PROGRESSIVE
ARCHITECTURE

PENCIL POINTS

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ARCHITECTS AND MANUFACTURERS

1947 will see more construction and design activity than any previous year in the history of the United States. This isn't our guess; it is the sober conclusion of government and independent analysts, architects, builders, manufacturers, and clients. 1947 will also see a great deal of confusion in the field of building materials and equipment. Manufacturers have been beset by strikes, bewildered by rising costs, bedeviled by reconversion problems. The designers, in turn, have not known how to plan or how to advise their clients, when they could not tell what materials would be available.

In this Products Review issue, PROGRESSIVE ARCHITECTURE attempts to help. The manufacturers have been queried, and their *available products* are listed; in some cases they have even been willing to make predictions on when supply will meet demand. The analysis is divided into eleven sections, and an expert in each division has written a report of the replies within that field and *an estimate of design possibilities in 1947*, based on available products. In some instances the authors have gone further and pointed to future trends.

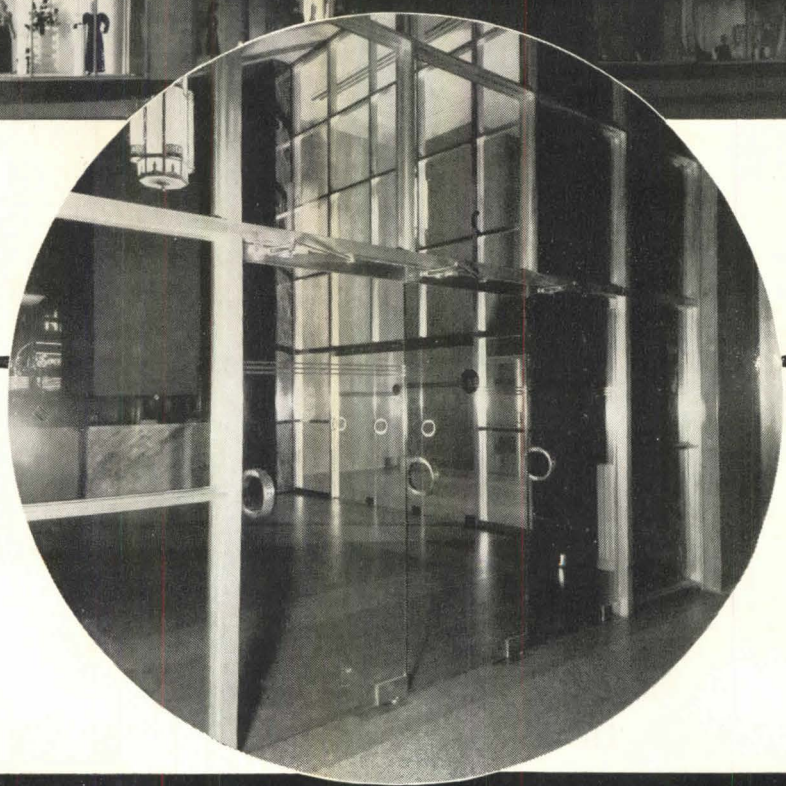
We have made an experiment in this issue, as an attempt to stimulate fully useful advertising. We urged the manufacturers and their agencies to follow the Selected Detail format (an illustration of finished architecture and details or specifications showing how it was accomplished) and we offered to place the advertising in the editorial body of the magazine when this was done. Not all of the attempts are successful, but we believe the move is useful in bringing factual information on the use of products to the designers of buildings.

Now is more than ever a time for architects to assert themselves as the factor that controls the use of materials. Materials must be selected and used with discriminating and intelligent care; the success of the finished architecture will depend on it. Improper substitutions made at builder's preference or client's whim can be fatal to progress in design. We applaud the manufacturers' recognition of this fact in their cooperation toward the objective analyses presented in this issue of PROGRESSIVE ARCHITECTURE.

The Editors

Practical applications of Glass

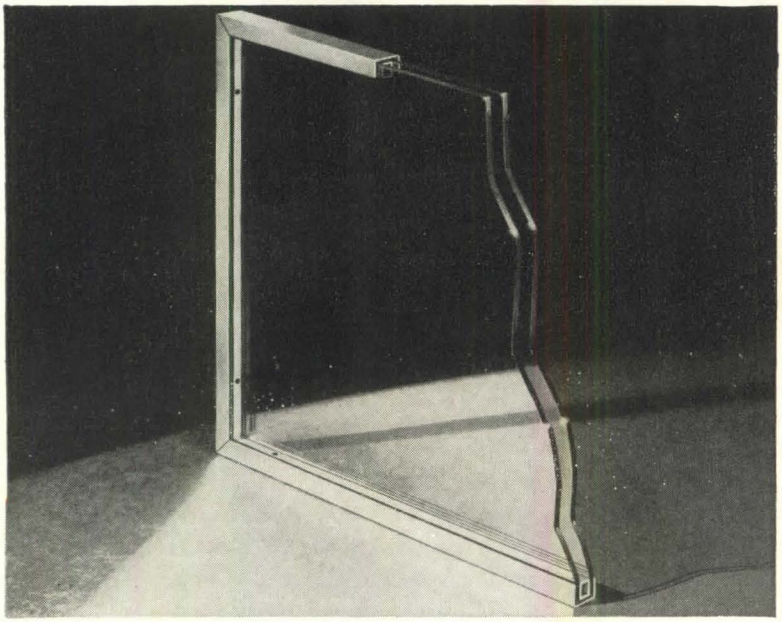
THEIR COMBINATION of modern good looks and remarkable functional versatility has won for PC Glass Blocks the high regard of most architects. These blocks transmit daylight generously . . . yet they preserve privacy, shut off unwanted views. Their insulation value recommends them for many applications. And the variety of patterns and sizes available create a wide range of design possibilities. Architect: Stiles Clements.



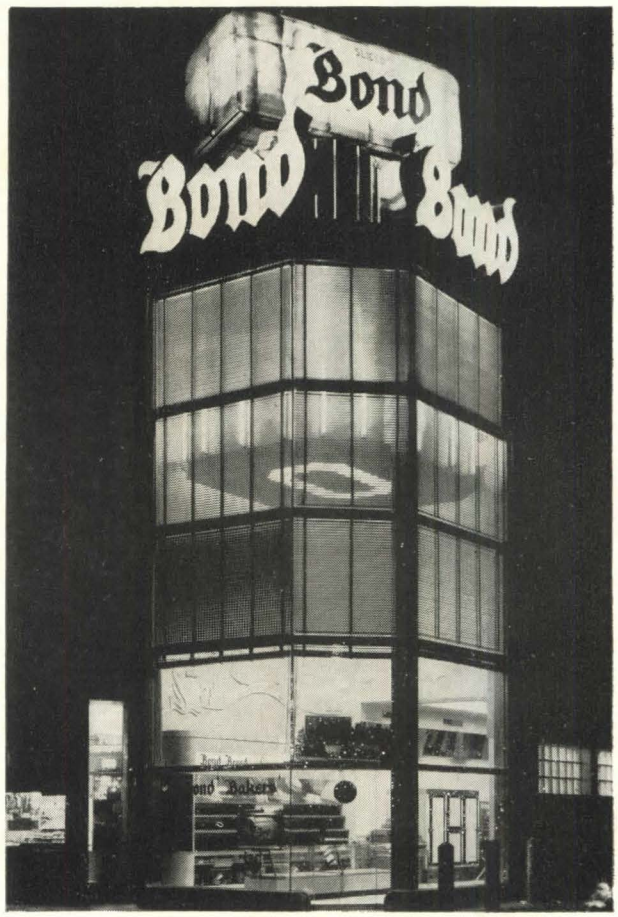
FOUR TIMES AS STRONG as ordinary Plate Glass of the same thickness . . . that's Herculite Tempered Plate Glass. It has been accepted as the ideal material for store doors, entrance panels, partitions . . . wherever you desire the beauty and transparency of Plate Glass combined with the ruggedness to resist hard usage. Architects: McKim, Meade & White. Samuel G. Wiener, Associate.

PITTSBURGH PLATE GLASS COMPANY

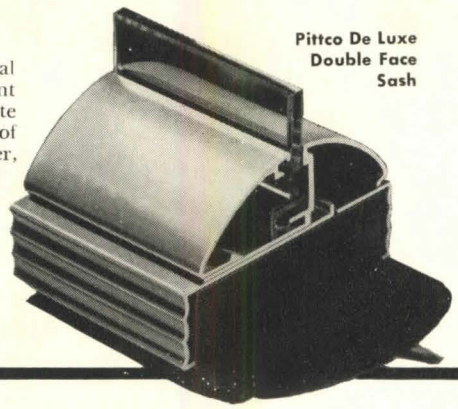
in commercial buildings



TWINDOW, Pittsburgh's new window with built-in insulation, is ideal for many applications such as hotel room windows, store windows, frozen food and refrigerated cases, office and factory windows, etc. Twindow made up of two panes of glass with an air space between them, cuts heat loss through windows nearly in half. When made with three or more panes of glass, Twindow's insulating effectiveness is even greater. It minimizes downdrafts through windows. It adds to comfort all year 'round. And it virtually prevents steaming or frosting of windows.



THERE ARE 2 LINES of Pittco Metal for you to choose from in store front work. Pittco De Luxe, long a favorite with architects, is the aristocrat of store front metals. Pittco Premier, lighter in weight and more moderately priced, is noteworthy for its beauty, its modern styling, and its quick, easy installation.



Pittco De Luxe Double Face Sash

STORE FRONTS today exhibit a growing trend toward the "open vision" type of design. These fronts make more exacting demands on store front materials than ever before . . . in quality, clarity, appearance, insulation effectiveness, etc. Pittsburgh Products such as Carrara Structural Glass, Polished Plate Glass, Pittsburgh Mirrors, Herculite Tempered Plate Glass and Twindow, the new window with built-in insulation, will invariably meet these demands to your satisfaction . . . and your client's. Architects: Thalheimer & Weitz.

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

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

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Address.....

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

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THERE'S A *Four Letter*

AMERICA has the highest standard of living in the world . . . but something is happening to it. There is talk of a recession . . . even a depression. We at Ceco *do not believe a depression has to come* in the building industry.

We know nothing about nylons, breakfast foods, or radios. But thirty-five years in the construction industry have taught us something about building and its problems. We believe the construction industry can and should lead the way back to an even higher standard of living.

We admit the complexities of today's situation. But we feel that these complexities can be circumvented. So why *think* a depression? Why not do in peace as we did in war—expect prosperity—plan prosperity —work for prosperity?

●

Let's look at the facts a minute. Today our needs for *everything* are the greatest in our history. There is accumulated purchasing power to keep industry humming for years to satisfy those needs—particularly the building industry. Then what is the fly in the ointment—why the fear that we are headed for collapse?

We at Ceco believe it's something the economists haven't analysed. We believe that prosperity depends on a different kind of straight thinking—on whether we, as individual Americans, are willing to WORK to make prosperity WORK. It's as simple as that.

●

It won't be easy. We said "work!" and we mean "work!" We of management must really work at managing. We must junk the too-frequent "wait it out" idea.

And labor must work—produce more instead of less—reduce overall costs per unit —justify high wages. Wages must not spiral after prices and prices after wages. Labor and management *both* must have something left after they've made their investment of time and capital.

It can be done if we're intelligent enough, willing enough, fair and square enough.

Of course, we can't do it overnight. We can't provide a new home or plant for everyone who wants one next week, or next month, or even next year. But we can start—and keep on . . . and once the ball is rolling the results can astound even ourselves. When Roosevelt announced our production goals for the first year of the war, the world laughed. It was a different story when we exceeded them. Then, we were unprepared. Today, we have everything to work with if we're permitted to use it—and will use it.

Sure, during the war, costs were a secondary consideration. But today, in a freer economy, the same will-to-work can drive down costs and prices, and drive up the production which labor needs to stay prosperous.

●

We eased up after the shooting stopped—all of us. That's understandable. We needed to. But we've had our breathing spell. Now let's face the fact that there is no magic road to prosperity—that we cannot get something for nothing indefinitely. Always, eternally and inevitably, we of management and labor are going to have to WORK for prosperity.

Here at Ceco we have faith—faith that horse sense is finally taking hold. The productivity of labor is increasing. Absenteeism and turnover are decreasing. Output per man hour is on the upgrade. Controls are no longer the bug-a-boo they were. Many critical material shortages are leveling off. Some cities have modernized their building codes, and a general revision is in progress.

Word FOR IT!

In the past year "unfavorable factors" plagued us and at times we were not pleased with the service we gave. Shortages of steel and manpower, coupled with many delays, held down our production levels. We are apologetic to all of our good customers, who for the most part have been understanding and tolerant.

●

Yet as we look back over 1946 we're really surprised to see how much we did accomplish. We performed the following things in preparation for greater prosperity:

1. We doubled manufacturing capacity in our Plant No. 1. Also, expansion plans went forward in our 14 other plants and warehouses coast to coast.
2. We facilitated management operations by centering our general offices at Plant No. 1.
3. Company-wide, we increased our plant and erection organization by 40 per cent, our office personnel by 30 per cent.
4. With additions to our research facilities and personnel, we developed 16 new major products. More than 100 others still are under study. War experience is reflected in expanded use of diversified metals.
5. We—management and labor—increased production. Shipments of several principal lines, including screens and windows, were and now are greater than ever before.
6. We—management and labor—reduced absenteeism in our plants by 50 per cent.
7. We consistently modernized our equipment and machinery for maximum production.
8. We improved our agent-dealer structure and our service to agents-dealers.

What we did, many others did. In the days ahead we all can do even better.

●

Just a few fundamental virtues are necessary. Hard work, intelligence, and sympathetic understanding of labor's problems upon the part of management. Hard work—ever-increasing production—understanding of management's problems upon the part of labor.

We can say that here at Ceco we have the finest working conditions, the finest safety record, and the greatest opportunity in the history of our company.

We believe that *production* will maintain these high standards and even better them.

. . . . production that justifies high wages.

. . . . production sufficiently great for the costs involved, to make the selling price within the reach of the widest possible markets.

America has never yet admitted defeat. Why start now? High living standards can be cushioned against depression. Let's all quit *doodling* and get to *doing*. Yes, there's a four letter word for it—*W-O-R-K*.

CECO STEEL

PARTIAL LIST OF CECO PRODUCTS • METAL WINDOWS AND DOORS • METAL FRAME SCREENS • STEEL JOISTS AND ROOF DECK • METAL LATH AND ACCESSORIES • MEYER STEELFORMS • CONCRETE REINFORCING BARS • WELDED STEEL FABRIC • HIGHWAY PRODUCTS • CORRUGATED ROOFING • LOUVRE VENTILATORS

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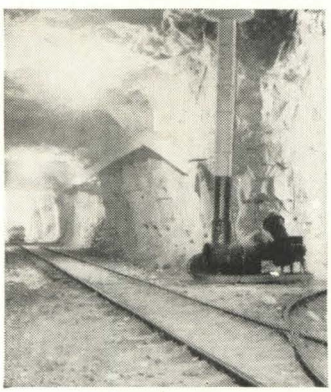
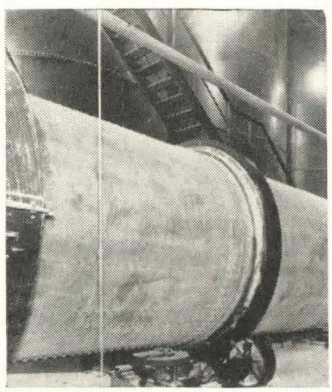
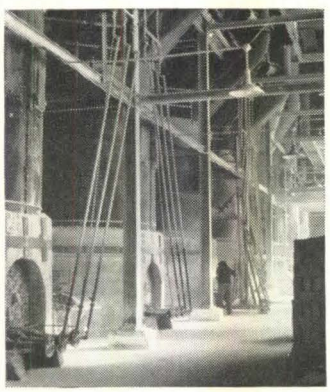


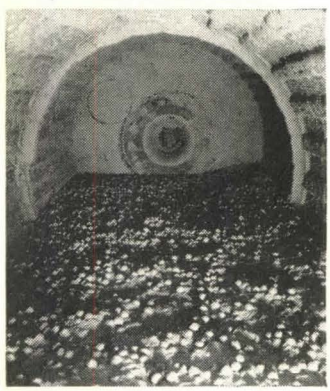
1 GYPSUM MINE. One of 9 National Gypsum deposits which insure a constant supply of selected gypsum rock.



2 ROTARY DRYER. First step in the processing of gypsum is the removal of surface moisture from the rock.



3 CALCINERS. Next, the rock is pulverized and "cooked" in huge kettles which drives off the water of crystallization.



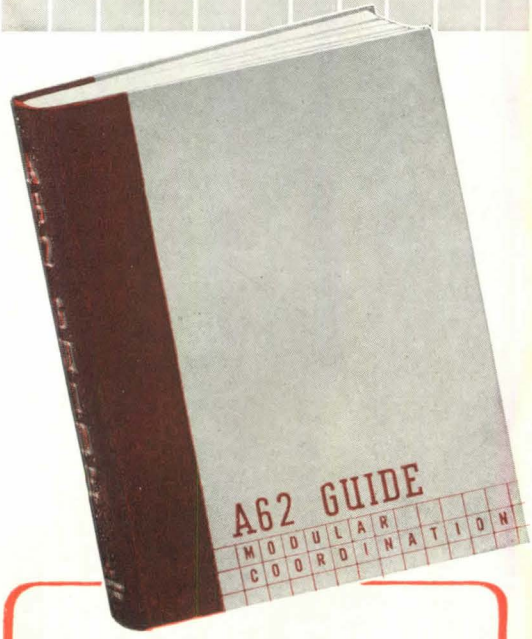
4 TUBE MILL. Thousands of tiny steel balls in this revolving cylinder grind the gypsum into minute particles.

5 BAGGING. After various ingredients are added to regulate the set and working qualities of the plaster, it is ready for bagging.

6 QUALITY CHECKUP. Uniform quality is so important that a research lab is maintained at each plant to insure constant control.

THE days of "plasters-are-all-alike" are out. New processing operations made possible with modern machinery have resulted in the finest plaster ever made . . . Gold Bond. Specifying Gold Bond is your assurance that you will be getting this high quality plaster on your jobs at no premium price. See our section in Sweet's for the full story on Gold Bond Plaster and over 150 other guaranteed Gold Bond Building Products sold by 10,000 building material dealers. National Gypsum Company, Buffalo 2, New York.

A62 GUIDE FOR MODULAR COORDINATION



ARCHITECTS • BUILDERS • DESIGNERS

ACCURATE SCALE DRAWINGS and a minimum of text are used to explain the broad principles of modular coordination, their connection with the various stages of the architect's work, and their application to different classes of building products and types of construction. These drawings show not only modular details approved by Project committees, but also details which illustrate methods employed in meeting practical job conditions.

As a concrete example of the application of these principles and products, the final chapter contains photographs of some of the architect's drawings for a New York Health Center. Throughout the GUIDE, text and drawings are carefully arranged for easy reference.

290 pages, 314 illustrations, 9" x 12" Price $10.00

AMERICAN STANDARDS ASSOCIATION PROJECT A62

For the coordination of dimensions of building materials and equipment

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•

Project staff provided by
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"The approval by the American Standards Association, as **AMERICAN STANDARD**, of the basic Standards for the Dimensional Coordination of Building Materials and Equipment, has given direction and authority to an outstanding forward step in the solution of the costly and time-consuming problem of cutting and fitting the materials of construction to permit their assembly in the field."

JAMES R. EDMUNDS, JR., Pres.
The American Institute of Architects

Technical experts of the building industry cooperating in the committees of this project have developed modular coordination as a basis for correcting the confusion of dimensions. They have applied this basis to a wide variety of building products and to the details for their assembly.

Coordinated sizes have already been adopted for:
Brick — Structural Clay Tile — Concrete Masonry Glass Block — Structural Facing Tile — Steel Windows Wood Double-Hung Windows

Many other products have long been made in sizes suitable for dimensional coordination.

The purpose of the A62 GUIDE is to assist architects in using modular products and designing buildings in accordance with the established principles, so as to gain the immediate advantages and economies of modular coordination.

CONTENTS

Introduction, The Standard Basis, Modular Masonry, Structural Facing Tile, Custom Masonry, Floors, Wood Frame, Windows, Doors, Glass Block, Skeleton Frame, Stairs, Examples of Working Drawings, Appendix "A" — The Derivation of the Basis, Appendix "B" — Height Coordination Tables, Appendix "C" — American Standards for Modular Coordination, Index.

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VIEWS

THE ARCHITECTS REPLY TO THE CRITICS

GENERAL HOSPITAL, HAIFA

Dear Editor:

I welcome your experiment in introducing professional criticism in your November (Hospital) issue.

In combining the critic's report and the architect's reply, you enable your readers properly to appraise the solution of the published building.

ERIC MENDELSOHN
San Francisco, Calif.

100-BED TUBERCULOSIS HOSPITAL

Dear Editor:

It is a beautiful job you did in the presentation of our 100-Bed T.B. Hospital. We are planning to order 10,000 copies of this reprinted.

MARSHALL SHAFFER
Division of Hospital Facilities
U. S. Public Health Service

NOXUBEE COUNTY HOSPITAL

Dear Editor:

Regarding the new approach in presentation—criticism by the professional press—my own belief is that the weakness in the profession is still a lack of appreciation for the "analytical trend" in contemporary architecture. In our part of the country there is much evidence of an attempt at "style" but little to show that the architects are thinking. Perhaps the strongest means of education is exhibiting the bad against the good—and telling why. Breines' book on houses, while not particularly well done, had a very interesting section devoted to "phonies" against the real thing. Perhaps the Right and Wrong method of exhibit is the surest means of advancing architecture.

To date, you have been very kind in your criticisms. However, you are on dangerous ground when you attempt analysis of a contemporary architectural work and perhaps it is better to tread lightly at first.

I might suggest that your contributors should be told before publication about what critical observations the editors have made, and the author given the opportunity to answer. If this is done, there is no valid reason for mincing words or dealing lightly with faults in the work submitted.

I have wanted for some time to gather together a group of photographs of "architecture" in and around Memphis, have them published without text but titled "Designed by Architects." This would probably injure the profession as a whole, but afford many a laugh for most of us.

Anyway, congratulations on your new approach. I hope it can become more virile as time goes on.

A. L. AYDELOTT
Memphis, Tenn.

VETERANS HOSPITAL, WILKES-BARRE

Dear Editor:

I thought that I had said all the swell things about the November '46 Hospital Critique Issue on the phone the other day, but I don't remember telling you that I felt you and Mr. Rosenfield certainly deserve a great vote of thanks from the architectural profession and those others interested in hospital planning and management, for the particularly detailed analysis and comparisons made throughout the issue.

While the presentation to the profession in your monthly publication of many interesting projects not related to each other is always an inspiration and assistance to the architects in solving their own problems, the comprehensive presentation in a single issue of many different partis and approaches to the same problem, with the additional value of a review by an outstanding authority on the subject is, in my belief, a definite step forward for a professional magazine publication.

It is my hope that you will continue your research in this direction and that PROGRESSIVE ARCHITECTURE in the future can present to the architects more issues of this nature.

B. SUMNER GRUZEN
New York, N. Y.

NONE PERFECT YET

Dear Editor:

The November issue of PROGRESSIVE ARCHITECTURE was one of the most interesting issues of an architectural magazine I have ever read. I heartily endorse your new experiment in architectural criticism. No architect has yet designed a perfect building, and your method of intimate criticism discussing the bad with the good, should do much to stimulate interest in the solutions presented, and invite deeper study of the problem.

If criticism of future building types is handled in as fine and as constructive a manner as your first one on hospitals, I shall look forward each month with pleasure to their reading and study.

HARRY J. HARLES
Rocky Mount, N. C.

STARTED MENTAL EXERCISE

Dear Editor:

Your discussion of architectural criticism in December "Observations" caused considerable comment pro and con among members of our organization.

Personally, I've been searching for some time for such "manners of criticism" as you describe, to help me evaluate questionable examples of architecture, art, and music. So we tried applying the four standards to a local skyscraper (designed in the classic style about 35 years ago).

This building met the mechanistic approach without adverse criticism; also the contextualistic and organistic approaches. However, when we analyzed it from the formistic angle, our camp divided. Some contended the design made use of outmoded forms, and was therefore poor. Others followed the strict interpretation of formistic and argued that, since the building *did* represent its culture and time (classic adaptations were then prevalent for all types of large buildings), the design was permissible and good.

The conclusion was that an esthetically good design must reflect more than the prevailing taste and custom—or architecture will stagnate. Designers, we felt, should be leaders and not merely interpreters of contemporary thought and culture.

In short, your "Observations" . . . resulted in some stimulating mental exercise.

FREDERIC H. KOCK
Cincinnati, Ohio

INTERESTING AND VALUABLE

Dear Editor:

I think that all the recent issues of PROGRESSIVE ARCHITECTURE have been excellent. The evaluation of the five hospitals as presented with Mr. Isadore Rosenfield is particularly interesting and valuable to all of us.

JOHN N. RICHARDS
Toledo, Ohio

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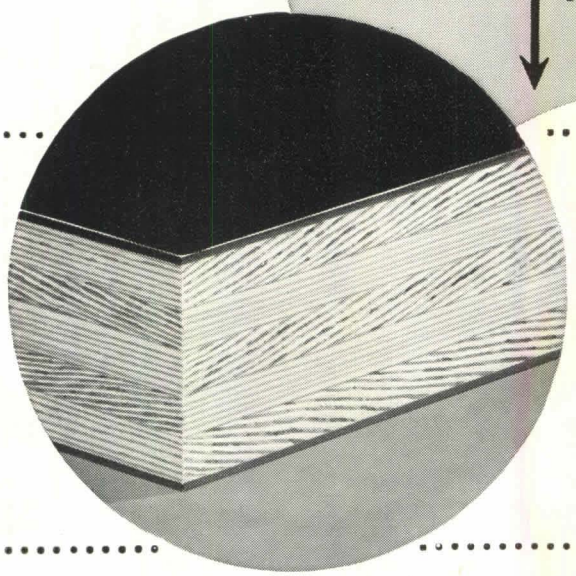

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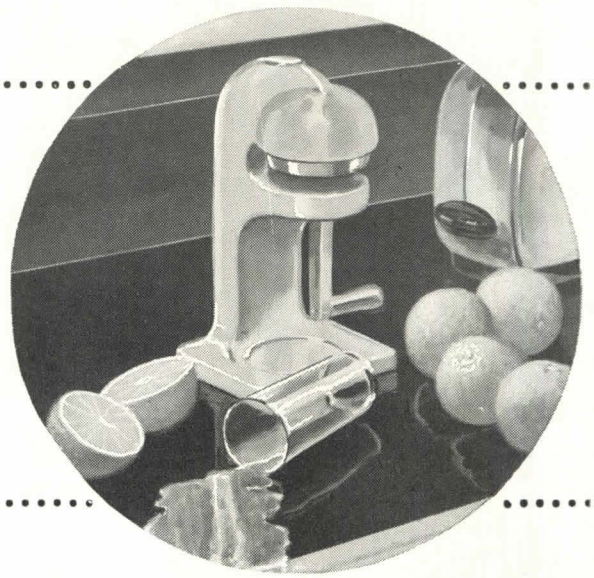

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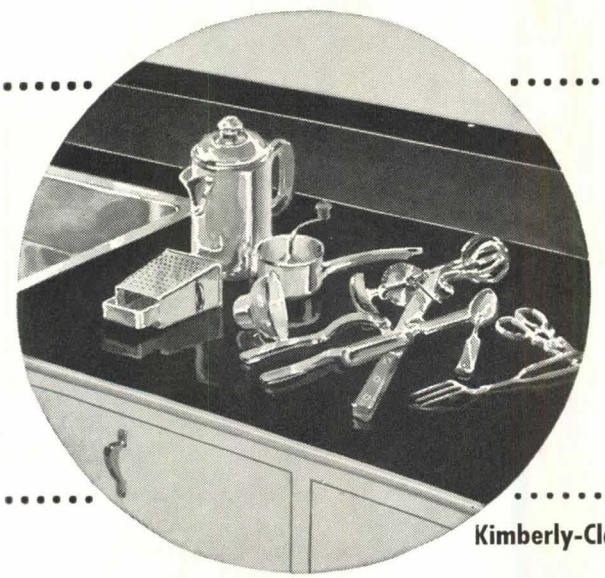

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JOBS AND MEN

MEN WANTED

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.

SPECIFICATION WRITER for firm with diversified practice. Permanent position in good hunting and fishing territory. Magney, Tusler & Setter, 202 Foshay Tower, Minneapolis 2, Minn.

DRAFTSMEN, thoroughly experienced in preparing complete working drawings and details from sketch stage, on schools, hospitals, and other public works. Give details, education and experience; state salary. Jos. W. Radotinsky, Architect, 312 Commercial National Bank Bldg., Kansas City, Kans.

ARCHITECTURAL DRAFTSMAN with at least 15 to 20 years' general experience in good design and construction, to locate in western Indiana city with a firm which has had 34 years of successful practice. Miller & Vrydagh, Architects, 200 Opera House Bldg., Terre Haute, Ind.

ADDITIONAL INSTRUCTORS in architectural design, structural design, building materials and building equipment are needed at the schools of architecture for the second semester. Those interested in a career in the teaching profession should apply to Professor Paul Weigel, Secretary of the Association of Collegiate Schools of Architecture, Kansas State College, Manhattan, Kans.

SEVERAL EXPERIENCED ARCHITECTURAL DESIGNERS, capable of making preliminary studies, analyzing design problems for hospitals, schools, housing and community developments. Opportunity in federal government "old-line" bureau in Chicago. Submit form 57, obtainable from any government agency, or write details of experience to Construction Division, Office of Indian Affairs, Merchandise Mart, Chicago 54, Ill.

EXPERIENCED ARCHITECTURAL DRAFTSMEN, and one structural engineer wanted immediately for our Butte, Montana, office and also for our Billings, Montana, office. Housing is adequate and rentals low. Position permanent for experienced men. Write stating experience record and salary expected. J. G. Link & Co., Billings, Mont.

ARCHITECTURAL DRAFTSMAN, capable preparing sketches and working drawings. Must be experienced. Permanent employment and excellent future for well qualified man. Office in State of Maryland. Box 322, PROGRESSIVE ARCHITECTURE.

ARCHITECTURAL DESIGNER. New York architect requires man of unusual ability and initiative, having broad, imaginative concept of contemporary planning and design; able to make outstanding sketches and renderings, and convert ideas to working drawings. Office offers excellent opportunity in designing a wide variety of projects. Reply fully. Box 334, PROGRESSIVE ARCHITECTURE.

PROJECT ENGINEER. Excellent opportunity for structural engineer. Require B. S. degree civil engineering, at least three years in construction business or consulting engineer's office. Duties include preparing and designing plans and specifications for additions, alterations, major maintenance of all buildings, partitions, structures, installation of process equipment; supervising installation of structural steel, iron, timber; contacting suppliers; inspecting buildings. Philadelphia area. State age, education, work experience. Box 335, PROGRESSIVE ARCHITECTURE.

(Continued on page 12)

JOBS AND MEN

(Continued from page 10)

TWO TEACHERS, desired by Southern school of architecture, to teach architectural subjects, principally design. Can use one or both in February. Salaries to be based on training and experience of applicant. Summer school salary extra. Housing can be provided. Box 345, PROGRESSIVE ARCHITECTURE.

JOBS WANTED

VETERANS completing intensive training in old established school need work opportunities in mechanical, architectural, or electrical drafting. What can they do for you? Inquire Mondell Institute, 1425 Broadway, New York 18, N. Y., Wis. 7-2143; or 129 Montague St., Brooklyn 2, N. Y., Main 5-2741.

SALES REPRESENTATIVE. Architect moving to California desires to represent eastern manufacturer. Age 42; experienced technical and contact man. Box 336, PROGRESSIVE ARCHITECTURE.

STRUCTURAL ENGINEER, B.C.E., young, registered in New York and Ohio, with five years' experience in design, construction, and cost estimating; now employed; desires responsible connection with progressive architectural firm requiring efficient, modern solutions to its structural problems. Box 337, PROGRESSIVE ARCHITECTURE.

STRUCTURAL ENGINEERS (3), licensed, 15 to 20 years' experience. Design, checking. Steel, reinforced concrete. Buildings, industrial, foundations. Plans, specifications. New York City. Prompt service. Box 338, PROGRESSIVE ARCHITECTURE.

JUNIOR ARCHITECTURAL DESIGNER, age 25, wishes to move. Desires a permanent position on West Coast. One year mechanical drafting experience. Graduated from school of architecture; also studied engineering. Ambitious and ability to learn. Box 339, PROGRESSIVE ARCHITECTURE.

YOUNG REGISTERED ARCHITECT desires partnership or other business arrangement with architect in small office doing contemporary architecture. 10 years' experience in executing small and large jobs from design to completion. Prefer to locate in small city or town in growing section of the country. Box 340, PROGRESSIVE ARCHITECTURE.

ARCHITECTURAL PROJECT MANAGER, housing expert (public and private), planning, production and office administration. Will be available about January 15th. Box 341, PROGRESSIVE ARCHITECTURE.

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

ARCHITECT desires responsible position, association, or partnership with progressive organization. Age 34, registered architect in Michigan, A.I.A. member, architectural engineering graduate; 12 years' experience as architect, draftsman, designer, job captain on housing, industrial, commercial, institutional buildings. Prefer West Coast or Rocky Mountain location, but will consider other areas. Box 342, PROGRESSIVE ARCHITECTURE.

REGISTERED STRUCTURAL ENGINEER, with twenty years' experience in construction, desires connection with architect or engineer specializing in industrial work in western states. Am expert reinforced concrete designer. Age 46, veteran of World War II. Will consider connection on percentage basis with drawing account or limited partnership only. Box 343, PROGRESSIVE ARCHITECTURE.

CIVIL ENGINEER, DESIGNER, 32, registered New York State, recently discharged Army officer, excellent record of 11 years' experience as designer of structures and utilities, desires partnership in architectural or engineering firm. References exchanged. Will invest up to $10,000. Box 344, PROGRESSIVE ARCHITECTURE.

TWO PICTURES

THAT SHOW THE AMAZING VERSATILITY OF

CEMESTO

REG. U. S. PAT. OFF.

The Multiple-Function Insulating Wall Unit

Cemesto, the Complete Wall Unit is AVAILABLE NOW for You to Use in Almost Any Building Job

THE remarkable versatility of Cemesto has been firmly established in scores of projects. This amazing adaptability of Cemesto to sound, speedy construction has stirred the interest of architects everywhere. As a result, new uses are being found for Cemesto in almost every kind of present-day building job—large and small. For industrial construction, in homes, business structures, farm buildings as well as in such special applications as conditioning rooms and drying rooms.

Cemesto is an unusual product. Its core of Celotex cane fibre insulation is sheathed two sides with an eighth-inch layer of asbestos cement bonded to the core with waterproof, vapor-resistant bituminous asphalt adhesive. It is fire-resistant, moisture-resistant. Its rigidity eliminates need for intermediate support. Both faces are smooth and hard, warm gray in color, provide agreeable interior and exterior finish without need for painting.

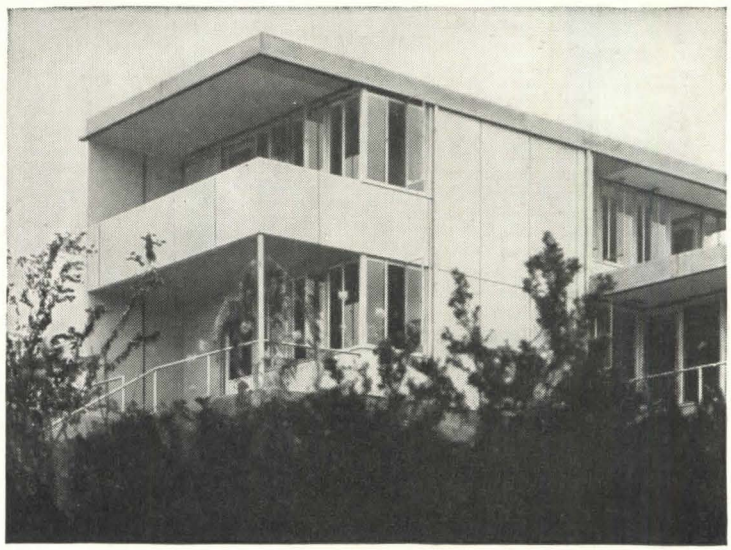
Cemesto comes in 4′-wide panels, 4′, 6′, 8′, 10′, or 12′ long, and in thicknesses of 1⅛″, 1⅜″ and 2″. Can be used either vertically or horizontally.

Cemesto can be cut to required sizes in advance, resulting in speed and economy in building walls and roof decks. There is no sacrifice in construction quality. It is truly a multiple-function material of many uses.

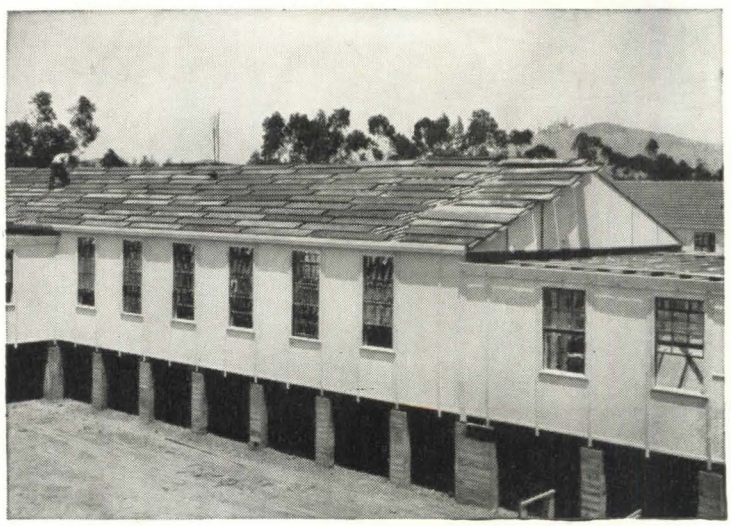
SOME OF THE VARIED USES OF CEMESTO

- Airplane Plants and Hangars
- Bakery (proof ovens)
- Conveyor Enclosures
- Dairy Barns and Dairies
- Dough Conditioning Rooms
- Drying Rooms
- Factory Buildings
- Incubation Houses
- Industrial Dryers
- Kilns
- Mine Buildings
- Panel Boards for Mounting Controls
- Partitions
- Prefabricated Houses
- Radiator Recesses
- Residences
- Roof Decks
- Service Stations
- Smelter Buildings
- Spray Booths
- Tobacco Storage Rooms
- Tourist Cabins

IMPORTANT! Without obligation, we will be glad to provide any technical assistance you may need regarding the use of Cemesto Wall Units. A complete set of architectural details is available on request.



Modern home in Berkeley, California, built with Cemesto, the multiple-function wall unit that's adaptable to almost every building job.
Architect: Richard J. Neutra, A.I.A., Los Angeles



Cemesto walls on one of the sections of the large Naval Hospital at Corona, Calif.

CELOTEX
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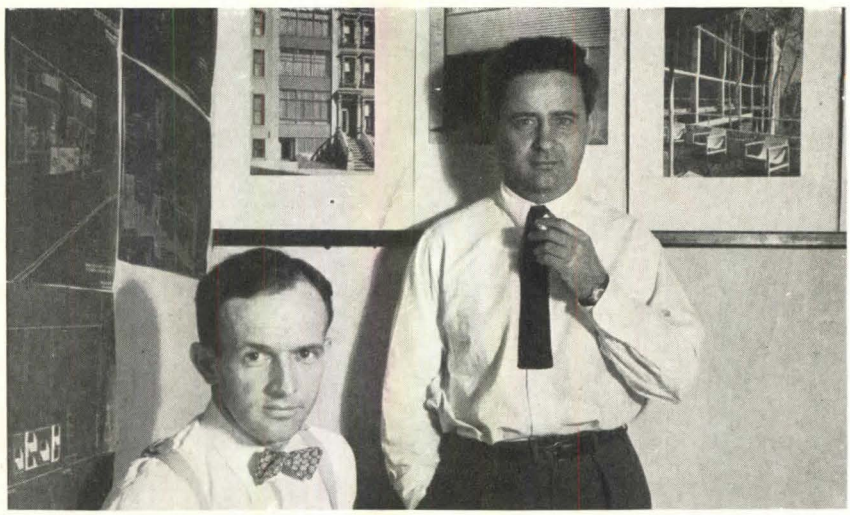
BUILDING PRODUCTS

THE CELOTEX CORPORATION, CHICAGO 3, ILLINOIS

THIS MONTH

FRED N. SEVERUD



WALTER SANDERS and ARTHUR MALSIN

HERMANN H. FIELD

One of the structural experts that Frank G. Lopez, technical editor, turned to first in assembling a panel to examine and analyze latest information from manufacturers about products available for construction in 1947 was **Fred N. Severud,** consulting engineer, of New York. Born in Bergen, Norway, he earned his C.E. degree at the National Institute of Technology in Trondheim and then came to the United States in 1923. He later established an office in New York, in partnership for a time with James Ruderman, and found that the development of large housing projects in the 1930's gave him the chance to introduce methods that won him wide recognition. Besides his general engineering practice, he has served as consultant to the Government of Puerto Rico, as consultant during the rebuilding of an oil city in Peru, and as technical advisor to the Norwegian Government. For Mr. Severud's discussion of The Load-Bearing Structure, see page 42 of this issue.

Hermann H. Field, author of the analyses of Non-Load-Bearing Structural Elements and of Thermal Insulation and Sound Control (pp. 50 and 59) is now director of postwar research with Antonin Raymond Associates, New York. A graduate of Harvard, he attended the Graduate School of Architecture there for two years and continued his training at the Swiss Federal Institute of Technology while in Europe as holder of a two-year fellowship to study housing and modern building techniques in various countries. The outbreak of the war found him working in Poland as a refugee administrator. It was not until 1940 that he was able to return to New York. He is a member of the A.I.A., and last spring served as a consultant for ex-National Housing Expediter Wyatt, collaborating on a survey of new materials for the Veterans Emergency Housing Program.

The discussion of Surfacing Materials (p. 65) was prepared by Walter Sanders and Arthur Malsin, whose firm is now a year old. **Walter Sanders** received his B.S. from University of Illinois in 1929 and his M. of Arch. degree from Uni-

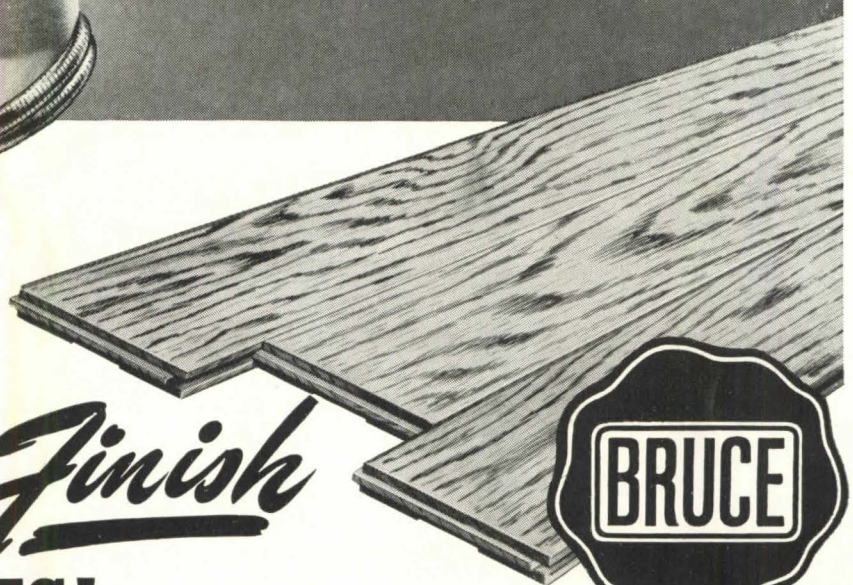
(Continued on page 16)

NEXT MONTH

● A major part of our February issue will be devoted to shelter—private, multi-family, and the special provision required by the disabled veteran. The multi-family scheme is the subject of a student thesis executed by Ilse Meissner while at Pratt Institute. A careful restudy of the Jacob Riis and Lillian Wald Housing Projects on New York's East Side, this shows what might have been done if the two adjoining projects, now scheduled for construction, had been schemed as a single unit rather than two unrelated design problems. The distinguished Washington architect and housing expert, Louis Justement, will be the guest critic analyzing Miss Meissner's study. The private residence is a suburban house in Lawrence, Long Island, designed by the renowned architect, Marcel Breuer, now of New York. Tradition and stodgy convention are sharply challenged by this unique and newsworthy house, sure to be one of the most discussed and debated designs. Specially adapted units to make homes more comfortable for paraplegic war veterans, designed by a committee of the New York Chapter, A. I. A., also will be presented.

● Comments on the advance and present status of progressive architecture and urbanism will be made by Le Corbusier, along with critical notes on Paul Lester Wiener and Jose Luis Sert's Cidade Dos Motores (September 1946 PROGRESSIVE ARCHITECTURE).

What a World of Difference The Right Finish Makes



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2. ***Prime Condition*** —Finishing starts immediately after sanding. No "raised grain". Moisture content is right.

3. ***Perfect Filling*** —Highest quality silex filler is rubbed into Bruce Flooring as it moves down the finishing line.

4. ***Thorough Sealing*** —Finish penetrates into wood, seals pores against dirt and wear. Beautifies the grain.

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6. ***Extra Buffing*** —High-speed brushes burnish finish into wood, provide a harder, smoother surface for waxing.

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BRUCE FINISHED FLOORS

THIS MONTH

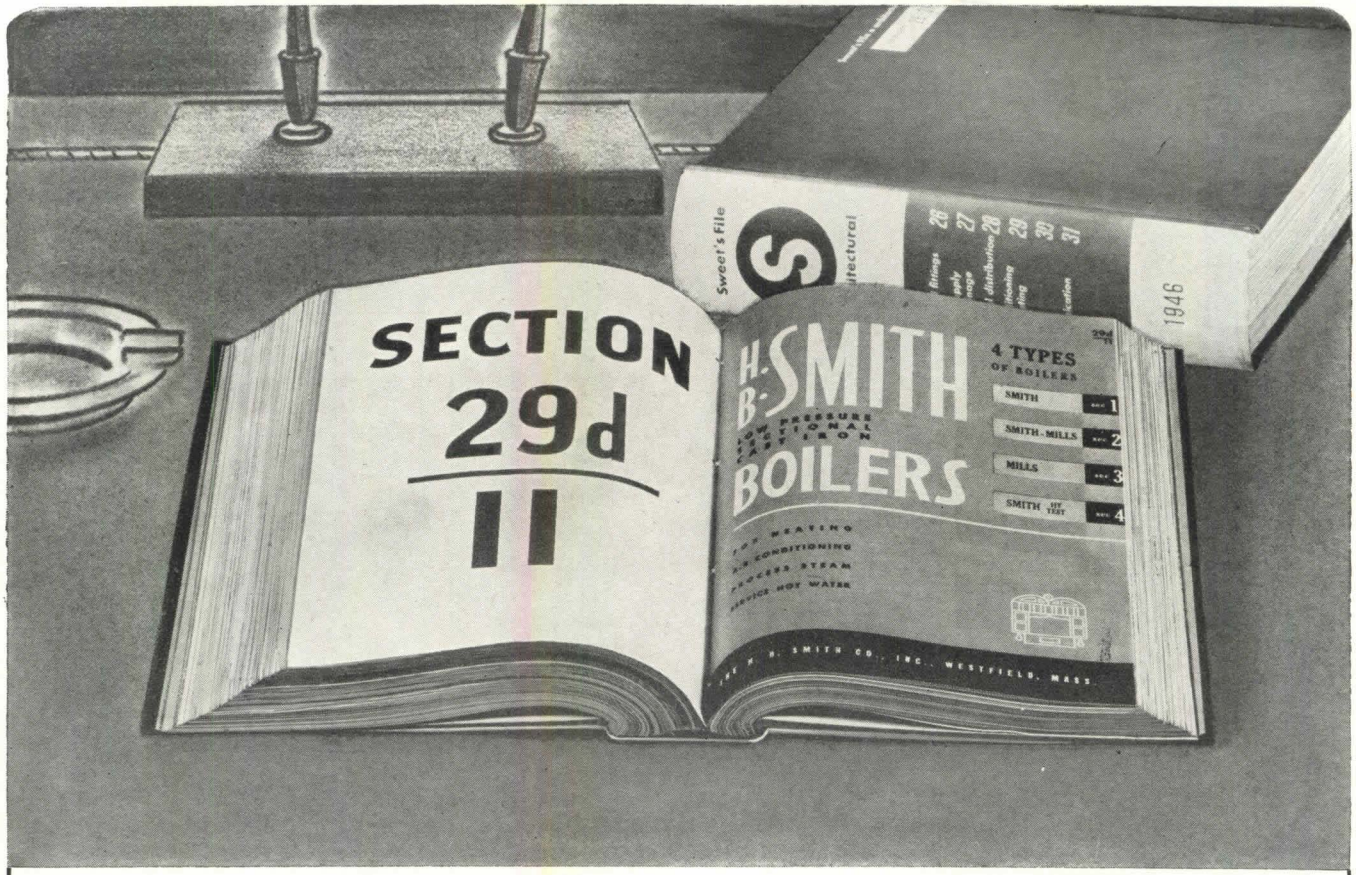
(Continued from page 14)

versity of Pennsylvania a year later. He was architectural director of the Rockefeller Home Center; held associate editorships on *The American Architect* and *The Architectural Forum*, and is at present an architectural design critic at Columbia University and Pratt Institute. His own office, opened in 1938, was closed in 1942 when he began two and a half years' service with the Army. **Arthur Malsin** is a graduate of Yale and received his B. Arch. degree at Harvard. During the war he spent two years in the Pacific theater, as photo intelligence and staff intelligence officer. He also is teaching architectural design at Columbia. Their firm is engaged in residential, commercial, and industrial work and recently received awards in Bloomingdale's 1946 Architectural Competition, "Suburban Houses for New Yorkers."

A. Gordon Lorimer, Chief of the Bureau of Architecture for the New York City Department of Public Works, is familiar to our readers (see January 1946 PROGRESSIVE ARCHITECTURE) as an architect and consultant. His analysis of the latest factory information about Doors and Windows is found on page 80. Ben John Small, author of the discussions on Materials of Installation and Finishers and Protectors (pp. 75 and 92) is likewise known to our readers (see August 1946 PROGRESSIVE ARCHITECTURE) for his work in specification writing and cavity wall design.

CLIFFORD STROCK

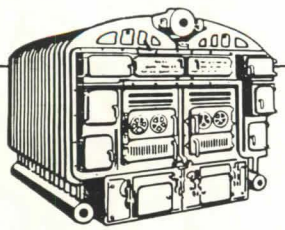
As editor of *Heating and Ventilating*, **Clifford Strock** is well equipped to write on the subject of Air and Temperature Control (p. 103). Receiving his B.S. and M.E. degrees from Purdue University, he has been connected with the Pennsylvania Railroad and the International Heater Company. He is co-author of the Degree-Day Handbook and the Air Conditioning Engineer's Atlas, and a member of the American Society of Heating and Ventilating Engineers, the American Society of Refrigeration Engineers, and the American Society of Mechanical Engineers.

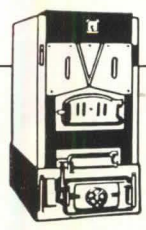


"Here's the dope for that new boiler job"

When you need clear, concise, complete specifications and engineering data for that new boiler plant, turn to the H. B. Smith catalogue in Vol. 5 of your 1946 "Sweet's." There you'll find the information necessary to help you select the *right* boiler, whether your client is planning a factory, home, school or office building.

And if yours is a special problem, personal consultation with an H. B. Smith sales representative may be the solution. Just turn to the catalogue's back page and you'll find the address of the H. B. Smith branch office nearest you — a technical representative will be glad to call and talk things over.





Visit our Exhibit at the 7th International Heating and Ventilating Exposition, Lakeside Hall, Cleveland, Ohio, Jan. 27-31, 1947.

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NOTICES

LEE AND HENRY, designers, have announced the opening of their new office at 1829 M St., N.W., Washington 6, D. C.

CHESTER E. NAGEL, architect of Austin, Texas, has accepted the invitation of Harvard to teach design and has joined the faculty at Cambridge. He studied under Dr. Walter Gropius and received his master's degree at Harvard in 1940.

PERCY M. IVORY has announced his return to private practice after 10 years' service as Plan Examiner in the Building Department of Irvington, N. J. His offices are now located at 1073 Springfield Ave., Irvington, N. J.

DAVID MARNER has opened an office for the practice of architecture at 305 Bond St., Asbury Park, N. J.

THEODORE W. DOMINICK and WILLIAM H. VAN BENSCHOTEN have announced the formation of a partnership for the practice of architecture as DOMINICK AND VAN BENSCHOTEN, ARCHITECTS, 1122 19th St., N.W., Washington 6, D. C.

PHILIP F. HALLOCK, R.A., has been released from active duty in the U. S. Naval Reserve and has announced the opening of his office for the general practice of architecture at 212 South Allen St., State College, Pa.

ERNEST J. KUMP and MARK FALK announce the return of their former partner, LT. COL. CHARLES H. FRANKLIN, AUS, and the formation of the firm of FRANKLIN, KUMP & FALK, with offices for architecture located at 9 Main St., San Francisco, Calif.

The office of GERALD ANTHONY PAUL, R.A., has established quarters for the general practice of architecture, engineering, and industrial design at 333 Fourth Ave., New York 10, N. Y. Mr. Paul was formerly with Morris Lapidus.

DANIEL W. B. WARNER, architect, has announced the opening of an office at 660 Madison Ave., New York 21, N. Y.

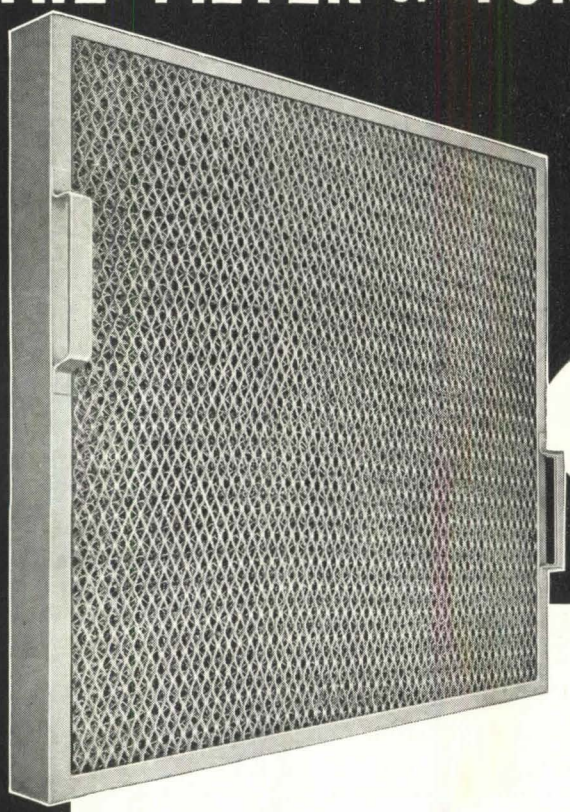
GRUEN & KRUMMECK, Designer and Associates, have announced the moving of their Los Angeles office to larger quarters at 8460 Santa Monica Blvd., Hollywood, Calif., and the opening of their new offices for northern California at 967 Sutter St., San Francisco.

GEORGE W. WICKSTEAD, member of the American Society of Landscape Architects, has announced the establishment of an office for the general practice of public and private land planning and landscape architecture at 117 W. High St., Carlisle, Pa.

JOHN L. R. GRAND and ALFRED B. PARKER, who have both returned from active duty with the armed forces, are now teaching architecture and landscape architecture at University of Florida, School of Architecture and Allied Arts, Gainesville, Fla.

AGITAIR ANNOUNCES

THE FILTER OF TOMORROW—*Today!*



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TURBULENT CLEANSING ACTION

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Agitair FM Filters 50% More Air At The High Velocity of 432 F.P.M.

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Agitair FM filters 50% more air at the higher velocity of 432 F.P.M. Two (2) FM's do the work of 3 ordinary filters . . . 33% reduction in space . . . fewer units to be installed . . . reduced servicing. This, coupled with higher dust holding capacity and rugged all metal construction makes it possible for Agitair FM to deliver unparalleled all-around filter efficiency.

Designed for easy cleaning and servicing, Agitair FM can be removed, cleaned and restored to top efficiency "in a flash."

When you specify filters remember: *Agitair FM removes more dirt from more air in less time.*

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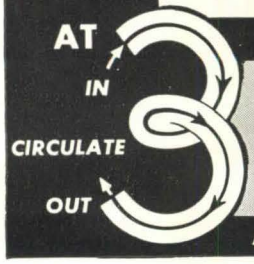
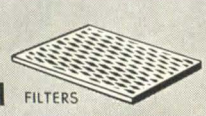


KEY POINTS IN AIR CONDITIONING—AGITAIR SERVES BEST



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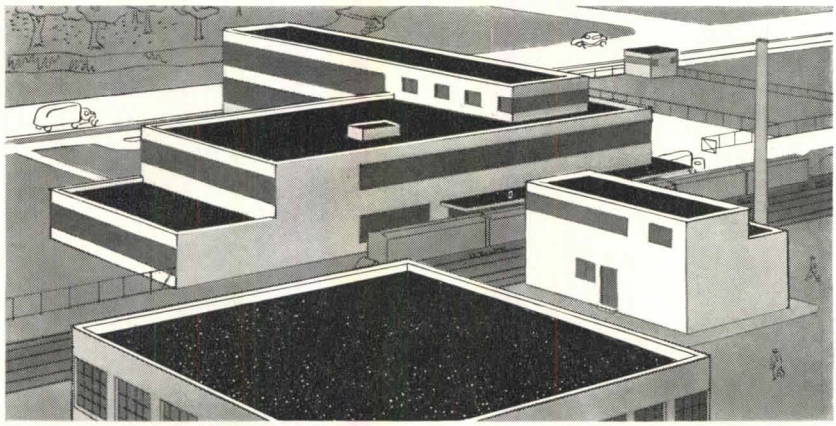
SEE US AT THE CLEVELAND SHOW—BOOTHS Nos. 5 & 7

concerning the MERITS of flat roofs...

... for industrial buildings
... for commercial buildings
... for residences



Years ago all roofs were pitched. But recently the flat roof has invaded, first, the industrial building field . . . then the commercial . . . and, now, the residence.

Here are some of the reasons why flat roofs are preferable:

1.	**Economy**	A flat roof with four-ply built-up construction, is cheaper in first cost and maintenance than a pitched roof.
2.	**Flexibility of interior design**	A flat roof lends itself to functional arrangement of interior spaces. Any hipped, gabled, mansard, gambrel or shed roof dictates the plan by means of the mass of the roof. This is not true with a flat roof.
3.	**Less waste space**	Wasted space in attics which involve heat losses or useless cubage, or both, is eliminated with a flat roof.
4.	**Eliminates masonry for extra chimney**	Cost of chimneys which penetrate the roof at the ridge represents waste. A roof with a 30 foot span at 45 degrees means 15 vertical feet of masonry for chimneys.
5.	**Less guttering needed**	The guttering and downspouts for a flat roof usually take less material than for buildings with dormers, gables, or other roof breaks.
6.	**Recreational Utility**	The flat roof can be used for sun decks and terraces, for health and enjoyment.
7.	**Water-cooling possibilities**	The flat roof can be utilized for cooling the interior of the building, either by a spray of water played on it during the heat of the day, or by a thin film of water lying on it.

If you specify a flat roof for cooling purposes, you will want to make sure that materials you designate will withstand constant contact with water. Koppers coal tar pitch and felt roofing materials are impervious to immersion in water. In fact, water benefits Koppers roofs.

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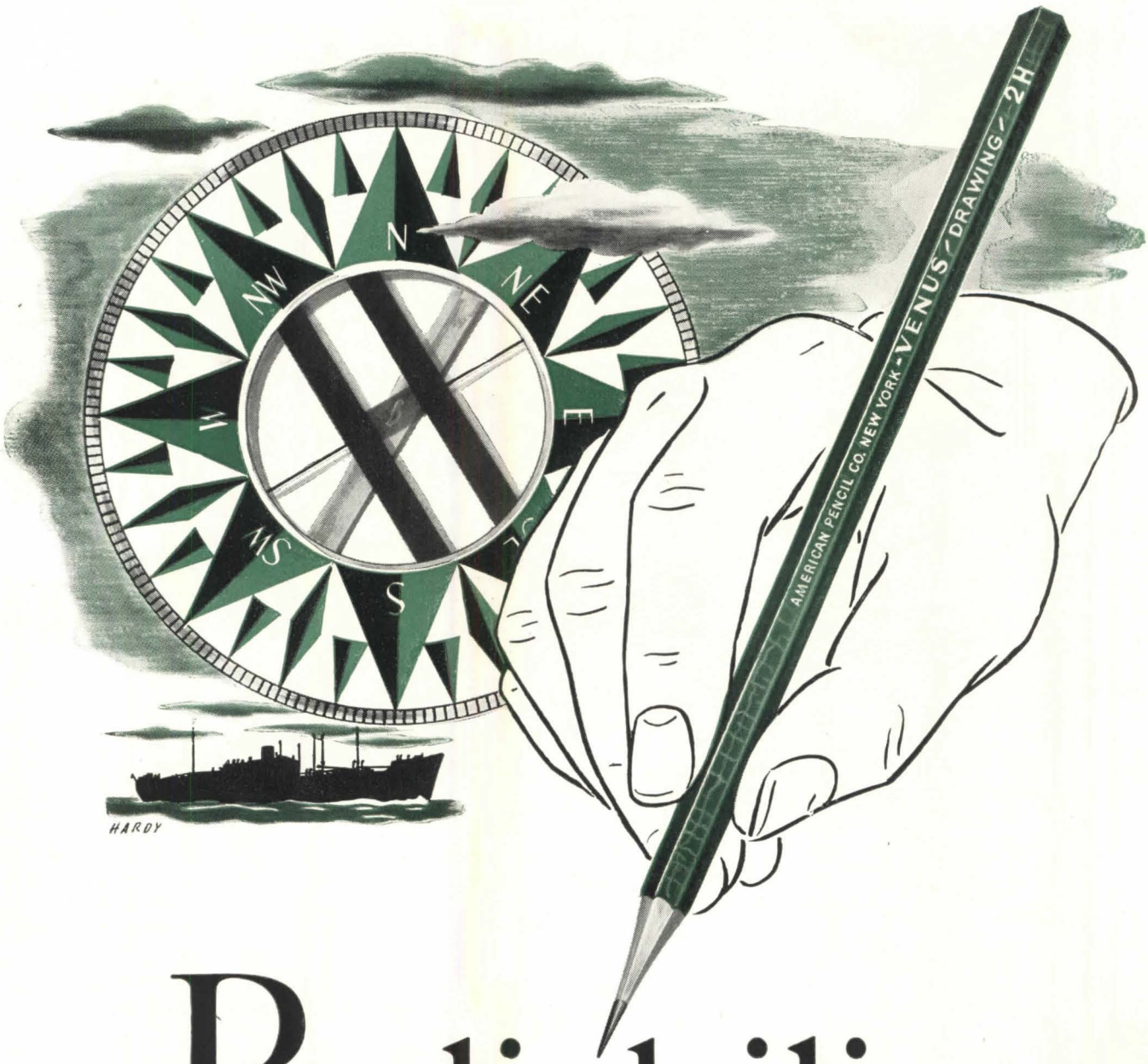

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an important Step..

taken without a second thought

You step into a modern elevator as unconcernedly as you step into your slippers. You take it for granted that you will be carried up or down swiftly and comfortably. Safety . . . or the lack of it . . . never enters your mind. That is as it should be. But you may be interested in knowing how "Otis Elevators" and "safety" have become practically synonymous.

It started 94 years ago with Elisha Otis, *founder of this business.*

At the Crystal Palace Exhibition in New York, he dramatically cut the ropes holding up the elevator platform on which he was standing. His crude "safety device" worked. The world had its first *safe* elevator.

As car speeds increased, as buildings grew taller, safety devices were designed to meet changed conditions. Skyscrapers came of age when Otis was able to "elevator" them. Acceptance of "Otis Safety" has become deep-rooted with the years. And justly so . . . because Otis has promoted safety in every phase of elevator design, construction, installation, operation and maintenance since 1852.

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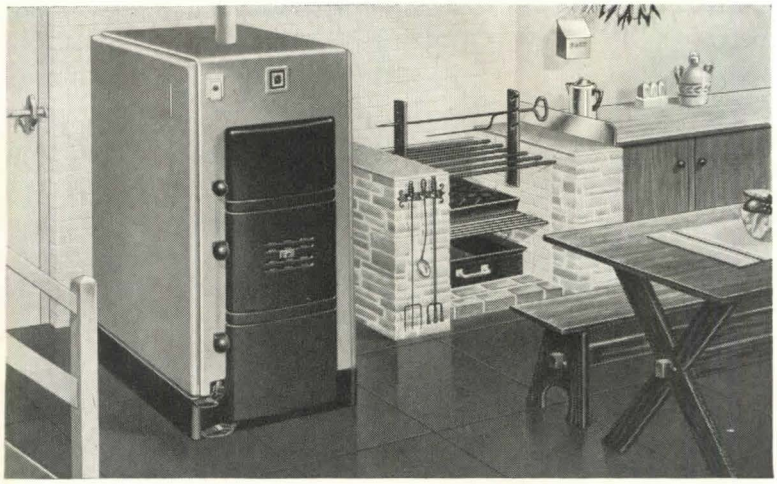

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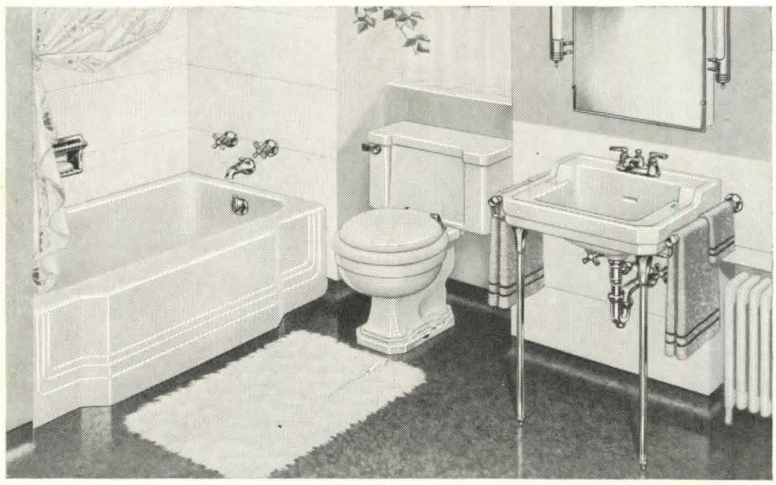

LUXURIOUS bathrooms like this are easy to achieve when you specify American-Standard fixtures. The bath is the MASTER PEMBROKE—a beautiful creation in durable enameled cast iron. The shelf-back lavatory is the COMRADE, and the close-coupled closet is the COMPACT, both of genuine vitreous china. All three pieces come in white and a wide range of harmonizing colors.

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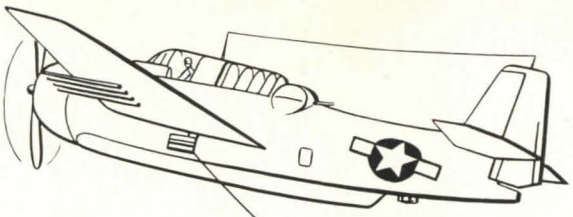
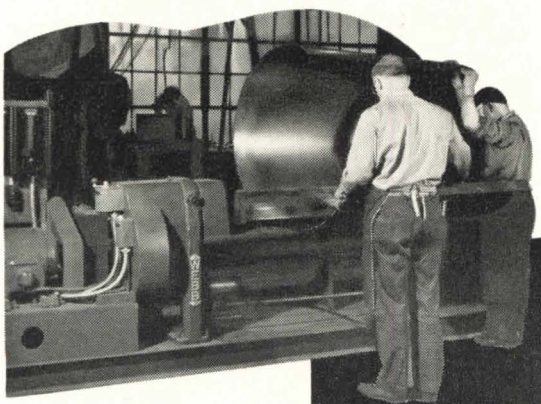


EXPLORE UNDERGROUND BY AIR - -



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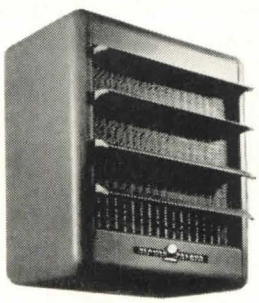
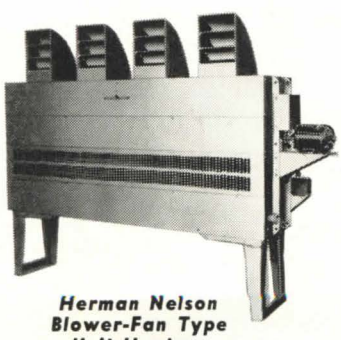


Herman Nelson Propeller-Fan Type Unit Heaters



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Developed during the war, Magnetic Airborne Detection and Short Range Navigation may revolutionize accepted methods of discovering metal or oil deposits. However, aerial exploration of the earth's secrets may mean little to your clients.

Installation of Herman Nelson Heating and Ventilating Equipment is important to your clients if they want to improve working conditions and thus help speed up production, keep employees on the job and reduce accidents to a minimum.

Herman Nelson Unit Heaters, Propeller and Centrifugal Fans and Unit Ventilators . . . the result of 40 years' constant and painstaking research . . . incorporate many exclusive features of design and construction to assure superior results. They have proved their value in thousands of installations all over America.

When specifying heating or ventilating equipment in any commercial, industrial, or public building, remember that you can't select better products than those bearing the Herman Nelson nameplate.

rman nelson moline illinois

THE HERMAN NELSON CORPORATION

for 40 years manufacturers of quality heating and ventilating products

MOLINE, ILLINOIS

Lobby of The Albany Hotel, Denver, Colorado,
Showing railings fabricated from Anaconda Architectural Bronze.

Interiors, too, are enhanced by BRONZE...

IN ADDITION to its use on store fronts and entrances, Anaconda Architectural Bronze accents the modern interior treatment of The Albany Hotel at Denver, Colorado. The architect, Burnham Hoyt of Denver, also specified Anaconda Copper for flashings and other sheet metal work.

All bronze work, including the hand railing illustrated, was fabricated and installed by the Kawneer Company of Niles, Michigan. Anaconda Architectural Bronze, for many years, has been a leading choice of architects. Readily adaptable to design, this lustrous metal provides matchless color, beauty and warmth . . . thus enhancing both the exterior and interior appearance of any fine building.

4658

ANACONDA
from mine to consumer

Anaconda

ARCHITECTURAL BRONZE

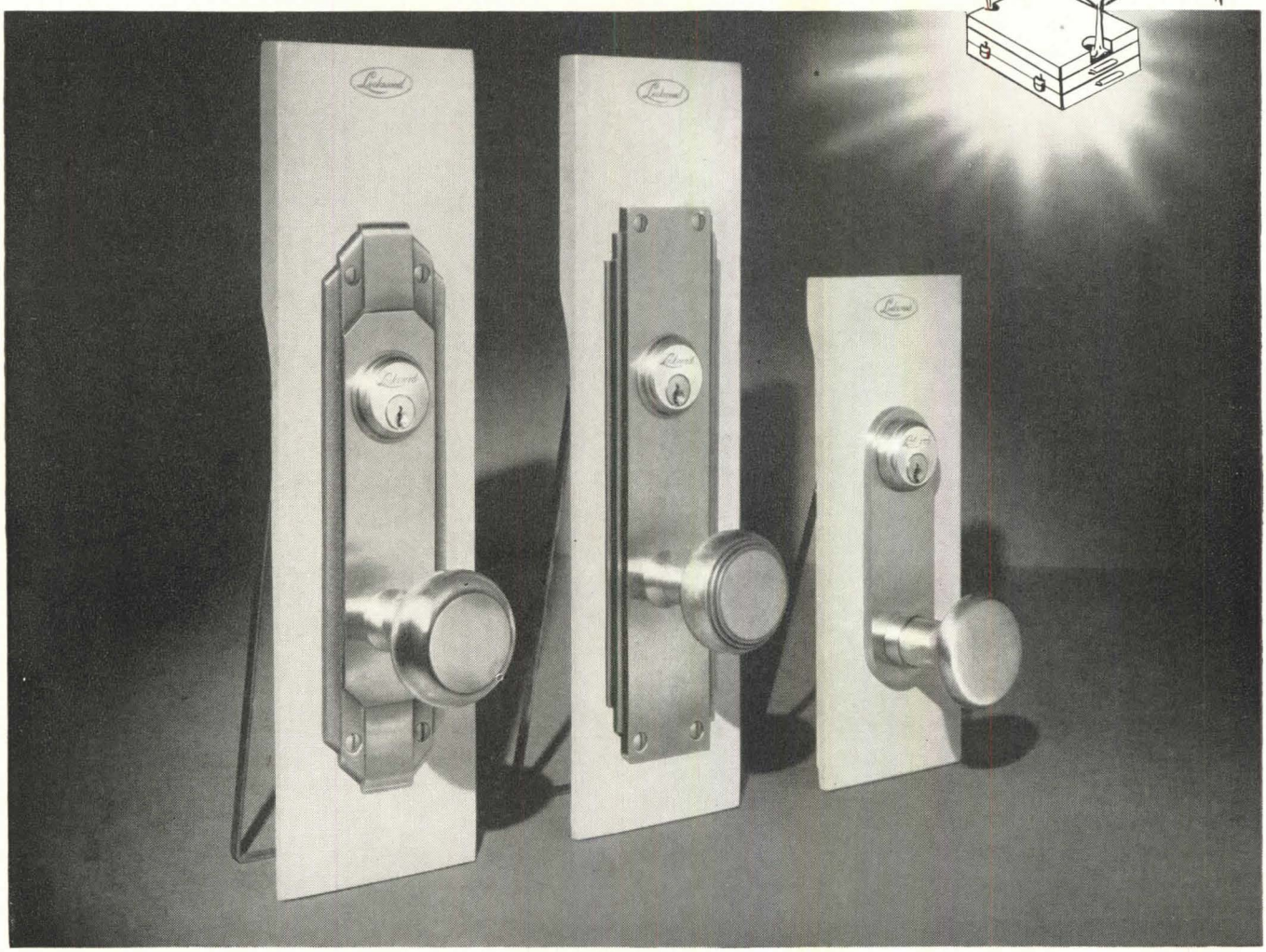
THE AMERICAN BRASS COMPANY

General Offices: Waterbury 88, Connecticut

Subsidiary of Anaconda Copper Mining Company

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

satisfaction that "doubles in brass"



To an Architect, nothing is more indicative of good taste than the selection of a piece of fine hardware in cast brass or bronze. He likes the "heft" of it; the positive grip and turn of its knob—like the hand-shake of a warm friend. He appreciates the smooth, lustrous finish, and the depth and detail of design that make this combination of knob and escutcheon a thing of beauty.

Let's work together to instill this love of fine hardware in the hearts of those who will use it—the men and women who are building today.

Lockwood

lockwood builders' hardware

L-7A

LOCKWOOD HARDWARE MANUFACTURING COMPANY

Division of Independent Lock Company • Fitchburg, Massachusetts

Hospitals Require Draftless Air-Diffusion

Prescribed atmospheric conditions are assured in the nursery at Doctors Hospital, Washington, D. C., with Anemostat draftless air-diffusion.

. . . that calls for ANEMOSTAT!

Architects, engineers and air-conditioning contractors face a more intricate problem in hospital air-conditioning than in many other types of installation. In hospitals they must meet atmospheric requirements which vary with each of the services. For example, in nurseries for premature-born infants, air-conditioning must contribute to the constant stabilization of the babies' body-heat (because their thermal regulating system is not yet fully developed) by equalizing temperature and humidity in the nursery. In operating rooms sterile air must be delivered—not only sterile—*but without drafts*. And so on, through the general wards, isolation wards, private rooms, offices, waiting rooms, etc.—each requiring its own specific atmospheric conditions.

Air-conditioning experts agree that an air-conditioning system can never be better than its air-distribution. That is why *draftless* air-diffusion — through Anemostats—is the answer to air-conditioning problems.

Anemostat air-diffusers distribute conditioned air in pre-determined patterns, assuring uniform air-changes throughout the room. Anemostats eliminate drafts . . . prevent dead air pockets . . . equalize temperature and humidity. And—they operate *silently*. The installation in the Doctors Hospital at Washington, D. C., again proves that Anemostats provide the air-diffusion required in hospital air-conditioning.

If you have an air-distribution problem, an Anemostat engineer can help. Ask your Architect or Engineer to arrange a consultation. There is no obligation.

Write for full details!

PROMPT DELIVERIES All Anemostats are especially designed to solve individual air-diffusion problems. However, the great variety of types that have been developed and standardized, permits us to assure prompt delivery from stock.

AC-1076

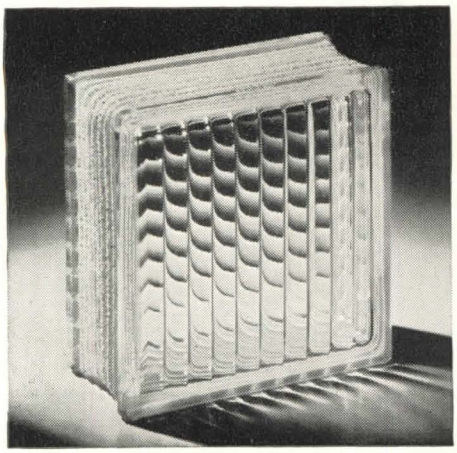
ANEMOSTAT

REG. U. S. PAT. OFF.

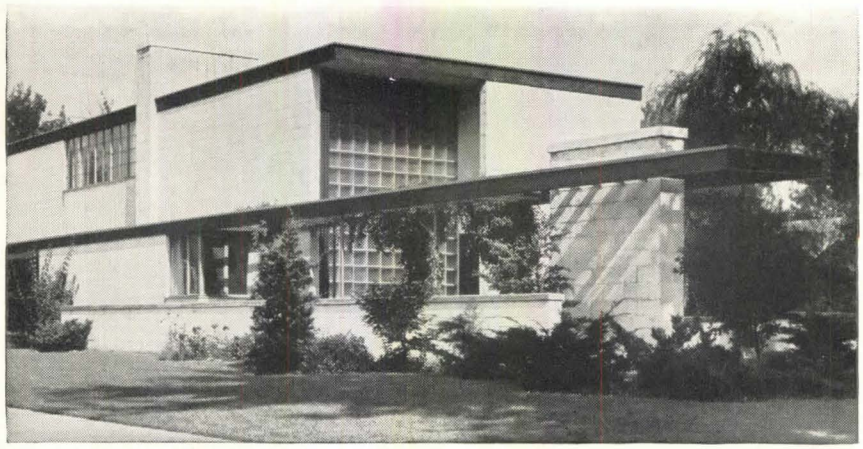
ANEMOSTAT CORPORATION OF AMERICA
10 East 39th Street, New York 16, N. Y.

