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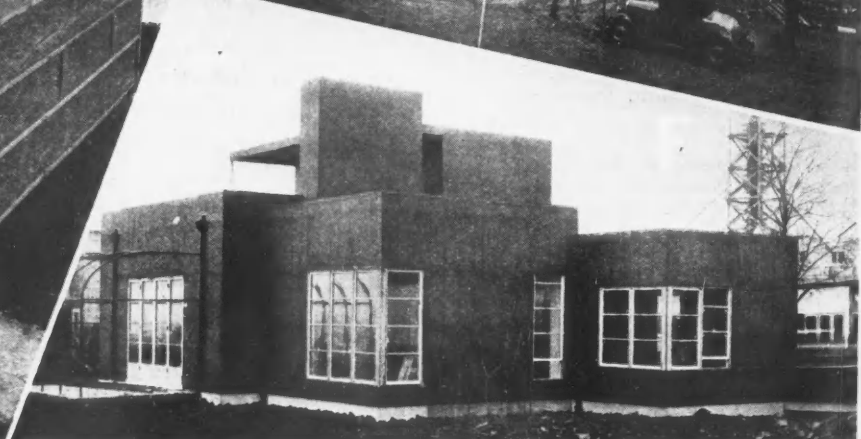
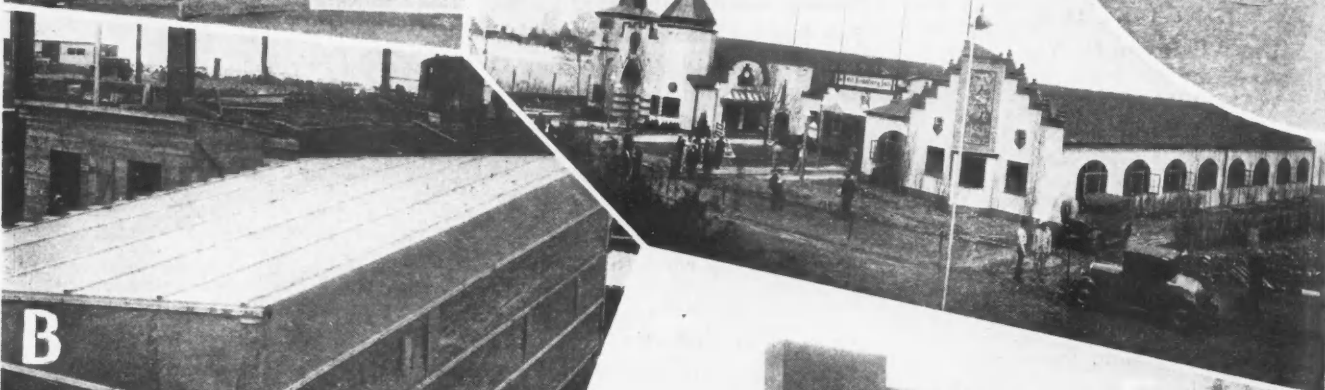
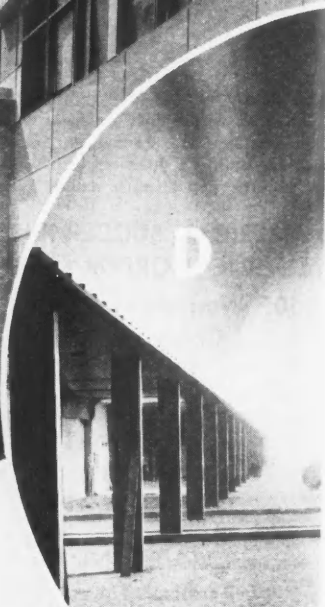
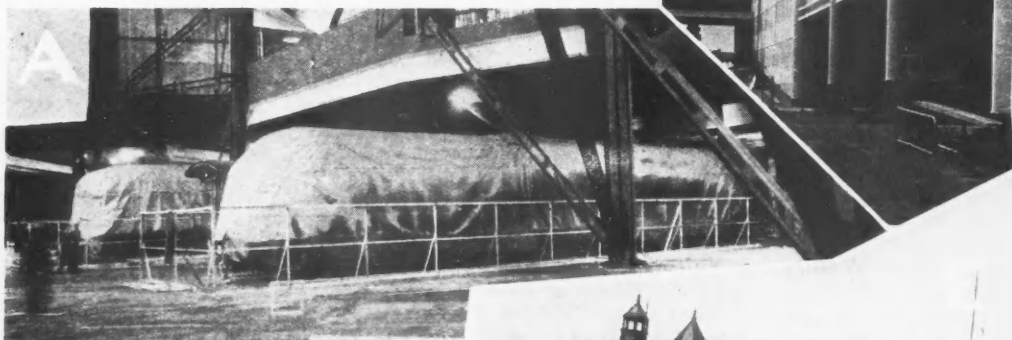
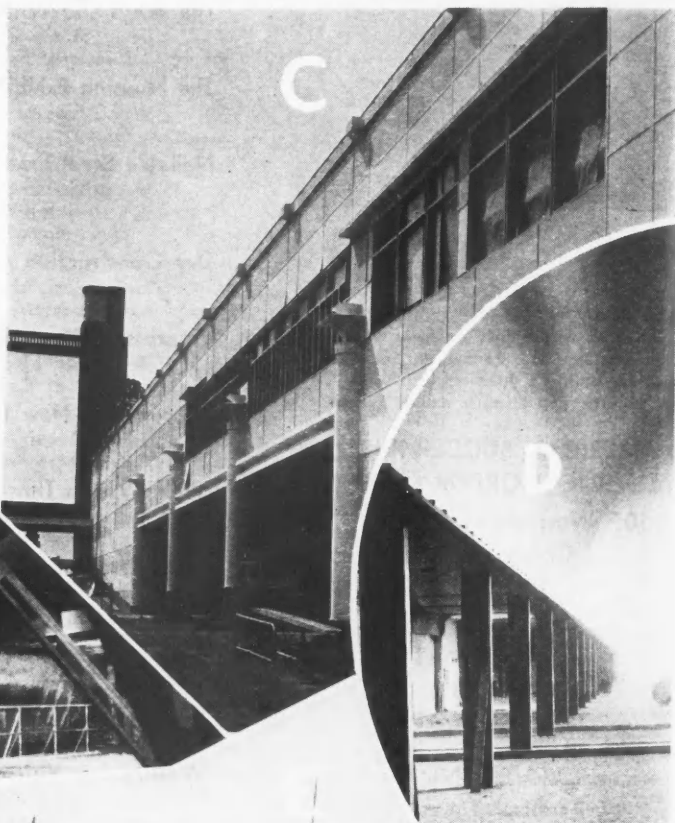
ROBERT H. MORRIS
Business Manager

SISALKRAFT is wherever PROGRESS is the

THE use of Sisalkraft in A Century of Progress typifies the recognition which this quality sheet has attained throughout the building industry. In all the ways listed below—and others—Sisalkraft has played its part in building this Exposition just as it does in the daily job of any contractor.

Sisalkraft is really synonymous with progress in building paper. It has scores of uses unknown in a paper sheet a decade ago.

Wherever you want results from building paper, think of Sisalkraft. Your lumber dealer can supply it.



AMERICAN BUILDER AND BUILDING AGE

Home Building Gains Continue

THE improved outlook for home building noted on this page last month has now materialized into actual contracts awarded. For the first half of May the money value of residential contracts reported was 36 per cent ahead of the first half of April, with every indication that the total for the entire month would exceed May of last year. When it is recalled that there is normally a seasonal decline of 10 per cent from April to May and that not since the Spring of 1931 has any month been able to equal the figure of that month of the year before, the significance of this May residential contract showing becomes apparent.

Coincident with this home building increase, we note many other signs of returning business activity. Car loadings are gaining week by week, steel production has risen to 40 per cent capacity, the lumber mills are full of orders, employment is gaining and the price of farm products and of all basic commodities continues to advance.

This, undoubtedly, is the start of that long delayed home building revival. If so, the small construction industry can look ahead with confidence to increasing sales and activity. With a "back log" of seven billion dollars' worth of needed home improvements, with the public taste being steadily educated to new and higher standards in home comforts, and with all commodity prices trending upward, there is in the present situation the makings of a healthy home building boom. Investment now of money of large purchasing power in a home of constant value is a wise, safe move.

World's Fair—Yesterday and Today

SOME striking contrasts illustrate, better than any other thing could, the remarkable building achievements of Chicago's Century of Progress World's Fair as compared with others.

For example, the World's Columbian Exposition buildings in 1893 cost more per cubic foot than those of this 1933 Fair; and yet the labor cost per day in 1893 was exactly the same as the labor cost per hour in 1933. Perfection of building methods has made this reduction in cost possible.

The World's Fair construction program does not represent revolution, as so many people seem to think, but progress. Analysis of the structural methods in-

volved shows almost universally that the striking and unusual effects achieved are not revolutionary practices imported miraculously from some other land, but are logical developments of the latest thought and research of the building industry as it exists here today.

The exposition buildings, the model houses and the general construction activity of the Fair illustrate the important improvements, developments and trends that every building industry man should know.

There is much talk of pre-fabrication, especially of small homes. Analysis of the 13 modern homes on display at the Fair shows that only one is a truly pre-fabricated house. Most of the firms showing houses have announced their intention of working through the existing channels of the industry.



A Special Invitation To Builders

from

PRESIDENT DAWES

I AM extending a cordial invitation to the men of the building industry to attend the Century of Progress Exposition because I believe there is a double interest for them in this World's Fair.

In the exhibit of modern homes, especially, builders will find much of inspiration and interest; and they will have an opportunity to see for the first time building developments that have been much discussed. To be fully understood, these modern homes must be seen and carefully examined.

In addition to the attractions of the Exposition itself, which I need not mention here, there is the special interest to builders that lies in the architectural and construction features of the Fair buildings which represent in a striking way many new ideas and methods that have been developed by the men of this great industry.

To you men of the building industry, I can only say, "Come and see what your industry has done."

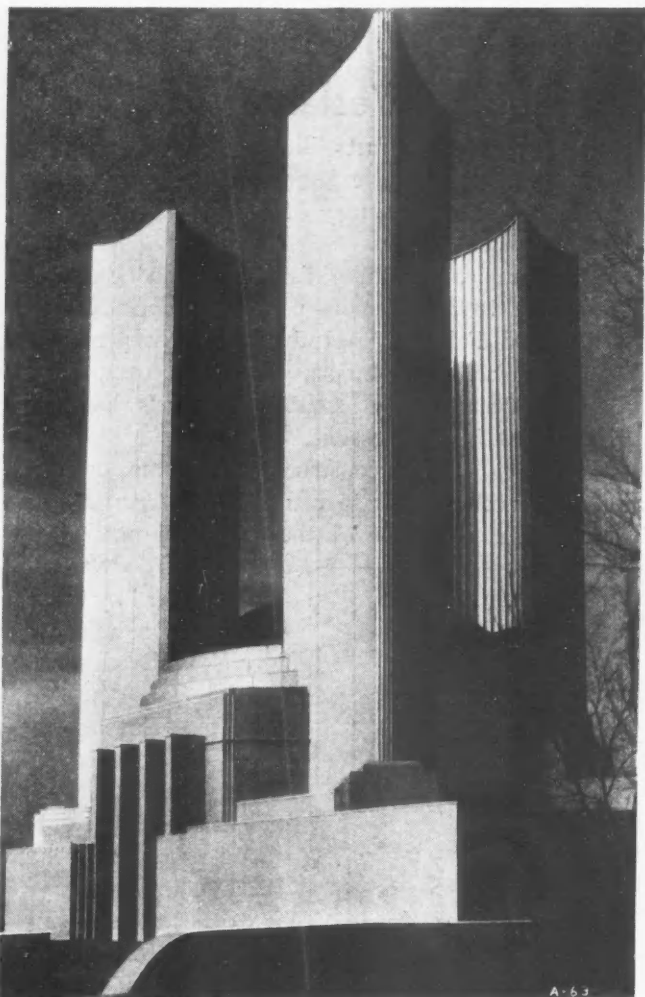
Cordially

Rufus Dawes

President

A CENTURY OF PROGRESS

The Whys and Wherefores of the Exposition Architecture



THREE GREAT TOWERS representing the three divisions of government rise above the dome of the Federal Building. Vertical lines increase the sense of height of the towers. Exterior is in brilliant colors obtained with the new casein paint—a cold water paint adopted after much experiment and research. J. W. Snyder, contractor.

THE architecture of the Century of Progress Exposition is strikingly different from that of other expositions and of other buildings of the past largely because of one basic difference in the underlying concept of the design.

In the architecture of the 1933 World's Fair, we are calling attention not to what has been done in the past but to what can be done in the present and may be done in the future. Instead of taking its inspiration from the perfected designs of other centuries, this Exposition architecture draws its inspiration from the progress of the twentieth century.

The theme of A Century of Progress is, briefly, the advancement of mankind in the past hundred years. It will show the application of scientific discoveries to in-

by **LOUIS SKIDMORE**

Chief of Design, A Century of Progress Exposition

dustry and its consequent development during the past century.

In such a scheme, the architecture should be an expression of that progress. It would be incongruous to house the exhibits showing man's progress of recent machine-age years in a Greek temple of the age of Pericles, or a Roman villa of the time of Hadrian. The architecture must be in tune with the modern age and spirit.

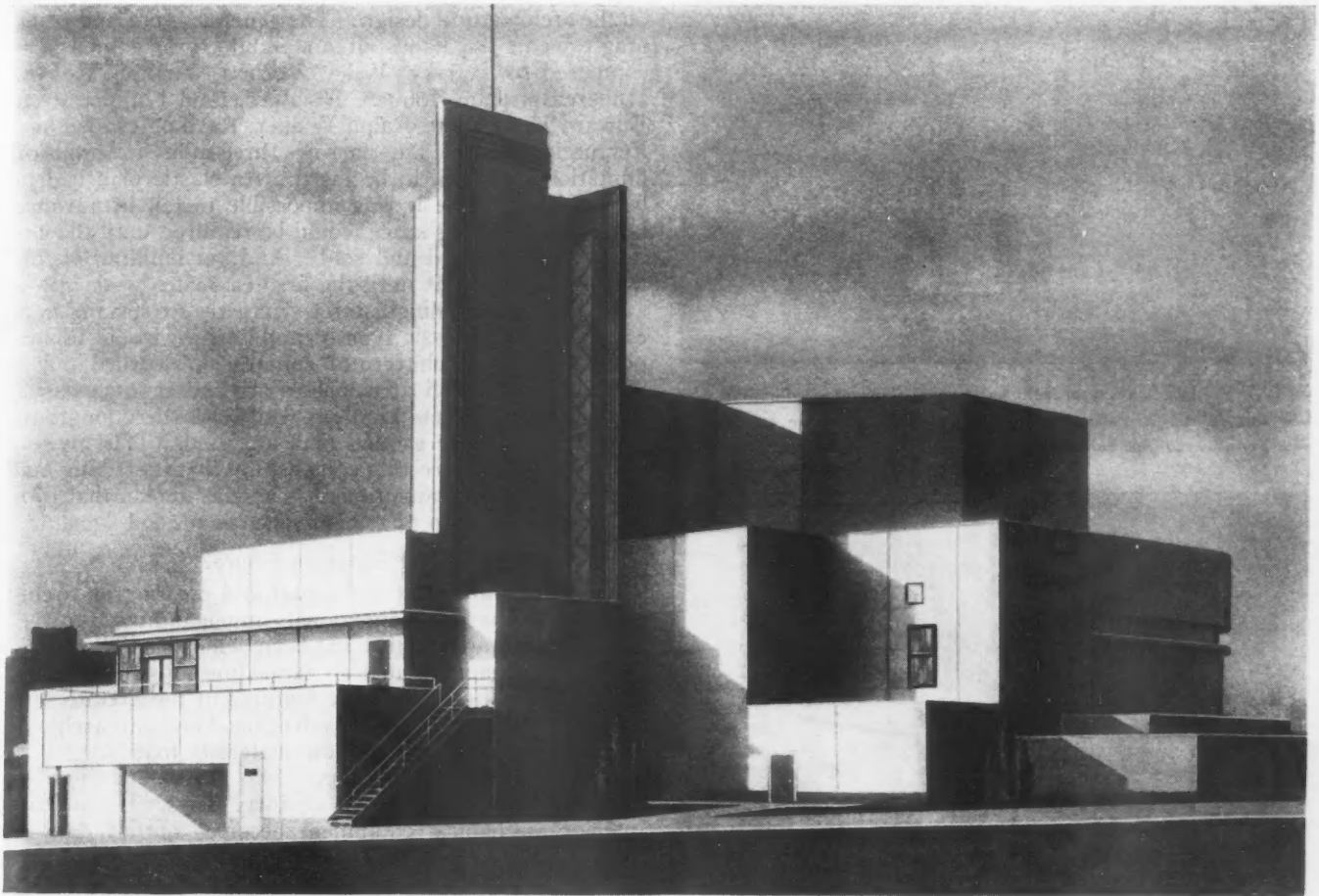
In keeping with the scientific attitude of the age, the buildings of the 1933 World's Fair express a healthy naturalness—an honest reflection of the actual functions of the building. They are built in the most practical, straightforward and inexpensive way possible for the purposes required and with the modern materials at hand. They depend for their character and effectiveness on flat planes and surfaces instead of extensive and unnecessary plaster ornamentation and decoration. New and dramatic uses of light and coloring against this background of planes and surfaces provide the unusual effects necessary for such an exposition.

It is of greatest importance to readers who view the photographs accompanying this article to realize that this architecture is, after all, primarily a setting for the gay crowds that will throng the Fair grounds. None of the buildings is quite complete without the exhibits and the crowds of visitors, the parasols and seats over the terraces, and the active life and excitement of this vivid throbbing city within a city.

I have expressed the thought of progress and of naturalness in the design of these buildings. Of equal importance and, in some respects, transcending importance, is the detail of economy. These buildings are built to be used for five months. After that, they must be evacuated and removed. In creating the designs, therefore, the salvage value of the materials used and the cost of the salvage operations had to be kept in mind.

High wage scales as compared with previous expositions had a bearing on design. The *hourly* wage scale paid to workers in the 1933 World's Fair is almost exactly the same as the *daily* wage of those employed in the World's Columbian Exposition of 1893. The cost of materials in 1933 was from two to five times that of 1893. Yet the cost of the exhibit space in 1933 must approach closely that of 1893.

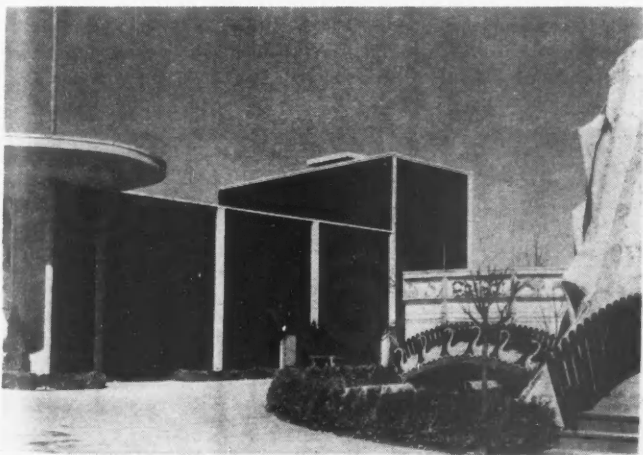
This necessary economy has been achieved by a greater factory fabrication of parts. Wall materials, for instance, are pre-fabricated in the shop, cut into standard shapes and sizes and shipped to the Fair grounds. They are applied to the steel frames with clips or screws. They are light in weight, easy to handle, and will be easy to dismantle. That we have achieved economy through the construction practice employed is demonstrated by the fact that the average cost of the buildings has been 15 cents per cubic foot or less. In several of the buildings, the cost per square foot of floor space has been even low-



PILING OF MASSES in cubistic form is done with dramatic effect in the Dairy Building. This will be the only building at the Exposition the exterior of which will be entirely white; a brilliant color scheme by Joseph Urban is followed in buildings. E. W. Sproule Construction Co.

¶ *Exposition architecture is primarily a setting for the gay crowd that will throng the grounds. Economy had an important bearing on design.*

¶ *Buildings depend for their character and effectiveness on flat planes and surfaces which set a background for new and dramatic uses of light and coloring.*



FAIRYLAND ARCHITECTURE—this view of the Enchanted Island shows how the architecture of the World's Fair is essentially an example of fine showmanship, with dramatic results created by vivid colors and unusual effects.

er than that in the buildings for the World's Columbian Exposition in 1893.

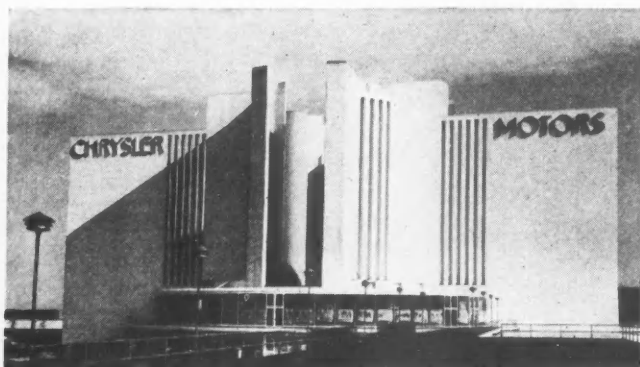
Omission of windows is a feature of the buildings that has caused much public comment. This was not done "just to be different" but for the very practical reason that exhibits of the type shown require a constant controlled light. Sunlight for daytime illumination is a variable quantity, leaving some parts in shadows and some overlighted. By eliminating windows, artificial light must be used entirely, and thus the architect and exhibitor keep under control the volume and intensity of light in every part of the building, regardless of the kind or time of day.

Incidentally, the elimination of windows makes possible important savings in cost, such as sash and window glass, which cost as much in temporary structures as in permanent buildings. Omission of windows has simplified construction methods and made possible use of multi-story buildings and use of roofs for promenades, gardens and restaurants.

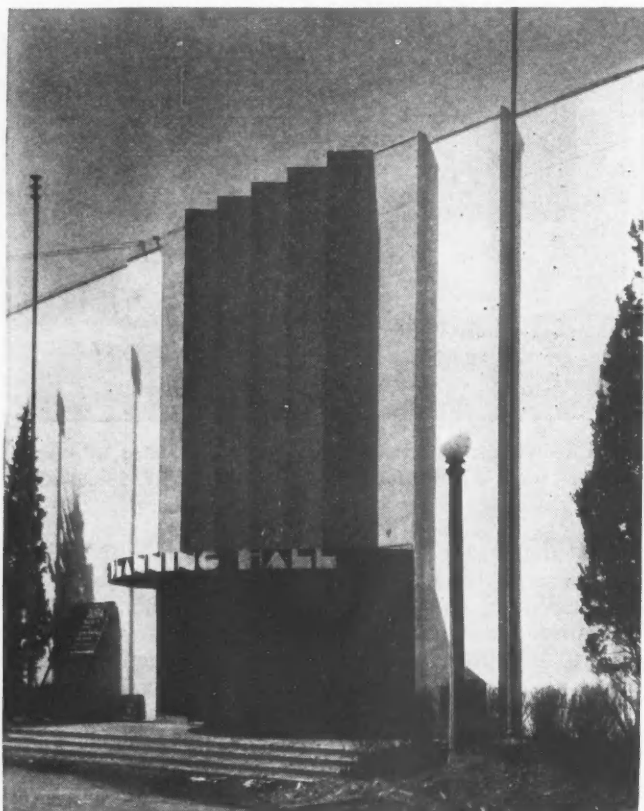
The flat, windowless walls made it necessary for the architects to obtain interest by the composition of masses and the delineation of strong horizontal and vertical lines and planes. Use of brilliant colors is employed to break up in an interesting way the large area of flat surfaces.

These exhibition buildings are different from those of the past in that they are several stories high. To attract larger crowds to the upper stories, main entrances in some cases are into the second story, giving to the second floor the same importance as the first. This also makes a large development of terraces possible, and provides more exits and entrances to prevent congestion.

The site of the Exposition had a considerable effect



GREAT WALLS with unbroken flat areas give mass effect to the Chrysler Building. Vertical lines and towers add to the impressiveness of the structure. Built by Nydele Building Construction Company.



HOME PLANNING HALL—headquarters of the building exhibits, is a building of unusual interest to the building industry. Here, exhibits of the latest materials and equipment for construction are shown, and nearby are located the twelve exhibit homes.

on the architectural design. The general layout and planning was in the hands of an architectural commission composed of Harvey Wiley Corbett, Arthur Brown, Hubert Burnham, John A. Holabird, Paul Philippe Cret, Edward H. Bennett, Ralph Walker, Raymond Hood and Ferruccio Vitale. The narrow, three-mile site imposed limitations that had to be faced. An elastic plan had to be devised because it was impossible to tell in advance how much building space would be required until the exhibits were planned and sold. And yet building operations could not wait until the final estimates were in.

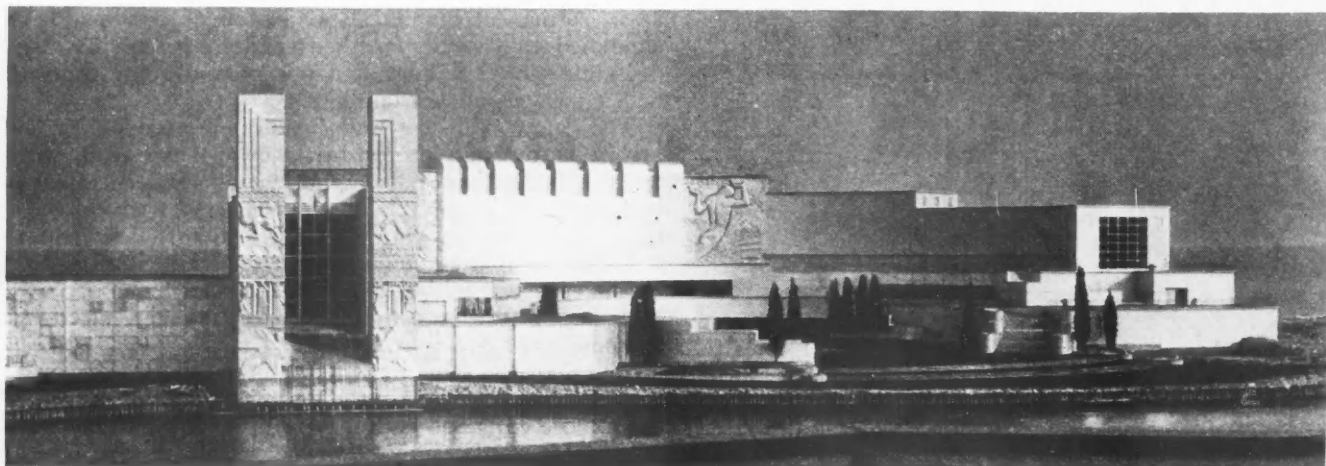
Massing of buildings and a symmetry of spacing necessary under a classic type of architecture would be impossible. The architectural commission worked out a plan in which small area masses are raised to a considerable height in some locations while elsewhere long, low structures of large ground plan are used. This gives a variety and an interesting composition that is striking and effective. At the same time it is an elastic plan that provides for expansion of exhibit space as needed.

