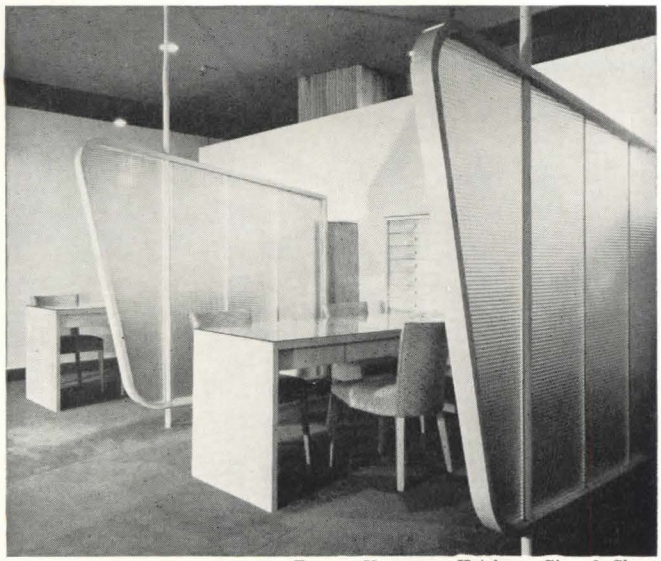

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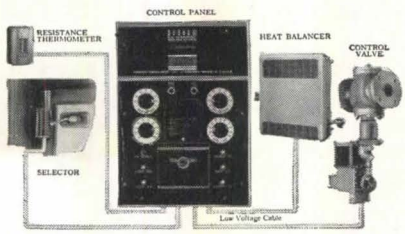

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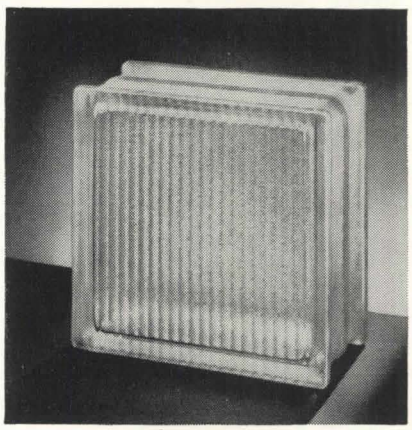

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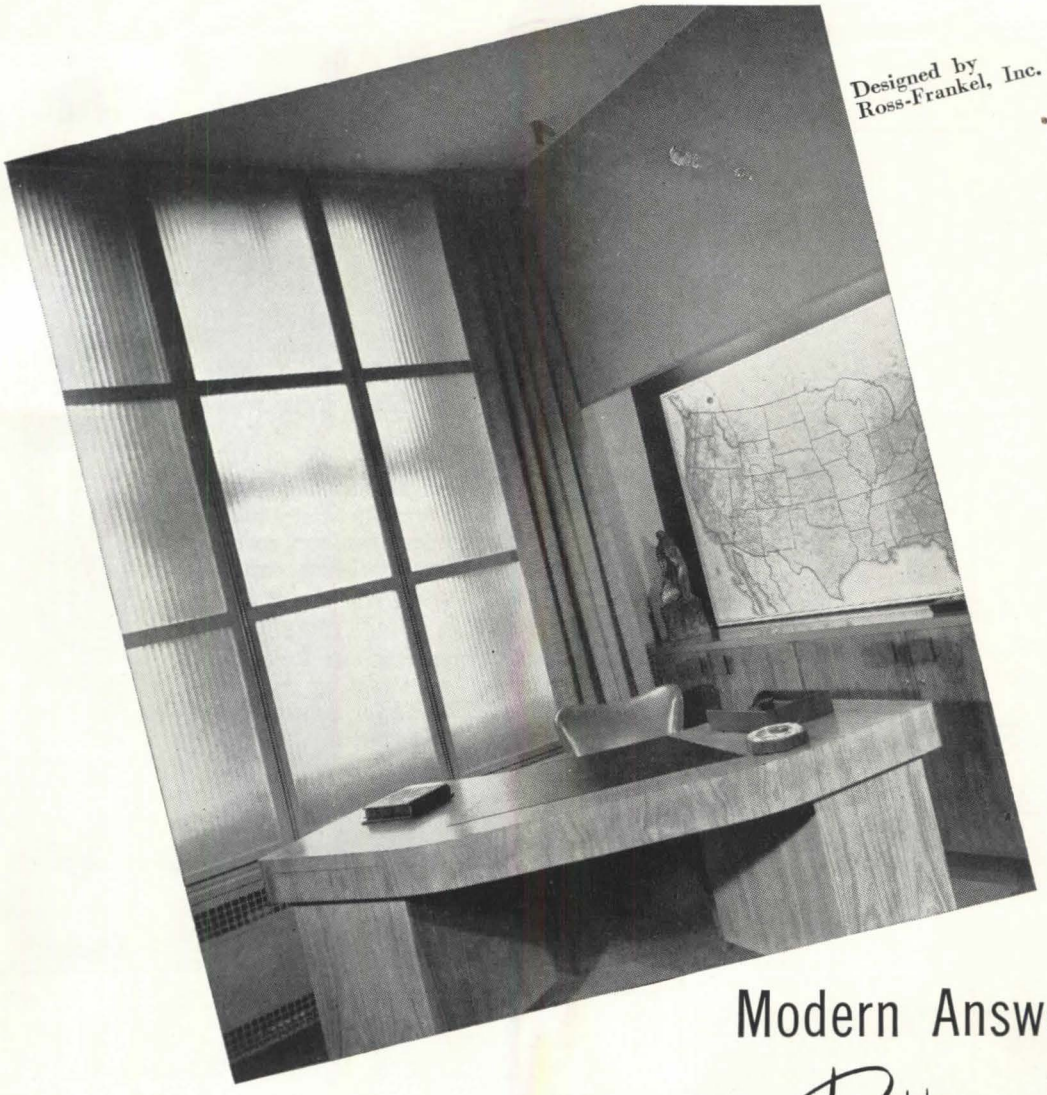