REPRESENTATIVES IN PRINCIPAL CITIES

"NO AIR-CONDITIONING SYSTEM IS BETTER THAN ITS AIR-DISTRIBUTION"



Insulux Glass Block is a functional building material—not merely a decoration. It is designed to do many things other materials cannot do. Investigate!



The sought-after simplicity of line characteristic of contemporary design is carried out by Insulux Glass Block. This versatile material is equally attractive from inside or out.

Add a light touch for modern living

Add a welcome new touch of natural daylight to your next home.

Panels of Insulux Glass Block bring in abundant light. And it is *private light*—(certain Insulux patterns insure complete privacy)—ideal for bathrooms and bedrooms. Insulating properties of the block are high, even with a large panel, minimum load is placed on heating and air conditioning equipment.

Technical data, specifications and installation details will be found in the "Glass" section of Sweet's Architectural Catalog, or write Dept. D-25, Owens-Illinois Glass Company, Insulux Products Division, Toledo 1, Ohio.

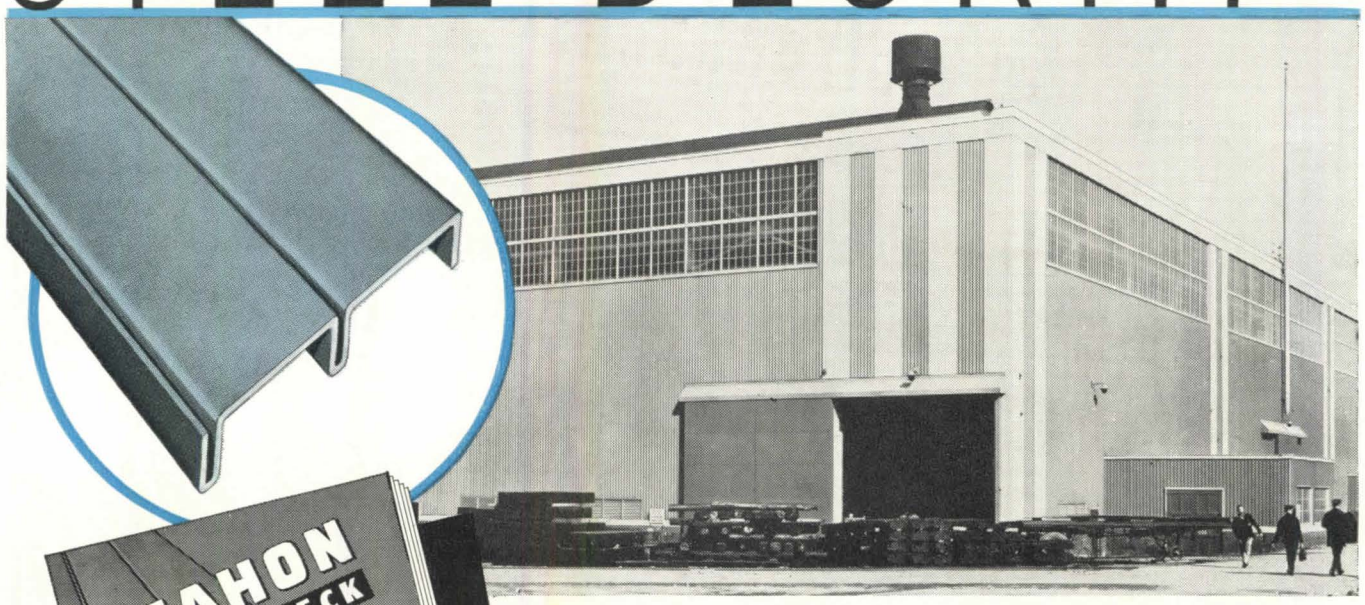
OWENS-ILLINOIS

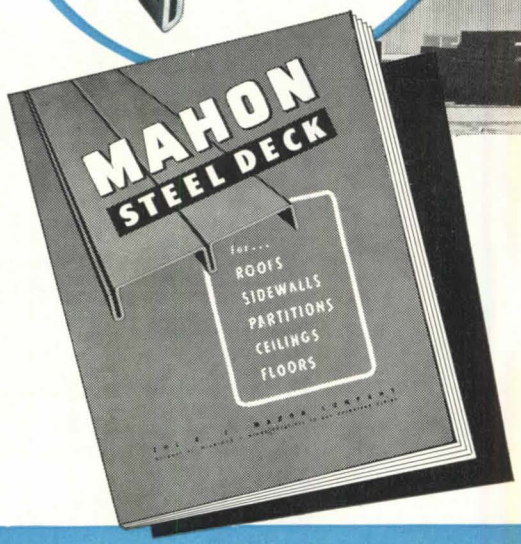
INSULUX

GLASS BLOCK

A floor-to-ceiling panel of Insulux Glass Block fills the unusual two-story living room of this residence in Grosse Pointe, Mich., with softly diffused daylight. Architect Alden B. Dow, Midland, Mich., demonstrates here one of the exceptional design possibilities and the ready adaptability of Insulux in contemporary architecture.

STEEL DECK . . .





for ROOFS and SIDEWALLS

The increasing use of Steel Deck for Sidewall construction as well as Roofs, in the industrial and commercial building field, is attracting the attention of more and more architects and contractors throughout the country every day. Alert designers and builders are now taking advantage of the economy, firesafety and permanence of this versatile building product. Mahon Steel Deck, due to its basic design, with narrow, vertical stiffening ribs, lends itself to a greater range of uses in building construction. Send for Mahon's new catalog, or have a Mahon engineer bring you up-to-date on Steel Deck in Modern Construction.

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

Above are Illustrations of a Typical Industrial Building where Steel Deck was Employed for both Roof and Sidewalls. Note Pilaster Effect Obtainable in Architectural Treatment of Exterior Designs.

MAHON

21 Years of Comfort in the Adirondacks

THE QUEENSBURY HOTEL, GLENS FALLS, N. Y.
Formerly the New Glens Falls Hotel. Built in 1925. Architect, J. G. White Engineering Corporation. Owner, Glens Falls Hotel Corporation. Heating Modernization Program and installation of "control-by-the-weather" Webster Moderator System by Erwin C. Martin, Glens Falls heating contractor.

High in the Adirondacks, the Queensbury Hotel in historic Glens Falls, New York, cut fuel consumption $355 in one month, at the same time providing enhanced comfort for the hotel's guests.

Glens Falls, selected as "Hometown U. S. A." by Look Magazine in 1944, knows the Queensbury Hotel as a center of community life, where service clubs meet weekly and out-of-town celebrities frequently stay.

The Queensbury Hotel was built in 1925 and equipped with a Webster Vacuum System, including Webster Traps and Valves and a Nash Vacuum Pump, designed to provide all the heat necessary to meet severe Adirondack winters.

In 1944, the hotel owners decided upon a heating modernization program. This program included covering exposed risers to increase mild weather comfort and permit effective control; 2-zone Webster Moderator System with automatic "control-by-the-weather"; reduction in heating supply to unoccupied rooms; improvements to promote steam economy in hot water and kitchen services.

In less than six months, the demonstrated results in improved heating at lower cost were so outstanding that the hotel owners completed payment for the Moderator System for cash.

Earl S. Martin, Manager, Queensbury Hotel, Glens Falls, N. Y.

The heating results achieved in the Queensbury Hotel were not due alone to the changes and the Webster Moderator System equipment — a first class installation job by heating contractor Erwin C. Martin of Glens Falls, competent operation by S. R. Bradley, Building Engineer, and cooperation in assuring effective use of the equipment by hotel personnel under the direction of Manager Earl S. Martin, were all equally vital.

We will welcome the opportunity to work with you in solving your heating problems.

WARREN WEBSTER & CO., Camden, N. J.
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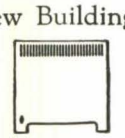
Webster
HEATING SYSTEMS

Webster Heating Equipment for Today's New Buildings

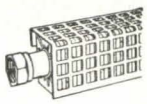
Webster Metering Orifices, expertly sized, a vital feature of the Moderator System, balance distribution and make possible central control with continuous heating.

Webster Outdoor Thermostat Control automatically provides the lowest pressure for comfortable inside temperature.

Webster Float and Thermostatic Drip Traps are used on heating coils of air conditioners and drip points of the piping system.



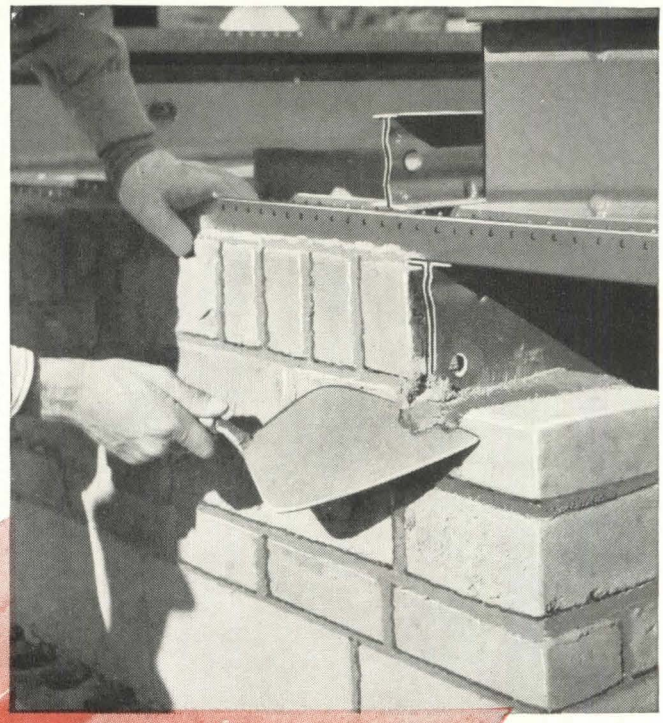
1946 Webster System Radiation—concealed convectors made of copper tubing and aluminum fins, with *integral* Webster Traps and Valves.



New! Webster Type WI Radiation for installation where floor or wall space is limited.

BUILD WITH

STRAN STEEL



Easy to Design with . . . Easy to Build with

ARCHITECTS find Stran-Steel practical and economical to use. It provides durable, rigid, fire-safe framing of lightweight steel, yet permits wide flexibility in working out designs.

BUILDERS like to work with Stran-Steel. Pre-cut to required lengths, the framing members are assembled with self-threading screws. Other building materials are simply nailed to the frame by means of the nailing groove, a patented feature of all Stran-Steel studs and joists, which grips nails as in a vise, holds them permanently and securely. The frame goes up quickly, without the use of special tools or equipment.

PROSPECTIVE BUYERS are quick to appreciate the advantages of Stran-Steel. It gives homes, apartments, stores and industrial buildings a greater investment value, since sag-, rot- and termite-proof framing means lower maintenance costs.

For full details, see Sweet's File, Architectural, Sweet's File for Builders, or the January issue of Building Supply News.

GREAT LAKES STEEL CORPORATION
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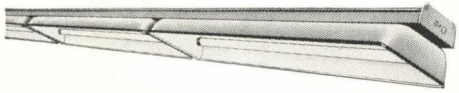
UNIT OF NATIONAL STEEL CORPORATION

YOU NAIL TO STRAN STEEL

Lighting is now a structural aid . . . an integral part of interior design . . . CEILINGS UNLIMITED

MILLER FLUORESCENT TROFFER LIGHTING SYSTEMS not only provide GOOD LIGHT . . . they also serve as a structural aid in the planning of the interior designs of stores, offices, schools, factories and public buildings. Miller TROFFERS can be used as "building blocks" to make an expanse of ceiling (walls, too) an integral part of an invitingly modernized interior to form *any ceiling pattern desired* . . . CEILINGS UNLIMITED. Additional advantages: Less than half usual number of supports needed from structural ceiling. Installation simplified. Wiring, conduit and conduit fitting costs cut 50 to 80%. Easy, accurate leveling of ceiling assured.

MILLER LIGHTING SERVICE IS ALL-INCLUSIVE. Its 50 and 100 FOOT CANDLERS (Continuous Wireway Fluorescent Lighting Systems) have been established as standard by industry. And its Incandescent and Mercury Vapor reflector equipment have broad industrial application.



MILLER field engineers and distributors are conveniently located.

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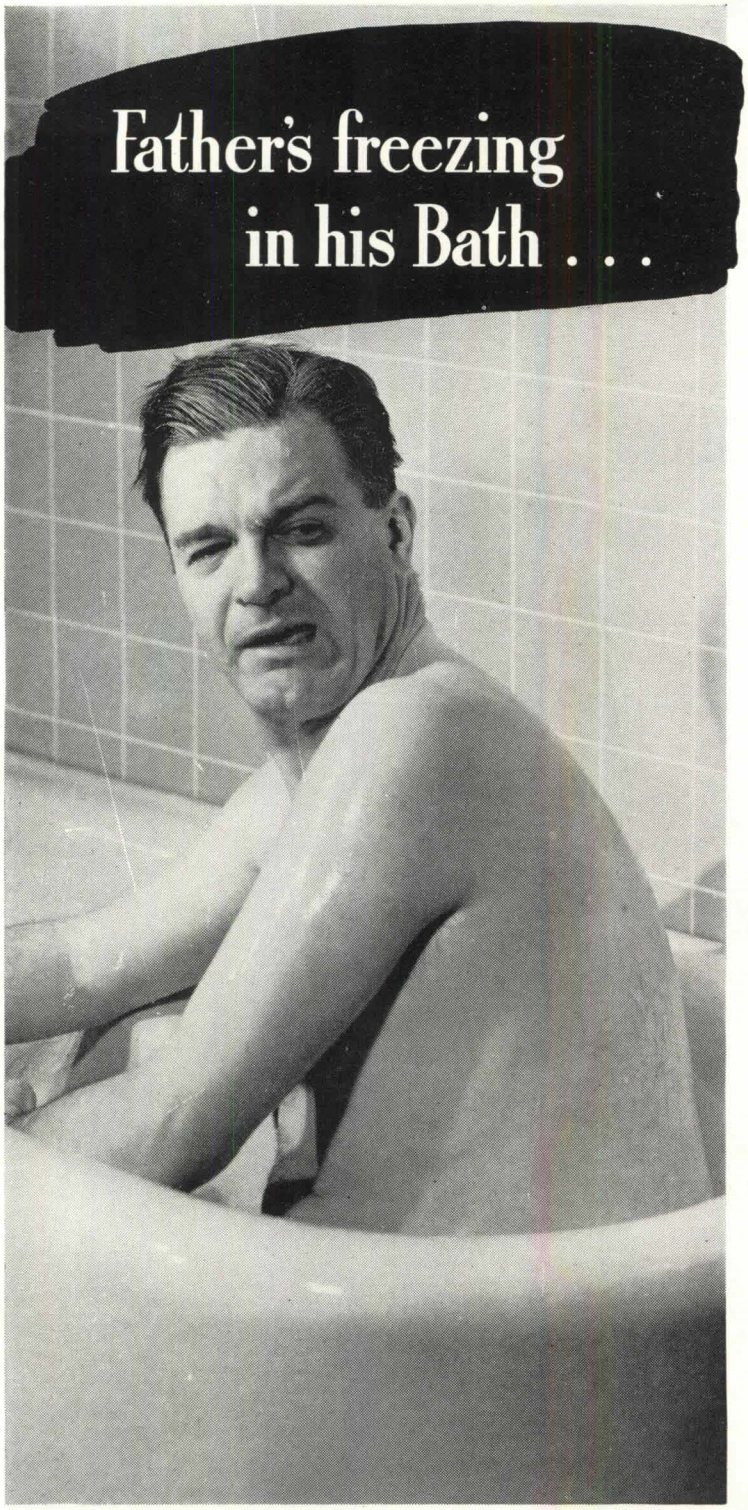


INSTALL STEEL PIPING
ADEQUATE FOR TOMORROW'S NEEDS

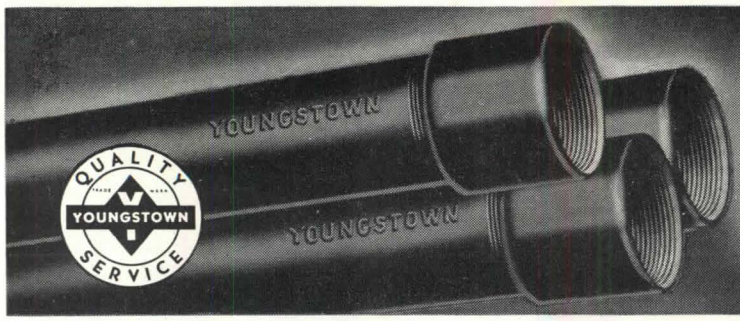
Because Mother's washing dishes!

EVERYTHING was lovely until "the boss" downstairs started scalding the dishes. That's when the hot water stopped.

Perhaps Father doesn't understand why his family can't have hot water upstairs and down at the same time. Maybe he doesn't know that the pipes were too small in the first place, and that the city water pressure cannot deliver a good healthy stream of water upstairs when somebody's using the water downstairs.

Don't blame Father for his ignorance of proper water pipe diameters. He has to be shown why he should pay a little more for adequate-size pipe when he builds that new house or modernizes the old one. He will see the advantage of providing for all those extra fixtures and extra outlets.

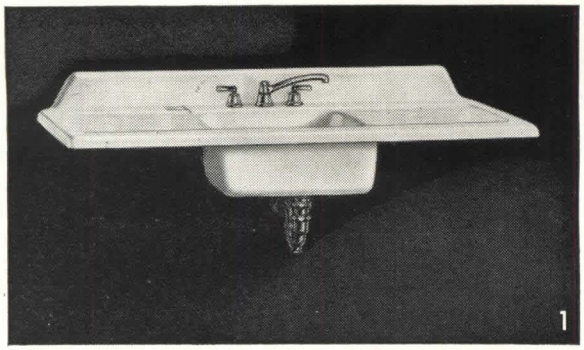
Always remember this: No more water can be delivered than pipes can carry under existing city pressures. To get more water, use larger diameter pipes and larger meters, too. The best protection to insure an adequate flow is to use adequate-size steel pipe.



YOUNGSTOWN

THE YOUNGSTOWN SHEET AND TUBE COMPANY
YOUNGSTOWN 1, OHIO
Manufacturers of
CARBON, ALLOY AND YOLOY STEELS

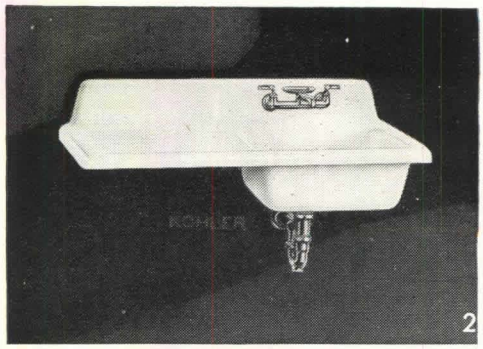
PIPE AND TUBULAR PRODUCTS · CONDUIT · BARS · RODS · COLD DRAWN CARBON STEEL ROUNDS
SHEETS · PLATES · ELECTROLYTIC TIN PLATE · COKE TIN PLATE · TIE PLATES AND SPIKES



1—CAMBERLEY K-5551-A. Ledge sink, single compartment, double drainboard. Size, 60x 25″.

2—HOLIDAY K-6080-A. Sink with 6″ back. Size, 42x20″.

3—DELAFIELD K-6491-A. Flat rim, double compartment ledge sink. Sizes, 32x21″ and 42 x21″.

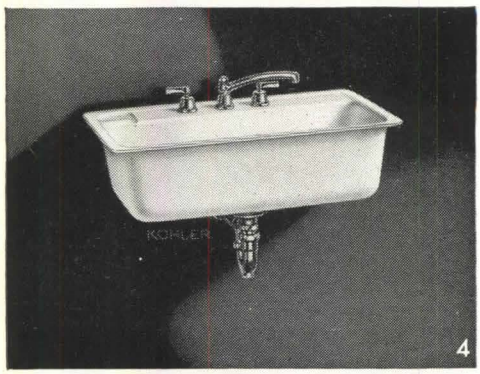


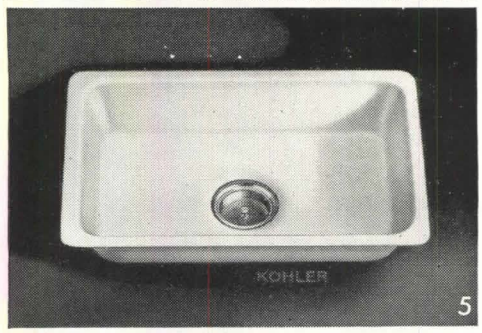
KOHLER Enameled Iron Sinks to meet present urgent needs

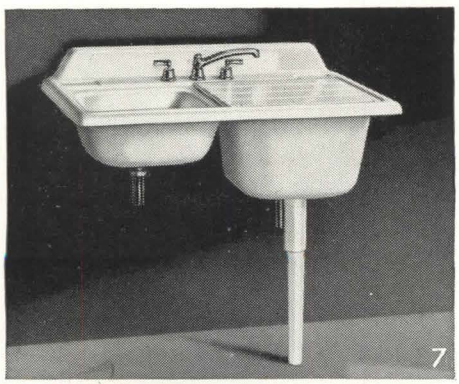
THE KOHLER sinks illustrated have been selected to give you a practical answer to present urgent needs. Kohler has concentrated production on this group of sinks since the war, in order to help you solve your problems.

You'll find this a well balanced selection, especially suited to the requirements of small houses, but with enough variety in sizes and designs to meet a broad range of demand. Surfaces are easy to clean and acid-resisting clear through. Fittings are of durable brass, chromium plated.

Kohler is steadily increasing production—taking steps to overcome handicaps created by manpower and material shortages. All Kohler plumbing fixtures and fittings now being manufactured maintain the same high standards that have built the 73-year-old tradition of Kohler quality. Write for further information. Kohler Co., 140 High Street, Kohler, Wisconsin. Established 1873.







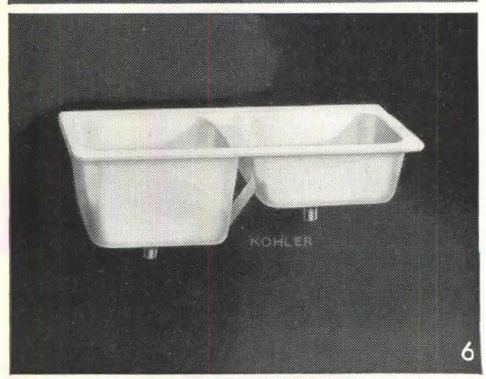
VISIT OUR EXHIBIT

4—MAYFIELD K-6511-A. Flat rim, ledge sink. Size, 30x21″.

5—ADDISON K-6550-A. Flat rim sink. Sizes, 24x20″, 30x20″ and 30x18″.

6—ALLOWAY K-6635-A. Flat rim sink and laundry tray. Size, 42x20″.

7—SEA CLIFF K-6603-A. Ledge sink and laundry tray. Size, 42x25″.



KOHLER OF KOHLER

PLUMBING FIXTURES • HEATING EQUIPMENT • ELECTRIC PLANTS

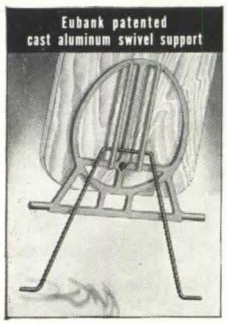
Now Available..Specify

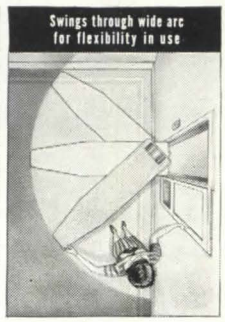
Eubank
AMERICA'S MASTER CABINET BUILDERS
QUALITY PRODUCT
INGLEWOOD, CALIFORNIA

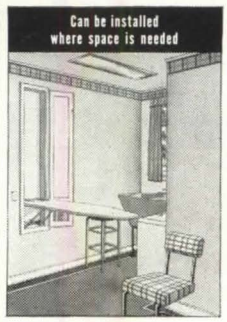
TRADE MARK REG. U S PAT OFF. PEND.

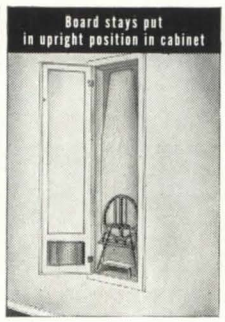
SWIVEL-TYPE CABINET IRONING BOARD

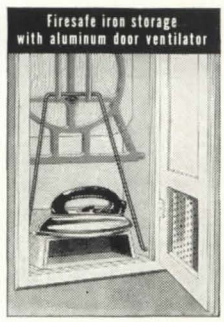
Now available for immediate delivery! Make use of it in your planning!

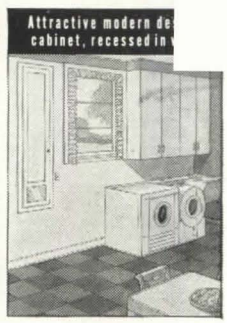

Eubank patented cast aluminum swivel support


Swings through wide arc for flexibility in use


Can be installed where space is needed


Board stays put in upright position in cabinet

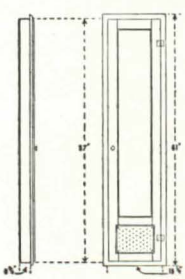

Firesafe iron storage with aluminum door ventilator


Attractive modern de cabinet, recessed in

These Features Mean Satisfied Clients

Women everywhere approve the many features of the EUBANK swivel-type cabinet ironing board. It can be installed in new or old homes — before or after plastering. It's planned to make a woman's work easier, more pleasant . . . and that means satisfaction for your clients. The EUBANK ironing board is available for delivery NOW. If your regular lumber dealer does not have this improved cabinet ironing board, write the distributor nearest you.

- Sturdy Construction — Double Strength and Durability!
- Patented Cast Aluminum Swivel Support! Holds Board Firm — Eliminates Sagging!
- Swings Through Wide Arc for Flexibility in Use!
- Can Be Installed Where Space is Limited! Rough Opening Required 14" x 57¼"x3¾"
- Right or Left Door Installation!
- Board Stays Put in Upright Position in Cabinet!
- Firesafe Iron Storage with Aluminum Door Ventilator!
- Attractive, Modern Design Cabinet, Recessed in Wall!
- Easy to Install — Before or After Plastering!
- No Projecting Parts to Tear Fabric!



INSTALLATION SPECIFICATIONS

ROUGH OPENING
14" x 57¼" x 3¾"

SET CABINET
23" FROM FLOOR

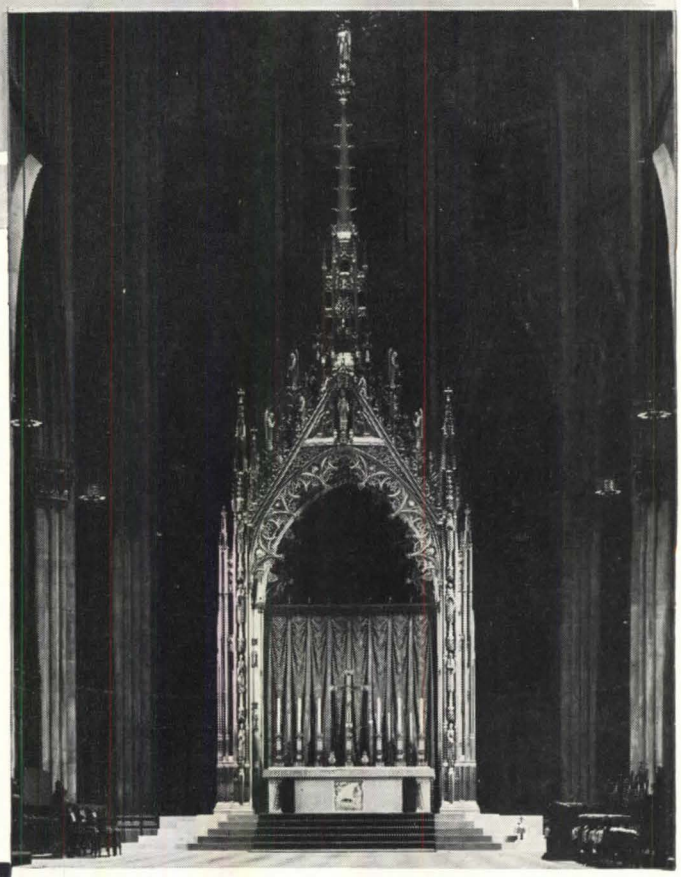
BUILT BY
L. H. EUBANK & SON
INGLEWOOD, CALIF.

"America's Master Cabinet Builders"

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

Lending Beauty and Dignity

TO HOUSES OF WORSHIP



...ARCHITECTURAL METALS

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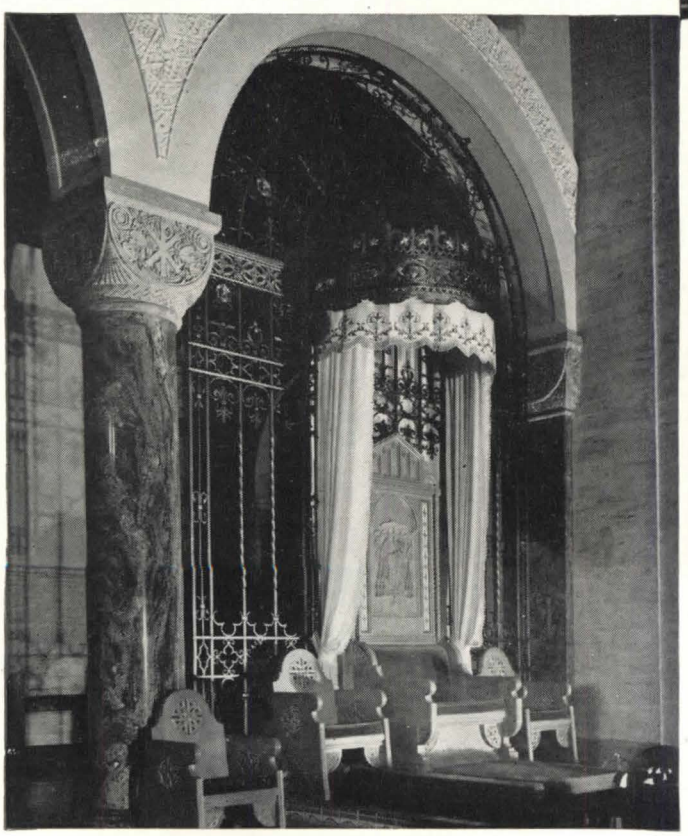

With architectural metals, both ferrous and non-ferrous, you can achieve almost any desired result. You have a wide variety in color, strength, quality and design characteristics to choose from.

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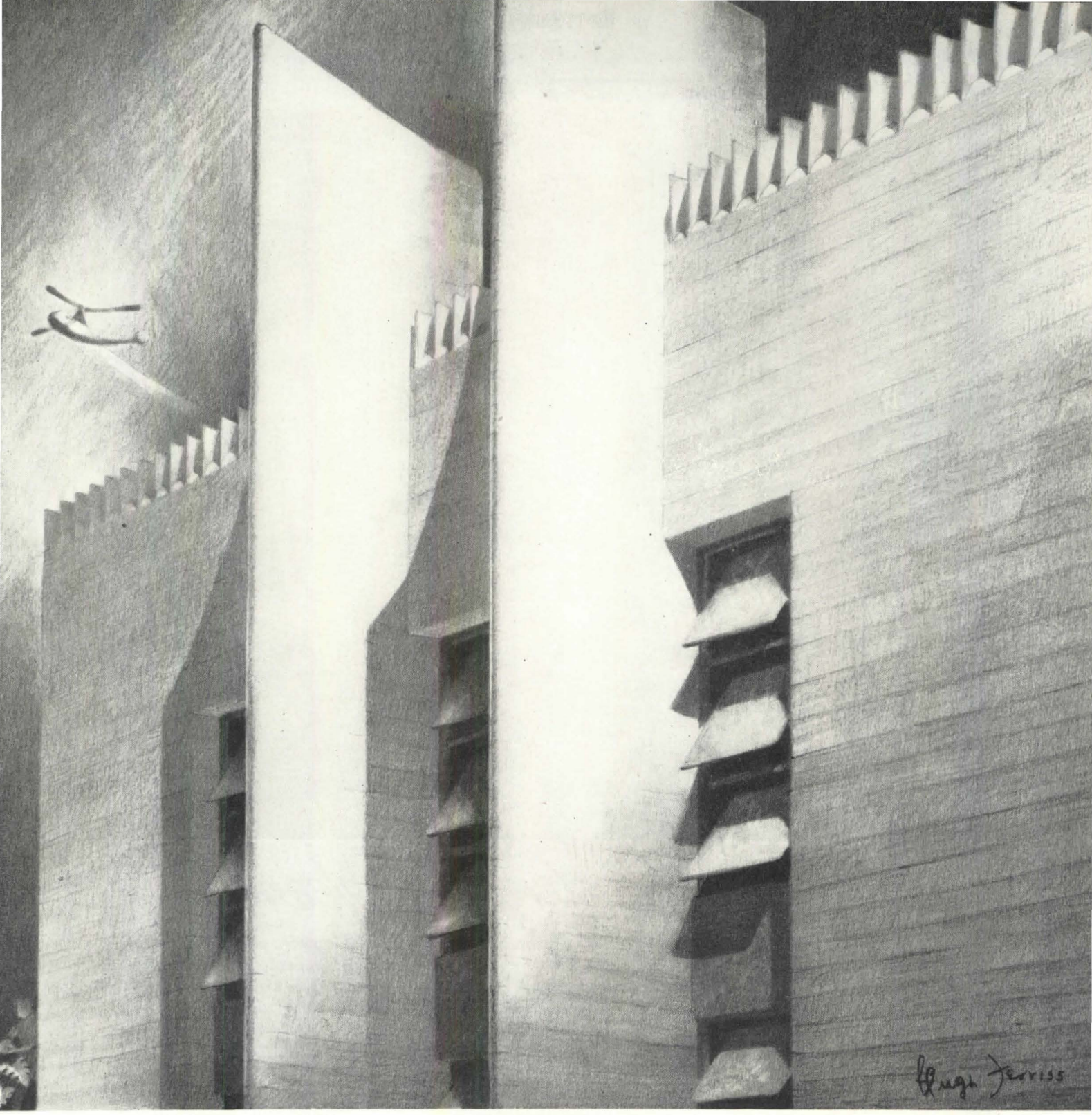

ARCHITECTURAL CONCRETE

In Architectural Concrete, features such as the bladed pylons and crown moulding illustrated here by Hugh Ferriss, may be cast in one operation as integral parts of the whole structure. This is typical of the economies effected by using concrete for apartment houses, hotels, hospitals, schools or industrial buildings.

PORTLAND CEMENT ASSOCIATION

DEPT. A1-25, 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

"Thine alabaster cities gleam"

In *all* the world, *only* in America can be found so great and shining cities.

They are, in one, both the symbol and the accomplishment of our aspirations. They are, in a way, America. Ask a couple of million returned GIs!

If beyond our alabaster cities we sense the roar of mighty machinery, the belching stacks of industry, the skill and sweat of human beings . . . they obscure not at all the handiwork. For in America we know that not alone with ideals, but with the "sterner stuff" of toil and resources shall a nation be moulded at last.

So, some practical dreamer it was, who watched the first *steel pipe* clank from the grimy benches about sixty years ago. Who, in shaping the hot metal, gave form and substance to fair cities yet to arise . . . cities that became realities because these *arteries* of steel could convey water, oil and other essential fluids, gas, steam and even some forms of solids, over long distances and to great heights.

Actually, the achievement of the modern city directly parallels the development and plentiful production of reliable, economically adaptable *steel pipe.* Yes, *steel pipe makes it possible!*

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

Committee on Steel Pipe Research

OF

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MATERIALS FOR DESIGN 1947

Production of building materials and equipment is reaching an all-time high, but this does not answer the designer's question: Will the items specified now be available during the year?

Retiring calmly as CPA head, John Small issued a final statement which emphasized the astounding rates of production now being attained. On the other hand, Wilson Wyatt, retiring unhappily as NHA administrator, made a final report to the President (which was not generally released) pointing to the great backlog of needs that this production will have to try to meet. Thousands of manufacturers have been surveyed by PROGRESSIVE ARCHITECTURE in the last few months; some few of them are prepared at this very moment to fill all orders, a larger group see no chance of catching up with the market during 1947, but the majority of the producers hope to be able to balance demand with supply late in the year.

The manufacturers' own estimates are largely based on orders in hand, which are in many cases far above the prewar level. This factor may be unreliable for two reasons: no one knows how many orders have been placed with more than one producer to insure delivery, and no one knows accurately how many orders have not been placed at all because of restrictions (a million and a half applications were rejected by CPA last year). Through the replies to our questionnaire run several notes of despair which build into a minor refrain of pessimism. Some basic raw materials are short in supply; CPA recommends keeping controls on tin and rubber; and lead, copper, and linseed oil are sufficiently scarce to deter manufacture of many finished products. Labor disagreements will undoubtedly continue through the year to interrupt production. Finally, many manufacturers understandably shy at plant expansion sufficient to meet a short peak demand, when they know that the long pull will not require this same amount of their product.

However, in the manufacturers' estimates of 1947 supply, the major theme is one of optimistic expectation that removal of price ceilings and the impending removal of other restrictive regulations will stimulate production, invite capital expansion, complete reconversion, and result in a flow of materials sufficient to meet all orders sometime during the year. In some traditional fields new producers are entering the picture to add to the number of items from which the designer can choose; there are several new window manufacturers, for instance. There appears a recognition of the fact that sharp price rises will meet consumer resistance; many manufacturers agree that "pricing oneself out of the market" is an unsatisfactory way to make supply meet demand.

New products have passed the stage of promise and are, in many cases, now on the market. There is more research than ever before on the part of the producers as well as by universities and foundations. The manufacturers generally appear to have a growing interest in finding ways to improve the elements from which architecture is built—and even a greater concern with their proper use. Indicative of this is the New Year's resolution of the Producers' Council to engage more in technical study and less in lobbying. Another indication is the rapid acceptance by producers of dimensional coordination—an acceptance that threatens to outstrip the architects' understanding of its uses. It must be noted, however, that the presently constituted "construction industry" has apparently won the immediate battle against changes in basic construction methods. Wilson Wyatt's political demise on the issue of stimulus to prefabricators is principally a victory for the conventional builders.

The certain conclusion can be drawn that a full balance of products and need for products will not exist during 1947. The designer must face the fact that a selection of specification items must be made on the basis of availability as well as suitability. He must also consider that availability at the time of construction is the important matter; architects and manufacturers alike are prone to forget that many things now specified will not be required on the job until several years have passed. For example, the progress schedules for many Veterans Hospitals now being designed do not call for finishes, or equipment in some cases, until well into 1949 or 1950.

Wise designers will find imaginative uses for *available* materials, rather than engage in wishful thinking. In some cases they will design flexibly so that product substitutions can be made as availability fluctuates, without complete revision of design. In other instances they will so integrate materials and structure that one element can serve several purposes. The eleven articles in this issue point more specifically to these necessities and these possibilities in various parts of a structure.

Along with an expert analysis of design possibilities in the coming year each section of the discussion that follows includes a listing of available products. All information that the manufacturer is willing to release concerning production schedules, new products planned, standard products available, and research under way is listed. Here, then, is a guide to available products and suggestions for their use.

1

THE LOAD-BEARING STRUCTURE

By FRED N. SEVERUD,
Consulting Engineer

AVAILABILITY

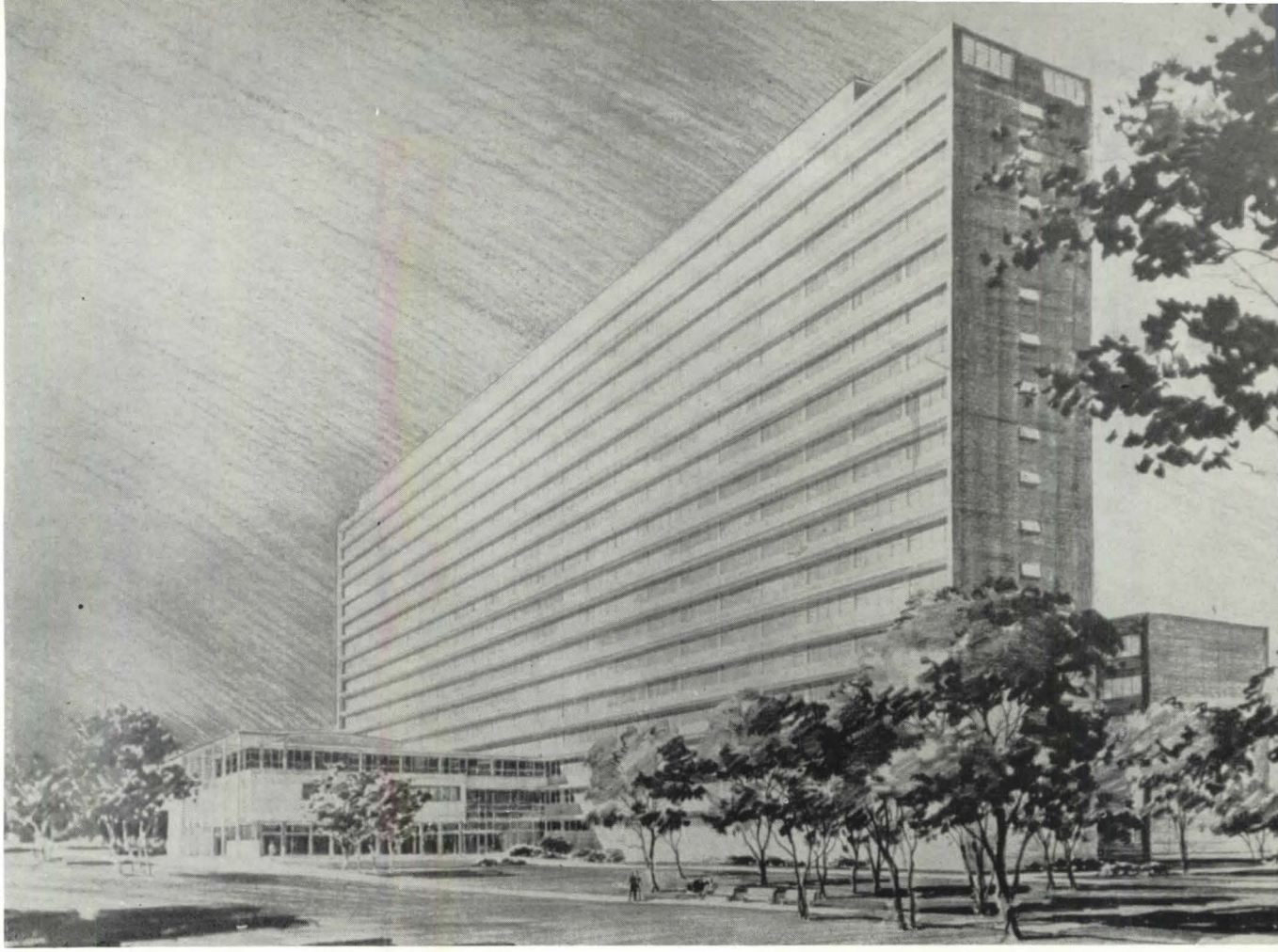
Standard Products. As will be described later, efforts to improve on standard products and methods are furious but the tangible results have been few. There is plenty of fight left in ordinary, simple, unglamorous reinforced concrete and structural steel, and all the innumerable varieties of floor systems. There have, however, been very important developments in this field. Streamlining of materials has stepped up the efficiency of standard construction methods. Form costs have risen to such an extent that most vigorous attention is being paid to maximum efficiency in formwork. Metal forms are being used to a great extent, partly as a result of this search for efficiency and partly because lumber is short.

It is an established fact that there *is* a shortage of lumber, and it is aggravated by the Veterans Emergency Housing Program, which calls for 1,200,000 dwelling units to be started in 1946 (not likely to be achieved) and 1,500,000 units in 1947. According to a Department of Commerce report, the 1947 program of 1,500,000 units will require about 11 billion board feet of lumber*. Estimated total production for 1946 is 32 billion board feet, which may be increased in 1947 by 2 billion board feet when the program of building some 2,700 miles of timber access roads is completed. (Figures include millwork and hardwood flooring.) The same Department of Commerce report estimates total consumption of construction lumber at about 25.5 billion board feet in 1947. That figure is meant to represent materials in place and does not account for necessary inventory build-up, nor for waste, etc. Furthermore, no private residential construction outside the Veterans Housing Program has been considered. All this indicates considerable short supply of building lumber in 1947, which is no doubt likely to be aggravated periodically through dislocation of stocks, etc.

All other load-bearing construction materials appear to be at a stage of production where the shortages keenly felt during the earlier part of 1946 are by now overcome, except that several aspects of the steel picture remain clouded, including the effect of any soft coal shortages due to strikes. White ingot production of fabricated steel cannot be boosted to keep up with orders, so the backlog of orders has a tendency to increase. Pig iron production is quite unsatisfactory, shortages having closed some foundries (July 1946 foundry production was at 52 percent of capacity). Bookings for structural steel are kept at a restrained level due to government action curtailing private construction; for example, July 1946 bookings and shipments nearly balanced, with the backlog still totaling 675,000 tons, or more than five times July production. Increased construction activity in 1947 may, therefore, quickly develop extreme shortages in this field. Open-web steel joists are so far in a particularly bad situation, due to lack of production in small size angles.

From experiments such as this application of a vacuum to concrete construction have been developed methods not only of producing stronger concrete, but also of lifting precast slabs while still green and setting them into place in the structure. The speed of construction possible with the vacuum-lift process, developed by the Vacuum Concrete Corp. of Philadelphia, was an asset during the war and will undoubtedly find peacetime application.

* Editor's Note: The National Retail Lumber Dealers Association reports that, as of 30 Sept. 1946, there were in the nation's retail yards 2100 million board feet of lumber, which was 52.6 percent less than the comparable supply on 31 Dec. 1942—and it was in the winter of '42-'43 that wood became a wartime "critical" material. The September 1946 situation was an improvement over that in May, when we had 61.4 percent less than in December 1942, but there is still a long, long way to go.



Production of brick and hollow tile appears to be definitely in good shape, monthly output having risen above 1941 production by July 1946. It may be worth considering that transportation problems will make clay products more easily available within a given radius of production centers than at locations far removed from plants. Unfilled orders represented about three months' production in July 1946.

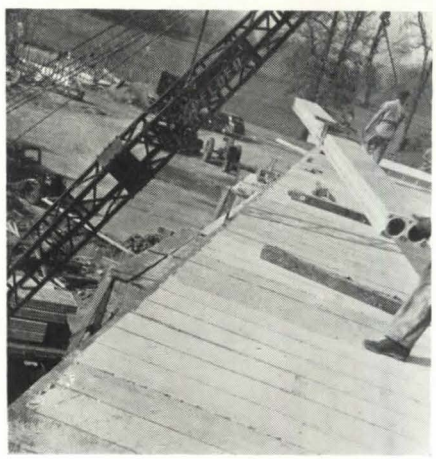
Production of concrete block units has steadily increased (10 percent increase in July 1946 over June 1946) and may be counted on to contribute heavily to construction requirements for 1947. Portland cement production had increased substantially by mid-1946, the total for the period from January to August 1946 (100 million barrels) being only 15 percent less than the all-time high during the same period of 1942.

Prefabricated housing units have not reached the stage where products of this type of construction can be included among standard materials available during 1947. It is difficult to determine which of these developments will have a permanent character. Many of those at present projected on a large scale may not prove to be competitive in a different market situation. At present almost anything that provides shelter will sell, with government incentives to production also active in clouding this whole situation. What price ranges will be at the time of capacity is anybody's guess. Also, public reaction to unconventional methods of providing shelter is a highly unknown factor. Anybody entering this field, therefore, must temper his enthusiasm with plenty of skepticism. Rough-and-tumble field construction is very often a far cry from the refined manufacturing and erection procedure worked out on paper.

The National Housing Agency's production estimate of 100,000 prefabricated units for 1946 may serve as an indication as to the possible influence of these products on the 1947 market.

New Products. There has been turbulent activity in this field; an almost desperate attempt to develop new materials and construction methods.

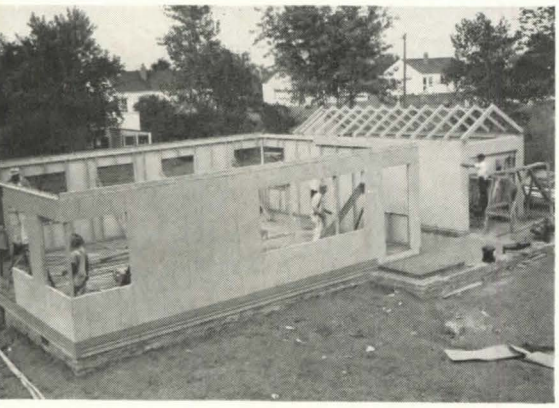
Above: Aside from housing, probably the most publicized building need early in 1947 is the construction of veterans' hospitals. Late in 1946 the Veterans' Administration announced a program of 76 hospitals and 23 major additions. Above is a preliminary sketch for the Ft. Hamilton Hospital, Skidmore, Owings and Merrill, Architects. Such a design emphasizes the need for thorough integration of building products and equipment. *Below:* One of the materials new to most architects is Flexicore, a hollow precast floor or roof slab which has been in small-scale use in the midwest for some years. It has not yet been adapted to wall construction, for which it would appear to be equally suitable.

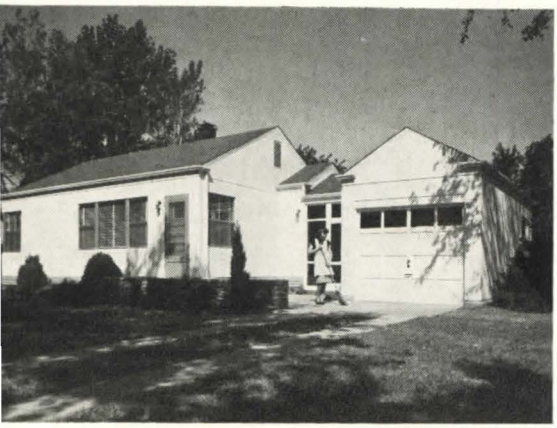


Many new babies have arrived; the infant mortality has been terrific. This has been caused primarily by lack of experience in the rough knocks of manufacturing and production life. Schemes have been devised and are being devised for precasting large sections, to be used in both floors and walls. Time and again we have been asked to witness actual installations which, at the last minute, have been deferred because of some unforeseen shortcoming. The most prevalent pitfalls have been neglect to recognize fully the shrinkage and warping action of materials poured into a mold that does not deform. Also, very often schemes that look beautiful on paper have been found impractical because the necessary tolerances have not been provided. It is impossible under prevalent construction methods to work with machine perfection. Many planners have not had much field experience, and awake to this fact rather rudely when they try to put their sections together with a perfect fit.

Another element that has often been overlooked is that large sections require great study in handling. They are apt to crack, or sometimes the handling equipment selected proves to be inadequate. Often impact forces and the forces required to remove concrete sections from forms are not fully evaluated.

Many attempts have been made to develop an insulating wall panel with metal. Some have been tried out in actual construction but there has been quite a bit of trouble in getting costs within reason. Excessive condensation has also been very annoying. This is probably caused by the fact that the metal does not allow the wall to breathe and thereby builds up great vapor pressure in the rooms. I believe that this problem must be solved before any of these metal wall sections can succeed. Out of all this activity has come comparatively little, therefore, that will be available during 1947. I mention some that will:





"Aluminum" house developed by the Butler Manufacturing Company, called "Boulevard Home," employs 2,300 lbs. of steel, principally in the roof framing, with wall panels of aluminum joined by a simple wedge. Interior may be any finish desired; rough floors are wood.

Flexicore is a relatively new development, although it has been in small-scale use around Dayton, Ohio, for some years. The principal use of Flexicore will probably be for roof construction and for floors without too many openings. It does not lend itself too well to irregular framing. Speed of construction is a great advantage and also the fact that a finished ceiling is obtained without plaster. Approval has not yet been obtained for this material as a first-class fireproof construction. So, for the time being at least, it will be limited to buildings without such requirement. Precast Building Sections, Inc., has a factory now under construction, to start production in the early part of 1947 of a precast wall and floor section. This section has been in use on a very limited scale for about 25 years. It has given remarkably good results both from the standpoint of water penetration and condensation. Originally developed by Grosvenor Atterbury, the methods have now been adapted to assembly line production and improvements have been made so that this material should be of excellent quality and probably also very economical. It furnishes both inside and outside finished surfaces of great areas and will, therefore, materially reduce field labor and formwork costs. The factory is located in North Hempstead, L. I., and has an annual production of about 1,000,000 square feet. It is the intention to cover the country with similar factories later on. Although this section has been designed principally for walls, it is also adaptable to an economical floor and roof system in connection with poured concrete ribs.

The Vacuum Process of curing concrete has taken great strides during the war. It consists of sucking surplus water out of concrete through vacuum pads. One rather curious development of this system has been the use of vacuum lifts for heavy precast concrete members. By such vacuum lifts, the precast member can be removed from the forms after a short period because the lifting stresses are greatly minimized as the vacuum contact can be spread over large areas. This development has been used in connection with concrete forms to produce precast concrete sections of great weight. Some large warehouses have been constructed for the Navy using this method and there are various developments in a stage between research and construction that will be noted under the heading of "Research." This vacuum process is controled by Vacuum Concrete, Inc., of Philadelphia.

"PRODUCTION AND DEMAND" RELATIONSHIP

From the many comments and discussions I have heard concerning this relation, it seems that the main factor is whether or not people are willing to pay the price. Costs of construction have skyrocketed. So many obstacles are put in the contractors' way that many who are in desperate need of construction are thoroughly disgusted. It may well be that something like a consumers' strike will develop unless some of these factors are ironed out. In building a structure as little complicated as even a private house, innumerable items enter the process to make it dependent upon materials from many sources. So, although the larger part of construction materials obtained from the bigger manufacturers may be available, many minor shortages are still likely to exist. On the basis of those considerations, I believe that aside from the lumber shortage, the flow of major construction materials will be equal to the demand although minor shortages will be with us for some time to come. Yet, should a way be found to lower and stabilize the cost of construction, there is very little doubt that, with all restrictions in the process of being removed, we should have a great volume of construction during 1947.

RESEARCH

This question has been partly answered under "New Products." It is to be expected that very soon numerous lightweight concretes will be developed. It is also possible that concrete without appreciable volume shrinkage may become obtainable. However, there are so many pitfalls in this development that many high hopes have been turned into bitter disappointments. Another development that is being intensively studied is the question of prestressing concrete. In fact, some prestressing methods have already been put to practical use, as in the manufacture of Flexicore, previously mentioned. Some effort is being made to extend prestressing concrete into ordinary building construction, but so far these methods have proved to be too expensive in labor to outweigh savings in material. However, for bridge and tank construction, prestressing has proved its worth and it may well be that in the future we shall have to reckon with it also in buildings.

Vacuum Lift Concrete: Some methods of this kind have at the present writing almost reached the stage of construction. However, here again there have been certain disappointments. I believe that this has been caused principally by not taking fully into account the shrinkage at the top surface as related to the shrinkage of the forms. Great stresses are produced which theoretically should cause a certain amount of cracks and warping. However, these obstacles can surely be overcome and it may be that even during 1947 methods of this kind would be in actual specification stage.

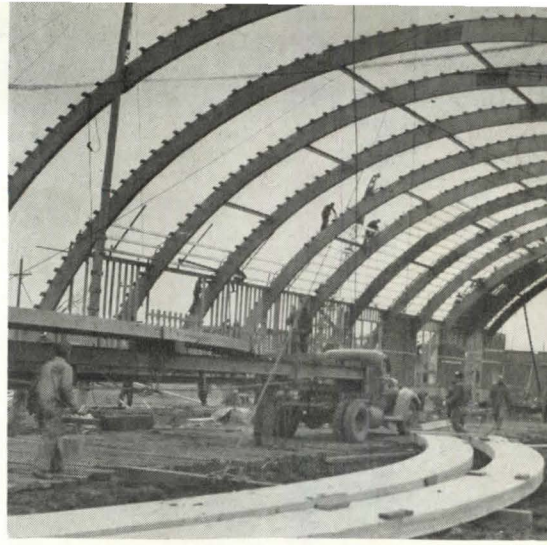
Impregnation of wood to increase its strength and durability has been very successful from a structural standpoint, but at present it is still too expensive to be an economic possibility. With the shortage of lumber at the present time it is hardly to be expected that this development can be of great use in the immediate future.

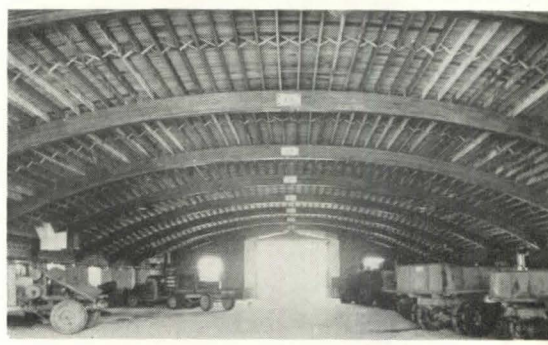
WHAT IS AVAILABLE?

WHERE? FOR WHAT KIND OF BUILDINGS?

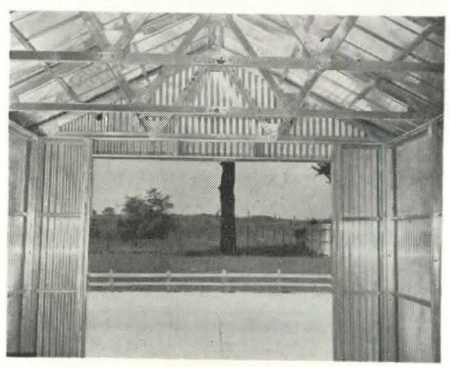
Provided minor shortages can be overcome, it should be possible to construct buildings of all kinds, throughout the country, using standard construction methods.

Brick, hollow tile, and concrete block construction can be specified with confidence. Cement is readily available. Reinforcing steel and structural steel, with rather small stock piles, have of course been directly and quickly affected by the recent coal strike, but the flow can probably be reestablished in a short time. As mentioned before, lumber is still critical. Certain obvious conclusions can be drawn from these facts. For example, if one accepts painted but unplastered concrete ceilings, concrete floors become more economical than ordinary wood floors with plastered ceilings;

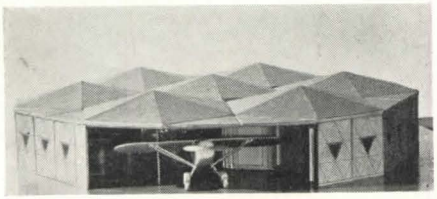


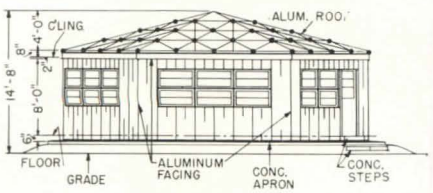


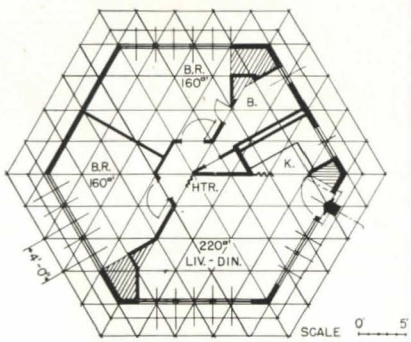
Laminated wooden arch construction, widely used during the war, is familiar to most designers by now. There is some shortage of the synthetic resin adhesives employed, which may affect the availability of this type of framing material.



Aluminum garage built of products of the Reynolds Metals Corp., Richmond, Va., employs not only aluminum siding but also small structural shapes rolled from the same material.







The Hexadome structural system, much like Buckminster Fuller's lightweight circular house in conception, is in process of being patented by Alfred Easton Poor, Architect. His system is adaptable to many types of buildings, as may be seen in the top-most sketch. Basic unit is a 4 x 4 x 4 ft. triangular module. Roof and walls are supported by a single center column. Roof rests on light trusses. Exterior surfacing is aluminum in panels.

this is a demonstrated fact. In constructing the concrete floors, metal forms, which seem to be readily available, can serve as substitutes for wood formwork.

Regarding the question of locations, it should be borne in mind that the nation's transportation system is badly overworked and in need of repairs, and has been adversely affected by the coal strike. Building in sections of the country away from main transportation channels, therefore, will entail a certain handicap. This should indicate, in many sections, a use of local materials or materials which can be manufactured locally—such as concrete block. The move of the Producers' Council to sponsor industry studies of a basic acceptable house plan, with findings as to the most economical use of various materials (depending on availability in a given region) is an interesting and useful step toward systematizing conventional plan and construction.

WHERE DO WE GO FROM HERE?

However, it is to be hoped that the conclusion that standard construction will be possible, within certain limitations, will not mark the end of experiment or free play of structural imagination. 1947 will again be a housing year. Although the larger housing projects seem to continue in conventional molds, the very great shortage and the slow production of certain basic items should lead to new developments in the small individual unit.

The extent to which structure can be rationalized in this field depends on the reaction—the "acceptance"—of the person seeking shelter. If it is only shelter he wants, he can get that most economically the way a soldier shelters his head, by a rounded affair of some kind. A conception of this sort—the Buckminster Fuller house—was much publicized during 1946. Illustrated is another, based on the hexagon. Developments in light canvas hangar roofs point to the possibility of extremely light structural roofings, such as canvas covered with paint, plastic, or plaster. During the war, equipment was "embalmed" by a spray of plastic around light webbing.

We must not let mere availability of familiar materials keep us tied to rigid forms. We have always had the three basic elements of air, water, and earth. Just to stimulate thinking and to explore what original use might be made of those elements, let us consider what use might be made of them to provide a shelter.

First, we could dig a circular or oval hole in the ground. The earth would become the form for a lining of Gunite, which is concrete mortar shot by a gun using air pressure. Here is where the air comes in. Then we

CONCRETE CONSTRUCTION

Lone Star Portland Cement, **Lone Star** Masonry Cement, **Incor High-Early Strength** Portland Cement. Lone Star Cement Corp., New York 17, N. Y.

Alpha Portland Cement, Alpha Hi-Early Strength Portland Cement, **Alpha Air-Entraining** Portland Cement, and **Alpha Mortar Cement** are available. Estimate cement production in 1947 to come close to possible consumption. Increasing demand for high-early, air-entraining and mortar cements eats into present output of Portland cement. Alpha Portland Cement Co., Easton, Pa.

Concrete Plank; Cantilite, nailable, lightweight reinforced concrete plank, and precast concrete slabs for floors and roofs. Hope to meet demand. Concrete Plank Co., Inc., Jersey City, N. J.

Concrete Plank; Flexicore floor and roof slabs, precast, hollow, reinforced units available. Expect to satisfy demand. Engineering in long-span precast concrete slab construction. The Flexicore Co., Inc., New York, N. Y.

Concrete Plank also manufactured by Federal Cement Tile Co., Chicago 5, Ill.; Lastik Products Co., Inc., Pittsburgh, Pa.; Martin Fireproofing Corp., Buffalo, N. Y.; Porete Mfg. Co., North Arlington, N. J.; Precast Slab and Tile Co., St. Louis, Mo.; the Geo. Rackle and Sons Co., Cleveland 5, Ohio.

Zonolite, concrete and vermiculite materials. "Stabilized concrete aggregate" is treated for integral waterproofing. Universal Zonolite Insulation Co., Chicago 43, Ill.

STEEL CONSTRUCTION

Stran Steel nailable steel framing; can be supplied in reasonable time. New product: **Stran Steel Packaged Framing;** joists, studs, truss parts, etc., delivered ready-cut for welded assembly. Great Lakes Steel Corp., Stran Steel Div., Detroit, Mich.

Structural Shapes, available from Bethlehem Steel Company, Bethlehem, Pa.; Carnegie-Illinois Steel Corp., Pittsburgh, 19, Pa.

Sheets, Strips, Bars, available from Allegheny Ludlum Steel Corp., Brackenridge, Pa.

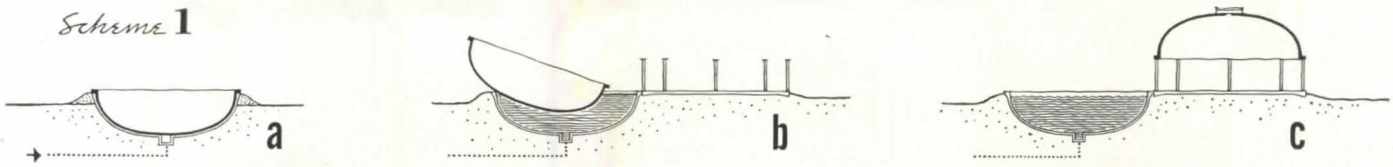
Open-Web Joists and **Longspan Joists;** supply to meet demand. Bethlehem Steel Co., Bethlehem, Pa.

Steel V Joists, Studs, Purlins, nailable. Supply depends on receipt of steel. Also available: roof trusses, longspan trusses, steel roof deck, steel siding. Complete shop fabrication of building sections. Macomber, Inc., Canton, Ohio.

Airco electrodes and **Wilson** arc welding machines for construction of welded steel structures. Also **Airco** industrial gases and gas apparatus for cutting steel. Air Reduction Sales Co., New York 17, N. Y.

WOOD CONSTRUCTION

Structural Systems; research in fabricated units of construction. Sees demand during 1947 far above normal. Logging and reforestation program is long range; will meet demand when it levels off to normal. Weyerhauser Sales Co., St. Paul, Minn.



Visualization of the author's Gunite house. Scheme 1: *(a.)* Casting pit lined with Gunite, with exposed surfaces oiled, and connection for introducing water. *(b.)* Another layer of Gunite, cast inside the first, is floated as water is introduced. *(c.)* Second layer of Gunite, lifted by power machinery, is inverted and placed on stilts. Walls can be any material desired. Casting pit becomes a swimming pool. Below is a scheme using the original excavation as a cellar.

would oil the surface with form oil to prevent sticking, and shoot an "inner-lining." At the bottom we would build in a water line and leave a little sump pit between the two lines for this water line to empty into. When the "inner-lining" had set, we would let the water in. This would make the "inner-lining" pull away from the outer shell and up it would float like a boat. By loading this boat eccentrically it could be tipped sufficiently to get it "beached" and then it could be easily handled by putting a crane sling around it so that it could be hoisted and turned at the same time.

On the side of the outer lining first built we would in the meantime have prepared the first floor slab and set some pipe columns. The "inner-lining" could then be set up on these stilts and we would be sheltered with about the lightest and cheapest permanent weather protection that can be built at the present time. And then, of course, we would have a swimming pool; or if we didn't want to use the casting pit for a swimming pool, we could use it for shooting more inner-linings or set the stilts on it and get a house with a basement. To use it as a basement we would have to build a supported floor, but that wouldn't be too difficult; we could just fill the basement with water, wait for a cold snap or freeze it in some other way, and then pour a concrete slab on the ice. To get permanent insulation under the slab and also to prevent the ice from melting due to the heat from the concrete as it sets, we could cover the ice with Foamglas.

I wouldn't mind living in a house of this type; in fact, I would feel right at home in it. When enough people see enough houses published, and some of them built, without tedious right angles and straight lines, developments of this kind will have a very important place in the age-old search for shelter from rain and snow. Even the year 1947 will, I am sure, see great strides in this direction. More materials will be available than we have had for a long time; let's hope that that fact will lead to more, rather than less, progressive design.

Koppers treated wood products: **Koppers Asidbar Wood, Koppers Fire-Retardant Wood, Koppers Creosoted Foundation Piling.** No data on delivery. Koppers Co., Inc., Pittsburgh 22, Pa.

Wolmanized Lumber (decay and termite protection), **Minalith** flameproofed lumber, creosoted piling, and foundation timber. Research on glued laminated members of treated woods and plywoods. High production; **Wolman** salts and **Minalith** available; creosote short. American Lumber and Treating Co., Chicago 4, Ill.

Unit Structures; glued laminated arches for churches and auditoriums available. Glued laminated utility rafters for storage and shed construction available in limited quantities. Continuing research on application of glued laminated structures. Unit Structures, Inc., Peshtigo, Wis.

Timber Structures; Timtruss Trusses (five types) and **Timbevils** arches for churches, auditoriums, etc. Hope to meet demand during year. Research on lamination. Timber Structures, Inc., Portland, Ore.

BRICK AND STONE

Limestone; Indiana Limestone of all types available; expect to handle commitments satisfactorily. Indiana Limestone Institute, Bedford, Ind.

Brick; fan brick, glazed brick, floor brick, glazed structural tile available. New plant and new equipment will improve quality, increase output, lower costs. Should meet demand. Hanley Co., Inc., Bradford, Pa.

PREFABRICATED BUILDINGS

Quonset Buildings, 20, 24, 40 feet long, and multiples of 20 feet. Can be supplied in reasonable time, with slower delivery on large buildings. Great Lakes Corp., Stran Steel Division, Detroit, Mich.

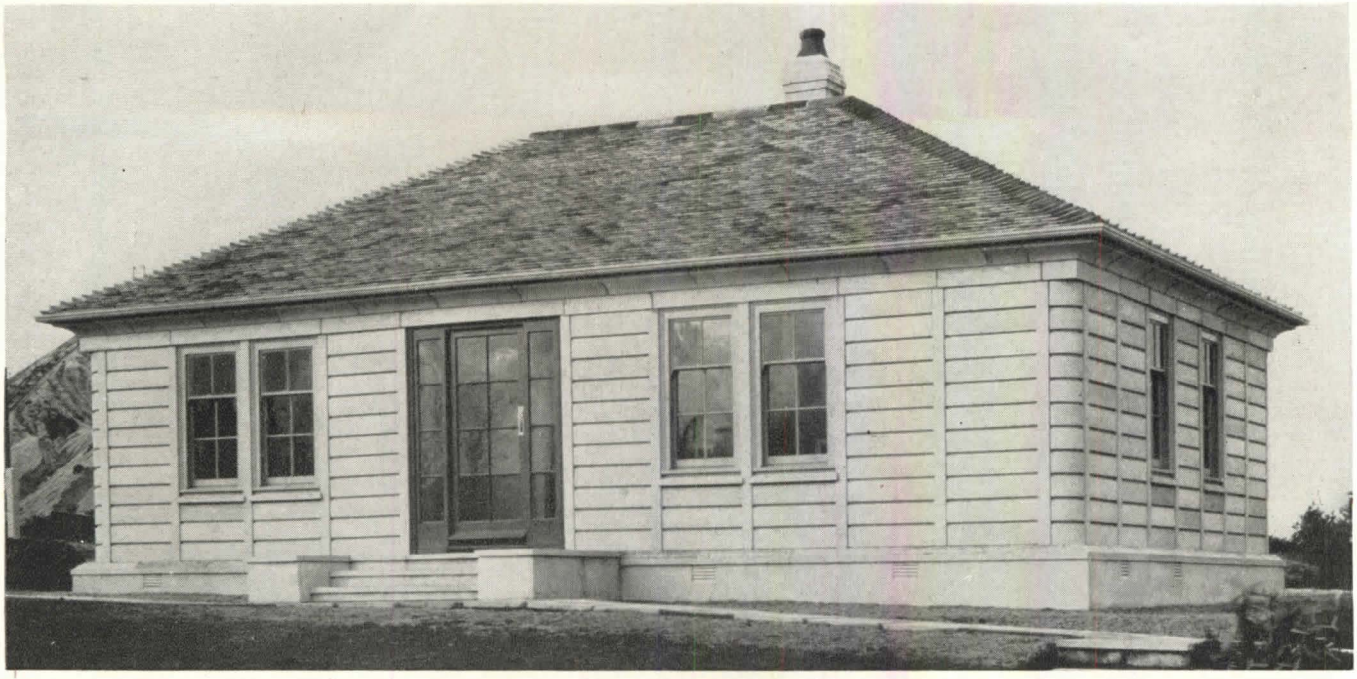
Unit Structures; wood prefabricated houses, 24 x 28 feet (two-bedroom) and 24 x 36 feet (three-bedroom). No statement on delivery. Unit Structures, Inc., Peshtigo, Wis.

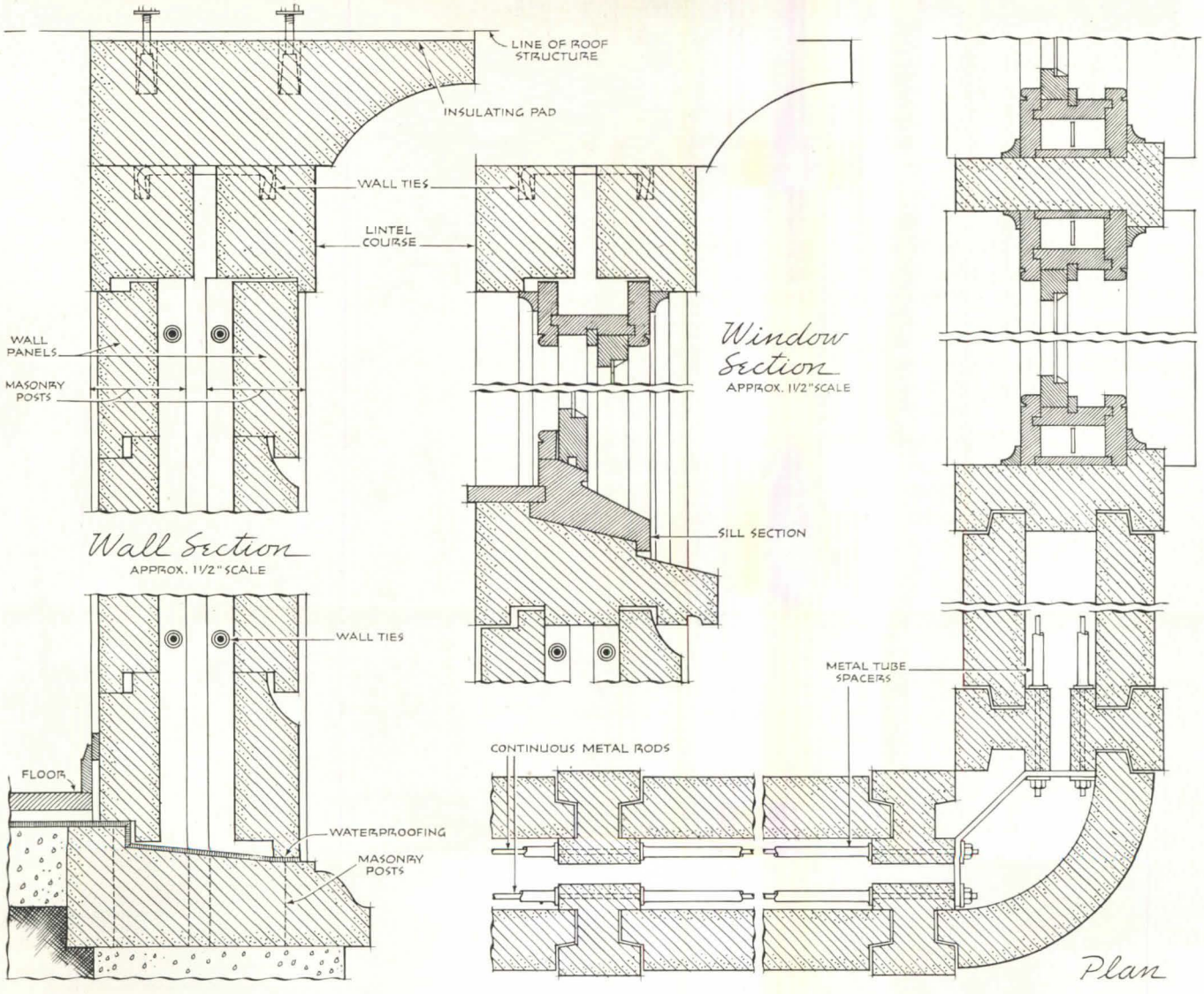
Boulevard Home, steel prefabricated house. Also available are prefab steel and aluminum industrial buildings, 100 feet long, variable by 20 feet, with 40-foot-wide rigid frame. Six months' delivery. Butler Mfg. Co., Kansas City, Mo.

Everwear, aluminum prefabricated dwelling, 20 x 24 feet; all aluminum framing, sidewall, roof; interior partitions can be varied. Southern States Iron Roofing Co., Savannah, Ga.

General Panel wood prefabricated permanent homes. Standard panels with special connector can be assembled in many ways. Expect to produce at rate of 10,000 yearly by spring. General Panel Corp., New York, N. Y.

Timber Structures; Mobilcore, mechanical unit, plus roof and shell becomes **Truscore. Minihome** and **Timbevils** are frame houses. Also available: four types of hangars and various sheds, barns, warehouses, known as **Timbevils** structures. Hope to meet demand if materials flow. Timber Structures, Inc., Portland, Ore.





CORNISH UNIT HOUSE

Newquay, Cornwall, England

PRECAST CAVITY WALL SYSTEM

A. E. BERESFORD, F. R. I. B. A., Architect

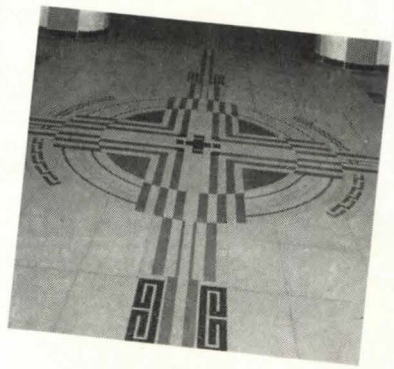
A GUIDE *to* FINER STUCCO

The first requirement for a finer stucco is a cement that can be used white or tinted, can be given a wide variety of surface treatments to harmonize with other building materials or the natural surroundings, and meets all design problems. In addition, it must have all the strength and other qualities of ordinary gray cement.

The original white cement—Medusa White—fulfils all these requirements. Its pure, non-staining white color lends versatility to the architects' expression. Almost unlimited color and texture variations can be obtained with its use. Medusa White Portland Cement meets the A. S. T. M. requirements for a white cement.

Medusa Stucco, when made with Medusa Waterproofed White Portland Cement, offers high resistance to moisture penetration and has unusual non-staining properties. Water-borne dirt is washed off instead of being absorbed. This means stucco has longer lasting beauty—is free of stains and discolorations.

For specifications and information on Medusa White Stucco, write for "A Guide To Finer Stucco".



SPECIFY MEDUSA WHITE FOR TERRAZZO

The above picture illustrates another use for Medusa White—Terrazzo. By using marble chips in many color combinations and tinting the matrix with any shade, unlimited color effects may be obtained. Specify Medusa White, the original white portland cement, for all terrazzo.