What Effect on Future?

In turning away from the past and creating an architectural design that is functional, simple and inexpensive, a new note in architecture has been achieved. The buildings are dramatic because an exposition must be dramatic. And yet there are many features of the architecture that may have a permanent effect on American architecture. The utilization of new materials may suggest a way toward lowering building costs. Most buildings today are erected to last thirty or forty years. Usually the interior mechanical equipment becomes out of date in about a third of that time. Perhaps there is a suggestion for builders in the 1933 World's Fair for less permanent buildings. Perhaps buildings might be erected more cheaply and designed to last just as long as their interior mechanical equipment. Lowered costs and more frequent replacements, as in the case of other industries, might point the way to the building industry to adjust its production costs in line with the production ratio of other business units.

Factory pre-fabrication, large units, strong horizontal and vertical lines, unusual lighting effects, brilliant colors are all features of the 1933 Century of Progress buildings that may have a permanent effect on American architecture. None of these ideas is new, yet the dramatic way in which the Exposition will call attention to them may have considerable effect on future design.

HANGING GARDENS, gilded pylons, paved terraces, sculptured bas-reliefs, feature this modernistic Electrical Building, designed by Raymond Hood of New York. A striking example of Exposition architecture of 1933 style. Built by W. E. O'Neill Construction Co.



THE HOUSING EXHIBIT—

Center of interest for home builders

BUILDERS will find in the Housing Exhibit of the World's Fair a great demonstration of progress in building that will be decidedly worth while to every practical man in the industry.

The thirteen full sized houses built with the latest materials and technique of the industry constitute a great outdoor laboratory which merits the careful, thorough study of builders, dealers, architects.

This is one section of the World's Fair that is not merely recreational—at least to the practical men of the industry—for it is a practical lesson in construction.

The houses erected there are modern in spirit and design. Yet, for the most part, the materials used are well known to the building industry. The surprising and stimulating results are due to the imaginative use of these building materials and products in a way that produces a novel modern effect.

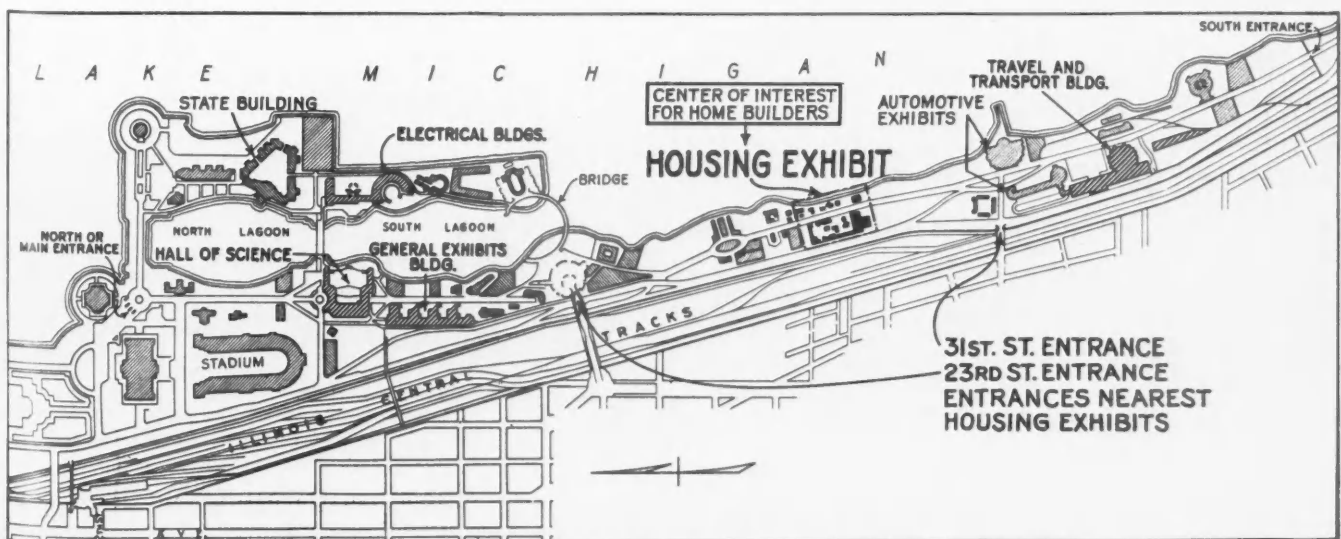
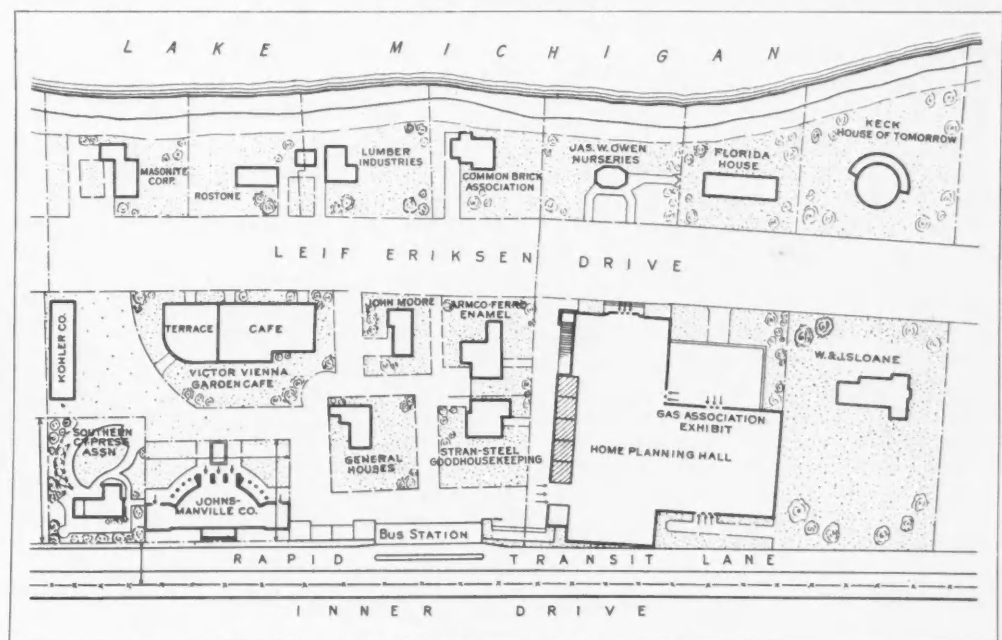
There has been much talk of change in home building

methods. Much half-baked newspaper publicity has been published on new types of houses. Here is a chance for builders to examine in a thorough fashion a practical demonstration of some of the things that have actually been carried beyond the dreamer's stage.

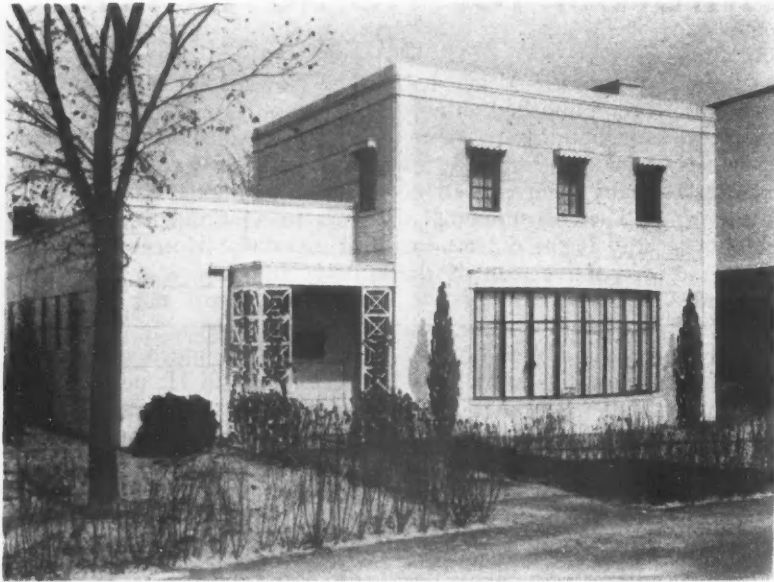
Use of standard materials in a stimulating, modern way is the outstanding feature of the Housing Exhibit. No active man of the building industry who expects to keep abreast of the times can afford not to spend considerable time examining these houses.

In addition to the houses there is much of interest and value to builders in the exhibits in Home Planning Hall. Here will be seen the individual displays of manufacturers showing developments in their products, and progress that has been made. In the electrical home exhibits in the Electrical building are additional kitchen, bathroom and basement displays that show the latest progress in these important rooms.

Home Planning Hall and thirteen exhibit houses are the big attraction for builders at the Fair. Come and visit them first! You will find this modern housing exhibit midway between the 23rd and 31st Street entrances.



NAILABLE STEEL FRAME IS KEY TO



Good Housekeeping-Stran-Steel House at Century of Progress Attracts Throngs

Fresh Modern Lines, Compact Livability and Staunchness of Construction Much Admired

**H. AUGUSTUS O'DELL AND
WIRT C. ROWLAND**

ARCHITECTS

DWIGHT JAMES BAUM

CONSULTING ARCHITECT

HELEN KOUES

DIRECTOR GOOD HOUSEKEEPING STUDIO, DECORATIONS AND FURNISHINGS

THE eagerness with which the public today responds to new ideas and new style in quality small homes forecasts a considerable revolution in home building technique—which is bound to make itself felt in the near future. The Exhibition Houses at Chicago's Century of Progress exemplify these new ideas. In design, construction and equipment they mark a new era.

The first of these houses to be completed and thrown open to the public was the smart and trim creation of the Stran-Steel Corporation and associated co-operators, decorated and furnished under the direction of Good Housekeeping Magazine. On Saturday, May 27, when the Exposition opened, fifty-seven hundred visitors inspected this new model home and approved its many interesting features. The next day about seven thousand more thronged through this house, and on Memorial Day over twelve thousand attended, many showing the

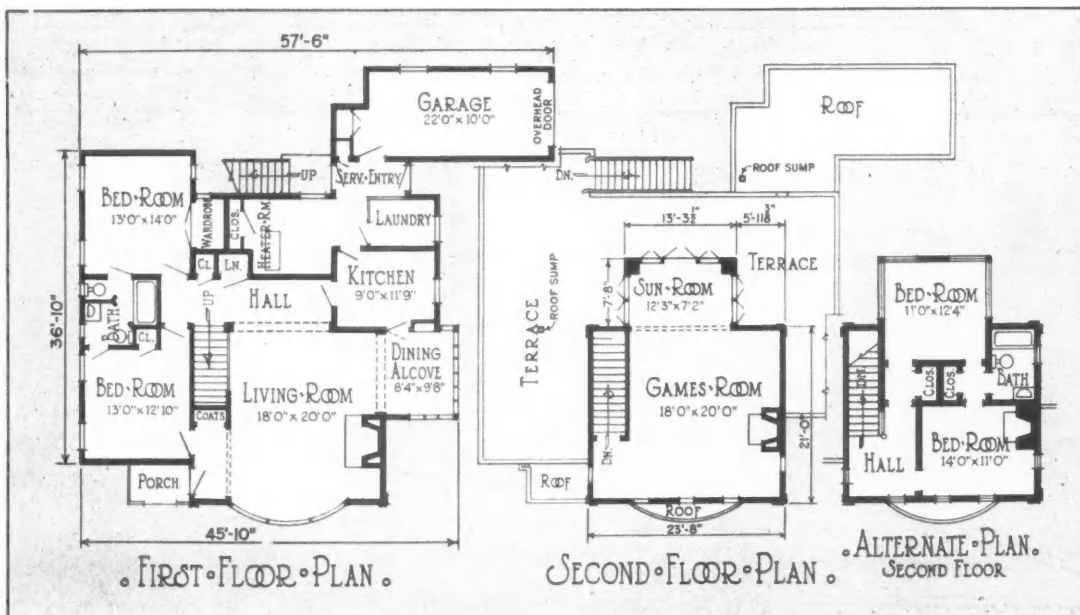
keenest interest in and understanding of the salient points of its construction and finish.

The materials entering into the construction of this house are for the most part well known manufactured products. The framing, is decidedly new. This is called Stran-Steel. Two features distinguish it from other types of metal structural members:

First: It is designed so that carpenters, without any special training, lay it out and erect it on the job just as they build lumber.

Second: Collateral building materials such as shiplap, Celotex, Sheetrock and plywood are nailed directly to the frame work just as they are nailed to wood.

Stran-Steel consists of 2 x 4" studs and rafters and 2 x 7" joists and of connectors of 16 and 13 gauge steel, formed and riveted so that a nailing groove runs lengthwise on two sides of each stud and joist. When building materials are nailed to these members, the nails



An alternate plan of the first floor would turn the heater room into a maid's room. The space below is then to be excavated for a heater room. The second floor may be made into a recreation room, or into two bedrooms with a convenient bathroom as shown.

LOW COST OF STRAN-STEEL HOUSE

follow the sinuous shape of the groove and clinch themselves firmly into place.

The exterior of this Century of Progress house is covered with Glasiron Macotta slabs, 1 3/4 inches thick, 2 feet wide and from 2 to 8 feet long. This material consists of a layer of tough, light-weight Haydite covered with thin gauge steel, which has on its exterior surface a weather resisting coat of porcelain enamel.

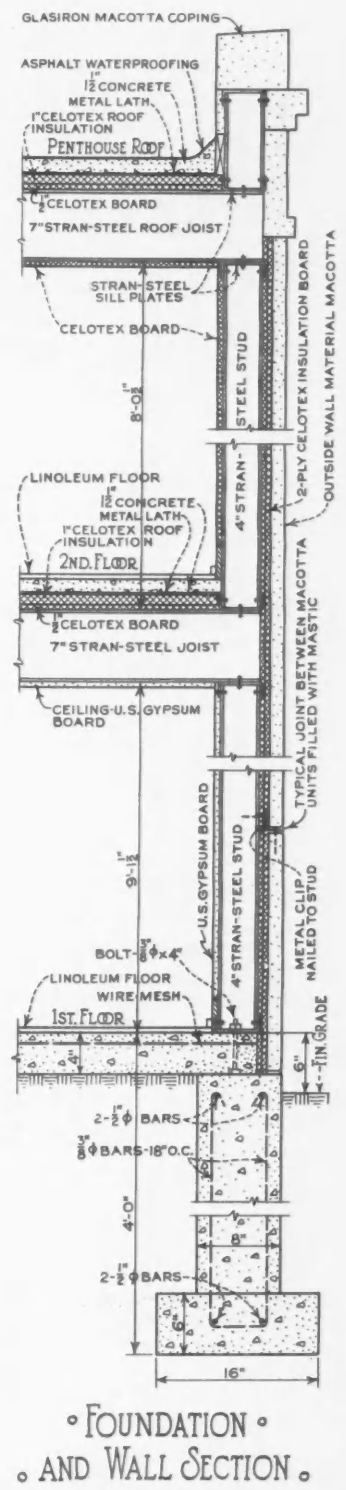
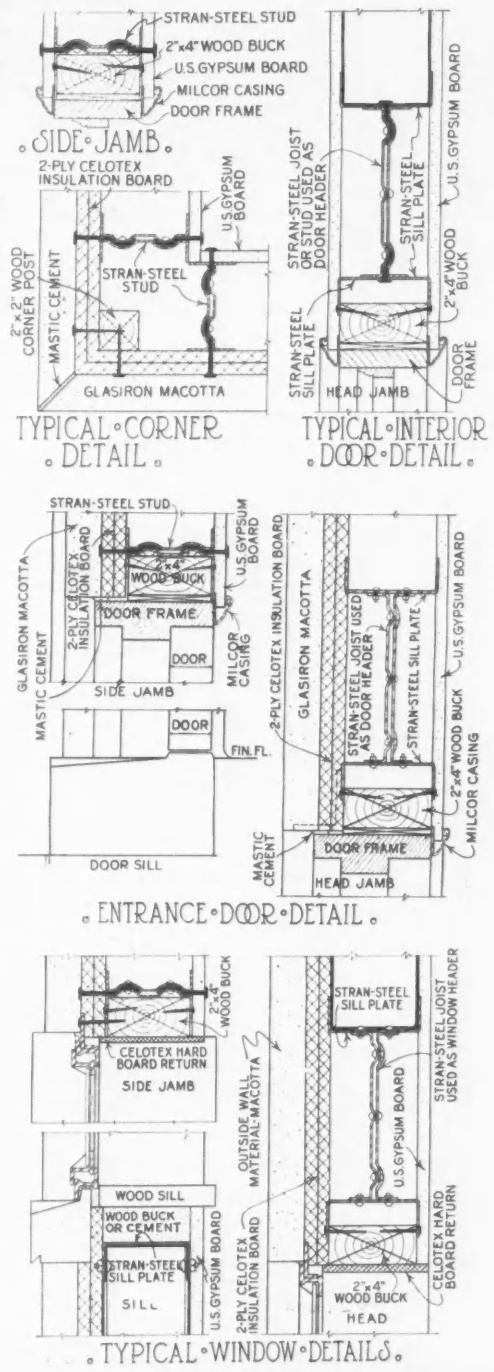
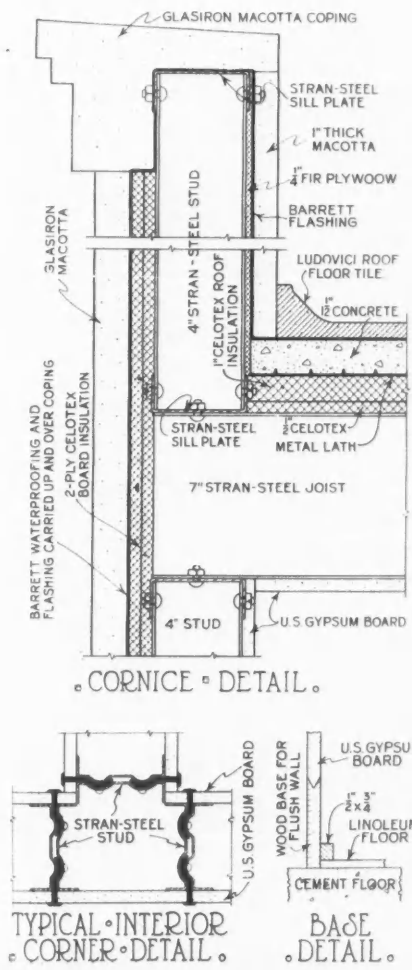
After 1 inch of Celotex insulation has been nailed to the outside of the Stran-Steel frame work, the Glasiron Macotta is then nailed on by means of right angle metal clips, and the joints are sealed with mastic tape. The roof of the house is insulated with Celotex and is covered with three ply roofing laid in pitch, on top of which Ludovici tile has been applied. The interior walls of the down stairs rooms are covered with large size Sheetrock nailed directly to the studs and the joints are closed with a material which will make them invisible when the walls are painted or papered.

No plastering was done on the interior of the house, nor on the exterior. Except in the laying of the concrete floor slabs (1 1/2 inches thick over metal lath) no water was used in its construction. This assures rapid erection even in cold weather.

The Good Housekeeping-Stran-

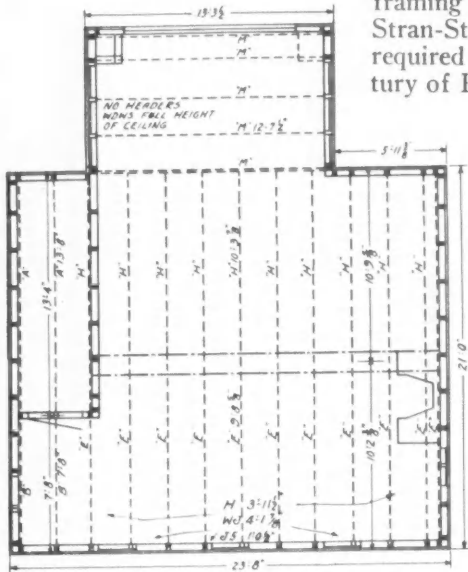
Steel house is a trim, flat-roofed dwelling with a terraced roof, providing an out-door living room for warm weather, reached from the house by passing through a large, many-windowed sun-room. This solarium is the only room on the second floor and since it is open to the air on all four sides, it may be used for a recreation room by day and a family dormitory by night. Because the main rooms of the house are all arranged on the first floor, there is no basement; the furnace room, laundry and service being conveniently located between the kitchen and the one-car attached garage.

The Stran-Steel House at the Century of Prog-

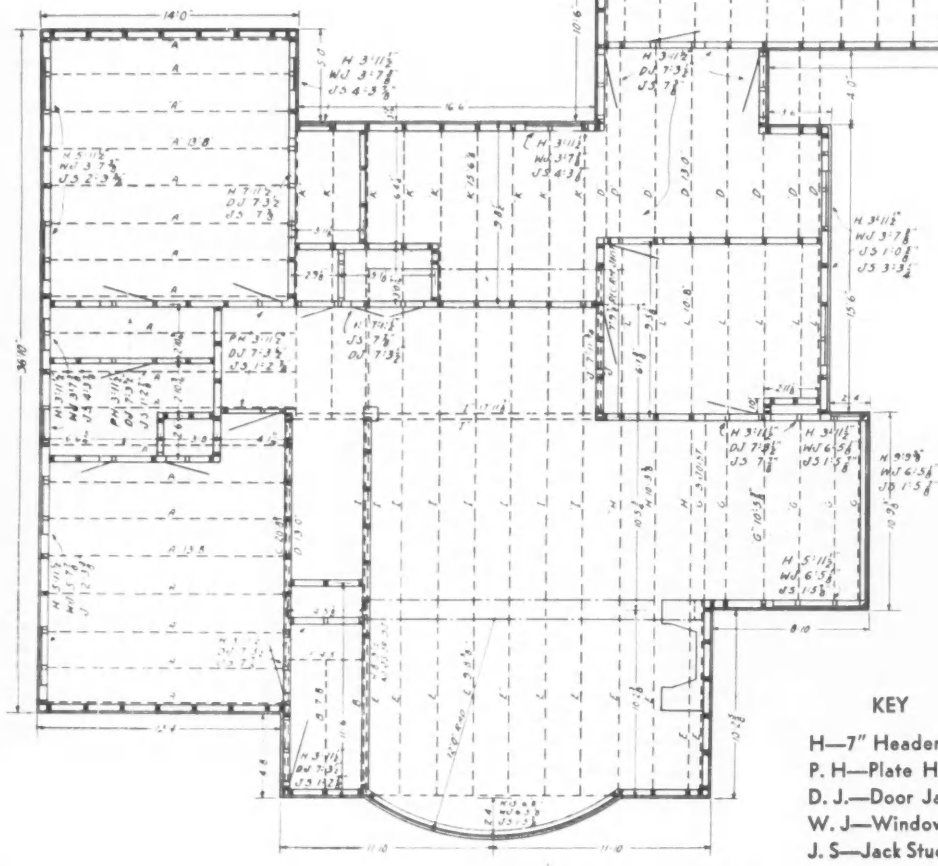


ress is not a radical invention which proposes to revolutionize home life, the building supply business or the building trades. It was developed by a group of practical builders, a lumber dealer and a manufacturer of steel. It has made possible an enduring type of house construction, which provides, in good taste and comfort, an economical shelter in any type of architecture which the owner may desire.

Since the steel frame is the heart of the Stran-Steel house method, and since building contractors, architects and dealers all over the country will, no doubt, soon be figuring their plans to utilize this newly available framing material, we present herewith, as a typical example, the bill of material and the framing plan for the Stran-Steel members required for this Century of Progress house.