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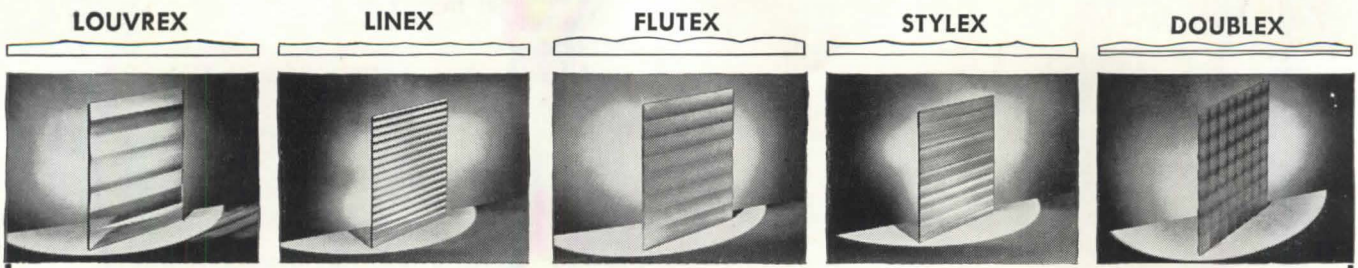

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WHAT REVIEWERS SAY

HOUSING AND CITIZENSHIP *A Study in Low-Cost Housing . . . By George Herbert Gray*

250 pages 8½ x 11½ inches, illustrated $7.50

This is an imposing and important book on low-cost housing. The late Maj. Gray, consultant in architecture and city planning at New Haven, Conn., gave his life to the subject and has here reduced to text and an abundance of illustrations his voluminous knowledge.

His study of American needs, backed up here by analysis of the philosophical and economic implications of decent housing, leads to the firm conviction that national policy must be directed toward the provision of wholesome housing for all economic groups. This means subsidy for the low-income groups—public housing—and various types of aid or stimulant, such as mutual ownership, for the borderline groups who are above subsidy but below the level of good private-enterprise construction.

Maj. Gray believed that the major issue confronting this and every other country is that of "raising the general standard of citizenship," and he correctly pointed out that there are two main ways of doing it—by better education and better home environment. His book contains a useful review and appraisal of the whole federal housing program to date.—*Robert Lasch.*

THE CHICAGO SUN BOOK WEEK
SEPTEMBER 29, 1946

This is the most profusely illustrated book on housing that has yet appeared. In 47 full page plates there are grouped more than 300 photographs and plans. There are also 13 separate graphs and 25 tables of data on pertinent matters. With this wealth of material, the book should be of value to architects, planners, and interested persons from all fields of civic life.