"FIFTY-FIVE YEARS OF CONCRETE PROGRESS"

MEDUSA PORTLAND CEMENT CO.

1004 MIDLAND BUILDING • DEPARTMENT "A"
CLEVELAND 15, OHIO

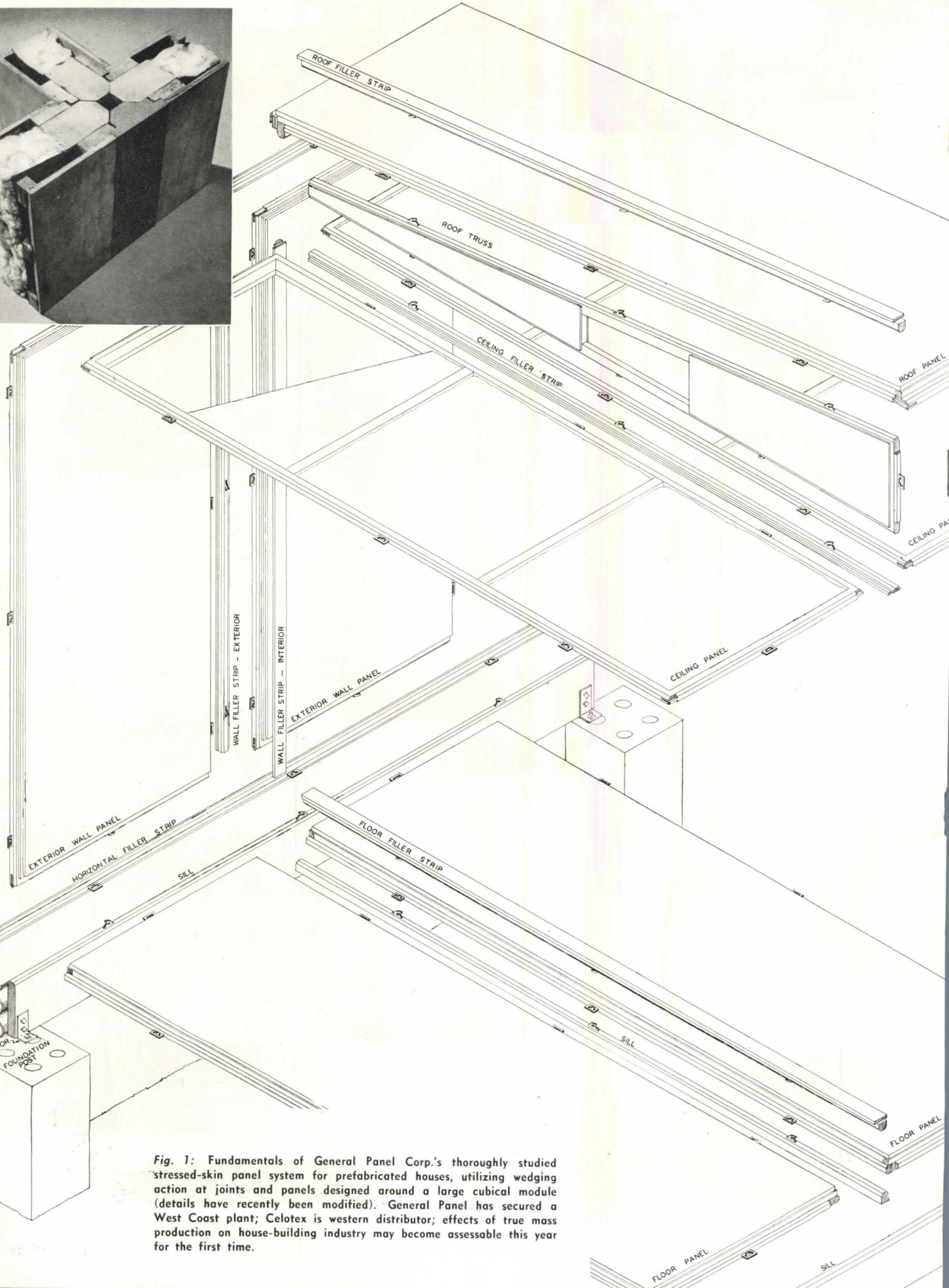


Fig. 1: Fundamentals of General Panel Corp.'s thoroughly studied stressed-skin panel system for prefabricated houses, utilizing wedging action at joints and panels designed around a large cubical module (details have recently been modified). General Panel has secured a West Coast plant; Celotex is western distributor; effects of true mass production on house-building industry may become assessable this year for the first time.

2

NON-LOAD-BEARING STRUCTURAL ELEMENTS

By HERMANN H. FIELD, A.I.A.

While this section is concerned mainly with the lighter structural elements of the building shell, some overlapping into other aspects of the building operation is inevitable. Some structural systems separate skin and frame with specific materials for each; others combine these functions so that many products suitable for curtain walls and partitions also come into use in varying degrees as load-bearing elements. Insulation and even the surface finishes may be included within the scope of a structural material; in fact, there is a marked trend in this direction with the increasing industrialization of the building process.

PRODUCTION FACTORS

Many good prewar materials will continue to be unavailable, or will be subject to varying delivery delays. At the same time many excellent new products which we might specify are not yet in commercial production, so that it is necessary to expand use of certain materials now in relatively ample supply to fill the gap. With the unprecedented demand for building products continuing, the first bottleneck is the shortage of a number of critical raw materials. A second has been inability to obtain new machinery to replace worn-out wartime equipment and for expanding present production. Shortages in wood and steel products especially have caused a run on other substitute materials which might otherwise be in good supply. Add to this price uncertainties during 1946, which have resulted in much argument as to the possibility of making a reasonable profit on production, and in some cases have limited production and distribution; and, finally, the inability to attract labor—which, with lack of an adequate training program, has seriously hampered some industries during 1946. While the labor situation is improving, production facilities may again expand faster than manpower supply.

So many factors in the production picture are at present in flux that the rate of adjustment will be hard to foresee. Various government measures during 1946 in connection with the Veterans' Emergency Housing Program were intended to increase productivity in building, and to the extent that at least some of these survive, they should be a positive influence in the 1947 picture.

One governmental measure has been the system of premium payments for expanded production of certain raw materials such as plywood peeler logs; another has been financing of new plants through RFC loans; another, the effort to channel

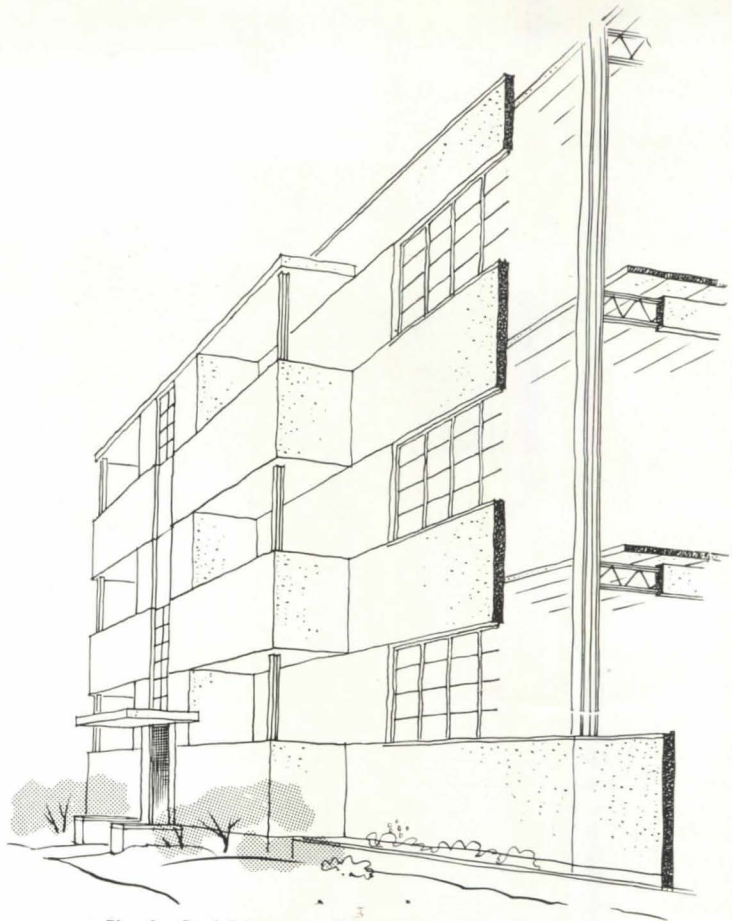


Fig. 2: Prefabricated wall panel for multistory buildings, of sheet steel with built-in insulation, developed by Robert L. Davison Associates (Housing Research), also by William Lescaze, for the New York Housing Trust for multistory apartments; this is not yet in production.

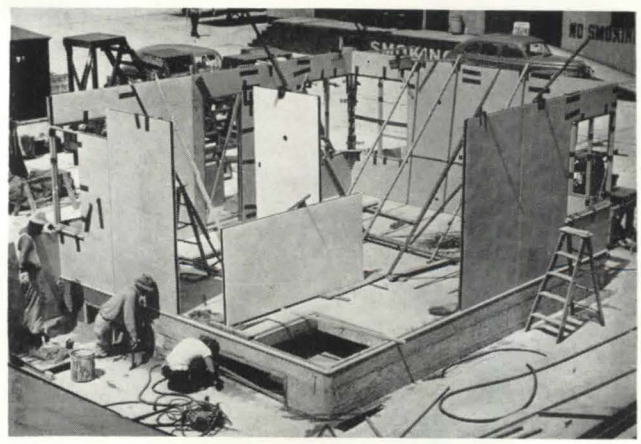
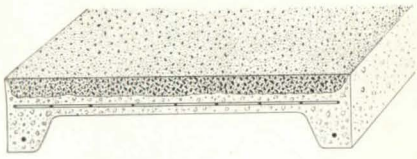


Fig. 3: Higgins Industries' *Thermo-Namel* prefab house system employs thin porcelain-enameled metal shells, barely capable of supporting their own weight, which are shipped flat and filled after erection with chemically foamed concrete. Result: a monolithic insulated house, "prefabricated," cheap to transport. Initial production (to start soon) is for complete houses; eventually panels plus aggregate will probably be sold as a building material.



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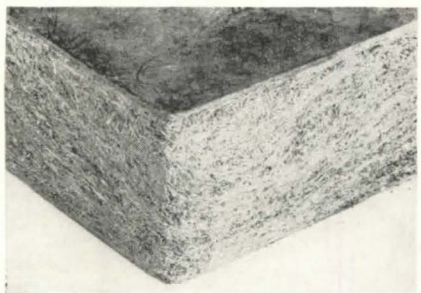

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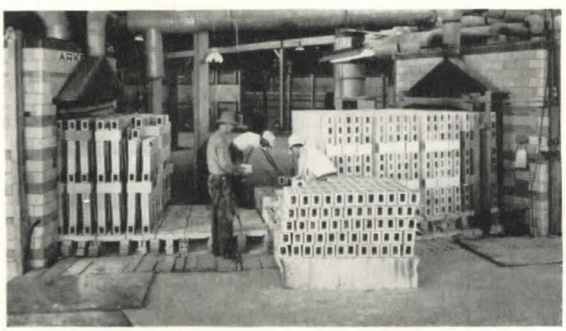
Fig. 4: New *Thermo-Slab* unit (Truscon Laboratories) consists of insulating Vermiculite concrete monolithically combined with structural, lightweight Haydite concrete; available in flat and channel tile shapes. *Fig. 5: Excelite* (Research for Industry, Cleveland) combines ligno-cellulose fiber with a thermo-setting soy-bean binder, can be manufactured in varying densities (5 to 50 lb per cu ft) or with dense faces, less dense interior; not yet in production. *Fig. 6:* Production of *Arketex* glazed structural tile. *Fig. 7:* Experiment demonstrating effectiveness of Owens-Illinois light-directional glass block.



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short raw materials into building for emergency housing. As most of the materials in short supply are shared with other sectors of industry, the amount available for the building industry will, in the absence of such allocation, depend largely on its ability to outbid other customers. The case of lightweight sheet steel, which finds increasing demand for a wide variety of structural panels, decking, and partitions, is an example. It is the worst sector of the overall bad steel shortage, with no prospect of relief during 1947. Furthermore, for this short supply the building industry must compete with the much better organized auto industry and other producers of consumer durable goods and containers. Established industries rather than some of the newer materials manufacturers are likely to get the lion's share. The recent struggle between an auto manufacturer and an enamelled-steel house producer over possession of the huge Dodge Chicago plant is symbolic of the entrance of building products manufacturers into the industrialized mass production field, and in a way also an example of two industries after the same short supply of raw material.

In this fluid situation it is difficult for the individual manufacturer to give a reliable picture of the outlook for his particular type of product. Furthermore, some manufacturers may be more favorably situated than others producing similar products. The most telling guide is likely to be the overall supply and demand picture of the raw materials used, as it was in 1946 and as it is expected to shape up in 1947; as a whole this should constitute a guide to availability, especially if the factor of machinery shortage is also taken into consideration where it can be ascertained. The following table is a summary along these lines, and is an interpretation of Department of Commerce, CPA, and NHA data. It does not, of course, take into consideration dislocations in production schedules that may have resulted from the coal strike. In it, plywood quantities are on a ⅜" basis. Aluminum, glass, and fibers are discussed separately later. In general, machinery shortages have little effect on the materials tabulated, except gypsum liner and structural clay tile.

Raw Material	Year	Supply	Need	% Shortage or Surplus
Total steel (tons)	1947	60,900	65,942	– 7.5%
Hot & cold steel sheet & strip	1947	16,760	22,872	– 26%
Construct. plywd.	1946	696	820	– 15%
	1947	826	1,232	– 33%
Constr. lumber	1946	13,650	18,059	– 24%
	1947	13,740	18,860	– 27%
Gypsum board	1946	3,165	3,470	– 9%
	1947	4,255	3,795	+10%
Gypsum liner	1946	240	288	– 17%
	1947	340	320	+ 6%
Str. clay tile	1946	1,260	1,526	– 18%
	1947	1,550	1,191	+23%
Cement	1946	160	162	– 1%
	1947	190	176	+ 7%
Concrete block	1946	887	786	+11%
	1947	1,300	907	+30%
Asbestos-cement	1946	3,645	4,251	– 14%
	1947	4,800	4,591	+ 4%

Figures in millions of board ft, sq ft, blocks, bbls; or thousands of tons (gypsum liner, clay tile).

The figures demonstrate that, of the raw materials under consideration here, the greatest shortage during 1947 is likely to be in plywood, which will apparently be even less available than in 1946. Construction lumber will also remain in short supply as will light gage sheet steels. Gypsum board which due to its great demand as a substitute material was in somewhat short supply during 1946 should become generally available early in 1947, especially where no liner is required. The sharpest change for the better is in clay products, which, after almost disappearing from sight for the early part of 1946, have staged a big comeback, partly due to a sharp increase in production and partly to lower anticipated requirements as the backlog is overcome.

PRODUCT AVAILABILITY 1947

Cement & Concrete Products (blocks, planks, decking, panels): Of the more traditional and heavier concrete and cinder concrete blocks there is an overabundant supply of very mixed quality, the result of wartime overexpansion. The lightweight cement and concrete units reduce cubic foot weight all the way from 150 down to 15 lbs (for the lightest foamed aggregates) or even 6 lbs (for cement-bound fibers). The most widely used prewar aggregates in the 50-70 lbs per cu ft category are the cellular mixes and heat-expanded clays and shale, which are used by a growing number of manufacturers for planks, channels, decking, and wall panels, averaging 2'x8'x3" in size. They are variously reinforced with steel and have a number of types of interlocking edgings. This type of material is generally in good supply.

A still lighter aggregate with very good insulating value is represented by the heat-expanded micas, such as Vermiculite and Perlite, and various expanded tufas, pumices, and lavas. A number of precast units using this type of aggregate are on the market, but the supply is somewhat more spotty. The Truscon Thermo-Slab is a new and available product which combines a strong layer of Haydite concrete with an insulating layer of Vermiculite concrete, thus reducing weight and increasing thermal insulation without loss of strength.

A relatively new and expanding type of material is the cement-bound fiber mix. The type long used in Europe under the trade name Heraclite has for some years been manufactured here by Celotex under the name Cemex. A number of other slabs and panels of cement-bound wood shavings and excelsior are now also available. They are a rough, inexpensive, strong roof decking and wall material, usually to be finished or used as a core. Often, however, some of the finer fiber types are left exposed on ceilings of large spaces, affording good acoustical properties and a pleasant texture.

Asbestos-cement products such as corrugated or flat sheeting, used both by themselves as curtain materials or in combination with a core of less density, are generally somewhat behind in supply due to the run on them during the past year as substitutes for other products. Demand has outstripped capacity for the finished product so that there may be delivery delays of 3 to 5 months.

The newest group in the cement field is represented by the chemically foamed cement mixes, which are discussed later.

Clay Products: Hollow structural tile, glazed and unglazed, for partitions and curtain walls are, after a bad year in 1946, again available in most standard types. Manufacturers report better quality and greater variety in finishes. An increasing number of manufacturers are introducing modular dimensional standards.

Glass Products: Clear and patterned sheet glasses for partitions, corrugated and wired glasses for partitions and industrial buildings, structural facing glasses for store fronts and commercial interiors, and glass blocks for walls are all in fairly good supply again, though not all the prewar patterns are equally available. One bottleneck is likely to be metal fasteners and framing as required frequently for structural glass facings, for example. However, extruded aluminum shapes which are in good supply can well be used for some of this framing.

Gypsum Products have been widely resorted to during the materials shortage as substitutes for other sheathing and decking products. However, they are expected to be in good supply during 1947. Partly under the pressure of pinch-hitting for new uses, gypsum products have undergone various improvements, in the direction of creating a stronger product useable in longer spans and under heavier loads; of making gypsum more integrally weather-resistant; and of speeding up site handling.

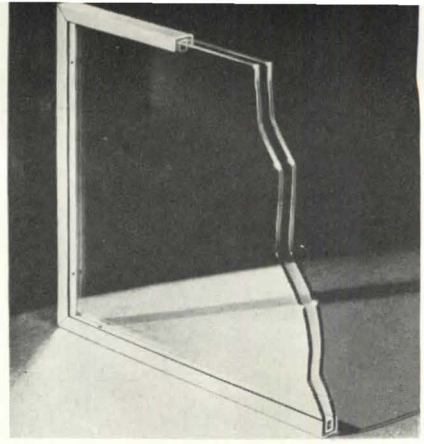

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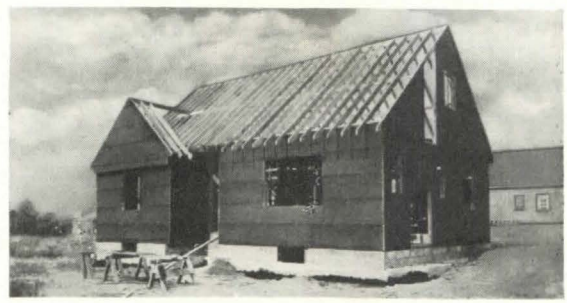
Fig. 8: Pittsburgh Plate Glass Co.'s *Twindow*, prefab multiple glazing. *Fig. 9:* Asphalted gypsum sheathing board (U. S. Gypsum). *Figs. 10, 11:* Celotex *Cemesto* (fiber board with asbestos-cement surfacing), the only "sandwich" material generally available on the market, used in single thickness as a curtain wall in war housing and factories.



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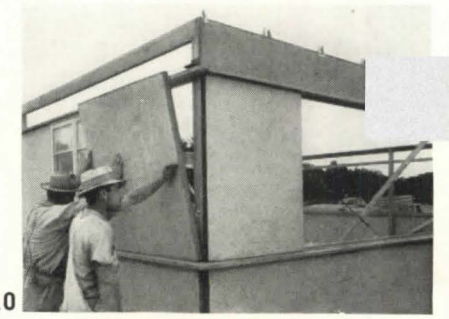

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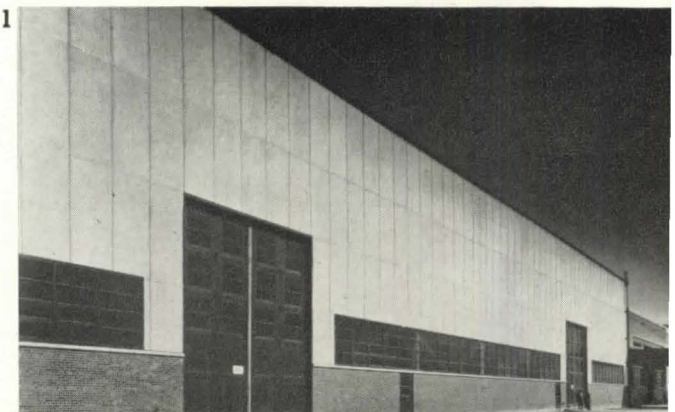

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Fig. 12: Hauserman *Masterwall* system (partitions, wall surfacing) is modularly designed, coordinates well with heating equipment, etc. Example shows office of Chairman of the Board, Firestone Tire and Rubber Co.; Voorhees, Walker, Foley & Smith, Architects. *Fig. 13: Fairhurst Unitfold* partitions (International Steel Co.). *Fig. 14:* H. M. Robertson Co.'s *Q-Floor* and *Q-Panels* (for walls) being installed.

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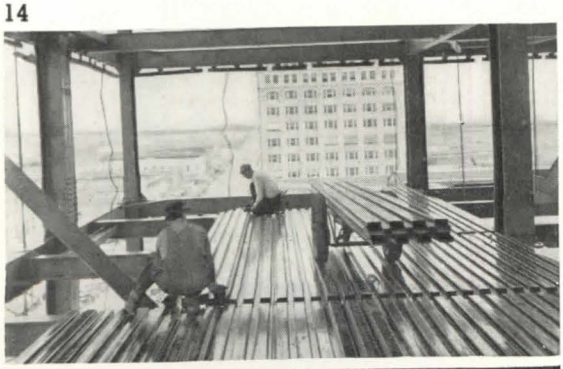

Fiber Products: Wartime shortages have greatly increased the use of all types of fiberboards, panels, planks, and sandwich materials. While the potential supply of raw material is almost unlimited, especially in the form of industrial and agricultural waste, there are considerable shortages in some of these products due to lack of fabricating machinery. With sawdust, excelsior, waste cotton fiber, *paper*, *scrap* wood, and cane waste, and a hundred other raw materials ready at hand, there is a great deal of experimenting and development work going on, much of it of a marginal nature with products of dubious quality. However, some excellent new materials are likely to appear during the next few years. While shortages may cause delivery lags in insulating and compressed hardboards, this should not be the case with the cement-bound excelsior type. In any case, most fiberboards should be in sufficient supply by the third or fourth quarter of 1947.

Lumber, Plywood Products: As the table indicates, these will continue to be very critical throughout 1947. Some of the fiber, gypsum, and cement products can be substituted for lumber and plywood. Where plywood has been used as a skin in panels and sandwiches, hardboards, plastics, and aluminum sheeting may have to be used in its stead.

Plastics have two applications in this section: as a transparent sheet partition material (Plexiglas, Lucite), and as adhesives for such products as plywood, other laminated products, and any number of sandwich and panelized elements. Demands for plastics in American industry have grown far in excess of present production facilities. Materials like Plexiglas are likely to suffer considerable delivery delays. The worst bottleneck, however, is in an acute shortage in phenolic formaldehyde adhesives, and to a lesser extent in urea adhesives. While plywood manufacturers will probably have what they need, adhesives for other types of lamination promise to be more difficult to obtain.

Steel Sheet Products: The acute shortage here, which may last for several years, will probably limit the use of some of the excellent interior shell systems. It is also likely to affect availability of such war-tried exterior curtain wall systems as Robertson's ingenious insulated Q-Panels, Wheeling Ribbed Decking, Truscon's Ferroboard, Mahon decks, and other similar products. The worst shortage is in the 16- to 28-gage regular sheets, which will hamper such versatile products as Armorply and Plymetl, which consist of plywood with a stainless steel surfacing.

Aluminum Products: Aluminum sheeting can be expected to have increasing application in building products. Due to the big wartime expansion of aluminum production and with the sharp cutback since the war in aircraft frame construction, there is an adequate supply of both lightweight sheeting and extrusions. In addition wartime scrap is being reprocessed, thus further enhancing the supply. The building field in the past has not made extensive use of aluminum, and the first tendency is to use it inefficiently, merely as a substitute, such as siding, shingles, and roofing made to look like traditional materials. No products comparable in use and quality with those in sheet steel appear to be in sight for 1947.

At the same time there is a great deal of development going on, utilizing the engineering approach used in aircraft frame production. This may have a profound effect on building and design methods, changing structural concepts and increasing efficiency of every part of the building operation. If 1946 plans of the NHA are allowed to materialize, some 100,000 aluminum houses will be built under the Veterans Emergency Housing Program in 1947.

RESEARCH TRENDS & FUTURE PRODUCTS

While relatively few new materials will be ready for 1947

production, research and development work promises many new products and advances in building technique during the coming years. In this, wartime experience in rationalizing large building operation is reflected, and especially the influence of aircraft frame production techniques, including the concepts of the fully engineered "envelope" and of minimum weight of structure with resultant economies in material, transportation, and handling. And, at a time of shortages, the aircraft frame industry has left us idle plants and materials, and skilled workers capable of high productivity.

We can expect an intensification of the trend toward the industrially produced structure with more and more of the building process based on plant assembly lines and a corresponding reduction of the relatively inefficent site construction. Especially house construction, in the past the least affected by an industrial approach, is likely to benefit. This has been hastened by the housing crisis.

Much development work is centered on the factory-produced building panel, insulated, weatherproofed, and finished, leaving assembly as the only site operation. Panels may be classified as: *1*, hollow stressed skin; *2*, solid-core sandwich; and *3*, cellular-core sandwich. In addition to intensive research on effective ways of combining various insulating materials, shells, and finishes, and on making the panel applicable to the widest number of conditions, there is the major problem of the joint, which in many cases adversely affects the entire structure's weatherproofness, insulation, stability, or flexibility of use. The joint is also likely to be a source of heat transmission with resultant condensation difficulties, especially in metal-faced or metal-joined panels.

Hollow Stressed Skin Panels: The General Panel Corporation's unit is the most thoroughly studied of this kind. It was developed jointly by Konrad Wachsmann and Walter Gropius after years of intensive study, and is an example of thorough solution of the joint problem. (See *Pencil Points*, April 1943.) Surfacing may be any dense material such as wood, plywood, plastic, steel, or aluminum; insulation is non-structural mineral wool. In the housing emergency, the present plan is to assemble complete houses, but it is eventually planned to market panels as a building material for general use within a modular pattern. Other examples include the Clements, Davison, and Higgins systems illustrated.

Solid Core Sandwich: Many companies are experimenting with or are studying sandwich-core materials for insulation. The most widely considered core materials are wood and agricultural waste fibers; they are in ample supply and can be combined in many ways. Plastic foams such as Styrofoam, CCA, and Textolite Foam (see also the section on Insulation) may eventually have a great future for this purpose. Lamination of high-density faces to low-density cores allows each material to act in its specific role; at the same time, both combine to create a rigid building panel with greater strength than either of the component materials. The best known product on the market of this type is Cemesto board. The Philip Carey Company plans to go into production on a similar panel during 1947. Celotex is working on Celosteel, a sandwich panel with a Celotex core similar to Cemesto but using faces of steel-covered plywood. United Aircraft Corporation's Metalite, consisting of a core of end-grained balsawood to which aluminum sheet faces are laminated, is a wartime product that might well be adapted to building construction.

Honeycomb Core Sandwich: No panel of this type has yet reached production as a building product. However, Consolidated Vultee Aircraft Corporation is reported to be ready to go into production shortly on a panel with sheet aluminum faces laminated to a honeycomb-like web of plastic-impregnated paper, intended for mass-produced prefabricated houses.

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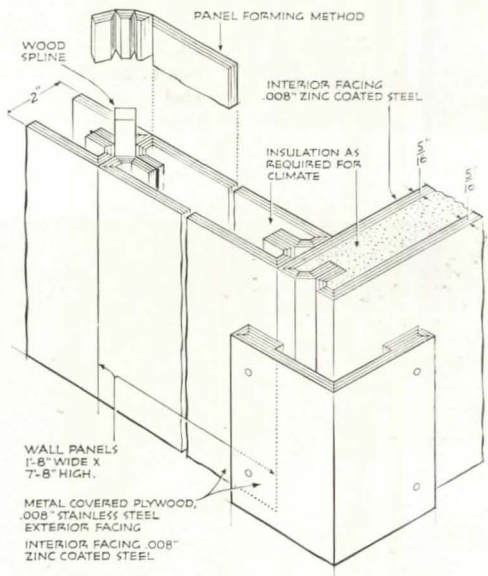

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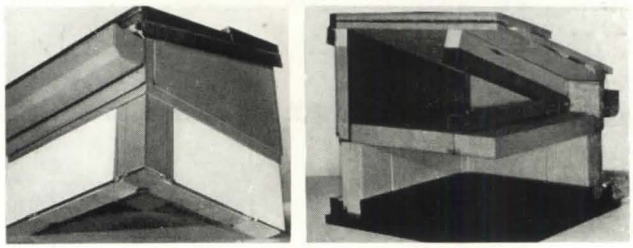

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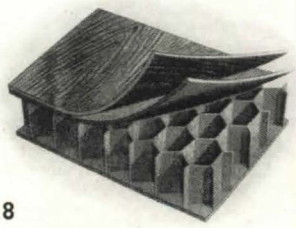

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Fig. 15: Armorply used on the facade of U. S. Plywood's new offices, New York City. *Fig. 16:* The *Clements* stressed-skin panel for prefabricated houses should get into production during 1947 (Clements Corp., Southport, Conn.), on the basis of RFC financing. Adaptable to floors, walls, partitions, ceilings, it is being modified to eliminate the through-wall metal-to-metal contact which might cause condensation. *Fig. 17: Celosteel,* a combination of Celotex core and sheet steel surfacing, now undergoing experimentation. *Fig. 18:* Honeycomb panel promoted by Glenn L. Martin (aircraft) Co., and U. S. Plywood.

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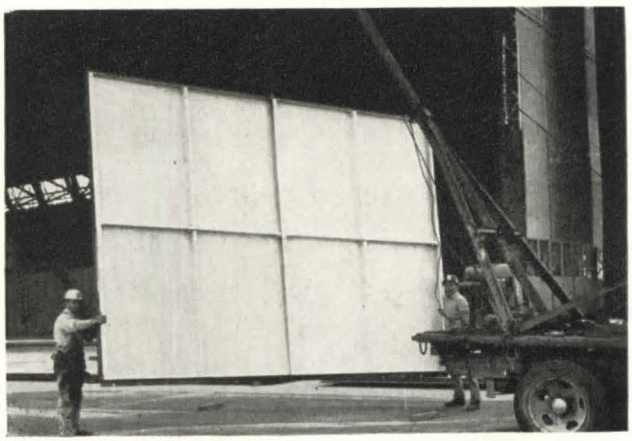
Fig. 19: Product with a future? *Plexiglas* (acrylic resin) in various semi-structural uses (Rohm & Haas). *Fig. 20:* Increasing industrialization of building: pre-assembled panels being moved by crane.



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It is similar to a honeycomb panel developed by Lincoln Houses which was used in a test house erected by them. Martin Aircraft and U. S. Plywood are also developing a very lightweight, amazingly strong comb panel, whose cores can be of a number of corrugated materials—paper, cotton, Fiberglas, all plastic-impregnated.

Plastics are playing a tremendous role as adhesives for laminates, and are also receiving increasing attention as high-strength skins on less dense materials. On Kimpreg, for example, plastics are used as a plywood facing similar to the stainless steel skin on Armorply. Formica has a similar line. General Electric is also developing plastic surfacing materials in sheet form.

Reduction of weight is one motive for research and development in the cement and concrete aggregates and mixes, previously discussed; another is the present shortage in other materials. Many of these new products will probably not survive when there is again a good all-'round choice, unless they undergo a great deal of improvement. Of the fibrous types, the Goodall Electric Company is working on a promising product using agricultural waste fiber. American Type Founders have developed an ingenious 4'x8'x4" hollow light concrete panel with a metal frame and an ingenious system of jointing. There is also a cotton-plastic 2" hollow board in development, with 1/16" faces and a web between. Perryboard is another experimental fiberboard, which is adaptable to continuous sheet production. Creation of a variable density material in one process is another experimental item.

This review of developments indicates that, while for the time being traditional materials are likely to dominate, there are on the one hand many new products developed over the last few years but not generally in ample supply at present, and on the other a procession of newcomers that should enhance the materials picture in the next few years. The trend is toward dimensionally stable, factory-manufactured-and-assembled, larger, lightweight units, with standardized dimensions, dry construction, and increasing reduction of site work to simple assembly.

PARTITIONS

Jamestown steel partitions. Jamestown Steel Partitions, Inc., Jamestown, N. Y.

Masterwalls, steel interior partitions. Manufacturer recommends modular coordination of partitions, wall facing, and metal pan ceilings; will furnish consultation. Backlog of orders should be alleviated early. The E. F. Hauserman Co., Cleveland 5, Ohio.

Mobilwall steel partitions, flush, semi-flush, paneled. Snead & Co., Orange, Va.

Movable Transite Walls, recommended for coordinated use with resilient flooring and acoustical ceiling materials. Steel stud construction, or **Transite** facing on wood core. Johns-Manville Corp., New York 16, N. Y.

Mills metal partitions. The Mills Co., Cleveland 10, Ohio.

MP movable steel partitions, **Metlwal** paneling. Martin-Parry Corp., York, Pa.

GYPSUM PRODUCTS, METAL LATH, ETC.

Celo-Rok gypsum lath. Celotex Co., Chicago 3, Ill.

Certainteed gypsum tile, wallboards, etc. Certainteed Products Corp., Chicago 3, Ill.

Gold Bond gypsum wallboards, sheathing, partition systems. National Gypsum Co., Buffalo 2, N. Y.

U.S.G. Rocklath, sheetrock and other plaster board, **Pyrobar** gypsum block. **U.S.G. Sheathing:** new, asphalted-gypsum core sheathing board; available in limited quantities January 1947, should meet demand by midyear. United States Gypsum Co., Chicago 6, Ill.

Wheeling metal lath, partition members, etc. Wheeling Corrugating Co., Wheeling, W. Va.

Wilcox metal lath and accessories; Wilcox Steel Co., Milwaukee 4, Wis.

GLASS PRODUCTS

Blue Ridge figured, wire, patterned, other special types of glass. Blue Ridge Glass Co., Kingsport, Tenn.

Carrara "Structural" glass; **X-ray** glass; **Herculite** tempered glass; mirrors; tapestry glass; available but not in great supply. Production depends on raw materials flow, etc. Pittsburgh Plate Glass Co., Pittsburgh 22, Pa.

Insulux glass blocks. Owens-Illinois Glass Co., Toledo 1, Ohio.

Mississippi figured, wire, corrugated, other special types of glass. Mississippi Glass Co., St. Louis 7, Mo.

PC glass blocks; available, not meeting full demands. Pittsburgh Plate Glass Co., Pittsburgh 22, Pa.

Vitrolite "structural" glass, **Tuf-flex** tempered glass; mirrors, etc.; same difficulties as other glass manufacturers. Libbey-Owens-Ford Glass Co., Toledo 3, Ohio.

CCA, a foamed cellulose acetate for "sandwich" laminates. Light, high tensile strength, insulating properties. Bonds with various surfacing materials. Semi-commercial production at present. E. I. DuPont de Nemours & Co., Wilmington, Del.

G-E Textolite translucent laminated plastic, formed or in sheets up to 36" x 72", .020 to .060 inches thick. Light, good dimensional stability. General Electric Co., Chemical Dept., Pittsfield, Mass.

Plexiglas, transparent thermoplastic; can be sawed, drilled, routed, machined, planed. Formed to any shape. For special glazing, special partition work, lighting installations, decoration. Should meet demand in second half of 1947. Rohm & Haas Co., Philadelphia 5, Pa.

SLAB MATERIALS

Celotex roof decks, **Cemesto,** gypsum slabs, poured gypsum. Celotex Corp., Chicago 3, Ill.

Flexicore floor and roof slabs. Price Bros. Co., Dayton, Ohio; The Flexicore Co., New York 17, N. Y.

Masonry materials (stone, brick, block, concrete, etc.): see "Structural, Load-Bearing;" also "Surfacing Materials."

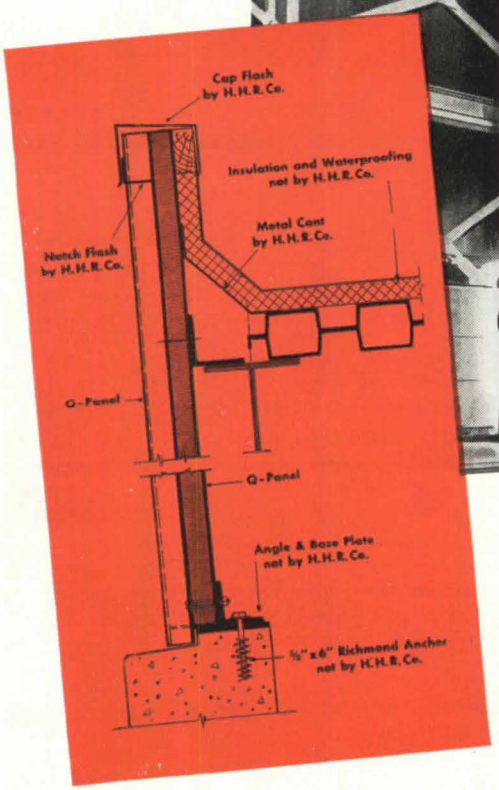
Metals, porcelain enamel products: see "Structural, Load-Bearing;" also "Surfacing Materials."

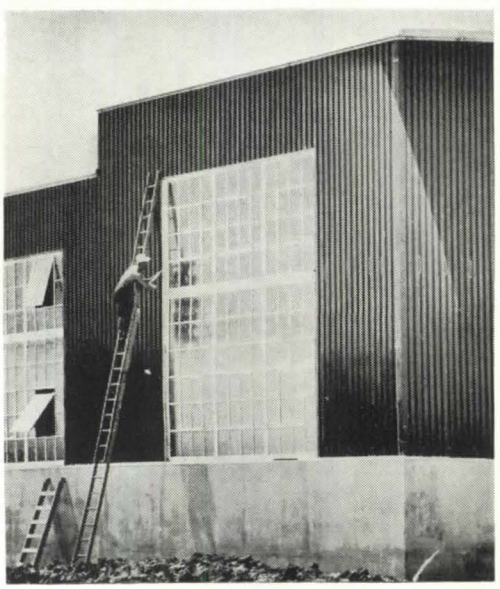
Porex Plaster Board, lightweight concrete asbestos; can be sawed. Expect to be able to fill demand. Porete Mfg. Co., North Arlington, N. J.

U.S.G. gypsum roofing materials, plank, T & G, tile, Sheetrock, etc. Available but in limited supply January 1947; increasing volume should meet demands by midyear. United States Gypsum Co., Chicago 6, Ill.

Wood products, plywood, etc.: see "Surfacing Materials."

ROBERTSON Q-PANELS HELP ARCHITECTS SOLVE WALL PROBLEMS





Q-Panels with insulation can be erected at the speed of 50 square feet every nine minutes in spite of labor shortage. Made by the H. H. Robertson Co. of Pittsburgh, Pa., Q-Panels are two feet wide, up to 25 feet long, and consist of a fluted section and a flat section separated by 1½ or more inches of insulation. Q-Panels are available in steel, Galbestos, stainless steel or aluminum.

Q-Panels weigh only seven pounds per square foot. They are delivered cut to fit and need only to be attached to the steel framework. Assembly crews can be small. Construction is so fast that wall areas equal to ⅓ acre have often been erected in one day.

Construction is dry, clean, noncombustible. The finished wall has a thermal insulating value equaling 12 inches of dry masonry.

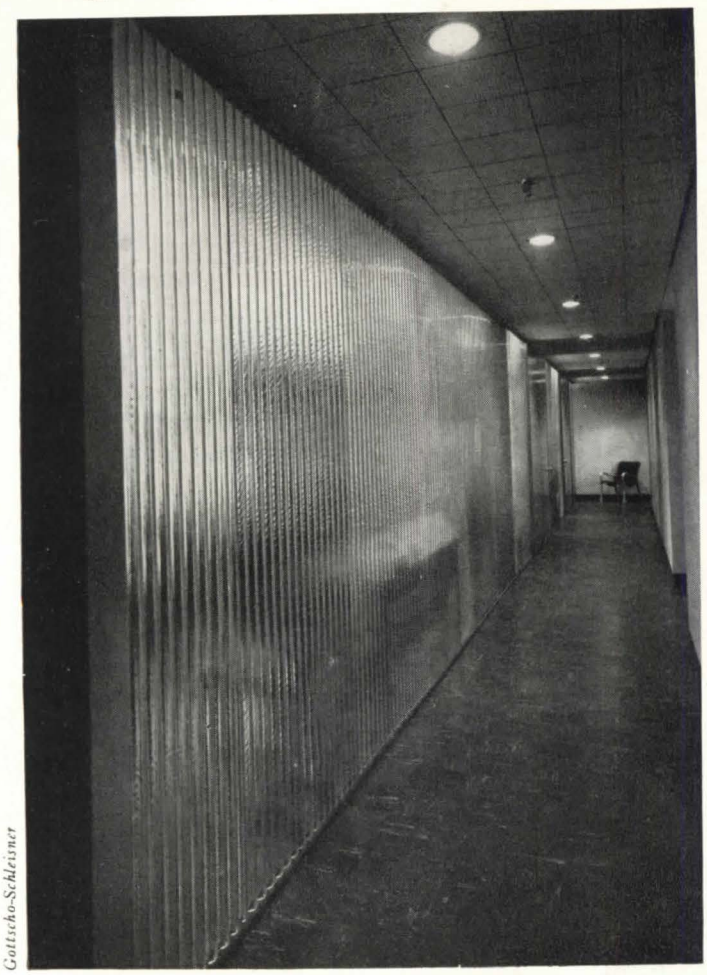
Combinations of texture and color have been used by architects with striking success. Fluted and flat sections have been alternated in patterns of light and shade. Aside from the purely functional advantages, Q-Panels have proved a satisfying and stimulating medium for expression of both modern and classic lines.

For literature and details, please write:

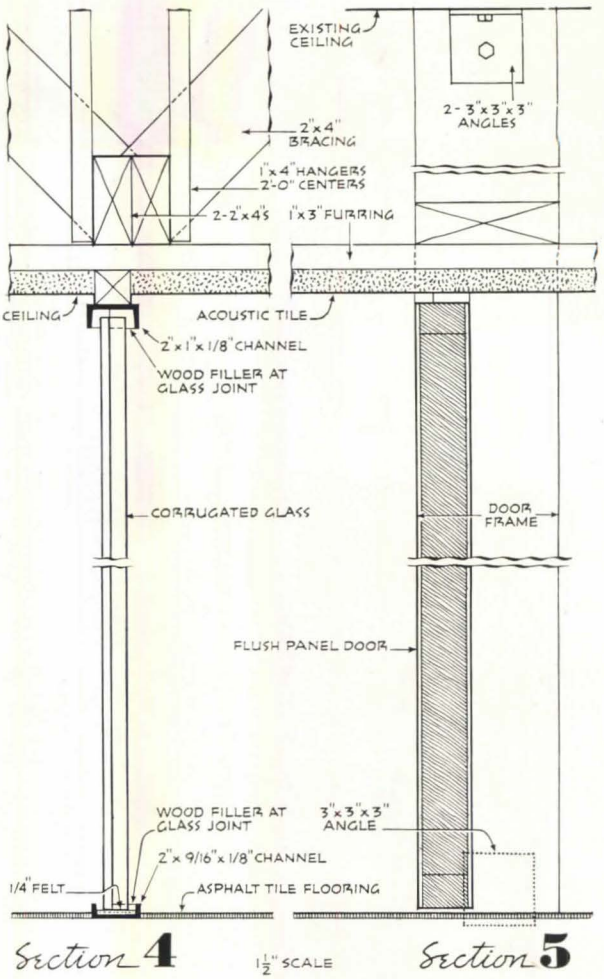
H. H. ROBERTSON CO.

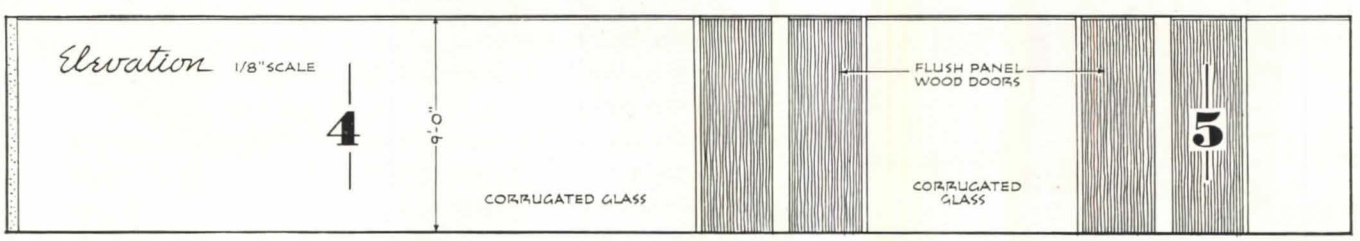
2405 Farmers Bank Building
Pittsburgh 22, Pennsylvania

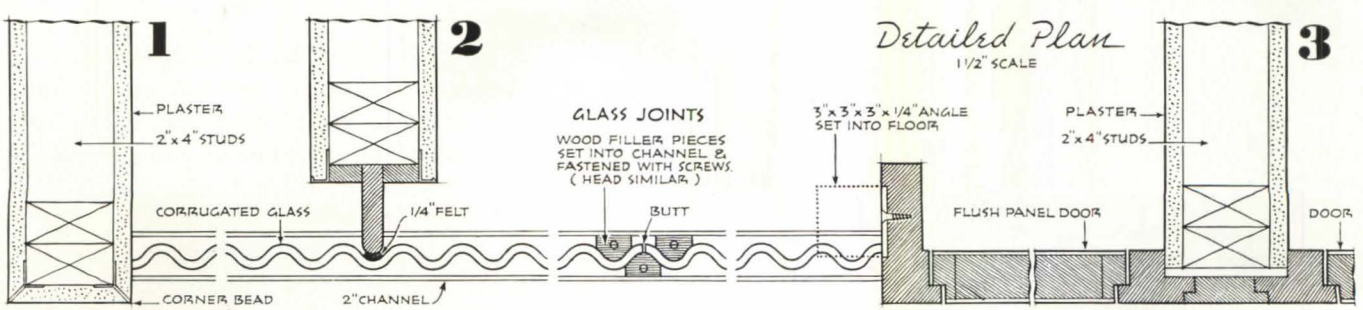
Offices in 50 Principal Cities
World-Wide Building Service



Gottscho-Schleisner







CORRUGATED WIRE GLASS PARTITION

FACTORY OFFICES, Bloomfield, N. J. — **KETCHUM, GINÁ & SHARP, Architects**

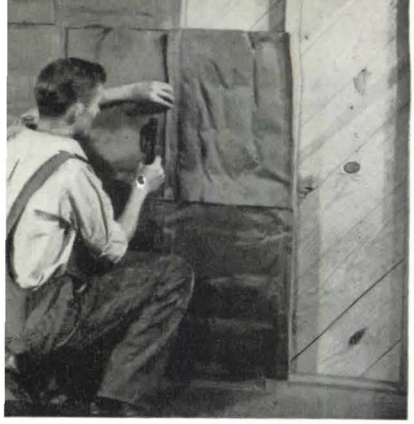


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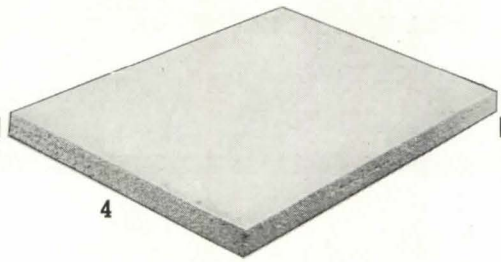
Fig. 1: Mineral wool batt insulation. *Fig. 2: Fiberglas* blanket insulation. *Fig. 3:* Mineral wool fill insulation. *Fig. 4: Carey-cel* insulating block, new laminated asbestos product designed for use in heating system ducts, etc. (Philip Carey Mfg. Co.). *Figs. 5, 6, 7:* Installing *Foamglas* (aerated glass in large blocks which can be job-cut)—Fig. 5 shows roof installation directly over metal decking; Fig. 6, built in as core of masonry wall; Fig. 7, over concrete floor.

3

THERMAL INSULATION SOUND CONTROL

By HERMANN H. FIELD, A.I.A.



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The raw materials picture for thermal insulation is not as serious at it is for structural materials. Some materials are less plentiful than could be desired, while on the other hand shortage of manufacturing facilities will probably continue to cause considerable delivery delays in various fiber insulating boards. This situation is not likely to improve much before the middle of the year, by which time shortages will in all probability have tapered off and facilities now in expansion will be in operation. Delivery of plant machinery is anywhere from 8 to 20 months behind schedule. A deepening of the steel crisis can thus indirectly retard the production of some insulating materials by further limiting production of essential machinery.

Cork: Supply is somewhat behind, especially on board, limiting available types and sizes. Supply should become adequate by the third quarter.

Cotton Fiber: While there appears to be no raw materials shortage except possibly as regards the wrapping, several manufacturers report being behind delivery schedules both in batts and blankets. Reported plant expansion should increase supply by the middle of the year. Improved fire resistance and moisture resistance are reported by some manufacturers. Typical cotton insulation blankets are manufactured by Reynolds Metals Co., also Lo-K, and Cellulite.

Vegetable Fibers: These come in loose form such as Insul-Wool, or in blankets as in Kimsul, or as insulating boards such as Celotex and Temlok, or as structural slabs with cement binders such as Porex. As mentioned above, fiber boards are in

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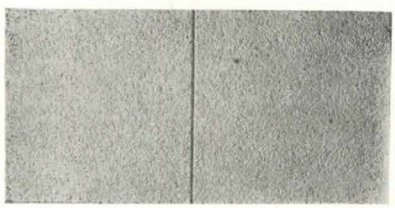
Fig. 8: Johns-Manville acoustic tile. *Fig. 9:* Office ceiling finished with *Sabinite* M acoustic plaster (U.S. Gypsum). *Fig. 10:* Johns-Manville sound insulation blanket installed in ceiling and walls, prior to application of finish over sound-isolator supports, in fireproof construction. *Fig. 11: Heerwagen Acoustic Diaphragm Tile* applied to an auditorium ceiling. *Fig. 12:* Johns-Manville sound and vibration isolators for machines, etc. *Fig. 13:* American Acoustic's non-combustible acoustic tile.



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THERMAL INSULATION

SOUND CONTROL

THERMAL INSULATION
Batts, Blankets, Loose Fill

Balsam Wool Sealed Blanket (wood fiber). Wood Conversion Co., St. Paul, Minn.

Carey rock wool insulation in batt and fill forms. Philip Carey Mfg. Co., Cincinnati 15, Ohio.

Celotex Rockwool insulation; batt and fill types. Celotex Corp., Chicago 3, Ill.

Eagle mineral wool, batt, blanket, and fill types. Eagle-Picher Sales Co., Cincinnati 1, Ohio.

Fiberglas, glass wool, all types. Now shipped in compressed form. Manufactured by Owens-Corning Fiberglas Co., available in increasing quantities from Flintkote Co., New York 20, N. Y. **(Flintkote Insulation Wool);** Armstrong Cork Co., Lancaster, Pa. **(Armstrong Insulating Wool);** U. S. Gypsum Co., Chicago 6, Ill. **(U.S.G. Red Top Insulation), Fiberglas** also available in board form and as roofing mat.

Insul-Wool, processed wood-pulp fill. Insul-Wool Insulation Corp., Wichita 12, Kans.

Johns-Manville Super-Felt batts (rock wool) and "blown" insulation (fill). Johns-Manville, New York 16, N. Y.

Kimsul wood fiber batts, shipped in compressed form. Kimberly-Clark Corp., Neenah, Wis.

Lo-K flameproofed cotton insulation; demand now exceeds supply; production facilities being doubled. Lockport Cotton Batting Co., Lockport, N. Y.

Masonite Cell-U-Blanket. Masonite Corp., Chicago 2, Ill.

Mineral Wool, including **Rock Wool, Slag Wool, Glass Wool,** in batts, blankets, or loose; semi-thick and full-thick, available. 1946 production was 350% of 1939's; will be doubled in 1947. Numerous manufacturers and distributors, National Mineral Wool Assoc., New York 20, N. Y.

Palco Wool, treated Redwood fiber wool. Pacific Lumber Co., San Francisco 4, Calif.

Reynolds Cotton Insulation (batts and blankets). Reynolds Metals Co., Richmond 19, Va.

U.S.G. Red Top (Fiberglas) wool in all forms. Supply less than demand at present; expected to approximate demand about midyear. U. S. Gypsum Co., Chicago 6, Ill.

Boards, Blocks, etc.

Celotex cane fiber insulation boards: **Sheathing; Roof Insulation (regular and vaporseal); Traffic Top** (bitumen- impregnated for use on decks, ramps, etc, subject to foot traffic); **Celotex Lath** (insulating plaster base); **Celotex Tile, Finish Plank, Building Board Celo-Siding** (granular-surfaced Celotex); **Cemesto** (Celotex surfaced with asbestos-cement); same problems as other manufacturers. Celotex Corp., Chicago 3, Ill.

Fir-Tex asphalt-coated insulating sheathing; insulating lath; building board; tile; plank; roof insulation; same problems as other manufacturers. Fir-Tex Insulating Board Co., Portland 4, Ore.

short supply, as also the blanket type. The cement-bound slabs are available without undue delays but it should be remembered that their insulation value is lower. Some of the fiber blankets are very economical in shipping space as they can be compressed to occupy only ⅛ their final installed space.

Mineral Wools (heat-expanded metallic oxides and silicas) and **Foamglas:** In loose, blanket, batt, and structural form, wools are made by a number of manufacturers and appear to be in generally adequate supply, though stocks are uneven. They represent an insulation group of generally high quality, and are suitable as fillers for factory-fabricated panels. There is a rapidly growing demand for Fiberglas. In a category by itself is Foamglas, a foamed rather than spun-fiber glass product of considerable structural strength if evenly loaded, completely moisture-impermeable, and with good insulating properties.

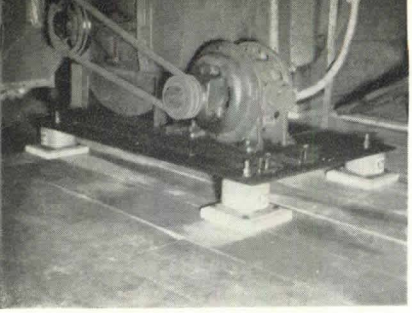
Cements, Concretes: Structural slabs and panels of increasing thermal insulation quality are available as discussed in the section on non-load-bearing structural elements. In general there is an adequate supply of these products. Most of them have a somewhat lower insulating value than the previous group, but unlike them can serve structural ends as well.

Reflective Insulation: The sheet aluminum type, as that of Reynolds, and the sheet steel type, Ferro-Therm, affording insulation alone, do not employ metal structurally. The Clemens panel, Armorply, and Plymetal achieve an equivalent reflective value while using the sheet metal for structural and surfacing purposes at the same time. More economical and somewhat less conductive are the aluminum foils on single or double building paper. The airspaces created in types like Infra-Insulation (accordion-pleated foil-surfaced paper) are an aid in cutting down conductivity. Sisalkraft impregnated and reinforced paper, with aluminum surfacing, is another economical type. This appears to be the most readily available type of insulation.

RESEARCH TRENDS & FUTURE PRODUCTS

The plastics field has developed some amazingly lightweight and exceptionally efficient insulators which were extensively used during the war and are in high demand for certain industrial insulations. To date they have not been used in the building field. The three best known are Dow's Styrofoam, an expanded polystyrene, made in slabs; G-E's Textolite Foam, a rigid phenolic plastic; and Du-Pont's C.C.A., cellular cellulose acetate. It is probably only a matter of time until all these are adapted to building.

The most highly insulating plastic material is Santocel, produced as a fine powder by Dow Chemical Co. It has a k factor of .15, but no adaption suitable for building has been developed. The U. S. Rubber Company is working on an expanded rubber insulation, Flotofoam, which eventually might be used as a panel core. The Ruberoid Company has a calcium hydrosilicate insulating board made from lime, sea sand, and asbestos fiber, Calsilite, which may be developed for building insulation. Kaylo, formerly called Microporite, is being manufactured on a small scale by Owens-Illinois Glass



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Flintkote wallboards, all usual forms. Flintkote Co., New York 20, N. Y.

Foamglas, cellular glass in block form, can be built into masonry. Manufactured by Pittsburgh Corning; available, but not in great supply, from Armstrong Cork Co., Lancaster, Pa.

Homasote, weatherproof structural insulating board. Will probably supply demand in second half of 1947. Homasote Co., Trenton, N. J.

Insulite boards: **Bildrite** sheathing, **Graylite** and **Ins-Lite;** also **Lok-Joint** lath. Oversold at present. Insulite, Minneapolis 2, Minn.

Johns-Manville insulating boards, panels, and planks; building boards; asphalted sheathing; insulating lath. Johns-Manville, New York 16, N. Y.

Masonite insulation board, sheathing board, insulating lath. Masonite Corp., Chicago 2, Ill.

Nu-Wood interior finish boards, ½" thick. **Sta-Lite** variety has high light reflectivity. Also available are insulating sheathing and lath. Wood Conversion Co., St. Paul, Minn.

Rubatex, expanded synthetic rubber insulation board, non-continuous air cells; strong, light, vermin-proof, efficient. Virginia Rubatex Div., Great American Industries, Inc., Bedford, Va.

Temlok, rigid moisture-resistant wood-fiber board, for sheathing, lath, roof, other insulation; **Temlok De Luxe,** for exposed insulation; **Corkboard** for roof insulation; **Mineral Wool Board.** All now available. Armstrong Cork Co., Lancaster, Pa.

U.S.G. Weatherwood, insulating sheathing; also, new asphalted gypsum core sheathing; plaster base, tile, plank. Unlikely to satisfy anticipated demand in January 1947; supply should approximate demand by midyear. U. S. Gypsum Co., Chicago 6, Ill.

Glass Insulation

Fiberglas (see "Batts, Blankets, Loose Fill").

PC Foamglas Insulation available January 1947; cannot meet all demands fully due to raw materials' shortages. Pittsburgh Plate Glass Co., Pittsburgh 22, Pa. (See also "Boards, Blocks.")

Thermopane (prefab units of multi-layer glazing with sealed air spaces between) now being manufactured in modular sizes for stocking in local supply houses. Expect program to get substantially under way during 1947; same difficulties with materials as other manufacturers. Libbey-Owens-Ford Glass Co., Toledo, Ohio.

Twindow (prefab units of multi-layer glazing with sealed air spaces between) available January 1947 but can't meet all demands due to raw materials' shortages. Pittsburgh Plate Glass Co., Pittsburgh 22, Pa.

High Temperature Insulation

Careycel, improved asbestos insulation in blocks and sheets for pipes, ducts, furnaces, ovens. Philip Carey Co., Cincinnati 15, Ohio.

Hi-Temp, Calsilite, 85% Magnesia, Asbestos, and other types. Supply should meet demand early in 1947. The Ruberoid Co., New York 18, N. Y.

Johns-Manville asbestos, magnesium, diatomaceous silica, mineral wool products. Johns-Manville, New York 16, N. Y.

Low Temperature Insulation

Armstrong's Low-Temperature Insulations: corkboard, Mineral woolboard, cork covering, **Vibracork, Foamglas;** now available. Armstrong Cork Co., Lancaster, Pa.

Celotex Celo-Block cold storage insulation. Celotex Corp., Chicago 3, Ill.

Corinco cork insulation products. Cork Insulation Co., Inc., New York 17, N. Y.

Foamglas, cellular glass in block form. Pittsburgh Corning Corp., Pittsburgh 19, Pa.

Johns-Manville Rock Cork. Johns-Manville, New York 16, N. Y.

Mundet cork products. Mundet Cork Corp., Brooklyn 11, N. Y.

Novoid cork insulation. Cork Import Corp., New York 18, N. Y.

Palco Wool, treated Redwood fiber. Pacific Lumber Co., San Francisco 4, Calif.

Reflective Insulation

Ferro-Therm steel reflective insulation for all thermal purposes; used for high altitude test chambers during the recent war; available now and expect to meet all 1947 demands. American Flange & Mfg. Co., New York 20, N. Y.

Richkraft waterproof insulating roof coating; **Silverkote,** reflective paper-backed insulation. Kraft paper situation has been bad; should improve during 1947. The Richkraft Co., Chicago, Ill.

Sisalation, vapor-barrier paper with reflective insulation surfacing, has been available for some months. Also available are standard **Sisalkraft** products. The Sisalkraft Co., Chicago 6, Ill.

Miscellaneous Types

Celocrete lightweight aggregate for insulating concrete. Celotex Corp., Chicago 3, Ill.

Ric-Wil conduit systems for protecting and insulating underground and overhead piping. The Ric-Wil Co., Cleveland 14, Ohio.

Sprayo-Flake, dry fibrous materials sprayed onto any type of surface along with atomized adhesive. Sprayo-Flake Co., Chicago 18, Ill.

Thermo-O-Tile insulating conduit for underground insulated lines. H. W. Porter & Co., Inc., Newark, N. J.

Z-crete insulation (insulating concrete) for piping. "Z" Crete Co., Omaha, Neb.

Zonolite fill, also aggregate for insulating concrete; insulating plaster, fireproofing. Expanded Vermiculite. Available now in most parts of the country. Universal Zonolite Insulation Co., Chicago 3, Ill.

ACOUSTIC INSULATION & SOUND ISOLATION PRODUCTS

Armstrong's Cushiontone, dense fibrous composition tile, perforated; now available. Armstrong Cork Co., Lancaster, Pa.

Celotex perforated fiber and mineral tile; gypsum products. Celotex Corp., Chicago 3, Ill.

Fiberglas perforated tile boards; new product soon to be in high-gear production. Owens-Corning Fiberglas Corp., Toledo 1, Ohio.

Gold Bond perforated and non-perforated fiber tile; acoustic plaster; perforated metal tile; National Gypsum Co., Buffalo 2, N. Y.

Hauserman acoustic metal pan ceilings. Designed for modular coordination with flexible partitions. E. F. Hauserman Co., Cleveland 5, Ohio.

Heerwagen Acoustic Diaphragm Tile, high absorption at low frequencies. Heerwagen Acoustic Decoration Co., Fayetteville, Ark.

Insulite Acoustilite and **Fiberlite** boards, oversold at present. Insulite, Minneapolis 2, Minn.

J-M Acoustical Ceilings (interchangeable tile and fluorescent lighting fixtures, suspended); also perforated fiber or mineral tile; **Controlled-Spring Isolators** for sound-isolating construction; duct linings; Johns-Manville, New York 16, N. Y.

Kilnoise acoustical plaster; noise reduction coefficient .60. Kelley Island Lime & Transport Co., Cleveland 14, Ohio.

Loxit Acoustical Systems (hangers, channels, clips, etc., for suspended acoustic ceilings). The Loxit Co., Chicago 6, Ill.

Pomeroy System (mechanical fastenings for acoustical materials). S. H. Pomeroy Co., Inc., New York 54, N. Y.

Softone, Atoz, Famco non-combustible acoustic plaster and tile products, ground cork and mineral materials. American Acoustics, Inc., Chicago 3, Ill.

Soundstone, Soundmetal (absorptive surfacing and sound baffle, respectively). Homestead Industrial Sound Control, Hartford, Conn.

U.S.G. Auditone fiber and **Acoustone** mineral tile; **Sabinite M** and **F** acoustic plasters; probably cannot satisfy demand in January; supply should approximate demand by midyear. U. S. Gypsum Co., Chicago 6, Ill.

Zonolite acoustical plaster, fire-resistant, available now in most parts of the country. Universal Zonolite Insulation Co., Chicago 3, Ill.

Company, who are planning a large plant for its production.

SOUND CONTROL

Sound-absorptive materials depend principally on a cellular structure for effectiveness. The usual forms are acoustic plaster or other materials (such as Sprayoflake, designed to be sprayed on) having, when finished, a continuous surface; acoustic surfacings (tile, etc.) which may be cellular materials or more dense, but perforated, products; and combinations of materials. Many of the thermal insulating materials are suitable for sound insulation.

Fiber acoustic materials have the same supply difficulties as thermal ones. Where a dense surface material such as steel or plywood is used with a mineral wool core, the steel or plywood will create the bottleneck. Thus, Johns-Manville's excellent Sana-coustic, a mineral-wool-core tile with perforated sheet metal face, is almost unavailable due primarily to the steel sheet shortage. On the other hand, an aluminum facing should be more available. Another type is an expanded gypsum tile made by a number of manufacturers. This is in somewhat better supply.

Another difficulty is in the metal hanger systems. Here the steel shortage is responsible. The same is true of the various assembly devices (spring mountings, separators, etc.) used for sound-isolating construction. Less difficulty may be found with the diaphragm type of tile illustrated, although the high-grade parchment employed may become short in supply.

American Acoustics Solves where

YES . . . architects are discovering that American Acoustics has the answers to *all* Acoustical Design problems with Softone Plaster and Tile, Atoz and the Famco Suspension System.

These are three outstanding products . . . each designed to satisfy particular building needs . . . in schools, hospitals, movies, homes, factories and all other places where heat and sound protection is vital.

Softone . . . .

Softone is available in Plaster or Tile form.

Softone Acoustical Plaster finds wide usage where uneven or curved surfaces must be treated. It is easy to apply to any clean surface of wood, brick, tile, rock lath, plaster or concrete.

Softone Acoustical Tile has the same characteristics as the Plaster . . . it is attractive, incombustible, sanitary, easy to paint and clean. Has an acoustical efficiency of .80.

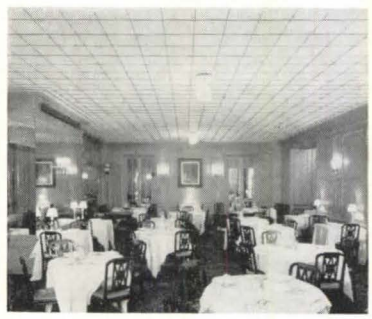
Softone Tile is available in 12" x 12" x 1" and 12" x 24" x 1", kerfed and beveled.

Atoz . . . .

Atoz is the revolutionary new insulating plaster that has all the properties of an acoustical plaster. It not only helps shut out heat and cold, Atoz also reduces noise, is incombustible, is easy to apply, dries fast, and can be applied to any clean surface.

Atoz finds widespread use in homes, factories, hotels, movies, hospitals, schools . . . or other places where proper heat and sound treatment is important. Atoz provides every installation with an insulation material that has definite acoustical and decorative properties.

Softone's decorative value lends a quiet dignity to all installations.



A typical Softone tile installation in a busy restaurant.

Atoz helps protect factory offices from noise and temperature changes.

SOFTONE . . . ATOZ —by

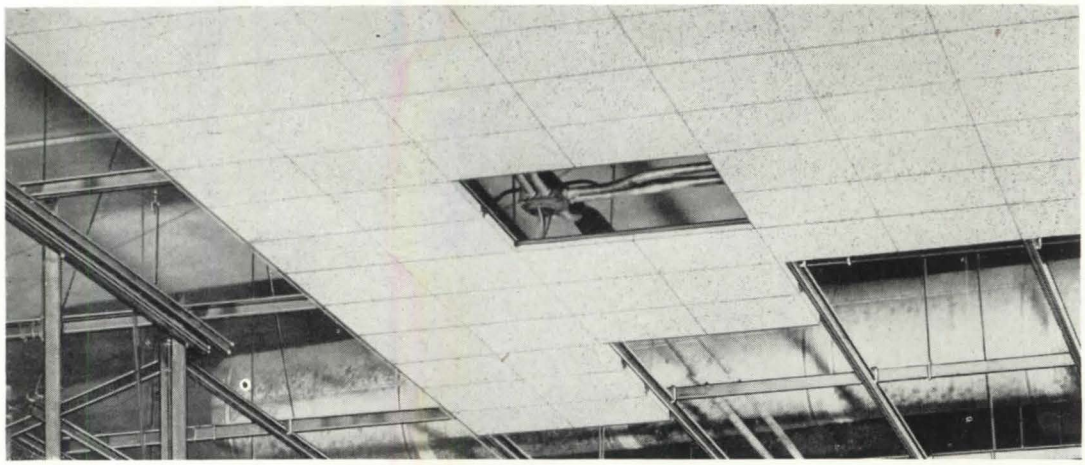
PLASTER UNITS PLASTER

Acoustical Design Problems

Beauty . . . Safety . . . and Economy are Important

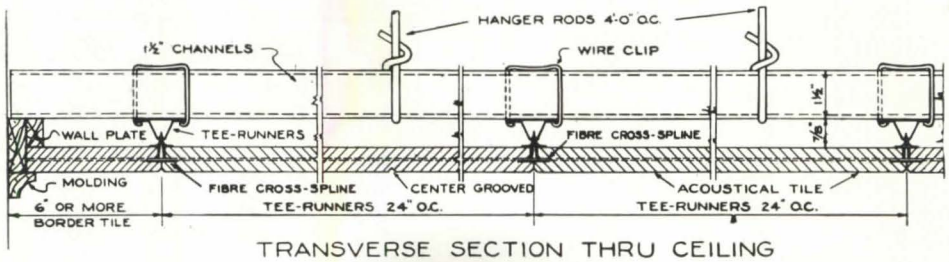
with **SOFTONE** *Plaster—Tile* **ATOZ** *Plaster* **FAMCO** *Suspension Systems*

All available for prompt shipment!

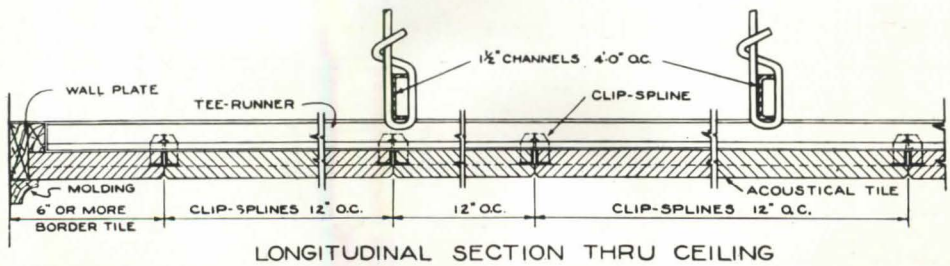


FAMCO METAL SUSPENSION SYSTEMS

View showing Softone Acoustical Tile secured in place by the Famco System of Suspension, which permits concealment of pipes and ducts.



TRANSVERSE SECTION THRU CEILING



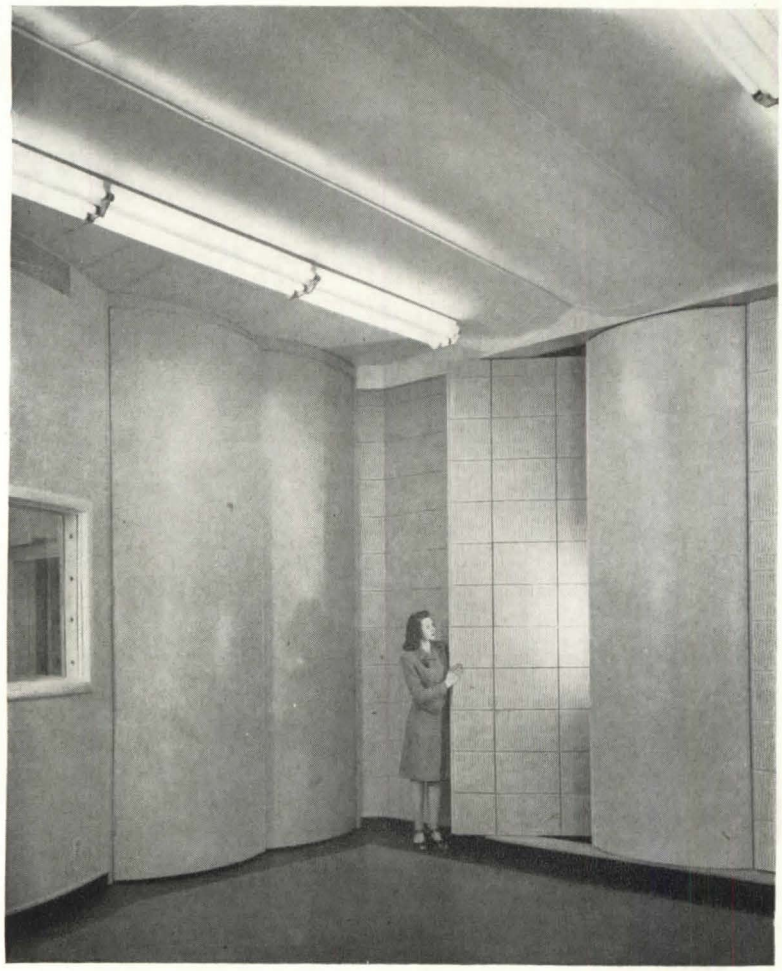
LONGITUDINAL SECTION THRU CEILING

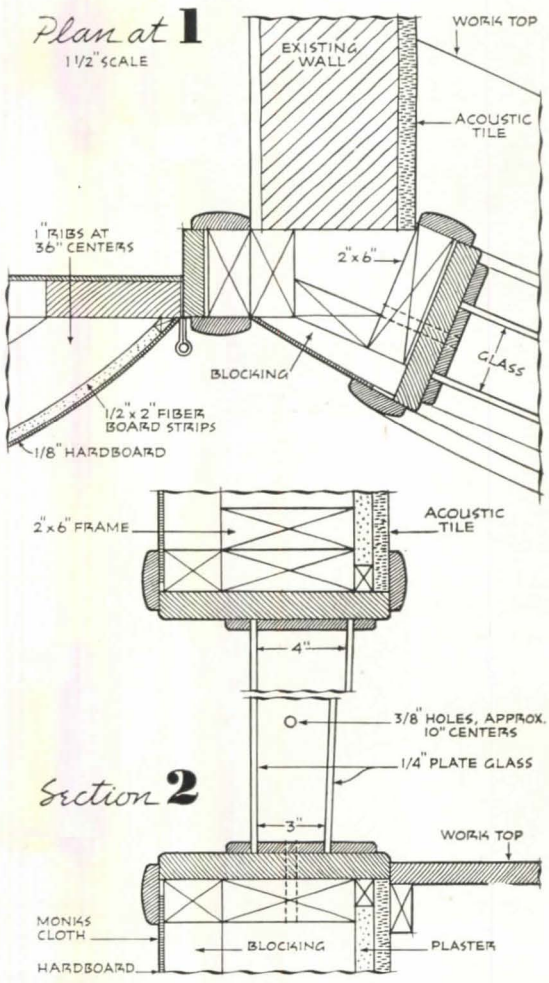
Famco Suspension Systems have been developed through years of laboratory research. They present the best possible solution to the problems encountered. Flexible in application, but rigid in construction, Famco is designed to support more than ten times the acoustical ceiling weight.

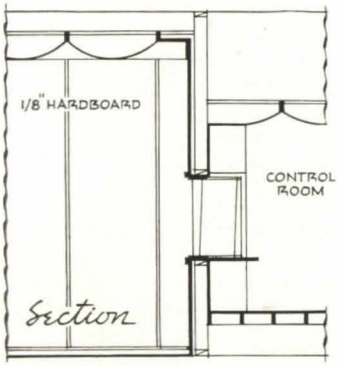
A ceiling is quickly and easily installed in perfect alignment with Famco.

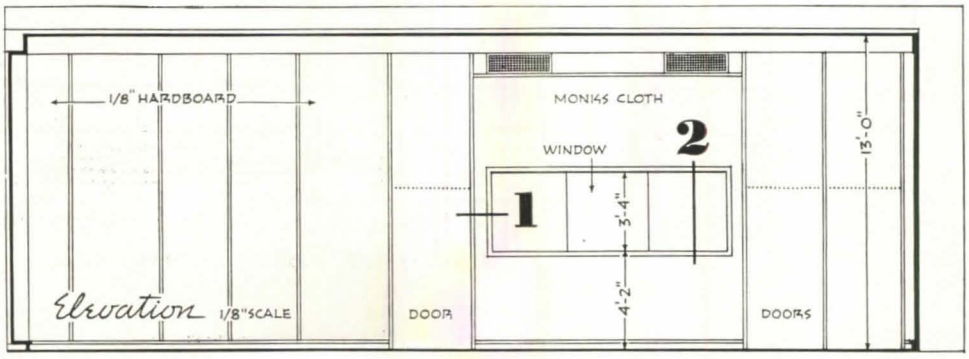
Free . . . folders describing in detail Softone, Atoz and Famco will be sent upon request. These folders will show you how to get the best from every acoustical job you work on. Send for them today.

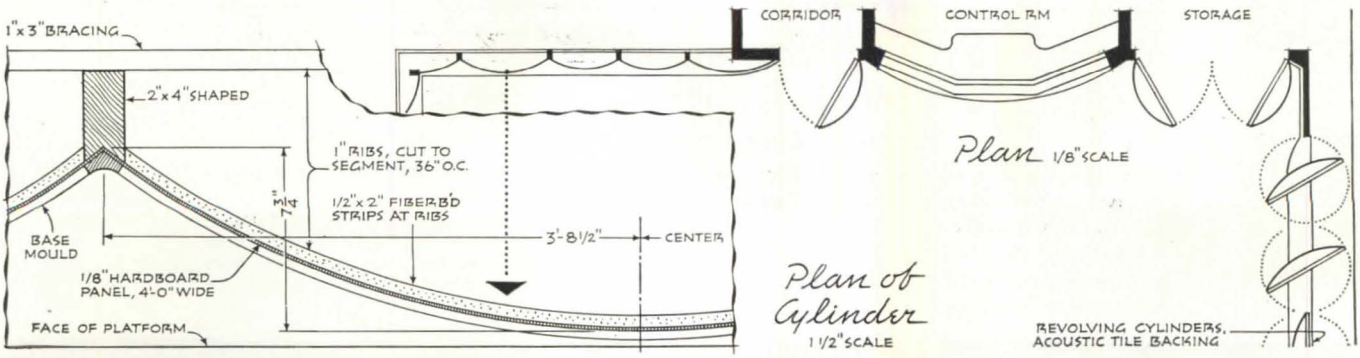
American Acoustics, Inc.
120 S. LA SALLE ST., CHICAGO, ILL.











ACOUSTIC TREATMENT

BROADCASTING STUDIO, STATION KSL, Salt Lake City

LORENZO S. YOUNG, ARNOLD H. EHLERS, Architects

FRANKLIN Y. GATES, Acoustical Engineer

Newspaper advertisement (Nov. 1946) of surplus war materials: lumber, moldings, doors, plywood.