FRAMING LAYOUT - PENT HOUSE ROOF



FRAMING LAYOUT - SECOND FLOOR

KEY
 H—7" Header
 P. H—Plate Header
 D. J.—Door Jamb
 W. J.—Window Jamb
 J. S.—Jack Stud

STRAN-STEEL FRAMING

BILL—First Story

19 Joist 7"	13'- 8"	"A"	8 Door Jack Studs.....	1'- 2 7/8"
3-3 Joist 7"	7'- 8"	"B"	16 Door Jack Studs.....	0'- 7 7/8"
1 Joist 7"	20'- 8"	"C"	20 Main Studs.....	9'- 1 1/2"
8-1 Joist 7"	13'- 0"	"D"	120 Main Studs.....	8'- 6 1/2"
11 Joist 7"	9'- 8 5/8"	"E"	10 Half Studs.....	9'- 1 1/2"
1 Joist 7"	4'- 5"	"F"	36 Half Studs.....	8'- 6 1/2"
8 Joist 7"	10'- 5 3/8"	"G"	280 Lineal Ft. Half Studs.....	14 ft. Lgths.
3 Joist 7"	10'- 3 3/8"	"H"	900 Lineal Ft. 3 3/4" Plate.....	20 ft. Lgths.
2-8 Joist 7"	17'- 11 3/8"	"I"	250 Corner Plate Brackets	
2 Joist 7"	7'- 11 3/4"	"J"	500 Lineal Ft. Bridging	
9 Joist 7"	15'- 6 3/8"	"K"	180 Stiffening Brackets	
12-7 Joist 7"	10'- 8"	"L"	10 Joist Tie Plates	

23 Joist Hangers, Single

1 Window Header and Sill.....	15'- 6 3/8"
1 Window Header and Sill.....	9'- 9 3/8"
7 Window Header and Sill.....	5'- 11 1/2"
8 Window Header and Sill.....	3'- 11 1/2"

2 Door Headers.....	8'- 3 3/4"
2 Door Headers.....	7'- 11 1/2"
9 Door Headers.....	3'- 11 1/2"
7 Door Headers.....	3'- 11 1/2"

2 Window Studs.....	9'- 1 1/2"
32 Window Studs.....	8'- 6 1/2"
4 Window Jamb Studs.....	6'- 5 3/8"
8 Window Jamb Studs.....	5'- 7 3/8"
18 Window Jamb Studs.....	3'- 7 3/8"

19 Window Jack Studs.....	1'- 5 3/8"
8 Window Jack Studs.....	2'- 3 3/8"
9 Window Jack Studs.....	4'- 3 3/8"
2 Window Jack Studs.....	1'- 0 3/8"
2 Window Jack Studs.....	3'- 3 3/4"

30 Stud Brackets

4 Door Studs.....	9'- 1 1/2"
38 Door Studs.....	8'- 6 1/2"
38 Door Jamb Studs.....	7'- 3 1/2"

STRAN-STEEL FRAMING

BILL—Second Story

2 Joist 7"	13'- 8"	"A"	2 Joist 7"	13'- 8"	"A"
4 Joist 7"	7'- 8"	"B"	4 Joist 7"	7'- 8"	"B"
1 Joist 7"	13'- 0"	"D"	1 Joist 7"	13'- 0"	"D"
11 Joist 7"	9'- 8 5/8"	"E"	11 Joist 7"	9'- 8 5/8"	"E"
11 Joist 7"	10'- 3 3/8"	"H"	11 Joist 7"	10'- 3 3/8"	"H"
5 Joist 7"	12'- 7 1/2"	"M"	5 Joist 7"	12'- 7 1/2"	"M"

14 Joist Hangers, Single

5 Window Headers & Sills.....	3'- 11 1/2"
1 Door Header.....	3'- 11 1/2"
20 Window Studs.....	8'- 0 1/2"
10 Window Jamb Studs.....	4'- 1 7/8"
5 Window Jack Studs.....	2'- 2 5/8"
5 Window Jack Studs.....	1'- 0 3/8"

10 Stud Brackets

2 Door Studs.....	8'- 0 1/2"
2 Door Jamb Studs.....	7'- 5 3/8"

45 Main Studs.....	8'- 0 1/2"
260 Lineal Ft. 3 3/4" Plate.....	20 ft. Lgths
52 Corner Plate Brackets	
140 Lineal Ft. Bridging	
12 Half Studs.....	8'- 0 1/2"
5 Half Studs.....	14'- 0"
14 Stiffening Brackets	
8 Joist Tie Plates	

Porch Roof

1 Joist 7"	7'- 8"
2 Joist 7"	4'- 6"
5 Joist 3 5/8"	4'- 7"
5 Stud Brackets	
2 Joist Tie Plates	

Stairs

3 Studs 3 5/8"	14'- 0"
10 Stud Brackets	

Parapet Wall

Main	
140 Lineal Ft. 3 3/4" Plate.....	20 ft. Lgths
80 Studs 3 5/8"	3'- 10 1/2"
80 Stud Brackets	
100 Corner Plate Brackets	
Games Room	
120 Lineal Ft. 3 3/4" Plate.....	20 ft. Lgths.
60 Studs 3 5/8"	1'- 5"
60 Stud Brackets	
80 Corner Plate Brackets	
Garage	
80 Lineal Ft. 3 3/4" Plate.....	20 ft. Lgths.
45 Studs 3 5/8"	1'- 7"
45 Stud Brackets	
60 Corner Plate Brackets	

ARCHITECTURAL SPECIFICATIONS

Good Housekeeping-Stran-Steel Century of Progress House

Great care has been exercised in selecting the construction materials, the home equipment and the decorative and furnishing details of this Good-Housekeeping-Stran-Steel Century of Progress House so as to produce a truly outstanding example of style and quality at reasonable expense.

Materials and Their Manufacturers Associated with the Stran-Steel Frame to Complete the Structure of the Century of Progress House

- Celotex Co.—"Celotex," Outside Sheathing, Recreation Room Walls, Insulation in Flooring—Chicago
- U. S. Gypsum Co.—"Sheetrock," Interior Walls, First Floor—Chicago
- Libbey-Owens-Ford Glass Co.—Window Glass—Detroit
- Detroit Steel Products Co.—"Fenestra" Windows, Frames and Screens—Detroit
- Porcelain Enamel Mfg. Co., Baltimore, Wolverine Porcelain Enameling Co.—Enamel for Glasiron Macotta—Detroit
- Maul Macotta Co.—"Glasiron Macotta," Exterior Surface of House—Detroit
- Republic Steel Co.—Stainless Steel Base of Macotta—Youngstown, Ohio
- Great Lakes Steel Co.—Steel for Studding—Ecorse, Michigan
- Kelsey-Hayes Wheel Co.—Steel for Framework—Detroit
- The Barrett Co.—Roofing—New York City
- Overhead Door Corp.—Garage Doors—Hartford City, Ind.
- The Milcor Corp.—Metal Trim—Milwaukee
- The Fox Furnace Co., a Division of American Radiator & Standard Sanitary Corp.—Heating and Air Conditioning System—Elyria, Ohio
- National Brass Co.—Hardware—Grand Rapids, Mich.
- The Ludowici-Celadon Co.—Roof Tile—Chicago
- Illinois Bell Telephone Co.—French Telephones: Three Permanent Instruments; One Portable—Chicago
- General Electric Co.—Wiring Plan—Cleveland

Landscaping

- James W. Owen Nurseries—Landscaping—Bloomington, Illinois

Equipment for Kitchen, Laundry and Care of the House selected by Stran-Steel Corp. from Good Housekeeping Institute's List of Equipment Tested and Approved

- Dieterich Steel Cabinet Corp.—Kitchen Cabinets—Chicago
- Kelvinator Sales Corp.—"Kelvinator" Refrigerator—Detroit
- American Stove Co.—"Magic Chef" Range—Cleveland
- Walker Dishwasher Corp.—"Walker Dishwasher Sink"—Chicago
- Diehl Mfg. Co.—"Wind-O-Vent" Ventilator—Elizabethport, N. J.
- Chicago Flexible Shaft Co.—"Sunbeam" Automatic Toast Witch, "Sunbeam" Mixmaster; "Sunbeam" Smoothing Iron in Laundry—Chicago
- The International Nickel Co., Inc.—Monel Metal Surfaces in Kitchen—New York City
- Universal Blower Co.—Stove Canopy—Birmingham, Mich.
- The Hoover Co.—"Hoover" Vacuum Cleaner—Chicago
- Altorfer Bros. Co.—"A.B.C." Ironer & Washing Machine—Peoria, Ill.

Bathroom Equipment Selected by Good Housekeeping Studio

- Crane Co.—Bathroom Fixtures—Chicago
- Capital City Electric Co.—Bathroom Cabinet—Des Moines

Finishing and Furnishing Materials Used—from Firms Co-operating with Good Housekeeping Studio

Background

- Pittsburgh Plate Glass Co.—"Wallhide," All Paint—Milwaukee
- Star-Feerless Wall Paper Mills—Wallpaper, Back Bedroom—Chicago
- Imperial Paper & Color Corp.—Wallpaper, Front Bedroom—Glens Falls, N. Y.
- Standard Textile Products Co.—"Sanitas" Wall Covering as Lining in Living Room, Halls, Kitchen and Laundry—New York City
- Armstrong Cork Co.—Linoleum Floors in Living Room, Halls, Kitchen and Laundry; "Linowall" Covering in Laundry—Lancaster, Penna.
- Congoleum-Nairn, Inc.—"Sealex" Linoleum and Wall Covering in Bathroom; Floor in Recreation Room—Kearny, N. J.
- E. L. Bruce Co.—Wood Flooring, Two Bedrooms—Memphis, Tenn.
- Formica Insulation Co.—"Formica" in Kitchen—Cincinnati
- Columbia Mills—All Venetian Blinds and Organdie Curtains—New York City
- Cassidy Co.—Lighting Fixtures—New York City
- The Nurre Companies, Inc.—Mirrors—Bloomington, Ind.
- Todhunter, Inc.—Mantel & Fireplace Fittings—New York City

Fabrics

- Marshall Field & Company, Wholesale—Fabrics in Recreation Room—Chicago & New York City
- F. Schumacher & Co.—Fabrics in Living Room and Both Bedrooms—New York City

Closet Accessories

- Knape & Vogt Mfg. Co.—Closet Hardware—Grand Rapids, Michigan
- Haskelite Mfg. Corp.—"Plymetl Clothes Vault"—Chicago
- Hammacher Schlemmer & Co., Inc.—Boxes, Hatstands, Hangers—New York City

Linon, Blankets, Bedspreads

- Clarence Whitman & Sons, Inc.—"Esmond" Blankets, "Stevens" Spreads and "Old Bleach" Towels—New York City
- F. C. Huyck & Sons Co.—"Kerwood" Blankets—Albany, N. Y.
- Pepperell Mfg. Co.—"Lady Pepperell" Bed Linen—Boston, Mass.
- Pequot Mills—"Pequot" Bed Linen—Salem, Mass.
- Utica & Mohawk Cotton Mills, Inc.—"Utica" and "Mohawk" Bed Linen—Utica, N. Y.
- Wellington Sears Co.—"Martex" Towels—New York City

China, Silver, Glass and Accessories

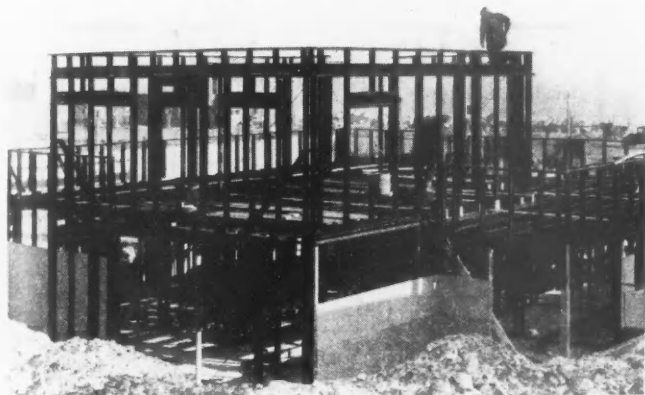
- The Gorham Co.—Silver on Bedroom Dressing Tables, and Table Silver—Providence, R. I.
- International Silver Co.—Table Silver—Wallingford, Conn.
- Oneida Community, Ltd.—"Community Plate" Table Service—Oneida, N. Y.
- Lenox, Inc.—China—Trenton, N. J.
- Onondaga Pottery Co.—Table Pottery—Syracuse, N. Y.
- A. H. Heisey & Co.—"Heisey" Glassware—Newark, O.
- Fostoria Glass Co.—"Fostoria" Glassware—Moundsville, West Va.
- Chase Brass & Copper Co., Inc.—Accessories in Recreation Room—New York City
- Elizabeth Arden—Cosmetic Accessories in Bedroom—New York City
- Paul Hanson Co.—Lamps in Living Room and Back Bedroom—New York City
- Charles Hall, Inc.—Lamps and Ornaments in Front Bedroom, Ornaments in Living Room, Urns in Dining Room—New York City
- Union Carbide Co.—Battery Lamps for Closets—New York City
- Pitt Petri, Importer, Inc.—Accessories in Living Room—New York City
- W. E. Lindemann—Accessories in Bedrooms—New York City
- Galloway Terra Cotta Co.—Terrace Jars, Flower Boxes, Sundial—Philadelphia
- Philco Radio & Television Corp.—Radios in Recreation Room and Front Bedroom—Philadelphia
- Kirsch Co.—All Curtain Rods—Sturgis, Michigan

Rugs

- L. C. Chase Co.—"Seamloc" Rugs—New York City
- Clinton Carpet Co.—Ozite Rug Lining
- Behr-Manning Corp.—K o r k-o-Tan Rug Holders

Furniture

- Baker Furniture Factories—All Living Room, Dining Room and Bedroom Furniture—Allegan, Mich.
- Imperial Furniture Co.—Tables, Side Chairs, Recreation Room—Grand Rapids, Michigan
- Mueller Furniture Co.—Overstuffed Chairs, Recreation Room—Grand Rapids, Michigan
- Grand Rapids Chair Co.—Chest, Desk and Chair, Recreation Room—Grand Rapids, Michigan
- The Mersman Bros. Corp.—Two small Tables, Recreation Room—Celina, Ohio
- The Simmons Co.—Bedding, and Studio Couches in Recreation Room—Chicago
- The Lloyd Mfg. Co.—Terrace Furniture—New York City
- T. J. Breslin & Sons Co., Inc.—Terrace Furniture and Rugs—New York City
- H. C. White Co.—Terrace Furniture—New York City
- Bentley Furniture Co.—"The New Deal" Card Table—Villa Nova, Penna.
- Florentine Craftsmen, Inc.—Garden Furniture—New York City
- Singer Sewing Machine Co.—Sewing Machine Cabinet—New York City



The Stran-Steel Frame of the Century of Progress Home. Constructed on the same principles of strength as our modern skyscrapers, it is put together with common nails by the same carpenter-workmen who have always built our houses.

DRY CONSTRUCTION ACHIEVED In Lumber Industries' "Sunlight House"



Century of Progress
Home Shows Advan-
ages of All-Wood
Interiors

ONE of the most admired of the Exhibition Houses that grace the Home Planning Group at Chicago's Century of Progress is the "Sunlight House" erected by the combined lumber interests of America. It shares with the two other houses of wood the distinction—among so many flat roofed types—of having a peak roof; and, judging from the many comments of early visitors, the hip or gable roof still "looks like home" to most folks.

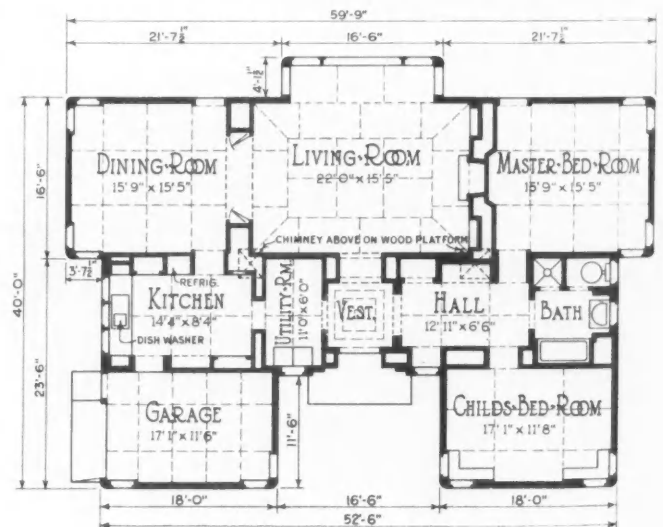
Two noteworthy facts stand out regarding this all-lumber house; first, its erection was made possible by the cash subscriptions of 3760 individuals, firms and associations connected with the lumber business, and second, it is of the modern *dry wall* construction throughout, utilizing plywood panels and other lumber wall finish instead of plaster.

Describing this house in the words of the architect, Mr. E. A. Grunsfeld, Jr., of Chicago, "the architecture is modern but not stylized. It is designed in a straightforward and logical manner, using wood to the best advantage and making the design depend on articulation of the various wood parts as they fit together. Its design is very simple and depends for effect on this extreme simplicity. The plan makes an excellent living unit although the size is slightly larger than would be required for actual living quarters. By reason of being an exhibit house, the halls, vestibules, etc., have been increased to accommodate a crowd. Were the house to be used as a living unit the room sizes could be slightly reduced and the house further contracted by making normal size corridors and vestibules.

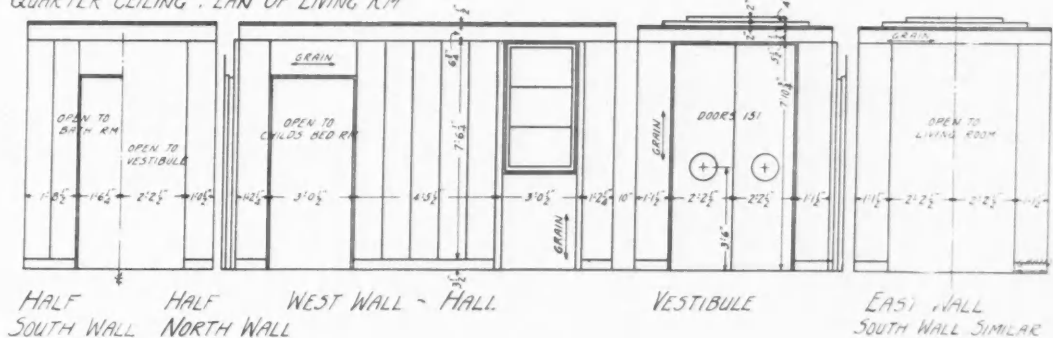
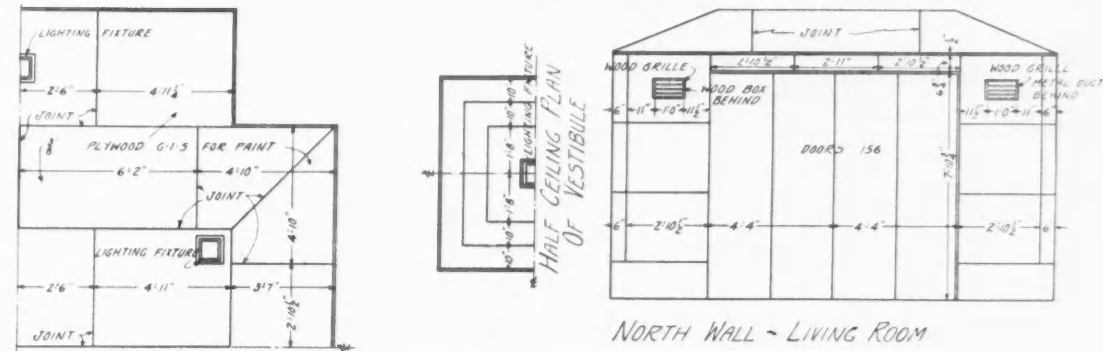
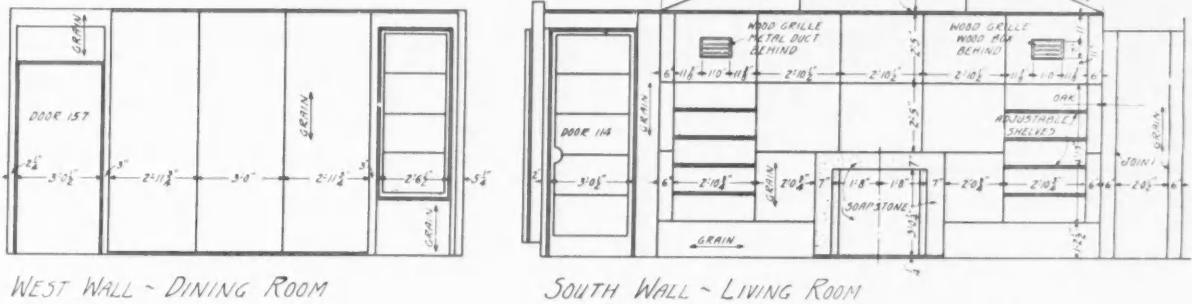
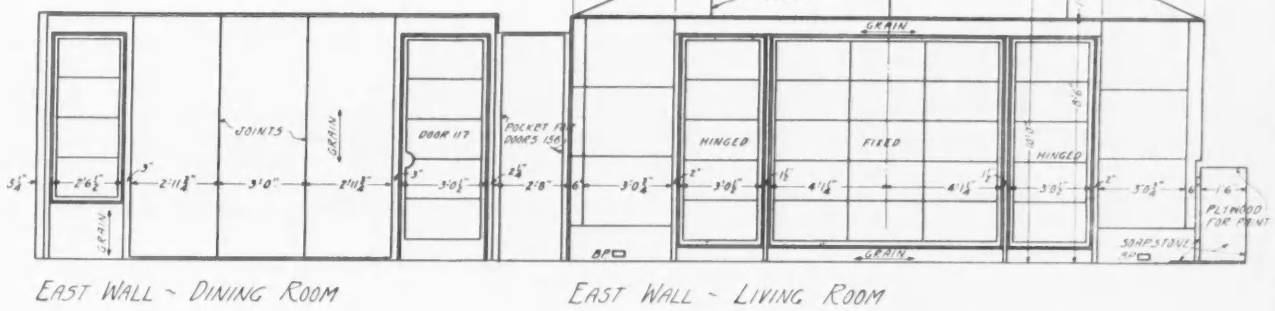
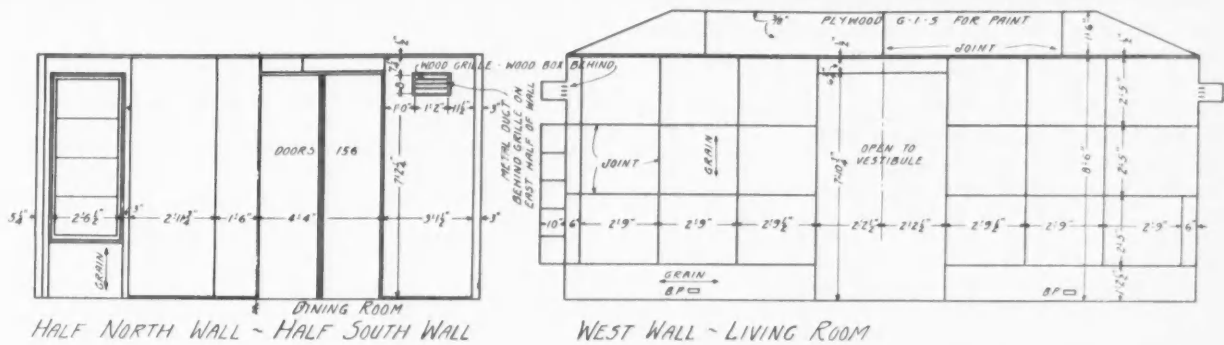
"By using the structural necessities of the building to give effective design, a number of innovations in appearance have been achieved. The exterior corners are rounded by means of a piece of bent plywood behind which the downspouts are located. This piece eliminates mitering of the siding on the exterior and can be removed in one piece, giving accessibility to the downspouts. The gutter is of an inlaid type which simplifies the silhouette of the house at the intersection of the roof and exterior

walls. The chief innovation in design of the house is that it is a "plasterless" house and can be erected directly, cleanly and quickly without bringing in the plasterer and quantities of water with him.

"In order to carry this out successfully, the wood walls are being treated as far as possible in a very simple fashion without elaborate graining and the wood is not being stained. A preservative is being applied which will as far as possible keep the natural appearance of the wood. The ceilings are made of plywood which will be calcimined to reflect maximum light. The simplicity of the interior will be achieved by the method of applying the wood. Instead of using battens adjacent pieces of the same material are employed having the edges rounded which gives a satisfactory articulation of the crack and at the same time gives a certain decorative feeling. In spite of the use of various kinds of woods for the walls



The floor plan of the Lumber Industries' "Sunlight House" is broad and ample, a dignified exponent of a great industry.



PANEL DESIGN FOR INSIDE WALLS

of the different rooms, they are being treated as a background only. The effect aimed at is that of an interesting texture to the walls without a great deal of elaborate architecture, which would serve only to detract from the room as a whole."

Some of the points of especial interest to those inspecting the lumber industries house are:

1. The corner location of the windows.
2. Beautiful wood paneled walls without plaster behind, thus permitting construction at any season of the year and in any temperature and no after effects of excess moisture in the house.
3. Living quarters in a unit; service quarters in a unit.
4. Outside of the house wood, in modern pattern; susceptible to redecoration at any time.
5. Insulated with Balsam Wool Blanket in the walls and Sisalkraft paper beneath the siding, which together with wood interiors and exteriors, makes a home of greatest warmth in winter and coolness in summer.
6. Sills, floor joists and sub-flooring of preservatively treated materials.
7. Structural framing embodies the results of the latest scientific research and provides strong, rigid walls.
8. Roofing of all heartwood, all clear, all edge grain red cedar shingles certified to conform with U. S. Government Commercial

Standard CS 31/31 providing permanent roof which will always lie flat and can be finished natural or painted.

9. Wood sash and frames throughout stripped with the latest type of weatherstripping, easy to operate, reduce air infiltration to a minimum, and convenient to curtain, no frosted panes of glass, no condensation on frames and sash.

10. Garage attached to the house.

11. Floors of wood, sanitary, beautiful, warm, economical.

12. Wide variety of woods, finishes, and treatments available, through local dealer and millwork plants.

KITCHEN: Beautiful white maple paneled walls and built-in kitchen cabinets with hard maple (cellized) unit block floor. Light, sanitary, can be kept sanitary at all times, convenient, amply large to accommodate all kitchen auxiliary equipment and allow enough working space but not requiring extra steps. Convenient to breakfast nook and dining room. Modern in every way.

DINING ROOM: Beautiful, sliced American walnut veneered plywood panels on side walls and also American walnut parquetry flooring in beautiful Marie Antoinette pattern.

LIVING ROOM: Side walls of sawn-comb grain Appalachian white oak veneered plywood panels and floors Appalachian white oak in herringbone patterns.

MASTER BEDROOM: Side walls of red birch veneered plywood panels especially selected for beautiful color tones. Floors of Northern hard maple strip pattern.

CHILD'S BEDROOM: Selected knotty genuine white pine side walls and floors of Southern white oak strip pattern.

VESTIBULE WALLS AND CEILING: Tidewater red cypress, natural finished paneling with floors of Appalachian white oak in block pattern and color toned to match the walls.

HALL WALLS: Arkansas soft pine natural finished panels.

CEILINGS THROUGHOUT: Douglas fir plywood of beautiful painted surfaces.

CLOSETS: Brown's Supercedar lining made from genuine Tennessee Aromatic Red Cedar of a quality conforming to the Govt. Commercial Standard and hence moth damage-proof.

AUXILIARY EQUIPMENT: The plumbing, heating, ventilating, refrigeration, incineration, cooking, and other home equipment, and the finished hardware and fixtures generally are the latest improved products of outstanding manufacturers.

The Woods of the House of Lumber

The different kinds of lumber utilized in the Lumber Industries' "Sunlight House" represent only a few of the scores of different species of American woods which were available and are extensively used in home construction. Every region of the country has its preferences, for one reason or another, and the home builder can suit his own preferences in practically any locality. This great variety of American woods is another reason why lumber is the versatile and popular home building material. Moreover, a wide selection of these woods is available to every architect and contractor and to every prospective home builder through his local retail lumber dealer and his local millwork plant.