THE AMERICAN CITY
AUGUST 1946

If the reader will take the trouble to read Major Gray's book—it is a solid package of information—he will be grateful for an introduction to a subject that concerns him more vitally than he realizes.—*Ely Jacques Kahn.*

THE SATURDAY REVIEW OF LITERATURE
OCTOBER 5, 1946

NEW CITY PATTERNS . . . . . *By S. E. Sanders and A. J. Rabuck*

200 pages 8½ x 11 inches, illustrated $8.00

The chapters concerned with principles and procedures are excellent, and so on the whole are the many drawings, photographs, charts and maps with which the book is illustrated.

REGIONAL PLAN ASSOCIATION
JANUARY 15, 1947

Every civic-minded American should find the numerous photographs of blighted areas, diagrams of their causes and costs, and the maps illustrating ways for their elimination, of absorbing interest. This is a readable book, with the argument simply and logically presented. The successive points are illustrated by concrete examples.—*Virginia Turrell.*

NEW YORK TIMES
MARCH 2, 1947

THE ART OF BUILDING CITIES *By Camillo Sitte . . . . Translated by Charles T. Stewart*

130 pages 8½ x 11½ inches, illustrated $6.00

Any book commended by Eliel Saarinen should be required reading for all architects. This book is peculiarly appropriate at this time, when it is imperative to rebuild numberless devastated cities and rehabilitate others which are rapidly decaying at their centres.—*George J. Cox.*

THE WORLD IN BOOKS
JULY 1946

The translation is especially timely today when architects and city planners are concerned with rebuilding wartorn cities or clearing slum areas of those which escaped the disaster. They will find Sitte's work a thoroughly modern approach to the problem of developing a "living" city.

THE AMERICAN CITY
MARCH 1946

OTHER CITY PLANNING BOOKS

CITIES OF LATIN AMERICA . . . . . By Francis Violich $3.75
THE CITY, ITS GROWTH, ITS DECAY, ITS FUTURE . . By Eliel Saarinen $3.75

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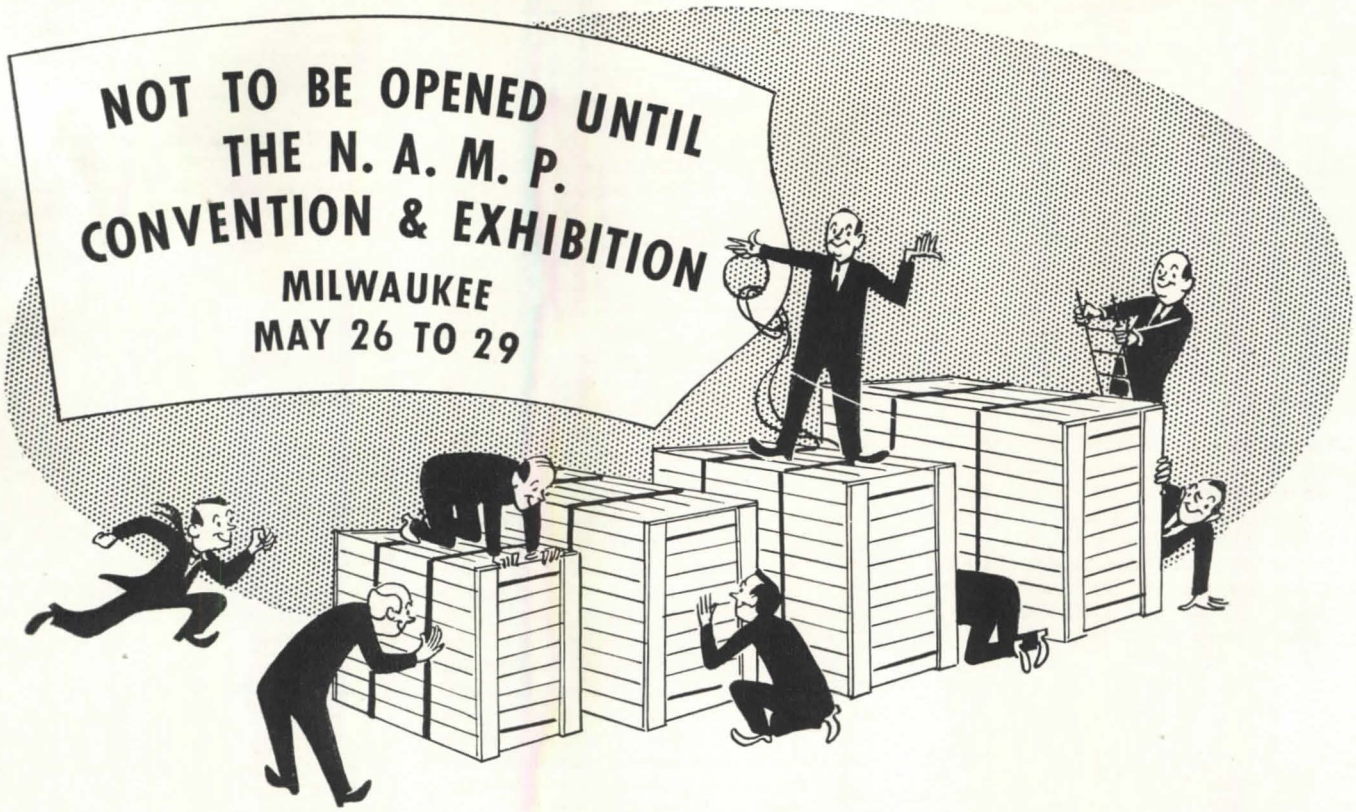