4

SURFACING MATERIALS

By WALTER SANDERS and ARTHUR MALSIN, Architects

AVAILABILITY

Standard Products of most all surfacing material manufacturers will be available during 1947, but in limited quantities. To meet wartime production demands successfully, the industry aimed at few types of products, highly standardized. Peacetime requirements for broad ranges of diversified products made conversion a major, time consuming undertaking in many instances. Coupled with shortages of raw materials, distribution facilities, and labor, invaluable time was lost in meeting rising consumer demands. Withal, 1947 should see the return of practically all standard surfacing material products in quantities approaching demands with the exception of asbestos siding and roofing products, porcelain-enameled steel, and some hardwood species of plywood panels. It is significant that each of these exceptions is attributed to a different reason, yet that each is an Achilles' heel of production: raw material shortage, labor shortage, transportation shortage.

New Products. Concentration of manufacture of standard, prewar items has necessarily limited efforts to introduce new surfacing material products. Some now available are primarily products developed for wartime use which have peacetime application as well. Plastics and plastic-coated materials are the leaders in this field, together with products based primarily upon new design efforts rather than upon research and new fabrication techniques. Specific new types of surfacing materials which are available now or are planned for 1947 are:

formed metal siding and roofing;
plastic-faced plywood panels;
plastic floor tiles;
fabric-backed plastic wall coverings;
fabric-backed decorative and novelty wood wall coverings;
leather wall and floor sections;
prefinished plywood panels;
plywood planks or boards;
sheathing with an asphalted-gypsum weatherproof core.

"PRODUCTION AND DEMAND" RELATIONSHIP

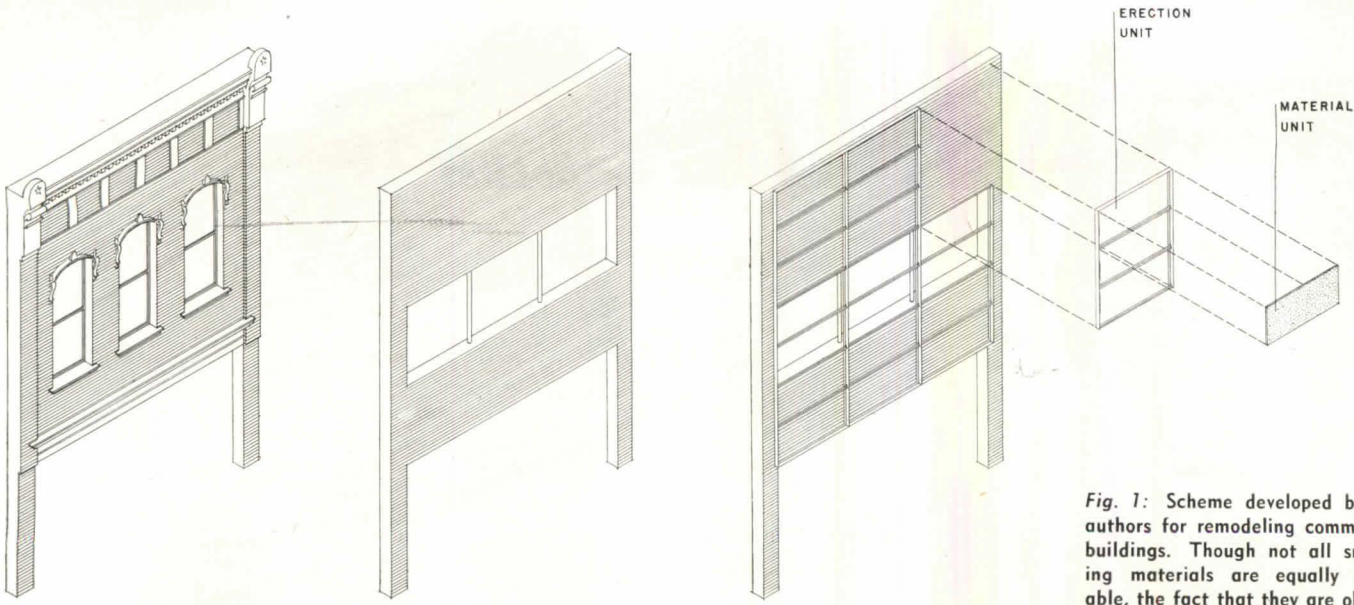
Based upon available information, with small exception production will not meet demand during 1947. Still listed as critically short by CPA are the following surfacing materials:

asbestos-cement roofing, siding and flat sheets;
asphalt and tarred roofing and siding products;
brick and tile;
building board;
gypsum board and lath;
hardwood flooring;
Portland cement;
natural and synthetic rubber products;
sheet and strip steel;

Under consideration but not yet listed as critically short are:

linoleum floor covering;
paint (exterior);
plaster.

Little doubt remains that increased production and consequent lessening of "protection" or duplicate orders will reduce the gap between production and demand. Considerable doubt remains that new sources of worldwide scarce basic materials may be found, or that acceptable substitutes may be developed, in time to maintain peak production. An authoritative survey



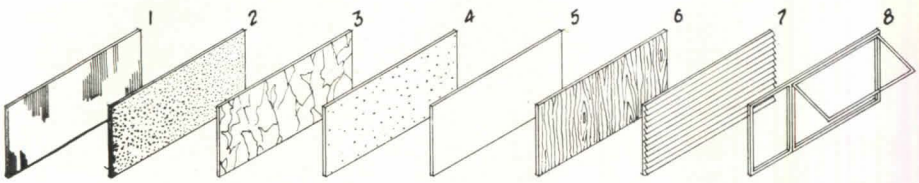


Fig. 1: Scheme developed by the authors for remodeling commercial buildings. Though not all surfacing materials are equally available, the fact that they are obtainable in one or more common standard sizes makes it possible to interchange them in a standardized frame. Details will appear in a future issue of *Progressive Architecture*. Materials suggested are: 1, structural glass; 2, sheet metal; 3, marble; 4, synthetics; 5, plastics; 6, wood; 7, louvers; 8, windows.

SURFACING MATERIALS

of the world market to determine the amounts of asbestos fibre available disclosed an alarming shortage (*Asbestos* Magazine, November 1946).

With few exceptions, replies from producers of surfacing materials queried as to estimated production-demand relationships during 1947 revealed that production would meet only 75%-80% of demands. Exceptions, as was to be expected, were confined to those materials requiring little or no processing and independent of other materials in their production, such as marble, granite, and stone. Products involving the use of even one critically short material represented the average relationship of production to demand. Those products involving two or more critically short materials, such as porcelain-enameled sheet steel, were consistently in the lower percentage relationship bracket.

PRODUCTS AVAILABLE FOR SPECIFICATION NOW

In view of the current lag between production and demand, and indications that increased production during 1947 will not close the gap entirely, materials specifiers will have to consult their crystal balls or plumb the depths of design ingenuity and resourcefulness if they dare to specify with any assurance of delivery. Predictions of what types of structures, in what regions, and in what quantities surfacing material products will be available for specification now, must be confined to generalities. Regional building practices, such as the extensive use of cement as a surfacing material in the south and southwestern areas of the United States, often accelerate an already deteriorating situation and may even be the prime cause of a complete construction stoppage in the area.

By way of contrast, some localities have an abundance of certain architectural surfacing materials in the form of surplus war production items. Some aircraft parts manufacturers, and speculators in other war produced materials, are soliciting building contractors and architects direct. From these sources, plywood and lightweight sheet metals and formed sections are available in quantity for immediate delivery.

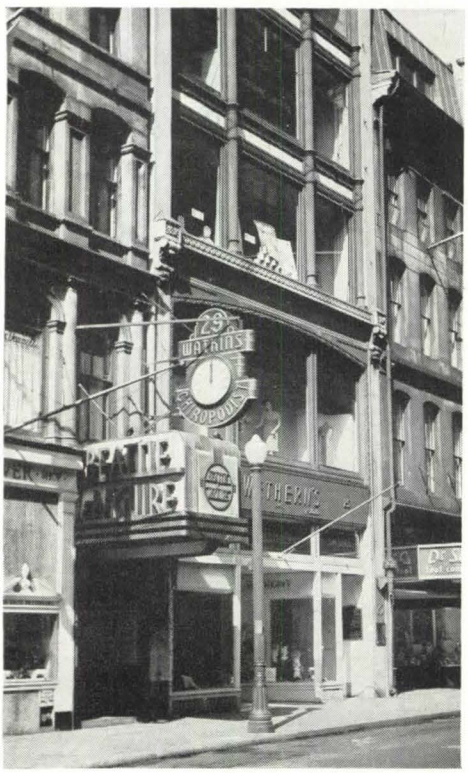
RESEARCH

A manufacturers' survey indicates that research during 1947 will be aimed primarily at improvement of standard products rather than toward development of new products. A few manufacturers have comprehensive research programs already established and construction of large new research facilities well advanced. Results of these attempts, however, will probably not be felt during 1947. Significant research now under way points to improvements of basic materials and speed-up of production processes.

DESIGN POSSIBILITIES

To plan intelligently in the face of shortages in almost every surfacing material, the designer must keep abreast of which materials are most readily available. Among the many products listed in this section a selection for almost any purpose can certainly be made, and that selection can be on a more intelligent basis if the facts regarding shortages are kept in mind.

If the designer must seek an emergency avenue of escape—if no satisfactory standard material is available for immediate delivery—he has several choices. First, he can use other available products in new ways: for instance, common signs, or their equivalent, have been employed on commercial



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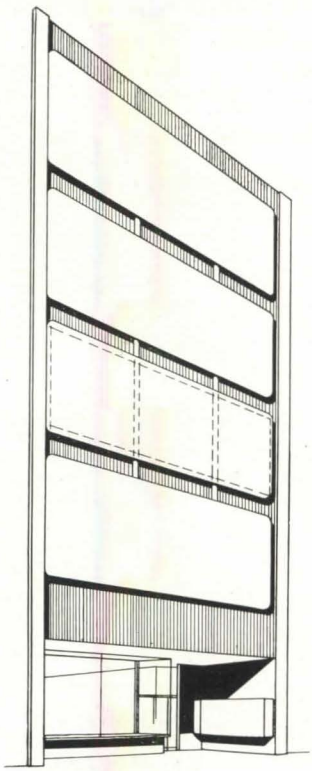


WALLS AND CEILINGS

Asbestos-Cement Products

Asbestos siding expected to be available late in 1947. Southern States Iron Roofing Co., Savannah, Ga.

Asbestos-Cement products; Century long structural sheets, **Linabestos** and **Sheetflextos** wallboards; difficult to make a statement but siding, shingles, etc. should become more available. Keasbey & Mattison Co., Ambler, Pa.

Coverall, asbestos-cement board. The Philip Carey Mfg. Co., Lockland, Ohio.

Transite, corrugated and flat, and **Asbestos Flexboard.** Huge expansion program, including largest building material research laboratory. Johns-Mansville Corp., New York 16, N. Y.

Composition Boards

Insulite, wood fiber products: **Lok-Joint Graylite** wall board, **Smoothcote** wall board; **Ins-Lite** and **Graylite** building boards; **Smoothcote, Satincote,** and **Graylite** interior boards: demand exceeds supply. Insulite, Minneapolis 2, Minn.

Homasote, weatherproof structural insulating board in sizes up to 8 by 14 feet. New machinery will decrease costs and increase production. Will supply all demands second half of year. The Homasote Co., Trenton, N. J.

Masonite, "presdwood" materials. Masonite Corp., Chicago 2, Ill.

Monowall, factory finished wood-fibre hardboard. Also **Temwood, Tempered** Temwood (boards and tile form), Temboard De Luxe. Production will increase greatly; new factory. Armstrong Cork Co., Lancaster, Pa.

Nu-Wood interior finish boards; also plaster bases, sheathing, etc. Wood Conversion Co., St. Paul 1, Minn.

Upson Strong-Bilt Panels; Dubl-Thik Fibre-Tile; Kuver-Krak Panels (for resurfacing); Upson Co., Lockport, N. Y.

Glass, Glazing

Glass products also from: American Window

structures to cover complete facades as well as just spandrel areas. This same sort of ingenuity has been employed in a number of instances on the interior, as in the use of "egg-crate" louvers to form an entire ceiling surface. A highly efficient distribution of light is provided, overhead utilities are concealed, and a pleasing finished surface is obtained.

Several extreme solutions present themselves to the designer who finds it difficult to obtain surfacing materials. He may explore sources outside the building field: aircraft parts manufacturers still have for public sale formed metal sections, flat sheets, etc. Or he may eliminate the need for surfacing materials. On the exterior this can be done, for instance, by merely protecting the structural members and filling the spaces between with glass held in simple frames. Self-finishing materials, or materials that do not absolutely require additional finish, can be left unsurfaced, provided the design limitations which this method involves are fully understood and properly expressed.

Perhaps the most important conclusion to be drawn from the survey of availability of materials is that design in 1947 should be sufficiently flexible so that a wide range of alternating surfacings might be used when construction goes ahead. As an example, in the proposed alteration of a block of store fronts, Sanders and Malsin have established a modular grid, using a light structural-angle network into which can be fitted a variety of materials selected on the basis of cost, appearance, and function, as well as availability. We are accustomed to designing with the materials that are available; perhaps in 1947 the correct approach would be to design flexibly, so that materials can be utilized as they become available.

Fig. 2: **Scheme for store modernization, showing existing condition and proposed change, using signs to cover the entire façade.** ***Fig. 3:*** **Surfacing materials virtually eliminated by simply fireproofing the framing members and filling the spaces between with glass.**

3

Glass Co., Pittsburgh 22, Pa.; Libbey-Owens-Ford Glass Co., Toledo, Ohio; Blue Ridge Glass Co., (subsidiary of L-O-F); Mississippi Glass Co., New York, N. Y.; no specific data on availability.

Pittsburgh Plate Glass, Structural Mirrors; Pittsburgh-Corning Glass Block, Foamglas Insulation; Peunvernon Window Glass; Carrara Structural Glass; Herculite Tempered Glass; Solex Heat-Absorbing Glass; also **Twindow** (prefab multi-layer insulating glazing), all available January 1947. Prefab **Carrara** glass bath unit and prefab shower stalls will be available *later during* year. Cannot meet all demands fully due to raw materials' shortages. Pittsburgh Plate Glass Co., Pittsburgh 22, Pa.

Linoleum, Leather, Felt Base

Congowall, enamel-surfaced, felt-backed wall covering. Tile-like surface, perfect adhesion. 54" wide. Congoleum-Nairn, Inc., Kearny, N. J.

Leatherwall (continuous rolls for walls) and **Leatherfloor** (squares or triangles for floors) are new products that are available. U. S. Plywood Corp., New York 19, N. Y.

Linowall, linoleum wall covering. Armstrong Cork Co., Lancaster, Pa.

Sloane-Blabon, linoleum wall covering. Sloane-Blabon Corp., New York 16, N. Y.

Quaker Wall Covering, enamel-finish fibre felt backing. Economical; 8 colors. Armstrong Cork Co., Lancaster, Pa.

Masonry Surfacing

American terra cotta. For decorative and plain wall surface; made to order. Raw materials in good supply; skilled labor scarce. Will be "in favorable position" to supply demand early in 1947. American Terra Cotta Corp., Chicago, Ill.

Arketex Ceramic Glazed Structural Tile, for exterior and interior use. Horizontal core, buff color standard; special sizes, shapes, coring, and colors available on order. Arketex Cermic Corp., Brazil, Ind.

Dextolite, polished granite, June delivery. **Mo-Sai** architectural concrete slabs, February delivery. Believe will meet 80% of demands. The Dextone Co., New Haven, Conn.

Federal Seaboard, architectural terra cotta and wall ashlar. Federal Seaboard Terra Cotta Corp., New York, N. Y.

Macotta, in usual thicknesses and new thin dimensions. Maul Macotta Corp., Detroit, Mich.

Marble; expect to be able to meet all demands for domestic or imported marbles. Marble Institute of America, Mt. Vernon, N. Y.; Alabama Marble Co., Gantt's Quarry, Ala.; Appalachian Marble Co., Knoxville, Tenn.; Carthage Marble Corp., Carthage, Mo.; Colonna & Co., Inc., New York 54, N. Y.; J. J. Craig Co., Knoxville, Tenn.; Georgia Marble Co., Tate, Ga.; Rees-Volckmann Co., Inc., New York 54, N. Y.; A. A. Landi, Long Island City 1, N. Y.; Tompkins-Kiel Marble Co., Long Island City 1, N. Y.; Vermont Marble Co., Proctor, Vt.

Granux, manufactured, highly polished granite facing; three standard size units and specials. Able to meet "reasonable" delivery requirements. Granux Corp., Chicago 19, Ill.

Alberene surfacing stone materials. Supplies limited. Alberene Stone Corp. of Virginia, New York 16, N. Y.

Metal Surfacings

Duratile, finished, synthetic enamel metal wall tile. Expanding to new plants. Doubt balancing of supply and demand in 1947. The Duratile Corp., Mishawaka, Ind.

Glasiron Fronts, architectural porcelain enamel for building facing. Custom built; large units discouraged. Any color; fadeproof. Can be insulation-backed. Demand may be met by mid-1947; have increased facilities. Wolverine Porcelain Enameling Co., Detroit, Mich.

Lifetime (aluminum) **Clapboard** and **Shingles,** expected to be available in quantity; total production of this type of material by this manufacturer expected to be at rate of 10 billion sq ft per year by mid-1947. This includes roofing and other surfacings. Reynolds Metal Co., Louisville 1, Ky.

Mahon, rolling steel curtain. The R. C. Mahon Co., Detroit, Mich.

Mobilwall steel partitions, also new **Mobilwall** wainscot and wall lining, special hospital finishes; supply depends on availability of steel. Snead & Co., Orange, Va.

Porceliron porcelain enamel products: have been too busy manufacturing cabinets, furniture, etc. to return to architectural products. Ingram-Richardson Mfg. Co., Beaver Falls, Pa.

Seaporcel, porcelain enameled iron architectural parts. Shortage of steel sheets may limit production; if this situation improves shipments will increase greatly. Seaporcel Porcelain Metals, Inc., Long Island City, N. Y.

Vikon Tile, enameled steel tiles, 4¼" available. Buffed stainless steel tiles may be available. Steel and paint supplies may retard production for 6 to 8 months. Vikon Tile Corp., Washington, N. J.

Zourite, aluminum facing material for exterior and interior use (stores) in alumilite finish. Can meet demand. Will be available in colors. The Kawneer Co., Niles, Mich.

Photomurals

Photomurals, applied like wallpaper or mounted on Masonite or Homasote. Will use original photos or furnish from stock. Immediately available. Kaufman and Fabry Co., Chicago 5, Ill.

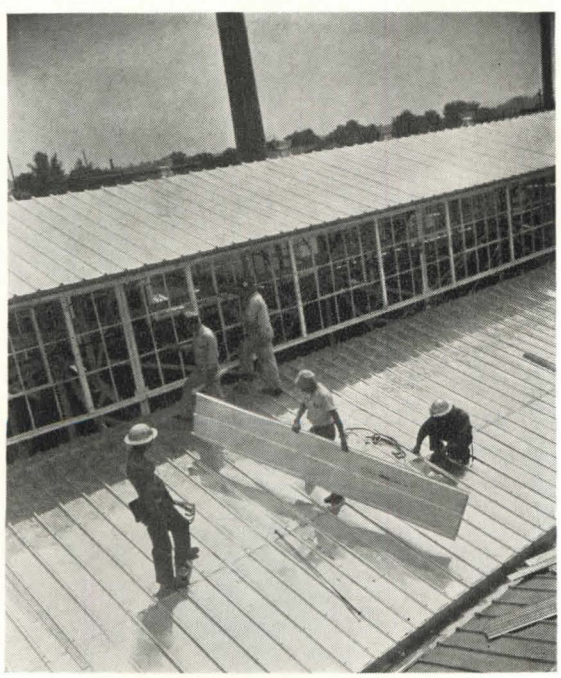
Plaster

Gold Bond gypsum plaster and plaster products, various trade names; shortage of gypsum rock alleviated; supplies should be much more ample. National Gypsum Co., Buffalo 2, N. Y.

Kilnoise, acoustical plaster; **Tiger Miracle** and **Tiger Hydrated** line. The Kelley Island Lime and Transport Co., Cleveland 14, Ohio.

U.S.G. gypsum plasters; Keene's cement; gypsum-board and fiber-board laths; finishes; bases; partitions; metal lath and accessories; asphalt shingles; wallboards. **U.S.G. Sheathing,** new board with asphalted gypsum core, moisture-resistant. All available January 1947 although probably not in sufficient quantities; supply should approximate demand by mid-year. United States Gypsum Co., Chicago 6, Ill.

SURFACING MATERIALS



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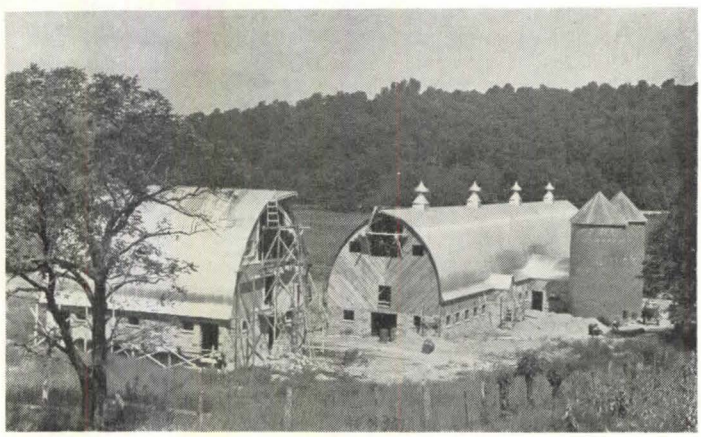

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Figs. 4, 5: Preformed aluminum roofing being installed on an industrial building and on barns. Aluminum is relatively plentiful; as a roofing material it has the advantages of long life and light weight, the disadvantages of difficulty in fabricating because sheets cannot be joined by the usual soldering methods and the material fatigues quickly. For the latter reason, preformed joints are necessary. Question still unsolved: How to form reentrant angles, intersections at varying slopes.

Plastic and Plastic-Finish Panels

Barclay, Globoard, Five Star, plastic coated panels for walls and ceilings available. Barclay Mfg. Co., Bronx, New York.

Flexhyde, vinyl sheeting in continuous rolls for walls; surface cannot be scratched, marred, or stained. U. S. Plywood Corp., New York 19, N. Y.

Laminex, plastic faced plywood. The Wheeler, Osgood Co., Tacoma, Wash.

Marlite, plastic finished wall panels; new production facilities; raw material flow will determine delivery. Marsh Wall Products, Inc., Dover, Ohio.

Tylac Board, tile design wall panels, plain wall and ceiling panels. Also **Muralac** and **Streamlined** wall panels available. All plastic coated. Expect raw materials situation to ease. Tylac Co., Monticello, Ill.

Vinyl Wall Covering; new line will be in production soon. Goodyear Tire and Rubber Co., Akron, Ohio.

Vinyl-butyral plastic coating materials for application to wide range of surfacing materials. Raw materials supplied by Monsanto Chemical Co., Springfield 2, Mass.

Tile, Terrazzo
See section on "Flooring"

Wallpaper

United wallpapers, **Trimz** ready-pasted wallpapers, **Dex** ready-pasted borders, DDT-impregnated cedar closet wallpapers, are all available. New line of "fabric" designs by Dorothy Lieber. New products now available: **Varlar** plastic-surfaced stainless wall covering, and DDT-impregnated ceiling paper. New Varlar plant should make production of this product reach demand. United Wallpaper, Inc., Chicago 54, Ill.

Wood Products

Arkansas Soft Pine (shortleaf pine, Pinus Echinata) for siding, sheathing, trim, etc. Same difficulties as other wood products. Arkansas Soft Pine Bureau, Little Rock, Ark.

Weldwood, Weldtex, Flexwood, and **Flexglass,** standard panels available. New products: **Checkwood** (1" plywood squares on cloth backing); Flexmetl (steel or aluminum faced with veneer, can be post-formed). Research in products and adhesives. Shortages in cloth, steel, veneer, chemicals, will make it unlikely to meet demand before second half of year. U. S. Plywood Corp., New York 19, N. Y.

Western Pine paneling. See under "Trim." Western Pine Assoc., Portland, Ore.

FLOORING

Resilient Flooring

Armstrong, linoleum (five varieties, three gages), asphalt tile (three grades, plus static-conductive), rubber tile, and cork tile. New product: **Corlon** plastic flooring. Linoleum output will depend on supply of linseed oil and drying oils. Asphalt tile production will increase in 1947 and "should be in good supply." Armstrong Cork Co., Lancaster, Pa.

Elastite, heavy duty asphalt tile for commercial use. The Philip Carey Mfg. Co., Lockland, Ohio.

Griptread, rubber flooring. Demand will probably exceed supply through 1947. The Goodyear Tire & Rubber Co., Akron, Ohio.

Johns-Manville, asphalt tile flooring. Johns-Manville Corp., New York 16, N. Y.

Kentile, asphalt tile, now grease resistant in all colors (special tile for commercial kitchens) and available in ⅛" thickness for installation on all structurally strong floors. **Kencork** cork tile flooring, new item; packaged in small quantities for residential use. Light pigments for asphalt tile in short supply. Delivery will probably be slow on these items through 1947. David E. Kennedy, Inc., Brooklyn, N. Y.

Koroseal Floors, available now; all the characteristics of the plastic **Koroseal.** Also standard products: felt base floor coverings, linoleum. Sloane-Blabon Corp., New York 16, N. Y.

Nairn linoleum (household weight, inlaid, duplex felt backing); available in limited quantities. **Nairn Marine Deck Covering;** unusual weaving and resistance qualities; ⅛" gage, 9" tile form. **Nairn Static-Conductive** linoleum for grounding of static electricity. New product: **Nairn Asphalt Tile.** These products now available, with demand heavy; full line will become available during year. Material specified during 1947 will be available when time comes for floor installation. Congoleum-Nairn, Inc., Kearny, N. J.

Steel

Klemp; heavy duty, flexible, riveted and welded steel grating, as well as aluminum grating, mats, flooring and decking available. **Hextell** (heavy duty) and **Floorsteel** (flexible grids and mats) delivered on short notice. **Floorsteel** can be filled to provide flush trucking floor. Expect to improve all deliveries and to be able to furnish grating in 30 days. William J. Klemp Co., Chicago, Ill.

U.S.G. industrial metal mesh and gratings, available but probably not in sufficient quantity in January 1947; should meet demand by midyear. United States Gypsum Co., Chicago 6, Ill.

Tile, Terrazzo, Etc.

Alundum Terrazzo aggregate, cement floor aggregate, ceramic mosaic tile, stair and floor tile. Production facilities adequate, raw materials plentiful, labor conditions good; expect to meet all demands in 1947. Norton Co., Worcester, Mass.

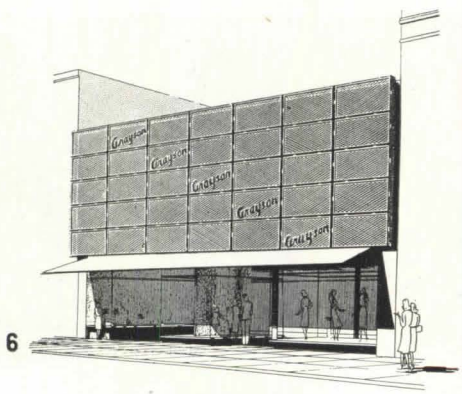
Ceramic floor and wall tile, glazed and unglazed. Plants will be operating at 100% capacity by March. American-Franklin-Olean Tile Co., Landsdale, Pa.

Ceramic Tiles. Federal Seaboard Terra Cotta Corp., New York, N. Y.

Concrete materials: see "Load-bearing Structural Materials."

Hubbellite floor surfacing, cement similar to magnesite for trowel application. H. H. Robertson Co., Pittsburgh 22, Pa.

Mosaic Tile (Ceramic, Granitex, Faience) Standard products. The Mosaic Tile Co., Zanesville, Ohio.



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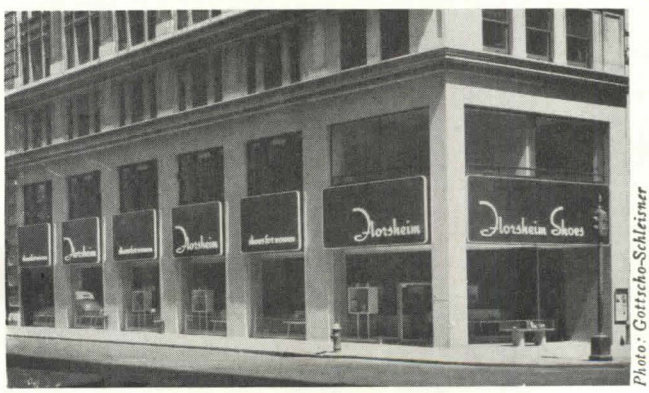

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Photo: Gottscho-Schleirner

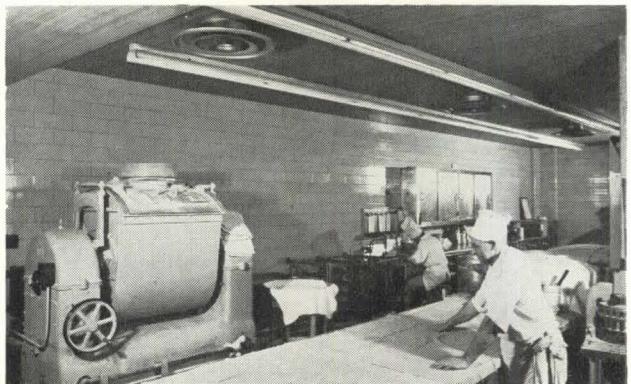

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Fig. 6: Another example of the use of signs to cover a façade in alteration work. *Fig. 7:* Signs used to cover spandrels only (shoe store, New York; Ketchum, Gina and Sharp, Architects). *Fig. 8:* Glazed structural tile, a self-finish material, is particularly appropriate in any interior where sanitation is important. In no sense a substitute material, in relatively good supply, it has also been successfully used for exterior surfacing.

Sparamics (Ceramic tile mounted on flexible plastic sheets for direct application to surface coated with synthetic adhesive). Sparta Ceramic Co., East Sparta, Ohio.

Suntile, wall and floor tile; **Camargo,** natural clay floor tile; **Everbrite,** tile house numbers. Expect demand to exceed production through 1947. The Cambridge Tile Mfg. Co., Cincinnati, Ohio.

Terrazzo for floor, wall, and stair finishes. Production of materials has increased; feel they can satisfy demands, depending on labor availability. National Terrazzo & Mosaic Assoc., Washington 5, D. C.

Terrazzo strips, plastic and zinc. Grilles for grounding static electricity. Can supply demand and expect to continue doing so. Manhattan Terrazzo Brass Strip Co., Inc., New York, N. Y.

Wood Products

Hard Maple Flooring, various types including block, strip, etc. Same difficulties as other wood flooring. Maple Flooring Manufacturers Assoc., Chicago 4, Ill.

Hardwood Flooring. Increasing production of finished hardwood strip flooring; will be able to accept new orders. Doubtful if random width plank flooring will be produced in 1947. Rough hardwood supply improving. E. L. Bruce Co., Memphis, Tenn.

Nofma oak flooring, various figures, widths, thicknesses, etc. Same difficulties as other wood flooring. National Oak Flooring Manufacturers Assoc., Memphis 3, Tenn.

Parkay ready-finished hardwood flooring in tile and plank shapes. Production being greatly increased but cannot meet demand in January, possibly not remainder of year. Wood-Mosaic Co., Inc., Louisville 9, Ky.

Pine (hard) flooring, various types; same difficulties as other wood flooring. Southern Pine Assoc., New Orleans, La.

GUTTERS, TRIM, MOLDINGS, ETC.

Cametal, metal sink trim; durable, easily bent, permanent finish. The Cambridge Tile Mfg. Co., Cambridge, Ohio.

Kawneer, metal trim and awnings in aluminum, bronze, and stainless steel, particularly for stores. Production facilities are adequate to meet present demand; output will be increased. The Kawneer Co., Niles, Mich.

Marsh Mouldings, extruded aluminum alloy, plastic, presdwood. Marsh Products, Inc., Dover, Ohio.

Western Pine moldings and millwork. New synthetic resin sealer, new method of seasoning, new method of compressing inch boards. Will not meet demand, but shortage should be less than in 1946. Western Pine Assoc., Portland, Ore.

Wood Gutters, various treatments, including "luminizing" (coating with aluminum primer) to seal and provide a hard paintable finish. Long Fir Gutter Co., Cadiz, Ohio.

ROOFING, SIDING

Abesto roll roofing, built-up roofing. Abesto Mfg. Co., Michigan City, Ind.

Aluminum Clapboard, new product, immediately available in Canada. Cresswell Roll Forming Co., Ltd., Montreal 28, Quebec.

Carey asphalt shingles. **Careystone** asbestos siding shingles and roofing shingles. **Careystone** corrugated asbestos-cement roofing and siding and asbestos-cement sheathing, and **Carey** built-up roofing products, are all available but in short supply. New plants under construction. The Philip Carey Mfg. Co., Lockland, Ohio.

Compo-Miracle Rigid Aluminum Siding. Interlocking; four-foot lengths. Promise good delivery. Compo-Miracle Products Co., Berkley, Mich.

Everwear, "English Slate" type aluminum shingles; thick shadow line. Demand will exceed supply until late 1947. Also available: steel roofing, asphalt roofing. Southern States Iron Roofing Co., Savannah, Ga.

Fiberglas Roofing Mat, new, non-combustible glass fiber felt for built-up roofing. Every effort being made to achieve production that will meet demands; new plant in production November 1946. Owens-Corning Fiberglas Corp., Toledo 1, Ohio.

Glasiron Roofing Tile, porcelain enamel tile in colors integrally finished. Plant expanded; hope to meet demand by midyear. Wolverine Porcelain Enameling Co., Detroit, Mich.

Johns-Manville, built-up roofing, asbestos roofing and siding shingles, asphalt shingles, roll roofing available. Johns-Manville Corp., New York 16, N. Y.

Master-Bilt, asphalt shingles available. Also **Bric Design** insulated siding. Bird and Son, Inc., E. Walpole, Mass.

Monel Roofing Quality Sheet, special, soft-tempered **Monel** sheet for high quality roofing, high fatigue strength, easy workability. Available January 1947. International Nickel Co., Inc., New York 5, N. Y.

Proslate and **Paroid,** roll roofing available. Bird and Son, Inc., E. Walpole, Mass.

Reynolds Aluminum Roofing (Corrugated and **5-V Crimp)** available now and throughout 1947. Reynolds Metals Co., Richmond, Va.

Richlume, waterproof, insulating roof coating. Available throughout 1947; expect to meet demand. The Richkraft Co., Chicago, Ill.

Ruberoid, roll roofing, built-up roofing materials and roof coatings. Also thick butt asphalt shingles, asbestos cement shingles, asbestos-cement siding. Supply will be short of demand on asbestos-cement products first half year; supply will meet demand on asphalt shingles and roofings early in year. The Ruberoid Co., New York 18, N. Y.

U.S.G. asphalt shingles, siding, roll roofing; also fireproof gypsum roof decking; available though probably not in sufficient quantity January 1947; should meet demands by midyear. United States Gypsum Co., Chicago 6, Ill.

Zephyrs, stained wood shingles and hand split shakes. Creo-Dipt Co., North Tonawanda, N. Y.

SURFACING MATERIALS

9 *Gottscho-Schleisner*

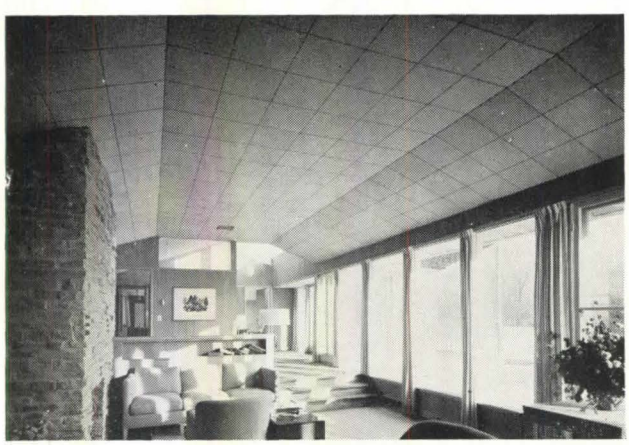

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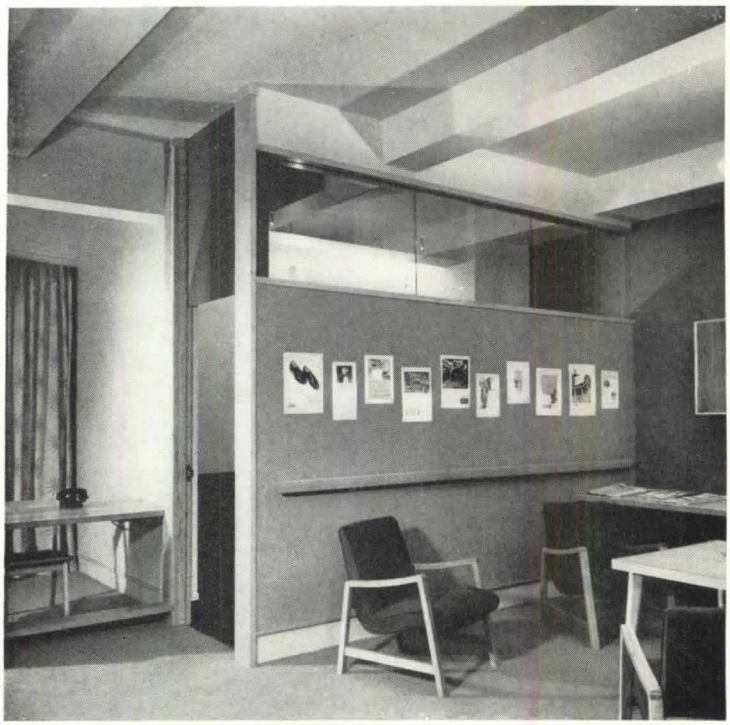
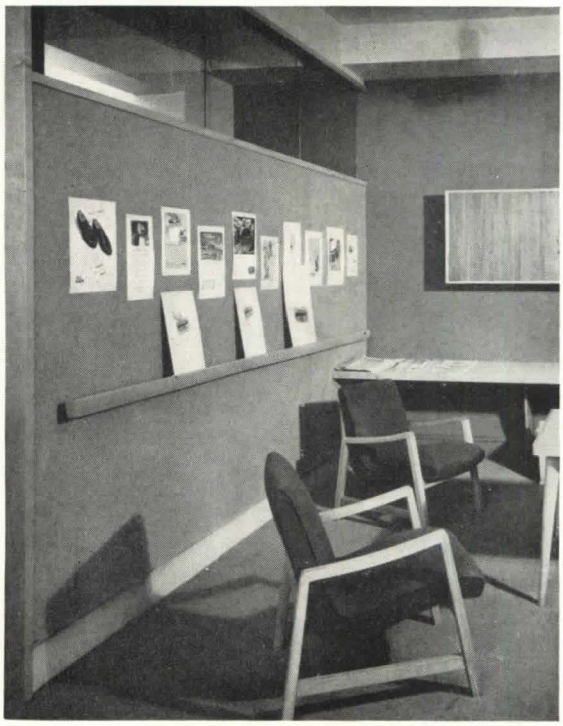
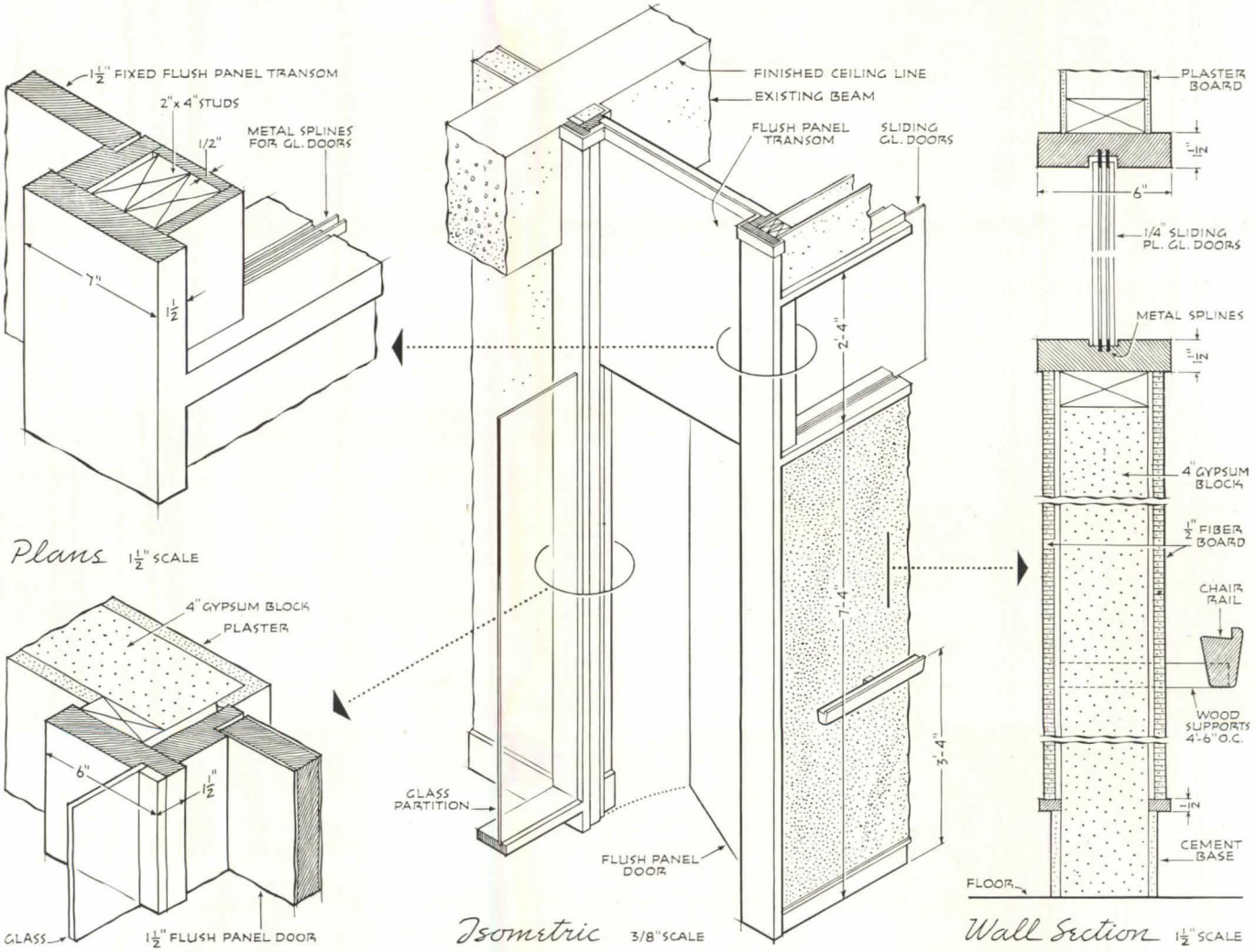
Fig. 9: Egg-crate louvers required by fluorescent lighting fixtures are extended to cover the entire ceiling, eliminating conventional surfacing (shoe store, New York; Ketchum, Gina and Sharp, Architects). *Fig. 10:* Ceiling surfaced with Nu-Wood tileboard, a type of material whose availability will probably improve during 1947 (George Fred Keck, Architect).





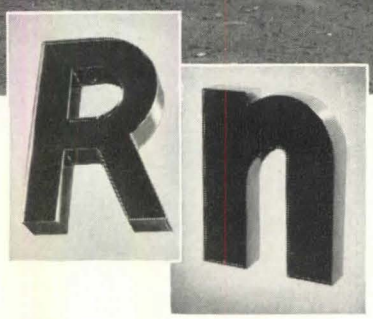
Photos: Gottscho-Schleisner

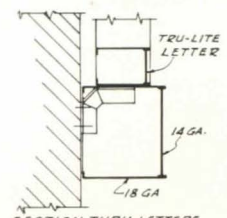


WALL TREATMENT

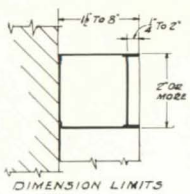
OFFICE FOR H. B. HUMPHREY CO., New York, N. Y.
KETCHUM, GINA and SHARP, Architects

THE SIGN is part of BUILDING DESIGN

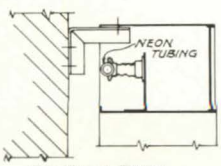




SECTION THRU LETTERS MOUNTED ON CURB BOX



DIMENSION LIMITS



SECTION THRU SILHOUETTE MOUNTING

DESIGN:

Barrows TruLite Letters (design unlimited) give the architect complete freedom in designing just the sign that best harmonizes with the overall building design. TruLite Letters are custom-built in any creative design, size, shape or color you specify. They can be as individual and distinctive as imagination itself.

FLEXIBILITY:

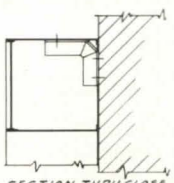
TruLite Letters are three dimensional. They are available in all porcelain enamel or a combination of stainless steel and porcelain enamel. TruLite Letters can be non-illuminated or illuminated with neon or bulbs. Unusual silhouette effects are created when lighting is arranged on back of letters.

PERMANENCE:

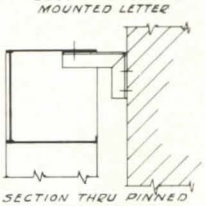
TruLite Letters have a base of heavy enameling iron. Side flanges and faces are electrically welded together by a patented process. TruLite Letters are covered with genuine weather-resistant porcelain enamel in colors you select. Original, colorful beauty is the same years later as when installed.

OTHER PRODUCTS:

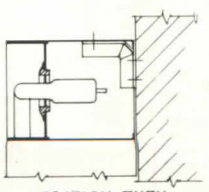
In addition to TruLite Letters, Barrows fabricates architectural porcelain panels and porcelain enamel parts for signs.



SECTION THRU CLOSE MOUNTED LETTER



SECTION THRU PINNED OUT LETTER MOUNTING



SECTION THRU NEON ILLUMINATED LETTER

Better Signs for Better Buildings

BARROWS PORCELAIN ENAMEL CO.

LANGDON ROAD & PENN. R. R., CINCINNATI 12, OHIO

Sun-Proof house paint and **Ironhide** metal paint are available with good delivery. Pittsburgh Plate Glass Co., Pittsburgh 22, Pa.

Pratt & Lambert; house paint, creosote shingle stain, cement and stucco paint, **"61"** Spar varnish, **"61"** floor and porch enamel, and **noxide** paints are available with good delivery. Slower delivery on trim and shutter finish and **Effecto** outdoor enamel. Pratt & Lambert, Inc., Long Island City, N. Y.

Wilbur & Williams paints and protectors **(Shingl-Gard, Rubber-Gard, Mason-Cote, Stain-Gard).** New rubber-base coatings in development. The Wilbur & Williams Paint Corp., Boston 16, Mass.

[illegible] 9, Ill.

Medusa products: rubber-base floor coating in supply sufficient to meet all demands with reasonable promptness; casein paints discontinued, cement paint in doubled production. Medusa Portland Cement Co., Cleveland 15, Ohio.

Paratex, new rubber-base floor coating, is now available. Truscon Laboratories, Inc. Detroit 12, Mich.

Pittsburgh interior trim varnish and floor varnish; **Florhide** floor enamel; **Wallhide** 1-coat flat, semi-gloss; **Waterspar** enamel; **Techide** flat

PRESERVATIVES

Abesto Staintox Wood Preserver and **Cleartox Wood Preserver,** deep-penetrating oil-based products. Abesto Mfg. Corp., Michigan City, Ind.

Armortop hardener and dustproofer for concrete surfaces is available. Anti-Hydro Waterproofing Corp., New York 7, N. Y.

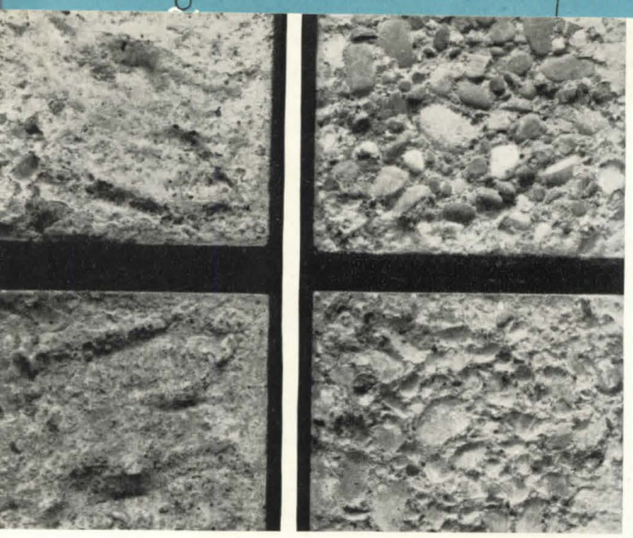
Art-Roc Aggregate, "built-in" color and hardener for concrete, non-rusting, for inside and outside work. Expect to be able to supply demand throughout the year. Wood floor pre-

the Kawneer K-47 line

A new medium of store front design

BLOCK AND RIBBON LETTERS

AWNING BOXES AND CANOPY FACES



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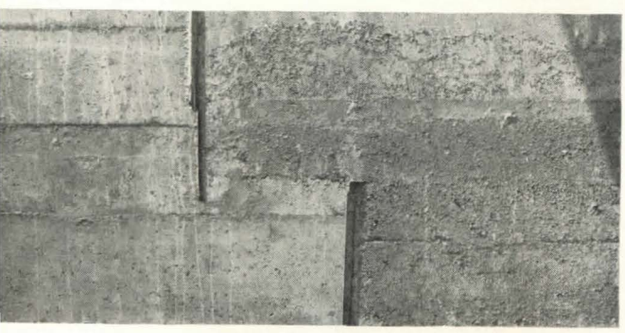

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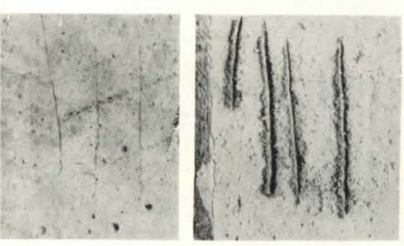

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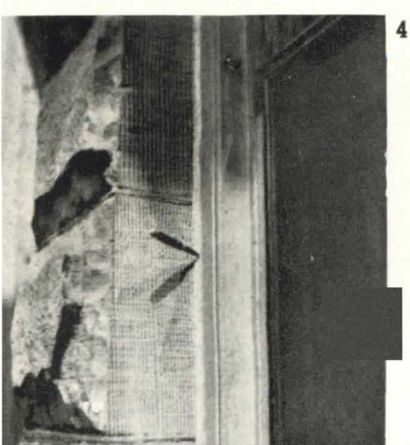
Figs. 1, 2, 3: **"Densifiers" have been developed for admixture with concrete to increase plasticity, workability, uniformity, surface hardness, impermeability, etc., at the same time reducing shrinkage, water required, etc. Examples illustrate effects of using *Plastiment:* top, strength of bond between pours (Plastiment, left, broke in new concrete, other mix at joint between pours); next, segregation and porosity (Plastiment on left); bottom, surface hardness (Plastiment on left). *Fig. 4:* Calking must remain elastic; photo shows penknife inserted in *Tremco* calking after several years in service.**



4

Both applied and integral waterproofers and dampproofers are increasing in number, and research is producing more accurate knowledge of the actual performance of these materials. Instead of marketing one product which is called "waterproof" and is presumably recommended for all uses, many manufacturers today are very careful to describe specific uses for specific materials, and to furnish test results as well as application data.

While many promises have been made about wood treatment to prevent deterioration from rot or vermin, little is yet available in this line that was not on the market before the war.

In the chemistry of paints, progress to date and continuing research are both concerned with covering power, drying rapidity, color purity and permanence, washability, and general durability. The excellent performance of most exterior lead-and-oil house paints seems to make the likelihood of any large scale replacement by synthetic paints very small. Most manufacturers agree that standard house paints are here to stay. Interior oil-base flat wall paints (titanox-lithopone group) appear in a weakened position because of the inroads made by the resin-emulsion types. This challenge will undoubtedly spur improvements in the sealing and hiding power of these oil-base paints.

An innovation in resin-emulsion paints lies in the development of glossy enamel-like types possessing greater washability characteristics in addition to their economical "one-coat" feature.

In the cement-water paint group, there are more than forty-five competitive products available. Should some architect find

servative **"384"** is available. Truscon Laboratories, Inc., Detroit 12, Mich.

Car-Na-Var and **Car-Na-Lac,** floor waxes, and **Car-Na-Seal,** heavy duty sealer. Will meet demand in 1947. Continental Car-Na-Var Corp., Brazil, Ind.

Cop-R-Tex, vapor barrier, electro-sheet copper on reinforced Kraft Paper. Wasco Flashing Co., Cambridge 42, Mass.

Creosote, wood preservative; delivery questionable. Barrett Div., Allied Chemical & Dye Corp., New York 6, N. Y.

Koppers treated wood products: **Koppers Asidbar** wood, **Koppers Fire-Retardant** wood, **Koppers** creosoted foundation piling. No data on delivery. Koppers Co., Pittsburgh 22, Pa.

Lignophol, quick-drying preservative, sealer, and finisher for wood floors. L. Sonneborn Sons, Inc., New York 16, N. Y.

Miracle Adhesive Type P, corrosion-resistant preservative with waterproofing and vaporsealing characteristics, is available. Miracle Adhesives Corp., Newark, N. J.

Okene preservative, natural or stain preservative wood finish. Pratt & Lambert, Inc., Long Island City, N. Y.

Penetrem, concrete hardener and wood sealer. Tremco Mfg. Co., Cleveland, Ohio.

Protexol, fire-resistive wood treatments. Protexol Corp., Kenilworth, N. J.

Sisalation, a new vapor-barrier product, aluminum surface on two sheets of Kraft Paper. The Sisalkraft Co., Chicago 6, Ill.

Wolmanized Lumber (decay and termite protection), **Minolith Flameproof** lumber, creosoted piling and foundation timber. Research on glued laminated members of treated woods and plywoods. High production; Wolman salts and Minalith available; creosote short. American Lumber and Treating Co., Chicago 4, Ill.

MEMBRANE WATERPROOFING

Anaconda Thru-Wall copper flashings and **"Electro-Sheet"** copper. American Brass Co., Waterbury 88, Conn.

Barrett tarred felt and coal tar pitch for membrane waterproofing is available. Barrett Div., Allied Chemical & Dye Corp., New York 6, N. Y.

Cabot's Foundation Coatings. Samuel Cabot, Inc., Boston 9, Mass.

Chase Thru-Wall flashing now available. Chase Brass & Copper Co., Waterbury 91, Conn.

Flintkote asphalt-saturated membrane and spandrel waterproofing cloth should meet demand early in year. The Flintkote Co., Inc., New York, N. Y.

Koppers tar-saturated fabric and approved tarfelt for membrane waterproofing. Koppers Co., Pittsburgh 22, Pa.

Minwax membrane waterproofing will meet demand early in year. Minwax Co., Inc., New York 18, N. Y.

Wasco Copper-Fabric Flashing, features rough surface for mortar bond, and **Copperseal,** asphalt protected electro-sheet copper for spandrel and thru-wall flashing. Wasco Flashing Co., Cambridge 42, Mass.

PLASTER COAT WATERPROOFING

Ferritex, iron waterproofing coat (should be surfaced with cement plaster) now available. Truscon Laboratories, Inc., Detroit 12, Mich.

Ferrolith W, iron waterproofing coat, is available. L. Sonneborn Sons, Inc., New York 16, N. Y.

Sika No. 1, for water resistant cement coat and **Kemox** waterproofing coat are now available in good supply. Sika Chemical Corp., Passaic, N. J.

INTEGRAL WATERPROOFING

Anti-Hydro, integral waterproofing for concrete, cement, and stucco is available. Anti-Hydro Waterproofing Corp., New York 7, N. Y.

Hydratite, integral waterproofing in paste, pow-

this situation insufficiently assuring, he can specify his own mix: 70 pounds of white waterproofed Portland cement (or white Portland cement with one pound of calcium stearate added) and 30 pounds of hydrated lime. Clarification of the legal definition of "waterproofing" by the Department of Commerce should end the controversy in this field as to whether any cement-water paint is actually a waterproofer. (Ed. Note: But it probably won't!) Architects should be constantly aware of paint color and lighting relationships; for example, the fact that the various "white light" fluorescent shades affect paint color in as many ways.

All in all the alert designer in 1947 will look for more than mere protection in his finishing materials. One of the most sure indications that we are approaching the design of integrated structures is the increasing interest of many paint manufacturers in correlation of their products with natural illumination and the design and placing of windows, with artificial illumination and the reflection or absorption of light, and with the psychological and therapeutic effects of color on the human mind and the human body. The combination of protection against deterioration, pleasant appearance, useful surface, and relation to the other architectural factors in a structure is surely the progressive approach to this design problem.

Another trend for the designer to watch is the tendency to develop details which do not put an undue strain on any protective material. The increasing use of cavity walls, for example, solves the question of water penetration in a basic manner, and does not require any material to act as an infallible dampproofing agent. Another instance is the use of a galvanized shelf angle at lintels, to eliminate almost entirely the usual asphalt saturated cotton membrane (which is critical at the moment) or metallic flashing, traditionally employed. Perhaps soon there may evolve economical nonferrous angles which would obviate the necessity for galvanizing and mastic preservatives.

Finishers and protectors should be no problem to the alert architect.

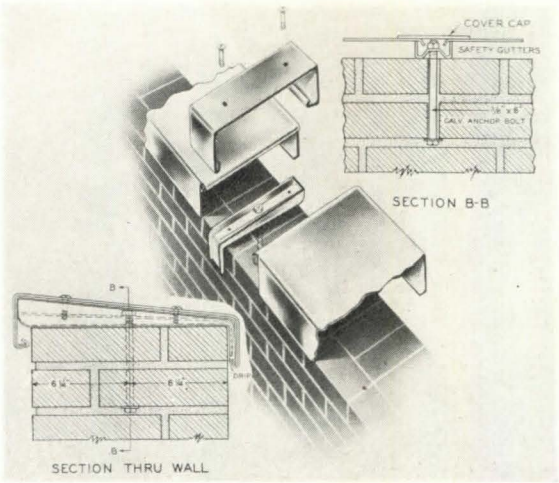


Fig. 5: Goodwin **metal coping (Overly Mfg. Co., Greensburg, Pa.) is prefabricated, lightweight, needs no calking; is manufactured in many corrosion-resistant metals.**

der, or liquid form is available. A. C. Horn Co., Long Island City, N. Y.

Hydrocide Paste for integral waterproofing is available. L. Sonneborn Sons, Inc., New York 16, N. Y.

Medusa waterproofing powder and waterproofing paste; both are available. Medusa Portland Cement Co., Cleveland 15, Ohio.

Plastiment concrete "densifier" and **Concrete Sika,** liquid integral waterproofing, are both available. **Kemox,** iron compound for waterproofing and hardening, will probably be available in the second half of 1947. Sika Chemical Corp., Passaic, N. J.

Zilicon waterproofing paste; expect to be able to supply all demands. Truscon Laboratories, Inc., Detroit 12, Mich.

DAMPPROOFING

Arid Clear, transparent dampproofing for brick, stone, stucco, cement. Anti-Hydro Waterproofing Corp., New York 7, N. Y.

Aquella, cement water paint for masonry surfaces. Prima Products, Inc., New York 16, N. Y.

Cabot's clear brick waterproofing, and **Cabot's** clear cement waterproofing. Supplies limited. Samuel Cabot, Inc., Boston 9, Mass.

Horn dampproofing products for use above grade, below grade, for decorative treatment, are all available. **Hornrock** cement water paint for masonry surfaces is available. **Dehydratine No. 2A,** transparent dampproofing with aluminum stearate base. A. C. Horn Co., Long Island City, N. Y.

Hydronon below grade dampproofing. Barrett Div., Allied Chemical & Dye Corp., New York 6, N. Y.

Hydrozo, colorless mineral compound for masonry or wood; applied in two coats. National Hydrozo Co., Cleveland, Ohio.

Igol dampproofing paint for masonry walls below grade, and **Igas** joint sealer, and **Conservado P** cement water paint all are available. Sika Chemical Corp., Passaic, N. J.

Kuhl's Elastic transparent non-staining liquid for masonry and stucco surfaces. H. B. Fred Kuhls, Brooklyn 20, N. Y.

Mastertex, cement-water paint and metallic waterproofing with ground iron base. The Master Builders Co., Cleveland, Ohio.

Medusa Portland cement paint. Medusa Portland Cement Co., Cleveland 15, Ohio.

Minwax Transparent, colored, clear, and Asphalt (under plaster on foundations, etc.) should be available through 1947. Minwax Co., New York 18, N. Y.

Neobon, synthetic rubber coating for acid tanks and swimming pools, now available. The Atlas Mineral Products Co. of Pa., Mertztown, Pa.

Reardon Bondex waterproof cement paint. The Reardon Co., St. Louis 6, Mo.

Tite-Wall cement-water paint. Truscon Laboratories, Inc., Detroit 12, Mich.

Thoroseal, cementitious masonry coating, applied with brush or trowel. Recommend finishing with **Quickseal**, cementitious powdered material applied with brush or spray. Delivery in fourteen days. Standard Dry Wall Products, Inc., New Eagle, Pa.

Tremco 145 Clear Dampproofing, transparent dampproofing. The Tremco Mfg. Co., Cleveland, Ohio.

FLASHINGS

Chase lead-coated copper, sheet copper flashings, and copper leaders and gutters. Chase Brass & Copper Co., Inc., Waterbury 91, Conn.

Koppers tarred fabric and plastic cement for spandrel flashings should be available by the middle of the year. Koppers Co., Inc., Pittsburgh 22, Pa.

Minwax Full-seal fabric is available, and **Minwax Superseal** fabric will meet demands shortly. Minwax Co., Inc., New York 18, N. Y.

Rubberseal copper flashings are available in various weights. Mitchell-Rand Insulation Co., Inc., New York 7, N. Y.

Sheet copper flashings. American Brass Co., Waterbury 88, Conn.

Sisalkraft, copper-armored, is available. The Sisalkraft Co.. Chicago 6, Ill.

Wasco fabric covered copper and **Copperseal,** asphalt-covered copper, are both available for flashings. Wasco Flashing Co., Cambridge 42. Mass.

Whitehead Monel metal flashings. Whitehead Metal Products, Inc., New York 14, N. Y.

CAULKING AND JOINT FILLING MATERIALS

Benjamin Moore caulking compound; black, gray, white, and "natural." Benjamin Moore & Co., New York, N. Y.

Flintkote caulking compound. The Flintkote Co., New York, N. Y.

Kuhls elastic caulking composition and elastic pointing-up composition; available in colors. H. B. Kuhls, Brooklyn 20, N. Y.

Minwax caulking compound in cream, gray, and buff, and asphalt caulking compound (black only). Also **Weathercap** formed lead joint cover. Should meet demand soon. Minwax Co., Inc., New York 18, N. Y.

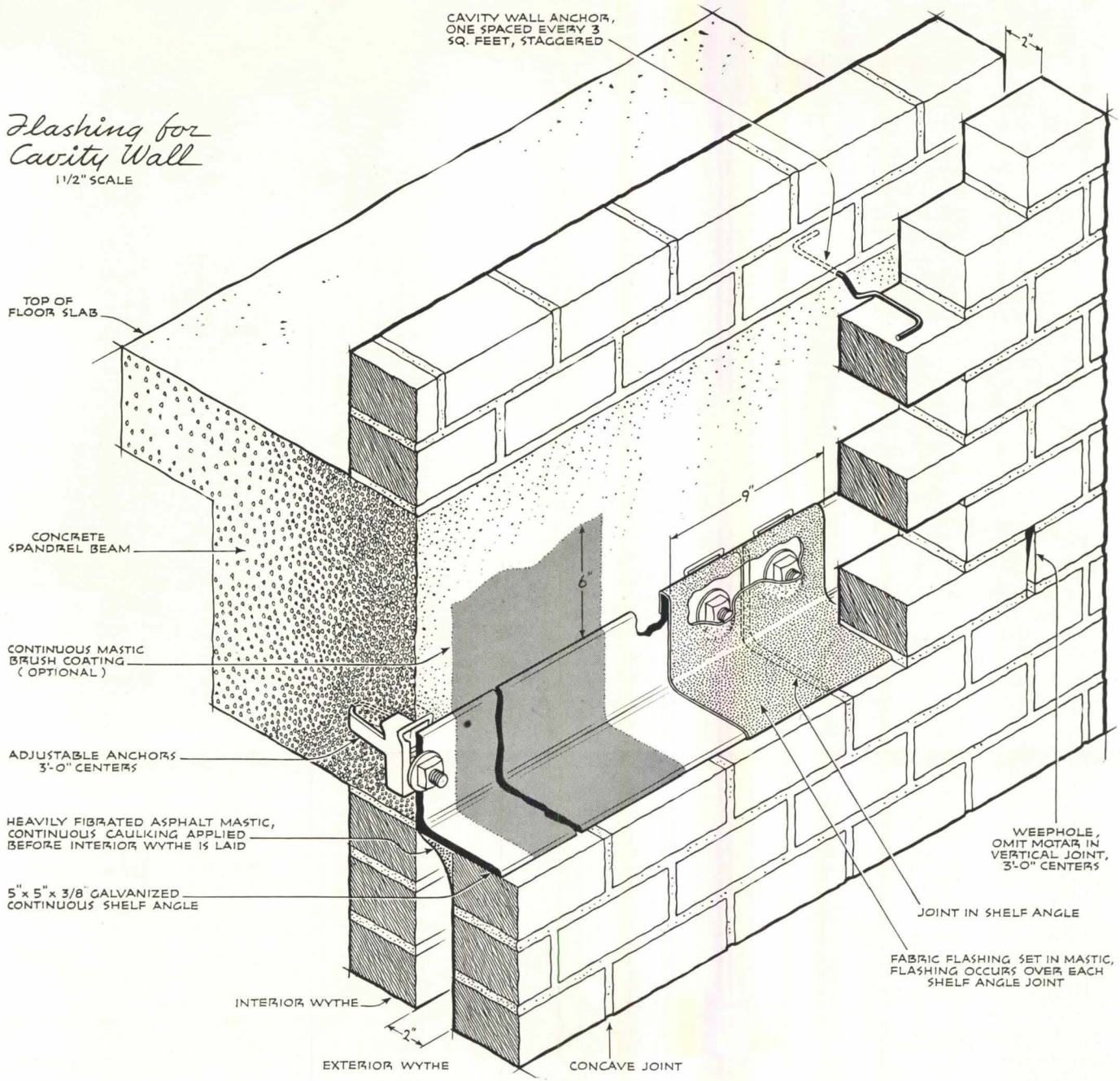
Pecora caulking and glazing compound; available, delivery depends on raw materials. Pecora Paint Co., Philadelphia, Pa.

Reardon's joint cement, for dry wall construction. Good delivery. The Reardon Co., St. Louis 6, Mo.

Sika caulking compound, gray and colors, synthetic resin base. Will be available by mid-year. Sika Chemical Corp., Passaic, N. J.

Tremco caulking and pointing compound; now available. Tremco Mfg. Co., Cleveland. Ohio.

Vulcatex caulking material; contains no volatiles. A. C. Horn Co., Long Island City, N. Y.



COMBINED FLASHING AND STRUCTURAL SUPPORT

FOR CAVITY WALL CONSTRUCTION

ALFRED HOPKINS & ASSOC., Architects

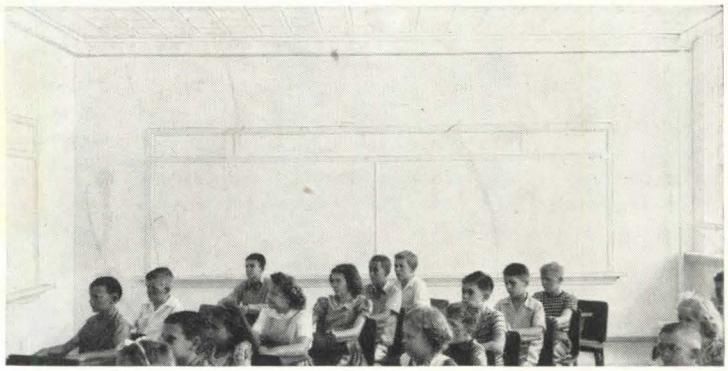
For use in multistory cavity wall construction, Alfred Hopkins & Associates have devised the simple dual-purpose detail shown. The spandrel face is kept flush with the cavity face of the inner withe; the angle bolted to the spandrel face must be of a corrosion-resistant material and requires conventional flashing only at joints between lengths of angle. If desired, angles may be brush-coated with mastic, but this is not essential. Use of heavily fibrated mastic as shown beneath the angle prevents moisture infiltration in case of shrinkage, settlement, or possible capillary action between adjoining surfaces of metal angle and brick masonry. Mastic used here should be selected with care to insure permanence and strength of bond, and is applied from inside before the top few courses of the inner withe are laid.

THIS LIGHT-REFLECTIVE PAINT IS AN IMPORTANT AID TO

startling educational growth IN TEXAS SCHOOLS

BEFORE

AFTER



OTHER ADVANTAGES OF LUMINALL PAINT

The paint used in the Texas schools described here was *Luminall* (casein binder) taken from dealers' regular stocks. Its high light-reflective properties were sought.

Other advantages of Luminall are its purity of color; its special velvety texture produced by an exclusive patented method of manufacture.

Luminall has long been a favorite with architects and builders as it can be applied over damp plaster without damage, thus hastening the delivery of a fully decorated structure.

Here is news of high importance to school architects! Many schools are gaining startling educational growth . . . important decreases in students' visual difficulty . . . and reduction in classroom energy problems by painting the interiors of schoolrooms with Luminall paint (light-reflecting) and making changes in fenestration and seating arrangement according to a plan known as the "Texas Method."

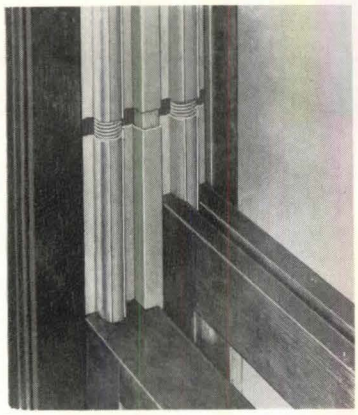
These revolutionary achievements developed and proved in the Mexia, Texas Public Schools under the direction of Dr. Darell B. Harmon, Texas State Department of Health, are reported in Illuminating Engineer, Architectural Record, and elsewhere. The modernization necessary to achieve these results is relatively simple.

Send today for "Light on Growing Children" by Dr. Harmon. Learn how easily your school may obtain these benefits for its children. NATIONAL CHEMICAL & MFG. CO., 3611 South May Street, Dept. G, Chicago 9, Illinois

LUMINALL

the light-reflective paint for interiors

Fig. 1: Combination metal weatherstrip and sash balance, *Duraseal*, has springs in aluminum housings which cover sash runways and slide in grooves in sash; conventional weatherstrip at head and meeting rails. Runways need no painting. Designed for plank frame, stock sash (Zegers, Inc., Chicago). *Fig. 2:* *Premier* aluminum window, pre-glazed, packaged (Premier Metal Products).



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DOORS AND WINDOWS

By A. Gordon Lorimer, A.I.A., Architect and Consultant

WINDOWS

Practically all window types available prewar are again in production with availability slowly improving. Mid-1947 should see the turning point to shorter delivery schedules, particularly in factories which have been retooling toward more complete mass production.

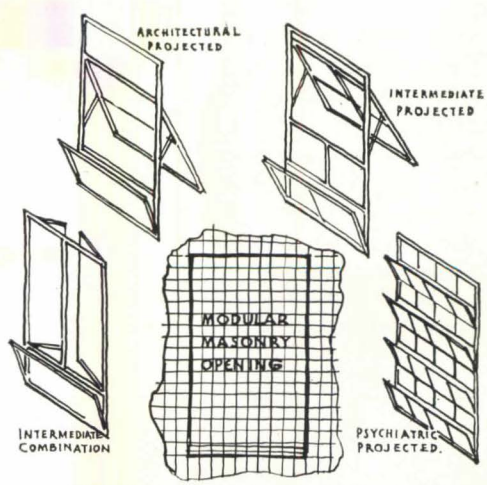
During the war practically all window manufacturers converted to munitions production of some form. In their efforts to achieve peak war production many new tricks and methods were learned which should pay dividends in postwar output. As in all industries, however, retooling is not easy and will go on for some time. Significant of the trend towards concentration on mass production of a selected line of standardized units is the fact that General Bronze Corporation is now constructing a large plant for the sole production of an economical line of standardized double hung aluminum windows for the domestic market.

The most widespread development of the past few years has been the broad adoption of modular sizes by the window industry in cooperation with Committee A62 of the American Standards Association. Previously window dimensions were arrived at by placing the required metal or wood sections around standard glass sizes in two-inch multiples. While at first glance this might appear conducive to building standardization, it actually produced the opposite effect as each new bar and muntin arrangement produced a different overall dimensional condition. As a result there was no interchangeability of type in a given masonry opening. Today most solid section types are interchangeable in any given modular masonry opening.

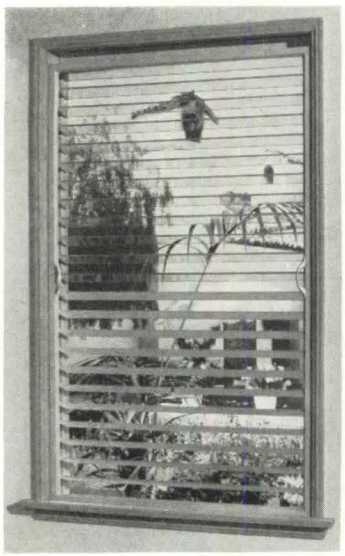
In achieving this coordination the Metal Window Institute studied some 30,000 types and sizes previously manufactured and were able to reduce these to about 300 or about 1%, yet still give good selection and flexibility. The manufacturing economies of this reduction are easily understood and today all non-modular sizes are at premium rates.

Job installation procedures have been greatly improved as a result of this standardization. Previously it was necessary to build in the solid-section type of window as the masonry progressed. Modular types can be installed or replaced at any time.

Similarly in double hung wood windows the National Door



INTERCHANGEABILITY IN MODULAR OPENING
(FOR COMPLETE LISTINGS SEE A62 GUIDE)



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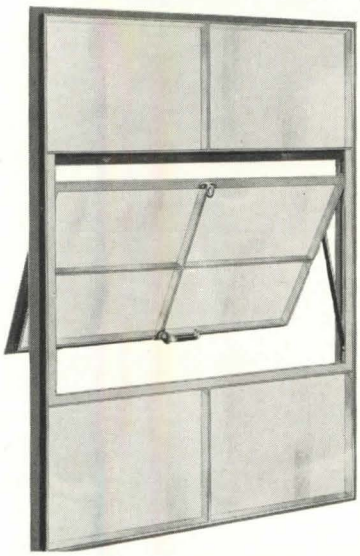

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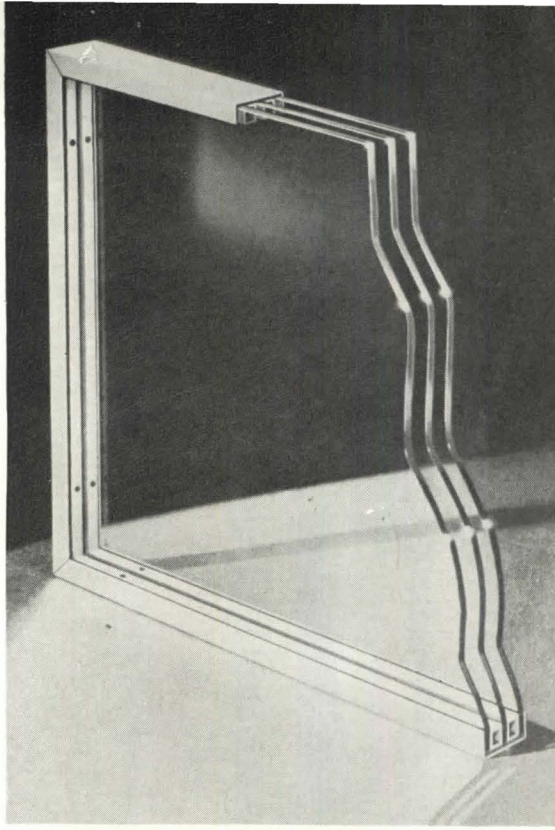

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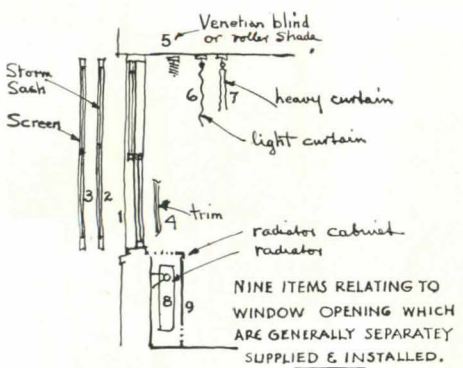
Fig. 3: Bishop *Venta*-glass window has glass louvers (lower half translucent, upper half transparent) operated by moving the inner frame (Nu-Air-Wa Co., Los Angeles). *Fig. 4: Truscon* commercial projected *steel window* (*Truscon* Steel). *Fig. 5: Twindow* multi-pane prefab glazing, has channel outside glass as well as separators between (Pittsburgh Plate Glass Co.)

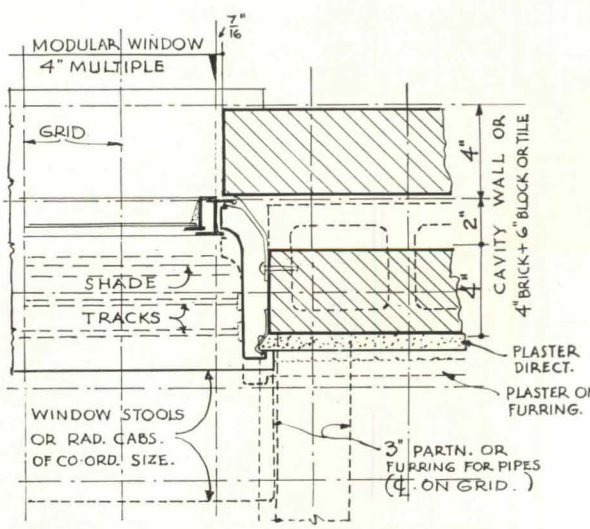
Manufacturers Association have adopted a single national standard for 1⅜" windows in 4" increments, coordinated for installation in modular masonry and wood frame construction. This replaces a chaotic condition where throughout the country there were at least ten different "markets," each of which arrived at overall dimensions by different procedures producing almost an infinity of slight dimensional variations.