SOFTWOOD LUMBER

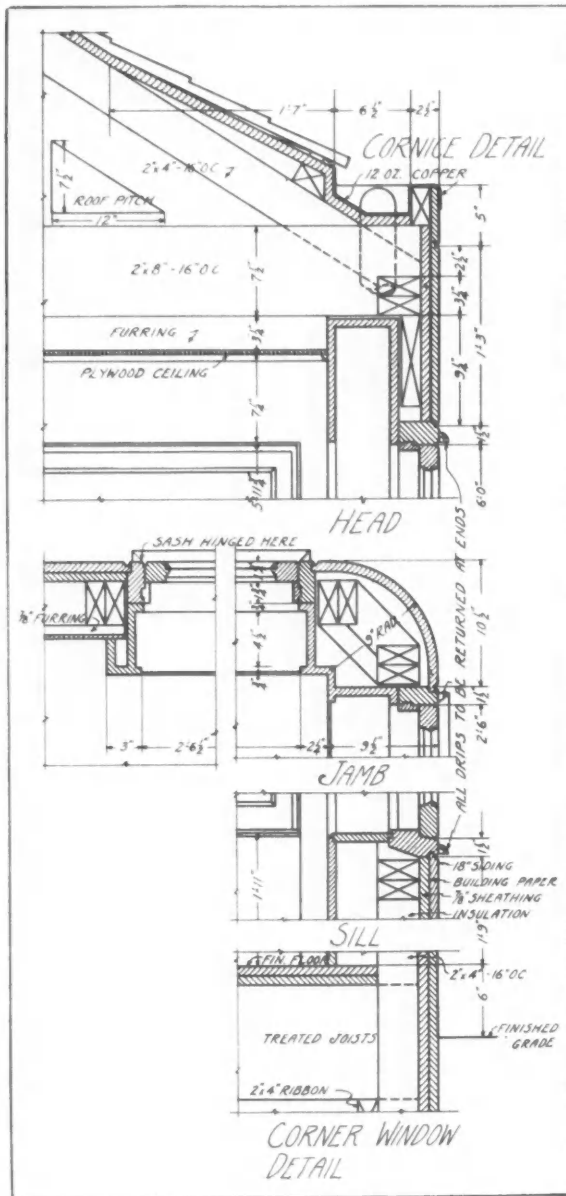
The following kinds of softwoods are used extensively for house framing and sheathing and many of them for exteriors and interiors:

Aromatic Red Cedar
Port Orford Cedar
Western Red Cedar
Tidewater Red Cypress
White and Yellow Cypress
Douglas Fir
White Fir
Eastern Hemlock
West Coast Hemlock
Western Larch
Arkansas Soft Pine
Idaho White Pine
Longleaf Southern Pine
Northern Pine
Ponderosa Pine
Shortleaf Southern Pine
Sugar Pine
California Redwood
Eastern Spruce
Engelmann Spruce
Sitka Spruce
Tamarack

HARDWOOD LUMBER

The following kinds of hardwoods are used primarily for house interiors and certain exterior parts, and a few occasionally for house framing and sheathing:

Red Alder
Brown Ash
White Ash
Basswood
Beech
Birch
Butternut
Cherry
Chestnut
Cottonwood
Elm
Black Gum
Red Gum
Sap Gum
Tupelo Gum
Magnolia
Maple
Red Oak
White Oak
Sycamore
Walnut
Yellow Poplar



Cornice detail shows concealed gutter; down-spout (not shown) is inside the round corner panel which is removable. Box in window head is to hold Venetian Blind when raised.

SPONSORS, CONTRIBUTORS AND CO-OPERATORS

Lumber Industries' "Sunlight House" at Century of Progress

Sponsors: The National Lumber Manufacturers Association, Washington; The Chicago Lumber Institute, Chicago; The Lumber Industries of the United States.

Architect: E. A. Grunsfeld, Jr., Tribune Tower, Chicago. Contractor: E. P. Strandberg Co., Chicago. Painter & Decorator: T. C. Gleich & Co., Chicago. Millwork: Jos. Kaszab Co., Chicago.

Floor Finishing: W. A. Boettcher Co., 4528 Lincoln Ave., Chicago.

Cash Subscriptions: 3760 Individual Employees and Firms in the Lumber and Forest Products Industries of the United States.

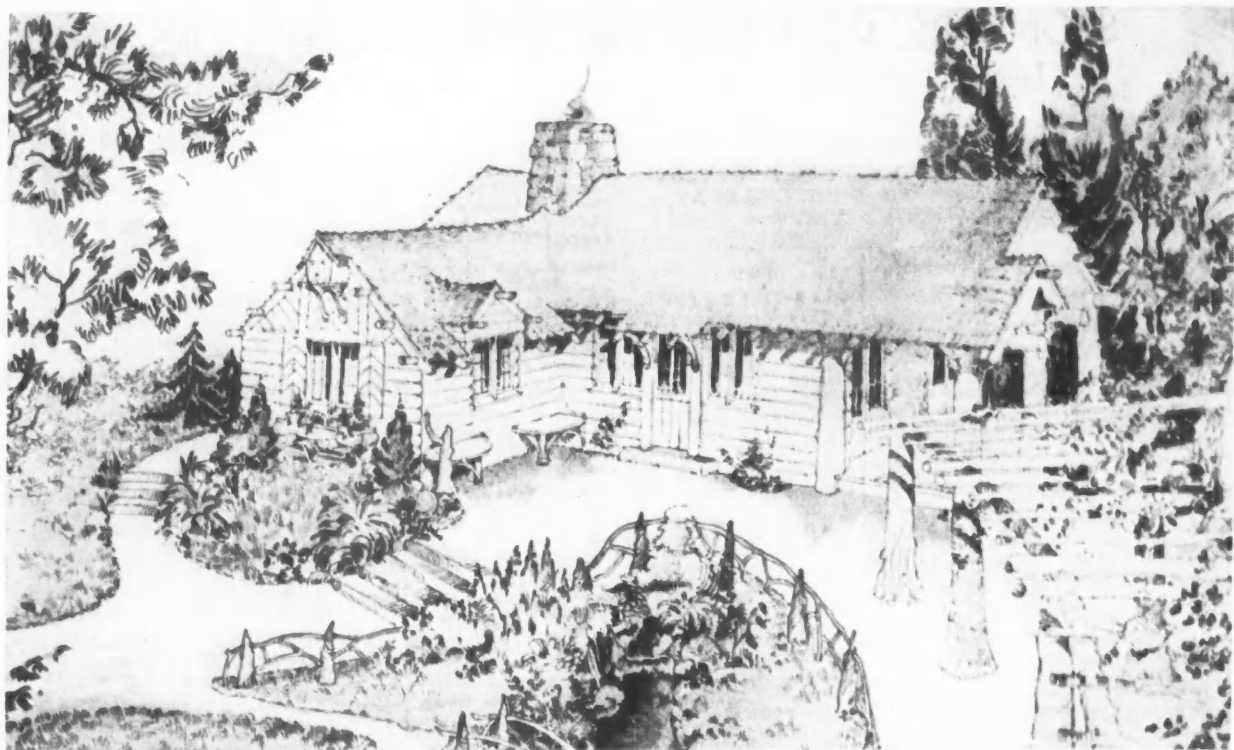
Insurance: Lumbermen's Mutual Casualty Company of Chicago and Associated Lumber (Fire) Mutuals.

Landscaping: Franz Lipp, Lake Bluff, Ill., and Waukegan Nurseries, Waukegan, Ill.

LUMBER AND WOODWORK DONATIONS	PRODUCT	FIRM
Footings, Sills, Floor Joists, Sub-flooring	Creosote and Zinc Chloride Pressure Treated Southern Yellow Pine	Ayer & Lord Tie Co. Railway Exchange Building, Chicago
Framing: Studding, Ribbons, Ceiling Joists, Bridging, Roof Boards, Wall Sheathing	Douglas Fir, Eastern Hemlock, West Coast Hemlock, Norway Pine, Ponderosa Pine, Southern Pine, Spruce	Chicago Retail Lumber Dealers, Chicago
House Insulation	Balsam Wool Blanket	Wood Conversion Co., Cloquet, Minn., and 360 N. Michigan Ave., Chicago
Sisal Reinforced Waterproof Building Paper	Sisalkraft	The Sisalkraft Co., 205 W. Wacker Drive, Chicago
Roofing	Certified Wood Shingles, Commercial Standard CS31-31	Red Cedar Shingle Bureau, Stuart Building, Seattle, and Conway Building, Chicago
Window & Door Frames	Tidewater Red Cypress	Southern Cypress Manufacturers Association, Jacksonville, Fla.
Window Sash	Ponderosa Pine	Shevlin Pine Sales Co. First National Soo Line Building, Minneapolis, LaSalle-Wacker Building, Chicago, Graybar Building, New York, Monadnock Building, San Francisco.
Siding and Exterior Trim	California Redwood	California Redwood Association, San Francisco
Garage Door (Radio controlled)	California Redwood (Exterior) Ponderosa Pine (Interior)	Barber-Coliman Co., Rockford, Illinois, and 221 N. LaSalle St., Chicago
Kitchen Walls & Cabinets	White Maple Panels and Lumber	Underwood Veneer Co., Wausau, Wisconsin through Maple Manufacturers Association, Oshkosh, Wis.
Kitchen Floors	Northern Hard Maple Unit Block, Cellized (Finished with Bruce Floor Finish)	E. L. Bruce Co., Memphis, through Maple Flooring Manufacturers Association, Chicago
Dining Room Walls	Sliced American Walnut Veneered Plywood Panels	Pierson-Hollowell Lumber Co., Inc., 539 Postal Station Building, Indianapolis (Veneers); Algoma Plywood & Veneer Co., Algoma, Wis. (Panels); through American Walnut Manufacturers Association, Chicago
Dining Room Floors	American Walnut (Marie Antoinette Parquetry)	Wood Mosaic Co., Inc., Louisville, through American Walnut Manufacturers Association, Chicago
Living Room Walls	Sawn Comb Grain Appalachian White Oak Veneered Plywood Panels	Kentucky Veneer Works, Inc., Louisville (Veneers); Algoma Plywood & Veneer Co., Algoma, Wis. (Panels); through American Walnut Manufacturers Association, Chicago
Living Room Floors	Appalachian White Oak (Herringbone Pattern)	Appalachian Hardwood Manufacturers, Inc., Cincinnati
Master Bedroom Walls	Red Birch Veneered Plywood Panels	Underwood Veneer Co., Wausau, Wisconsin through Birch Manufacturers Association, Oshkosh, Wis.
Master Bedroom Floors	Northern Hard Maple (Strip)	Northwestern Cooperage & Lumber Co., Gladstone, Mich., through Maple Flooring Manufacturers Association, Chicago
Child's Bedroom Walls	Idaho Knotty (Genuine) White Pine	Winton Lumber Co., Gibbs, Idaho and Minneapolis
Child's Bedroom Floors	Southern White Oak (Strip)	Fordyce-Crossett Sales Co., 80 E. Jackson St., Chicago
Vestibule Walls and Ceiling	Tidewater Red Cypress	Southern Cypress Manufacturers Association, Jacksonville, Fla.

LUMBER AND WOODWORK DONATIONS	PRODUCT	FIRM
Hall Walls	Arkansas Soft Pine	Fordyce-Crossett Sales Co., 80 E. Jackson St., Chicago
Vestibule & Hall Floors	Appalachian White Oak (Block Pattern)	Appalachian Hardwood Manufacturers, Inc., Cincinnati
Ceilings Throughout except Vestibule	Douglas Fir Plywood	Harbor Plywood Corp., 1444 West Cermak Road, Chicago and Hoquiam, Wash.
Closet Lining	Supercedar Closet Lining (Tennessee Aromatic Red Cedar)	George C. Brown & Co., Memphis & Greensboro

EQUIPMENT AND FURNISHINGS	ADDRESS	FIRM
Driveway, and Garden Walks	Tidewater Red Cypress Strip and Pecky Blocks on End	Southern Cypress Manufacturers Association, Jacksonville, Fla.
Heating and Air Conditioning	Holland Furnace Co.	Holland, Mich.
Fireplace Facing & Lining	Alberene Stone Co.	1700 Elston Avenue, Chicago
Plumbing Fixtures	Crane Co.	836 S. Michigan Ave., Chicago
Bathroom Walls & Ceiling	The Formica Insulation Co.	Cincinnati, and 111 N. Canal St., Chicago
Floors—Bathroom	David E. Kennedy, Inc	Chicago
Trim—Bathroom	Wooster Products, Inc	Wooster, Ohio and Transportation Building, Chicago
Bathroom Accessories	Hoegger, Inc.	Chicago
Gas Range	American Stove Co.	New York, Boston, Philadelphia, Atlanta, Cleveland, Chicago, St. Louis, San Francisco, Los Angeles
Electric Dishwater	The Conover Co.	3123 Carroll Ave., Chicago
Electric Refrigerator	Gibson Electric Refrigerator Co-p.	Greenville, Mich.
Incineration	Kerner Incinerator Co.	Milwaukee
Kitchen Ventilator	Ilg Electric Ventilating Co.	2550 N. Crawford Ave., Chicago
Paint, Kitchen Ceiling and Utility Room	Aluminum "Valdura", American Asphalt Paint Co.	Chicago
Window Glass	Libbey-Owens Ford Glass Co.	Toledo
Weatherstripping	Manufactured by Athey Co. Installed by W. L. Van Dame Co.	6035 W. 65th St., Chicago 820 N. Michigan Ave., Chicago
Finish Hardware	Sargent and Co.	New Haven, New York, Chicago
Checking Floor Hinges	The Oscar C. Rixon Co	Chicago
Floor Wax	S. C. Johnson & Son Inc.	Racine, Wis.
Interior Illumination	Holophane Co., Inc.	342 Madison Ave., New York
Exterior Illumination	Luminator, Inc.	851 Washington Boul., Chicago
Garcy Reflectors	Garden City Plating & Manufacturing Co.	Chicago
Clothes Closet Fixtures	Knappe & Vogt Manufacturing Co.	Grand Rapids, Mich.
Garage Floor	Brick Manufacturers Assn. of America	Cleveland and Chicago
Table Appointments	Helen Hughs Dulany	Pent House Studio, 936 Lake Shore Drive, Chicago
Piano	Wurlitzer Grand Piano Co.	DeKalb, Ill.
Venetian Blinds	Manufactured by Bostwick-Goodell Co. Installed by W. L. Van Dame Co.	Norwalk, Ohio 820 No. Michigan Ave., Chicago
Furniture Designs	Wolfgang-Hoffman Interior Decorator	New York



Cypress Cottage Proves Rustic Charm

Soft Lines of Shingled Roof Agreeable Contrast to Prevalent Flat Roof Types at Century of Progress

A WINSOME CHAMPION of the sloping roof for homes—and especially for summer cottages—is the cypress log cabin at the Fair, planned and built by Murray Hetherington, architect, for the Southern Cypress Manufacturers Association. This exhibit building, charmingly placed in the Housing Group back of immense dahlia beds and with a characterful pergola of cypress logs leading up to it, is typical of a mountain lodge or rustic vacation cabin in the woodlands, exemplifying the use of log siding in connection with actual log posts, corners and brackets, and with a liberal use of cypress “knees” for ornamental effects.

The main feature of the cabin is a large living room which is used in this Century of Progress house for the display of the many decorative and practical commercial uses of tide water red cypress. This is a room 18 by 27 feet and open 13 feet high to the ridge pole. An immense limestone fireplace and chimney dominate the

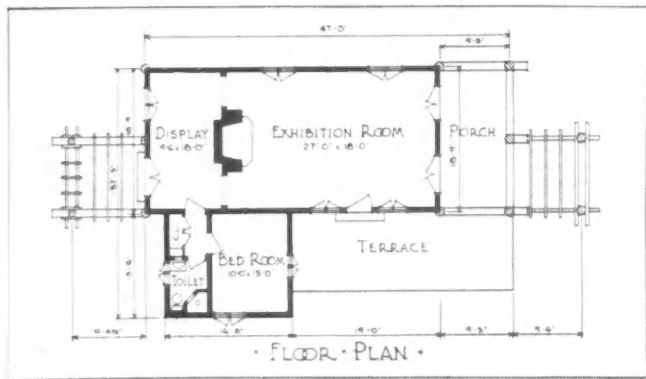
inner end. Beyond are spaces which, when used as a cottage, would afford flexible arrangement of dining and sleeping facilities for a small family.

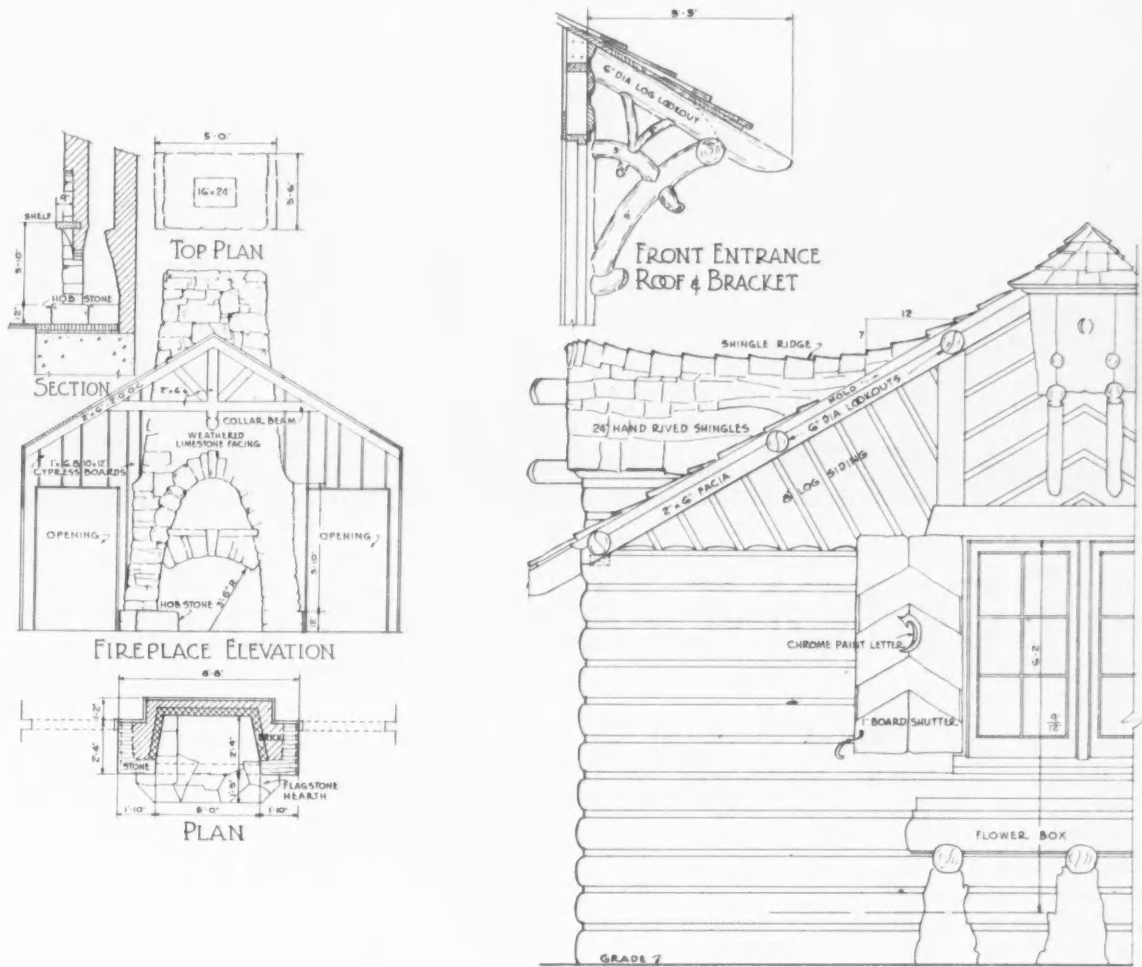
The exterior of the cabin is made of pecky cypress log siding with the “pecks” highlighted in white, giving a very rustic and rugged effect, without the expense of solid log construction. Pecky cypress is characterized by the presence of numerous holes or grooves filled with a fibrous substance caused by a fungus that grows in the heart of many trees. While it looks decayed, curiously enough it is as durable as sound wood. The defect in the sense of appearance is really utilized to great advantage for antique and picturesque effects.

The east half of the cabin roof is covered with 24-inch hand rived shingles, the west half of the roof with machine rived, with weather exposure varying from 4 to 9 inches, giving the age old appearance of pioneer days. Butts are staggered slightly from $\frac{3}{8}$ to $\frac{5}{8}$ inches and in all cases laid perpendicular to the arc of the weave line. This method called for shaving one edge of the shingle or chopping the butt to make the weave line fairly continuous. The valleys are closed; and the ridges are capped with shingles. The starting line of the shingles at the eaves is staggered also.

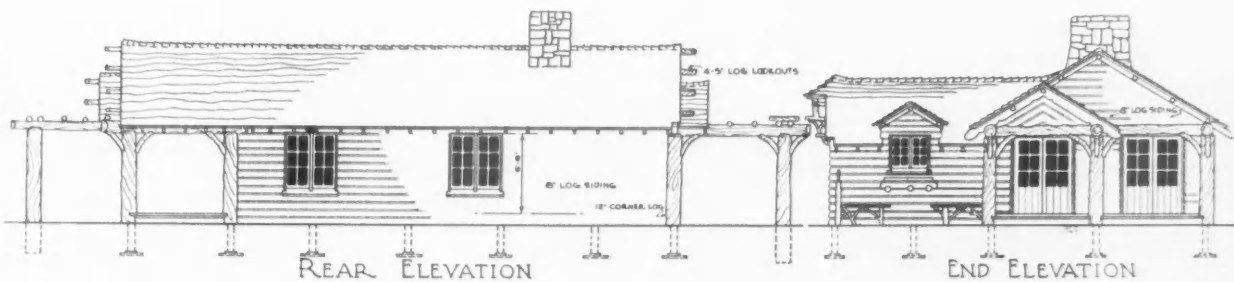
The exterior of building was first covered with water proof paper nailed to studs, over which 2 x 8 inch chink pattern log siding was placed. At the openings, the log siding was beveled with a 30 degree cut.

Rustic logwork was used for corners, porch posts and lintels, and for pergola ends as shown by plans and elevations. Logs may be peeled or left with bark on as desired.



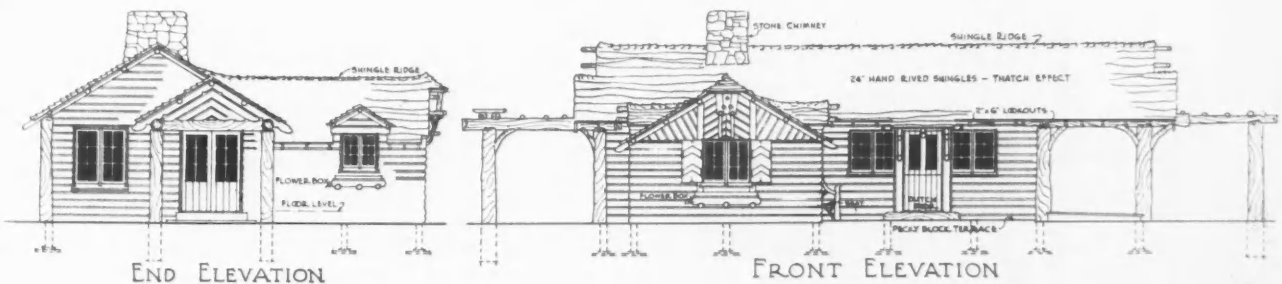


DETAIL OF GABLE



REAR ELEVATION

END ELEVATION

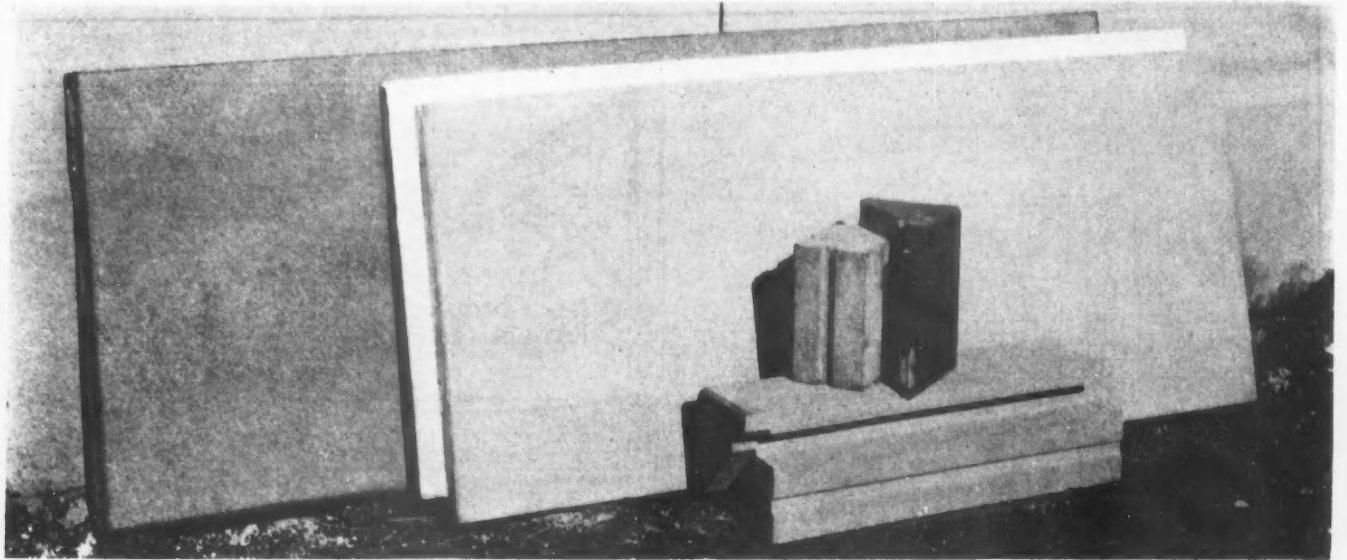


END ELEVATION

FRONT ELEVATION

DETAILS CYPRESS COTTAGE

A CENTURY OF PROGRESS



ROSTONE—A New Industry

Exhibit House at Century of Progress First
Public Showing of Promising New Material

AT the Century of Progress in the housing group, there has quietly been erected a model residence—"A House of Rostone"—featuring the use of a new building material which in appearance and practical construction economy promises to exert a very considerable influence upon the building field.

The name of the material is "Rostone." It is a new synthetic stone made by a process which is revolutionary yet simple. Its development dates back to eight years ago when a group of engineers and chemists in Lafayette, Indiana, started out to find the secret of permanent coloring in processed stone. This led to research into the chemical and physical action which takes place in nature when stone is formed—and finally in the discovery of a commercial process which is

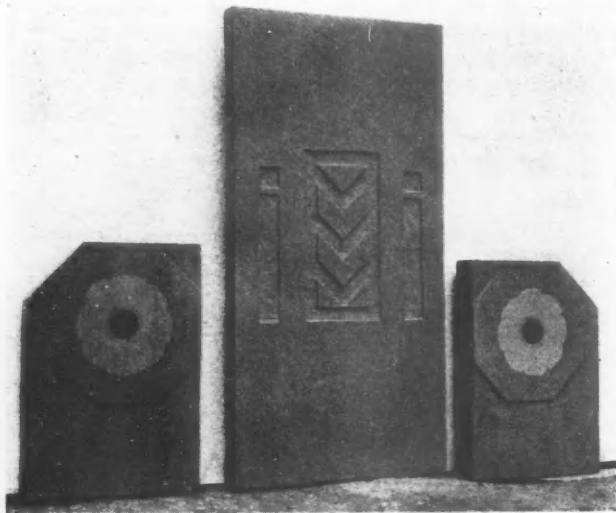
a "speeded-up" version of nature's own method.