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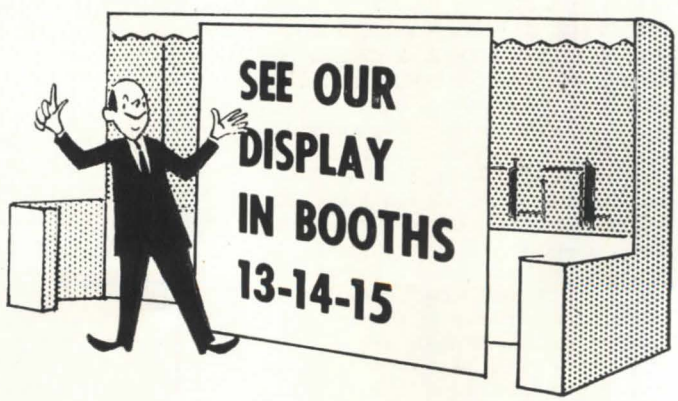

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OBSERVATIONS

LAST WEEK A LADY FROM THE MIDWEST WROTE US, ASKING FOR THE NAMES OF PROGRESSIVE ARCHITECTS IN HER VICINITY. She said that she wasn't discouraged—just baffled—after talking to all the architects she knew. "I want someone who can design," she complained, "and all I find are people who copy out of books."

We were discussing this yesterday, when we had a caller: another woman who had had a similar experience. We gave her a list of names and she left, after making a remark which should strike terror to the hearts of all complacent conventionalists. She said, "Please don't misunderstand me. I have the highest regard for tradition and professional dignity. They're alright in their place, but that place isn't around my neck. *I* want a *house*."

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THINGS LIKE THAT DISTURB US DEEPLY. We sit for the rest of the day with our heads in our hands, trembling, and frantic calls from the printer go unanswered. Our publisher comes in, sees our distress, and tiptoes off clucking sympathetically. I was laid up for a week one time when I got a letter from a man who'd read an article I wrote. He asked for a bibliography of technical literature on materials, on heating, and on lighting. "I have to educate my architect," he wrote. "He's a bit on the lag." Of course you know, and I know, that this doesn't apply to *you*. But somebody in the profession is causing us a lot of unhappiness. I'm quite sure he doesn't subscribe to PROGRESSIVE ARCHITECTURE.

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DOUBLE-TALK IS A FORM OF SEMANTICS THAT CAN BE EITHER AMUSING OR VICIOUS. It is easily accomplished by saying something completely meaningless so fast, and with such a straight face, that your listener believes it must have made sense. Examples in architectural literature are all too numerous. While the early 20th century modernists were developing a rationale there was a tendency to indulge in double-talk, some of which persists. "In the center of esthetic experience stand the space corresponding to the material and psychical requirements of mankind and the connective succession of space." That sort of thing is simply lazy arrogance. Another type of double-talk, however, is *devised* for the purpose of confusing. For example, I've recently seen the phrase, "non-design building professionals." Get it?