This chaos completely precluded the development of standard window auxiliaries such as storm sash, screens, shades, Venetian blinds, and curtain tracks for national distribution. A fertile field for such development now exists both for metal and wood windows. Much of this development, however, is industry-wide in nature, involving the coordination of many materials. Efforts are now being made at a national level to provide the mechanism for this broad type of building research.

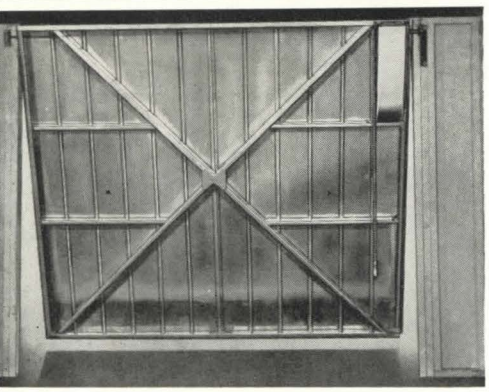
However, there is much that the individual producers can do in studying the relationship of their auxiliaries to the products already standardized. Illustrated is a demonstration of one auxiliary—a metal jamb—studied in relation to other



OPPORTUNITIES FOR COORDINATION



SUGGESTION FOR METAL WINDOW CASING TO MEET A VARIETY OF WALL CONDITIONS & PROVIDE STANDARDISATION OF SHADES & TRACKS.



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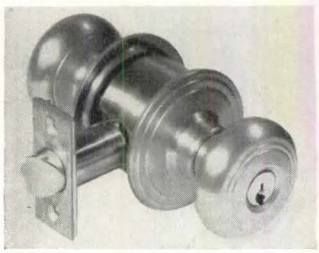

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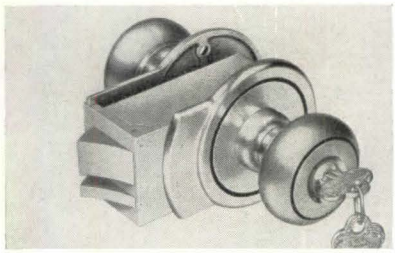

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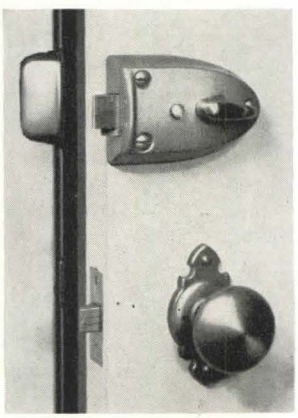

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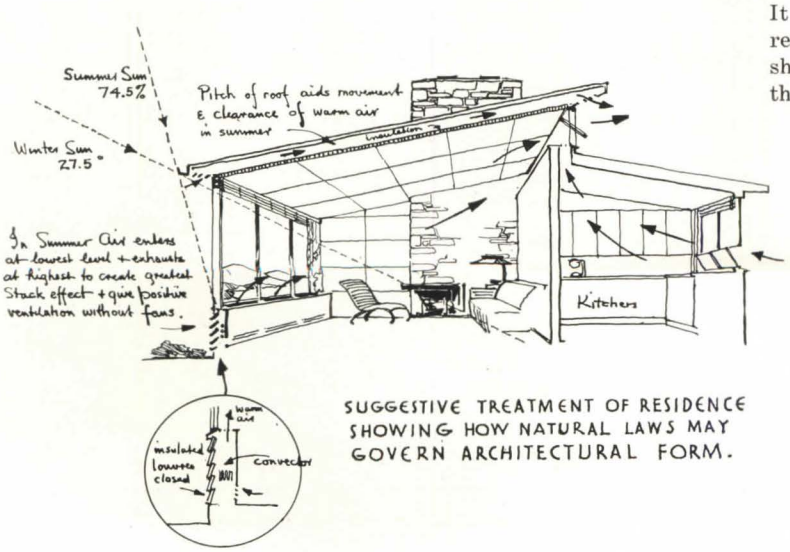
Fig. 6: Aluminum garage door, extremely light weight, easily operated (Berry Door Co., Wayne, Mich.). *Figs. 7, 8:* Trend in locksets is toward compactness, simplicity of installation. Fig. 7 shows Schlage lock, installed in two bored holes; Fig. 8, Corbin lock requires saw-cut slot. *Fig. 9:* Yale & Towne *Springlatch,* designed for maximum convenience of operation (for instance, by a housewife with armful of bundles); turning key holds bolt back, closing door automatically closes the bolt.

products and to the variety of building conditions met. This minor detail is suggestive only and would require study and checking with the various industries before final adoption. The prime function of the suggested jamb is to provide an easily maintained surface adjacent to the window, which will eliminate the "blossoming" and general deterioration so common when plaster is in actual contact with exterior sash and subject to condensation. The metal jamb also produces much more accurate dimensional conditions for auxiliaries than is likely if plaster is used.

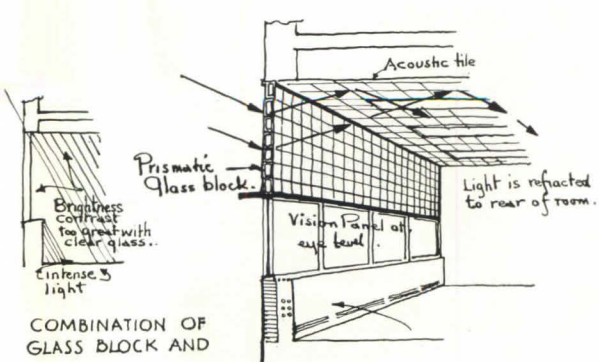


SUGGESTIVE TREATMENT OF RESIDENCE SHOWING HOW NATURAL LAWS MAY GOVERN ARCHITECTURAL FORM.

DESIGN TRENDS

In architectural work of recent years there has been a growing tendency to give up the somewhat cave-like protection of the all-masonry house and to achieve a closer welding of indoors and outdoors. This has necessitated larger areas of glass than could properly or economically be provided by traditional types of operating windows with their attendant requirements of hardware, screens, etc. The introduction of multiple sandwiches of glass and dehydrated air space such as "Thermopane" and "Twindow" have further spurred this tendency.

It is significant from the point of public acceptance that of recent months the women's "home" magazines have been showing drawings and models of contemporary houses rather than the Cape Cod cottages which filled their pages for more



COMBINATION OF GLASS BLOCK AND CLEAR GLASS.

DOORS

Clark Steel Reinforced Overhead Doors. Standard line available and new product: **Clark All-Lite** Overhead Door with large glass area. Clark Door Co., Inc., Newark, N. J.

Crawford sectional overhead residential and industrial doors and **Craw-Fir** one-piece residential doors. Will have available aluminum sectional doors for residential and industrial use about January 1. Expect to meet demand by midsummer. Crawford Door Co., Detroit 14, Mich.

Dahlstrom Hollow Metal Elevator Entrances. Dahlstrom Metallic Door Co., Jamestown, N. Y.

Entrance doors (Kawneer, for stores) new in 1946, free-standing and full-vision types, with trim. Also awnings for stores. Production facilities adequate; as raw materials become available, output is being increased. The Kawneer Co., Niles, Mich.

Fenestra Industrial Swing Doors, Slide Doors, Turnover and Vertical Lift Doors; available but demand will not be satisfied until some months into 1947. New methods for standardizing manufacture being researched. Detroit Steel Products Co., Detroit 12, Mich.

Hardwood Doors. Will be available later in the year. Hardwood Products Corp., Neenah, Wis.

Lupton Industrial Doors and Hangar Doors. Michael Flynn Mfg. Co., Philadelphia, Pa.

Mengel Flush Wood Doors. In short supply now but will be freer during 1947. U. S. Plywood Corp., New York, N. Y.

Mesker Steel Industrial Doors. Mesker Bros., St. Louis, Mo.

New Londoner Hollow Core Flush Wood Doors. Expect reasonable supply by mid-1947. American Plywood Corp., New London, Wis.

Snead hollow metal doors, including flush interior doors, standard sizes. Can produce 300 doors a day; supply depends on steel. Snead and Co., Orange, Va.

Tru-Sized Resin Sealed Wood Doors, sized, squared, and finished at factory; resin sealed finish. New product: Adjustable Factory Door Jamb. The Wheeler, Osgood Co., Tacoma, Wash.

Wood doors and door **frames,** stock Ponderosa pine. New wood sliding door, to be announced. Various manufacturers licensed. Working on standard test method for water repellency. May meet large demand. National Door Manufacturers Assoc., Chicago 4, Ill.

WINDOWS

Alwintite Double Hung Aluminum Windows. 12 standard sizes available, weather-stripped and with frames and sash combined; screens easily attached. 1947 production will triple 1946. Aluminum Window Corp., Long Island City, N. Y.

Aristocrat; steel basement windows, weatherproofed, full ventilation, interchangeability. Immediate delivery can be made in reasonable quantities. H & R Machine & Tool Co., Cleveland, Ohio.

Federal Pivoted and Commercial Projected Industrial Windows, and **Stanwin** Intermediate Windows and Residence Casements. Available with nominal demand for commercial work, large demand for residential. Expect to meet all demands by midsummer. Crittall-Federal, Inc., Waukesha, Wis.

Fenestra; complete standard line available from residence casements to security sash. New product: **Fencraft** Intermediate Projected and Combination Windows, **Fenmark** Psychiatric Windows, **Fenmark** Custom-built Heavy Casements and new Awning-type and Detention Windows. Will not satisfy demand until some months into 1947. Detroit Steel Products Co., Detroit 12, Mich.

Gate City Wood Awning-type Windows and Jalousies (wood ventilating units) are standard products available. New product: an aluminum awning type window, hollow section, full weather stripping, full ventilation. Expect to satisfy 90% of anticipated 1947 demand. Gate City Sash & Door Co., Fort Lauderdale, Fla.

Hope's standard line is available with demand exceeding supply; **Holford** Residence Casements, **Cotswold** Intermediate Casements, Projected, Combination, and Custom-built Windows, and Lok'd Bar Security, Pivoted, Commercial Projected, and Architectural Projected Windows. New modular sizes will result in greater output. Hope's Windows, Inc., Jamestown, N. Y.

Lupton standard line Industrial, Commercial, Architectural, and Residential Windows available with satisfaction of demand depending on flow of raw materials. Michael Flynn Mfg. Co., Philadelphia, Pa.

Mesker Steel Sash, full line. Feature "packaged" residence casement **(America's New Home Window)** with frame trim and screen. Modular sizes. Mesker Bros., St. Louis, Mo.

Pella Casement Windows, a prefabricated package window unit using both steel and wood, will be in limited production first quarter of 1947. Production expected to increase during the year. **Pella** Awning Sash, low cost prefabricated wood awning window. Will be on the market during 1947. Expect modular coordination to increase production and reduce costs. Rolscreen Co., Pella, Iowa.

Pomeroy "Superior Type" and "Standard Type" Steel Double Hung Windows with integral weather stripping, heavy, intermediate and light sections. S. H. Pomeroy Co., Inc., Bronx, N. Y.

Premier Aluminum Windows, double hung sash, spring balances, weatherstripped, preglazed with **Everseal.** Shipped packaged to be assembled by jobber. Will introduce new "deluxe" aluminum window early in 1947. Prom-

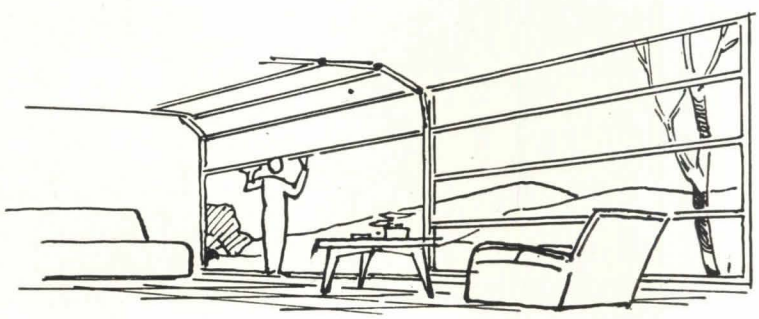
than a decade. Such magazines are never too far out in front of their public, and as building restrictions are eased one can expect many more efforts at modern house construction.

In another illustration various recent trends are synthesized, in which the architectural form of the house is derived from the observance of natural laws relating to human comfort without the provision of elaborate apparatus. The problem of ventilation has been separated almost entirely from that of daylighting, making it possible to have large areas of insulating glass in the most elementary of frames. Protection against the heat of summer sun is achieved without sacrificing the genial radiant warmth of clear winter sunshine. The placement of a window high in the corner of ceiling and wall opposite to the main view windows produces a scouring ventilation action removing the heated air which usually is trapped against the ceiling in more traditional designs.

Such an arrangement should produce a greater degree of comfort on hot muggy days than if the room were entirely open on one side only. Ventilation from below the main viewing windows invites integration of a means for heating from the same point, as is suggested.

Another distinct trend is toward the elimination of the usually high "brightness contrasts" generally derived from unilateral lighting. Much interesting work has been done with one-story school types in producing bilateral and monitor lighting to level out the intensity factors over the classroom. Such methods, however, are somewhat impractical in multi-story buildings, and in such cases good results have been achieved with combinations of prismatic glass blocks and clear-vision panels.

In the early days of glass block there was a tendency to use it alone in human occupancy areas. Generally this produced



Drawing at left shows one way of eliminating bad brightness contrast at juncture of wall and ceiling; another might be use of translucent glass, plus louvers or sunshade, above viewing level. Same device might be employed below viewing level as well, where heat source does not interfere. At right, suggestion for use of full-glazed lift-up garage doors for house walls. Clark Door Co., Newark, N. J., produces sectional lift doors with very narrow stiles and rails which have been so used in commercial buildings.

ise production and delivery of 30,000 windows a week; feel all demand can be met. Premier Metal Products Corp., Phoenix, Ariz.

Steelcraft Steel Basement Windows and new Steel Casement Windows will be available. Steelcraft Mfg. Co., Cincinnati, Ohio.

Stormshade; combination storm sash in which **Koolshade** screen can be inserted. Ingersoll Steel Div., Borg-Warner Corp., Kalamazoo, Mich.

Truscon Steel Windows, full line; **Donovan** Steel Awning-type Windows. Available in modular sizes. Truscon Steel Co., Youngstown, Ohio.

Windowalls: wood casement, horizontal, sliding, double hung, and basement window units. Andersen Corp., Bayport, Minn.

Wood Ponderosa Sash, stock sizes, and new combination screen and storm sash units available from various licensed manufacturers. Production will improve as lumber supply increases. National Door Manufacturers Assoc., Chicago 4, Ill.

DOOR AND WINDOW EQUIPMENT

Alwintite Aluminum Screens and Interchangeable Storm Sash in aluminum frame. The Aluminum Window Corp., Long Island City, N. Y.

American Brand Gold Strand (galvanoid) and **Clinton Brand** (galvex), welded fabric insect screen cloth. Wickwire Spencer Steel, Div. of the Colorado Steel and Iron Corp., Buffalo, N. Y.

Anaconda; bronze wire for insect screens. The American Brass Co., Waterbury, Conn.

Caldwell Sash Balances; spring and spiral sash balances. Caldwell Mfg. Co., Rochester, N. Y.

Chamberlin Metal Weather Strips and Storm Windows. Research has improved installation techniques. Expect to meet 1947 demand. Chamberlin Co. of America, Detroit 26, Mich.

Edwards Non-Electric Door Knocker Chime, solid brass with ivory knob. Edwards & Co., Inc., Norwalk, Conn.

Faraday Door Chimes, Decorative Pushes, Bells, and Push Bars available. Faraday Electric Corp., Adrian, Mich.

Hartshorn shade rollers and shade cloth. Stewart Hartshorn Co., New York, N. Y.

Kennatrack, sliding door track and equipment. Available for interior doors, cabinets, and fixtures. Uses Dowmetal extrusions. Expect to meet the market demand. Jay McKenna, Inc., Elkhart, Ind.

Lumite plastic, durable insect screens. New product: **Lumite** cloth, insect screening for industrial installations; not affected by alkalis, acids, or solvents. Chicopee Mfg. Corp., New York 13, N. Y.

Nutone, residential chimes, operate on present transformers. Expect to meet demand in early spring, 1947. Nutone, Inc., Chicago, Ill.

Pella Rolscreens and **Pella Venetian blinds.** Simplified installation method for rolling window screen. Blinds will be available in flexible steel and aluminum slides. Wood slides scarce. Rolscreen Co., Pella, Iowa.

Rittenhouse door chimes, featuring a "floating" percussion unit. Two models are in volume production now, two others will be during 1947. The A. E. Rittenhouse Co., Honeoye Falls, N. Y.

Truscon Steel Frame Window Screens; available for all types of vents; bronze mesh. Truscon Steel Co., Youngstown, Ohio.

HARDWARE

Cleveland "Noiseless" Sash Pulleys. Available now in polished and lacquered finish as well as wrought bronze and brass and electroplated finishes. Hard white maple bearings. Cleveland Lock Works, Cleveland, Ohio.

Coburn overhead door hardware. Wickwire Spencer Steel, Div. of the Colorado Steel and Iron Corp., Buffalo, N. Y.

Fenestra window operators. Detroit Steel Products Co., Detroit 12, Mich.

LCN overhead concealed door closers, floor concealed closers, exposed closers. Expect new models in late 1947. Demand high. Norton Lasier Co., New York, N. Y.

Lupton window operating devices. Michael Flynn Manufacturing Co., Philadelphia, Pa.

Sargent, complete line of builders' hardware. New product, now available: **Integralok** (simple design, bronze, brass, chrome finishes, shear pin prevents forced entry). To be introduced during 1947: improved push and pull bars (soon after first of year) and improved dead lock and night latches (after March 1st). Research resulting in substitution of pressure formed metals for castings. Sargent & Co., New Haven, Conn.

Schlage; complete builders' hardware line. New product: **Luster Sealed** aluminum locks, alumilite finish. Available with some limitations in quantity orders. Schlage Lock Co., San Francisco 19, Calif.

Yale & Towne standard line of builders' hardware. New products: night latches, lacquered brass finish, operable with one hand, automatic release. Several locks have "extra throw" to deadlock the latchbolt, and one is "jimmy" resistant. Yale & Towne Mfg. Co., New York, N. Y.

Builders' Hardware: no information available on standard line or new products from Lockwood Hardware Mfg. Co., Fitchburg, Mass.; Russel & Erwin Mfg. Co., New Britain, Conn.; The Stanley Works, New Britain, Conn.; and P. & F. Corbin Div., American Hardware Corp., New Britain, Conn.

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claustrophobia and for some years there was a swing back to plain glass. However, very useful combinations of the two can be made as is shown in illustration 5. Each material is used to do its best job at its most effective level. The low angle of refraction of the glass block throws light back into the room and the greater illumination of the ceiling lessens the brightness contrast between the window wall and the rest of the room. These short notes are intended merely to indicate trends affecting the design and production of windows. For more complete discussion of the subject of daylighting see PROGRESSIVE ARCHITECTURE for December 1945, February 1946, March 1946.

DOORS

Like most other building items doors have been in very short supply, with particular shortages in shop lumber for cores of built-up wood doors. The raw material situation is improving and there is enough production capacity to level off in mid-1947. It is significant of the economies in time and money derived from dimensional standardization that the major manufacturers are devoting their production exclusively to stock sizes. It is also significant that with these stock sizes practically every real need can be met.

The once universal practice of job-fitting wood doors is rapidly being abandoned and national groups such as the National Association of Fir Door Manufacturers have adopted standards of prefitting, including boring for locks, and gaining for hinges.

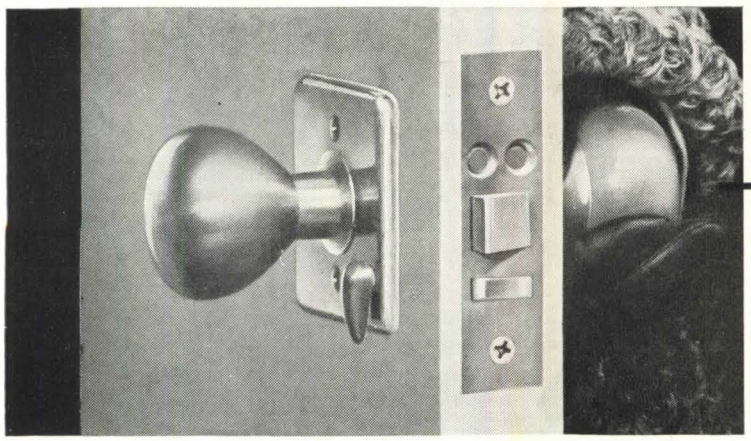
The next logical step, of which there is already evidence, is the complete packaging of doors, frames, trim, and hardware. The only item presenting any real problem is the lockset in cases where expensive master-keying is required. Though some standardization has been achieved by the hardware industry relative to tubular locks and to cutouts and reinforcements for hollow metal doors, there is not complete interchangeability from manufacturer to manufacturer in all classes of locks. The ultimate goal should be the limited choice of a very few types of factory cutouts to meet major classes of locks and that within these classes there should be dimensional standardization in the hardware industry.

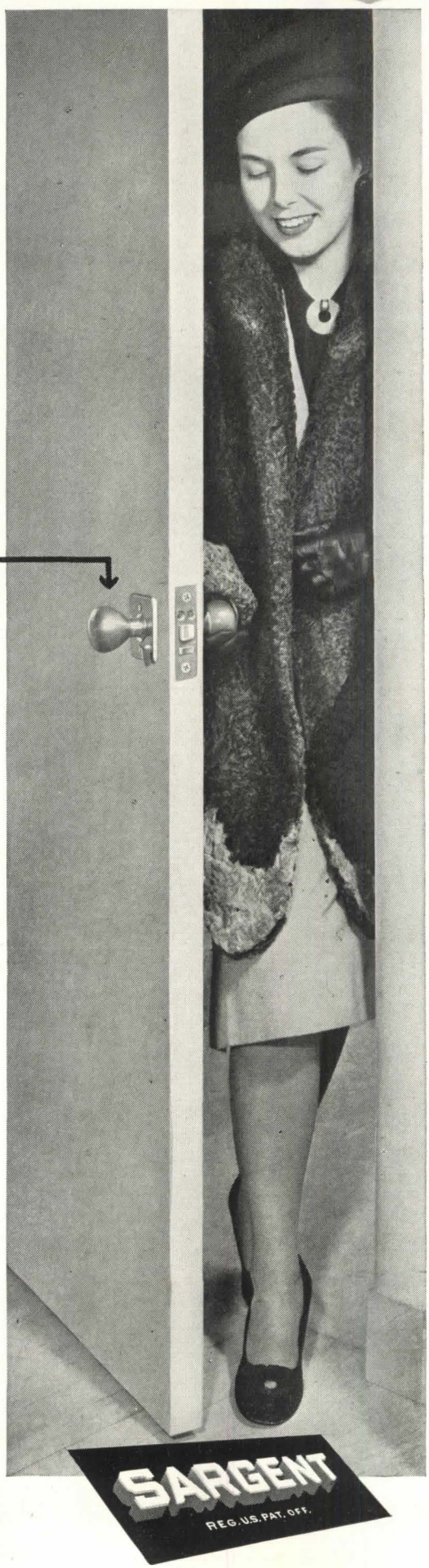
In regard to door finishes, the wood door industry has been experimenting with plastic impregnation and at least one manufacturer is supplying plywood doors with laminated plastic facings.

Garage Doors. The writer has not found any radical change of operational methods for garage doors as compared with prewar but most manufacturers have refined and streamlined their products both in door finishes and in operating hardware. Aluminum because of its light weight is appearing strongly as a material for solid or roll-up type doors. Wide glazed roll-up doors for commercial type repair stations, etc., are being produced with great elegance of rail proportion, and the writer wonders who is going to be the first to use them as a means of achieving an open or closed porch for a fine residence (or whether anyone already has).

HARDWARE

There is a distinct trend towards locksets of mass produced machined precision type in place of the older assemblies from castings. Smaller size, greater strength, and better performance are being achieved. These new production techniques should lend themselves to greater interchangeability of lock function within standard cutouts.





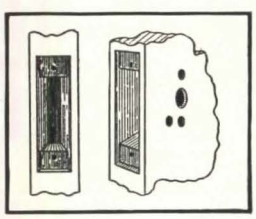
The New Sargent Integralock*, made of pressure formed metals, is one of the strongest, safest locks ever designed...and one of the most graceful in appearance because of its clean simple lines. All exterior parts are solid brass or bronze.

Illustrated is one of a complete family of Integralocks including these eleven functions: Office Door, Opening Out; Latch; Exit; One Cylinder Utility; Two Cylinder Utility; Class Room; Entrance; Office Door, Opening In; Hotel; Bathroom; Communicating. All are the same in appearance, in engineering design and construction. And all can be installed in the same mortise without remortising the door.

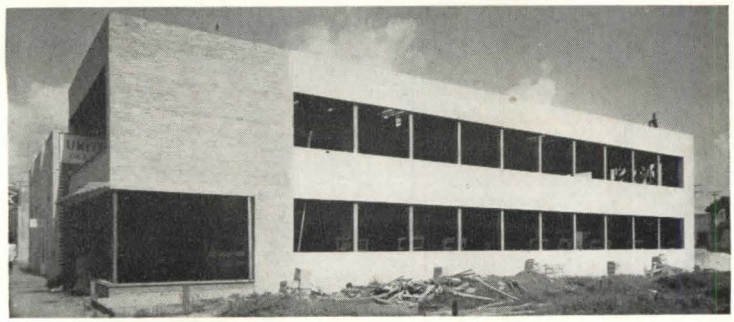
Available in a number of handsome bronze, brass and chromium finishes, the mortise type Integralock is now being displayed by Sargent distributors. The cut-out type will be available soon.

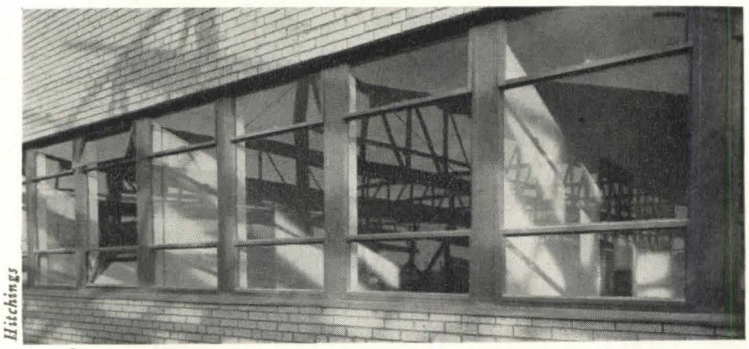
**Trade Mark*

SARGENT & COMPANY
NEW HAVEN, CONN. • NEW YORK • CHICAGO

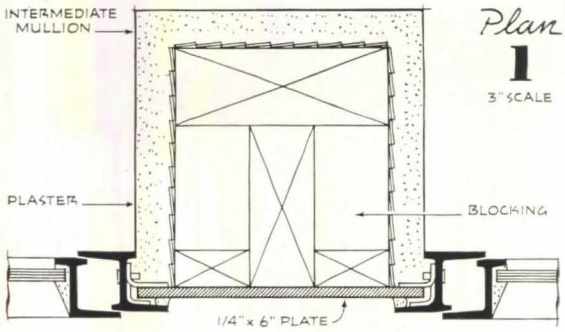


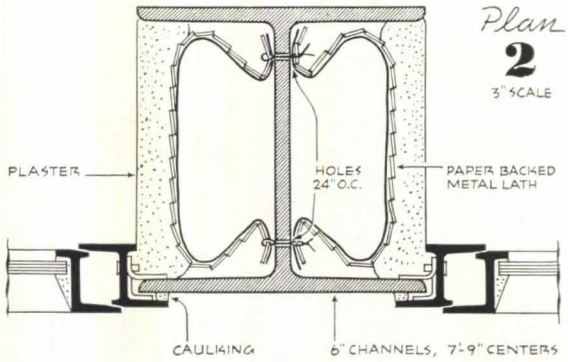
One mortise accommodates all 11 Integralocks. Case dimensions are only 3½" x 2⅜" x 1 1/16". Each knob and escutcheon is an integrated factory assembly which insures foolproof installation of the lock in perfect alignment by means of two machine screws.

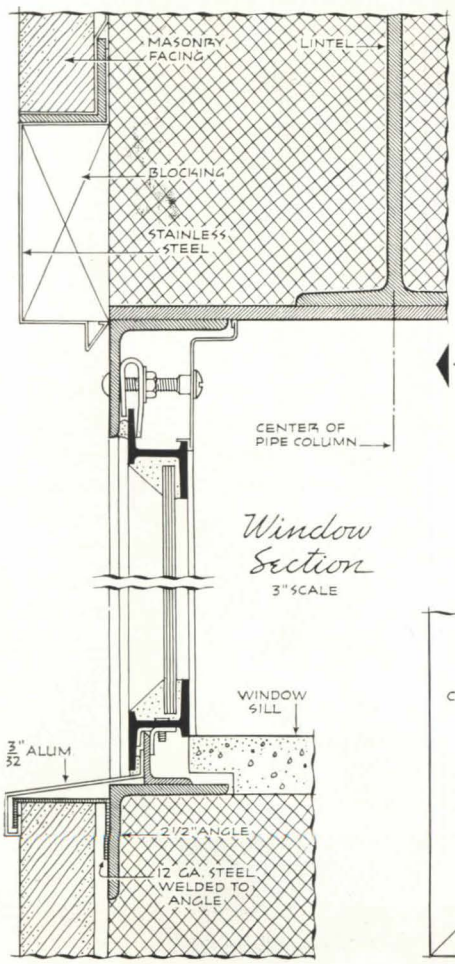


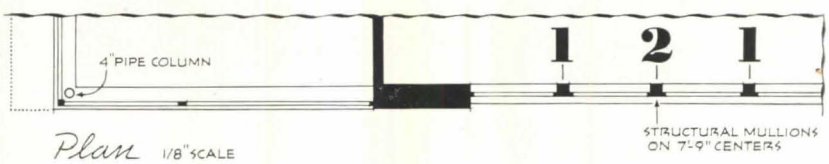


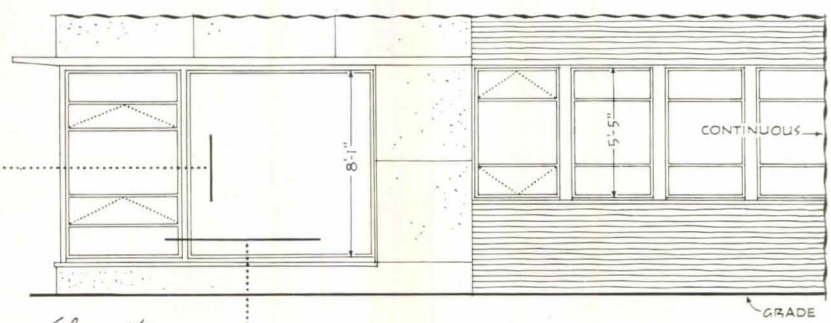
Hitchings

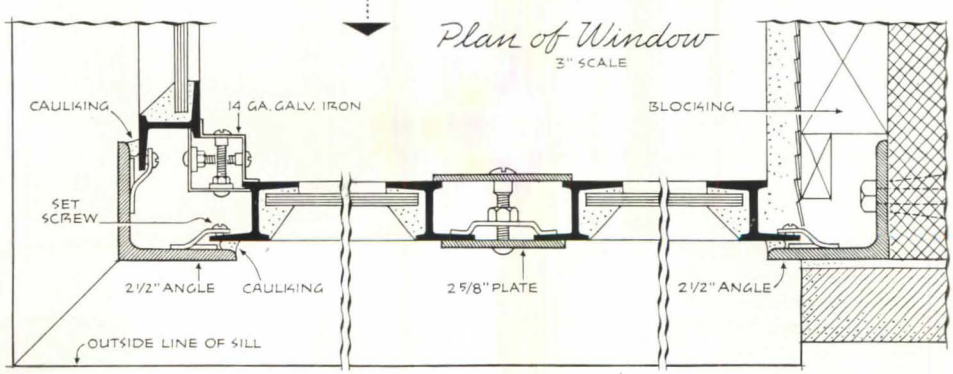












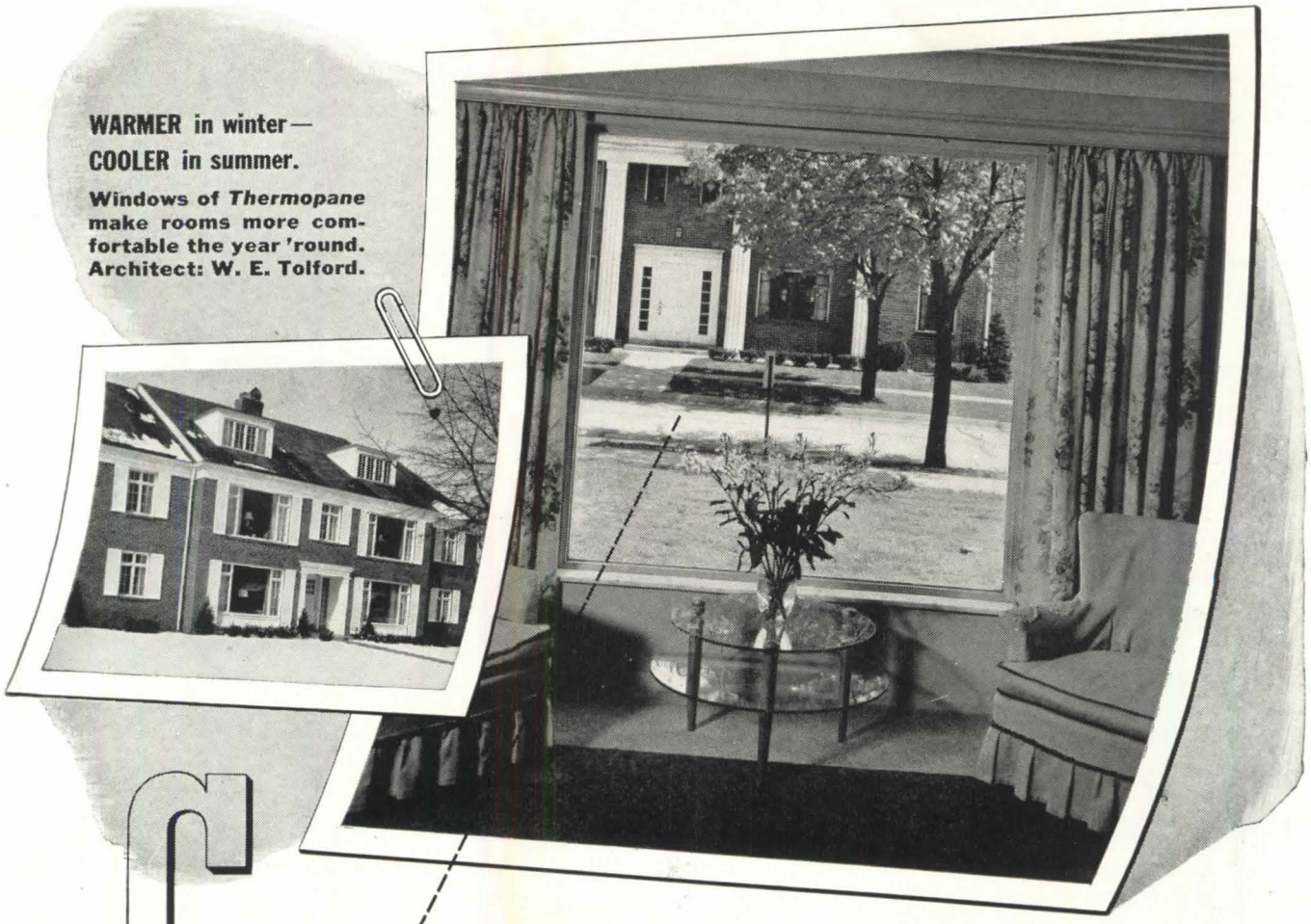
WINDOW DETAILS

SPEARS BUILDING, West Memphis, Ark.

DENT & AYDELOTT, Architects

WARMER in winter—
COOLER in summer.

Windows of *Thermopane* make rooms more comfortable the year 'round. Architect: W. E. Tolford.



Clear visibility through an insulated wall!

When you insulate the walls, include the windows, too. You can with *Thermopane**, the time-proved transparent insulating unit.

Think what bigger windows mean in adding the benefits of better daylighting to your buildings—in adding the attractiveness of an outdoor view—in giving rooms a feeling of greater spaciousness.

Thermopane is composed of two or more panes of glass separated by dehydrated air and hermetically sealed around the edges at the factory. When made of two panes of ¼" plate glass and a ¼" air space, *Thermopane* has a heat loss co-efficient U of .57, compared with 1.07 for a single pane of ¼" glass. Thus, with *Thermopane* you can have twice the window area without sacrificing comfort.

Libbey·Owens·Ford developed *Thermopane*. It was the first successful, mass-produced insulating unit of its kind for general use. It has *proved* its efficiency for nearly a decade... has given satisfactory service in homes, schools, offices and public buildings in the United States, Mexico, Canada, Alaska and even Iceland.

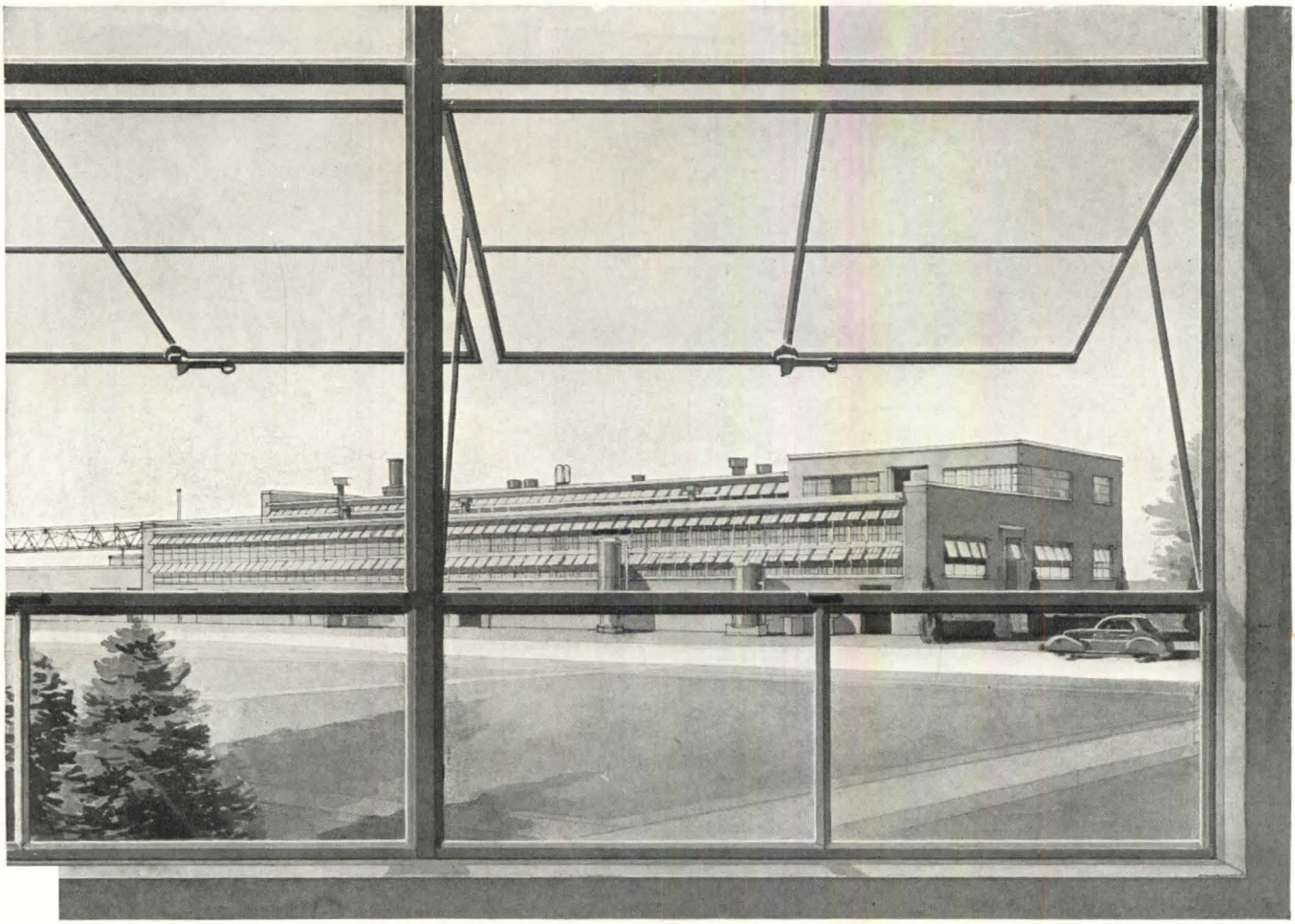
Thermopane is made for most window openings...and in 50 standard sizes for simplification of design and replacement. Before you plan your next building write for desired *Thermopane* information. Technical data sheets by Don Graf will be sent to architects. Libbey·Owens·Ford Glass Company, 2717 Nicholas Building, Toledo 3, Ohio.

*Reg. U.S. Pat. Off.

WE'RE SWAMPED! Despite expansion of our production facilities, the tremendous demand for Thermopane temporarily exeeds our productive capacity. We're doing everything we can to expedite deliveries. When planning construction, be sure to obtain delivery schedules from your L·O·F Distributor.

THERMOPANE, the L·O·F windowpane that insulates.

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



Recent Lupton Metal Window installation at the research and development laboratories of the Socony Vacuum Oil Company at Paulsboro, N. J. Architect: Frederick G. Frost, N. Y. Contractor: Skinner, Cook and Babcock, N. Y.

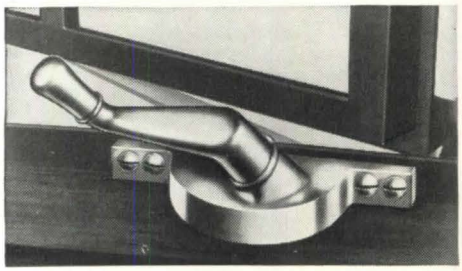
Daylighting requirements vary widely from one factory-type building to the next—refinery, manufacturing plant, warehouse or power plant. That is why the Lupton experience in industrial window applications is so important. There are three basic types of Lupton Windows for industrial buildings—continuous windows, pivoted windows and projected windows—each offering positive assurance of improved working conditions and increased working efficiency through abundant daylighting and controlled ventilation. Write for the 1946 Catalog or see our Catalog in Sweet's.

MICHAEL FLYNN MANUFACTURING CO.
E. Allegheny Avenue at Tulip Street, Philadelphia 34, Pa.

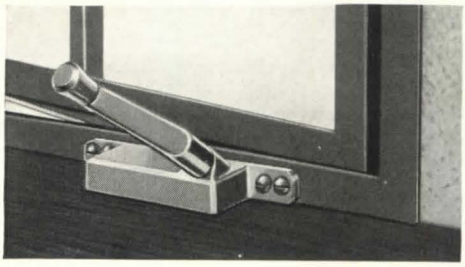
LUPTON METAL WINDOWS

MANUFACTURERS **GETTY** OF FINE HARDWARE

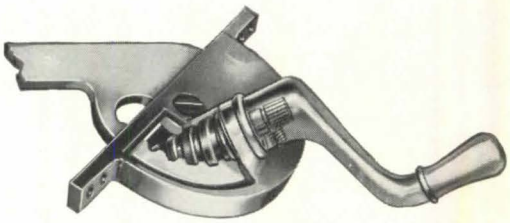
CASEMENT HARDWARE *for Every Need*



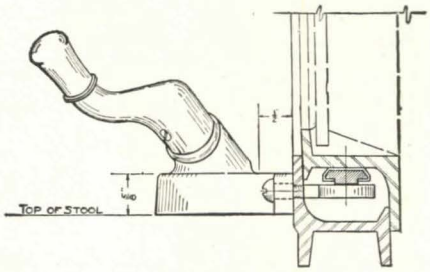
No. 4703AF. The finest casement window operator made for steel sash. Getty exclusive internal gear construction, strongest known in gearing, provides a mechanism which will give positive casement control and trouble-free operation at all times.



No. 4706. An efficient medium-price model for steel casement windows, sturdily built to high standards of precision and priced for the small home. Will give many years of service under hard usage.

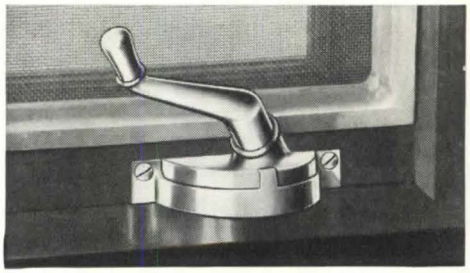


Cut-away view shows the case-hardened steel worm, integral with operating arm, fully engaged at all times with the accurately-machined internal-gear teeth. This exclusive feature, pioneered by Getty, is responsible for the strength and dependability of these operators.



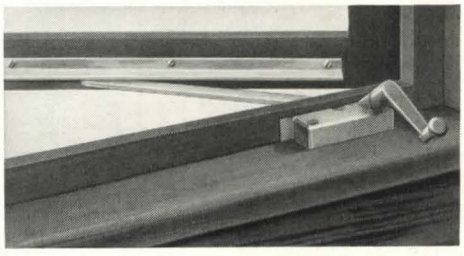
Sectional view shows method of installation. Operator may be used without screens or with wood, metal or roll screens, as well as with drapes, shades, or venetian blinds.

These Casement Operators, featuring the Getty exclusive internal gear construction, have been developed as the latest in casement window controlling devices. Precision built to high standards, efficient operation is assured for light, medium and heavy section windows for all types of construction. Their functional refinements and dependable performance are such that they have been preferred by leading architects for many years. Available in Statuary Bronze Lacquer finish as well as standard finishes. Also available in Aluminum Lacquer finish.



No. 4703AW1. Same deluxe construction as the 4703AF, but for wood casements, screened or unscreened. Can be used with flat or roll screens, or with drapes, shades, or venetian blinds. Heavy brass channel guides; high-strength castings. Available in all standard finishes.

see OUR CATALOG in SWEET'S FILE ARCHITECTURAL



No. 4715. Angle-drive Operator for wood casements. Long-wear cadmium plated steel or brass channel guides. Smooth, low contour gives neat appearance. Accurately-machined hobbed gear teeth. Note simplicity of under-screen installation: Illustration shows screen rail mortised to fit over operator housing.

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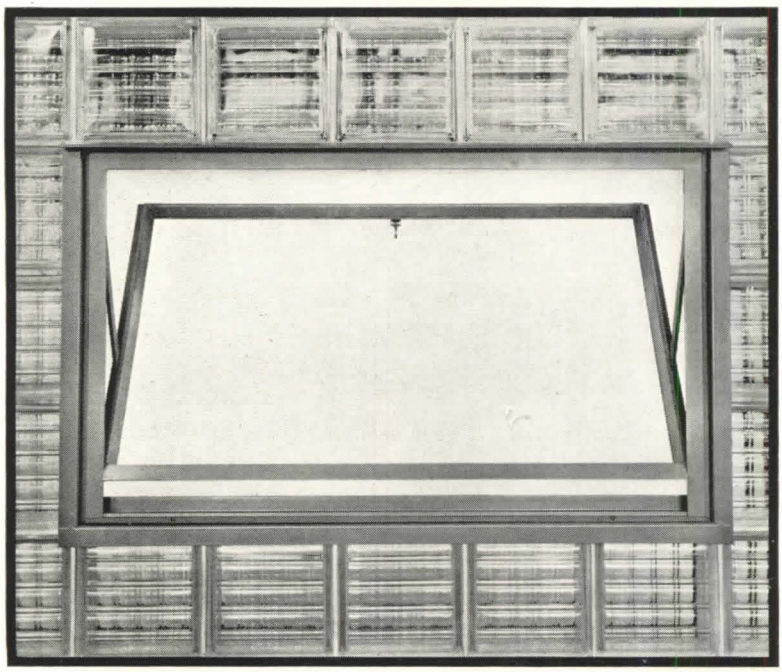
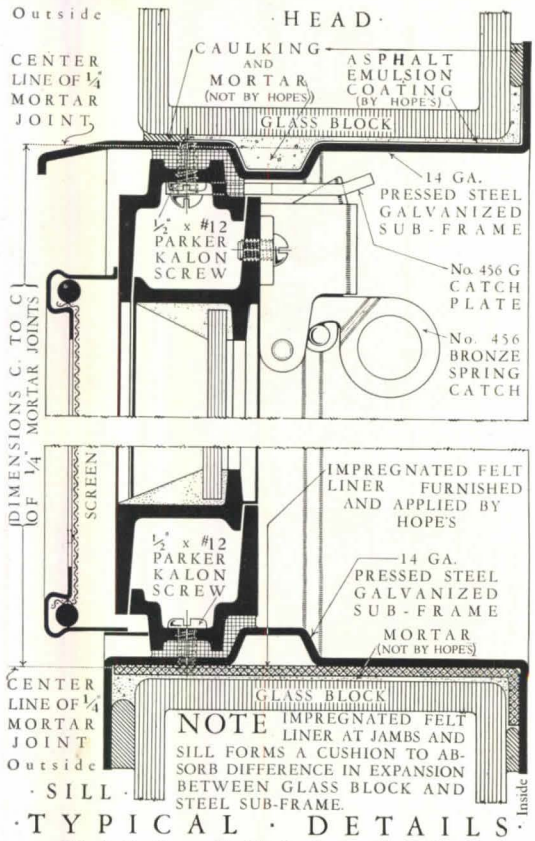
HOPE'S STEEL WINDOWS *and* BILTIN SUB-FRAMES *in* GLASS BLOCK



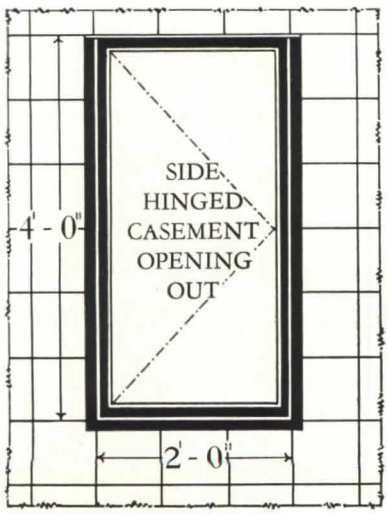
OUTSIDE VIEW OF A TYPE No. 3 WINDOW



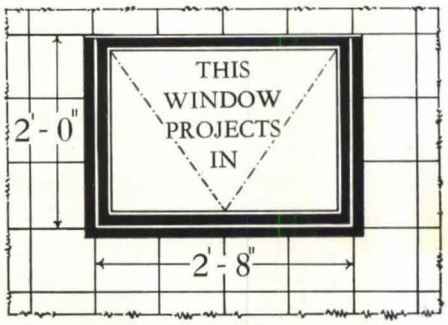
· TYPICAL · DETAILS ·
· HALF · FULL · SIZE ·

IN the layouts shown below Type 1 can be used with 6", 8" or 12" blocks. Types 2, 3, 4 and 5 can be used with 8" blocks only. Types 1, 2 and 3 are suitable for industrial and commercial buildings and Types 1, 4 and 5 are suitable for residential buildings. Sub-frames are manufactured from 14 gauge galvanized sheets and, when desired, can be shipped ahead of the windows; or if preferred, sub-frames with windows factory-inserted can be factory-shipped as self-contained units. Windows are prepared for the later reception of screens. Sub-frames and windows are bonderized and painted one coat of gray primer stoved on.

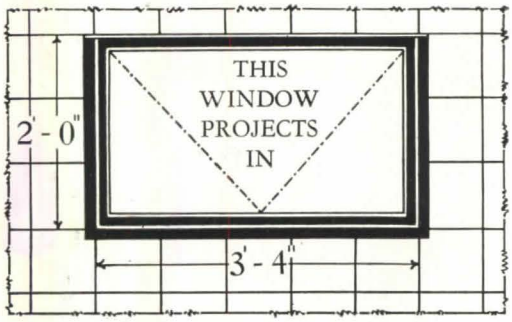
Dimensions given below are C. to C. of ¼" mortar joints. If 3/16" or 3/8" joints are used these dimensions will change proportionately. For further information refer to our Publication No. 105.



TYPE No. 1



TYPE No. 2



TYPE No. 3

TYPE No. 4

TYPE No. 5

SCALE: HALF INCH TO A FOOT

· OUTSIDE · ELEVATIONS ·

THE FINEST BUILDINGS THROUGHOUT THE WORLD ARE FITTED WITH HOPE'S WINDOWS

HOPE'S WINDOWS, INC., JAMESTOWN, NEW YORK

Amazing New *Tru-sized* DOOR JAMB Does A Better Job

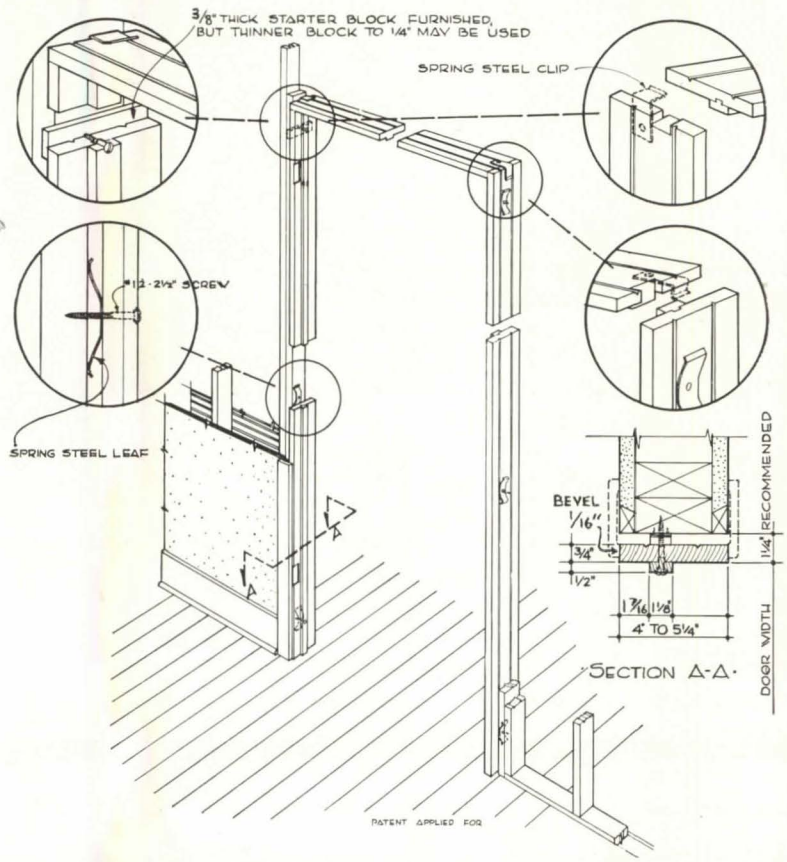
REG. U. S. PAT. OFF.

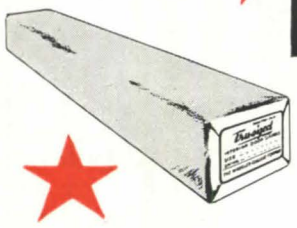
7 TIMES FASTER—

Adjustable to variations in Door Sizes!

No Nailing! **Only 3 precision milled pieces to handle on the job!**

"Shock-Absorber" Springs Assure Accurate Fit for Life of Building!





* Tru-Sized Jambs are made of select Douglas Fir. Packaged 2 complete units to a bundle in protective paper wrapping, with all hardware and full instructions for installation.

Almost unbelievable, but it's *true*—YOU CAN INSTALL 7 TRU-SIZED DOOR JAMBS IN LESS TIME THAN IT TAKES FOR *ONE* ORDINARY JAMB!

All the work of nailing, squaring and plumbing with wedges, gaining for hinges, and cutting and installing stops is either *eliminated or done at the factory!*

One at a time, you install each of the 3 precision milled pieces, then adjust them to the exact clearance desired with a few turns of a screwdriver! The "Shock-Absorber" Springs assure permanent accuracy.

You've never seen anything like the many amazing advantages of the new TRU-SIZED DOOR JAMB.

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7

MATERIALS OF INSTALLATION

By BEN JOHN SMALL, A.I.A.

With relatively few exceptions manufacturers of installation materials such as setting mortars, adhesives, fastenings, anchors, ties, clips, reinforcements, and moldings anticipate full availability of their products in 1947. Apparently standard products can be specified as in prewar days, and in addition there are many new products answering the needs of new techniques of installation. In replies to the questionnaires sent them, most of the manufacturers expressed concern over holdups in the basic industries (coal, transportation) rather than their own production abilities to meet the demand once raw materials reach them. Many new manufacturers are entering the fields involved.

Much research has been done and is still being done in this aspect of construction. Manufacturers grew in technical stature during the war years; accelerated war production could not afford the luxury of traditional installation methods and procedures. Powerful adhesives have outdistanced the rivet, the screw, and the nail for many purposes from basic structural assembly to the hanging of fixtures to walls. One

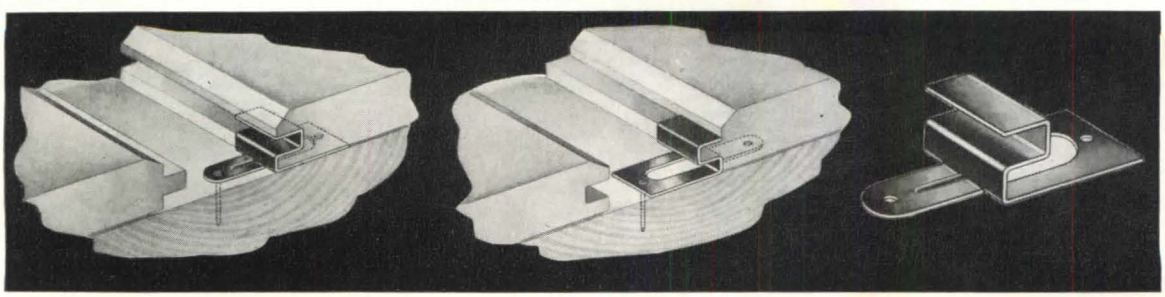
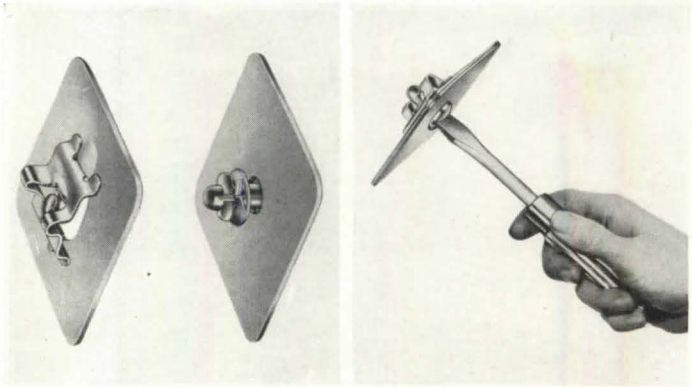


Fig. 6: Clips for attaching Nu-Wood surfacing and insulating tile are designed so installation can proceed in any direction.



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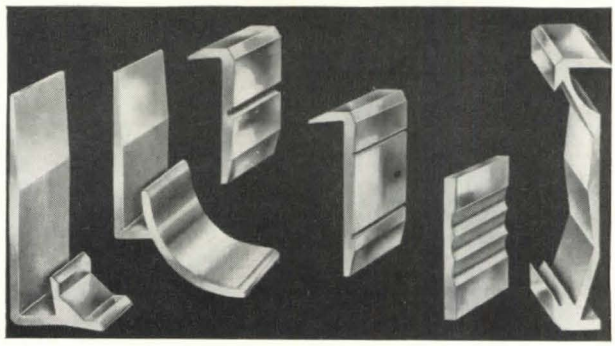

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Fig. 1: Use of *Lockart-Expanset* thin setting cement for attaching tile to various types of backing. *Fig. 2:* New *Q-Two* fastener locks with a quarter turn of a screwdriver (Shakeproof, Inc., Chicago). *Fig. 3:* Spring-clip fasteners for attaching tile board in small units. *Fig. 4:* Attaching tile board with *Adhestik*. *Fig. 5:* New moldings intended for installation of plastic-surfaced board are available in aluminum (Marsh Wall Products, Inc.).

development leads to another; as better adhesives appear, research finds better ways to use them. For example, plastic adhesives were in themselves a great advance; electronic heat curing speeds the setting time and marks another step forward.

An interesting development has been the rapid adoption of thin-setting methods for tile installation. In this case manufacturers both of setting mortar and resinous adhesives have come forward with applicable materials.

Noteworthy strides have been made in the development of installation moldings for various purposes. Many manufacturers have kept abreast of store design trends and adapted their products accordingly. Not only are shapes simplified and made more applicable to the open-front store, but setting systems have been rationalized.

A designer in 1947 need not let his imagination be retarded by fear of installation difficulties or connecting or fastening devices. Once the basic materials that are to be used have been determined by their desirability and their availability, it is almost certain that some means of installing them will be at hand. In fact the astounding performance of the new adhesives and the wide range of clips and ties and moldings that can be had should open up new uses for many other materials.

SETTING MORTARS

Alkor setting mortar for floor brick; acid- and alkali-proof resin type; available. The Atlas Mineral Products Co., Mertztown, Pa.

Binda Powder, bonding cement for thin setting of tile. Sika Chemical Corp., Passaic, N. J.

Expanset bonding cement for thin setting of tile. Expanset Corp., Perth Amboy. N, J.

Medusa cements for various uses in setting mortars, including **Stoneset** (non-staining) and **Brikset** (for concrete block, tile, brick). Medusa Portland Cement Co., Cleveland 15, Ohio.

Miracle pressure hydrated lime, no slaking required; available. G. & W. H. Carson Co., Plymouth Meeting, Pa.

Mortite non-shrinking brick mortar. The Truscon Laboratories, Detroit 12, Mich.

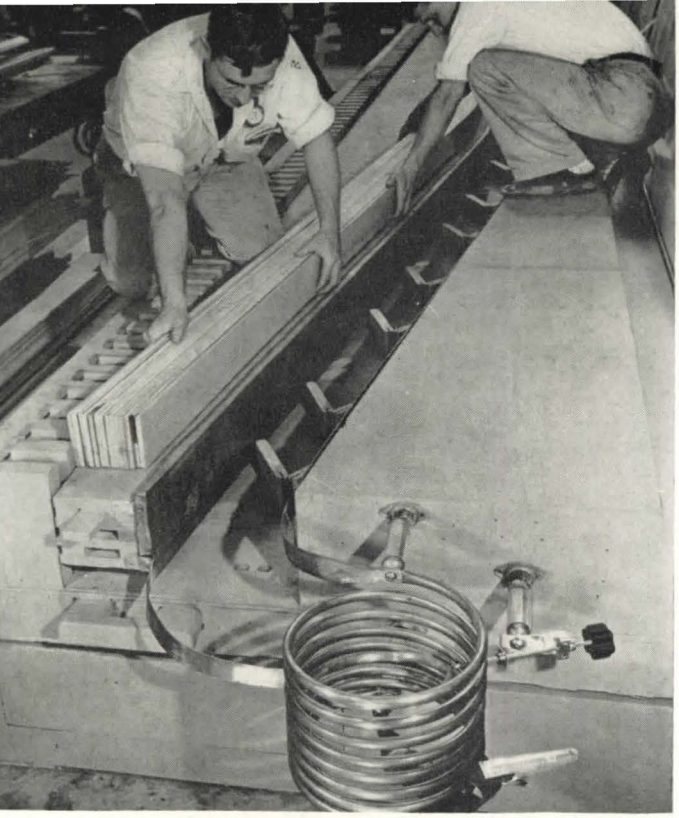
Plastic-Mix underlayment for flooring. Neoprene rubber base product. Pioneer Laytex and Chemical Co., Newark, N. J.

Tiger Miracle Lime; immediate plasticity for masonry use. The Kelley Island Lime & Transport Co., Cleveland 14, Ohio.

FASTENERS

Copperweld cavity wall ties, wire nails, pipe wrapping wire, wire staples. Introduced in 1946; production good. *Copperweld Steel* Co., Glassport, Pa.

Kitco mounting plate; a system of attaching plastic disks to walls, for mounting cabinets, etc.



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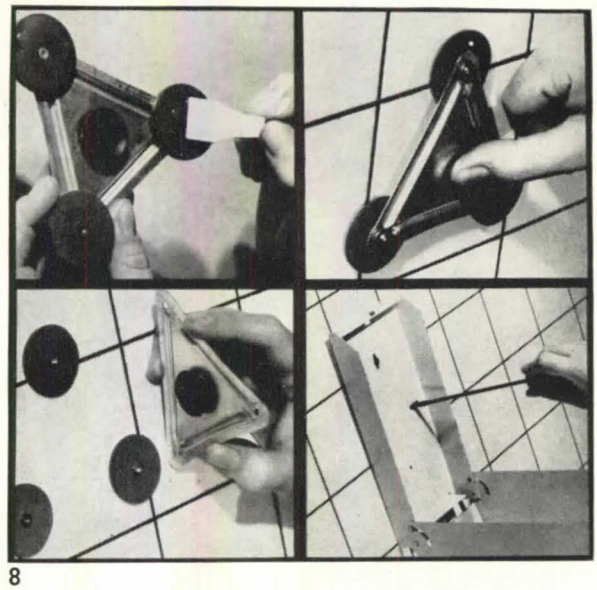

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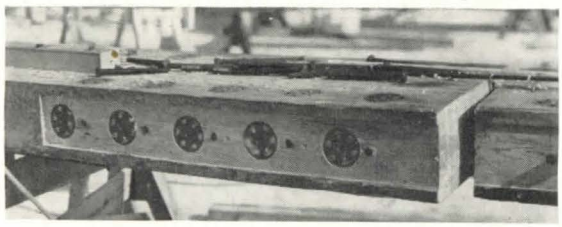

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Fig. 6: Waterproof resin adhesives employed in assembly of laminated materials are in relatively short supply, which will probably limit such developments as the use of adhesives for securing plywood to studding. It should have less effect on the manufacturer of materials (plywood, laminated arches, etc.). *Fig. 7: Teco* timber connectors, widely used in war construction, have contributed substantially to employment of wood as an engineered material. *Fig. 8: Kitco* method of mounting bathroom fixtures eliminates drilled holes. Photos, left to right and top to bottom: Template holds mounting discs in position; discs coated with special adhesive. Suction cup on template secures device to wall while adhesive is setting. Template is removed and fixture bolted to the permanently secured discs.

MATERIALS OF INSTALLATION

Uses **Kitco** adhesive. The Moss-Chase Co., Buffalo 2, N. Y.

Nailock channel for attaching collateral materials. Sanymetal Products Co., Cleveland 12, Ohio.

Nu-wood Clips, a concealed system for attaching interior finish **Nu-wood** boards to a nailing base. Wood Conversion Co., St. Paul 1, Minn.

Pomeroy clips and anchor bars for supporting acoustic ceilings, etc. S. H. Pomeroy Co., New York, N. Y.

Shake-proof Q-fasteners, steel fasteners for removable or hinged panels. Shake-proof, Inc., Div. of Illinois Tool Works, Chicago 39, Ill.

Teco connectors, for timber construction. Split ring, toothed ring, clamp plate, claw plate, etc. Timber Engineering Co., Chicago, Ill.; San Francisco, Calif.; New Orleans, La.

Ties & Anchors; partition and masonry anchors, brick and furring ties, cavity wall ties, etc. Hohmann & Barnard, New York, N. Y.

Ties & Anchors; various devices. The Rawlplug Co., Inc., New York 13, N. Y.

ADHESIVES

Amberlite PR-115 (outdoor use) and **Uformite CB-552** (indoor use) resorcinal-formaldehyde (waterproof) resin and urea-formaldehyde resin (highly water-resistant) adhesives, respectively. The Resinous Products & Chemical Co., Philadelphia 5, Pa.

Arabol Lagging Adhesive, for securing glass fiber, canvas, asbestos, etc., to pipes and ducts. Delivery depends on continuous flow of basic materials. The Arabol Mfg. Co., New York 17, N. Y.

Camastic "B"; waterproof, non-toxic adhesive for tile, metal, concrete, wood, plastics, etc. The Cambridge Tile Mfg. Co., Cincinnati, Ohio.

Cascopnen, Cascamite and **Casco,** casein adhesives for wood, wood combinations, linoleum, metal, plastics, glass, etc. Applicable to prefabrication processes. Durable, weatherproof, "boilproof." Casein Company of America, New York 17, N. Y.

Kitco adhesive, for use with wall mounting plate (see fasteners). The Moss-Chase Co., Buffalo 2, N. Y.

Marsh Mastic, adhesive for applying Marlite wall tiles. Marsh Wall Products Inc., Dover, Ohio.

Miracle Adhesive Class 1, phenol based plastic with rubber filler. For various purposes; can be used for thin setting of tile. Miracle Adhesives Corp., Newark, N. J.

Perkins resorcinal-formaldehyde resins, R-55 and RP-60 for outdoor lamination, prefabrication, and assembly-gluing of stressed and unstressed timber structures. No. 45-44 casein glue for same purposes where unexposed to weather. New product: **Perkins VL-75,** rapid-setting resin adhesive. Vegetable glues again in production early in 1947. Meeting of demand uncertain. Perkins Glue Co., Lansdale, Pa.

Pliobond, viscous thermoplastic adhesive. Bonds to any clean, dry surface. Water and chemical resistant. United States Plywood Corp., New York 18, N. Y.

Sparamics Setting Compound, adhesive for thin setting of floor and wall tiles. The Sparta Ceramic Co., East Sparta, Ohio.

Wood-Lok cold-run, fast setting resin glue for wood joint assembly. Does not form abrasive film to dull saws. Now available. National Adhesives, New York 16, N. Y.

MOLDINGS

Anaconda architectural bronze extruded shapes. The American Brass Co., Waterbury 88, Conn.

Cametal trim; satin finish trim and sink frames. The Cambridge Tile Mfg. Co., Cincinnati, Ohio.

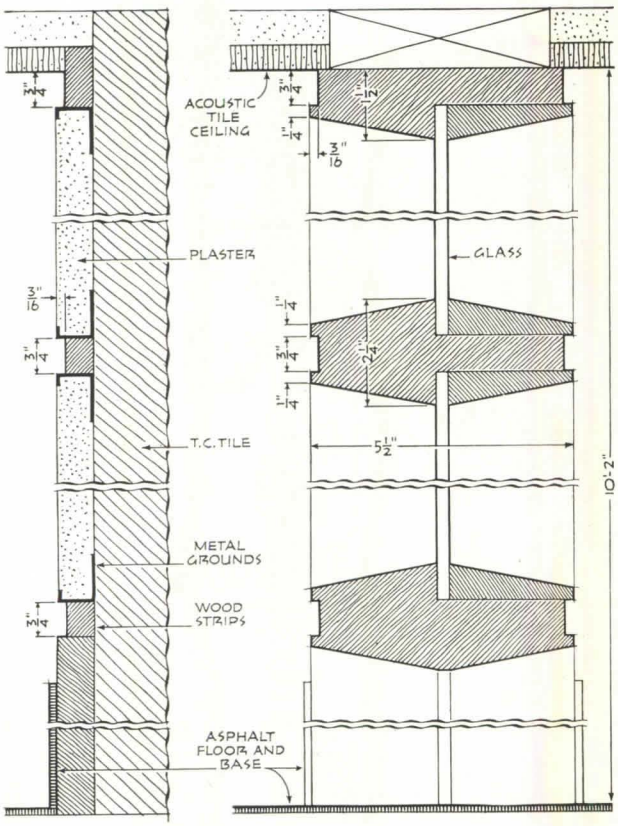
Cromtrim aluminum moldings, now available. R. D. Werner Co., Inc., New York 16, N. Y.

Ford stainless steel and aluminum moldings, now available. Willard C. Ford Co., New York, N. Y.

Glazing moldings, full line, including new line **(K-47)** of moldings and trim for use with prefab multiple glazing. Standard products available now; new products in spring. As raw material supplies increase, production will increase. The Kawneer Co., Niles, Mich.

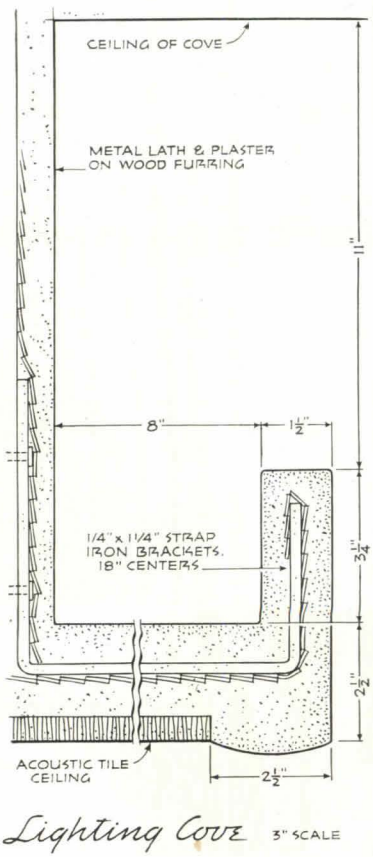
Herzim. Stainless steel moldings and sinkwell frames, now available. Herron-Zimmers Moulding Co., Detroit 12, Mich.

Pyramid stainless steel moldings, now available. **Pyralloy** extruded aluminum moldings available about April 1947. Pyramid Metals Co., Chicago 10, Ill.



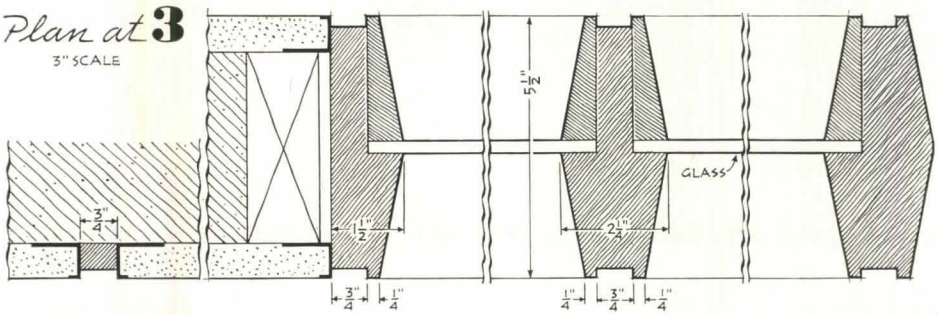
Section 1 3" SCALE Section 2

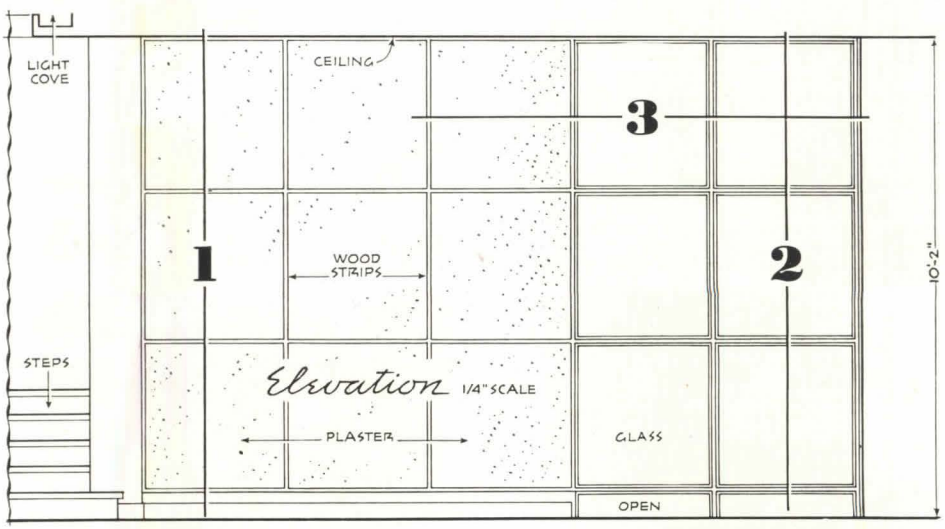
Rodney McCay Morgan



Lighting Cove 3" SCALE

Plan at 3
3" SCALE

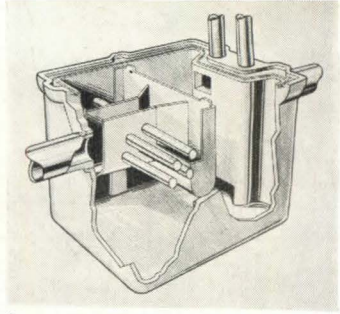




MOLDING AND COVE DETAILS

NURSES' HOME, Anniston, Ala.

CHARLES H. McCAULEY, Architect



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SANITATION, WATER SUPPLY, DRAINAGE

Shortages of raw materials, as in the case of structural products, are the controling factor in all types of sanitary equipment. In addition, there have been some difficulties in obtaining postwar labor for such heavy manufacturing processes as iron founding; this has contributed greatly to the acute shortage of bathtubs, for instance. NHA, during the life of the veterans' housing program, found this a most serious obstacle, and in seeking to overcome it found that a few manufacturers of cast masonry tubs existed. The products were clumsy and needed refinement; NHA stimulated the use of such materials as lightweight aggregates, etc.; but with the refusal of the Administration to further the program's aims, this type of activity has probably relapsed into its former state.

In all types of sanitary equipment there remain three opposing factors to be resolved: first, the difficulties with raw materials, ranging from soda ash for manufacturing glass for

PLUMBING FIXTURES

Abingdon vitreous china plumbing fixtures. Abingdon Potteries, Inc., Abingdon, Ill.

Alberene Stone acid-resisting sinks, etc., for laboratories, etc. Supply limited. Alberene Stone Corp. of America, New York 16, N. Y.

Bradley group washing equipment, wash fountains, etc. (industrial); also drinking fountains. Bradley Washfountain Co., Milwaukee 1, Wis.

Crane, complete postwar line of fixtures, fittings, etc. Newest is **Diana** lavatory (semi-oval, raised bosses, splashrim). Will introduce new designs during 1947. Crane Co., Chicago 5, Ill.

Eljer vitreous china and enameled cast iron fixtures. Cast iron in same difficulty as other manufacturers. Eljer Co., Ford City, Pa.

Halsey Taylor drinking fountains, vitreous china and cast iron. Also water coolers. Halsey W. Taylor Co., Warren, Ohio.

Haws sanitary drinking fountains. Haws Drinking Faucet Co., Berkeley 3, Calif.

Ingersoll Utility Unit, combination bathroom, kitchen, laundry core. Ingersoll Steel Div., Borg-Warner Corp., Kalamazoo, Mich.

Knight-Ware acid-resisting ceramic ware for laboratories, etc. Maurice A. Knight, Akron 9, Ohio.

Standard; complete line of plumbing fixtures, fittings, etc. Production will increase in 1947. American Radiator and Standard Sanitary Corp., Pittsburgh 22, Pa.

Sturdibilt stainless steel cabinet sinks and tops, non-electric drinking fountains, kitchen sinks, laundry trays, acid-resistant sinks. New product: **Lustertone** stainless steel sink, heavy gage, electrically welded construction. Standard sizes available with reasonable delivery; others, 30-60 day delivery. Elkay Mfg. Co., Chicago 50, Ill.