Taking only the commonest raw materials, ordinary shale and alkaline earths (with quarry waste as a filler), this new process in a few simple steps creates a stone similar in all essentials to the rocks which nature produces only through millions of years of time. Actually the man-made stone is said to be superior because it is produced in colors and forms nature does not duplicate. The shale is first finely pulverized, then mixed with a small proportion of alkaline earths, both in a slightly moist state. At the same time quarry waste filler and coloring matter are introduced. The material is then moulded under strong pressure, then "cooked" in a steam chamber for two hours—and the process is complete. No cement is used. There is no binder and aggregate in the ordinary sense. During this simple and inexpensive process taking less than a full day's time, the shale and alkaline earths combine chemically into an entirely new stone-like substance which is not only strong and durable but free from any chemicals that affect the coloring.

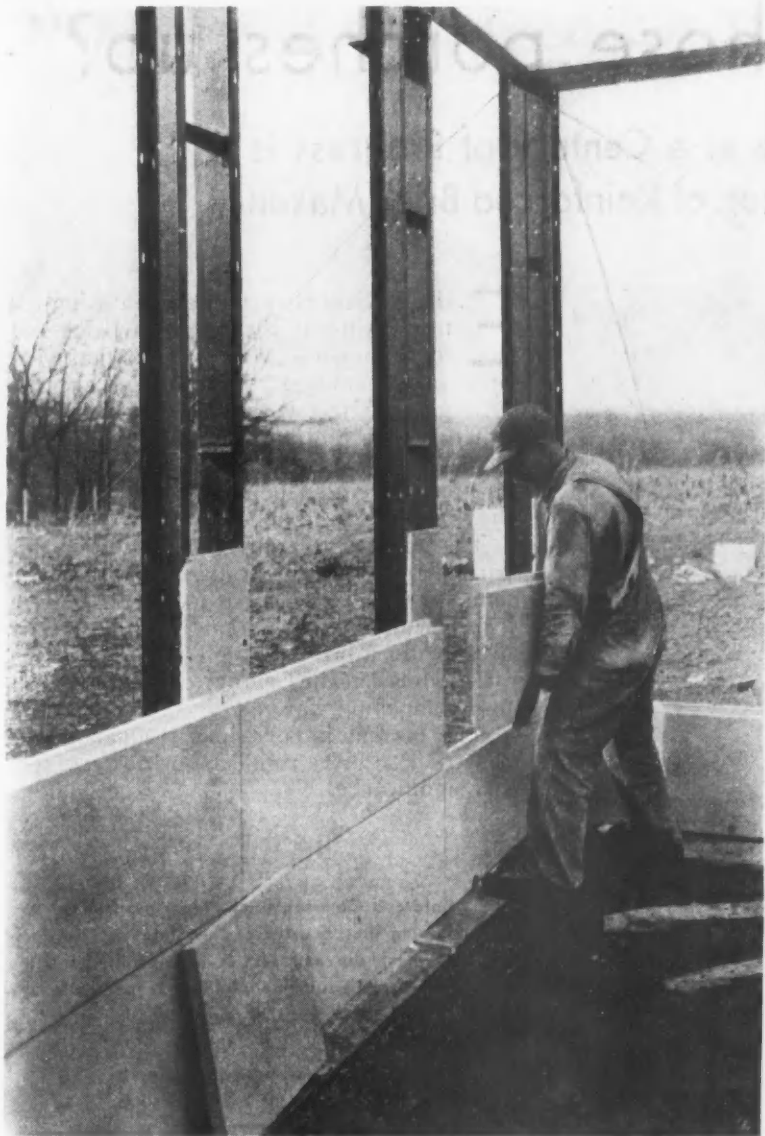
With Range of Color

The colors produced in this stone are almost endless in their variety. Many are unique. Grays, creams, buffs, browns, greens, blues, reds and intermediate shades are produced not only in flat colors but variegated and blended effects. The stone has a smooth, pleasing surface just as it comes from the mold, and in addition can be easily textured, carved or given a lustrous polish.

The practical applications of the stone, as shown in the Century of Progress model home, clearly indicate the opportunities it opens for reducing building costs through improved structural design and the elimination of unnecessary field erection costs. This is a five room residence consisting of two bedrooms, a living room with dining alcove, a kitchen and a sun room. In addi-



Decorative slabs of Rostone red-brown in color, the center one having a sand-blasted design. The two smaller slabs show color inlay.



Workman applying stone wall slabs to the steel frame. (This was taken during experimental erection work at Lafayette, Ind., laboratories of the company.)

tion, there is an attached garage and a laundry-and-heater room. All of these rooms are on the ground floor except the sun room, which occupies the smaller second floor, flanked at each side by roof terraces affording a magnificent view over the lake.

The exterior walls of the house are formed of large flat stone slabs attached to a steel framework. The slabs are all 4 feet long and 17 inches high by 2 in. thick and have ship-lapped joints filled with mastic. Erection is rapid. The slabs are fastened to the steel members with bolts which screw into metal thimbles cast into the stone and the shop fabrication of both stone and steel was so precise that assembly went like clockwork. Copings and decorative trim were also of stone similarly applied. Flat roof decks are also of large stone slabs. Other uses in this model house include stone floor slabs, stair treads, interior wall panels, fireplace stonework and decorative details. This new stone system of construction has already been shown to bring about a very substantial economy while at the same time offering new opportunities for fine architectural design and color treatment.

The structural framework of the house is of steel, mounted upon a concrete foundation. This structural steel system employs vertical steel members spaced uniformly on 4-foot centers. All partitions are of the same

type of steel studs as in the exterior walls. The roof consists of a Robertson steel deck supported on steel beams and covered with a thick layer of Cornell light density insulating board upon which are placed the stone roof slabs which form a paved roof deck. The walls are insulated with Cornell insulating board. The interior walls are finished in various ways through the house but in all cases the use of plaster has been eliminated by the use of more modern materials.

The primary feature of the house of Rostone is the use of standard 4 foot stone slabs mounted to a steel frame of corresponding spacing. Aside from the economy of the stone material itself, this 4-foot standard dimension or "module" is the factor which makes so great a reduction in cost possible. All walls and partitions are worked out in dimensions that are multiples of 4 ft. The bedrooms are 12 x 16 ft. (including wall thickness). The kitchen is 12 ft. square, the garage 12 x 18 ft., the bathroom 8 x 12 ft. and even the closets, with but one minor exception are planned on the same unit basis and because the standard module is employed throughout the plan, it is possible to use standard wall slabs, standard steel framing members and other standard materials. Thus the goal of standardization is reached, with its great advantage of mass manufacturing production—but through a unit which still leaves freedom and flexibility of planning and design.

This exhibit house is erected under the sponsorship of Rostone, Inc., of Lafayette, Indiana. Mr. David E. Ross is the President of this concern and Mr. R. L. Harrison is General Manager. Associated with them in the enterprise is the Indiana Bridge Company of Muncie, Indiana, producers of the steelwork employed. Walter Scholer of Lafayette, Indiana, was the Architect of the Building. The General Contractors were Ralph H. Simpson Co., Chicago.

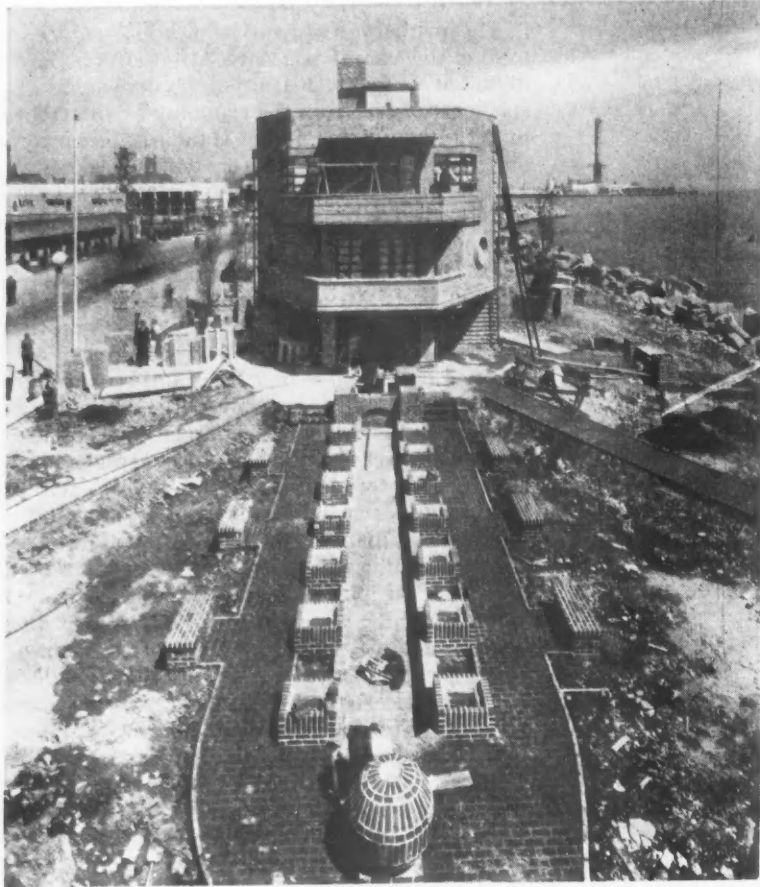
With the unusual appearance and physical properties of this product, a high cost might be expected. The contrary is true. It is made of plentiful natural raw materials and quarry waste and its manufacturing processes are so simple that the finished material is relatively inexpensive.



Glimpse of Rostone House partially completed at Century of Progress.

"What holds those porches up?"—

Common Brick House at a Century of Progress is a Dramatic Demonstration of Reinforced Brick Masonry

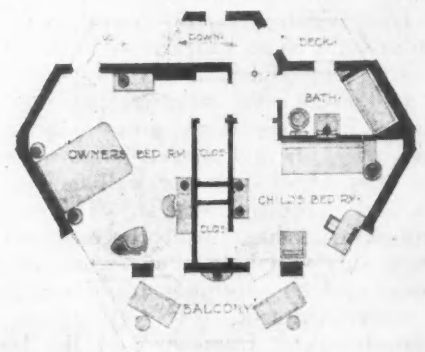
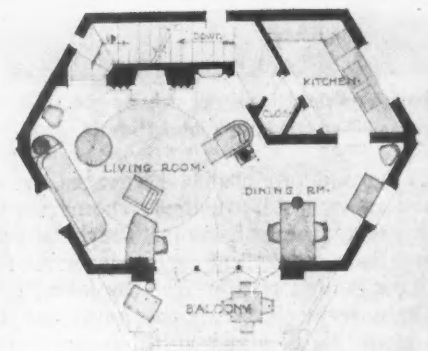
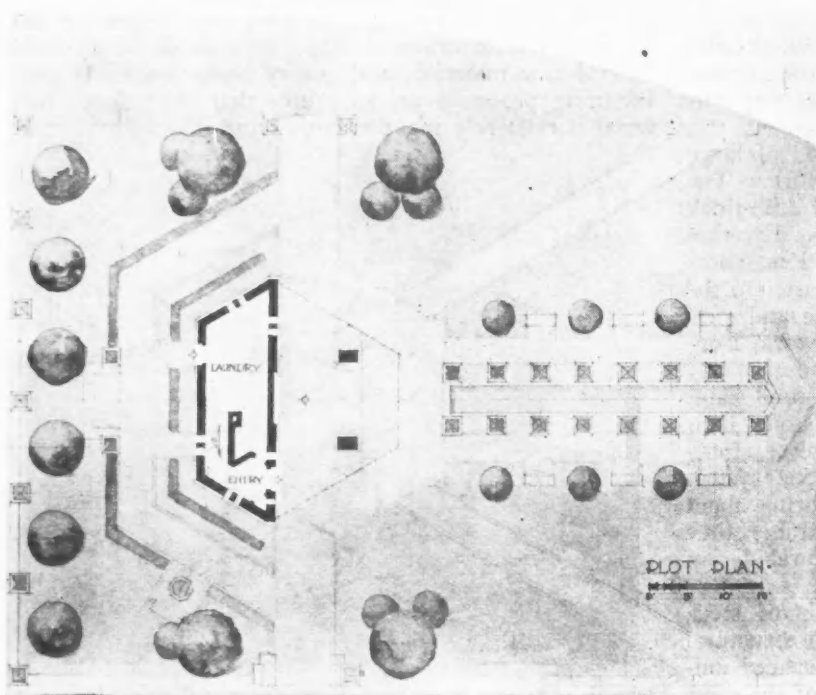


EARLY visitors at the Fair, watching the men laying up the Common Brick Association house, were nonplused at what they saw—cantilever brickwork, balconies jutting out 5 feet without visible means of support! As the lines of the building took shape, there was also much argument as to its acceptance as a popular home design by the home seeking public.

The purpose, of course, of putting up this particular piece of brick masonry was not to launch a "best seller," but to demonstrate in a spectacular way the strength and versatility of reinforced brickwork. This the Common Brick House at the Century of Progress does in a compelling way.

The present interest in earthquake-proof construction gives this demonstration a special significance.

The Reinforced Common Brick House nearing completion, showing the "Garden of the States" in the foreground. Each urn and seat is built of brick from a different state. Unusual floor plan arrangement shown in architect's drawings below.



—“Why doesn't that house tip over?”

THE ANSWER IS—It's reinforced brick



Reinforced brickwork, although used in England more than a century ago, may truly be characterized as a new construction material, for it is only within the past few years that any concerted effort has been made to utilize it in this country.

In this system of construction the horizontal and vertical steel reinforcement is placed in the mortar joints in practically the same amount and arrangements as for similar construction in reinforced concrete. Recent examples of reinforced brickwork in this country include cylindrical storage bins, trestle piers, a tank inclosure, a small bridge, and a variety of columns, girders, joists, floor slabs, lintels and building walls.

For reinforced brick construction, common hard-burned brick is generally used, although other kinds are suitable. The bricks are laid in 1:3 cement mortar tempered with a small amount of lime to improve the workability. Steel reinforcement consists mainly of straight, deformed bars or rods with loops or ties in the columns, but bent bars and stirrups have been introduced in some cases to resist shear. Wire mesh has also been used to some extent. It is considered advisable to have a minimum thickness of $\frac{1}{8}$ -inch mortar on bars up to $\frac{1}{2}$ -inch in size, with a greater thickness (up to $\frac{1}{4}$ -inch) on larger bars. Mortar joints are made slightly thicker where the reinforcing occurs. Bricklaying speed is said to be about the same as in ordinary construction. The forms required to support horizontal surfaces of beams or slabs for a sufficient time to allow the mortar to set are of much simpler construction than for concrete work, since they do not need to be watertight.

This reinforced brick house at the Fair is one of the most unusual in appearance of the group. It is in three stories with balconies on the two upper floors. Cooling and heating plant are in the basement. The second floor includes living room, dinette and kitchen. The third floor has two bedrooms, bath and porch, and the roof has a large recreation deck including a garden.

The walls and floors are of common brick, ground smooth and terrazzo finished, making use of the natural

brick colors which furnish an effective background for harmoniously designed furniture and decoration. Only the bedrooms are painted.

The solid brick structure making it impossible to conceal pipes and electric conduits in the walls, the architect, Andrew Rebori, of Chicago, attacked the problem daringly by making the pipes, in chromium plate, part of the decorative scheme of the interiors, their gleaming lines being effectively used to accentuate the shapes of the rooms which are all irregular polygons.

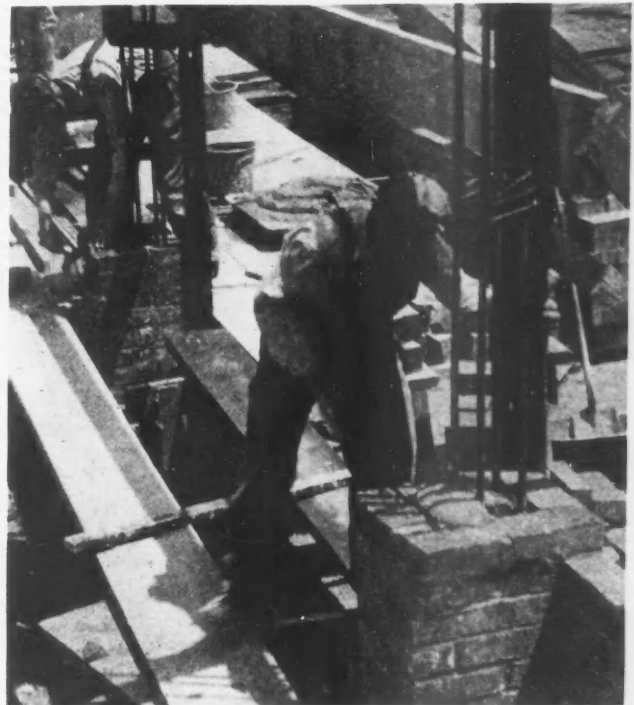
In harmony with the soft tones of the smoothed brick background the color scheme of the furniture is in brown, rust red, sienna and dark green. Drapes and upholstery textiles are in wool, specially designed, wooden furniture being used in modern, clear cut lines, the object being to create a restful interior. Lighting fixtures are wooden, with copper shades. Metal furniture is used only on the porches and roof.

The scheme of the principal bedroom is gray and yellow. The juvenile room, designed for boy or girl of school age, is in blue and white with touches of red, the room being designed to be suitable also as a play or study room.

The roof garden is furnished with metal furniture, umbrellas and equipment for children's play.

In a panel underneath the first balcony is displayed ancient brick of historic interest, the oldest having been taken from the ruins of Ur in Chaldea.

Grant E. Miller, Chicago district manager for the Association in charge of this construction, was asked what would be done with this house when the Fair is over. "A charge of dynamite," he replied, "will have to be used to remove it."



Typical view of steel rod reinforcing in brick masonry column.

Many Uses of Masonite Products Shown

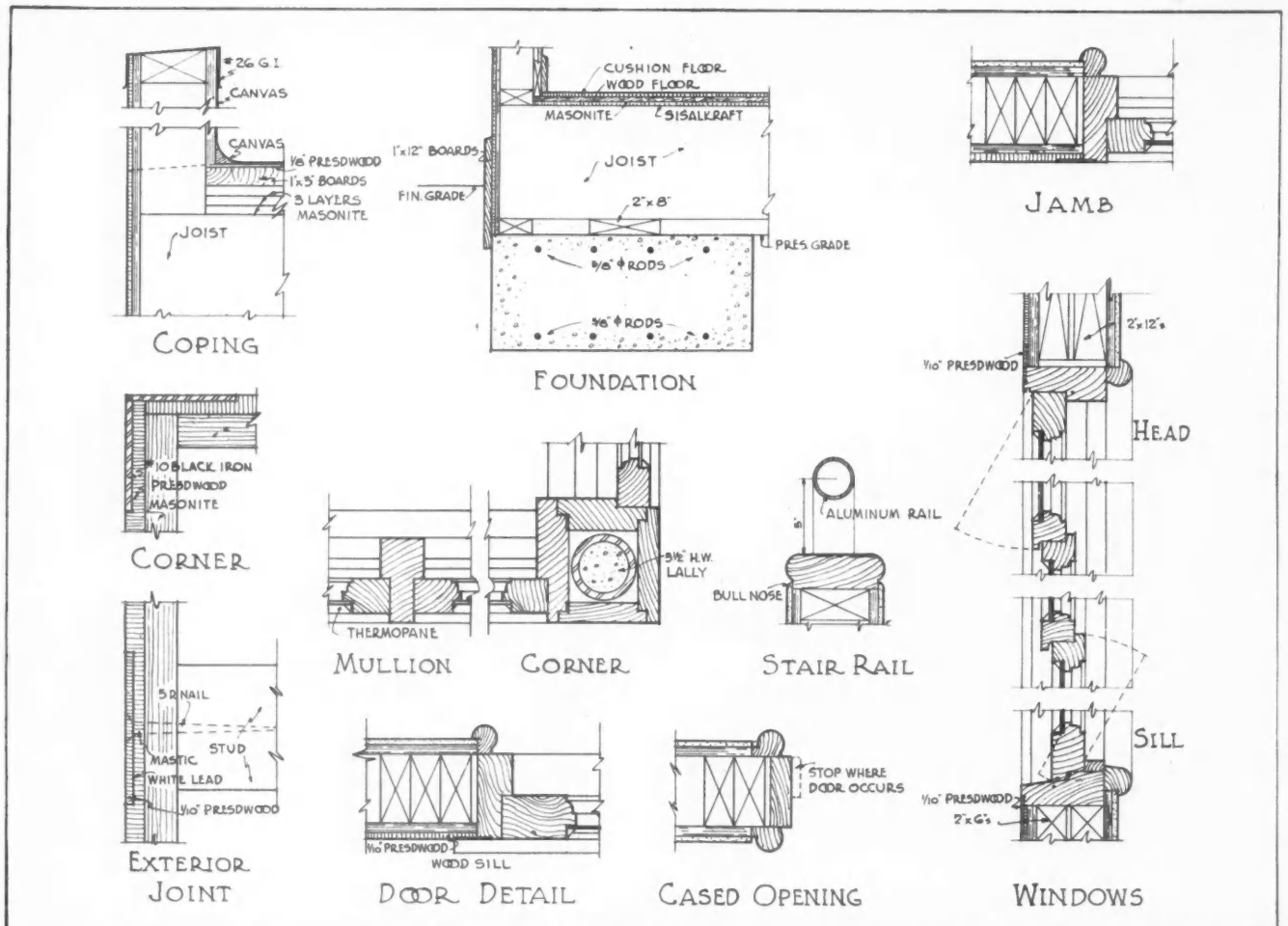
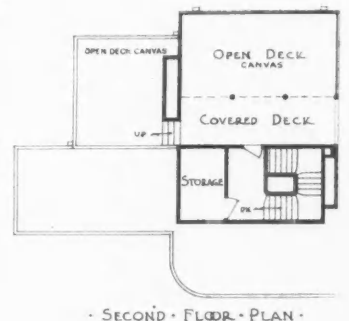
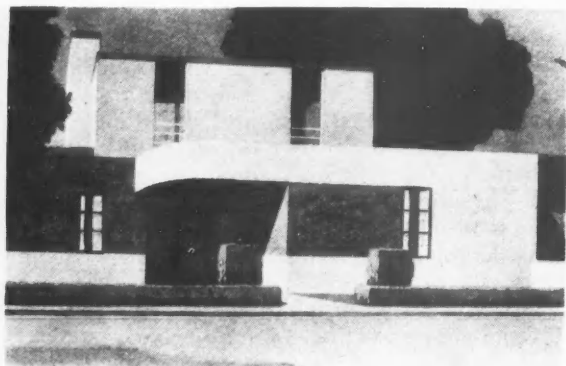
Century of Progress House a Testing Laboratory for Wood Fiber Materials

HARD pressed wood panels for exterior walls, wood fiber insulation board as a plaster base, flexible blanket insulation in the walls, floors of compressed wood fiber blocks, kitchen walls of pressed wood tiles, and acoustical fiber board for decorative ceiling and side wall effects are some of the company products demonstrated in the Masonite House at the Fair.

The design of this house was the result of a competition won by Frazier and Raftery, architects, of Chicago.

The feature of the design is the two-story living room with twelve foot ceiling and large groups of windows on two sides. The dining bay is part of the living room. The main group of windows includes a center French door to the terrace.

The two bedrooms and bathroom are on the first floor, the wide hall and staircase giving access to the covered and open decks which make full use of the roof in the modern way. Floor plans and details are shown below.



ARMCO Introduces the Metal Chassis

Century of Progress Frameless Steel House Opens Door to New Subcontract Trade to Furnish House Shell Panels to Contractors for Erection on the Job by Customary Crafts

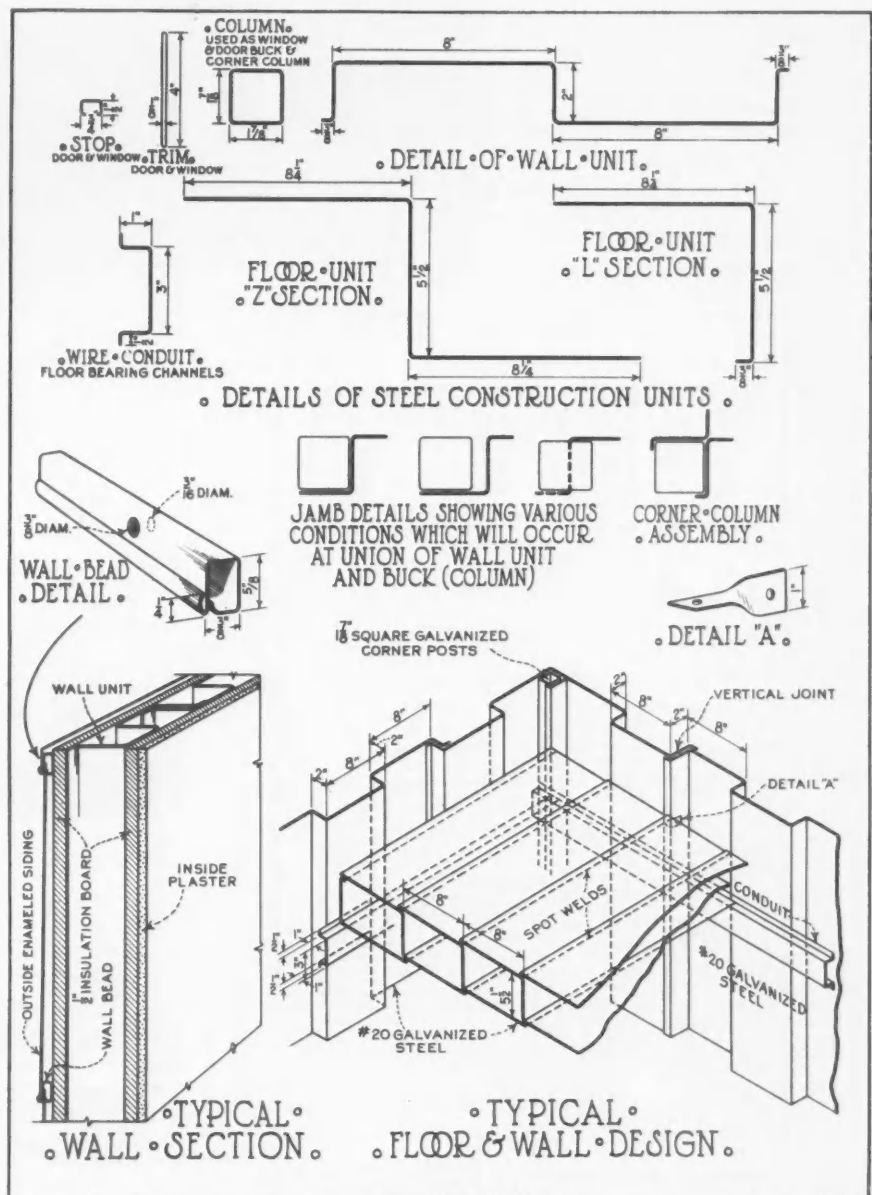
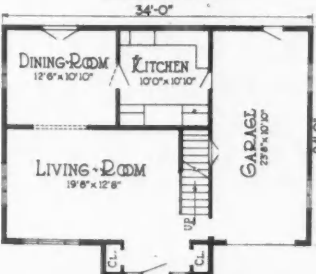
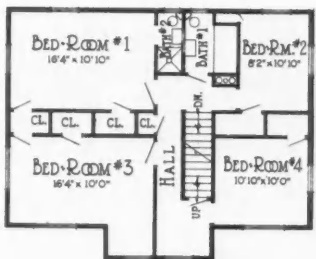
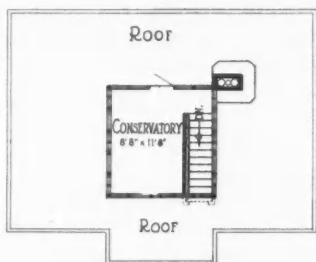
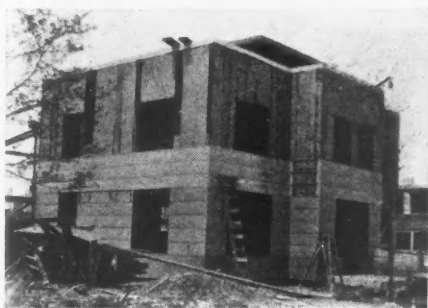
ONE of the trail-blazers in the creation of steel homes is the house built for the American Rolling Mill Company and the Ferro Enamel Corporation by Insulated Steel Incorporated of Cleveland. This house is frameless—no structural supporting steel being used. The wall panels are of 20-gauge steel, corrugated into shallow box-like units, factory fabricated, house high. When they arrive on the job they are set up and nailed together with screw nails by either carpenters or sheet metal workers. This assembly of panels is known as a "house chassis," and onto it the craftsmen apply all finishing materials in the customary way. Details shown in accompanying drawings.