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SPENDING SEVERAL DAYS IN MEMPHIS, TENNESSEE, RECENTLY, I WAS STRUCK AGAIN BY THE SAMENESS OF ALMOST ALL U.S. CITIES OF MEDIUM SIZE. If you woke up in Memphis, or New Haven, Connecticut, or Jacksonville, Florida or Fort Wayne, Indiana, without knowing where you were, you'd never guess. Whatever regional characteristics there may once have been are obliterated by the eclectic office buildings, the modernistic storefronts, and what our Feature Editor refers to on another page of this issue, without turning a hair, as "the cacophony of inharmonious design." That's not double-talk, brother.

I was privileged to attend a two-day meeting of the Tennessee Chapter of the A.I.A. Al Aydelott, no mean hospital designer himself (PROGRESSIVE ARCHITECTURE, November 1946), is Gulf States member of the Committee on Hospitalization and Public Health, and he had arranged a session on the architectural implications of the Hospital Survey and Construction Act which was worth hearing. Tennessee and Arkansas are apparently going to take full advantage of this important measure, which means that many hospitals and community clinics will be built there as a result of a survey of needs, and will be designed by architects who are fully aware of their social responsibilities. In a period when "planning" seems to be a dangerous word, the sane, grass-roots aspect of this program for planned health service is most encouraging. There is every reason for local architectural groups in all parts of the country to support it and help guide it.

Real activity in a professional organization takes time from a man's practice to an extent that is seldom appreciated. Selmon Franklin, president of the Tennessee Chapter, tried to avoid re-election by ruling his own nomination unconstitutional, but it didn't work.

•

AS YOU ARE TOLD ELSEWHERE IN THE MAGAZINE, KEN WELCH, JOHN HATTON, AND WALLY SANDERS ACTED AS OUR BOARD OF CRITICS FOR THIS ISSUE. The actual process was interesting. We all sat around a big table and went over the jobs one by one. Edith Lamar took down in shorthand all of the remarks that were made. Her literal transcription of these notes (before any editing, correlation, checking, etc.) makes fascinating reading. You guess the jobs; it goes like this:

"What's that back door for? . . . in case of a revolution, maybe."

"I certainly don't like the source of the light showing . . . unconsciously it'll drive you nuts."

"American taste that wants this kind of furniture! . . . this is cheesecake . . . it's the best of its kind we've seen, though."

"Nice construction, but when it's carried to an extreme it's ridiculous . . . like Spanish Mission or any other style."

"Those bright spots on the walls . . . confusing, distracting, that's all you see . . . I think architects are more conscious of this than anyone who goes in to buy . . . no, it affects people psychologically . . . the public doesn't know what's wrong, but an architect does."

"That john sitting out in the middle of the display room . . . I always have wanted to put a model on one of those."

"What is honesty and what are esthetics? . . . Originally there was a little covered thing there and that stuck in his mind for height . . . they sort of thought that line was good, so they just kept it."

"God, those are nice thin slabs in through there . . . any real reason for that motif? . . . it's trick, fancy . . . doesn't serve any structural purpose."

"When you get in you want to look at merchandise . . . a view could be distracting . . . True, but I think the help might appreciate a look out . . . open fronts help the morale of the gals working there . . . they have a more pleasant time with the customers . . . yes, but that's in a small area."

"That big surface pulls you right into that job . . . that's a subtle thing . . . it's an awfully good thing."

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I DON'T KNOW HOW TO REACT TO A RECENT A.I.A. RELEASE RE U.N. HEADQUARTERS. I assumed we had all been thinking of the same thing when we urged an international competition—the question, I thought, was one of a site plan, a plan for growth, an integrated group, as well as the individual buildings. Apparently not. The release says that the general plan must be made as part of "an immediate need," and that then "*it is possible* that . . . the Director of Planning and his international advisers *may* find that *some substantial element* of the project *might* be the subject of an international architectural competition. Such a conclusion would be in accordance with the Institute's *hopes*, as they have been expressed freely and unanimously from the beginning."

The italics are ours; the double-talk is the Institute's.

Thomas H. Creighton