Universal vitreous china plumbing fixtures. Universal Sanitary Mfg. Co., New Castle, Pa., and Camden, N. J.

PIPE, FITTINGS

Anaconda copper tubing, copper and brass pipe, traps, strainers, wastes, solder and flared tube type fittings, 85 red brass pipe, available now. The American Brass Co., Waterbury 88, Conn.

Byers genuine wrought iron tubular and hot-rolled products. Will meet demands depending on ability to receive raw materials. A. M. Byers Co., Pittsburgh 22, Pa.

Chase brass and copper pipe and copper tube. Chase Brass & Copper Co., Waterbury 91, Conn.

Doran thermostatic water mixing valves in sizes for individual shower controls, also for group control, industrial purposes, etc. Doran Co., Seattle 4, Wash.

Duriron acid-resistant drain piping; also **Durimet** stainless alloy steel, resistant to weak sulphuric acid. Traps, drains, etc. Duriron Co., Dayton 1, Ohio.

Either-Way ground joint or washer joint connection (extension of insert joint provides reinforcement), and **Plumrite** brass or copper pipe. Expect to satisfy demand. Bridgeport Brass Co., Bridgeport, Conn.

Grinnell adjustable pipe hangers and supports. Grinnell Co., Inc., Providence 1, R. I.

Josam drains, interceptors, mixing valves, etc. Research and improvement specifically on **Moderator** anti-scalding mixing valve (shuts off hot when cold water fails) and grease interceptors (with flow control valve). New plant; will have capacity to "meet current schedules and further business." Josam Mfg. Co., Michigan City, Ind.

Knight-Ware acid-resisting ceramic drain piping for laboratories, etc. Maurice A. Knight, Akron 9, Ohio.

Orangeburg Pipe, fibre sewer pipe. Factory expansion will increase production, but probably not meet demand. Fibre Conduit Co., Orangeburg, N. Y.

Republic Toncan iron, wrought steel, copper-bearing steel pipe. Republic Steel Corp., Cleveland 4, Ohio.

Revere red brass and copper pipe; copper tubing, fittings. Revere Copper & Brass, Inc., New York 17, N. Y.

Speakman showers and fixtures, flush valves, bath fittings. Speakman Co., Wilmington 99, Del.

Streamline copper pipe and fittings. Mueller Brass Co., Port Huron, Mich.

Vitrified Clay Pipe. High rate of production still does not meet all demands. Numerous manufacturers, National Clay Pipe Manufacturers, Inc., Chicago 2, Ill.

BATHROOM ACCESSORIES, SHOWER STALLS, ETC.

Bradley Multi-Stall Showers for industrial installations, institutions. Bradley Washfountain Co., Milwaukee 1, Wis.

Church toilet seats: **Moltex,** also **Sheet Covered.** C. F. Church Mfg. Co., Holyoke, Mass.

Colonial and other types of metal cabinets and accessories. Miami Cabinet Div., Philip Carey Mfg. Co., Middletown, Ohio.

Columbia medicine cabinets and bathroom accessories. Columbia Metal Box Co., New York 51, N. Y.

Duke bathroom accessories (pottery, for building-in). Abingdon Potteries, Inc., Abingdon, Ill.

Fairfacts vitreous china bathroom accessories. Fairfacts Co., Inc., New York 11, N. Y.

Fiat shower stalls. Milwaukee Stamping Co., Milwaukee 14, Wis.

Gerity metal bathroom accessories. Gerity-Adrian Mfg. Corp., Adrian, Mich.

Hall-Mack Aristocrome bathroom accessories (forged brass, chromium plated) and **Coronado** bathroom accessories (zinc die castings, chromium plated); available now, will meet demand by the end of 1947. Hall Mack Co., Los Angeles, Calif.

Hoegger metal cabinets and bathroom accessories. Hoegger, Inc., Jersey City 4, N. J.

Hol-Anchor adjustable bathtub hangers. Hollaender Hanger Co., Cincinnati, Ohio.

Ketcham shower and medicine cabinets, metal accessories. G. M. Ketcham Mfg. Corp., Brooklyn 1, N. Y.

Lawson metal cabinets and accessories. F. H.

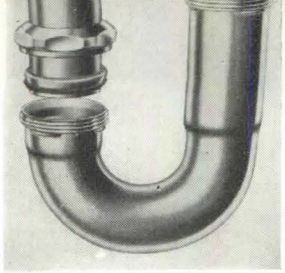

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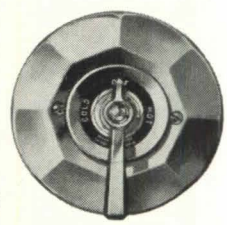
Fig. 1: Wade Mfg. Co.'s *Hydrafilter* grease trap embodies several new design features. *Fig. 2:* Bridgeport Brass Co.'s *Either-Way* trap may be installed as a washer joint (shown) or without washer, as a ground joint. *Fig. 3:* Bethlehem Industrial Corp. (New York) offers the new *Kwiklean* trap, approved for use in New York City. *Fig. 4:* Crane Co.'s new line of fixtures; example shown is *Diana* lavatory. *Fig. 5:* Josam's *Moderator* shower mixing valve shuts off hot water if cold water fails. *Fig. 6:* Sanymetal's *Stylite* shower stall with porcelain receptor. *Fig. 7:* Grenby Mfg. Co., New York, N. Y., makes the *Grenby* hygienic toilet seat, incorporating a germicidal ultraviolet lamp.

medicine cabinets to such metallic materials as sheet steel; second, an unprecedented demand, which will undoubtedly increase now that price restrictions have been removed from house construction; and third, almost universal expansion—in some cases, tripling—of production facilities. Everything seems to be ready for greatly increased production during 1947 provided raw materials become available, yet there is serious doubt that the industry can come close to satisfying the enormous demand by the end of the year.



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Lawson Co., Cincinnati 4, Ohio.

Olson-ite molded plastic toilet seats. Plastic Div., Swedish Crucible Steel Co., Detroit 11, Mich.

Onliwon paper products dispensers. A. P. W. Paper Co., Inc., Albany, N. Y.

Parkway medicine cabinets, new **De Luxe** and **Standard** models; also new line of chrome accessories in 1947. Production will be greatly expanded if raw materials available, but probably won't meet demand. Faries Mfg. Co., Decatur, Ill.

Sanymetal toilet compartments (full line) available. New products: **Porcena** shower stalls, **Stylite** shower cabinets (steel porcelain receptor). Sanymetal Products Co., Inc., Cleveland 12, Ohio.

Traxrod shower curtain (concealed track hanger) is available now. Bridgeport Brass Co., Bridgeport, Conn.

Weisway cabinet showers, vitreous-enameled receptors, etc. Henry Weis Mfg. Co., Elkhart, Ind.

SANITARY EQUIPMENT

Blake closet fittings, floor and roof drains, grease trays, etc. Blake Mfg. Co., Rock Island, Ill.

Boosey drainage specialties: grease interceptors, valves, drains, roof drains, oil separators, etc. American Skein & Foundry Co., Chicago 10, Ill.

Imperial sump pumps and **Watrous** toilet and urinal flush valves are available. The Imperial Brass Mfg. Co., Chicago 7, Ill.

Kaustine sewage disposal equipment, septic tanks, etc. Kaustine Co., Inc., Perry, N. Y.

Myers water systems (**Ejecto** pumps, tanks, etc.). F. E. Myers & Bro. Co., Ashland, Ohio.

San-Equip septic tanks. San-Equip, Inc., Syracuse, N. Y.

Signet, San-Seal-O, Gateway, Minoka, Noxall floor, shower, and roof drains, Crampton-Farley Mfg. Co., Kansas City 6, Mo.

Yeomans heavy duty sump pumps (drainage, flood water effluent, etc., takes alkalis and acids) and **Drain-Dri** cellar drainer (impeller passes cellar trash). Also heavy duty sewage ejector and centrifugal water supply and booster pumps. New product: **HSD** pump for general water supply and booster service (single stage, double suction); high dependability. Yeomans Bros. Co., Chicago 22, Ill.

Zurn drains of all types, grease traps, fixtures hangers, etc. J. A. Zurn Mfg. Co., Erie, Pa.

DOMESTIC HOT WATER HEATERS, WATER CONDITIONERS

American Standard water heaters for all fuels. Plant expansion program should raise production rate. American Radiator and Standard Sanitary Corp., Pittsburgh 22, Pa.

Everdur copper-silicon alloy hot water storage tanks and heaters. American Brass Co., Waterbury 88, Conn.

Filtrine water filters; also water coolers. Filtrine Mfg. Co., Brooklyn, N. Y.

Frigidaire glass lined water heaters, for soft water areas. Glass wool insulation. In production now. Frigidaire Div., General Motors Corp., Dayton, Ohio.

Herculoy copper-silicon alloy tanks and pressure vessels. Revere Copper & Brass Inc., New York 17, N. Y.

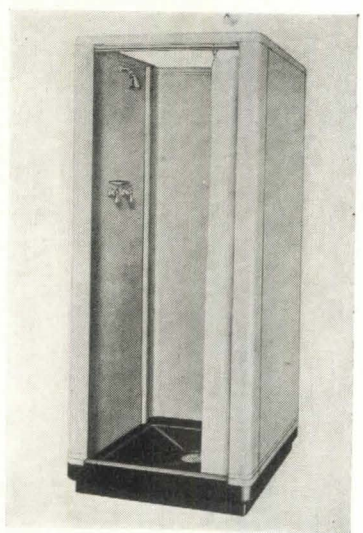
Patterson large volume water heaters. The Patterson-Kelley Co., Inc., East Stroudsburg, Pa.

Permutit water conditioners for residences, commercial and industrial uses, swimming pools, municipal supplies. The Permutit Co., New York 18, N. Y.

Ruud automatic gas water heaters; standard line available including **Multi-tube** immersion type volume water heater. New gas water heaters for residential and domestic use will be introduced during year. Ruud Mfg. Co., Pittsburgh, Pa.

Taco tankless heaters and heating units. Taco Heaters, Inc., New York 17, N. Y.

Whitehead monel automatic gas storage water heaters. Whitehead Heater Co., Los Angeles 11, Calif.; and Whitehead Metal Products Co., New York 14, N. Y.



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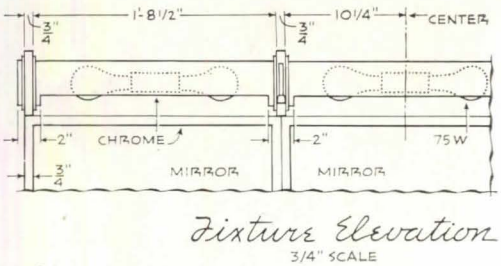
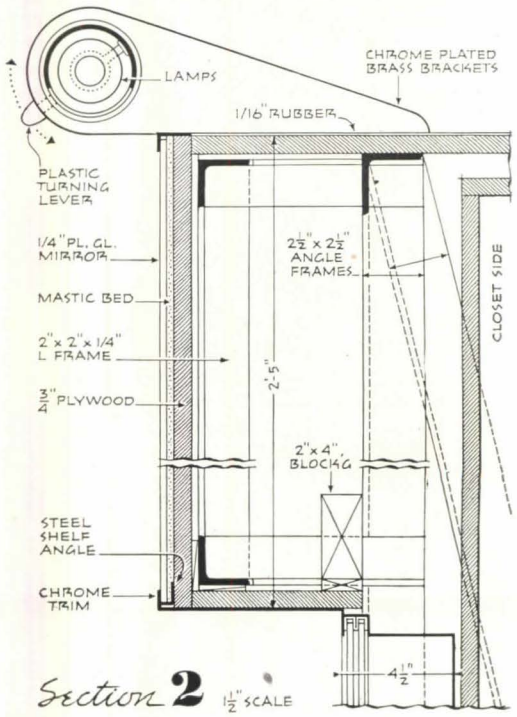
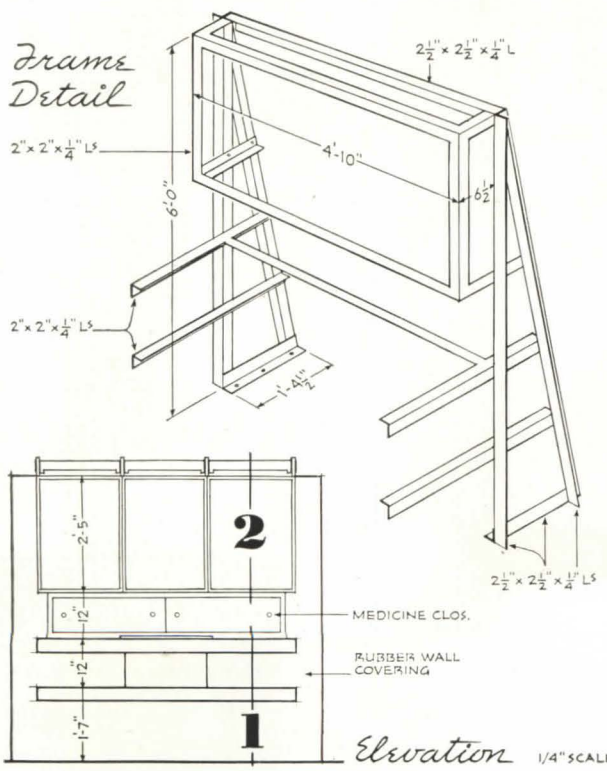
Chicago Architectural Photographing Co.



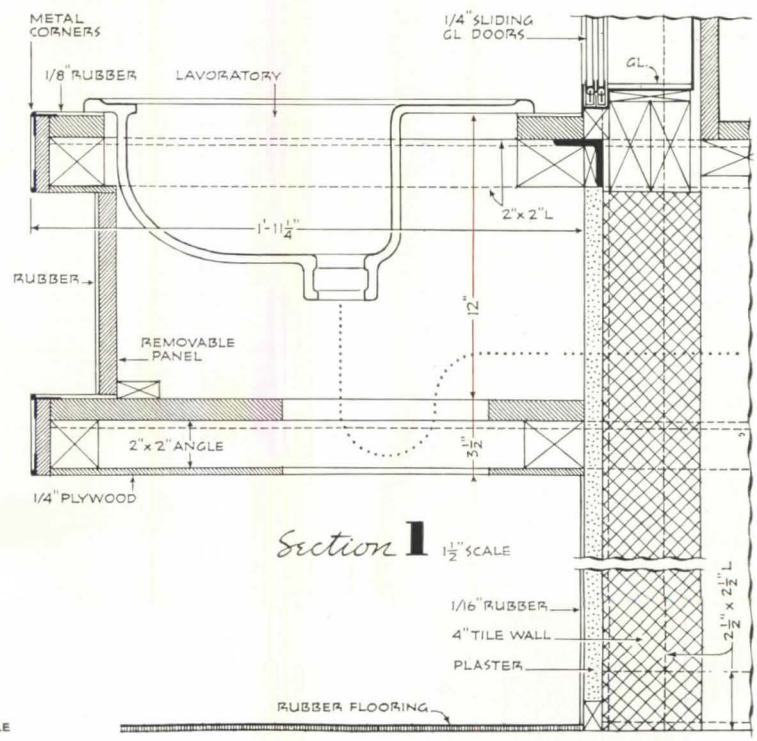
Fixture Elevation
3/4" SCALE



Section 2 1 1/2" SCALE



Elevation 1/4" SCALE



Section 1 1 1/2" SCALE

SPECIAL BATHROOM FIXTURES

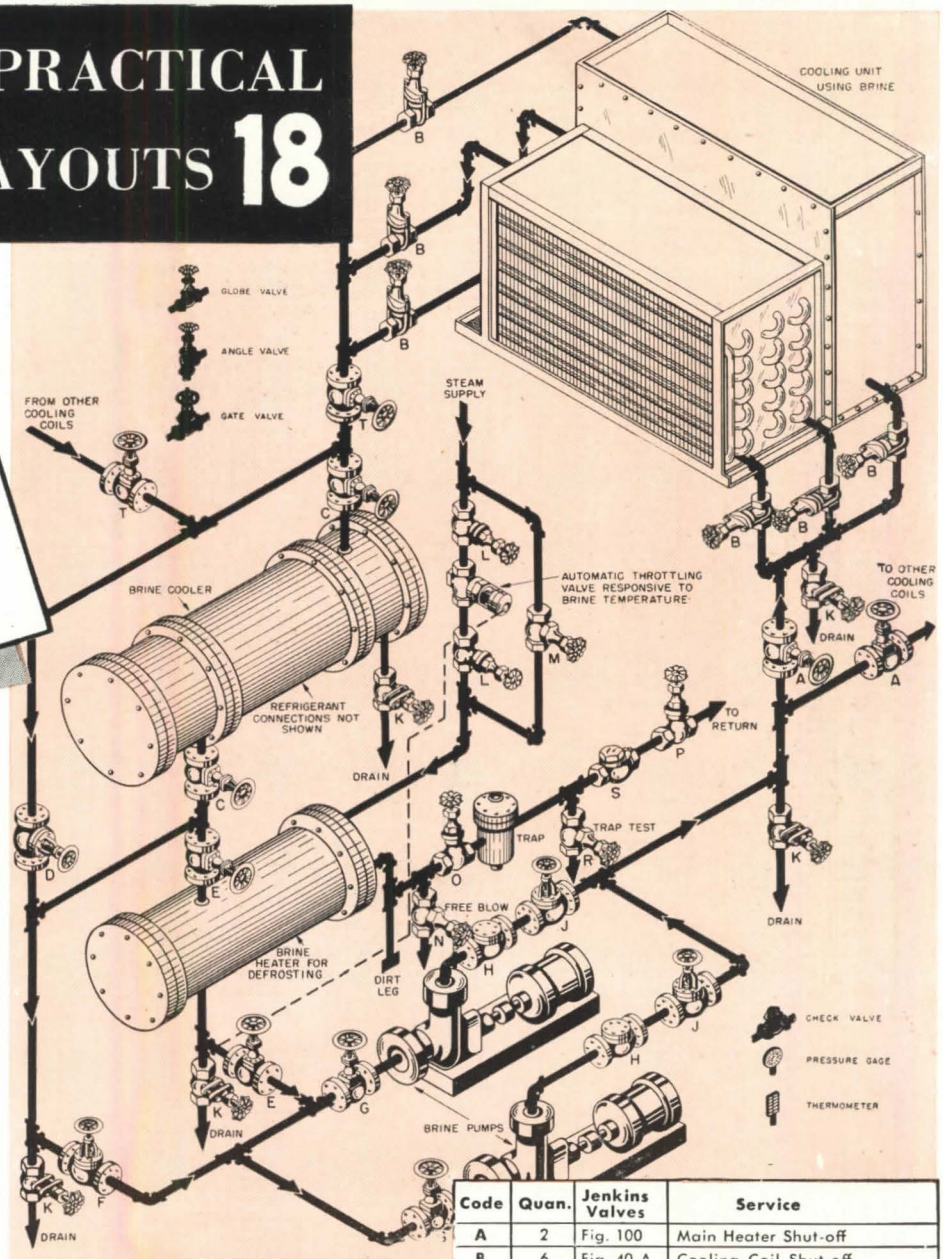
RESIDENCE near Chicago, Ill.

McSTAY JACKSON CO., Designers

Jenkins PRACTICAL PIPING LAYOUTS 18

How to plan a

BRINE COOLING SYSTEM WITH AUXILIARY DEFROSTING UNIT



VALVE RECOMMENDATIONS
For details . . . and valves to suit varying conditions . . . see Jenkins Catalog.

Code	Quan.	Jenkins Valves	Service
A	2	Fig. 100	Main Heater Shut-off
B	6	Fig. 40-A	Cooling Coil Shut-off
C	2	Fig. 100	Brine Cooler Shut-off
D	1	Fig. 142*	Brine Cooler By-Pass
E	2	Fig. 100	Brine Heater Shut-off
F	1	Fig. 142*	Heater By-Pass
G	2	Fig. 100	Brine Pump Suction Shut-off
H	2	Fig. 295*	Pump discharge check
J	2	Fig. 142*	Pump discharge control
K	5	Fig. 75-A	Drains
L	2	Fig. 47	Steam Automatic Valve Shut-off
M	1	Fig. 106-A	Steam Automatic By-Pass
N	1	Fig. 106-A	Free blow
O	1	Fig. 47	Trap Shut-off
P	1	Fig. 47	Return Shut-off for Test Trap
R	1	Fig. 106-A	Trap Test
S	1	Fig. 92	Return Check
T	2	Fig. 100	Return lines from coolers
			*All Iron

This brine cooling system is typical of many indirect refrigeration systems where cooling is not effected directly by the refrigerant.

Brine is used where the temperatures maintained fall below the freezing point of water . . . in cooling systems for fur storage, food storage and for many industrial applications. Defrosting of coils is accomplished by heating the brine and continuing its circulation. Thus, possible damage to coils by mechanical defrosting is avoided.

In normal operation the brine is pumped through cooling coils – the warm brine then returned to cooler where it is cooled in tubes by the refrigerant in brine cooler. Next it by-passes defroster and enters suction pumps. For defrosting, the brine cooler is by-passed and the brine is circulated through the defroster where it is heated. The heated brine is circulated through cooling unit until defrosting has taken place – then normal operation is resumed.

Consultation with accredited piping engineers and contactors is recommended when planning any major piping installations.

Copies of Layout No. 18, enlarged, with additional information, will be sent on request . . . also future Piping Layouts. Just mail coupon.

A CHOICE OF OVER 600 JENKINS VALVES

To save time, to simplify planning, to get the advantage of Jenkins specialized engineering experience . . . select all the valves you need from the Jenkins line, fully described in the Jenkins Catalog. It's your best assurance of the *lowest cost in the long run.*

Jenkins Bros., 80 White St., New York 13; Bridgeport, Conn.; Atlanta; Boston; Philadelphia; Chicago; San Francisco. Jenkins Bros., Ltd., Montreal; London, England.

LOOK FOR THIS JENKINS DIAMOND MARK
Since Jenkins Bros 1864

JENKINS VALVES

For every Industrial, Engineering, Marine, Plumbing-Heating Service . . . in Bronze, Iron, Cast Steel, and Corrosion-resisting Alloys . . . 125 to 600 lbs. pressure.

Sold through Reliable Industrial Distributors Everywhere.

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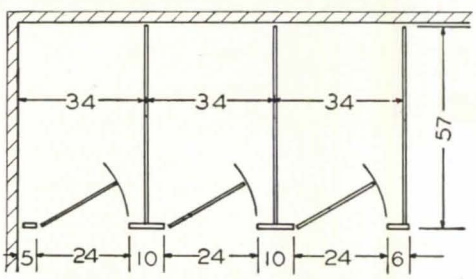
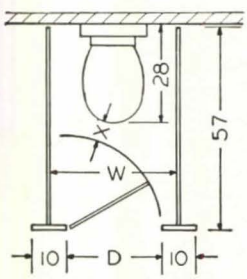
WEISTEEL HI-STILE

FLUSH COMPARTMENTS

Weisteel Hi-Stile Flush Compartments combine the attractive and modern appearance of flush stile design with proven construction details resulting from 18 years experience producing flush compartments.

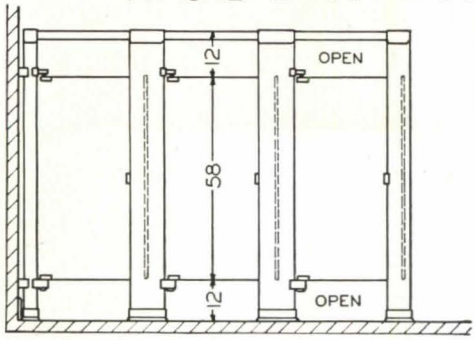
The rigid, flush stile extending from floor to headrail eliminates narrow front panels with double posts and solves a difficult cleaning problem. Dividing partitions, doors and high front stiles are of Weis flush construction with laminated corrugated fibre board cores cemented under pressure to inner metal surfaces. Edges interlocked under tension with drawn mouldings welded at corners.



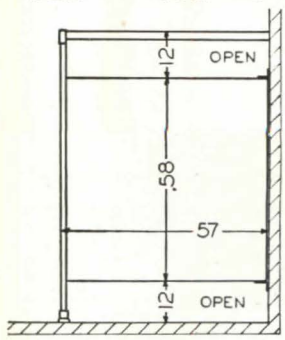


DOOR CLEARANCE SCHEDULE		
W	D	X
32	22	9 3/8
34	24	8
36	26	6 1/8

TYPICAL LAYOUT & DOOR CLEARANCE SCHEDULE



FRONT ELEVATION



SIDE ELEVATION

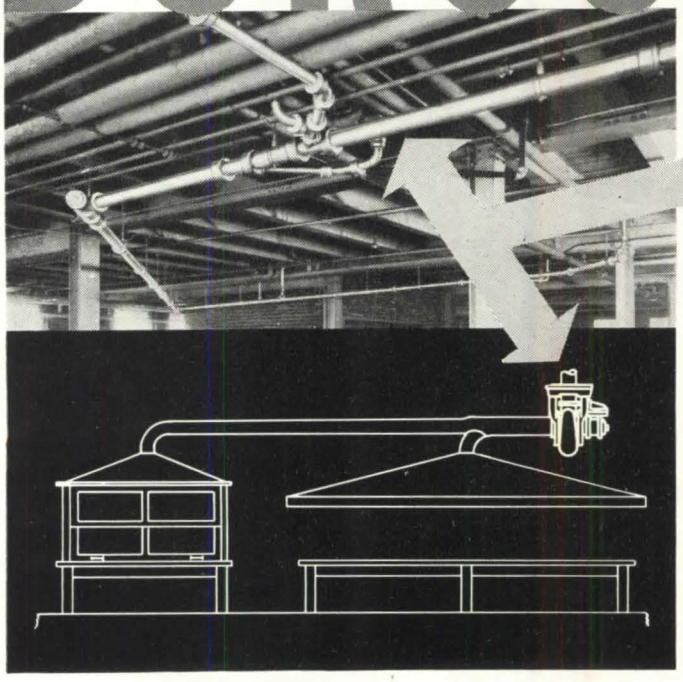
Write

for complete details and specifications of the Weisteel Hi-Stile Flush Compartments fully described in 1947 Weisteel catalog.

HENRY WEIS MFG. CO., INC.

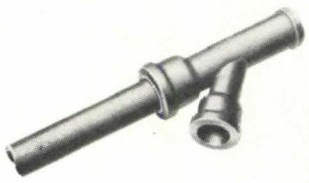
121 Oak Street, Elkhart, Indiana

DURCO



PIPE and FANS

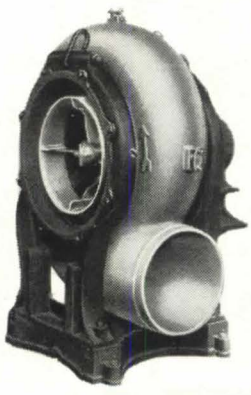
are SELF-DEFENDED against ACID attack



Drain pipe available in 1½", 2", 3", 4", 5", 6" and 8" sizes. 10", 12" and 15" furnished to order.

DURCO BELL AND SPIGOT DRAIN PIPE

Permanent, "cast-in" protection enables Durco drain pipe to handle corrosive wastes, safely. Unfailing protection of the life of the pipe is provided by the corrosion resistance inherent in the special alloy, Duriron (see description below), of which it is made. Ask for Bulletin 702-D.



Exhaust fans are built in five sizes, providing a capacity range from 20 to 5,000 c.f.m.

DURCO CORROSION RESISTING EXHAUST FANS

All parts of these fans which come in contact with the corrosive fumes are made of one of the three well-known Durco corrosion resistant alloys described below—Duriron, Durichlor or Durimet. For full details of these fans, write for new, 12-page bulletin 1102.

DURCO Adv. 23-GM

THE DURIRON CO., INC.

DAYTON 1, OHIO

Branch Offices in Principal Cities

DURCO
CORROSION RESISTING ALLOYS & EQUIPMENT

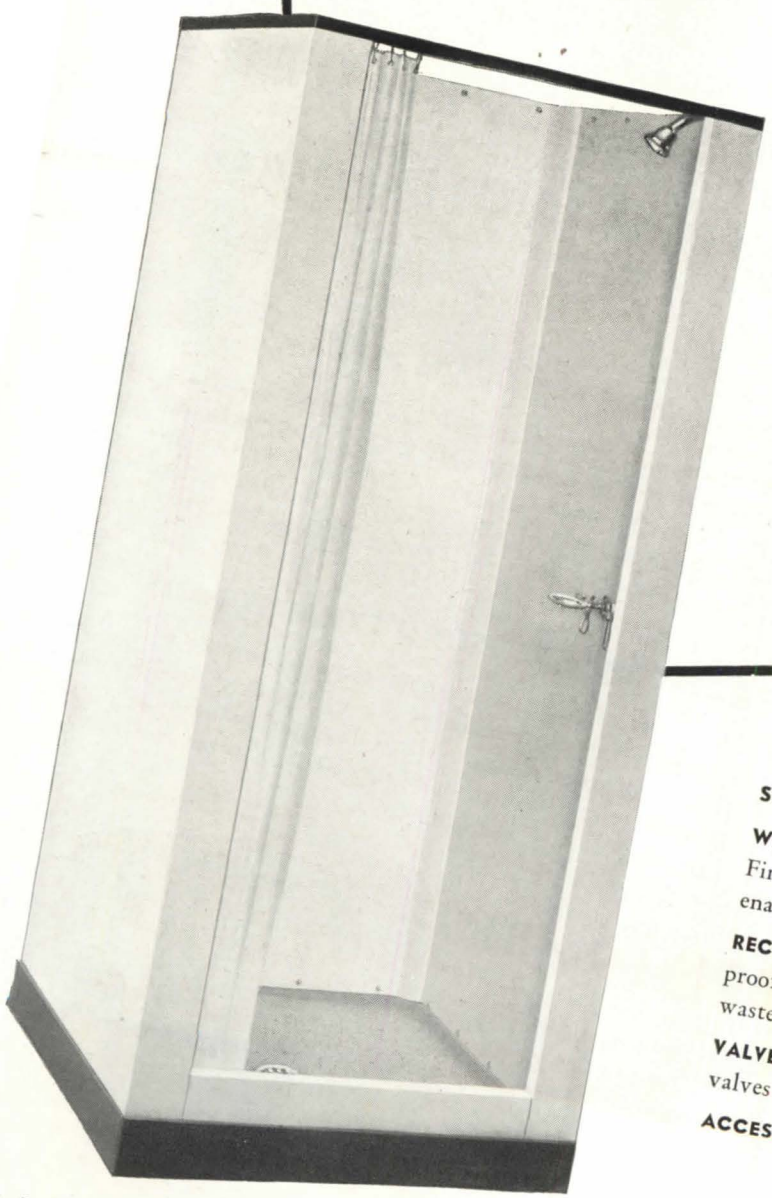
DURIRON
A high-silicon iron alloy containing approximately 14.5% silicon. Withstands the corrosive attack of all commonly used acids except hydrofluoric, sulfurous and oleum.

DURICHLOR
A high-silicon iron similar to Duriron, but superior for handling hydrochloric acid, chloride solutions and chlorine gas.

DURIMET
A special low carbon stainless steel containing nickel, chromium, molybdenum and copper. Safely handles fumes of oleum, sulfurous acid, sulfur dioxide and hydrofluoric acid.

FIAT *Skipper*

solves the bathroom problem for low cost housing . . .



- **Low installed cost**
- **Minimum floor space required**
- **According to surveys made at camps the majority of Veterans, both men and women, have expressed a preference for shower bathing**
- **Fiat Skipper showers are available**

Specifications

SIZE—32x32x76.

WALLS—BONDERIZED, GALVANIZED STEEL. Finished inside and out with white baked-on-synthetic enamel.

RECEPTOR—Semi-flat standard type Stonetex; slip-proof, leak-proof, non-absorbent. Brass drain for 2" waste connection cast integral with receptor.

VALVES—Combination hot and cold compression valves with shower head and arm.

ACCESSORIES—Curtain rod and curtain.

IAT METAL MANUFACTURING COMPANY

3 Roscoe St., Chicago 13, Ill. • 21-45 Borden Ave., Long Island City 1, N.Y. • 32 S. San Gabriel Blvd., Pasadena 8, Calif.

ESSIVE ARCHITECTURE

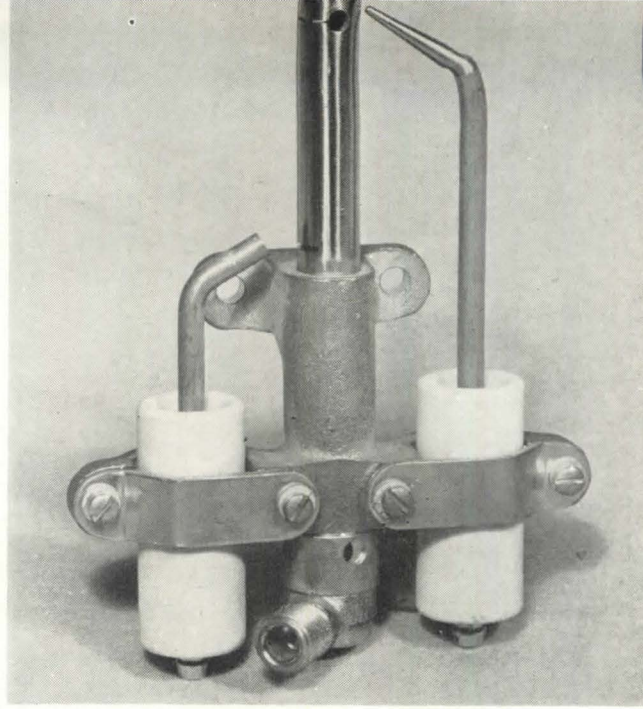


Fig. 1: The Ignition Safety Pilot Burner provides both ignition and flame-safety control, is used in conjunction with *Electronic Protectorelay* (Minneapolis-Honeywell control circuit plus electronic network). Devices are normally thermostat-operated; gas is electrically ignited each time controller calls for heat, also if flame fails. If ignition fails or flame is lost more than momentarily, gas is shut off.

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AIR AND TEMPERATURE CONTROL

By CLIFFORD STROCK, Editor, "Heating and Ventilating"

The outlook for equipment in this category for 1947 is mixed; present research is at unprecedentedly high levels, giving promise of desirable things to come; past research has already resulted in important advances in many phases of the art, including the establishment of entirely new phases, and production of most items of equipment is at peak or near-peak rates. Nevertheless, the outlook is a little less than rosy because of the excess of demand over production.

AVAILABILITY

Standard Products. There is hardly a major standard item of heating, ventilating, or air conditioning equipment or material that is not in short supply, including steel and cast iron boilers, controls of many types, furnace pipe and fittings, steel and cast iron furnaces, oil burners, gas-burning equipment, steel, wrought-iron and copper pipe and fittings, radiators and convectors, registers and grilles, unit heaters, heat transfer surface, refrigerating and air conditioning equipment of all kinds, and fans and blowers. The reasons for the shortages vary, but broadly are due to difficulties on the part of manufacturers in obtaining one or more of the following: (1) steel sheets and plates, pig iron, castings, copper and motors; (2) labor; and (3) manufacturing facilities. In most cases (2) and (3) are of less importance than (1).

The raw materials mentioned in (1) are exceedingly important in making equipment for this group. For example, steel sheets in a wide range of gages are employed in ducts and casings, while steel plates are essential for housings, steel furnaces and boilers, and fans; pig iron is the basis of cast iron products such as cast radiators and convectors, cast boilers and furnaces, while other iron castings are necessary in pumps, oil burners, stokers, compressors; copper sheets are needed for many types of heat exchangers, copper tubing for steam and water heating, and motors are indispensable on an impressive list of equipments.

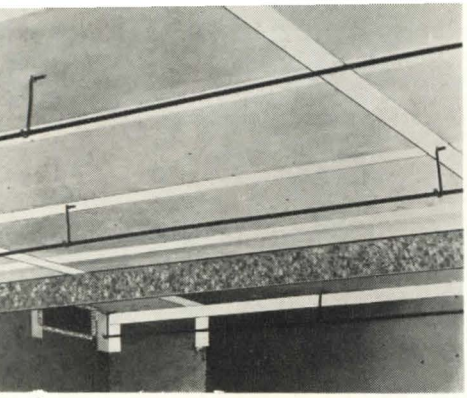
Labor shortages are gradually clearing, with only some localities in tight position. Lack of plant facilities is also slowly being overcome, but this is still a factor with many companies.

New Products. At least three-quarters of the important manufacturers in all categories either already have or will have new products for announcement in 1947, but it is not possible to be too specific about them because, understandably, they do not wish publicity until they are prepared for official announcement or until they can deliver. Among such new equipments are known to be, however, a new hot water heating system, an improved radiant heating system, odor control for individual rooms, a radiant heating control, new air cleaning equipment, low-capacity oil burning equipment, improved heat pump (reverse refrigeration cycle) units; several new fans and blowers, and many new controls of various kinds—and the foregoing does not begin to exhaust the list. The availability of these cannot be predicted in a single case, and in fact even their formal announcement is problematical at this time.

There is a third group of devices, not yet commonplace but already on the market and known to many. An example of this group is the baseboard radiator or convector. The situation with these, as with many other recently publicized postwar developments, is that while in production, they are not yet in mass production; they will probably be in critically short supply in 1947.

Relation of Production to Demand. As 1947 begins, the ratio of demand to production for heating, ventilating and air conditioning equipment ranges from an estimated 5 to 1 to about 1 to 1; with (at a guess) an average of 3 to 1. These ratios should, and probably will, decrease throughout the year. It is exceedingly doubtful, though, that supply will exceed demand in any important group.

Conclusions as to Availability. Since most equipments are being made at high rates of production—in many cases exceeding prewar rates—and since it appears that there will be fewer artificial restrictions on use in 1947, it may be



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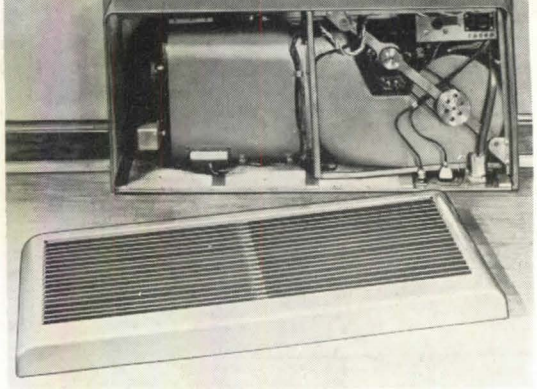

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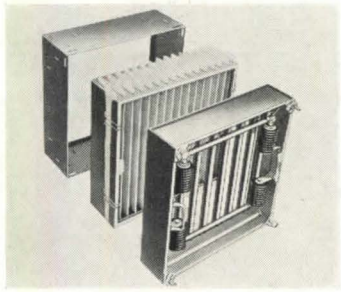

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AIR AND TEMPERATURE CONTROL

concluded that most of this equipment will flow in a free market. Somebody will get the goods. The problem of the individual architect and engineer is whether he can get his share. There are few stocks of anything, and in some cases the backlogs of orders are startling in size.

Research. From the standpoint of the more distant future, current research is of interest. Much of this is privately done by manufacturers in their own laboratories and is purposely not publicized. Increasing awareness of the importance of comfortable and healthy atmospheric enviroment has, however, resulted in an astonishing number of research projects by governmental agencies and by institutions and associations, as indicated by the following partial list:

The National Bureau of Standards is studying baseboard radiators, chimneys, floor condensation, heat loss through slab floors, and room heaters. At University of Illinois, the Institute of (cast iron) Boiler and Radiator Manufacturers is sponsoring research on these products, while the warm-air furnace manufacturers are continuing a 30-year-old project at the same institution on warm-air heating; Purdue University is studying both radiant heating and solar heating. The heat pump is under investigation at both Southern Research Institue and Armour Research Foundation. Battelle Memorial Institute has several projects under way, financed by bituminous coal interests and ranging from space heaters to a study of the desirability of district heating. Solar heating studies are now under way at University of Colorado. Anthracite Industries Laboratory is working on improved hard-coal-burning equipment. American Gas Association is studying year 'round air conditioning with gas. A number of oil companies are working on oil burners. Cornell is studying radiant heating. The Bureau of Mines is working on a stoker-fired water heater.

But this is by no means the end. The American Society of Heating and Ventilating Engineers Research Laboratory (this is the only engineering society to have its own laboratory) has an equally impressive list of its own. These include studies of air flow friction in ducts and fittings, barometric dampers for stokers and oil burners, air flow and distribution through slots, perforated panels and jets, air flow into suction hoods, solar heating, heat transmission through insulating materials, weather design data, air cleaning devices and forced convection heat transfer. The ASHVE Research Laboratory is also sponsoring cooperative projects with several universities, including those on cooling towers (California), fluid flow (Texas A. & M.), air flow from grilles (Case), downflow of heated air (Kansas State), periodic heat flow (Cornell), comfort data (Minnesota), and effect of air conditioning shock when entering or leaving cool spaces (University of Illinois Medical School).

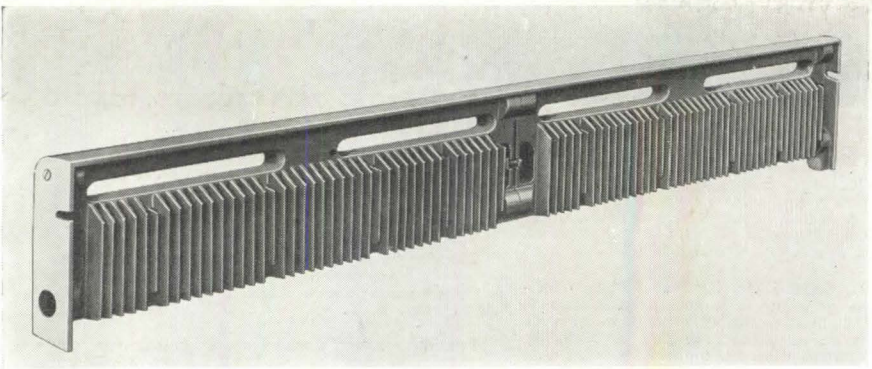
It must be emphasized that the results of these studies are long range, and most will have little or no bearing on 1947 practice.

DESIGN POSSIBILITIES

A project designed for immediate construction in early or mid-1947 may be, as can be seen, in a bad position. However, this is not a new experience for designers, and the ingenuity that saved so much critical material in wartime must be employed in seeking new ways of avoiding scarce equipments. In at least some cases the engineer can, by changing his whole approach to the problem, find a solution involving equipment less scarce than that originally contemplated, or in some cases, even avoid using any equipment. Consider, for example:

Evaporative cooling has never been as fully exploited as it might be; in certain cases it has applications in regions other than the Southwest.

Galvanized steel for ducts is scarce, but asbestos ducts have advantages in many applications. One manufacturer of pre-



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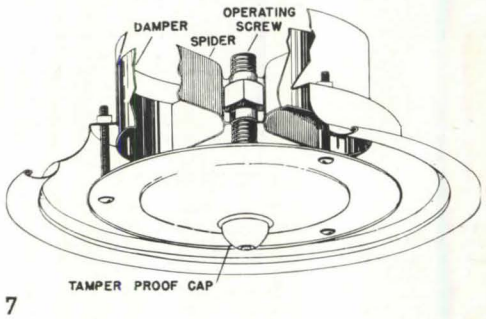

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PRIMARY HEAT SOURCES: BOILERS, FURNACES, SPACE HEATERS, ETC.

American (Arco boilers; water heaters;) **Sunbeam** warm air furnaces; **Arcoflame** oil burners and oil heating units, gas conversion burners, etc. Full line now in production, but some items in greater supply than others *due to materials* and parts situation; production steadily increasing, but can't make definite predictions. American Radiator & Standard Sanitary Corp., Pittsburgh 30, Pa.

Bison low-pressure and high-pressure boilers; available Jan. 1; **Bison Compact** boilers, **Streamline-Welded** boilers, **Utility Scotch** boilers all available later in year; demand on all expected to exceed production. Farrar & Trefts, Inc., Buffalo 12, N. Y.

Certified Furnaces: gravity and forced air steel furnaces, coal, oil, or gas-fired; concentrating on certain models; expect improvements, also to add new gas-fired models and gas conversion burners during 1947, and to get back into production some models temporarily discontinued. Steel short, motors very short; otherwise production at peak, with anticipated production for first 10 months of 1947 sold out. Certified Furnace Co., Div. of Stainless & Steel Products Co., St. Paul 4, Minn.

Chimneyless Furnace, vacuum-draft oil-burning unit for houses, provides filtered dehumidified air. Borg-Warner Corp., Norge Heat Div., Detroit, Mich.

Coleman oil space heater, oil and gas floor furnaces, specially designed to increase warm air flow; new line of oil floor furnaces expected during year. Production at least during early 1947 will probably be distributed under own allocation program; quantities depend on raw materials availability. The Coleman Co., Inc., Wichita 1, Kans.

Cyclotherm steam and hot water generators; demand exceeds production by 80 to 90%;

fabricated ducts is using aluminum instead of steel, and has found the appearance desirable and attractive, the ease of working an advantage.

Since motors for pumps and circulators are critically short, give some thought to using gravity systems, whether the system is air, steam, or hot water. Perhaps a gravity steam system can be used in place of forced hot water; gravity warm air is not necessarily obsolete.

Extensive application of double sealed window glazing may sharply cut radiator, boiler, and pipe sizes; perhaps smaller heating units are available. Solar heating might turn the same trick.

Can the problem itself be wiped out? For example, a warehouse might be left with no heat. Or again, with boilers unavailable, is there exhaust steam procurable nearby—or steam from a utility? Perhaps stokers are available, even if oil burners aren't.

In certain cases, can we concentrate less on operating economy, and instead seek ways to eliminate the operation; can the condensate be run to the sewer instead of back to the boiler, avoiding a pump—and an almost priceless motor? Sometimes the project may be exceptional in some respect. For example, electric heat is usually far too expensive, but is the project under consideration such that off-peak electric rates are available?

In certain industrial buildings the direct-fired unit heater may be the solution. As a final suggestion, don't overlook the secondhand market; secondhand radiators may be ornate and clumsy, but they can be replaced later.

It is entirely possible that every one of the foregoing suggestions may be inapplicable to a given project, but this list is only intended as a stimulant to thinking. The final solution may be a bold, even radical, approach to the problem.

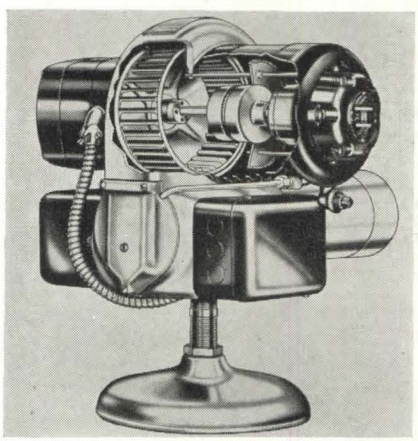

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Fig. 2: Panelaire **(warm-air radiant heating) ceiling panels employ supply and return risers (between studs) from which air flows through sealed plenum chambers suspended below joists. Baffles in plenum direct air flow. Photo shows gypsum lath applied to underside of joists (joints sealed); air inlet; galvanized baffle; hangers for suspended metal-lath-plaster ceiling (International Heater Co.).** ***Fig. 3:*** **Stewart-Warner's *South Wind* new warm-air heater, developed from blast heaters for airplanes, is silent, weighs only 55 lbs., can be installed between joists for floor outlet, in partitions to supply rooms both sides.** ***Fig. 4:*** **New *Modine* unit heaters: left, for horizontal delivery; center, for vertical delivery; right, *Power-Throw* model draws air through.** ***Fig. 5: Electro-Airmat,*** **combination electronic precipitator and mechanical filter (American Air Filter).** ***Fig. 6: Burnham's Hy-Power Base-Ray Radiant Baseboard. Fig. 7: Kno-Draft*** **air diffusers incorporate air volume dampers. (W. B. Connor Engr. Corp.).** ***Fig. 8:*** **Gilbert and Barker's new oil burner, with *Economy Clutch* which forces air through before and after combustion, reducing soot formation.**

shortages of materials and control equipment. Cyclotherm Corp., Div. of General Furnaces, Inc., New York 4, N. Y.

Firedaire (combination steel fireplace mantel and circulating heater unit) for houses up to 7 rooms. Expect demand to exceed supply throughout 1947. Edwards Mfg. Co., Cincinnati 2, Ohio.

Gilbarco oil burners, several models and capacities, all with new **Economy Clutch** designed to improve efficiency and cleanliness. Materials shortages, but keeping production at highest level possible. Gilbert and Barker Mfg. Co., West Springfield, Mass.

Hoffman Oil-fired Warm Air Furnaces. Production depends on raw materials, etc. Hoffman Specialty Co., Indianapolis 7, Ind.

Janitrol gravity warm air furnaces, steam and water boilers, conversion oil burner; new **Triple-Service Hot Water System** supplies house heat, high-temp. water for laundry and dishwasher, temperate water for personal use. Plant capacity doubled. Surface Combustion Corp., Toledo 1, Ohio.

Kewanee Steel Heating Boilers, Weld & Rivet, Type C, Type R, Square Heat, etc.; also water heaters and tanks; some improvements expected. **Scottie Jr.** (steam generator) has new small 6 hp size. New products: **Residence Square Heat 3R Series** and small **Round R** boilers. Production expected to continue several months behind demand. Kewanee Boiler Corp., Kewanee, Ill.

Mechanical Core, includes heating unit as well as other house mechanical equipment. Ingersoll Steel Div., Borg-Warner Corp., Kalamazoo, Mich.

Panelray, gas-fired wall heater. Bryant Heater Co., Cleveland 10, Ohio

Petro oil burners and oil-burning equipment (domestic burners, commercial, industrial equipment) currently being produced and distributed at 2 to 3 times highest previous rate but still can't meet demand. Expect during year to introduce belt-driven industrial burners, domestic light fuel oil pressure type burners. Boiler-burner and furnace-burner units expected to be less available than burners only. Chief difficulty is procurement of parts. Petroleum Heat and Power Co., Stamford, Conn.

Smith, Mills, Smith-Mills, Hy-Test boilers available January '47 though not in quantities to meet all demands. Expect new developments in domestic hot water supply. Availability should improve during 2nd and 3rd quarters. The H. B. Smith Co., Inc., Westfield, Mass.

South Wind heating unit, gas-fired space heater, noiseless, 14" wide, to fit between studs or joists, for heating 1 to 3 rooms, (developed from airplane heaters). Available limited quantities in certain parts of country only January 1947; expect to reach 10,000 units per month by midsummer 1947. Difficulties with motors, raw materials, etc., well on way to solution. Stewart-Warner Corp., Indianapolis, Ind.

Syncromatic steel furnaces (coal — forced and gravity warm air—oil, gas-fired; also **Syncromatic** gun-type oil burner, furnace-burner combination; impossible to satisfy demand in 1947. Syncromatic Corp., Watertown, Wis.

Unit Gravity Furnace, also **Comfortaire** winter air conditioners and forced-air furnaces. Being produced in volume as great as supply of raw materials, controls, etc. permits. **Vented Wall Heater:** new gas-fired space heater for building in wall, designed for low cost houses, available in greater quantity because automatic controls and motors are eliminated. Hammel Radiator Engineering Co., Los Angeles 34, Calif.

Viking gas, oil, or coal furnaces, space heaters, floor furnaces available in limited quantities. Viking Mfg. Corp., Cleveland 14, Ohio.

RADIATORS, CONVECTORS, HEATING BASEBOARDS, ETC.

American radiators, convectors, enclosures; full line in production, some items more available than others. Production being steadily increased. American Radiator & Standard Sanitary Corp., Pittsburgh 30, Pa.

Base-Ray and **Hy-Power Base Ray** metal baseboard heating unit for water, 2-pipe steam, or vacuum systems. Burnham Boiler Corp., Irvington, N. Y.

Modine convector radiation; improvements coming; demand at peak. Modine Mfg. Co., Racine, Wis.

Streamaire convectors, forced convectors. Design improvements expected first half 1947. Young Radiator Co., Racine, Wis.

Webster Radiation products (**Webster Systems**—concealed convectors with built-in traps and valves; **Webster Convectors; Type WI Industrial Radiation);** deliveries in substantial volume on priorities; small quantities without priority or large quantities with or without priority, no estimate. **Baseboard Heating**—delivery in 3-6 weeks on small or moderate quantities subject to priorities. Warren Webster & Co., Camden, N. J.

UNIT HEATERS

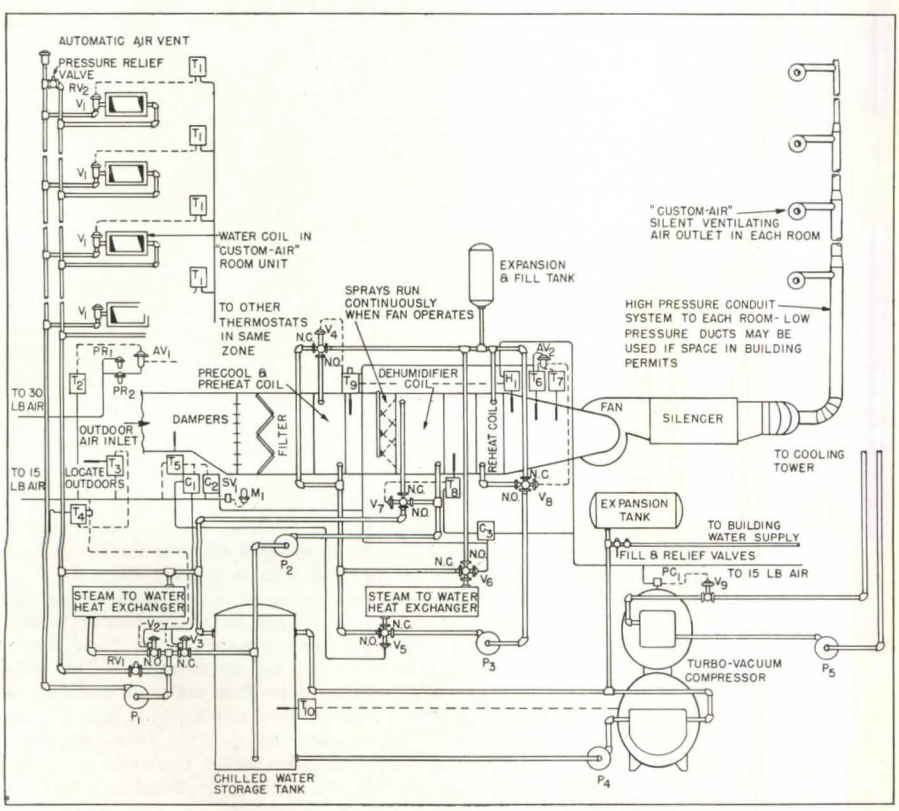
Blower Fan Type Unit Heaters, Horizontal and **Vertical Shaft** unit heaters, **DeLuxe** unit heaters. Demand exceeds supply. Herman Nelson Corp., Moline, Ill.

Buffalo unit heaters; substantial backlog of orders. Buffalo Forge Co., Buffalo 5, N. Y.

Janitrol Unit Heaters. Plant capacity doubled. Surface Combustion Corp., Toledo 1, Ohio.

Modine unit heaters, heating coils (blast heaters); entire line redesigned. "Greatest demand in

AIR AND TEMPERATURE CONTROL



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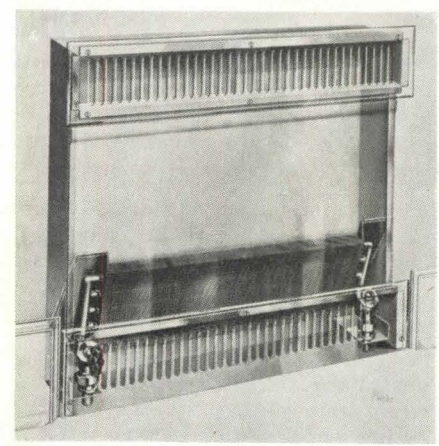

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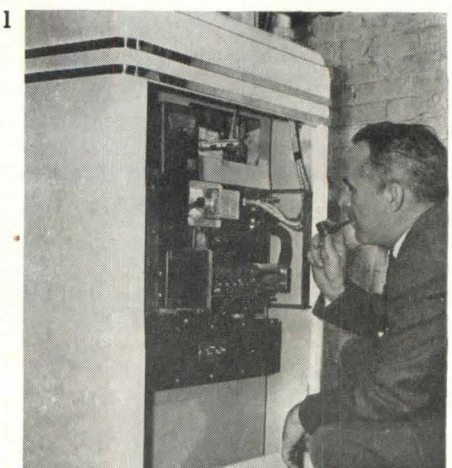

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history for our type of product." Modine Mfg. Co., Racine, Wis.

Streamaire unit heaters, blast heaters, forced convectors; improvements in design expected during first half 1947. Young Radiator Co., Racine, Wis.

Sturtevant unit heaters; available for delivery July 1947 and later; same factors as other manufacturers. B. F. Sturtevant Co., Div. of Westinghouse Electric Co., Boston 36, Mass.

Thermolier unit heaters; Grinnell Co., Inc., Providence 1, R. I.

Webster-Nesbitt Unit Heaters; 3-6 months' deliveries. Warren Webster & Co., Camden, N. J.

AIR CONDITIONING, EQUIPMENT AND SYSTEMS

Buffalo air conditioning cabinets, vent fans, etc.; considerable backlog of orders. Buffalo Forge Co., Buffalo 5, N. Y.

Carrier air conditioning systems and equipment, refrigeration, etc., available depending on production bottlenecks. Carrier Corp., Syracuse 1, N. Y.

Comfortaire (winter air conditioner) being produced as rapidly as motors and controls become available. Hammel Radiator Engineering Co., Los Angeles 34, Calif.

Janitrol Winter Air Conditioners (forced warm air). Plant capacity doubled. Surface Combustion Corp., Toledo 1, Ohio.

Modine heat transfer products for residential, commercial, industrial applications, to be announced. Modine Mfg. Co., Racine, Wis.

Philco air conditioners. Philco Corp., Philadelphia 34, Pa.

Streamaire air conditioning units, heating and cooling coils; expect to be in full production January 1947. Young Radiator Co., Racine, Wis.

Sturtevant Westinghouse Unit Conditioners, also **Sturtevant** fans, heating and cooling coils; available for delivery July 1947 and later. Same factors as other manufacturers. B. F. Sturtevant Co., Div. of Westinghouse Electric Co., Boston 36, Mass.

Sunbeam winter air conditioners; in production but cannot predict availability. American Radiator & Standard Sanitary Corp., Pittsburgh 30, Pa.

U. S. Air Conditioning equipment of all types for complete air conditioning, ventilation, or heating installations: blowers, fans, heating and cooling coils, suspended air conditioning units, etc. U. S. Air Conditioning Corp., Minneapolis 14, Minn.

Viking year-'round air conditioning units, room coolers, and 3-ton cooling units, available in limited quantities. Viking Mfg. Corp., Cleveland 14, Ohio.

AIR CLEANING, CIRCULATION, VENTILATION, ETC.

Air-X-Hausters, industrial type, chimney tops, vent flue caps; production is about 35% of demand as far as prompt service is concerned. G. C. Breidert Co., Los Angeles 14, Calif.

Anemostat Draftless Aspirating Air Diffusers available in both ceiling and wall types, for distributing air without causing drafts. Improvements in design expected periodically; also expecting to introduce line of combined diffusers and lighting fixtures. Deliveries should continue 4 to 6 weeks on most items, 1 to 2 weeks on some, if raw materials' supplies hold out. Anemostat Corp. of America, New York 16, N. Y.

Blo-Fan domestic electrical ventilators. Can meet demand early in 1947 if materials become available. Pryne & Co., Inc., Los Angeles 54, Calif.

Buffalo Type LL ventilating fans, **Breez-Air** attic cooling fans; new **Axial-Flow** ventilating fans. Considerable backlog of orders. Buffalo Forge Co., Buffalo 5, N. Y.

Dorex Activated Carbon Air Recovery Equipment; also **Kno-Draft Adjustable Air Diffusers;** expect to maintain satisfactory shipping schedules. W. B. Connor Engineering Corp., New York 16, N. Y.

Electro-Matic, Electro-Cell, Electro-Airmat, Multi-Duty electronic precipitator and mechanical air cleaning devices, and combination electronic-mechanical. Availability must be checked with current home office shipping schedules. American Air Filter Co., Inc., Louisville 8, Ky.

Fabrikated registers and grilles, straight or adjustable air flow, available in unusual sizes well adapted to commercial needs; also wrought steel type suitable for residences, and wall, floor, baseboard types. Doubt if supply situation will permit production to satisfy demand in 1947. The Independent Register Co., Cleveland, Ohio.

G-E Attic & Kitchen Ventilating fans, will be produced during 1947; demand will probably continue to exceed supply. General Electric Co., Appliance & Merchandise Dept., Bridgeport 2, Conn.

Herman Nelson propeller and centrifugal fans, blower units, unit ventilators, large-capacity ventilators. Demand exceeds supply. Herman Nelson Corp., Moline, Ill.

Osmetrol equipment for control of odors and air quality (application of **Airkem** to air conditioners). Expect production difficulties to clear by 1947. W. H. Wheeler, Inc., New York, N. Y.

Rheem Series 2900 attic fans; Appliance Div., Rheem Mfg. Co., New York 22, N. Y.

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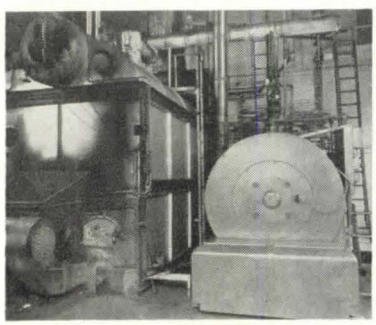

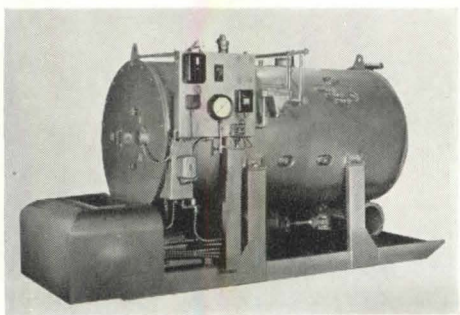

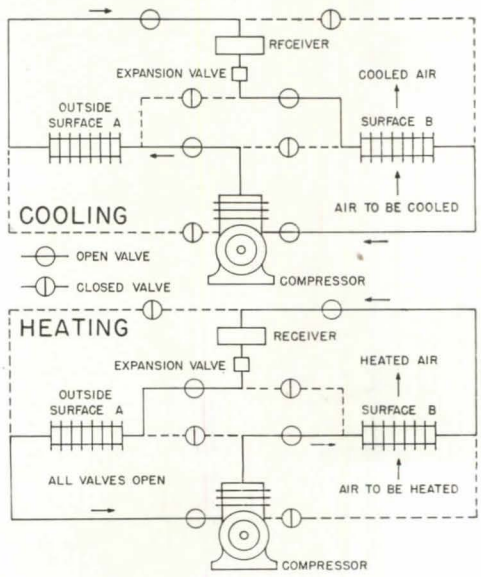

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Fig. 9: Trane Co.'s *Custom-Air* system's central plant supplies individually controlled room conditioners. G-E and Carrier have similar systems. *Fig. 10: Webster System Radiation,* prefabricated convector unit for steam systems only, with valve, orifice, trap, casing, etc. preassembled. Illustration shows prewar model. 1947 models differ, will be available recessed (metal or plaster front), free-standing, wall-hung (flat or sloping top). (Warren Webster & Co.). *Fig. 11: Electromode,* electric furnace for houses, is equipped with Minneapolis-Honeywell *Moduflow* controls (Electromode Corp.). *Fig. 12: Steam-Pak* generator for process steam or heating, made in several sizes, burns oil. Mounted on skids, it requires little more than connections to oil, electricity, water, and steam lines. Left, 100 hp high-pressure model beside a conventional 100 hp boiler; right, Model SPL-30-5, low-pressure, primarily for heating, burns No. 5 oil (York-Shipley, Inc.). *Fig. 13:* Cooling and heating arrangement for a "heat pump" or reverse-cycle heating unit which extracts heat from outside air for warming indoor air. *Fig. 14:* Test houses at Purdue Univ.; left, "solar" house; right, conventionally glazed but otherwise identical; solar costs less to heat.

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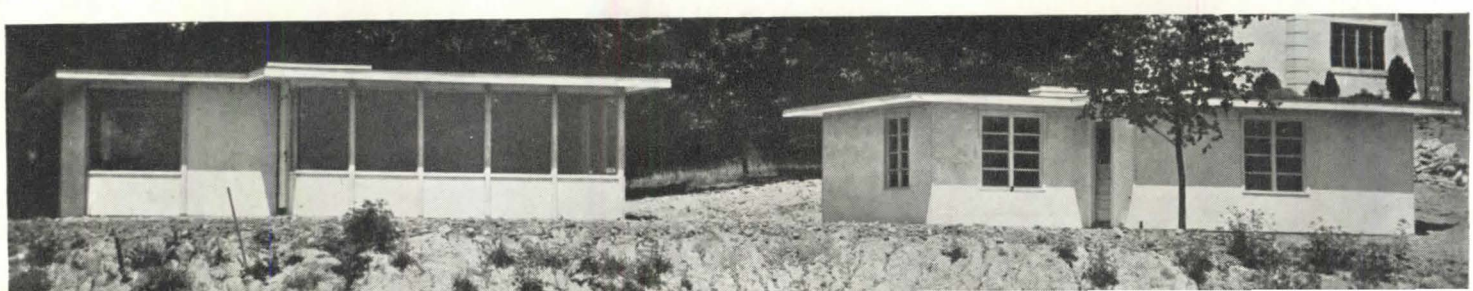

Sturtevant unit ventilators, fans, etc. Available for delivery July 1947 and later. Production less than demand before July; same factors as other manufacturers. B. F. Sturtevant Co., Div. of Westinghouse Electric Co., Boston 36, Mass.

usAIRco ventilation blowers, exhaust fans, etc.; also window ventilating units for ventilating, filtering, cleaning, exhausting air from individual rooms; available 1st quarter 1947. U. S. Air Conditioning Corp., Minneapolis 14, Minn.

CONTROLS AND CONTROL SYSTEMS

American Radiator specialties, controls, etc.; also specialized items for hospitals, hotels, schools, etc.; full line in production but cannot predict availability. American Radiator & Standard Sanitary Corp., Pittsburgh 30, Pa.

Cadwell valves; **Perfection** floor and ceiling plates; new types of pressure-relief and pressure-reducing valves **(Cadwell)** will be on the market; all available during 1947 but quantities uncertain. Beaton & Cadwell Mfg. Co., New Britain, Conn.

Controls (electric) for all types of automatic heating systems. Same factors govern as with other manufacturers. Manufacturing capacity has been greatly increased. Penn Electric Switch Co., Goshen, Ind.

Dialon No. 81 radiator valve (air valve, precision control, quick drainage) and **Frevent** radiator valve. Expect to meet demand. Bridgeport Brass Co., Bridgeport, Conn.

Hoffman Heating Equipment; standard line includes venting valves, thermostatic trap, hot water controls. New products: domestic hot water heating air relief valves, converted bucket traps, pressure-reducing valves, tank regulators. Production dependent entirely on raw materials, etc. Hoffman Specialty Co., Indianapolis, Ind.

Minneapolis-Honeywell heating controls for oil-, gas-, stoker-fired furnaces and boilers; **Moduflow** house heating controls; **Personalized** apartment heating control system (for individual control) standard controls for heating and air conditioning all types of buildings; also new **Honeywell** air register (smaller than usual, curved face, designed for even, quiet distribution) and **'47 Chronotherm** (improved room thermostat). All available during 1947; production currently twice prewar rate, expected to triple; hope to take care of "tremendous demand." Electrical steel is short; aluminum being substituted where possible. Minneapolis-Honeywell Regulator Co., Minneapolis 8, Minn.

Weather-Man, thermostatic control, actuated by outdoor temperatures, may be used with any type of heating system. Automatic Devices Co., Weather Controls Div., Chicago 4, Ill.

Webster Moderator heating controls — delivery from stock or in 2-3 weeks for most used standard equipment; longer for less used and special items. Warren Webster & Co., Camden, N. J.

Webster steam, vacuum, vapor heating specialties (radiator valves, thermostatic traps, drip traps, strainers, boiler return traps, vent traps, etc.)—modest quantities shipped from stocks, delivery one to five weeks for most used sizes and types. Warren Webster & Co., Camden, N. J.

ADDITIONAL MANUFACTURERS

Standard lines also available from American Blower Corp., Detroit 11, Mich.; Airtemp Div., Chrysler Corp., Dayton 1, Ohio; Clarage Fan Co., Kalamazoo, Mich.; Air Conditioning Div., General Electric Co., Bloomfield N. J.; Mueller Furnace Co., Milwaukee 7, Wis.; Servel, Inc., Evansville 20, Ind.; Air Conditioning Div., Westinghouse Electric Elevator Co., Jersey City 4, N. J.; Precipitron Dept., Westinghouse Electric & Mfg. Co., Jersey City 4, N. J.; American Coolair Corp., Jacksonville 3, Fla.; Ilg Electric Ventilating Co., Chicago 41, Ill.; Barber-Colman Co., Rockford, Ill.; Bell & Gossett Co., Morton Grove, Ill.; A. A. Dunham Co., Chicago 11, Ill.; Johnson Service Co., Milwaukee 2, Wis.; Mercoid Corp., Chicago 41, Ill.; Triplex Specialty Co., Peru, Ind.; Bryant Heater Co., Cleveland 10, Ohio; Burnham Boiler Corp., Irvington, N. Y.; Fitzgibbons Boiler Co., New York 17, N. Y.; International Boiler Works Co., East Stroudsburg, Pa.; National Radiator Co., Johnstown, Pa.; U. S. Radiator Corp., Detroit 31, Mich.; Waterfilm Boilers, Inc., Jersey City 7, N. J.; Link-Belt Co., Chicago 8, Ill.; Bennett-Ireland, Norwich, N. Y.; Donley Bros. Co., Cleveland 5, Ohio; Majestic Co., Huntington, Ind. These manufacturers did not furnish specific information on availability of products.

PIPING, TUBING

Beth-Co-Weld (butt-welded steel pipe) and **Ammonoduct** (steel pipe for cold bending); Bethlehem Steel Co., Bethlehem, Pa.

Byers Genuine Wrought Iron piping available depending on supply of raw materials, etc. A. M. Byers Co., Pittsburgh 22, Pa.

Copper tubing: Chase Brass & Copper Co., Waterbury, Conn.; Revere Copper and Brass, Inc., New York 17, N. Y.

Republic wrought and copper-bearing steel pipe, copper-molybdenum iron pipe; Republic Steel Corp., Cleveland, Ohio.

Ric-Wil insulated pipe units, **Standard** and **Super-Tile** conduit and cast iron conduit, all for distribution and insulation of steam, oil, hot water and process liquids. The Ric-Wil Company, Cleveland 14, Ohio.

Steel tubing: Allegheny Ludlum Steel Corp., Brackenridge, Pa.; Steel & Tubes Div., Republic Steel Corp., Cleveland, Ohio; National Tube Co., Pittsburgh 19, Pa.

AIR AND TEMPERATURE CONTROL

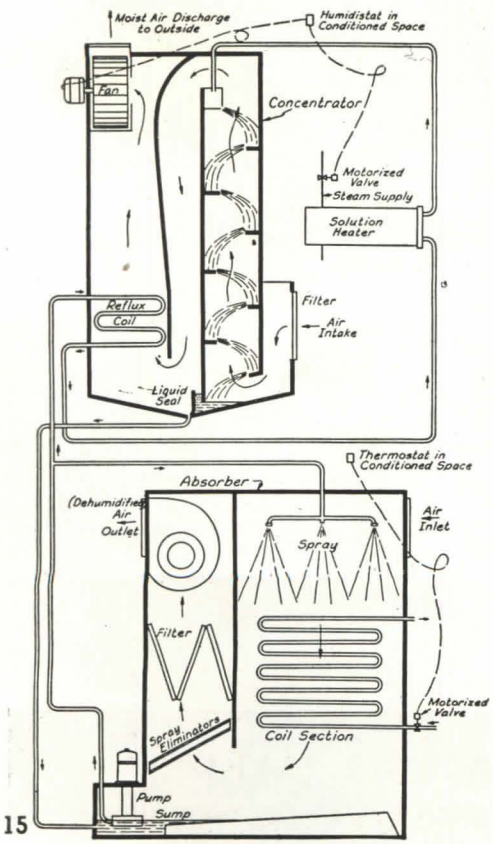

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Fig. 15: Use of triethylene glycol for dehumidifying and sterilizing air. Lower portion shows schematic dehumidifying process; upper, reactivation of glycol. System is useful for industrial dehumidification as well as comfort air conditioning. *Fig. 16: Radiafin Tubing,* recently developed heat transfer unit, comes in several lengths and 3 diameters; EDR rating from 17.31 to 128.04 (Schutte & Koerting Co.). Similar products available from other manufacturers. *Fig. 17:* Prefabricated copper coils, called *Thermapanels,* for ceiling radiant heating are factory-attached to metal lath plaster-base; are well adapted to such installations as the beamed ceiling shown. Not yet ready for national distribution, they are being employed locally in California (Robert Bruen & Son).

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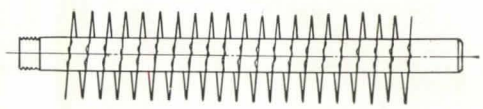

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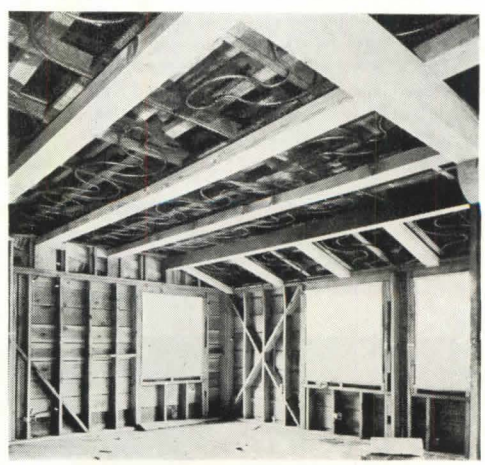
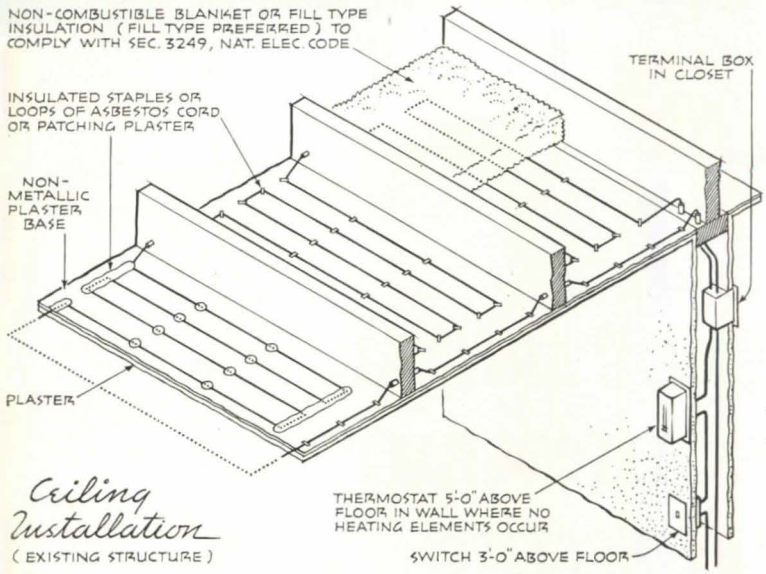
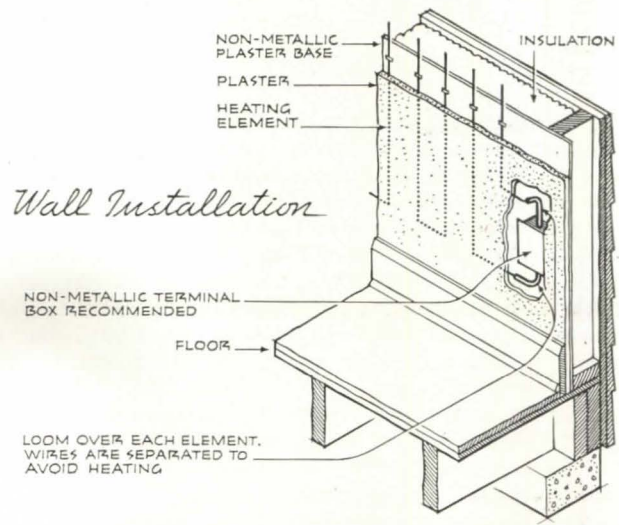
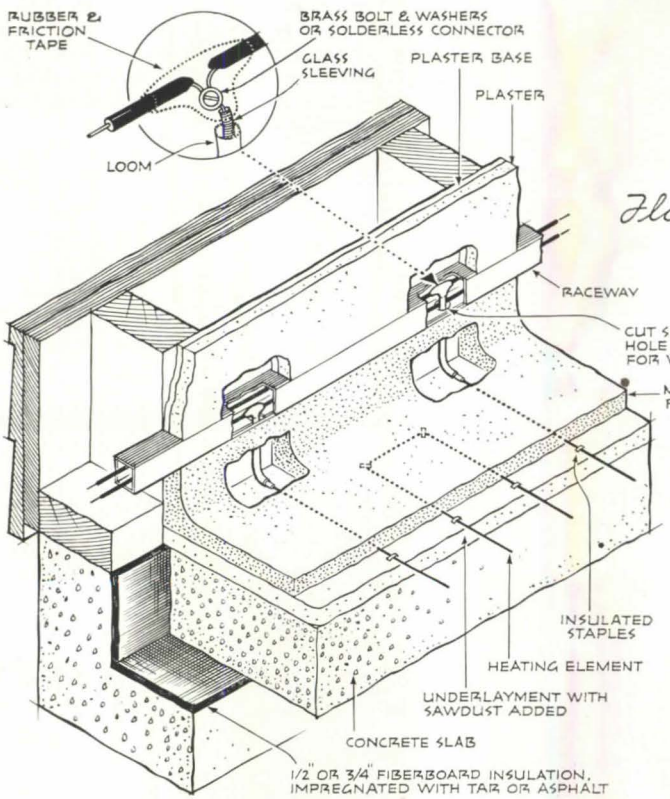




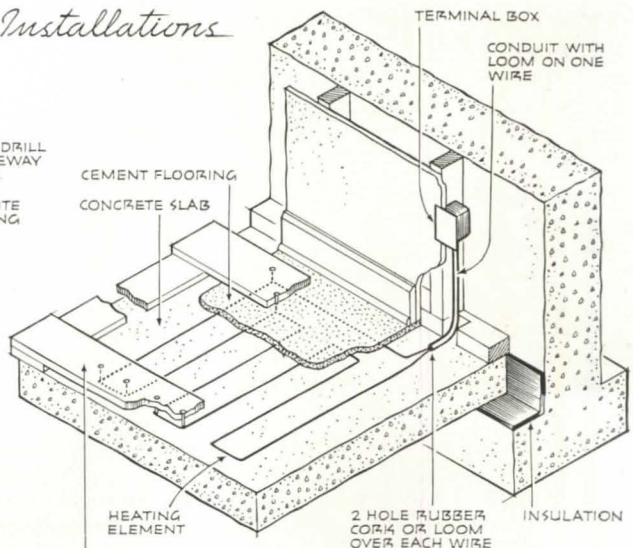
Ceiling Installation
(EXISTING STRUCTURE)



Wall Installation



Floor Installations



INSTALLING ELECTRICAL RADIANT HEATING CABLE

L. N. ROBERSON, Engineer, Seattle, Wash.

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ELECTRICAL EQUIPMENT, LIGHTING

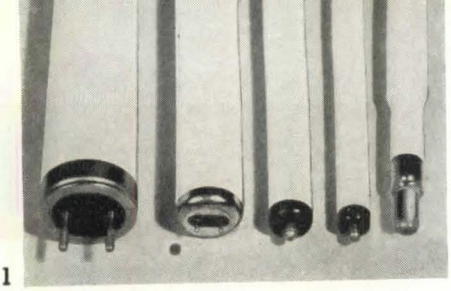

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Fig. 1: Five types of fluorescent lamps available from G-E (left to right): 100 and 40-W regular fluorescents, 100 and 40-W *Slimline*, typical cold cathode lamp. *Fig. 2:* Sylvania's 40-W 4500° white, newest color, also available from other manufacturers. *Fig. 3:* Specially designed office lighting, Sylvania. *Fig. 4:* Installation of *Grenadier* fluorescent fixtures (F. W. Wakefield Brass Co., Vermilion, Ohio), in conjunction with repainting, to improve quality as well as quantity of classroom light. *Fig. 5: Permaflectors* (Pittsburgh Reflector Co.) installed in a salesroom to display durable goods to full advantage.