Layers of insulation board are fastened to the structure inside and out with the threaded nails. Exterior

finish of the Century of Progress house consists of panels of vitreous enameled iron, fastened into joint-cover beads of stainless steel. Any finishing materials which can be attached by nailing may be nailed directly to the steel of the walls or floors.

Although the completed wall will not exceed three and one-half inches in thickness, it possesses unusual insulating qualities. Partition walls are of similar construction.

The Armco-Ferro Enamel House at the Exposition is the design of architect Robert Smith, Jr., and engineer Mills Clark, who have created a thoroughly modern structure of seven rooms, bath and lavatory and integral garage and open porch. Four bedrooms are on the second floor with the appeal to the housewife of six large closets.



Houses "Designed for Living"—

Three Stimulating Structures at Century of Progress

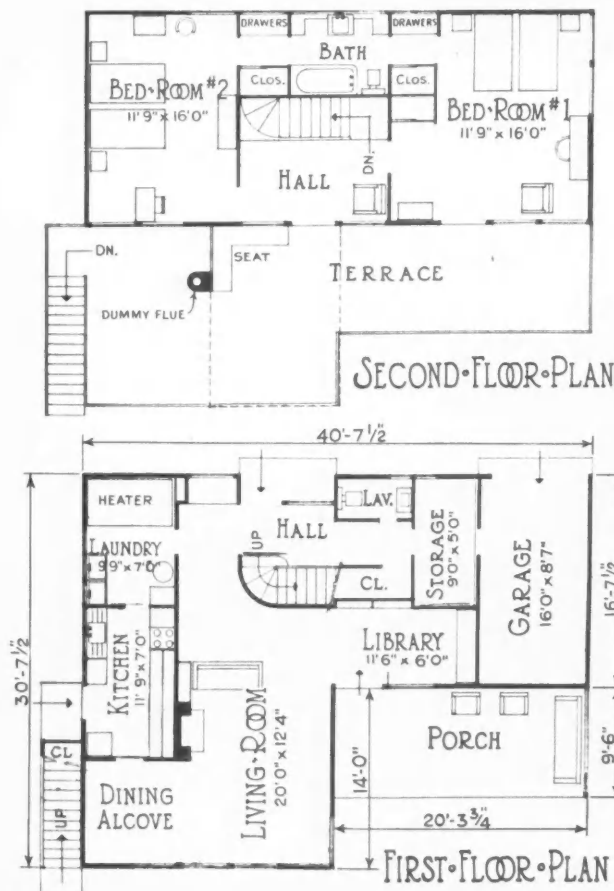
WHILE most of the Exhibit Houses have been produced by manufacturers to illustrate the use of their materials, here are three which are more general in purpose. One, named simply "Design for Living," was planned by architect John C. B. Moore, of New York, to make use of suitable prefabricated material, not confining himself to any specific product but to portray the general possibilities. The first floor includes a living room with two L wings, one a dining alcove and the other a library-study opening on a large porch. On the second floor are two bedrooms with bath, and a roof terrace giving ample room for outdoor sleeping and for recreation. The frame of the house is wood. Exterior walls are panels, one floor high, of Homasote, a new

building material claiming the merits of being fire, water and vermin-proof.

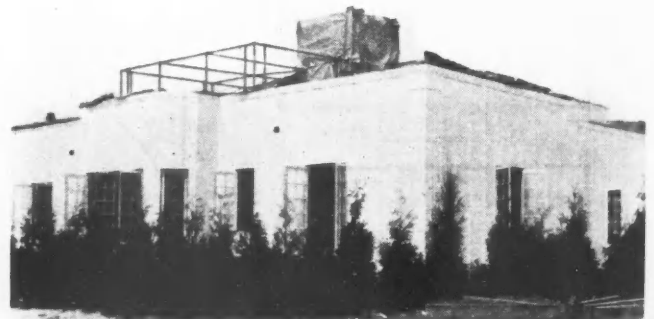
A display building of great beauty of line and refinement of detail is the W. & J. Sloane house, situated just south of Home Planning Hall. This was designed by Corbett, Harrison & MacMurray of New York City and constructed by the Sill Construction Co. The exterior is 9-inch vertical boards cut to a special pattern to give the effect of 18-inch cupped lumber.

In this group, also is the Florida House, designed

To right, with floor plans below, is Architect Moore's "Design for Living" in a semi-finished state to show the wall panel construction. This exterior has since been painted a brilliant yellow.



to appeal to people of larger means. Robert Law Weed of Miami is the architect. The house is planned to meet the requirements of the Florida climate. It is done in brilliant style, finished in travertine marble, brain coral, floratine and pecky cypress.



The W. & J. Sloane house displays rugs, drapes and furnishings



Sketch showing Florida house in its native setting

World's Fair Visitors Curious about—

Architect Keck's "House of Tomorrow" and Architect Fisher's "General Houses"

CONVENTIONAL IDEAS of a home are forgotten in the "House of Tomorrow," designed by George Fred Keck, Chicago architect, and erected by Century Homes, Incorporated. Nothing in the house or in its construction will approximate what people have been accustomed to find in a house except that there will be chairs and beds.

The house is circular. All the exterior walls and the interior partitions of the living stories are glass with

Photo-electric cells send out invisible beams which when crossed by anyone going or coming operate a mechanism to open and close the kitchen door. The kitchen is an electric workshop with a housekeeping planning desk and telephone included.

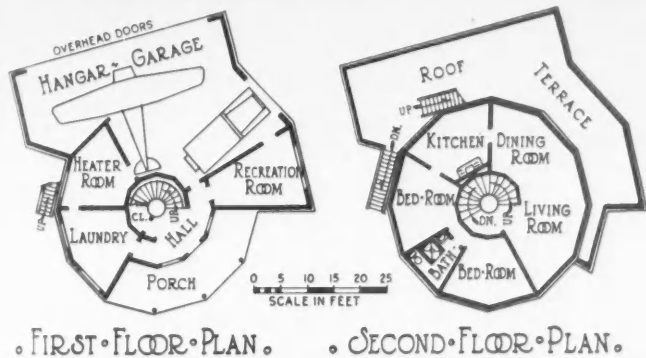
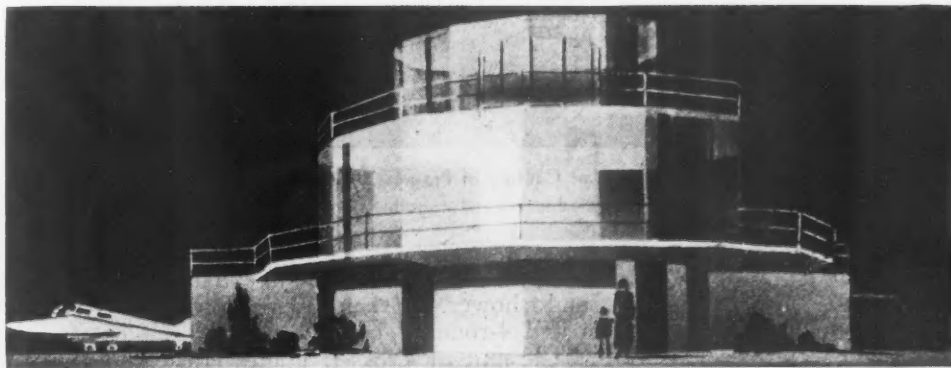
The living room is in a scheme of black and gray, carried out by the black and cream glass walls and the wood and glass topped furniture with chromium metal bases. Upholstery is black and white patent leather, pigskin and fabri-coid. Textile fabrics are a new creation in heavy pile-like fur. The entire top of the house is a circular open air deck around the solarium which contains a conservatory. Chairs and small tables give the air of a steamer deck.

The "House of Tomorrow" is frankly declared to be a "laboratory house" for the purpose of trying how the millions of visitors to the Fair will react to the idea of a home utterly different.

Another novelty of the Housing Exhibit at the Fair is the sheet metal cottage designed by Architect Howard T. Fisher or "General Houses, Inc." He has an ambitious program of long-distance control of the low cost home building market in many local communities. His house consists of outside walls of four

Public curiosity has been aroused by this glass house. Architect Keck says he wants to try out the public — with something really different.

Practical building men are skeptical of both the Keck house and the Fisher house shown below. The latter plans to short circuit architects, builders, dealers and present set-up of the building industry.



a supporting steel structure to provide strength. Interior walls are carrara glass. The top deck includes a circular center solarium, a drum shaped enclosure, the sides entirely of clear glass. Circular staircase is in the steel pipe axis of the house. Privacy when desired is obtained by drapes and by roller and Venetian blinds lined with aluminum to reflect heat and cold.

Ground floor of the "House of Tomorrow" includes an airplane hangar as well as a garage. Roof above these gives an extensive deck terrace open from the living floor. The ground floor exterior is opaque, a bakelite product which is fire, water and vermin proof as well as insulating and non-conducting.

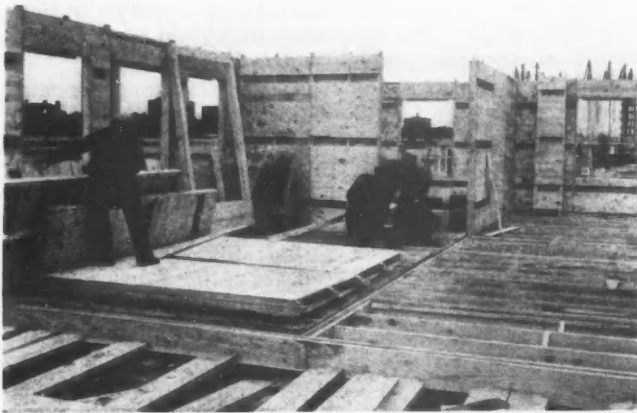
The house has no windows. The ventilating is all by conditioned air, filtered, washed, heated or cooled and recirculated every ten minutes. There are no light fixtures. All artificial lighting is indirect from invisible sources. Floor of the living part of the house is end grain walnut blocks. The idea is to create a house without dirt holding corners or surfaces, that can be washed down with soap and water, will never require redecorating and that will reduce care and upkeep to the final minimum. There are no closets. Movable wardrobes, easily cleaned, are substituted.

foot wide steel panels, ceiling high. The standard units are made up as a solid panel or containing space for placement of door, window or transom. The roof and floor are made up of steel beams and insulating material. When the panels arrive at the site they are bolted in place on the steel structure and a building of rigid structural unity is obtained.



Mr. Fisher's much publicised "General Houses" cottage at the Fair.

CROSSETT—a Prefabricated Lumber House Through Retail Dealers



Progress views showing assembly of Crossett 5-room (Cape Cod model) home at Century of Progress. Factory-built panels for walls, partitions, floor and roof interlock and are bolted or nailed together.

PREFABRICATED houses have been much talked about and Century of Progress visitors have been led to expect some astounding developments in homes stamped out like a Ford car, factory produced and assembled. Most of this talk has assumed that this new-type housing would be of steel.

Yet surprisingly enough, it is an old time lumber company that is displaying the true example of prefabrication at the Fair; and its line of homes is of all-wood construction and sold through retail lumber dealers.

To inspect two of these homes, you go south of the Housing Group to about 36th Street, where the National Egg Laying Contest is in progress. There against a background of several hundred round-top poultry coops, you will see a Cape Cod 5-room home and a 2-room Pullman cabin, both of them panel-built at Crossett, Ark., in the lumber mill of the Crossett, Watzek, Gates Company, sold by a retail lumber dealer and erected and finished by local carpenters.

The cost of the 5-room house will figure around

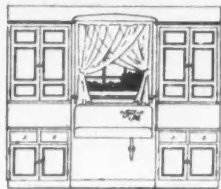
\$2500 complete, and of the 2-room cabin \$350 including toilet and shower. Other sizes offered are 1-room, 3-room and 4-room.

The basic unit of Crossett homes is the 4-ft. panel, 8 feet 6 inches high. (Patent pending.) This is furnished with the exterior surface finished in various patterns of drop and lap siding, appropriate to the architectural design of the house in which each is used. The interior surface of the panels is semi-finished in dressed common lumber over which insulation and the finished wall of wood paneling, wall board, plaster or other forms of decorative treatment may be applied. Floor panels come in 4-ft. widths of proper length. These serve as sub-floors over which the finished floors are laid in the regular way, and of such material as the owner may prefer.

Roof panels are of dressed and matched common lumber over which shingles or roofing are applied. All exterior and interior openings are of dimensions specified to accommodate the installation of standard size sash and doors which are regularly carried in stock.



On the smaller houses, the panel construction is left visible as a feature on the outside design. On the larger models no panel lines are seen, being cleverly covered by the construction. Photos show process of setting up 2-room Pullman at Fair.



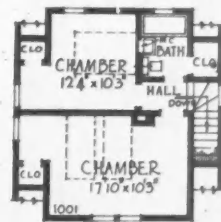
View in Kitchen.

REFINEMENT— IN THE SMALL HOME

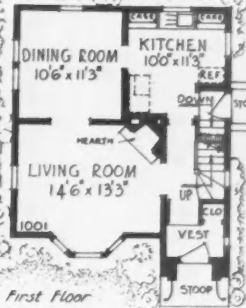
The pleasing appearance of this little home is gained through simplicity of detail and careful proportion.

DIMENSIONS

Size of Main Building 22'0" x 24'0". Size Over All 25'6" x 31'6".
Ceiling Height 1st. Floor 8'6". Ceiling Height 2nd. Floor 7'8".
Ceiling Height Basement 7'0". Total Cubic Contents 14,200 Cu. Ft.



Second Floor



First Floor

1001-C

A FIVE ROOM HOME

N.D.S.

NATIONAL PLAN SERVICE Design 1001-C; Cost Key 1.221-100-572-25-16-9



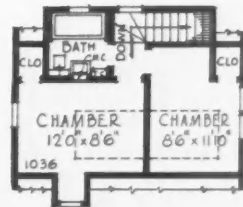
French Cottage - Alternate Exterior. Plan 2.

ENGLISH SMALL HOME

Not an inch of space wasted here, yet every room is large enough to be cozily comfortable and the interior is particularly well planned.

DIMENSIONS

Size of Main Building 22'0" x 20'0". Size Over All 25'6" x 29'6".
Ceiling Height 1st. Floor 8'2". Ceiling Height 2nd. Floor 7'8".
Ceiling Height Basement 7'0". Total Cubage 10,400 Cu. Ft.



Second Floor



First Floor

1036-C

A FIVE ROOM HOME

N.D.S.

NATIONAL PLAN SERVICE Design 1036-C; Cost Key 1.045-96-472-21-14-9

LOW COST, RAPID WORK, FEATURE

By **BERT M. THORUD**
Structural Engineer, A Century of Progress

Q *Light steel frames and large paneled wall materials used. Average cost less than 15 cents per cubic foot.*

Q *Well known building materials and methods principally used, but developed in interesting fashion to meet special needs.*

A DARING USE of new materials and new methods in the construction of the Century of Progress make the erection of these buildings as much an exhibition of building progress as the Fair itself is an exhibition of the progress of industry and science in the past century.

Three important points may be mentioned as of basic importance in connection with the construction of these buildings. These are:

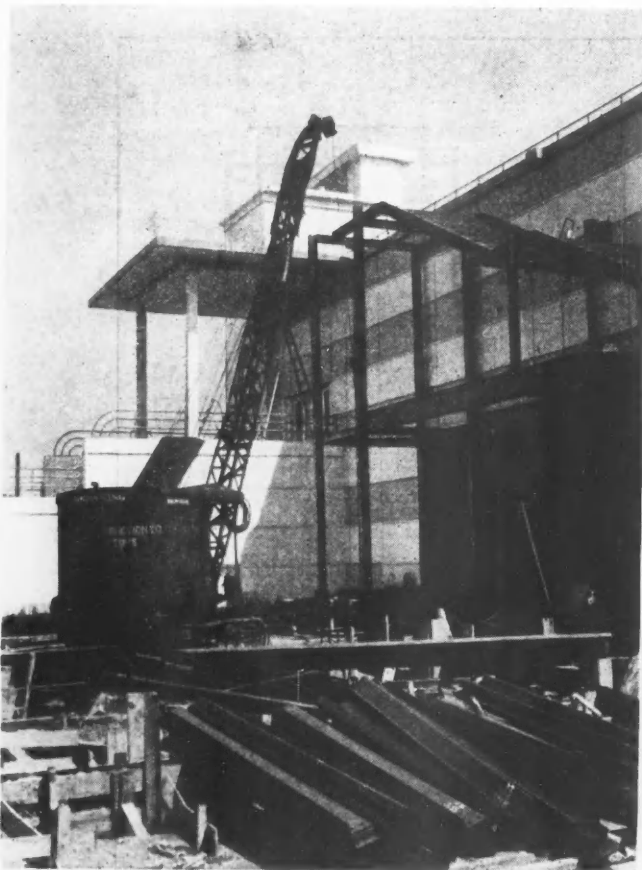
1. There were no building code limitations nor retarding restrictions at the start of this work so that it was possible to go ahead with construction on the basis of sound engineering principles, making use of the latest developments in materials and methods which could

be practicably applied at this time, incorporating the approved developments in a special code arranged and enforced by a special code commission.

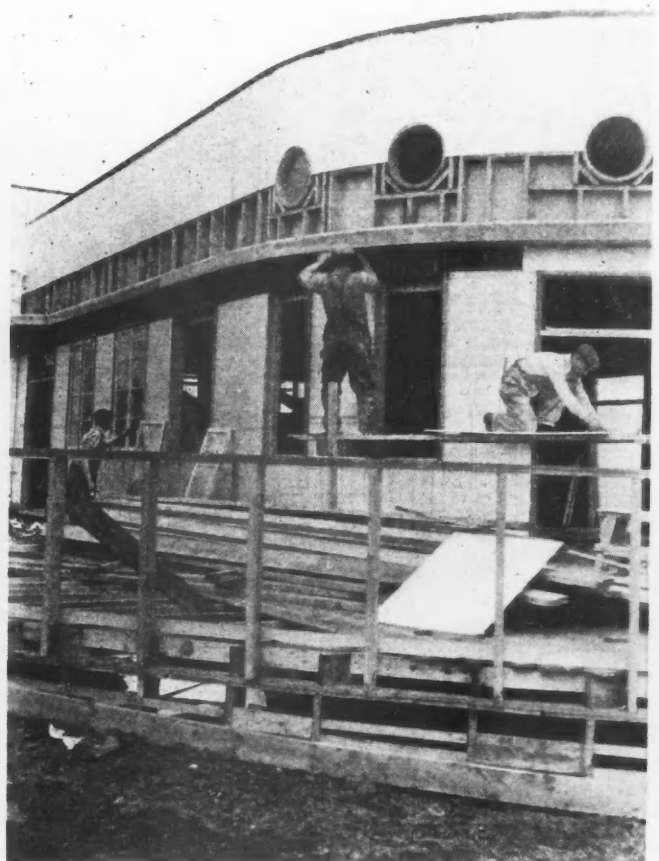
2. The temporary nature of the buildings demanded that they be easy to take down with as high a salvage value as possible. Being temporary buildings, also, construction methods involved in a forty-year life span did not need to enter.

3. Economy was a basic consideration in every move. A central purpose of the building work was to provide housing space for the showing of exhibits. Great areas were called for at a minimum of expense. That this aim has been achieved is shown by the fact that average cost of the buildings has been under 15 cents per cubic foot, including all construction, lighting, ventilating and landscaping adjacent to the building. This does not, of course, include plumbing and heating which was not necessary in any building but Administration Hall.

In general, a construction technique has been developed in the World's Fair buildings which makes for rapid, low cost erection. Light steel frames are used, with most connections bolted together. Crawler-mounted cranes and simple travelers did most of the erection. Wall materials are largely of large size, standard sections of gypsum board, plywood or sheet metal applied to the steel frames with clips and screws. The fact that the structures are low in height and large in area made for rapid work at field low cost. Buildings are firesafe in that inner and outer surfaces are not subject to bursts



LIGHT WEIGHT STEEL members, largely bolted in place, were used in exhibit buildings. Crawler-mounted cranes and simple travelers handled most of the erection work easily.



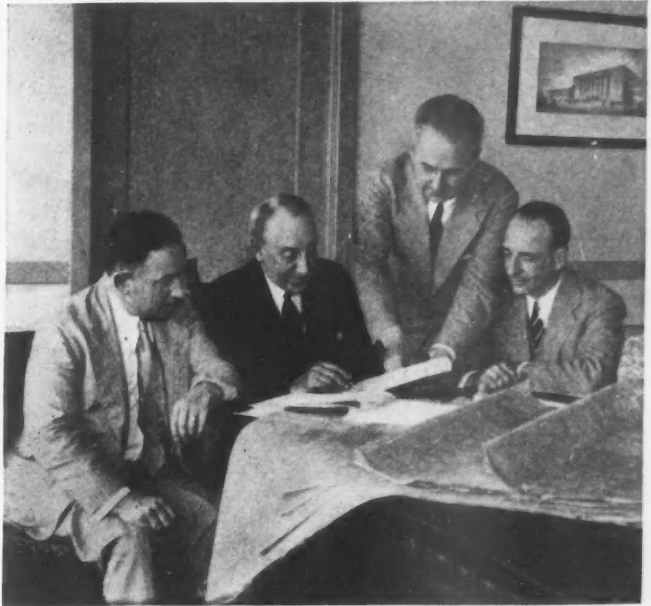
GYPSUM BOARD, mill primed with aluminum paint, was most commonly used exterior material. Application over wood studs is shown in Italian building. Work progressed rapidly.

E CONSTRUCTION OF FAIR BUILDINGS

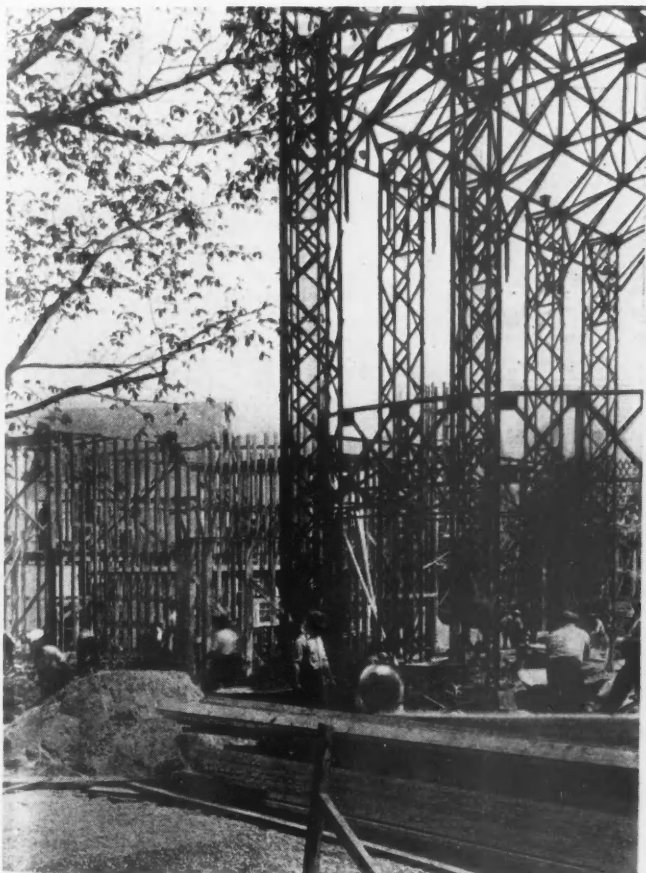
of flame, but they are not, of course, fireproof in the sense that permanent fireproofed steel and concrete office buildings are.

Innovations in foundations for the World's Fair buildings were necessary in a search for lower costs. The ground on which the Fair stands is all made land, and because all types of fill were used, it is variable and subject to settling. Most of the buildings are designed to rest on pile foundations. A system of one and two pile footings was developed with single piles used under columns along exterior walls and a wall beam supporting the wall at grade to resist any eccentricity of the pile in relation to the center of the column. The strong direction of the column is utilized to resist eccentricities normal to the wall. Two piles are used on interior columns placed to resist eccentricities about the weak axis of the column. Further economies in piling have been achieved by the use of cantilevered concrete girders extending over and beyond the piling under columns which carry walls set away from the columns.