In general, the supply picture in regard to electrical and lighting equipment is substantially the same as in other sectors of the building product field: facilities for production have been expanded, the demand is insistent and tremendous, and many raw materials are still scarce, at least in proportion to demand. During 1946, for instance, production of wiring devices was so far behind that the amounts distributors could stock were severely restricted by CPA in order to prevent maldistribution of what was available; there were other CPA orders, priorities, etc.; but most of these have been abandoned by the Administration. In September 1946, prior to their abandonment, the Department of Commerce released statistics showing shortages of representative types of equipment, for the year 1946, ranging in amounts from 9 million toggle switches to 64 million connector boxes. They also released a prophecy for 1947, based upon requirements which, of course, were in turn based upon the existing construction and housing program as well as essential maintenance and repair.

The Department expected a surplus of production over demand for the year; however, the accumulated deficit from 1946 more than wiped out the overage in many items, so that only in a few cases could we expect any surplus over the entire two-year period.

This checks substantially with information supplied by manufacturers. And now a new factor is injected for consideration: With the floodgates open, so to speak, to any and all types of construction, at any price, will even the greatly expanded production we expect come even this close to meeting demand? Only the most sanguine can expect the few controls left on building to remain in force for very long. It would seem inevitable that the supply would be far short of the enlarged need.

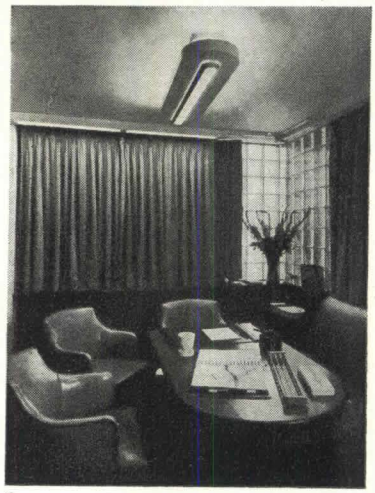
In research, some of the most interesting in the entire architectural field has been reported during 1946. The studies initiated in Texas in regard to school lighting, and repeated elsewhere in the country, have only begun to be appreciated architecturally. Few architects have known how to correlate natural and artificial lighting, or how to eliminate the glare which has seemed an inevitable result of designing for maximum lighting levels. Indeed, few have understood the physical, mental, and psychic results of imperfect design for lighting. As these studies are assessed, revalued, and interpreted in architectural terms, there is bound to arise a new conception of architectural design.

LAMPS, FIXTURES

Complete line of industrial and commercial lighting equipment for use with incandescent, fluorescent, and mercury lamps. New line features **Springlox** socket which prevents lamps loosening. Backlog of orders should be cleared up early in 1947. Benjamin Electric Mfg. Co., Des Plaines, Ill.

Corning standard line of bowls, globes, torcheres, lamp parts, and lenslites for incandescent lighting applications. New product: **Alba-Lite,** translucent glass transmitting full color spectrum; available in rolled sheet form. Corning Glass Works, Corning, N. Y.

Curtis commercial fluorescent fixtures **[Sky Lux (40, 60), Star Lux],** fluorescent recessed troffers (steel and **Alzak** aluminum), show window reflectors, fluorescent strip lighting **(Curti-Strip),** wiring channel **(Curti-Strip),** and incandescent recessing equipment. New designs in development. Making shipments on all listed products but demand exceeds production. Curtis Lighting, Inc., Chicago 38, Ill.



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Disinfectaire, ultra-violet germicidal units, wall or pendant types. Art Metal Co., Cleveland 3, Ohio.

Federal Zeon cold cathode fluorescent lighting fixtures and lamps. In good position on raw materials and production facilities; will supply demand through 1947. Federal Electric Co., Inc., Chicago 19, Ill.

Guth; complete line of standard commercial and industrial lighting units for fluorescent, incandescent, and germicidal lamps. New product: **Guth Recessed Troffers,** dimensioned for modular coordination. Edwin F. Guth Co., St. Louis 3, Mo.

Hi-Flood Floodlights, weatherproof lamp with high foot-candle output. Designed for severe service conditions. 300- and 500-watt sizes are available. Radiant Lamp Corp., Newark, N. J.

Lightolier residential lighting fixtures and portable lamps available on a quota basis. New line (incandescent and fluorescent) being developed for store, commercial, and residential use. Lightolier Co., New York, N. Y.

Mitchell commercial fluorescent luminaires, featuring louvered units. Available with **Instant-Start.** Mitchell Mfg. Co., Chicago 14, Ill.

Presidential Series of fluorescent luminaires, **Pittsburgh Permaflector** incandescent luminaires, reflectors, etc. Available through all 1947. Pittsburgh Reflector Co., Pittsburgh 22, Pa.

General Electric; Slimline and **Circline** fluorescent lamps, thinner and longer than standard lamps, now available. New 4500°-white color (balance between present white and daylight colors) is available in all fluorescent lamps including **Slimline.** General Electric Co., Cleveland, Ohio.

Sylvania; complete line of incandescent and fluorescent equipment, also **Long Thin** fluorescents. New products: **Gorham** and **Sheffield** (residential ceiling fixtures) in fluorescent line. Featuring new 4500°-white lamps. Sylvania Electric Products, Inc., New York 18, N. Y.

Westinghouse; complete line of fluorescent and incandescent equipment. **Slimline,** and **Circline** fluorescent lamps available; also 4500°-white lamps. Westinghouse Electric & Mfg. Co., Bloomfield, N. J.

EQUIPMENT & ACCESSORIES

Bull Dog electrical distributing devices, including **Vacu-Break** Safety Switches, **Superba** and **Rocker Type** Lighting Panels, **SafToFuse** Power Panels, **Vacu-Break** Switchboards for Light and Power, **BUStribution** Duct—flexible electrical distribution systems, **Industrial Type** and **Universal Type Trol-E-Duct** for flexible lighting systems and for feeding "moving" loads. Adding to plant to increase production. Bull Dog Electric Products Co., Detroit 11, Mich.

Cannon Box Connectors and **Conduit Coupling** in various types made of die-cast non-ferrous metals and **No-Bolt** fixture studs are available. New product: box connectors for new code BX-14-2 are available. Will have available

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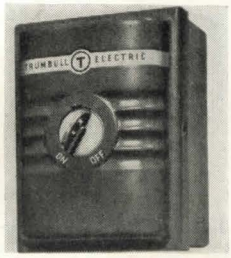

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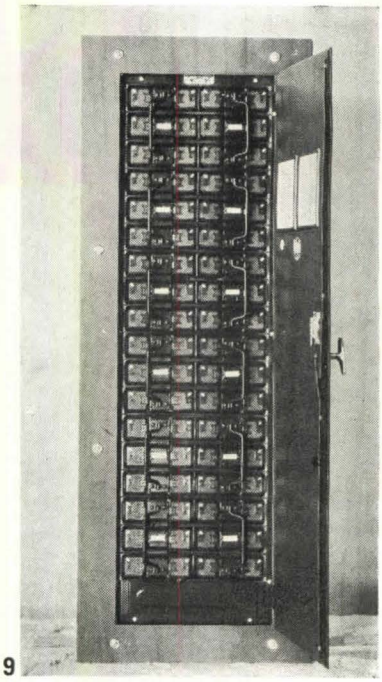

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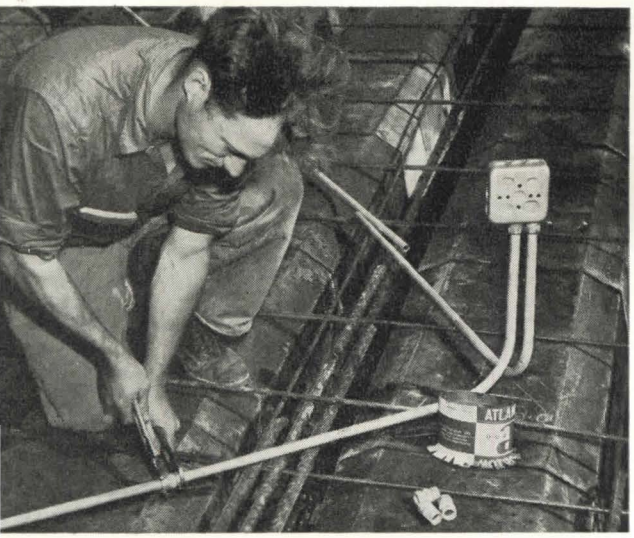
Fig. 6: Trumbull's new MO-4 *Multibreaker;* and, *Fig. 7, Type D* enclosed safety switch. *Fig. 8:* Bull Dog Electric Products' *Vacu-Break* safety switch; and, *Fig. 9, SAFtoFUSE* panelboard. *Fig. 10:* Installing Republic's *Electrunite* compression fittings and thinwall conduit is simplified; inch-marks on tubing facilitate pre-cutting and bending. *Fig. 11:* Rigid *Everdur* conduit (American Brass Co.) installed in Warner Bros. studios.



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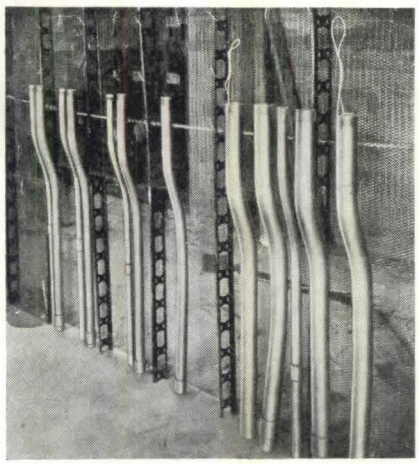

ELECTRICAL EQUIPMENT, LIGHTING

during the year cable connectors, hospital systems, page systems, and in and out registers. Heavy commitments on box connectors. Other products available throughout 1947. Cannon Electric Development Co., Los Angeles, Calif.

Detecto-O-Larm: new compact fire alarm device, battery-operated, activated by sharp temperature increases. Immediately available. Turner Bros., Ferndale 20, Mich.

Multi-breakers, fusable service equipment, and industrial switches available. New product: **MO-4 Multi-breaker** with 4 single poles or circuits in small enclosure. Can be used in small homes or as load center in larger buildings. Delivery of **Multi-breakers** better than on other equipment. Square-D Co., Detroit 11, Mich.

General Electric; complete line of wiring materials (wiring devices, conduit products, wire). General Electric Co., Cleveland, Ohio.

Tymzit (single pole) **Delay Switch; No. T500** now available, **No. T600** not yet available. T. J. Mudon Co., Chicago 54, Ill.

Electrical distribution equipment in standard lines available from Bryant Electric Co., Frank Adam Electric Co., Pass & Seymour, Inc., Trumbull Electric Mfg. Co., Westinghouse Electric & Mfg. Co. No specific reports from these manufacturers.

INTERCOMMUNICATION

Intercommunicating systems, signal systems, telephone systems, for apartment houses, hospitals; also **Automatic Telephone, Connecticut Duplex Telephones.** Connecticut Telephone & Electric Div., Great American Industries, Inc., Meriden, Conn.

Talk-A-Phone; complete line of intercommunication systems. Same supply factors as other manufacturers. Talk-A-Phone Mfg. Co., Chicago 23, Ill.

WIRE, CABLE, CONDUIT

Electrunite E.M.T., electrical metallic tubing (**Thinwall** conduit), and **Fretz-Moon** conduit, (heavy conduit, **Enamelite,** and **Galvite**) available. Steel & Tubes Div., Republic Steel Corp., Cleveland, Ohio.

Everdur electric conduit. The American Brass Co., Waterbury, Conn.

Okonite electrical wire and cable for power and lighting circuits. Manufacturing entire line, including **Hazacode Type R, Watertite** moisture-resisting **Type RW, Performite** heat-resisting **Type RH** and **Permex Type RU** small diameter rubber insulated wire; **Hazakrome Types T** and **TW** thermoplastic wire, **Okobestos** heat-resistant **Types AVA, AVB, AVL, TA, AIA, AI** asbestos insulated cables, **Okonite Varnished Cambric** cables. Researching in use of plastics, glass, and other materials. Heavy backlog of orders. The Okonite Co., Passaic, N. J.

Orangeburg fibre conduit and under-floor duct. New factory, but doubt ability to meet demand. Fibre Conduit Co., Orangeburg, N. Y.

AUTH *provides*

"NERVE SYSTEMS" FOR HOSPITALS

NURSES' CALL SYSTEMS: Based upon the use of a portable locking button which the patient pushes to establish signal at points in corridors, nurses' stations, diet kitchens, or utility rooms. Both visual and audible signals are employed, but the latter operate only momentarily and may be silenced altogether. Visual signals continue to indicate until the locked button is reset by the attending nurse at the patient's bed.

VOKALCALL SYSTEMS: A voice communicating system between patient and nurse which supplements the standard visual nurses' call system. Its use saves the nurse many trips to the patient's room, and gives the patient a greater sense of security.

PAGING SYSTEMS: Visual or voice systems controlled from telephone switchboard. Visual is most efficient; doctor's code number is flashed on attractive annunciators throughout hospital.

STAFF REGISTERS tell if doctor is in, notify doctor of messages. Master register is at doctor's entrance, with sub-register at telephone switch board. When doctor registers "in" by flipping switch, his name lights up on all registers. When he flips switch to "out," the reverse takes place. If the telephone operator has a message for him, his name flashes on and off on all registers.

NIGHT LIGHTS: Non-glare, clean, flush or semi-flush types for corridors, stairs and rooms.

INTERCOM TELEPHONES: Many different Auth systems available for inter-departmental use or nurses' home. Selective and non-selective talking systems allowing only one conversation or several conversations simultaneously as may be desired.

FIRE ALARM SYSTEMS supplied to meet local fire regulations. Coded, supervised systems, as well as continuous ringing open circuit systems.

CLOCKS: Synchronous, Telechron-motored clocks, single or double faced with resetting devices to restore to correct time in case of current failure. Also elapsed time indicators for operating, anesthesia and scrub rooms.

ALSO clinic systems, ambulance call systems, return call annunciator systems, chimes, buzzers, etc.

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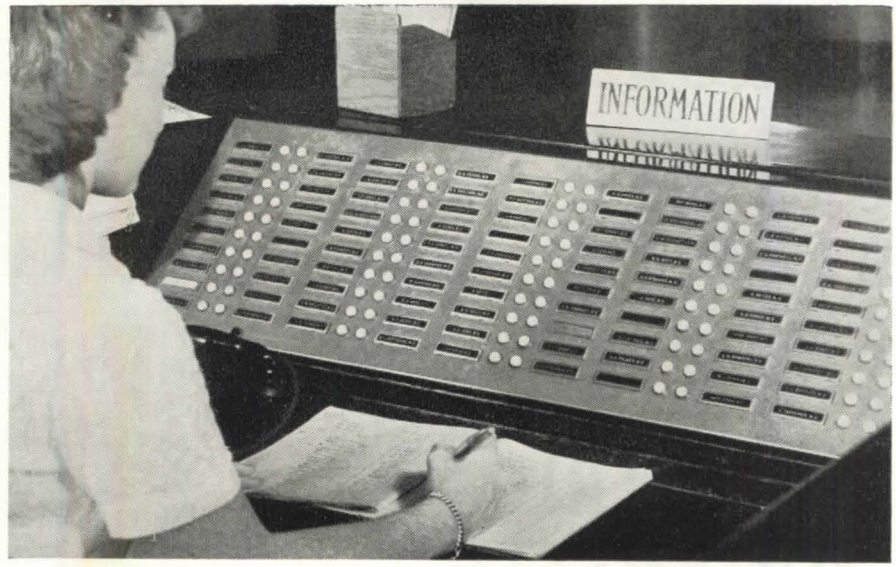
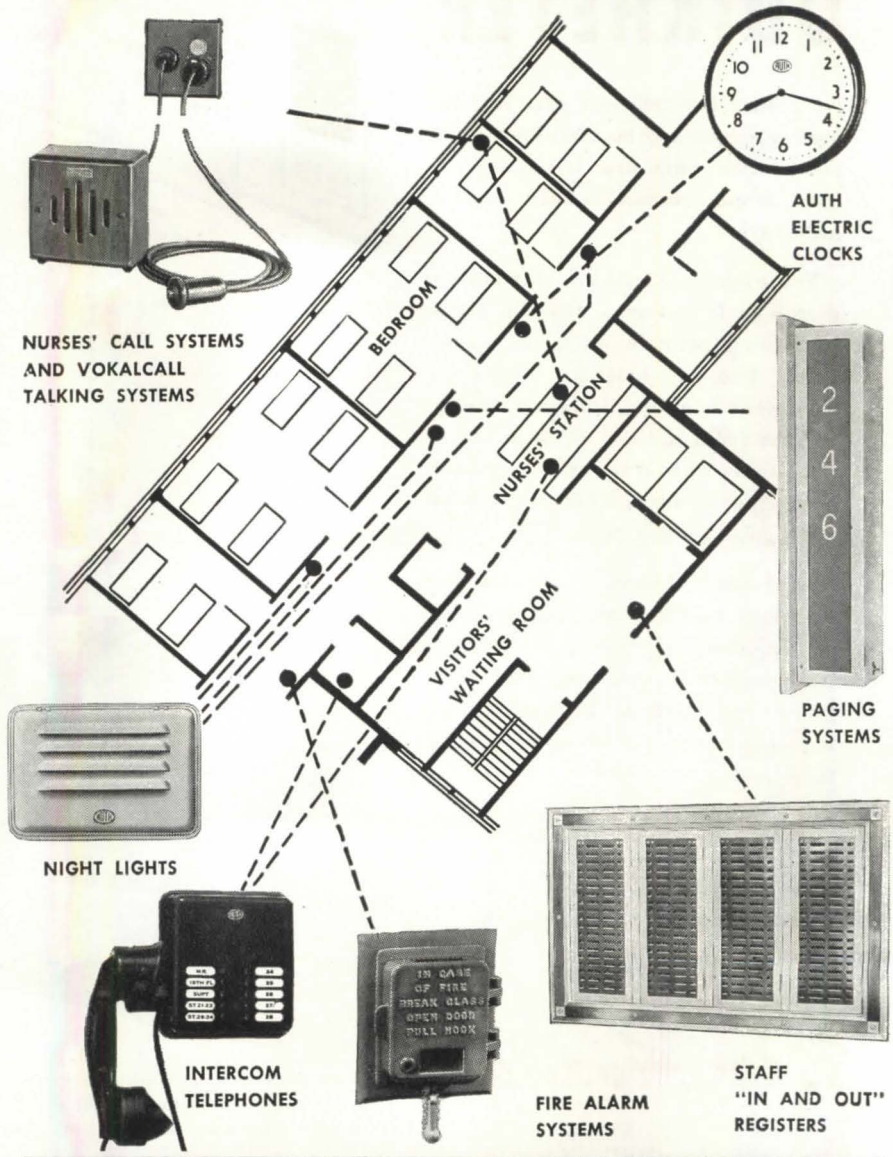
Ask for AUTH HOSPITAL BULLETIN





AUTH ELECTRIC COMPANY, INC.

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Offices in AUTH *Principal Cities*

SINCE 1892

Efficiently-designed Heating Systems

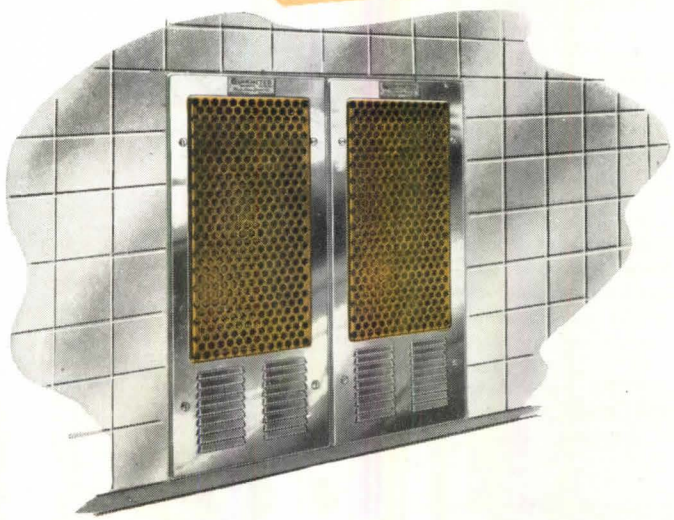
NOW INCLUDE THE FA ELECTRIC QUIKHETER

No matter how efficient your regular heating system may be, there are always times when extra heat is not only a comfort and convenience but an almost necessity.

There are those cold, chilly and damp mornings, for instance, when the regular heating plant is not in operation. Then, there are those cold, blustery days, when wind and cold just will seep into the room and chill it. Or there are those times when it seems hours before heat begins to filter into the house from the regular heating plant.

FA Electric Quikheters are ideal for situations such as these. Easy to operate, requiring only the flip of a conveniently-located switch, they send forth billows of warm air that will change the temperature of the average room in three to five minutes.

Install one of these attractive, convenient, fuel-saving, comfort-giving units in your home today and thus provide against unusual weather variations.



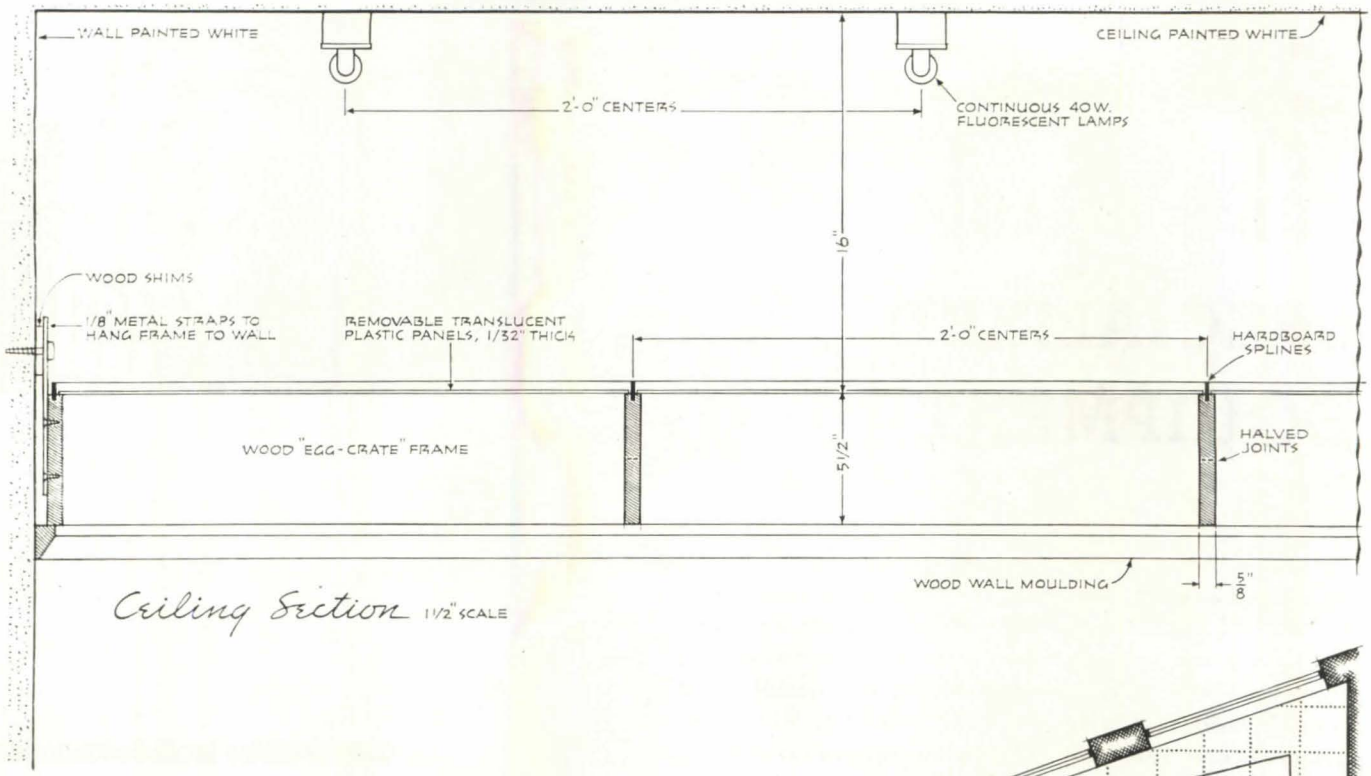
Now Available

Built-in FA Electric Quikheters are available in single units of 1,000 and 1,500 watts and twin units of 2,000 and 3,000 watts, for immediate delivery. Contact your nearest electrical contractor for details or send for Bulletin No. 77.

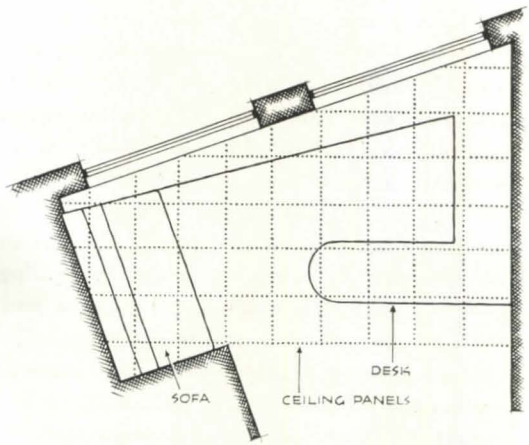
MAKERS OF...
BUSDUCT
PANELBOARDS
SWITCHBOARDS

Frank Adam
ELECTRIC COMPANY
ST. LOUIS, MISSOURI

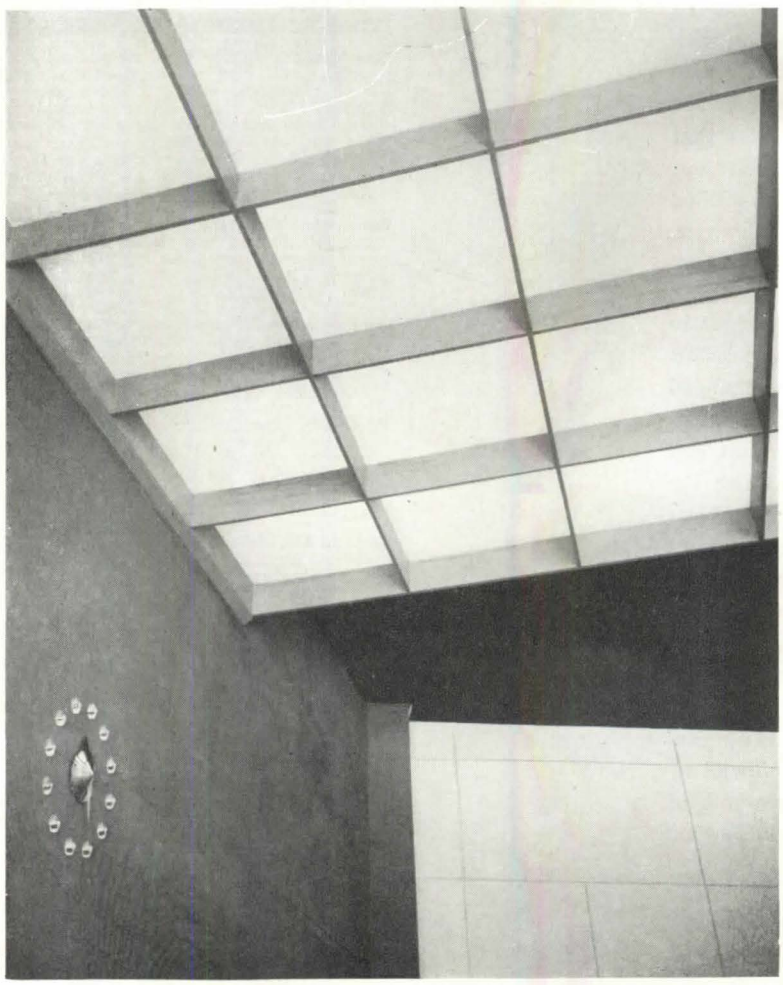
SERVICE EQUIPMENT
SAFETY SWITCHES
LOAD CENTERS
ELECTRIC QUIKHETER

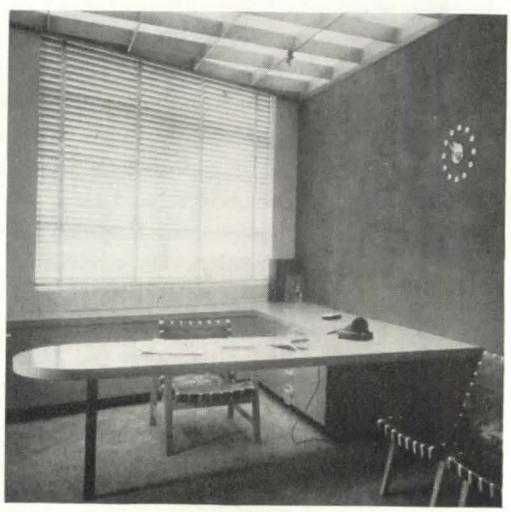


Ceiling Section 1 1/2" SCALE



Office Plan
1/8" SCALE





LUMINOUS CEILING

Pittsfield, Mass.

PRIVATE OFFICE, CHEMICAL DEPT., GENERAL ELECTRIC CO.

WILLIAM B. PETZOLD, Designer

11

SPECIALIZED EQUIPMENT

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Although manufacturers of all the types of equipment considered under this heading are meeting the same difficulties as others whose products require steel, castings, and motors, there have been many announcements of new models and a few introductions of really noteworthy character. As to availability, during 1946 stocks of domestic equipment on hand, for instance, in both distributors' and factory warehouses, were only a fraction of total shipments. This fact considered by itself is a healthy sign; but considered in conjunction with the enormous demand it does not indicate that such equipment is going to be easy to obtain. In making provisions for kitchen ranges, for instance, the designer must consider that electric ranges are produced in less quantity than gas, so that, unless delivery is guaranteed, electric ranges must be specified with caution. There is also availability of wiring and wiring devices to be considered in this connection.

In kitchen ranges there have been no substantial changes in design, at least beyond the better types available prewar. Some manufacturers have increased the amount or changed the distribution of insulation, modified arrangement of burners, introduced modifications of hinges, rounded corners, etc. But the housewife must still bend far over to examine the contents of oven or broiler. Domestic cold storage has, however, undergone some changes. Numerous manufacturers project "home freezers," and a few are coming on the market. Most refrigerator manufacturers are incorporating storage space for a small amount of frozen food in their products, but few have really closely related these two almost identical pieces of kitchen equipment. Frigidaire has perhaps gone farthest in this direction, by circulating the refrigerant through the walls and some shelves of their new Coldwall refrigerator, thus making possible a substantial amount of deep-freeze space and eliminating the usual space-consuming "freezing" unit (see illustration).

Kitchen cabinets have undergone steady improvement, though nothing individually startling, for several years. The best nowadays employ metal principally, with wood, linoleum, etc., used where specifically needed. Since there are difficulties in obtaining all these raw materials, cabinets are likely to be comparatively scarce and costly for some months.

DOMESTIC KITCHENS, LAUNDRIES

American kitchens (cabinet sinks, tops, cabinets) with rounded corners. Line limited somewhat in models available January, but expect to have complete line available later in year; also complete accessories: new automatic dishwasher, garbage disposer, home freezer. Raw materials (steel) availability determines production; don't anticipate meeting demand fully during 1947. American Central Mfg. Corp., Connersville, Ind.

Beautycraft Curv-Line (rounded corners) kitchen cabinets. Factory completely retooled; production potential expanded 200%. Steel, hardware short. Miller Metal Products, Inc., Baltimore 30, Md.

Bendix automatic home laundries; also new driers, ironers. Anticipate greatly increased production; steel the greatest problem. Expect to catch up with demand by end of 1947. Bendix Home Appliances, South Bend, Ind.

Frigidaire, new Coldwall refrigerators (refrigerant circulates through walls, no separate chiller unit); also standard refrigerators; two sizes of home freezers; **De Luxe** and **Standard** electric ranges; electric water heaters. Frigidaire Div., General Motors Corp., Dayton 1, Ohio.

General Electric refrigerators, 4 ft home freezer, electric ranges, dishwashers, **Disposalls** (garbage disposal), water heaters, washers, driers, ironers, fans; none available in such quantity that immediate delivery can be assured. Will introduce new washer, home freezer, ventilating fans, two-temperature refrigerator early in year. General Electric Co., Appliance and Merchandise Dept., Bridgeport, Conn.

Hotpoint ranges, refrigerators, dishwashers, **Disposalls,** etc.; complete "all-electric" kitchens. Edison General Electric Appliance Co., Chicago 44, Ill.

Kaiser all-aluminum, water-flow-operated dishwasher, has no motor, uses minimum of scarce materials and components. Kaiser Fleetwings, Inc., Bristol, Pa.

Kalamazoo kitchen ranges; coal or wood; gas; coal, wood, or gas combination; electric. Kalamazoo Stove Co., Kalamazoo, Mich.

Kelvinator and **Leonard** electric refrigerators, ranges, water heaters; new **Kelvinator** and **Leonard** home freezers. Materials shortages, but expect most critical shortages to be eased by summer; probably a year before can satisfy demand. Kelvinator Div., Nash-Kelvinator Corp., Detroit 32, Mich.

Kitchen Maid cabinets, counters, sinks of composite construction, part wood, part metal, part

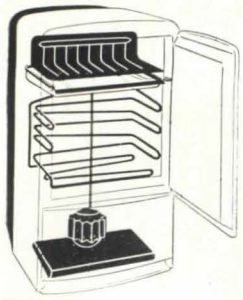

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Fig. 1: Kaiser's new "jet-propelled" dishwasher is said to operate on the force of the incoming water stream, eliminating hard-to-get motors. *Fig. 2:* Refrigerant flow in Frigidaire *Coldwall* refrigerators. *Fig. 3: Presteline* safety-top range has all burners at rear, out of children's reach. *Fig. 4: Kitchen Maid* "appliance-styled" cabinets. *Fig. 5: Pak-A-Way* domestic and farm freezers (Schaefer, Inc.). *Fig. 6: American* kitchen cabinets have round corners, flush surfaces, concealed drawer pulls.

composition. To be newly "appliance-styled" (Flo-Line design). Plant rearranged, incorporating automatic production operations. Don't expect to meet demand in January. Kitchen Maid Corp., Andrews, Ind.

Majestic incinerator for domestic use, has smoke outlet to connect to chimney flue. Majestic Co., Huntington, Ind.

Murphy-Cabranette packaged kitchen units (range, sink, refrigerator, cabinets); will also introduce Kitchenette unit contained in piece of furniture designed to fit into a living room. Same difficulties as other manufacturers. Dwyer Products Corp., Michigan City, Ind.

Norge refrigerators, freezers, ranges. Norge Div., Borg-Warner Corp., Detroit, Mich.

Pak-a-Way domestic and farm freezers, 5 to 25 cu ft capacities. Schaefer, Inc., Minneapolis 1, Minn.

Philco refrigerators, freezers, air conditioners. Philco Corp., Philadelphia, Pa.

Presteline electric ranges; steel kitchen cabinets and sinks. New electric refrigerator to be introduced. Complete kitchen and home laundry equipment to follow, also domestic air conditioning unit. Pressed Steel Car Co., Inc., Domestic Appliance Div., Chicago 11, Ill.

Pureaire packaged kitchen units (range, sink, refrigerator, cabinets) in four models, gas or electric range with or without electric refrigerator. Steel shortage will probably limit production to less than demand. Parsons Co., Detroit 3, Mich.

St. Charles kitchens, custom built of steel. Do not expect to satisfy demand for many months. St. Charles Mfg. Co., St. Charles, Ill.

Sturdibilt cabinet sinks, tops, laundry trays, etc., of stainless steel; new line, **Lystertone,** heavy gage stainless, should be available by mid-year in standard sizes with little waiting; others, 30 to 60 days. New equipment being installed, hope to improve delivery. Elkay Mfg. Co., Chicago 50, Ill.

Tappan gas ranges. Production increasing but cannot satisfy demand. Steel shortage may affect adversely. Tappan Stove Co., Mansfield, Ohio.

White Steel kitchen cabinets, stainless steel sinks and drainboards, sound insulated. Jamestown Metal Products, Inc., Jamestown, N. Y.

COMMERCIAL, INSTITUTIONAL EQUIPMENT

American laundry equipment: washers, extractors, starching equipment; ironers, all types; pressing machinery, finishers; dry cleaners, rug cleaners, feather cleaners. American Laundry Machinery Co., Cincinnati 12, Ohio.

Art Metal cabinets, shelving, etc., for hospitals, banks, institutional work. Now in production on hospital contracts, expect to meet demands. Art Metal Construction Co., Jamestown, N. Y.

Blodgett 900-series gas-fired roasting, baking, and general cookery ovens. Substantial backlog of orders, little prospect for relief. G. S. Blodgett Co., Inc., Burlington, Vt.

Breeze library stacks and equipment. Manufacturing conditions do not permit normal operation. Steel shortage severe. Breeze Library & Equipment Co., Inc., Newark 7, N. J.

Capital cubicles and equipment for hospital wards; new four-way fitting requires only one ceiling hanger, screens room into four units. Can take care of all anticipated demands throughout 1947. Capital Cubicle Co., Inc., Brooklyn 32, N. Y.

Castle sterilizers, operating lights, incubators, laboratory apparatus, for hospitals; sizes standardized and simplified. Wilmot Castle Co., Rochester 7, N. Y.

Conqueror hospital, institutional, and commercial or industrial food service equipment; also specialized hospital equipment, surgical furniture, cabinets, casework; heavy-duty construction, stainless steel; new **Tri-Saver** coffee urns. Expect to meet most requirements; deliveries will probably be reasonable. S. Blickman, Inc., Weehawken, N. J.

Duriron, Durichlor, Durimet acid resistant fittings, wastes, fans, etc., for corrosion-resistance in laboratories of all types. Expect to satisfy demand. Duriron Co., Inc., New York 17, N. Y.

Elkay hospital equipment: baths, sinks, all types; trays, tables, tops, etc. Demand huge. Deliveries 60 to 90 days. Facilities being improved, should speed up deliveries. Elkay Mfg. Co., Chicago 50, Ill.

General Fireproofing cabinets, metal equipment, etc. Backlog of orders throughout 1947. General Fireproofing Co., Youngstown 1, Ohio.

Jamestown hospital cabinets, expect to increase production stainless steel, sound-insulated. Some difficulty with raw materials, but have not yet been seriously hampered. Jamestown Metal Products, Inc., Jamestown, N. Y.

Keilson apartment house mail boxes; government approved. Production being increased as demands dictate. Bommer Spring Hinge Co., Brooklyn, N. Y.

Mobilwall steel partitions; special hospital finishes. Production depends on steel availability. Snead & Co., Orange, Va.

Nairn Static-Conductive linoleum, specialized conductive flooring for minimizing explosion hazards in operating rooms, laboratories, etc. Situation improving, but do not expect to meet demand during 1947. Congoleum-Nairn, Inc., Kearny, N. J.

Pittsburgh and **Sanator** brick-built incinerators, flue-fed or basement-fed; also standard equipment. Can handle normal business plus some unexpected orders. Pittsburgh Incinerator Co., Mount Washington, Pittsburgh, Pa.

Straus-Duparquet food service equipment for commercial, institutional projects. Nathan Straus-Duparquet, Inc., New York, N. Y.

COMMUNICATION, AUDIO-VISUAL EQUIPMENT

Amprosound: slide projectors; motion picture equipment, 16 mm silent type **Imperial,** February 1947; **Premier-20** model with new dynamic speaker, January 1947; various other 8 and 16 mm models, silent and sound. Ampro Corp., Chicago 18, Ill.

Bellfone Maestro intercommunicating units; **Bell** factory-paging and music system, February 1947; new residential system later. Production equal to demand; expect some supply problems to be solved better by March 1947. Bell Sound Systems, Inc., Columbus, Ohio.

Connecticut apartment house telephone systems, hospital signal systems, intercommunicating systems, automatic telephones, etc. Connecticut Telephone & Electric Div., Great American Industries, Inc., Meriden, Conn.

Filmosound audio-visual equipment for schools, auditoriums, sales training, etc. Consultant service. Bell & Howell Co., Chicago 45, Ill.

Philco radio receivers; new television receivers later in year. Philco Corp., Philadelphia 34, Pa.

CIRCULATION, TRAFFIC

Chelsea dumbwaiters, hand or electric; passenger elevators, invalid elevators; freight and sidewalk elevators; dumbwaiter doors. Chelsea Elevator Co., New York 19, N. Y.

Materials handling equipment, including new fork truck with 18 ft reach. Elwell-Parker Electric Co., Cleveland 14, Ohio.

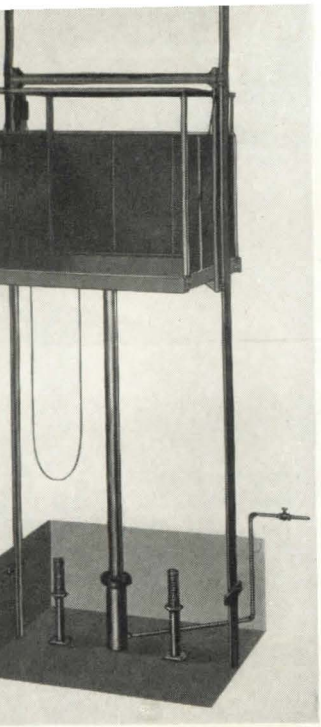

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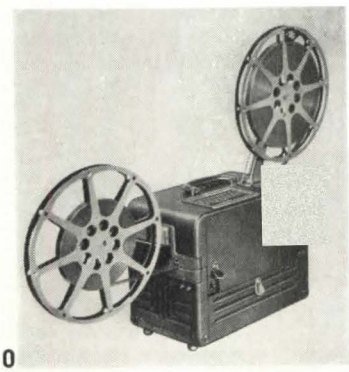
Fig. 7: Rotary Lift's *Oildraulic* elevators are being produced in quantities which may permit catching up with demand late in 1947. *Fig. 8:* New Cardox *Transitank* and *Fire Trailer* for fire protection at airports, large plants.



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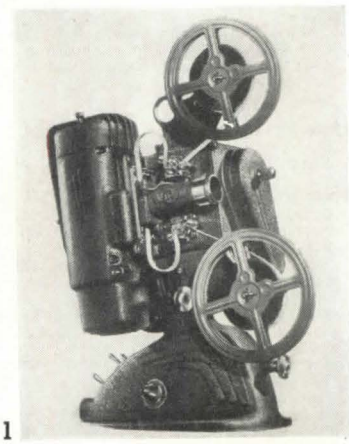

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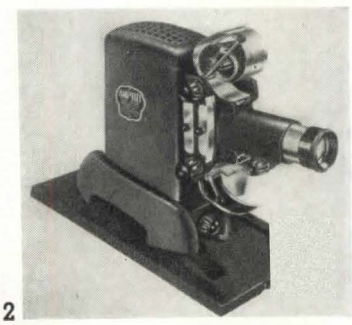

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Fig. 9: Audio-visual teaching methods demand new types of school equipment. *Fig. 10:* Bell & Howell's *Filmsound* 179, sound-on-film projector. *Fig. 11:* Ampro Corp's 8 mm. projector; and, *Fig. 12, Dual Slide* Projector.

SPECIALIZED EQUIPMENT

Otis elevators, escalators, dumbwaiters; blast furnace hoists, bell hoists, stock line recorders. Certain types available during first quarter 1947 if materials become available; others should be available by second or third quarter. Otis Elevator Co., New York 1, N. Y.

Payne electric elevators, dumbwaiters, controllers; will take one to two years to catch up. F. S. Payne Co., Cambridge 40, Mass.

Rotary Oildraulic elevators, about 12 months delivery; **Levelators,** 6 to 8 months; expect to catch up to demand later in 1947. Rotary Lift Co., Memphis, Tenn.

FIRE PROTECTION

Automatic sprinkler systems, several types; various control systems; fixed-temperature or rate-of-rise operated; available at present. Automatic Sprinkler Corp. of America, Youngstown 1, Ohio.

Cardox standard line, also new **Transitank** (self-propelled truck) and **Fire Trailer,** deliveries reasonably prompt in January 1947. Cardox Corp., Chicago 1, Ill.

Central and **Lewis** automatic sprinklers and automatic fire protection equipment available in January 1947. Central Automatic Sprinkler Co., Lansdale, Pa.

Grinnell systems and equipment. Some products available immediately, others after mid 1947. Grinnell Co., Providence, R. I.

RECREATION, AMUSEMENT, THEATERS

American Approved Playground equipment, swimming pool equipment, dressing room equipment, **(Amplayco** and **Approved** types), available January; **Home Play** equipment (new line) later. Can't meet full demand until materials become available. American Playground Device Co., Anderson, Ind.

American Seating for theaters, auditoriums, churches, schools, buses, etc.; new **Bodiform** theater chairs, **Envoy** school desks and tablet-arm chairs, will be available later in 1947. American Seating Co., Grand Rapids 2, Mich.

Clancy stage equipment, stage hardware, curtains, controls, light bridges, rope, cable, etc. All available but deliveries somewhat slow. Expect to make immediate deliveries shortly after first of year. J. R. Clancy, Inc., Syracuse, N. Y.

Par Value golf course equipment, knockdown bleachers. Cannot satisfy anticipated demand. Leavitt Corp., Urbana, Ill.

Thortel incombustible (glass and asbestos fiber) stage curtains and draperies available now. Thortel Fireproof Fabrics, New York, N. Y.

DRAFTING EQUIPMENT

Hamilton drafting equipment. Hamilton Mfg. Co., Two Rivers, Wis.

Higgins inks: can readily supply inks, pastes, vegetable glue, etc. Higgins Ink Co., Inc., Brooklyn 15, N. Y.

Peck & Harvey printing machines, photo dryers, new ammonia developer, etc. Serious shortages; 6 weeks behind on orders. Peck & Harvey Co., Chicago 45, Ill.

Underwood office machines; **Elliott-Fisher** electric lettering machine for work on drawings, etc. Underwood Corp., New York 16, N. Y.

Weber artists' colors, drafting supplies, drawing inks, drafting furniture. Shortage of raw materials holding up production. Conditions should improve after January. F. Weber Co., Philadelphia 23, Pa.

OTHER EQUIPMENT

Cincinnati metal memorials, plaques, markers, mausoleum equipment, sheet metal products, etc. Foundry in full operation. Cincinnati Metalcrafts, Inc., Cincinnati 9, Ohio.

Gulistan rugs and carpeting, often specified for use over softwood floors when hardwood is unavailable; but materials are being produced at slower rate than apparent demand. A. & M. Karaghensian, Inc., New York, N. Y.

K-Veniences clothes closet fittings and fixtures, space-saving; also showcase and cabinet hardware. Production somewhat limited. Knape & Vogt Mfg. Co., Grand Rapids, Mich.

Nangahyde upholstery (plastic) material and **Koylon Foam** for upholstering built-in seating, etc. United States Rubber Co., New York 20, N. Y.

Perma-Jack floor-leveling jacks. Perma-Jack Corp., Cleveland 11, Ohio.

Wickwire-Spencer chain link fence, welded fabric, etc. Wickwire-Spencer Div., Colorado Fuel & Iron Corp., 357 Delaware Ave., Buffalo, N. Y.

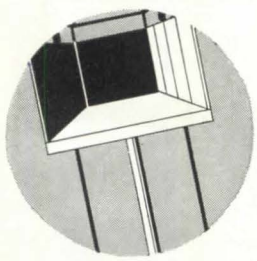
Solution to an Elevator Problem!

THE PROBLEM

To provide economical elevator service for a three-story manufacturing plant of functional design. All movement of raw and finished materials in plant to be handled by fork lift trucks which are to be carried on elevator in process of loading and unloading. Architect's visualization calls for building without elevator penthouse to break streamlined contour.

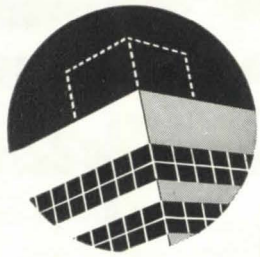
THE SOLUTION

The architect analyzed his problem as follows: (1) Since no elevator penthouse was desired, a push-up type elevator should be used. (2) Loading by power vehicles called for unusually accurate landing stops and for an elevator of very strong construction. (3) Initial cost of elevator, including construction provisions, must be held to a minimum . . . elevator operation and maintenance expense must be low. ***Result: A Rotary Oildraulic Elevator was selected because it met all these requirements.***



Elimination of Penthouse Streamlines Building Design

The Oildraulic Elevator requires no costly, unsightly penthouse because it's **pushed up** from below by a powerful hydraulic jack . . . not pulled from above. This also makes possible a lighter shaftway structure . . . no need for heavy load-bearing supporting columns to carry the elevator and its load. No special machine room necessary either . . . the compact power unit can be located in any convenient space on any floor.



Oildraulic Controller Insures Accurate Landing Stops

Where loading and unloading is done by power vehicles, the Rotary Oildraulic Elevator is first choice. Guided by a highly efficient mechanism called the Oildraulic Controller, it operates smoothly and rapidly, stops at floor landings with accuracy, and holds the landings with accuracy. Also important for this type of service is the rugged construction of the elevator car, with its heavily reinforced sling and platform.

Streamline your building designs and make sizeable savings in construction costs by specifying Rotary Oildraulic Elevators for 2, 3 or 4-story structures. Coupon at the right will bring you complete information and Architect's Preliminary Layout Data.

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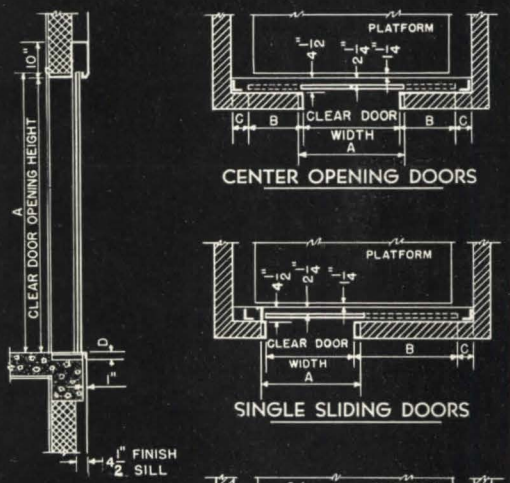
OILDRAULIC ELEVATORS

The Elevator that's PUSHED up

Selected MONTGOMERY ELEVATOR DOOR DETAILS

Dimensions on these details based on 1⅜" door thickness



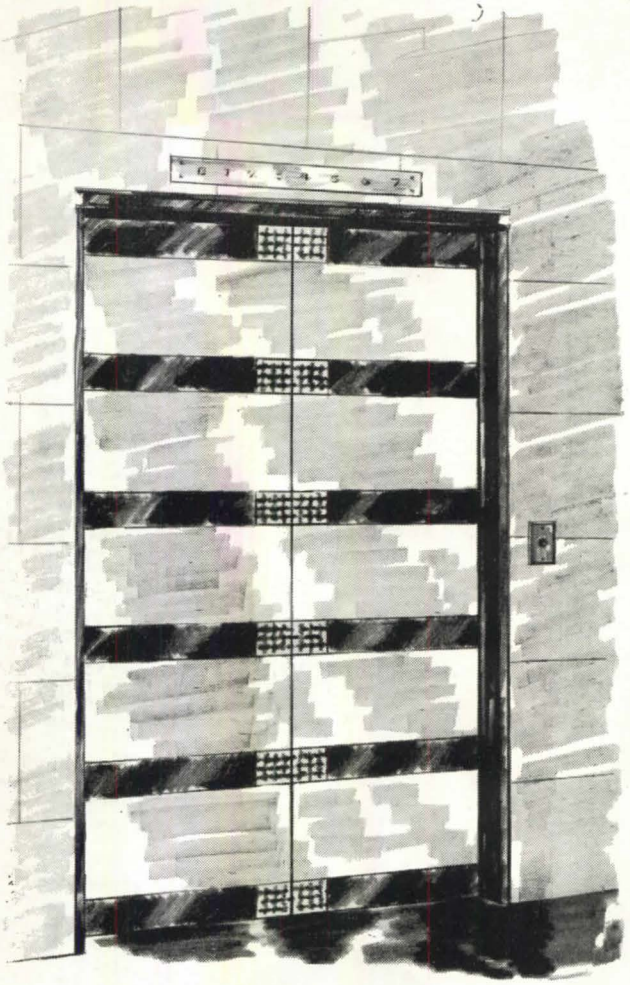
DIMENSION KEY

- **A** Rough opening size for standard unit type frame, finish width plus 8" on each side, finish height plus 8" on top. Contractor to fill in around frames after they are set.
- **B** ½ landing door opening + ¾".
- **C** 5" Power operated doors. 3" Manual operated doors.
- **D** 2" deep sill pocket entire width of hatch.

Center Opening Doors. These doors usually allow an opening about ½ the width of the car but more readily permit a successful architectural treatment since both doors are in the same plane. Center opening doors are sometimes advantageous because they operate faster than the other types.

Single Speed Sliding Doors. These are used where a door opening about ½ the width of the car is acceptable, and where it is impossible to allow the door to swing out into the corridor in front of the elevator.

Speed Sliding Doors. These are used where a wider opening into the car is desirable. They allow an opening equal to about 2/3rds the width of the car. These are probably the most commonly used, especially where doors are power operated.



MONTGOMERY ELEVATOR *Door Details*

Selection and designing of elevator door openings can be greatly simplified through the use of Montgomery Elevator Door Details. Door Details shown here are representative passenger elevator types. Details of other Montgomery Passenger and Freight doors are available. A new folder containing these Details will be sent on request. Use the coupon below!

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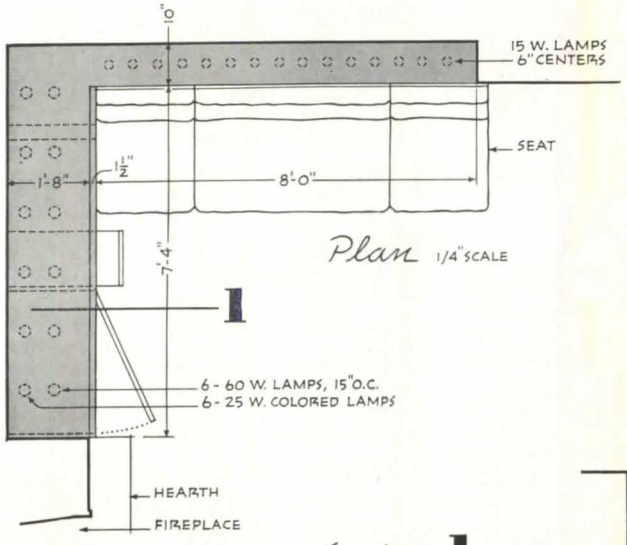

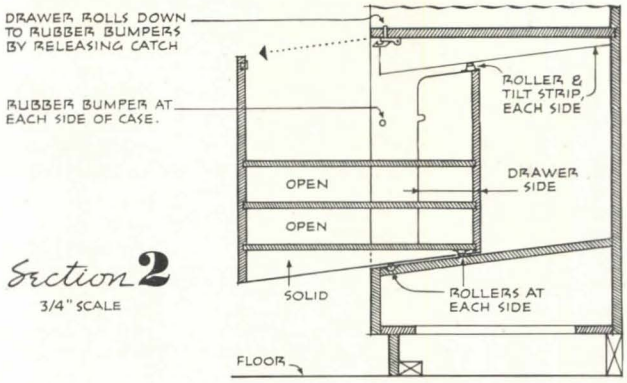

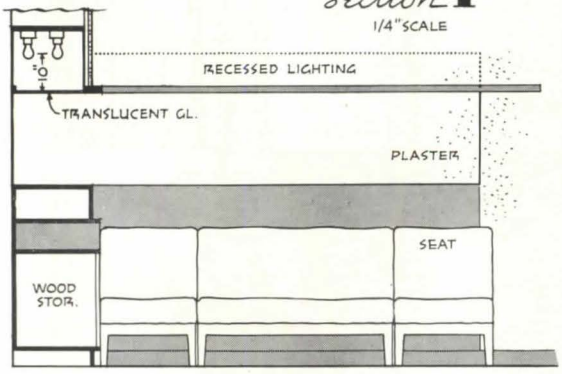

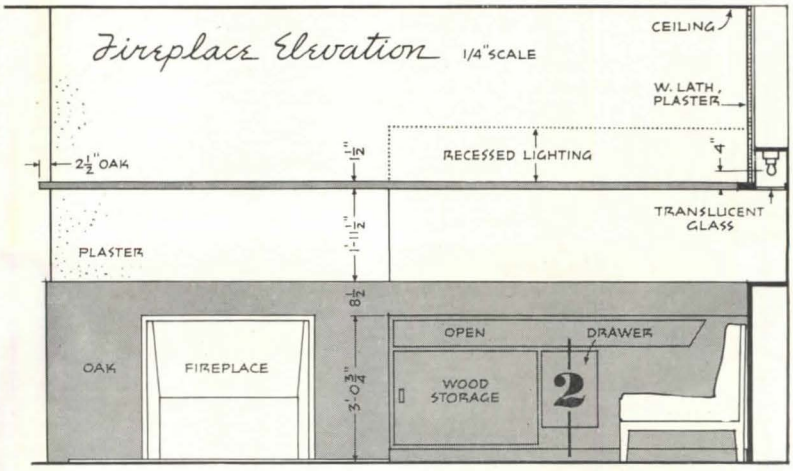

BUILT-IN FURNITURE

RESIDENCE near Chicago, Ill.

McSTAY JACKSON CO., Designers

MANUFACTURERS' LITERATURE

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

Air and Temperature Control

1-71. *American Air Filters, Complete Catalog "A" (Form 530-40H),* American Air Filter Co., Inc. Reviewed December.

1-72. *Double-Pass Firebox Boilers, AIA 30-C-1 (Bulletin RM-1, Sixth Ed.),* The Brownell Co. Reviewed December.

1-73. *Carrier Air Conditioning, Refrigerating, and Unit Heating Equipment, AIA 30-F-2,* 11-p. illus. catalog briefly describing types of heating, refrigerating, and air conditioning systems; use, advantages, characteristics of each. Carrier Corp.

1-74. *Certified Counterflow Air Conditioner Heating Systems (293C),* 4-p. illus. bulletin on features of domestic heating units; oil, coal, stoker firing. Dimensions, specifications. Certified Furnace Co.

1-75. *Type DMD Pumps (Bulletin C-746),* 8-p. illus. booklet on ball-bearing, two-stage pumps. Application, details of construction, performance test charts, selection tables. Economy Pumps, Inc.

1-76. *Heat Electrically,* 14-p. illus. consumer booklet (4x9) on domestic electric heaters, built-in wall or portable. Specifications, prices, dimensions. Electric Air Heater Co.

1-77. *Johnson Type 30-AV Fuel Oil Burner (Data 30 AV-2),* 8 pp., illus. Automatic rotary oil burner for commercial and industrial heating and power; sizes, capacities. S. T. Johnson Co.

1-78. *Hi-Test Kewanee Boiler, AIA 34-B-1 (Cat. 89a),* Kewanee Boiler Corp. Reviewed December.

★ **1-82.** *Personalized Heat Control for Apartments (Form SA-1155),* 44-p. illus. engineer's handbook on methods of applying pneumatic or electric (or combination) control systems to apartment buildings. 6 layouts, typical specifications, engineering data. Minneapolis-Honeywell Regulator Co.

1-79. *You Know the Answer to Packaged Heat, "Whirl-O-Matic,"* illus. consumer folder on new fuel-oil heating unit for steam or hot water systems. Persiro Mfg. Corp.

1-80. *Kitchen-Aire Ventilation,* Stewart Mfg. Co. Reviewed December.

★ **1-83.** *Automatic Heat for Real Living,* 56-p. illus. consumer booklet (4¾ x 6¾). Discussion and advice, directed toward house owners, on house heating in general; various kinds of heating systems and winter air conditioning. Advantages of types of "Janitrol" heating systems and description of equipment. Brief glossary of heating terms. Good to give clients. Surface Combustion Corp.

Doors and Windows

4-72. *The New Corbin Unit Lock, AIA 27-B,* P. & F. Corbin Div. Reviewed December.

14-09. *Hollow Metal, AIA 16-A,* Jamestown Metal Corp. (See 14-09 under "Non-Load-Bearing Structures.") Reviewed December.

4-73. *Kinnear Rolling Doors, AIA 16-D-13 (Bulletin 46),* The Kinnear Mfg. Co. Reviewed December.

4-68. *The Meaning and Magic of Windows,* Libbey-Owens-Ford Glass Co. Reviewed December.

4-69. *Malta Frames (Cat. A-3),* Malta Mfg. Co. Reviewed December.

★ **4-75.** *New Modular Standard Stock Windows and Sash, AIA 19-E-1 (N.D.M.A. Manual WSS-45),* 28 pp., illus. Standard minimum specifications, layouts, sizes for Ponderosa Pine stock windows and sash, based on 4" module. Full size detail drawings; installation details, etc. National Door Manufacturers Assn.

4-74. *LCN Door Closers, AIA 27-B (Gen. Cat. 11),* Norton Lasier Co. Reviewed December.

4-70. *The Overhead Door with the Miracle Wedge,* The Overhead Door Corp. Reviewed December.

4-71. *Canopy Doors for Private Plane Hangars (C-40-7500),* Truscon Steel Co. Reviewed December.

Electrical Equipment and Lighting

5-48. *Celanese Synthetics for the Electrical Industry,* Celanese Corp. of America. Reviewed December.

5-51. *Electric Time Systems and Equipment (Form 747),* 18-p. illus. booklet on time systems and equipment for schools, colleges, offices, industrial plants, etc. Features master, program, and secondary clocks, time recorders, and control equipment. Cincinnati Time Recorder Co.

5-41. *The Postwar Opportunities in Glass (Y-662),* General Electric Co., Lamp Dept. Reviewed December.

From Kent Metal Mfg. Co. Reviewed December:

5-42. *Architectural Kent Lighting (Bulletin 14).*

5-43. *Architectural Lighting.*

From National Adequate Wiring Bureau. Reviewed December:

5-44. *Spend Less Time In Your Kitchen and Laundry (M-2).*

5-45. *Modernizing Your Home? (M-3).*

5-46. *Beauty, Comfort, and Livability in Every Room (M-4).*

5-47. *Check Your Wiring (M-5).*

5-52. *Cold Cathode Lighting Transformers (Bulletin CC-107),* 4-p. illus. folder on two new cold cathode 750-volt transformers in single- and two-lamp ballasts. Electrical and mechanical characteristics, construction details. Sola Electric Co.

5-49. *Talk-A-Phone Has Everything,* 12 pp., illus. Descriptive catalog of electronic inter-communication systems with emphasis on a new sub-station system. Talk-A-Phone Co.

★ **5-50.** *Standards for Visual and Auditory Facilities in New Educational Buildings,* 16-p. illus. reprint. Discussion of mechanical equipment requirements for use in visual and auditory education. Data on room darkening and ventilation, electrical controls, acoustics. Visual Education Consultants, Inc. (25 cents per copy—make check or money order payable to Visual Education Consultants, Inc.)

Finishers and Protectors

6-79. *Du Pont Color Conditioner for Industry,* E. I. Du Pont de Nemours & Co., Inc. Reviewed December.

6-81. *The Trowel (Volume 1—No. 9),* 12-p. illus. booklet on concrete maintenance. Discusses cause of concrete disintegration; how to make successful repairs on concrete bridges, floors, buildings, railroad structures, etc., with "Non-Shrink Embeco" and other waterproofing and sealing products. The Master Builder Co.

6-82. *Aluminum Paints by Valspar,* 4-p. illus. folder. Chart showing 8 types of aluminum paint, their use, sample of finish, drying time, and special purpose. Valentine Co., Inc.

6-80. *Dewatex Lacquer #1, AIA 7-B-2,* S & S Chemical Co. Reviewed December.

6-83. *Rocktite Waterproofing Process,* 4-p. illus. folder on waterproofing process for masonry surfaces, both interior and exterior, above and below grade. Process given for specific problems. The Rocktite Co.

Insulation (Thermal, Acoustic)

9-54. *Control of Industrial Heat and Power Losses,* Industrial Mineral Wool Institute. Reviewed December.

9-55. *Gold Bond Acoustimetal, AIA 39-B-1,* National Gypsum Co. Reviewed December.

9-56. *Armstrong's Roof Insulation,* 6-p. illus. booklet; specifications for application of roof insulation materials. Roof resistant table; chart for determining adequate insulation. Armstrong Cork Co., Building Materials Div.

Load-Bearing Structures

12-89. *Boulevard Homes, Butler-Built of Aluminum,* Butler Mfg. Co. Reviewed December.

12-97. *Cemadobe (Second Ed.),* 32 pp., illus. Or "how to make your own bricks of earth and build your own house . . . suitable for any climate." How to make and use cement-adobe. Cem-Adobe Co. ($1.00 per copy—make check or money order payable to Cem-Adobe Co.)

12-90. *Claycraft Clay Products, AIA 3-F-2,* The Claycraft Co. Reviewed December.

12-91. *Precision Granite Aggregates, AIA 8-B-3 (June 1944, No. 2),* H. E. Fletcher Co. Reviewed December.

12-98. *The Naperville Plan,* 16-p. illus. booklet (5½x8½) on the solving of veterans' housing problems by use of prefabricated houses. The Home Ola Corp.

12-92. *Otiscoloy—High Tensile Steel,* Jones & Laughlin Steel Corp. Reviewed December.

From Lincoln Electric Co. Reviewed December:

12-93. *Arc Welded Jack Truss, AIA 13-C-2 (Plate 101, Cont'd from Plate 100).*

12-94. *Arc Welded Lateral Bracing, AIA 13-C-2 (Plate 102).*

12-95. *A Light Welded Queen Post Truss, AIA 13-C-2 (Plate 103).*

12-96. *A Light Welded Queen Post Truss, AIA 13-C-2 (Plate 104, Cont'd from Plate 103).*

12-99. *The Action of Embeco in Concrete and Mortars, (Second Ed.),* 34 pp., illus. Discussion of concrete and mortar shrinkage reduction through use of a prepared metallic aggregate. Master Builders Co.

19-74. *Macotta,* Maul Macotta Corp. (See No. 19-74 under "Surfacing Materials.")

12-100. *Vi-Brik-Crete, Model 750,* 4-p. illus. folder on a vibrating machine which makes concrete brick. Operation cost, specifications. R. S. Reed Corp.

Materials of Installation

13-48. *Monel Tie-Wire, AIA 20-B-11,* 8 pp., illus. Data on a nickel-copper alloy tie-wire for fastening metal furring to framing members. Suggested specifications; characteristics. International Nickel Co., Inc.

Non-Load-Bearing Structures

14-09. *Hollow Metal, AIA 16-A,* Jamestown Metal Corp. Reviewed December.

14-11. *Movable Steel Partitions and Metlwal Paneling, AIA 35-H-6,* 14-p. illus. booklet on movable partitions and paneling for interiors. Detailed drawing of elevations and sections; specifications, construction details, examples. Martin-Parry Corp.

★ **14-12.** *Metal Lath Specifications for Better Plastering and Concrete Stucco, AIA 20-B-1,* 30 pp., illus. Recommendations (revised 1946) of Metal Manufacturers Assn. on usages of metal lath products. Includes approved Simplified Practice Recommendation R3-44. Metal Lath Manufacturers Assn.

14-10. *Glass Blocks (G-5270),* Pittsburgh Corning Corp. Reviewed December.

14-13. *PC Glass Blocks for Schools (G-2228),* 2-p. illus. folder on lighting and insulation value of glass block used in school buildings. Pittsburgh Corning Corp.

Sanitary Equipment, Water Supply & Drainage

★ **19-72.** *Josam Moderator Shower Mixing Valve (Cat. MV-3),* 6-p. illus. folder on advantages of a valve with hydraulically operated shuttle to supply hot and cold water mixture for showers. Installation detail drawings. Josam Mfg. Co.

19-70. *Memco Sanitary Washing Equipment (Cat. 23-20),* Metalloid Engineering & Mfg. Co. Reviewed December.

Specialized Equipment

19-78. *Venus Blue Band Coloring Pencil,* illus. folder (2¾x5), presenting color and usage charts for the "Venus" waterproof pencil. American Lead Pencil Co.

★ **19-79.** *Guide for Architects and Engineers Having Veteran's Hospital Commissions.* A "Bible" on hospital equipment, very comprehensive and valuable correlation of Veterans Hospital Program requirements with available equipment, with emphasis on sterilizers, all sizes. Room-by-room guide, plans, elevations, details, equipment catalog numbers, mechanical requirements, air conditioning loads imposed, all related to the governing Federal Specifications. Available at once to designers having Veterans' hospital commissions; may be adapted in future for other hospital types. American Sterilizer Co.

13-43. *New Bruning 10-Inch Precision Slide Rule (A-1022),* Charles Bruning Co., Inc. Reviewed December.

13-44. *Croker "ABC" of Safety (Cat. 46),* Croker Fire Prevention Corp. Reviewed December.

19-80. *Diebold (AL-1779-246),* 14-p. illus. brochure; equipment including storage and bank vaults, safes, hollow metal and fire-resistive doors, microfilming, and record-keeping systems. Diebold, Inc.

19-81. *Faries Presents the New Parkway,* 4-p. illus. folder featuring a bonderized, zinc-coated, all-steel bathroom cabinet with baked white enamel finish. New features include separate cosmetic, drug, and shaving compartments, razor blade disposal, etc. Lists prices and sizes. Faries Mfg. Co.

19-82. *Mengel Module, The Furniture That You Design,* illus. folder on prefabricated units designed to a standard unit of measurement, making it possible to combine various units to suit individual cabinet furniture needs. The Mengel Co.

13-46. *School Sound Systems, AIA 31-I-7,* Radio Manufacturers Assn. Reviewed December.

13-47. *Servel Gas Refrigerator, AIA 30-F-6,* Servel, Inc. Reviewed December.

19-83. *The Study of the Hot Water Requirements of Automatic Washers (5AW-0201),* 26 pp., illus. Report on a survey planned for establishing minimum hot water (and total water) requirements of home automatic washing machines. Information on "Laundromat" washers. Westinghouse Electric Corp., Appliance Div.

Surfacing Materials

19-71. *Altico Tile,* Altico, Inc. Reviewed December.

19-76. *Resilient Flooring in Today's Construction,* 14-p. illus. booklet on resilient flooring. Includes preparation of subflooring, types of flooring for radiant heated and concrete subfloors, selection of adhesives, specifications. Armstrong Cork Co.

19-73. *Make Blank Walls Live, AIA 28J,* 12-p. illus. booklet describing the uses of photomurals for interior wall decor. Kaufmann & Fabry.

19-77. *K&M "Century" Asbestos Corrugated Will Protect Profits in Your Plant, AIA 12-F,* 36-p. illus. booklet on advantages of asbestos corrugated for roofing and siding for industrial buildings. Specifications, dimensions, detailed application instructions, insulation data, and estimation chart. Keasbey & Mattison Co.

19-74. *Macotta,* 8 pp., illus. booklet on colored masonry or veneer units for building exteriors, shop and theater fronts, tunnel and subway linings. Specifications, detail drawings. Maul Macotta Corp.

19-75. *Flexwood-Flexglass,* illus. folder on advantages and uses of a pliable wood veneer and a flexible glass. United States Plywood Corp.

Traffic Equipment

20-32. *Materials Handling Conveyors,* Samuel Olson Mfg. Co., Inc. Reviewed December.

MANUFACTURERS' LITERATURE

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REVIEWS

BOOKS

By JOHN RANNELLS

A62 Guide for Modular Coordination. *Myron W. Adams and Prentice Bradley. Modular Service Assoc., 110 Arlington St., Boston, Mass. 271 pp. illus. 9" x 12", cloth, introduction, appendices, index. 1946. $10.*

The American Standards Association Project A62 was authorized in July 1939 after a representative industry conference convened by the ASA. The project was sponsored jointly by the American Institute of Architects and the Producers' Council, Inc., with a staff provided by Modular Service Association. The work of the project is being carried forward by ASA Sectional Committee A62 and 16 study committees broadly representative of the construction industry and related interests.

The scope of the project:

a. The development of a basis for the coordination of dimensions of building materials and equipment, and the correlation of building plans and details with such dimensions.

b. Recommendation of sizes and dimensions as standards suitable for dimensional correlation. The following have already been established as "American Standard" and are included in an appendix to this Guide: (1) Basis for the Coordination of Dimensions of Building Materials and Equipment; (2) Basis for the Coordination of Masonry; (3) Sizes of Clay and Concrete Modular Masonry Units.

An increasing number of products is being manufactured in modular-coordinated sizes. Wood framing, wallboard, glass block, etc., are already made in standard sizes which are in agreement with modular coordination and it is anticipated that all suitable construction materials and equipment will ultimately be dimensioned accordingly. The study of equipment has not yet "jelled" sufficiently to be included in the Guide. The use of these modular products will give increasing economies and simplifications whether the methods developed in this Guide are used consistently or not.

The Standard Basis (Ch. 1) is simple: a continuous three-dimensional grid with lines 4 inches apart to which all dimensions are referenced. Modular products are sized so that details work out sensibly. Thus windows and doors are not themselves multiples of the 4-inch module but consecutive sizes differ by a uniform increment of 4 inches (or a multiple of 4 inches) so that details for all sizes have the same relationship to grid lines. Thus the grid is used primarily for the design and coordination of building parts by means of "modular details." True modular *planning*, in larger structural increments, and the advantages of this spreading practice (increasing plan flexibility, repetition of a constant structural element) are not developed in this book.

The method of dimensioning has been worked out with admirable consistency, but many an architect will balk at it and it remains to be seen whether the building industry will take to it in actual construction. The gist of it is that units of construction (masonry, wood framing, etc.) are generally entered on or between grid lines. Dimensions falling on grid lines are indicated by an arrow, other points are indicated by a dot. This keeps the designer in touch with grid relationships, even on small scale drawings. When carried into working drawings, however, it requires the mechanic to be constantly referencing actual surfaces to the grid by means of "Reference Dimensions." This is common practice in locating partitions in wood framing but it may not be easy to train masons to measure to center of joints or to work, for example, from a theoretical floor line ⅛ inch (½ joint) above the actual finished floor.

The 4-inch grid is certainly an excellent instrument for studying the problems of detailing modular products and for determining the most direct and economical solutions. Its effective use requires plenty of practice. Perhaps its advantages may be most widely utilized by working out details in accordance with the principles of this Guide and then dimensioning the working drawings in accordance with general practice.

Modular masonry units (Chs. 2, 3) are sized so that a unit plus a joint equals a modular dimension (or a subdivision, as 3 brick courses equal to 8 inches or 4 brick courses equal to 12 inches). Sizes are given to nominal surfaces at center of joints. Thus 5⅓ by 12 inch facing tile is actually 5-1/16 by 11¾ inches with ¼ inch joints. Very complete diagrams and tabulations are given for bonding the various sizes of masonry units and for achieving flexibility in plan layout and wall heights and, of course, economy due to full use of the units without clipping.

Coordination with modular masonry is a major factor in the development of modular details for other elements of the building. In fact the method is based very largely on masonry and in some instances other products are "forced" to fit nominal masonry openings. This is especially true of details for glass block where an increase in masonry opening would be more practical than adjustment of the joints in the block panels.

Custom masonry (Ch. 4—cut stone, cast stone, precast concrete, terra cotta) can be closely coordinated with modular masonry without putting any restrictions on the designer. Or stonework may be designed to nominal grid sizes in the same manner as used for modular masonry units. Some manufacturers supply ashlar in nominal grid sizes on order; stone sills have been developed by A62 committees for use with standard wood and steel sash; various slab thicknesses for sills have been recommended by the industry; but so far none of these products has been established as "standard." This section of the Guide shows most clearly the method of modular coordination apart from modular products.

Floors (Ch. 5) in masonry structures are set with finished floor ⅛ inch below the "nominal" floor level, which is placed on a grid line. This seems to be done on the assumption that a joint in exterior masonry will also occur at the nominal floor line. Floors in wood frame (next chapter) are handled more intelligently, placing the surface of the underfloor on the grid line. Forcing the nominal floor to a grid line might result in more difficulties than simplifications.

Wood frame (Ch. 6) is treated rather briefly but very well. The details have not been studied by A62 committees but are based on experience of Modular Service Association and various architects and contractors. There is no discussion of modular planning so important in utilizing lumber and building board. Details are generally very good although an occasional detail is "forced" into grid positions for no apparent practical reason.

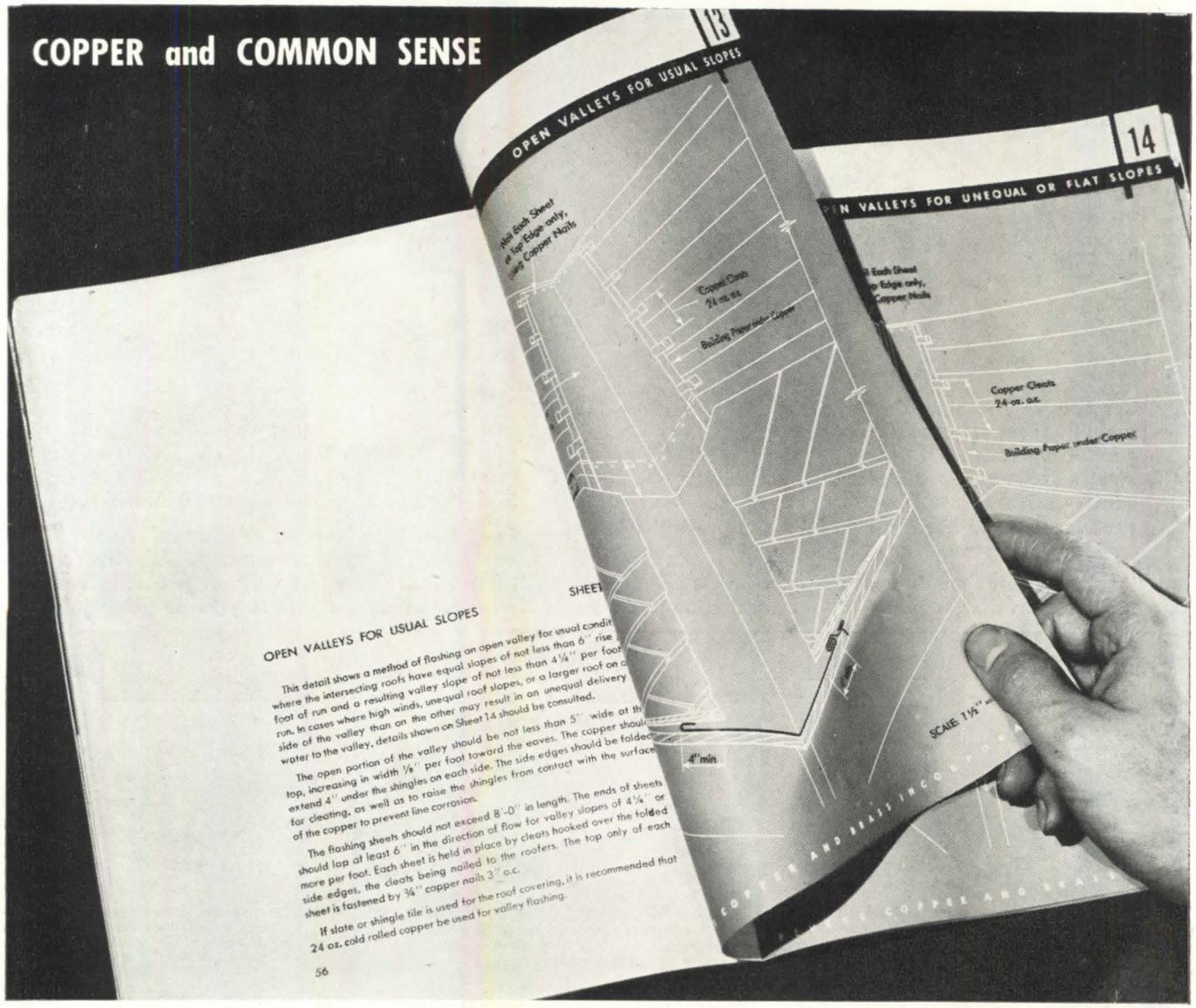
Windows, Doors, Glass Block (Chs. 7, 8, 9) furnish the most thoroughly worked out material in the book. Here are details developed by the industries and recommended as standard. Complete schedules of standard sizes and types of windows are included but close attention to details is required to determine overall sizes. For example, double hung steel window widths include the frame while double hung wood window widths are sash sizes.

In Chapter 9 discrepancies "must be absorbed" by compressing mortar joints between glass block. Such strict adherence to "grid openings" may be more trouble than it's worth. (In Chapter 7 jamb clearance for steel sash is obtained by clipping brick—a more rationally obtained procedure.)

Chapter 9 has an elevation diagram showing combinations of glass block and window sections which is keyed to the large-scale details. This sort of coordination of information is all too rare in the book.

Skeleton Frame (Ch. 10) is largely an application of the dimensioning princi-

(Continued on page 130)



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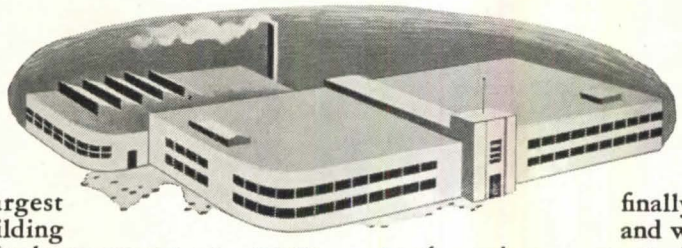

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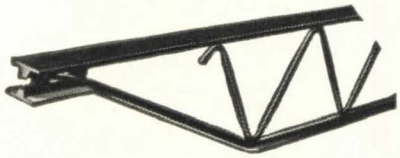
OPEN TRUSS STEEL JOISTS



Truscon developed the open truss steel joists to meet the demand for economical, light weight, fire-resistant floors in schools, hospitals, apartments and other light-occupancy buildings. They are easy to install. Completely shop fabricated, they reach the job ready for placing.

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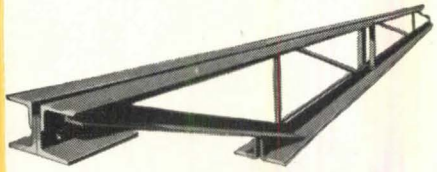

Truscon "Clearspan" Joists meet all clear span requirements up to 64 feet. They eliminate undesirable columns and provide greater unobstructed floor areas.

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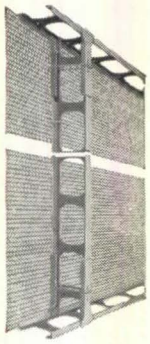

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Protect exposed corners of concrete curbs, walls, steps, etc. Designed to give positive anchorage into the concrete. Plate surrounds and protects the corner without splitting concrete into two portions.

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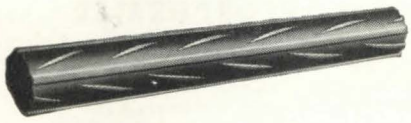

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Truscon Slotted Inserts are attached to the forms and are completely imbedded in the concrete. Bolt can be moved along slot to any location, allowing wide variation in position. Used in ceilings, slabs, beams or columns.

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Truscon Welded Steel Fabric is made in various sizes for concrete reinforcing in all types of structures, and highways. Each joint is electrically welded for permanence.

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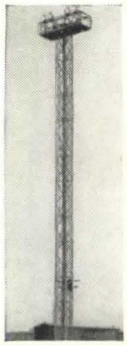

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Weltrus Pole sections provide ideal pipe line supports. Correct as to engineering, neat in appearance, economical, permanent and efficient in operation.

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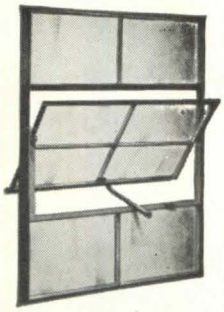
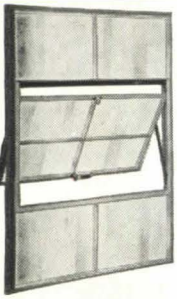
Adaptable to all types of industrial and commercial buildings. Easy to open and close. Come in a wide range of sizes.





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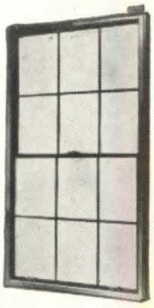
Used widely in buildings where appearance, shading and screening convenience and low cost are required.



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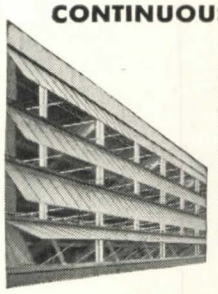
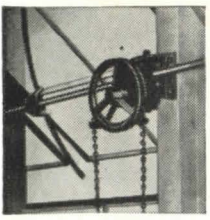
Electro-Galvanized steel, bonderized and finished with baked-on priming coat of paint, guaranteed spring balances, factory installed weatherstripping, and attractive hardware. Shipped completely assembled ready for installation.

CONTINUOUS WINDOWS

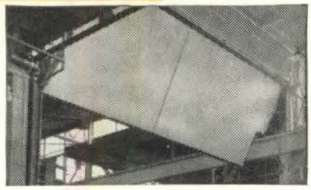


Continuous windows provide large glass areas for admitting daylight and controlled ventilation. Used with properly designed mechanical operators, it is possible to open and close all the windows in each bay or several adjacent bays through one control.

MECHANICAL OPERATORS

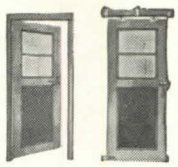


Lever Arm or Rack and Pinion Types for operating long runs of Pivoted or Projected Windows.



CRANE DOORS

Frequently the cost of this type door can be saved in a single season due to increased efficiency of workmen and fuel savings. Door leaf can be completely filled with sash to permit maximum transmission of daylight. Doors open and close quickly. Usual electric operating speed is 45 feet per minute.



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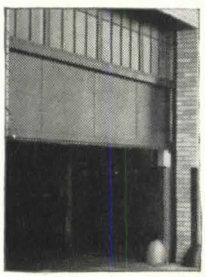
Consists of two leaves, each approximately one-half the opening height, sliding vertically upward. The meeting rail-joint between the two leaves is effectively weathered. Rubber weathering can also be applied at the top and to the bottom rail.



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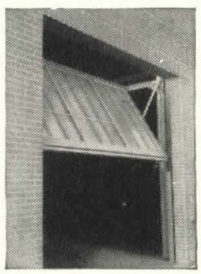
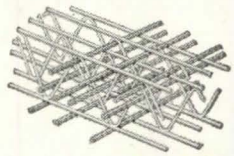


BANK VAULT REINFORCING



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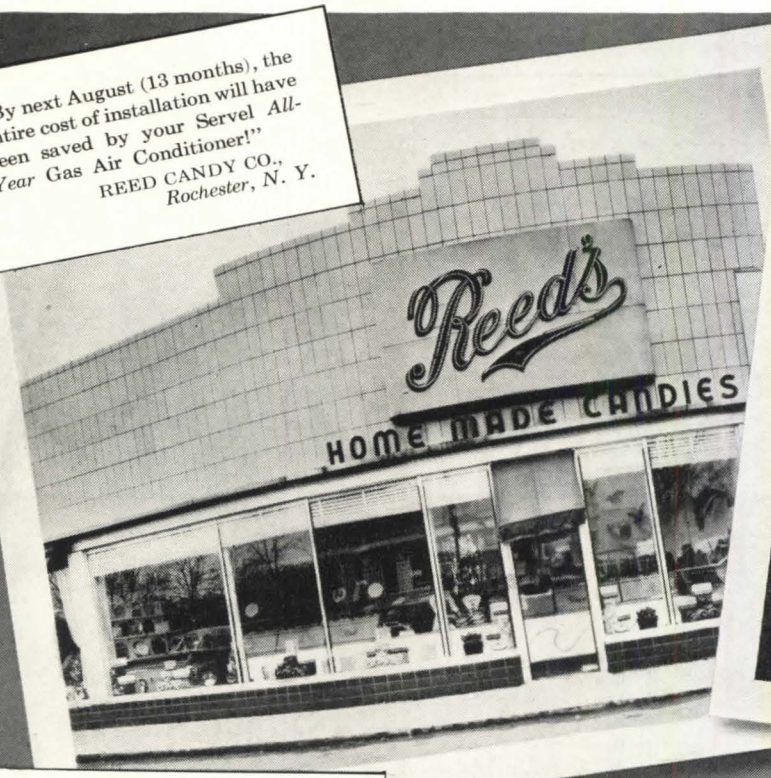

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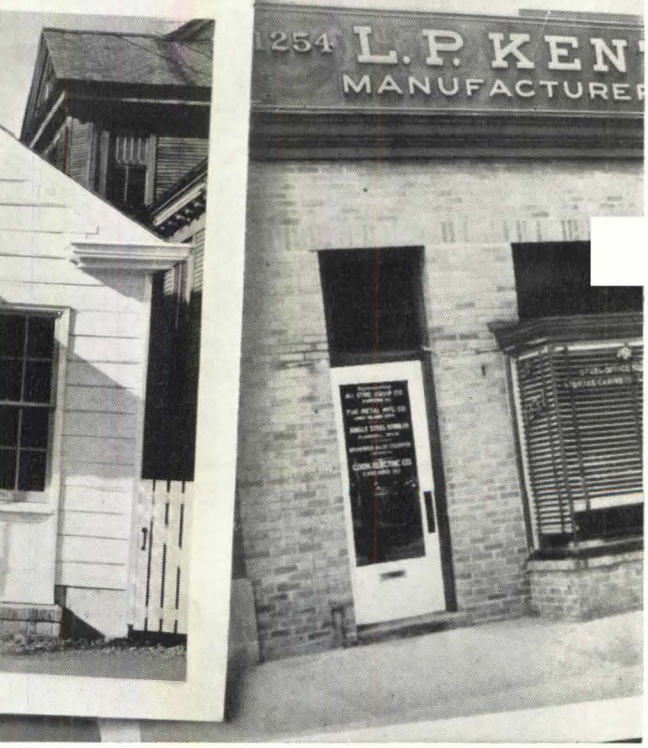

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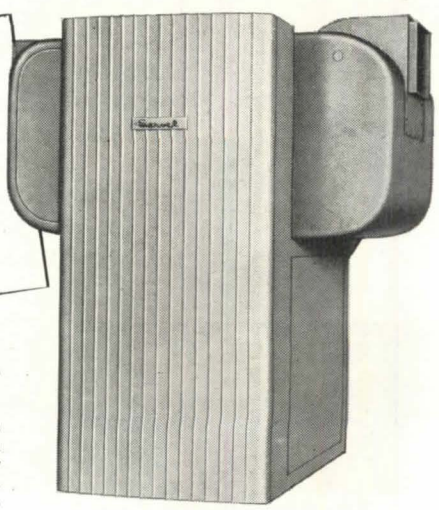

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REVIEWS

(Continued from page 124)

ples of Chapter 1, with particular emphasis on coordination with modular masonry. Brief as it is (14 pp.) this chapter is "padded" with large-scale diagrams. There is just a hint in the sections on column layout which might be developed into a demonstration of modular structural planning. A sample layout is given which illustrates the variety of factors involved in frame coordination. (Plan and elevations at ¼ inch scale; details at 1½ inch scale.)

Stairs (Ch. 11) do not work too well into the grid system but can be referenced to it with resulting economy of detail. Good details are given for 10-inch treads and a riser table is given to show all heights (varying from 7.2 to 7.8 inches) to coordinate with all floor heights from 8 to 13 feet.

Working Drawings (Ch. 12) are illustrated by a full selection from the actual drawings for a New York City health center in which modular coordination and a variety of modular products are used. Not all the recommendations of the Guide were followed, notably the referencing of vertical dimensions. (The architects have placed the grid line on the finished floor, for example.) These drawings demonstrate that the method is entirely practical. When this job goes out for bids, the reactions of the contractors (if they can be assembled) will complete the critical evaluation of the method.

The value of modular coordination is established. In the A62 Guide are assembled for the first time the results of a great amount of serious work by the many representatives of the building industry who have been concerned with it. The Guide is worth careful, open-minded study by all architects. If this results in a series of arguments in the technical press, it will bring out to the fullest extent the values inherent in the principles of modular coordination and their reduction to general office practice. It is to be hoped that modular construction details from various architectural offices will be published. This might accelerate the more general use of modular products which are not yet as widely produced as the Guide seems to imply. (Modular masonry is not yet generally available in the New York area, for example.)

The question of dimensioning, so paramount in the Guide, can stand considerable airing. The method of the Guide may prove to be the best technique for the detailer to set up a job for economy of materials, yet it may be preferable for working drawings to be dimensioned as at present for the benefit of the mechanic on the job.

The Book itself is a beauty, handsomely printed on very good paper with generous margins, about half text and half drawings. The text is well organized; the drawings are large-scale, clear and open. In fact the presentation is so impressive that there is danger of making a ritual of its method or else rejecting it altogether as doctrinaire. There's too much of worth here for it to deserve either fate.

HANDBOOKS

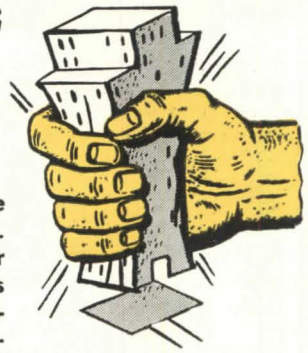
By JOHN RANNELLS

Procedure Handbook of Arc Welding Practice, *Eighth Ed. 1945. The Lincoln Electric Co., 12818 Coit St., Cleveland, Ohio. 1267 pp., illus. 5½ x 8¾, index, tables, diagrams. $1.50.*

Of primary interest to mechanical and structural engineers, this compendious volume also has much of value for architects and industrial designers. Here is the "dope" on welding, complete. The sections on welded steel construction, designing of arc-welded structures, and typical applications of arc welding are particularly full of suggestions for the designer.

(Continued on page 132)

WHEN *Drainage* GETS A BUILDING *by the Throat*



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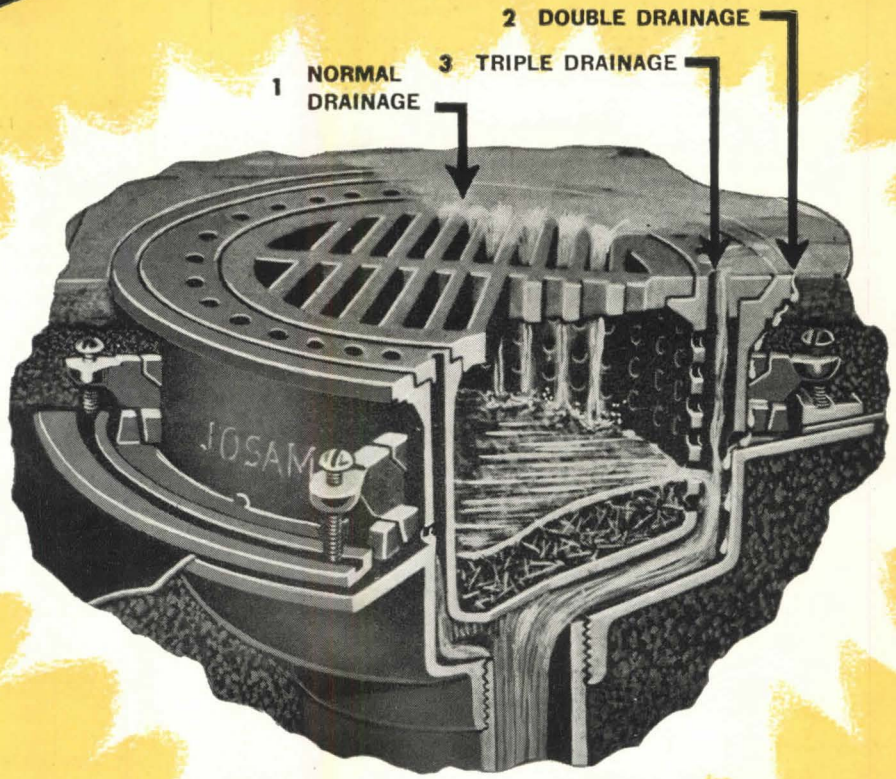

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REVIEWS

PLANNING, HOUSING, ARCHITECTURE IN THE U.S.S.R.

By RITA DAVIDSON

This critical bibliography is drawn largely from wartime American and British articles about the Soviet Union which have appeared in the professional planning and architectural journals. It includes also pertinent articles from certain popular periodicals, newspapers, and books. The review is incomplete for it was not possible to note all publications in English which might have been relevant.

The bibliographical notes are arranged alphabetically under each section, with British publications preceded by an asterisk. Certain abbreviations are used,† and articles which fall under more than one category are cross-referenced. Only mention was given articles of secondary interest. The kind services of the Regional Planning and Architectural Libraries of Harvard University facilitated this research.

RECONSTRUCTION

American Russian Institute, Inc. U.S.S.R. IN RECONSTRUCTION. A COLLECTION OF ESSAYS. (New York: The Institute, 56 W. 45 St., 1944. 160 pp.) These essays deal with the various phases of rebuilding the Union, including problems of resources, agriculture, labor, and trade. Of particular note: *Planning and Reconstruction,* by Mary van Kleeck (which surveys the prewar plans for industrialization and collectivization of agriculture and the way reconstruction has been fitted into this pattern) and *Municipal Reconstruction,* by Hans Blumenfeld, noted below.

ASPO. NATIONAL PLANNING IN THE U.S.S.R. (Jan. 1945, p. 8)

***Crane, A. O.** PLANNING IN THE U.S.S.R. (*P & R Yrbk,* 1942, pp. 168-73) Reconstruction was a process interrupted, not initiated, by the war and is a matter of carrying out existing, partially realized plans. The background of the earlier plans (first, second, and third) is given in terms of the development of agriculture, industry, transportation, commerce, and social progress.

Hersey, John. REPORT FROM RUSSIA. (*Forum,* Oct. 1944, p. 77) Soviet reconstruction has 3 stages: (1) restoration of minimum living facilities; (2) semi-permanent temporary housing and emergency factories; and (3) long-range reconstruction. The Russians are not rebuilding, but rather are replanning completely and projecting the five year plans of the prewar period. Temporary reconstruction is being executed with extraordinary attention to the details of the long-range plans, many of which were already drawn up.

***Kahn, Henry S.** THE RECONSTRUCTION OF RUSSIA. (*Muncpl Jrl,* Sept. 8, 1944, p. 1521) The Academy of Architecture has the responsibility for creating plans to reconstruct not only the destroyed towns but to replan the backward towns which were not ravaged. The ultimate goal is beautification of all towns rather than a mere rebuilding.

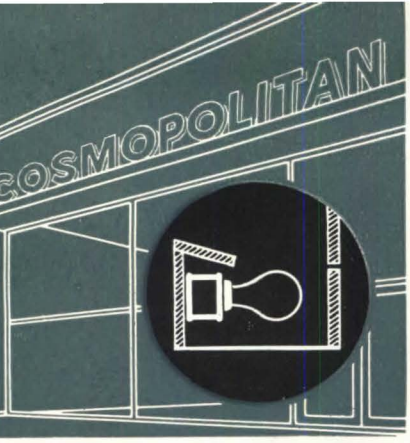
PP. RUSSIA IS NOT WAITING FOR THE END OF THE WAR TO BEGIN RECONSTRUCTION. (July 1944, p. 23)

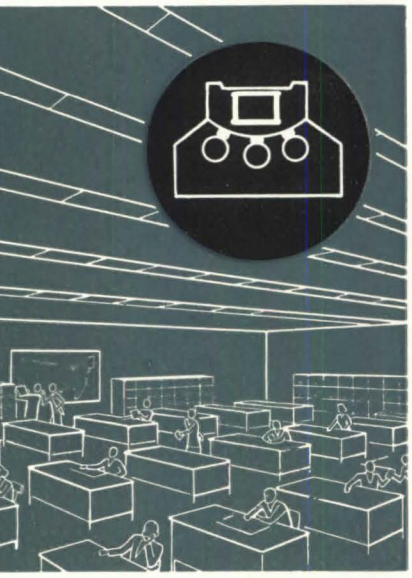
***Pepler, G. L.** RECONSTRUCTION IN THE DEVASTATED AREAS OF THE U.S.S.R. (*J RIBA,* Oct. 1944, pp. 308-310) In rebuilding,

(Continued on page 134)

† ABBREVIATIONS USED

ASPO, American Society of Planning Officials (monthly newsletter)
Am City, The American City
Archts' Jrl, The Architects' Journal
Arch Rev, The Architectural Review
Forum, The Architectural Forum
GR, The Geographical Review
J RIBA, Journal of the Royal Institute of British Architects
Muncpl Jrl, The Municipal Journal (London)
Natl Muncpl Rev, The National Municipal Review
Natl Council Am-Soviet Friendship, The National Council of American-Soviet Friendship, Inc.
PP, Pencil Points
P & R Yrbk, Planning and Reconstruction Yearbook (London: The Todd Publishing Co., Ltd.)
Record, The Architectural Record
T & CP, Town and Country Planning





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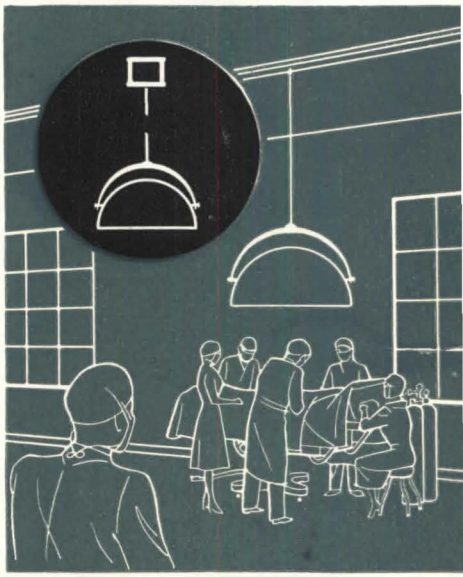

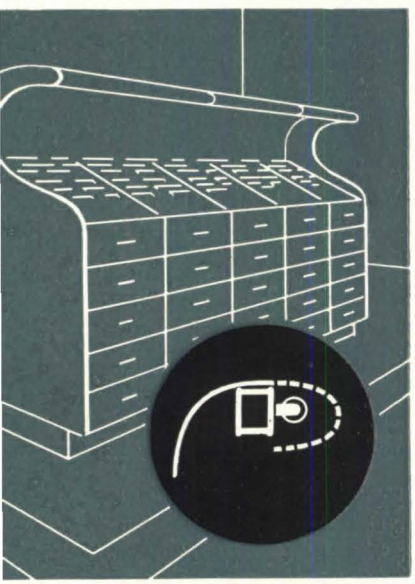

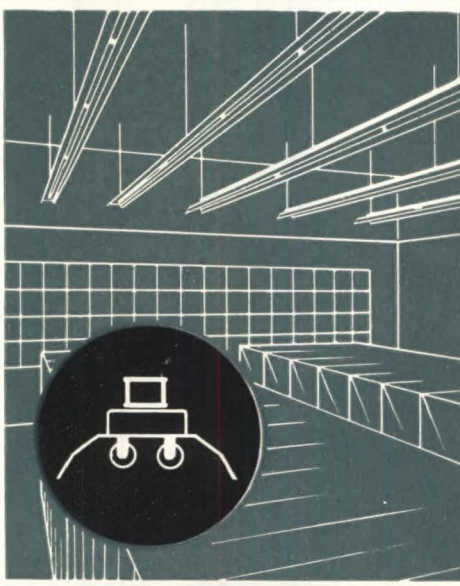

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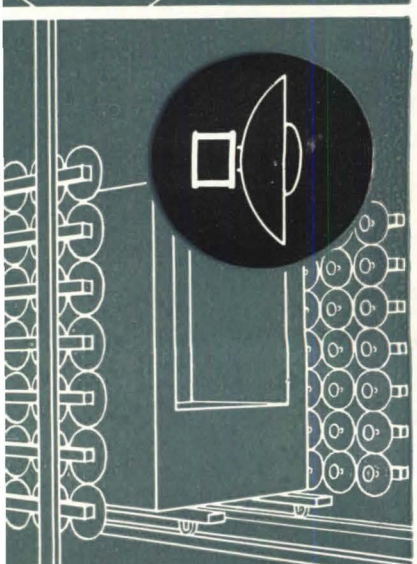
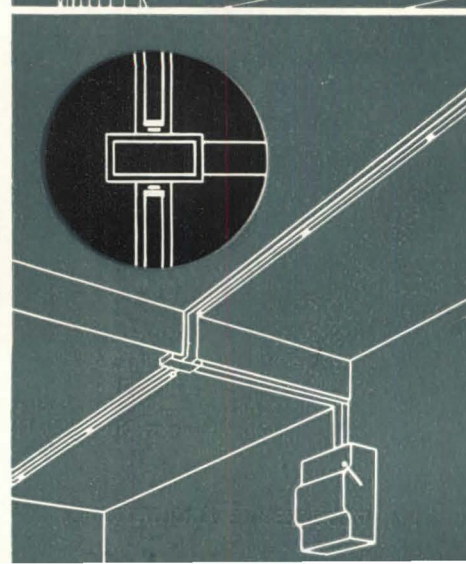




REVIEWS

(Continued from page 132)

first things are first. Industries are restored, the schools are put in order, and public restaurants, communal feeding centers, and some theaters are rebuilt, in that order. Villages are being replanned in toto, and, instead of lying alongside a main highway in two monotonous rows, will form cul-de-sacs off the main transportation route. One side of a village may even be scrapped completely if it does not fit in with the new scheme.

Strong, Anna Louise. RUSSIA REBUILDS. (*The Atlantic Monthly*, Dec. 1944, pp. 92-6) A vivid description of the passion for reconstruction in all phases of life—health, industry, agriculture, and shelter. Amazing are accounts of the efforts to preserve historic monuments in the midst of fighting and the detailed rebuilding plans which were worked out long before the enemy was routed.

Survey Graphic. (Feb. 1944) In this entire issue devoted to the U.S.S.R. are articles about various aspects of the wartime nation. Of these, two are particularly pertinent here, Mary van Kleeck's *The Soviets and the New Technology*, pp. 105-7, and Maurice Hindus' *Youth and its Skylines*, pp. 102-4.

***T & CP.** SOVIET RECONSTRUCTION PLANS. (Autumn 1943, pp. 123-4)

Voronin, Prof. N. REBUILDING THE LIBERATED AREAS OF THE SOVIET UNION. A CONCISE ACCOUNT OF RECONSTRUCTION IN THE U.S.S.R. (New York & London: Hutchinson and Co., 1944. 80 pp.) Reconstruction has three aspects: scientific planning of model structures, increase in materials supply, and town and village planning. Vivid descriptions of town planning in various cities are included along with an outline of the organization of the rebuilding agencies.

VILLAGE, TOWN AND REGIONAL PLANNING

Am City. RUSSIAN URBAN RECONSTRUCTION EMPHASIZES PLANNING. (Nov. 1945, p. 102) Description of an extensive program for the construction of seven major cities.

***Archts' Jrl.** SOVIET TOWN PLANNING. (Oct. 16, 1941, pp. 258-9) Russian standards for gardens, playing fields, etc., on a per capita basis.

Blumenfeld, Hans. MUNICIPAL RECONSTRUCTION. (THE U.S.S.R. IN RECONSTRUCTION, noted above, pp. 72-82) The urbanization of Russia, including the development in the East, is described as part of the five year plans. (This article appears also in *Soviet Culture in Wartime* No. 2, 1944, pp. 16-22.)

Blumenfeld, Hans. REGIONAL AND CITY PLANNING IN THE SOVIET UNION. (*Task* Magazine No. 3, Oct. 1942, pp. 33-52) Urban population in the Soviet Union in 1939 was about 60 million, an increase of 30 million over 1927! The task of accommodating this vast number of new city dwellers in so short a time reveals the magnitude of the Russian city planning problem. This article is the most satisfactory of any which are concerned with Soviet policy on location and city size, land use, the superblock, and the important distinction between social-economic planning and physical planning. (The article, in condensed form, also appears in *Soviet Culture in Wartime* No. 1, June 1943, pp. 19-24.)

Blumenfeld, Hans. SOVIET CITY PLANNING. (*P & R Yrbk*, 1946, pp. 250-60) Blumenfeld, who worked on the plan for Vladimir (a city about 120 miles east of Moscow), describes planning development in that city to illustrate the Soviet urban planning process. (A similar article by Blumenfeld appeared previously in the *Am Review of the Soviet Union*, No. 1944, pp. 53-65.)

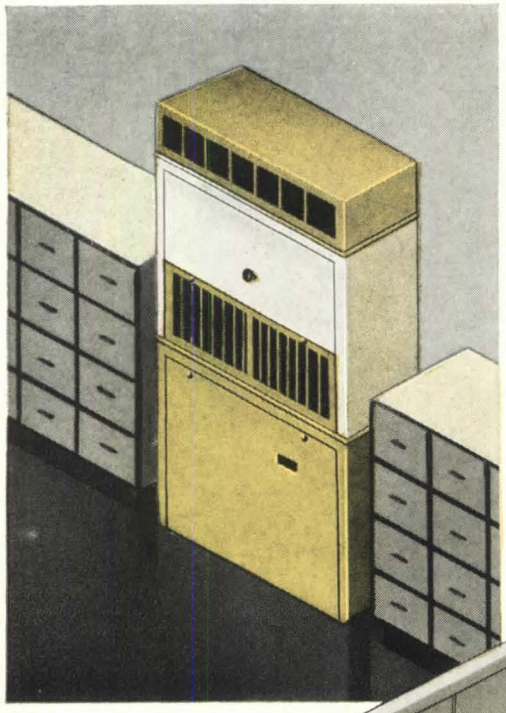
Gray, George H. AUTHOR'S IMPRESSION OF RUSSIAN PLANNING IN 1937. (*Housing and Citizenship: A Study of Low-Cost Housing*. New York: Reinhold Publishing Corp., 1944, pp. 113-15) A brief review, with photographs, of planning efforts so vast that one feels Roman Emperors, Louis XIV, and Napoleon III were "makers of little plans."

Gutkind, E. A. THE LINEAR TYPE OF CITY. (*Creative Demobilization*, Vol. 1. New York: The Oxford University Press, 1945, pp. 291-7) Description, with sketch plans, of the Russian linear city.

Harris, Chauncy D. CITIES OF THE SOVIET UNION. (*GR*, Jan. 1945, pp. 107-21) ETHNIC GROUPS IN CITIES OF THE SOVIET UNION. (*GR*, July 1945, pp. 466-73) Harris draws no conclusions from the wide information and maps

(Continued on page 136)

Air Conditioning . . . Builder of Good Will and Business for Banks



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PACKAGED AIR CONDITIONERS

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REVIEWS

(Continued from page 134)

he provides showing growth, distribution, functional classification, and ethnic factors of the Russian cities. These articles provide, however, excellent factual background for an understanding of the urban structure of the Union and its current town planning practices.

*Heath, Frank. TOWN PLANNING IN THE SOVIET UNION. (*We Must Go On. A Study of Planned Reconstruction.* H. Barnett, W. O. Burt, and F. Heath. Melbourne: The Book Depot, 1944, pp. 103-9) Russian town planning as reviewed by an Australian. A quick survey, useful if one's time is limited, but really presents no information which cannot be found in the other articles here.

Ivanitsky, A. THE DEVELOPMENT OF CITY PLANNING IN THE SOVIET UNION. (*Am City*, Aug. 1941, pp. 44-6) A good survey of the city planning organizations, their legislative framework, and the way planning ideas have crystallized. Includes a description of the Soviet concept of the neighborhood unit.

*Ling, Arthur. LESSON OF THE U.S.S.R. (*Archts' Jrl*, Nov. 11, 1943, p. 355) Short description of the organization and training for planning, with emphasis on planning as a team responsibility and the way the prevailing economic and social system conditions training. The student does not have our worries about land ownership, land use control, etc., and can utilize fully his technical training, but Ling neglects to mention what problems DO face him.

*Ling, Arthur. PLANNING IN THE SOVIET UNION. (*P & R Yrbk*, 1944-5, pp. 179-82) All inhabited centers must have a plan, and industrial location and agricultural policy are basic to these schemes. Ling makes the planning seem very human and indicates that the individual character of each city is preserved.

Natl Muncpl Rev. SOVIET PLANNING. (Dec. 1945, p. 593)

*Parkes, Bertram C. TOWN PLANNING AND THE SOVIET UNION. (*T & CP*, Spring 1942, pp. 22-3) "A close study of Russian methods will reveal the advantages of planning on a nationwide basis for all the major activities of our daily life." Mr. Parkes apparently has gone overboard for the all-out Soviet method, but, despite that, his article does indicate how the Soviet citizen feels a proprietorship in the new developments, and the value for planning of good propaganda.

*Parkes, Bertram C. TOWN PLANNING IN THE SOVIET UNION. (*P & R Yrbk*, 1943, pp. 199-202) Stresses that town planning is only part of an overall scheme of national development and that the construction programs are very definite, with a strict time limit, in contrast to *permissive* planning here. Parkes shows, by reference to the Moscow plan, how "city planning" in the Union includes all aspects of a municipality's requirements.

Semonov, Vladimir. HOW THE U.S.S.R. IS MODERNIZING ITS CITIES. (*Am City*, Oct. 1944, p. 105) Cultural heritage is emphasized continually in the replanning programs placed in the perspective of the major town building which occurred ten to fifteen years prior to this war.

(CONTINUED NEXT MONTH)

NOTICES

Announcement has been made of the appointment of SERGE CHERMAYEFF as director of the Chicago Institute of Design, succeeding the late L. Moholy-Nagy.

LESTER C. TICHY has announced that C. RALPH FLETCHER and RAOUL L. DUBRUL have become associates in his firm.

VICTOR BOHM has moved his Trenton, N. J., office to 146 W. State St., opposite the State House.

CHARLES ROBERTS, A.I.A., has opened an architectural office at 539 N. Homewood Ave., Pittsburgh, Pa.

K. RODERICK O'NEAL has announced the opening of an office for the practice of architecture at 111 W. Jackson Blvd., Chicago, Ill.

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ON government order, a substantial proportion of current Douglas fir plywood is allocated to the Reconversion Housing Program. Quite naturally, this means a tight supply situation for housing which does not come under the program and for all other construction and industrial uses.

IT IS a fact, however, that **more** Douglas fir plywood is being produced today than in pre-war years. So when the present overwhelming demand has been met, more and more of this "engineered miracle wood" will be available. Anticipate your needs well in advance. Keep in touch with your regular source of supply!

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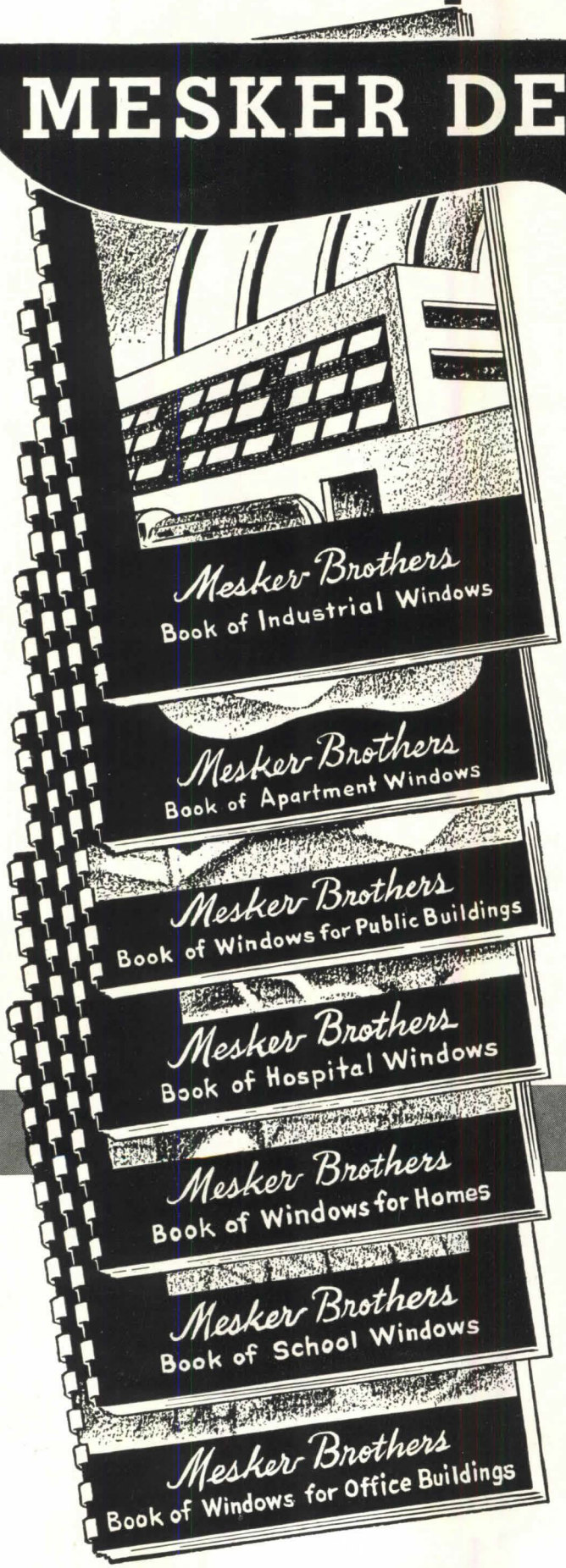

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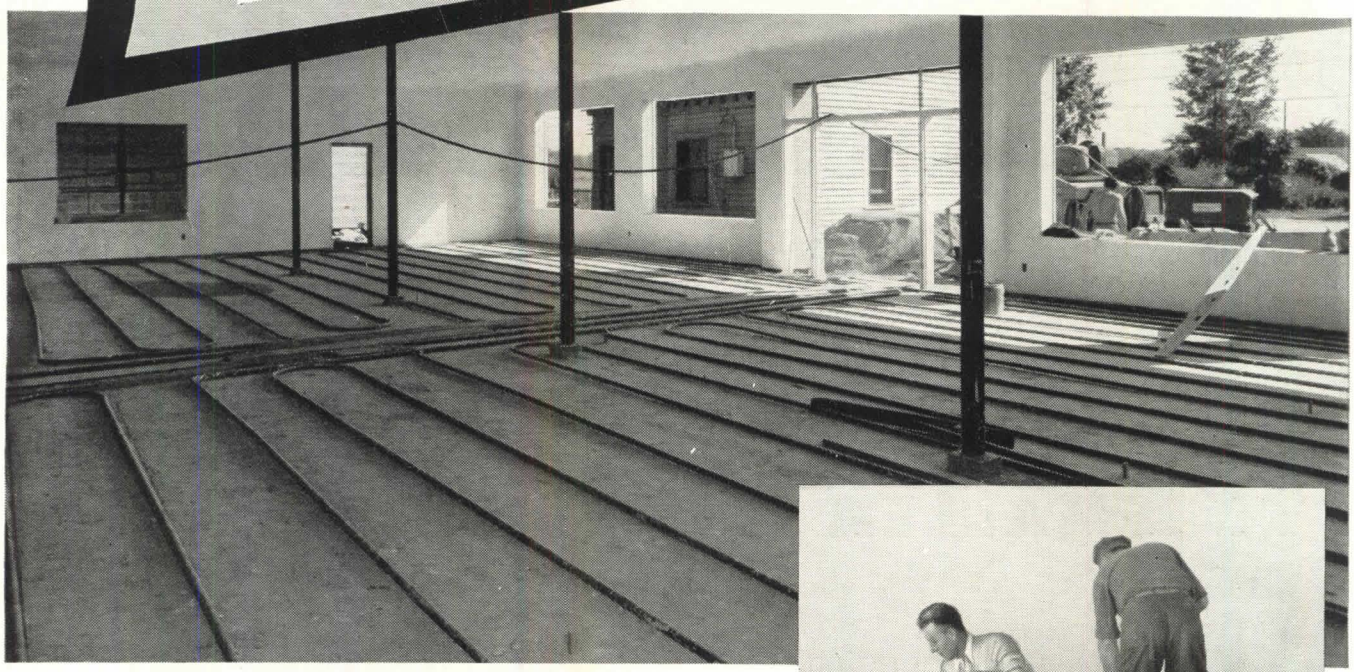

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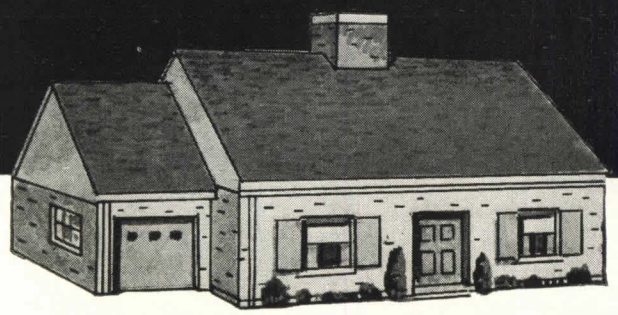

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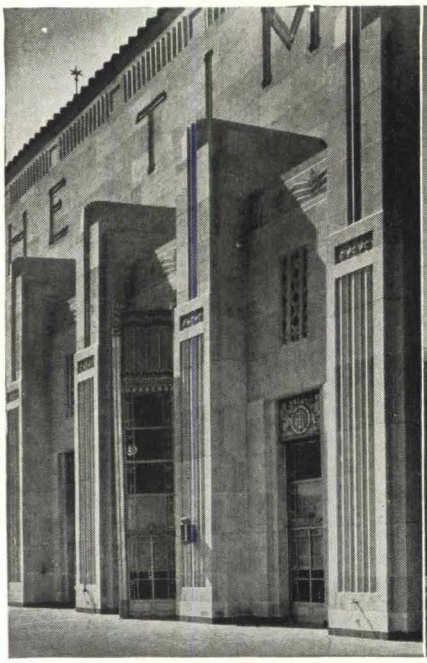

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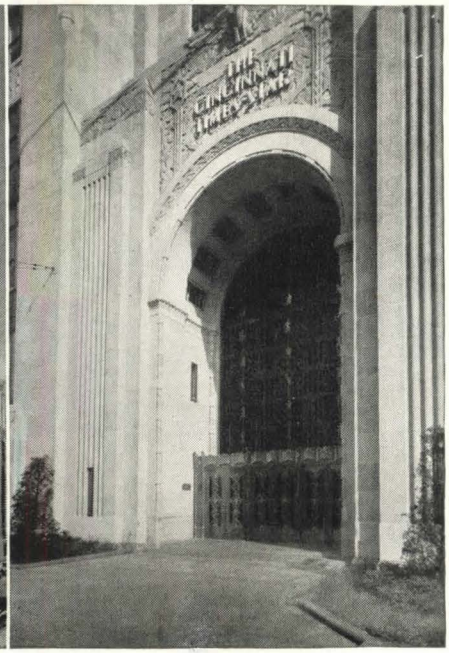
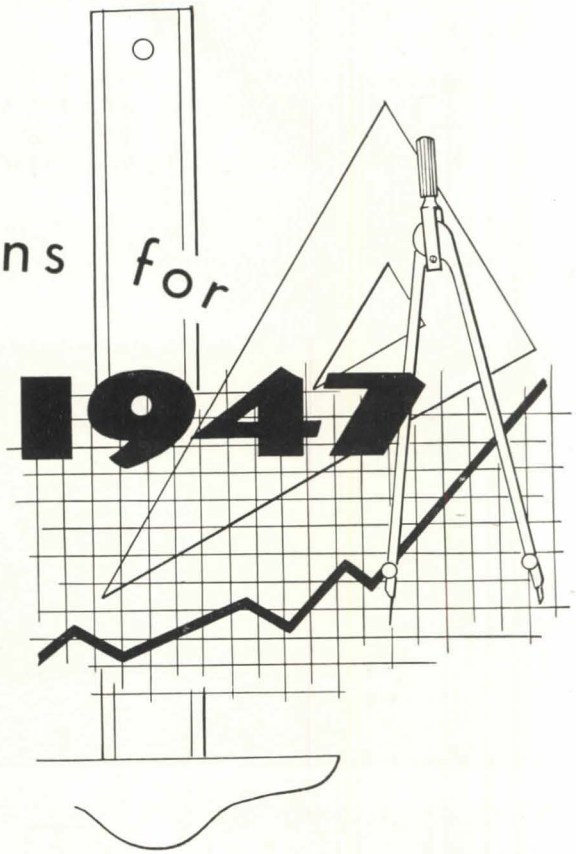


← CINCINNATI TIMES-STAR

Crane's production plans for 1947



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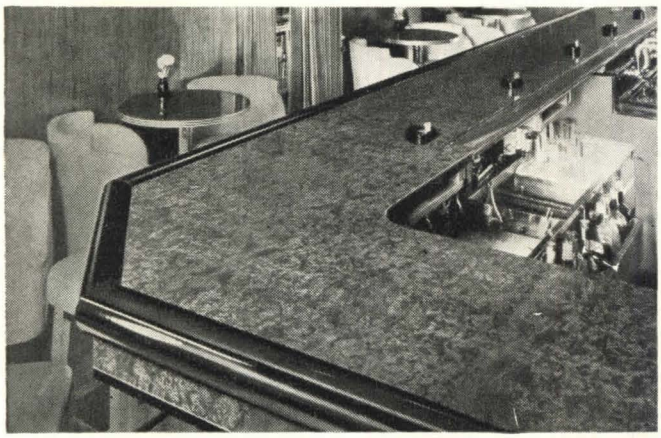

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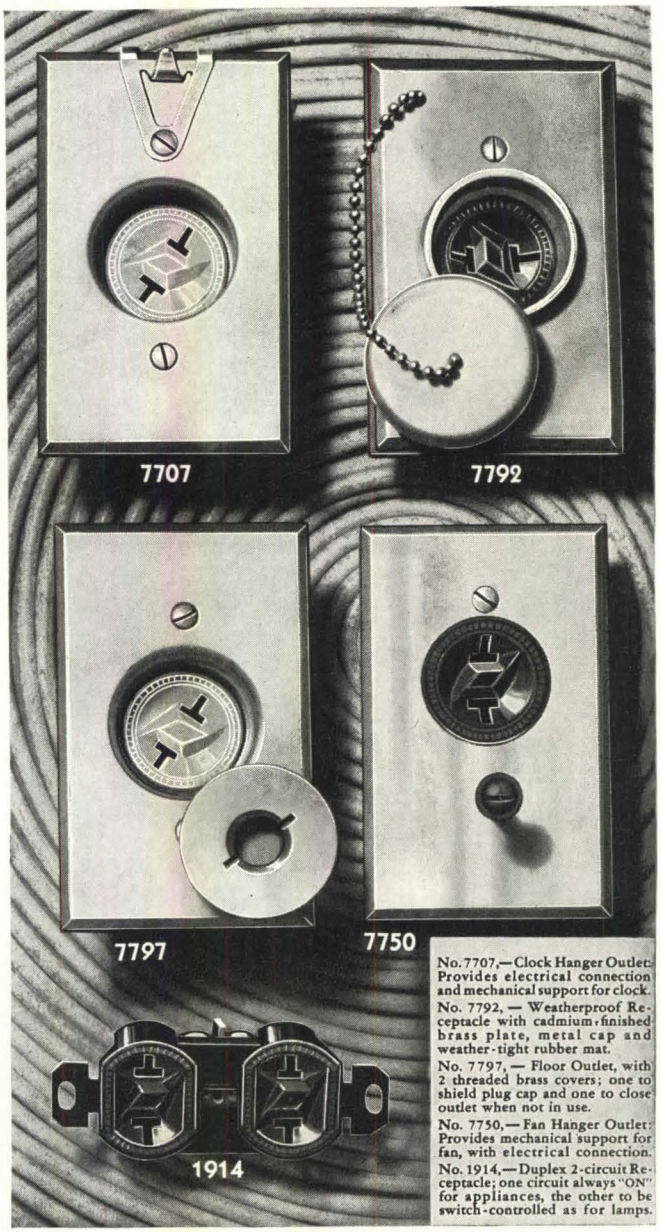

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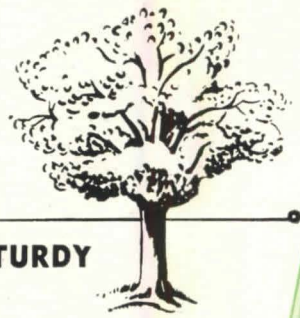

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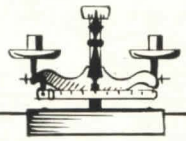

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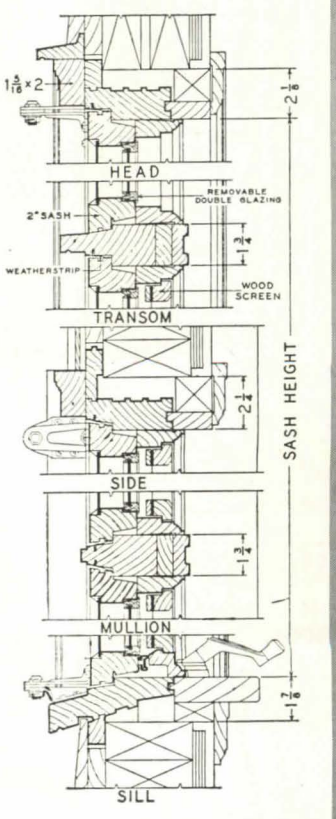

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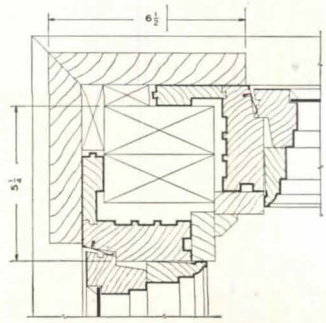

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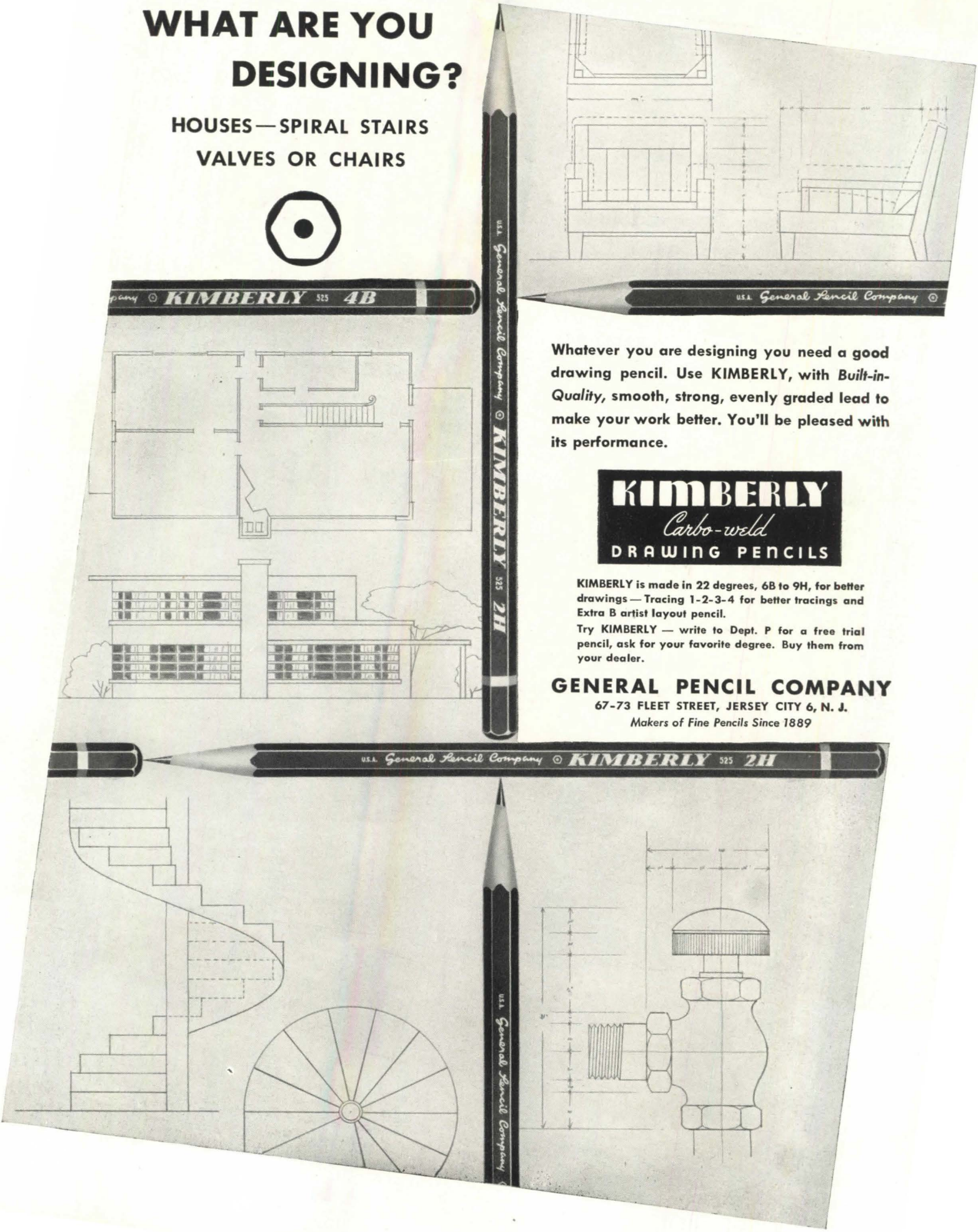

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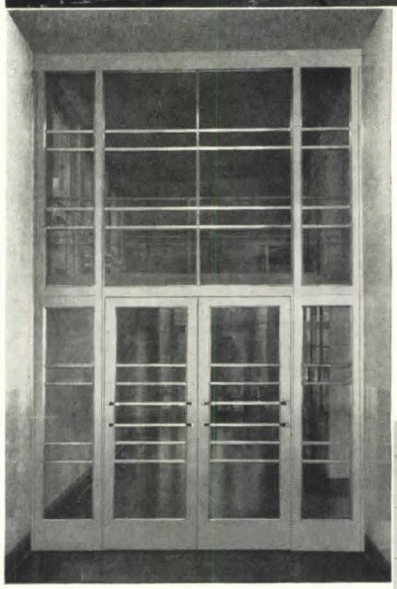

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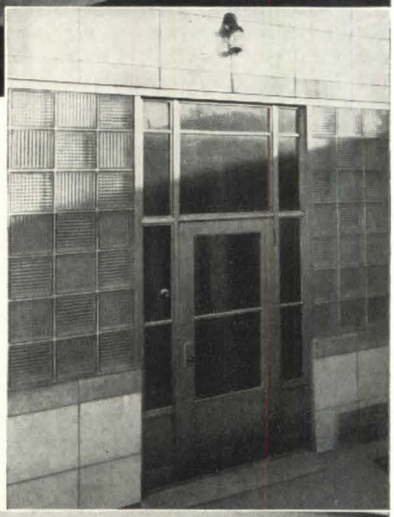

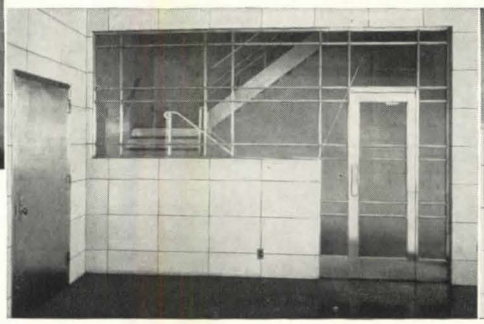

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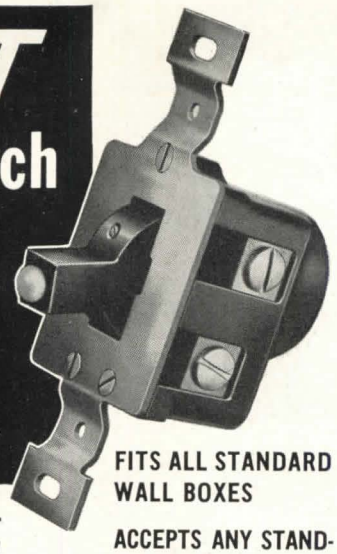

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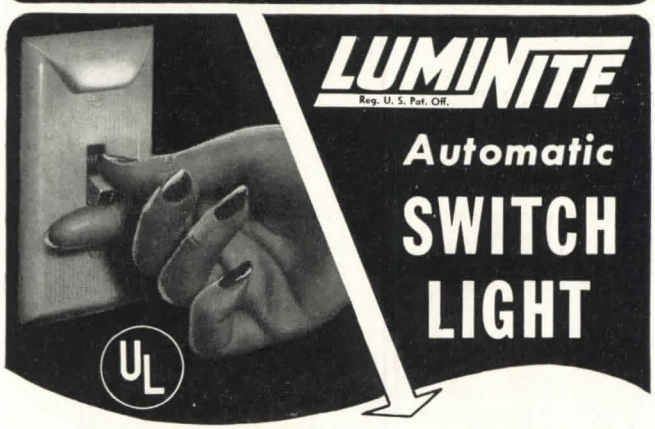

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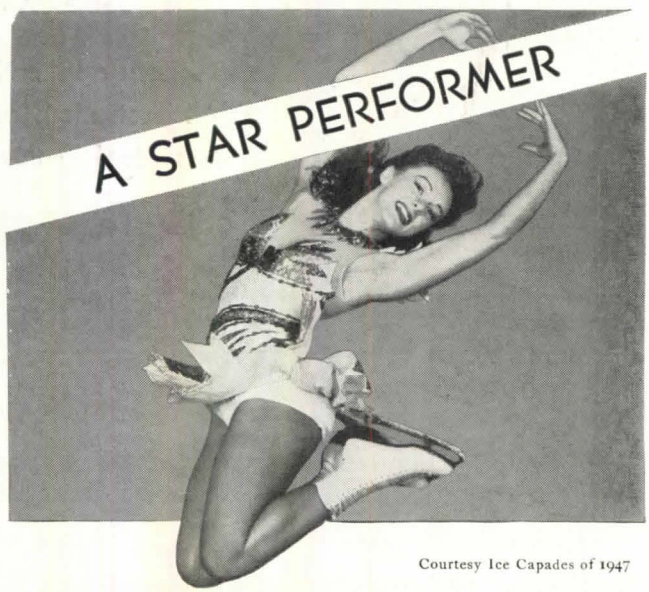

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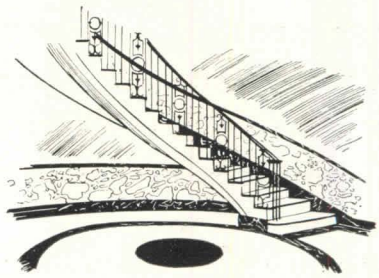

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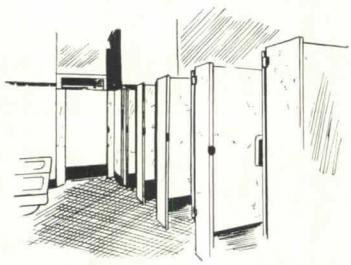
Travertine
Belgian Black
Breche Oriental
Peruvian Rose



MARBLE IN YOUR TOILET ROOMS

Suggestions:

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Vermont Standard White
White Italian
Neshobe Gray

MARBLE IN YOUR HOME

Suggestions:

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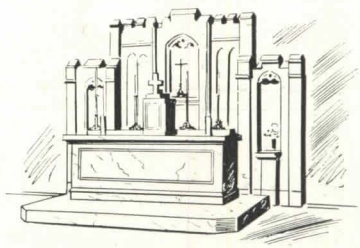
Italian Black and Gold
Blue Belge
Statuary Vein Italian



MARBLE IN YOUR CHURCH

Suggestions:

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Italian Cremo
Rouge de Neuville Griotte
Verte Imperial

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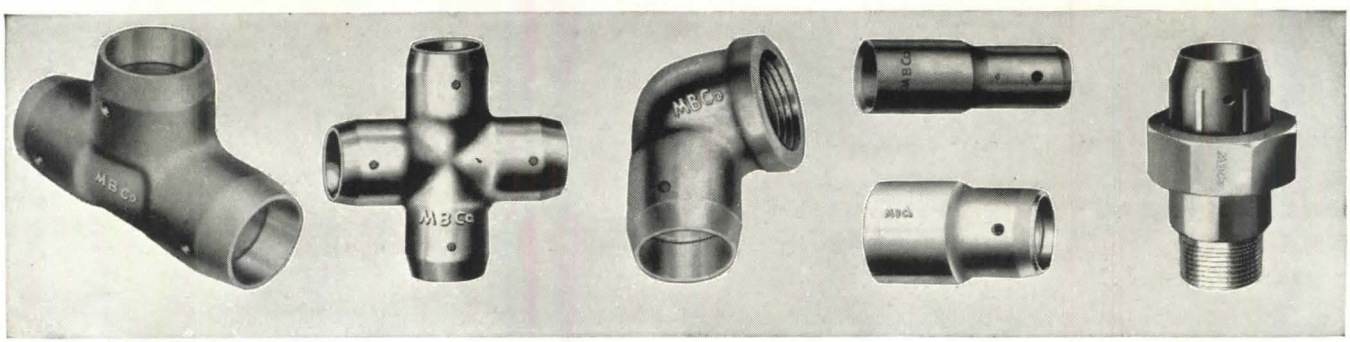

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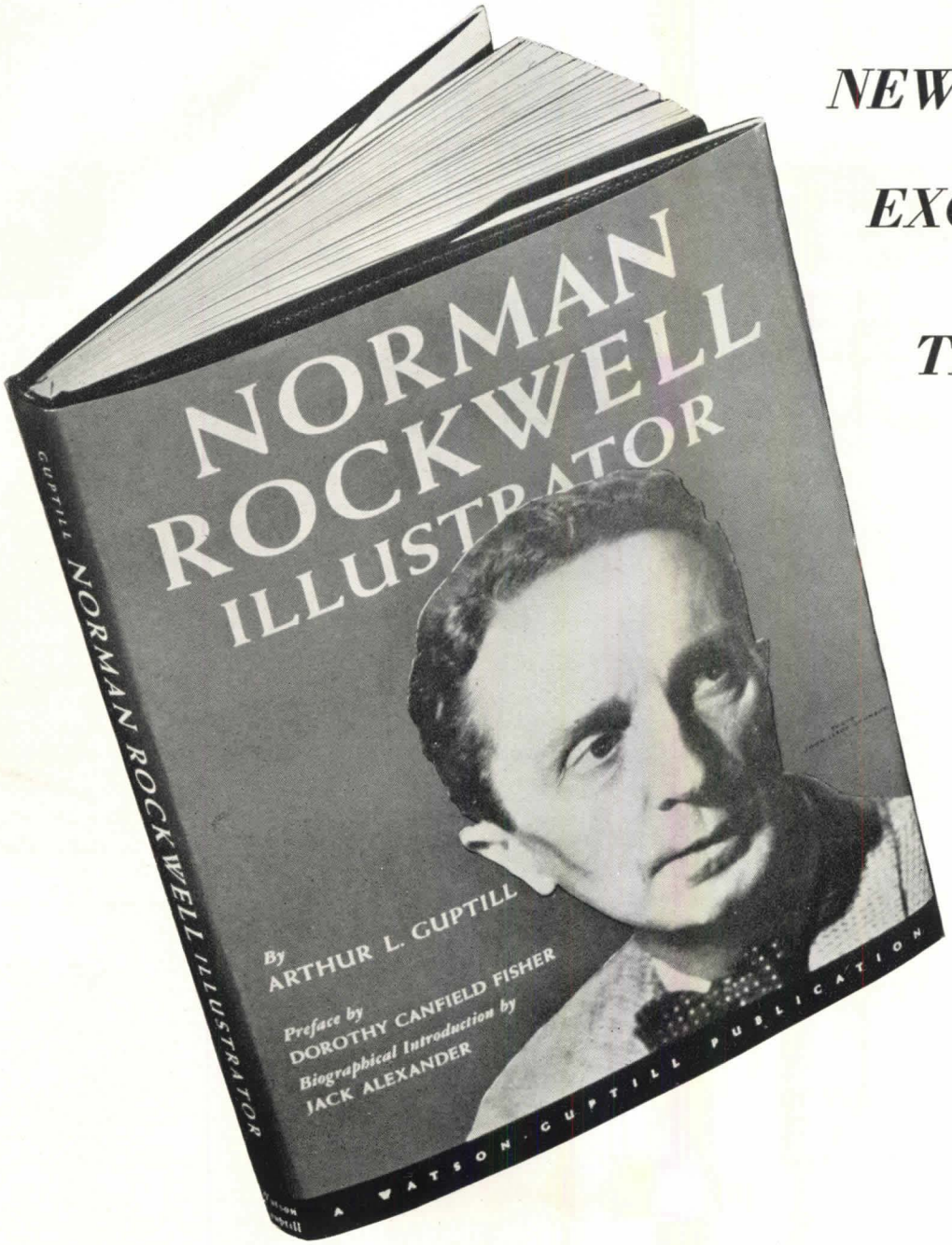

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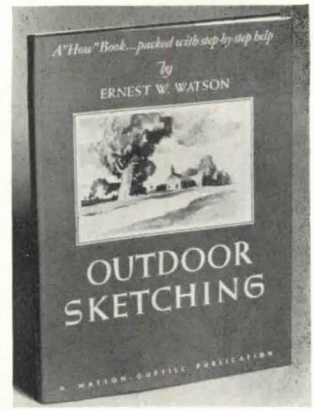

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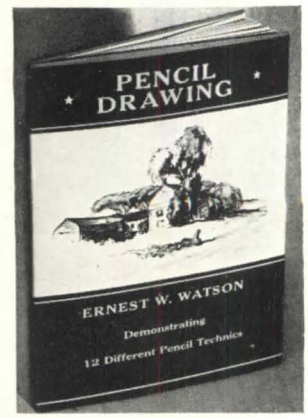

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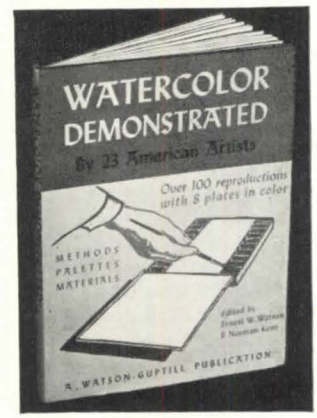
Edited by Ernest W. Watson and Norman Kent

The editors have assembled a fine selection of examples of the work of 23 well-known artists for presentation in this beautiful and highly informative volume. The lucid text reveals just how some of these artists proceed in creating their watercolors. The variety in the palettes of these artists is an absorbing study in itself. To supplement the content which originally appeared in AMERICAN ARTIST magazine, much new material has been added to round out the work. 108 pages, 9 x 12, 8 full-color plates, 100 reproductions in halftone. $5.00.



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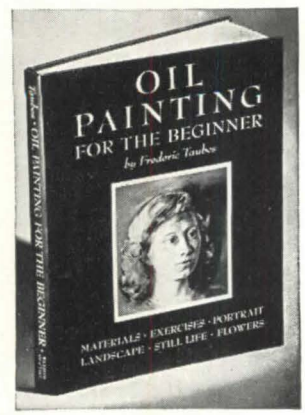

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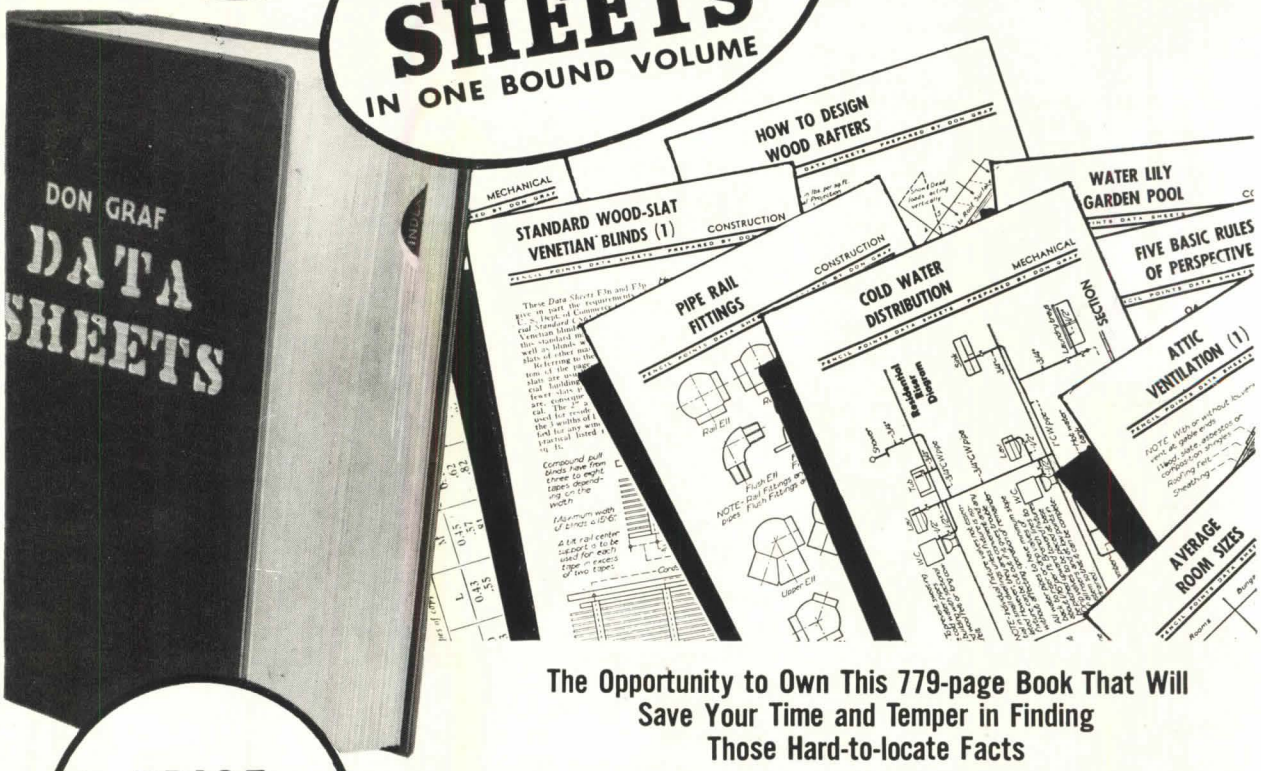

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OBSERVATIONS

WE HOPE THAT ALL OF YOU WILL NOTICE THE SERIOUS ATTEMPT MADE IN THIS ISSUE TO STIMULATE INFORMATIVE TECHNICAL ADVERTISING ON THE PART OF THE MANUFACTURERS OF BUILDING MATERIALS. It is a result of offering to the advertisers the chance to place their ads in the editorial body of the magazine in this special issue—provided they met certain standards of format *and information*. A constant gripe on the part of the profession is that the manufacturers advertise in the architectural press as though they were speaking to consumers rather than designers. Here is our first step in a campaign to improve the situation.

•

THIS QUESTION CAME UP AT A RECENT MEETING OF THE NEW YORK CHAPTER OF THE A.I.A., DEVOTED TO THE SUBJECT OF ARCHITECTURAL JOURNALISM. Your correspondent pointed out that this magazine, like the others, is available to you at a reasonable subscription rate because we sell advertising (otherwise subscriptions would cost somewhere between $15 and $20 a year), and it is obviously impossible to *dictate* the point of view of the ads. However, we can guide and advise, and we are doing that. I also pointed out that the reasons for non-technical advertising are several: in some cases the manufacturers and their advertising agencies are merely shortsighted; in other instances they are honestly convinced that the contractor, not the designer, controls the selection of products. There is a selling job to be done here by the magazine, but in a sense we are acting as your spokesman. We are selling the new architect, interested in, specifying intelligently, and controlling the purchase of the proper materials, products and equipment for his client.

The meeting on architectural journalism that I referred to above was, I feel sure, very useful to all concerned. I hope some other chapters will follow suit. Representatives from the *Forum*, the *Record*, PROGRESSIVE ARCHITECTURE, and the *A.I.A. Journal* spoke, and presented their points of view on five topics: aims in publishing, type of readership, selection of material, control of advertising, and architectural criticism. Almost all of the discussion after the four talks was concerned with *criticism*.

Perhaps it was because the entire *P.A.* staff attended the meeting (we called it adult education; Leslie Cheek of the *Forum* called it a claque), perhaps it was because we had already been thinking and writing seriously about these topics—in any event, we felt we showed up very well in comparison with the other magazines. The *Forum* stated frankly that it is *not* a professional architectural magazine and is concerned with architects only as they are part of the "construction industry" (the first public admission of this that we know of) and chose to be facetious about most of the questions. The *Record* emphasized the time-saving aspects of the standards they publish. That left the field wide open for us, and we aren't at all bashful.

•

OUR POINTS, IN BRIEF, WERE AS FOLLOWS:

Aims: full, professional publication of material concerned with progress in architecture. News, buildings, projects, materials, methods, practice—all of these, not as ends in themselves, but as they affect progress in architecture, the end result we are all working for.

Readership: design professionals only.

Selection: on the basis of a planned program, with types, regions, and designers as diversified as our aims allow.

Advertising: as much guidance toward informative advertising as we can possibly effect; an objective editorial treatment, never colored by advertising pressure.

Criticism: as much criticism of the material we publish as the profession will stand.

The discussion on criticism reached no conclusion, but ended with the inevitable, still unanswered question: can the profession *take* criticism? Will you readers and contributors and designers support it? We aren't ready yet to report on reactions to our November hospital critique, except to say that all comments have been favorable. That isn't enough; everyone loves to read criticism, but when it's your job being analyzed, can you take it? We'll have to think this through very carefully and we hope more groups will discuss the matter. It concerns the whole profession, not just PROGRESSIVE ARCHITECTURE and its policies.

•

SO YOU THINK AN ARCHITECT IS IMPORTANT? YOU THINK HE'S A PLANNER, A VISUALIZER, AN ADVISER TO CLIENTS WITH SHELTER TROUBLES? You think *he* determines the size, the shape, and the disposition of elements? Then swallow this bit of correspondence:

"University of Chicago
Office of Press Relations

Release to papers, Saturday, Oct. 19, after 12 o'clock noon.

Gift of a million dollars by the Goldblatt Brothers Foundation to establish 'The Nathan Goldblatt Memorial Hospital' as the center of the University of Chicago's extensive program of cancer treatment and research was announced yesterday (Sat.) by Ernest C. Colwell, president of the University.

If conditions permit, construction of the hospital will begin next spring. Immediate application for approval will be made to the Civilian Production Administration. Preliminary plans call for a six-story structure, which probably will be increased to seven floors, with basement and sub-basement, providing a minimum of 800,000 cubic feet and 50,500 square feet of floor space. Dimensions of the building have been tentatively set at 164 by 44 feet.

The hospital will provide at least 50 beds in single and two-bed rooms, together with the usual service features necessary for the care of patients. There also will be two operating rooms, an outpatient clinic, offices and research laboratories for the staff, diagnostic laboratories, administrative quarters, reception rooms for patients and their relatives, and conference rooms for the staff and the scientists working under the Committee on Cancer and the Committee on Normal and Neoplastic Growth."

"Office of Press Relations
University of Chicago
Chicago, Illinois

Dear Sirs:

We have your press release dated 10-18-46, concerning the Nathan Goldblatt Memorial Hospital. A great deal of useful information is contained therein but the name of the architect who is preparing plans is noticeably missing. Since this is the one thing in which we are most interested, we would very much appreciate your filling the gap.

Editor, Progressive Architecture"

"Editor, Progressive Architecture:

I have delayed answering your letter relative to the architect of the new Nathan Goldblatt Memorial Hospital at the University of Chicago, for I thought the choice was only a matter of days.

The decision, however, has still not been made. The elevation sent you is an artist's sketch of what the building should look like.

When a decision is made, I shall be very glad to let you know the name of the architect.

Department of Press Relations
University of Chicago"

Inconceivable? Yes, but true.

Thomas H. Creighton