Exceptions to the foregoing are the Administration Building and the Travel and Transport Building. Piles if used would have had to be unusually long. Spread footings were therefore adopted made continuous in one direction between columns. Due to the fact that underlying soil of the Administration Building had been deposited but recently, the placing of jacks under all columns was considered but abandoned since the column bases were all easily accessible for placing jacks as set-



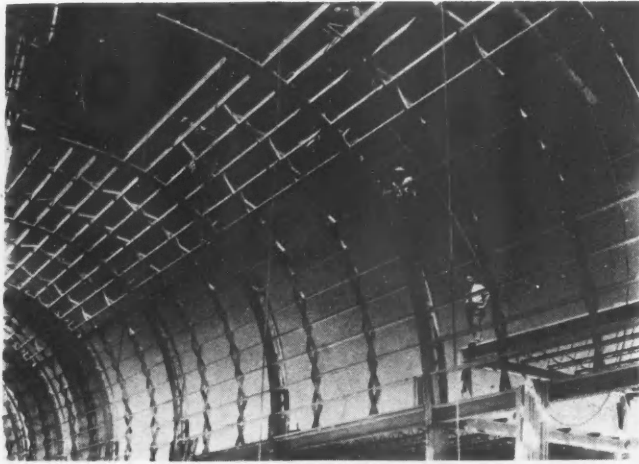
LOOKING 'EM OVER; left to right, W. E. O'Neill, contractor; Rufus C. Dawes, president of the Fair; Clarence W. Ferrier, architect, assistant director of work; Lennox R. Lohr, general manager of the Fair. A high degree of efficiency prevailed throughout the Exposition organization, and was especially apparent in the handling of construction operations. The work was completed on schedule.



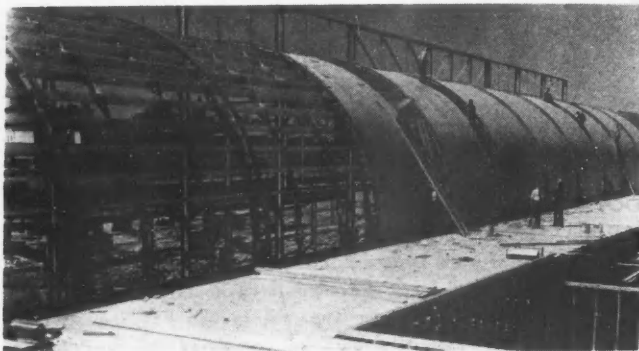
THE BELGIAN VILLAGE—a beehive of activity in the opening days before the Fair; Starrett Construction Co., builders. Light weight frames support an exterior of imitation stone and brick.



HALL OF SCIENCE—interior showing structural work and laying of plywood floor in large sections. Plywood panels with shi lap edges providing tight joint were also used on exterior.



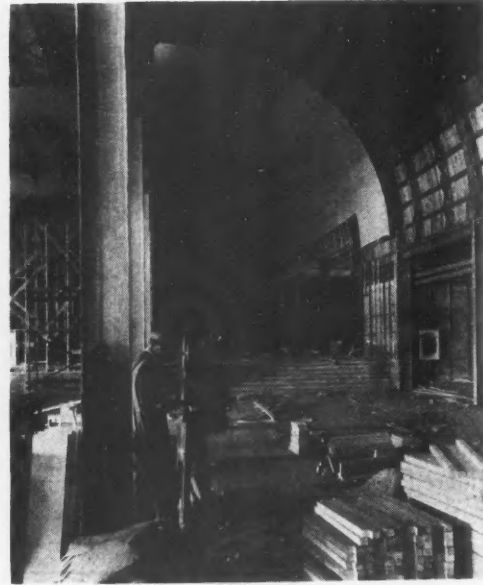
LOOKING UP as workmen apply plank joists between steel truss ribs of main frame of Agricultural Building's circular roof.



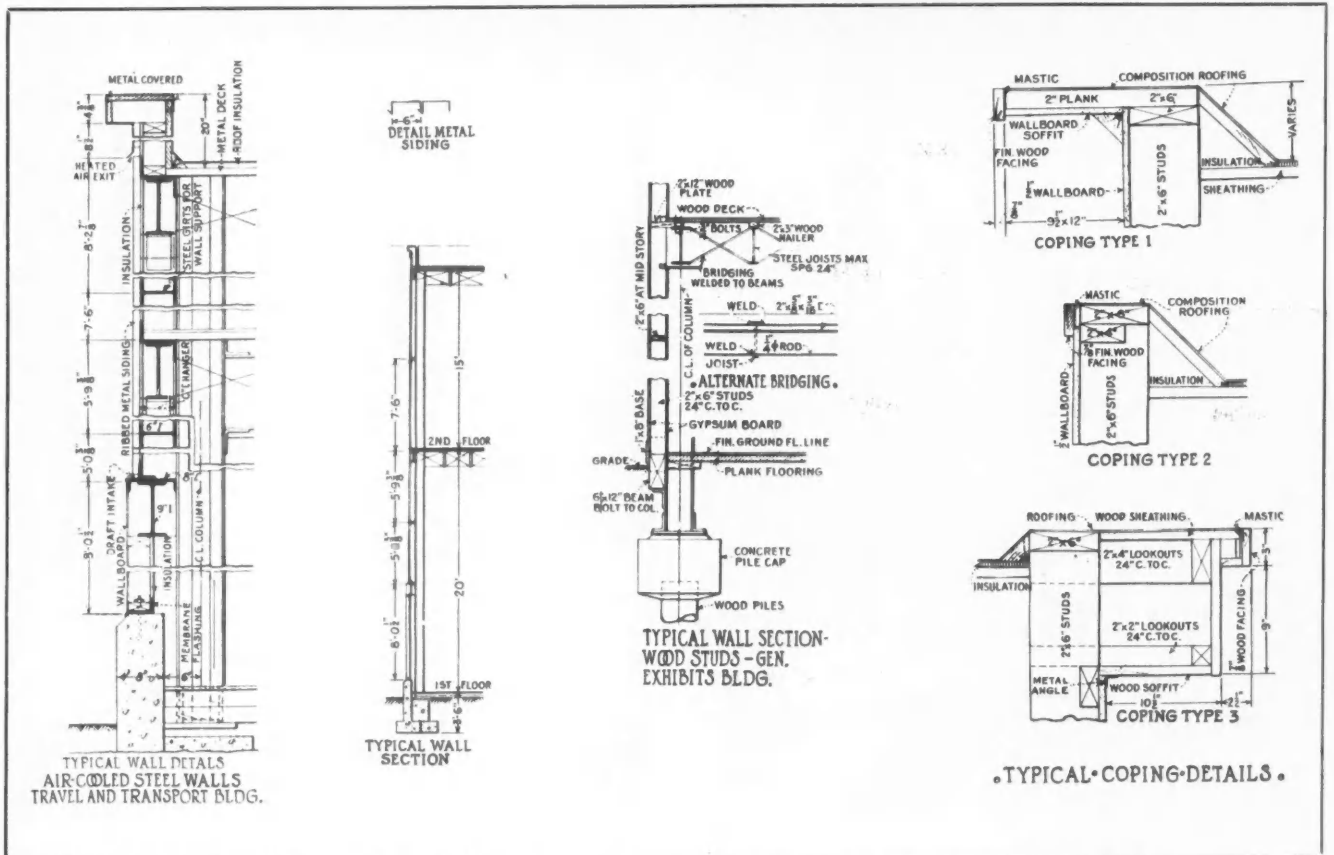
HALF-BARREL VAULT of the Agricultural Building which is sheathed in wood on a system of plank joists. Steel truss ribs used.

tlement correction became necessary. Settlement has occurred but has been fairly uniform except in the east end of the center wing. In this section, total settlement has reached 18 inches, and jacks were placed soon after the completion of the structure, with adjustments made at intervals.

The successful development of light weight wall covering in the Fair buildings was dependent on the perfecting of a type of rigid steel framing, since the light weight walls did not contribute to the rigidity or strength of the building. Heavy steel girders extending across the width of the building are used, which together with columns form strong bents for the structural bracing of the building. Web connections of girders to



POWER SAW speeds up important block and brace cutting on Agricultural Bldg. Numerous other types of power equipment contributed to rapid completion of Fair.



TYPICAL DETAILS showing important construction features of A Century of Progress exposition buildings. Air cooled walls of the Travel and Transport Building are shown; also the typical wall section of wood studs and gypsum board.

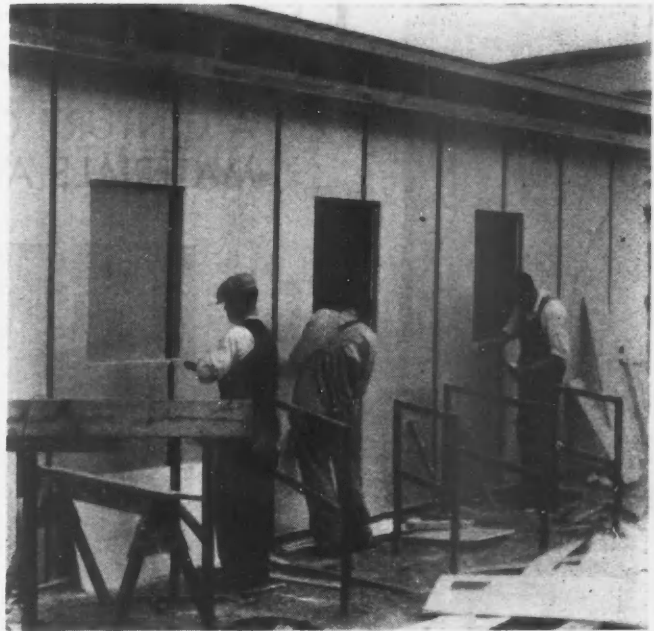
columns placed as high as possible on the girder with seat angle bottom flange connection, add to the bracing value of the framing. Steel joists of an open truss type are used and are well adapted to forming a safe, rigid floor construction by use of stiff cross bridging, rigidly attached to the joists, and by the use of special clamps at bearings.

On the Administration Building, the sub floor was made up of a system of pressed steel channels with legs turned down and so fabricated as to interlock along their edges. Sheet steel clips fastened the legs of the channels together, and at the same time anchored them to the steel joists.

Several new types of floor deck construction were developed for use over the steel truss joists. The channel construction just described was the first material tried; it has been hitherto used for roof construction only. A mastic floor covering that yielded a satisfactory economical floor finish over this decking was developed.

A new wood flooring product which is very interesting was also used over the metal decking. Metal channel runners were fastened to the middle floor deck with drive screws. The flooring was then laid over these runners and attached with patented clips. They hold it rigidly in place and yet are subject to quick removal without damage to the floor. The wood flooring thus clipped to the metal channel runners provides a finished floor without nails, and can be 100 per cent salvaged. Laying of the floor was very rapid and provided a saving in labor cost.

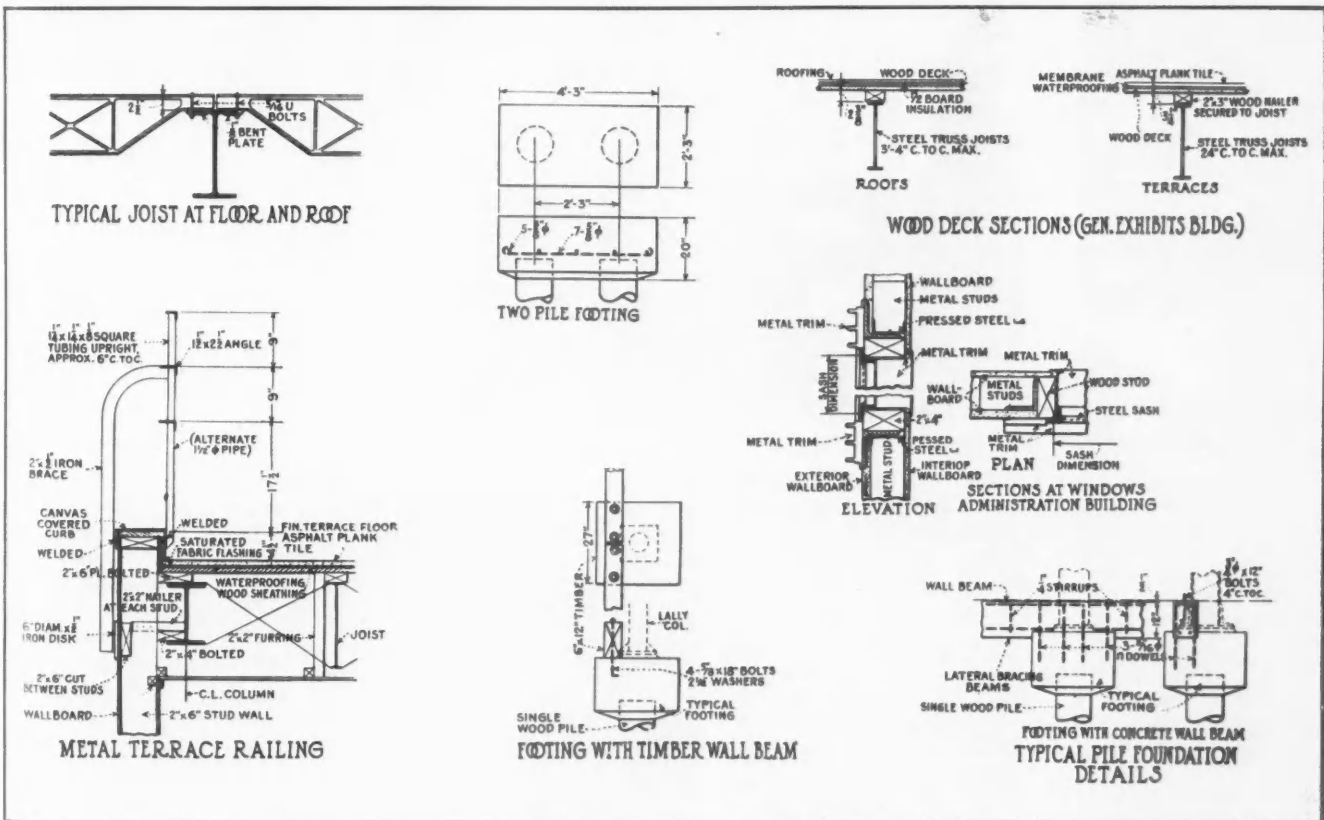
Another floor construction of great interest is the plywood floor of 5-ply Douglas fir, cut at the mill in large panels to suit the floor areas and joist spacing. The plywood strips are usually three feet wide for easy handling, and vary in length from 8 to 12 feet. Tongue and groove joints made the separate panels act together. The decking is nailed to treated wood nailers, securely



CUTTING WINDOW in entrance booth after gypsum board exterior was placed. Some 5 million feet of gypsum board was used in the Exposition buildings, much of it on exteriors.

attached to the top of the steel joist. Practically any type of finished flooring may be laid on this surface, and it is especially adaptable to linoleum, tile and mastic surfaces.

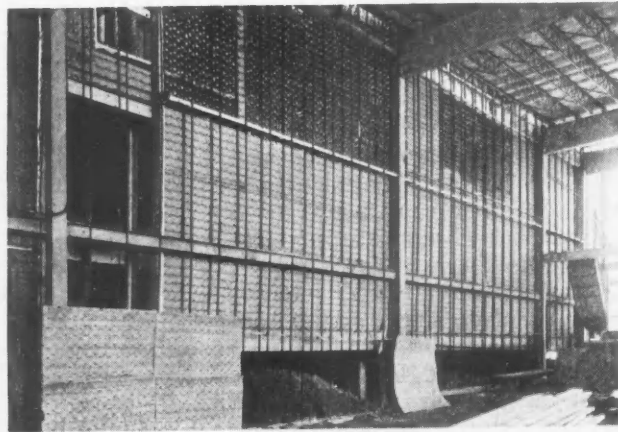
Possibly the most interesting feature, from a construction viewpoint, of the World's Fair buildings is the use of large section light weight exterior materials
(Continued on page 87)



MANY NEW IDEAS are shown in construction details of World's Fair buildings. The two pile footings were adopted for economy. Deck construction uses asphalt plank tile. Metal terrace railing is unusual.

EXHIBITION IN PRINT OF

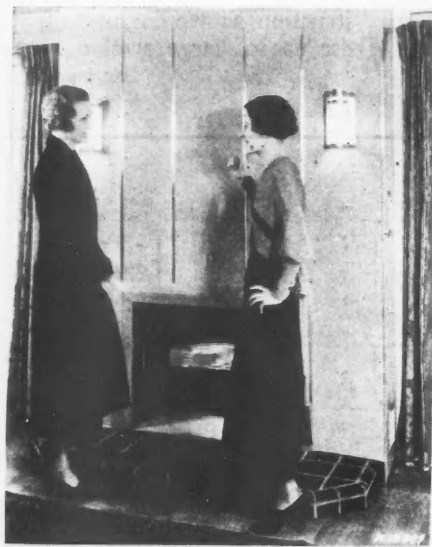
A CENTURY OF PROGRESS IN BUILDING MATERIALS AND COMFORT EQUIPMENT



RIBBED STEELTEX LATH used in the Hall of Religion, World's Fair. Lath is composed of three major units: (1)—heavy, fibrous backing to which is woven (2)—a 2x2 reinforcing mesh of welded, galvanized wire; (3)—rows of V-shaped metal rib stiffeners, giving rigidity—Pittsburgh Steel Co.

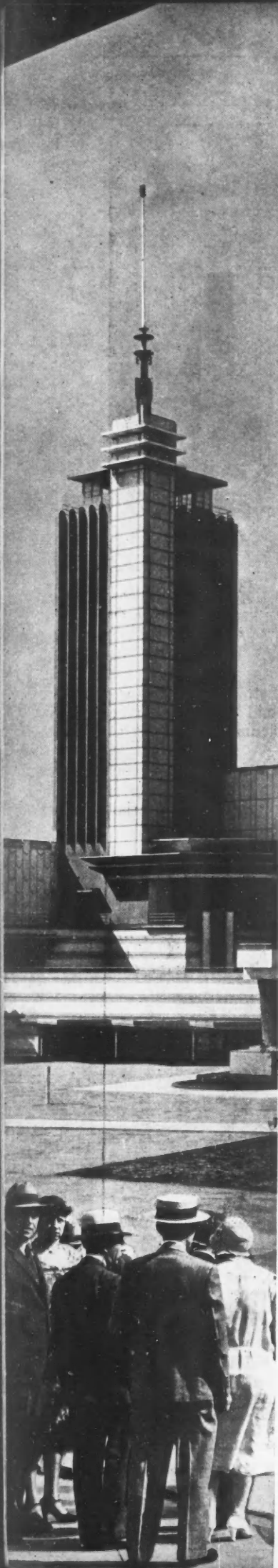
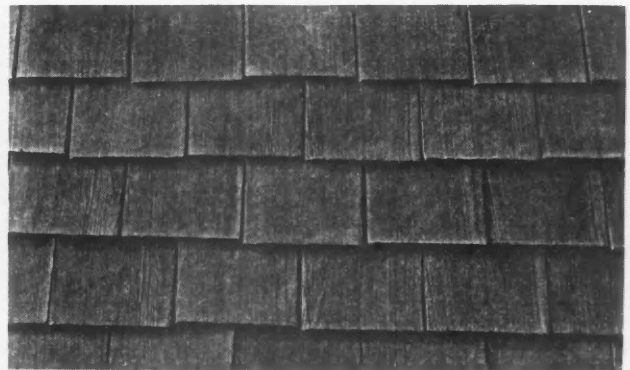


MASONRY MORTAR that combines plasticity of lime with the strength of portland cement, packaged in cloth or paper bags under trade name Brixment, comes ready for use. Mortar is water-proofed by calcium stearate integrally mixed during manufacture. Mortar colors are also added at the factory, are non-fading—Louisville Cement Co.



MICARTA MANTEL (above)—straw colored, set off by strips of chromium. The product is a laminated, synthetic material produced in many colors and patterns—Westinghouse Electric & Mfg. Co.

ASBESTOS CEMENT SHINGLE (at right) which is tapered and textured like a cypress shingle. Provides an attractive Colonial type shingle of fire-resisting material in weathered effect, five wood colors—The Ruberoid Co.

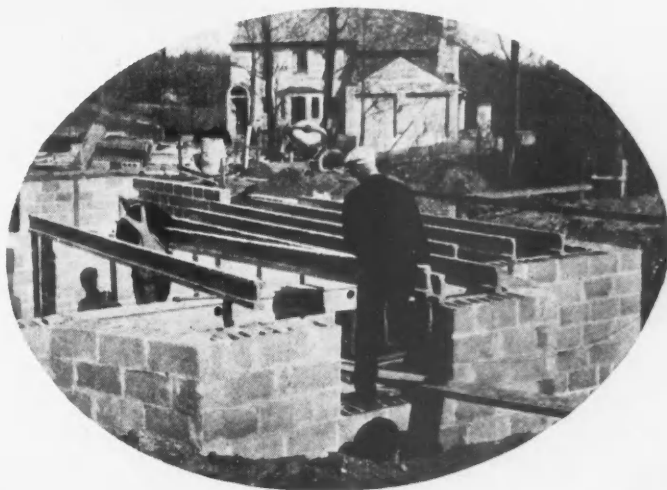


NEW PRODUCTS and DESIGNS

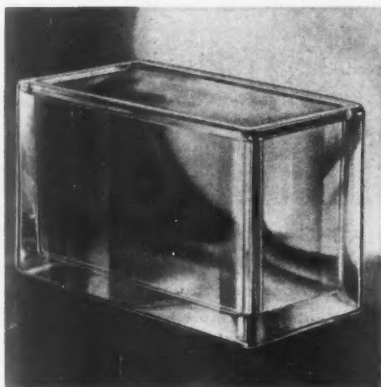
A PICTORIAL DISPLAY OF APPROVED ITEMS
FOR BUILDERS, ARCHITECTS AND DEALERS

ENTERLOCKING LUMBER—A late improvement in house framing lumber is shown at right. Ten basic framing members. Joists, sills, studs and plates go together with an enterlocking patented joint, machine-made. Standardized pieces speed work, reduce labor costs—
Long-Bell Lumber Sales Corp.

SPIRAL NAIL (below) for roll roofing, designed to prevent loosening or pulling out. Zinc coat prevents rusting—
W. H. Maze Co.

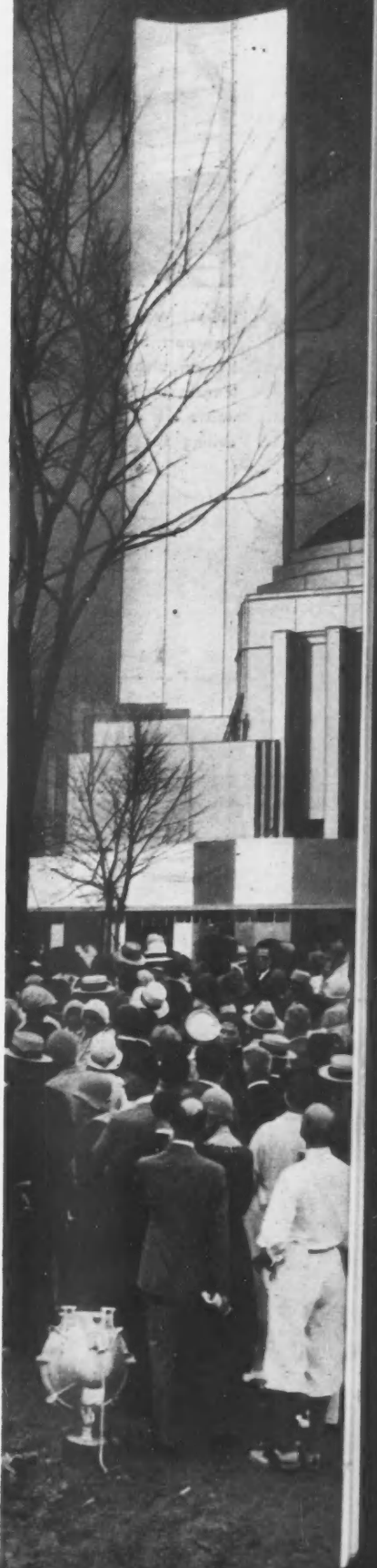
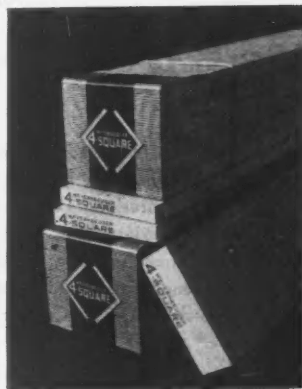


PRECAST JOISTS (at left), factory-made with reinforced light weight concrete, represent a new development in fire-safe concrete floor construction. Precast joists are light enough to handle easily, but strong enough to carry the required load of a reinforced concrete slab—Portland Cement Association.



GLASS BRICK, a new building material, is shown at the left. Its use is being demonstrated at Fair—The Owens-Illinois Glass Co.

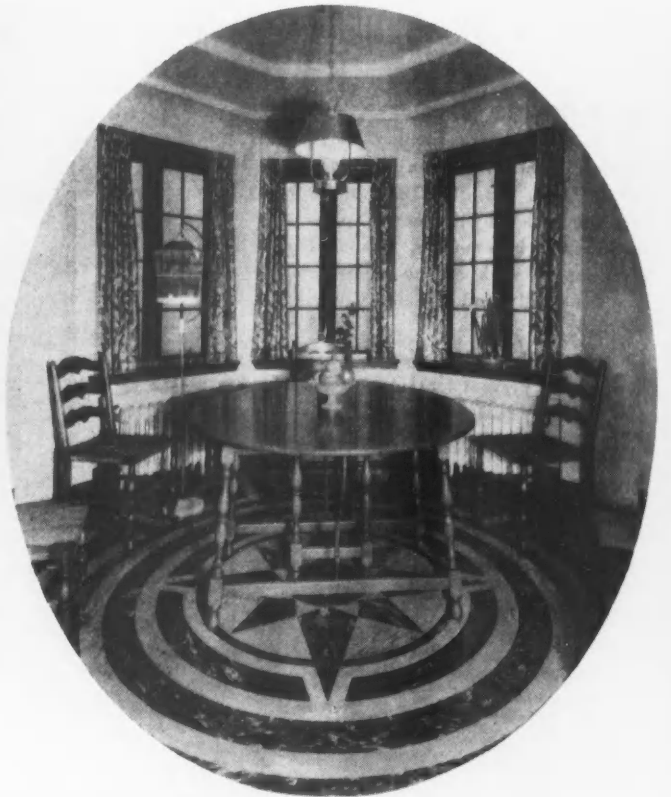
PRECISION LUMBER is supplied by the 4-Square line with all grades cut to exact length and trimmed square at both ends—General Timber Service, Inc.



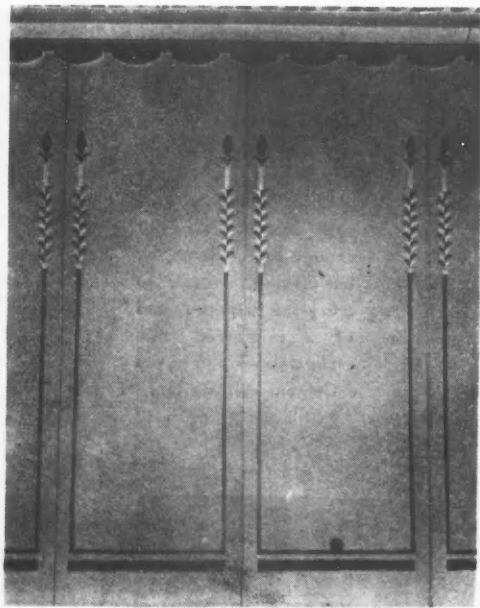


LIGHT WEIGHT STEEL TRUSSES used in construction of Travel and Transport Bldg., World's Fair. Trusses are produced from special I-beam blanks by hot slitting and rolling process, are made in all lengths up to 32 feet. Cord and web members are one piece. Joists are used in combination with a concrete slab and plastered ceiling for light-occupancy buildings, such as apartments, hotels, schools, residences—Kalman Steel Corp.

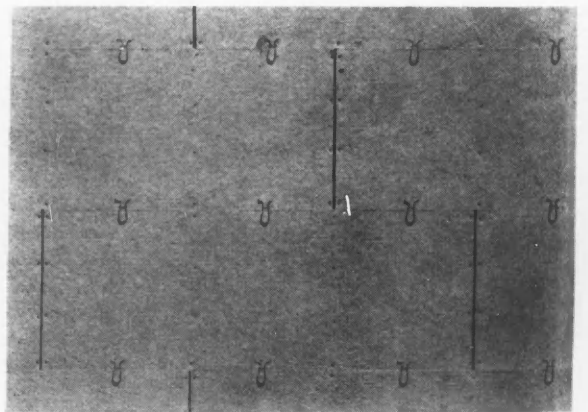
EXHIBITION IN PRINT



RUBBER TILE of attractive design is used in breakfast room above. Interesting designs of this type in rubber tile are easy to lay as every piece is cut at factory and plainly numbered. Manufacturer supplies a pattern for builder to follow in laying floor—Wright Rubber Products Co.

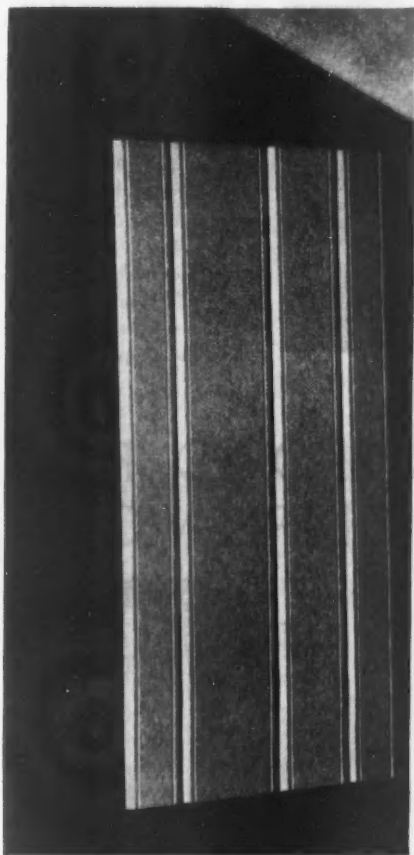


CELOTEX BUILDING BOARD, paneled with Celotex moulding, or grooved, provides a new type of interesting background for interiors. A number of treatments for Celotex interiors have been developed, and the technique of handling has been improved. Decorative stencils add to its attractiveness, as in the above design—The Celotex Co.

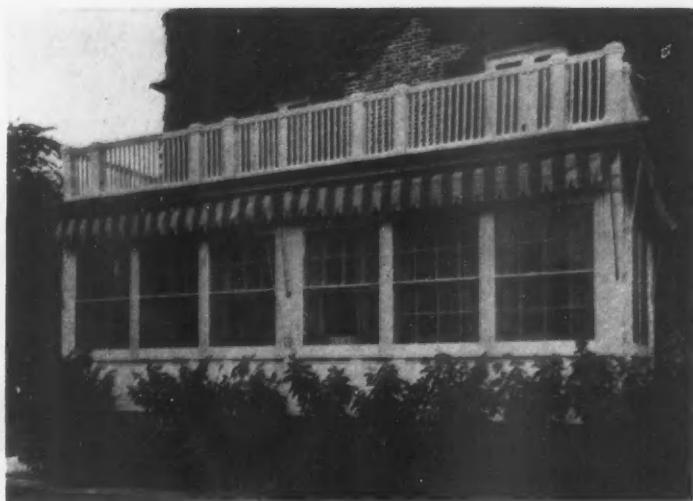


LOK-JOINT INSULATING LATH above is an improved plaster base of wood fiber insulating board manufactured in units 18x48 inches, from one-half to one inch thick. Edges are given an accurately milled shiplap edge, providing a close, tight joint between units which is further reinforced with wire locks—The Insulite Co.

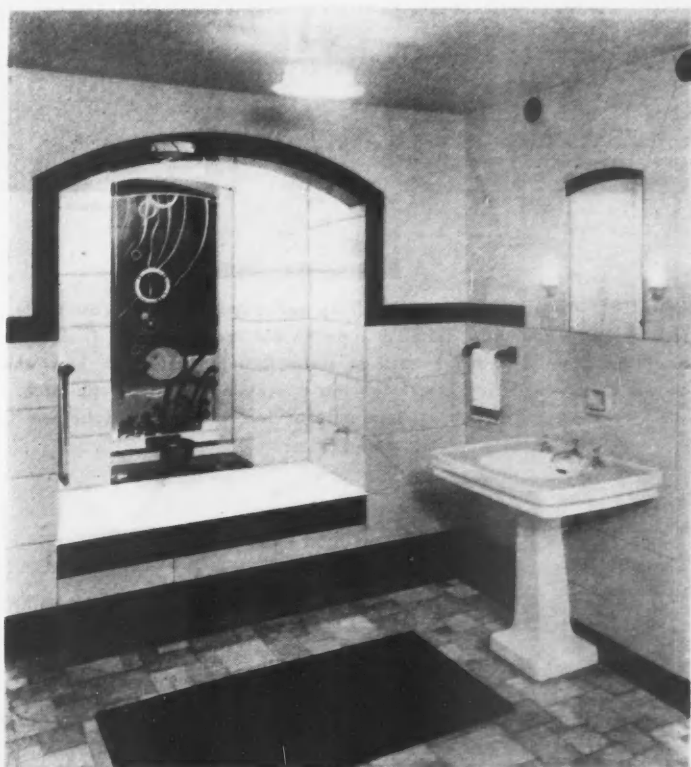
-NEW MATERIALS



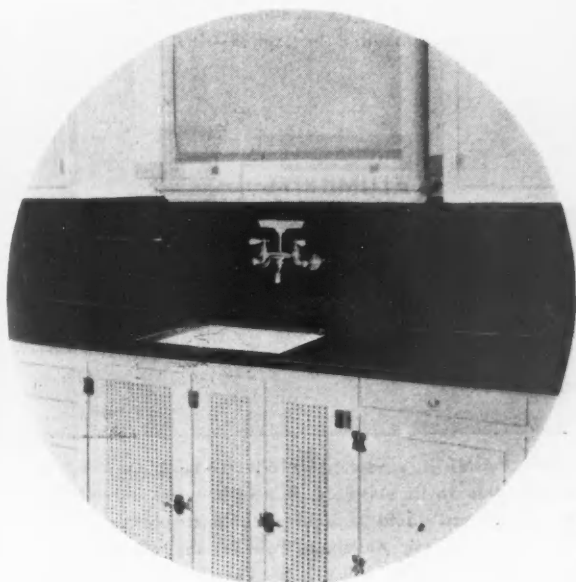
BEVEL-LAP PLANK that provides decoration, insulation and acoustical correction. Combines five different shades of brown. Bevels are widened and grooved, and have a parallel small bead which separates the various colors of the plank—Wood Conversion Co.



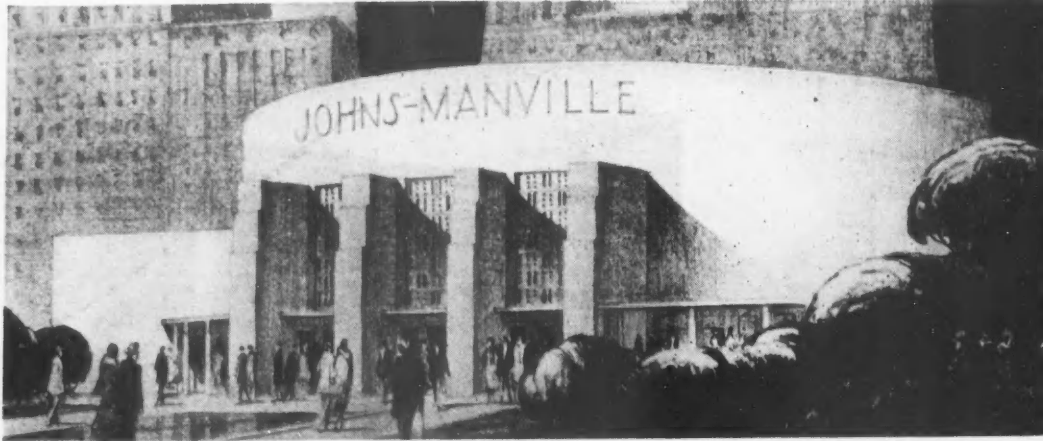
PRE-FIT WINDOWS, an installation of which is shown above, are new in design and principle. The window is entirely pre-fit at the factory. It does away with cords, pulleys, weights, is weatherstripped to produce a high degree of weather-tightness. Narrow trim and narrow mullions are possible. Complete with pre-fit storm sash and pre-fit screens; shipped in weather-resisting, dust-proof cartons—The Curtis Co.



STRUCTURAL PLATE GLASS—Carrara glass—applied to home uses in an attractive bathroom. Decorative application of structural plate glass is a new development. Carrara glass is not affected by moisture and gases, and provides a permanent wall facing. Available colors are jade, green, ivory, white and black—Pittsburgh Plate Glass Co.



FORMICA FACING is a new product in which the Formica is used as a facing material for metal or pressed board. Surface is non-staining, non-warping and acid resisting—The Formica Insulation Co.



TRANSITE—a rigid, cement asbestos board of flintlike hardness is used in the construction of the Johns-Manville exhibit building at the World's Fair. It is also used as the exterior surfacing of the Administration Building. Transite is highly resistant to acid, weathering, and will not burn, rot, crack or warp. The J-M exhibits will demonstrate control of heat, cold, sound, fire and motion—The Johns-Manville Corporation.

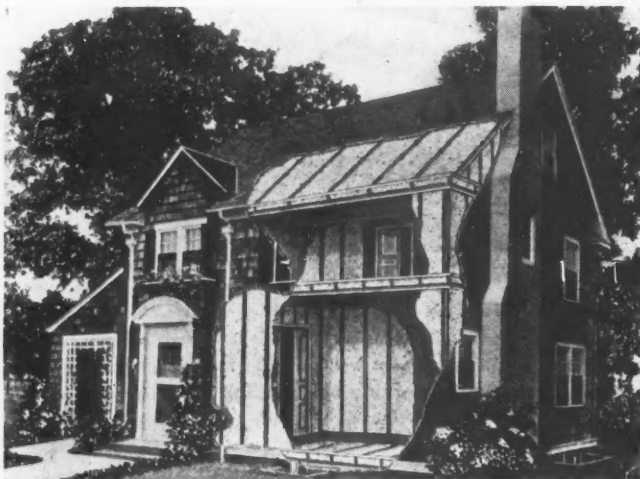


ROLSCREENS, as shown above, roll up and down like a window shade, can be installed in any window, forming a permanent screen feature that never has to be taken down. Screen travels on self-adjusting guide with lugs which hold wire in guides. Friction block regulates operation; has automatic latch. Strong, welded construction, guaranteed for ten years—The Rolscreen Co.

APPROVED FOR MODERN WORK



SISALKRAFT waterproofed building paper was widely used in the construction of World's Fair buildings. It is a tough, water-resisting paper reinforced with non-elastic, untwisted sisal fibers embedded in asphalt—The Sisalkraft Co.



AN INSULATED HOUSE with Mineral Wool packed in recommended locations to provide complete insulation for the house. The insulation is made from blast furnace slag converted into fibrous state, containing minute air cells. It is indestructible, will not burn, is easy to install—U. S. Mineral Wool Co.



ALUMINUM PAINT is a versatile product widely used in modern construction. Due to its elasticity, it may be used on wood, metal, interiors or exteriors. Sold in double compartment cans, with one containing Alcoa Albron Aluminum Powder, the other type SO-75 Diamond Wood Priming Aluminum Vehicle—Thompson & Co.

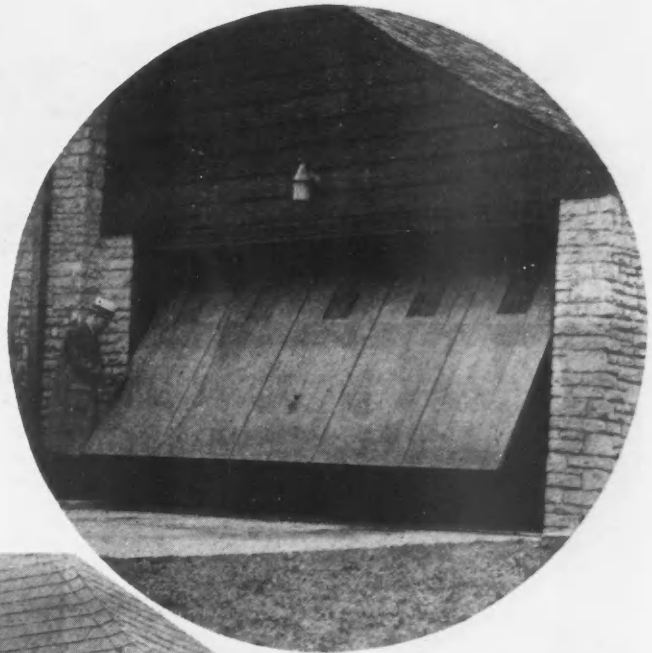
EXHIBITION IN PRINT GARAGE EQUIPMENT



MAGIC DOOR which opens on approach of a person. A photo-electric control, door operator, and an air compressor make up the mechanism. Interception of a ray of light shining on a photo-electric cell opens the door, and it closes automatically—The Stanley Works.



AUTOMATIC GARAGE DOOR opens at a touch of a finger which releases an electric key switch, opening the latch. The Roll-N-Fold door rises instantly and smoothly. Small coil springs are used to start the opening action; the doors are counterbalanced so that they move the rest of the way themselves. Closing requires a slight pull of one hand—The Majestic Co.



LARGE DOORS are easy to handle with modern installations of the "Over-the-Top" type shown above—Frantz Manufacturing Co.

OVERHEAD DOOR used in modern home at left is an important sales feature. Overhead Doors were used in several of the modern homes built at the World's Fair—Overhead Door Corp.



DUAL-AUTOMATIC RANGE of new design with many improvements. Range will cook automatically by the Flavor Zone method or the Maintained Temperature method, or by a combination of both—Westinghouse Electric & Mfg. Co.



SPECIAL KITCHEN FRONT to fill in space under the new type straight-line sink. Doors at bottom are ventilated, small space above tilts forward, providing a needed space for soap, scouring powder, etc. This is a popular new item getting wide use in modernizing of kitchens—The Kitchen Maid Corp.

KITCHEN CABINET DISHWASHER (at right) in latest modern design. Dishwasher is located in front of cabinet, and door opens down like an oven door, the upper and lower dishracks sliding out, on separate guides, for loading purposes. The sink basin is of Monel metal, work top of linoleum. Units are 48 inches long by 22 inches wide, and top extends out 3 inches. The Conover Co.

EXHIBITION IN PRINT—

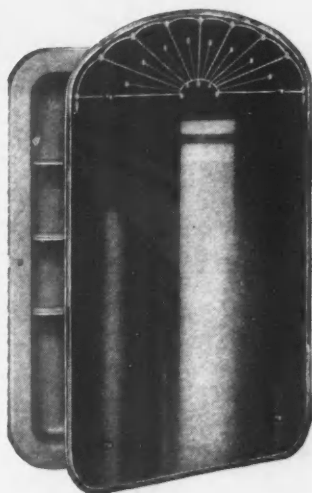


BATHROOM CABINET above has an indirect lighting device, a set of movable vanity mirrors on the side and a large roomy cabinet behind the center door. Indirect light is supplied by four standard electric bulbs hidden in the light wells built into the cabinet. Eliminates all glare and shadow—F. H. Lawson Co.



BATH ROOMS KITCHENS . .

PRESSED STEEL SINKS of the type shown at right and below in a wide range of sizes and designs are now on the market. Sinks are pressed from one piece of heavy gauge steel, and an acid-resisting enamel surface is fused into the steel in electric furnaces. The 60-inch model weighs only 70 lbs. Fixtures are designed to possess great strength and rigidity. Enameled surfaces will not stain or etch, being acid-resisting, and have been subjected to thorough abrasion tests—Youngstown Pressed Steel Co.

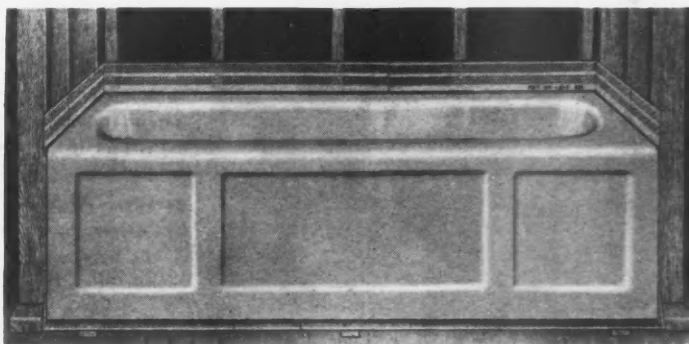


STEEL CABINET drawn from one piece heavy gauge copper alloy steel, shown at left. All corners rounded, no seams, cracks or joints. Priscilla model shown is Colonial design with automatic door opener—Cercoran Mfg. Co.

LEAK PROOF HANGER shown below made from heavy galvanized steel, is designed to prevent leaks around edges of built-in tubs and prevents tubs settling and pulling away. Tub hangers fit any size tub and will support a weight up to 8,000 lbs.—William B. Lucke.



SANI-METAL TILES used in the kitchen above are of rust resisting metal faced with hard, high gloss enamel finish. Are applied rapidly with special oil cement, producing low cost, durable tile wall—Sanimetal Tile Corp.

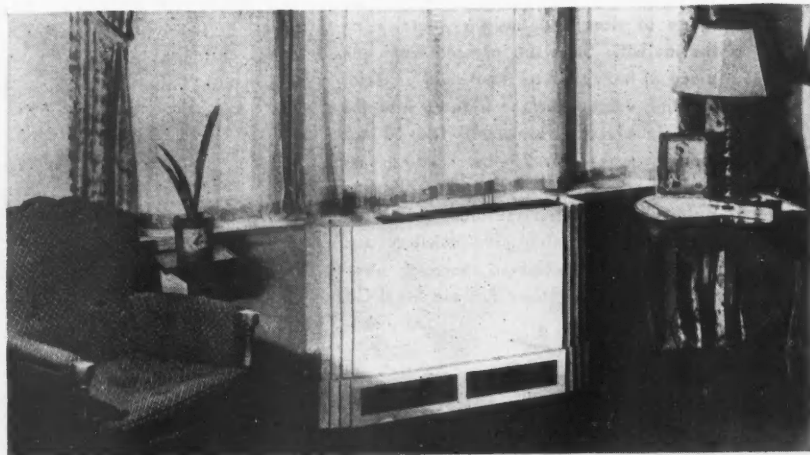


VITREOUS CHINA hygienic seat closet and tank combination of modern design is shown at left. Tank and bowl are as one. Tank is supported on closet and may be set any distance from wall—The Trenton Potteries Co.

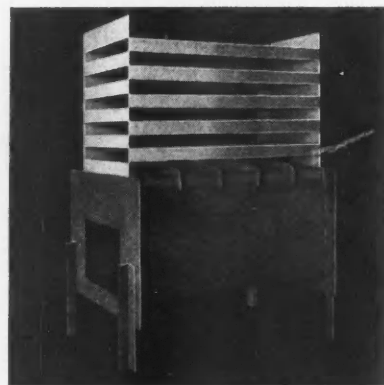
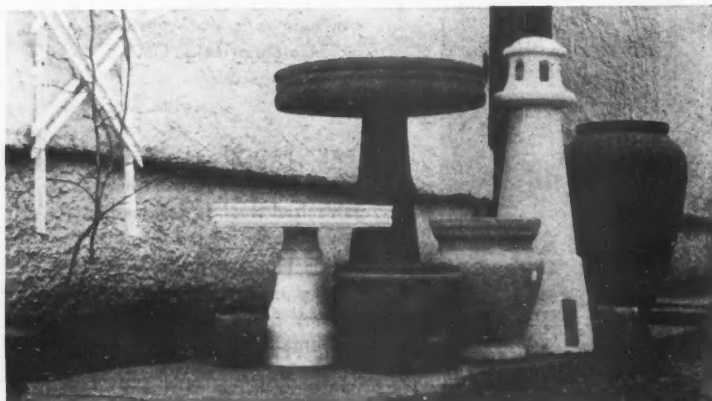
EXHIBITION IN PRINT LATEST HOME ITEMS



CONCRETE POTTERY, such as shown below, can now be made without molds under a special process. A very wet and thin mix is used, producing a pottery like clay with thin walls. A new money-making lead for builders—National Potteries Co.



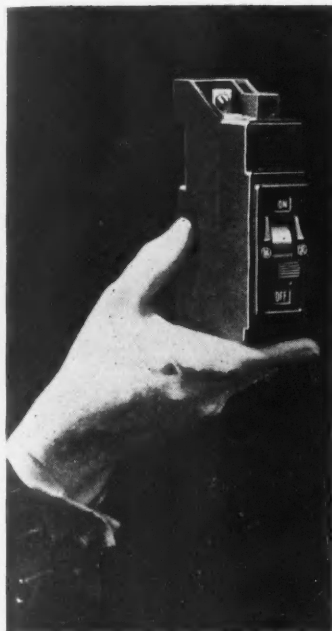
AIR CONDITIONING UNIT and silencer developed by the Campbell Metal Window Corp., subsidiary of the American Radiator Co. Principle of the gun silencer is used to eliminate noise. Dehumidifies and controls temperature. Steam operated cooling unit using tap water is located in the basement.



RADIO CONTROL at left automatically opens the garage doors. Code signal is sent from transmitter in car when approaching garage. A pull on lever by driver opens doors—Barber-Colman Co.

HOT-KOLD AIR CONDITIONER (at right and interior detail above)—latest scientific heating and cooling unit which performs the following ten functions: 1. Cleans the air several times hourly; 2. Maintains comfortable warmth in every room; 3. Provides sufficient moisture to banish colds; 4. Provides uniform diffusion of comfortable air; 5. An efficient burner that saves fuel; 6. A compact, attractive central unit; 7. Small concealed ducts in the basement; 8. Efficient wall grilles to release space; 9. Tempered, filtered, moving air in summer; 10. A new order of beauty, upstairs and down—The Edwards Manufacturing Co.



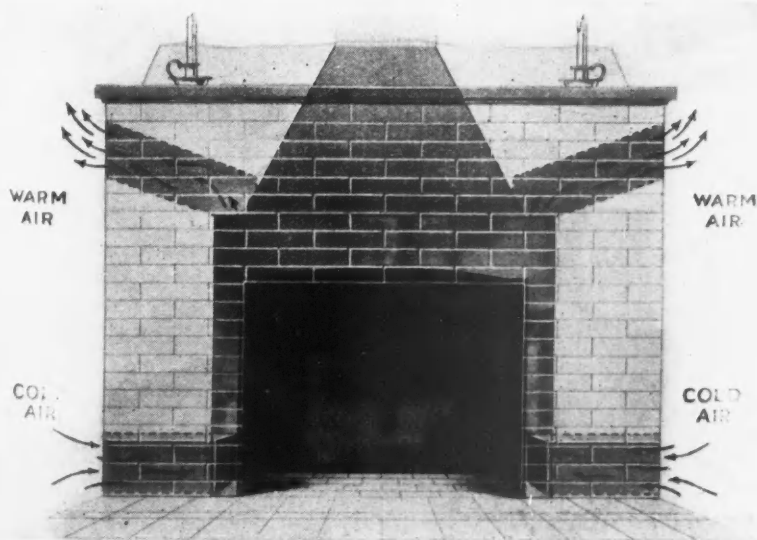
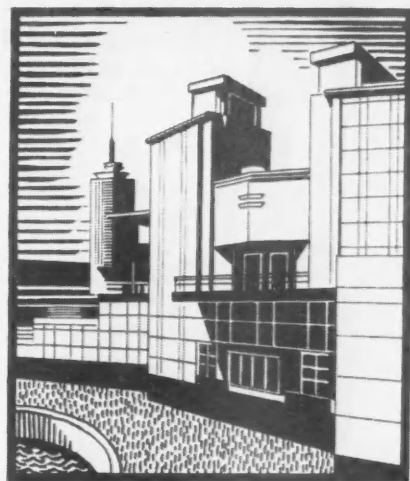
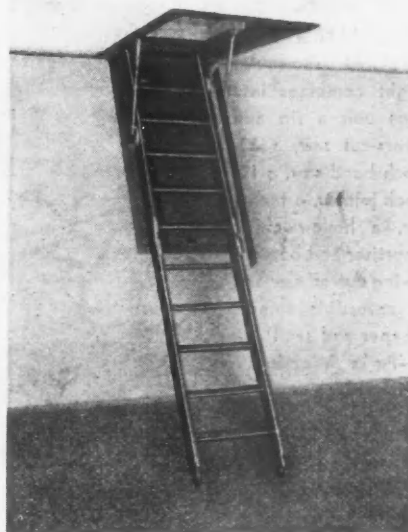


CIRCUIT BREAKER for use in residences is a new development by the General Electric Laboratories. When electric circuit of a house blows out, it is quickly re-established by the use of this switch which is located in an easily accessible part of the house—
General Electric Co.



THE KITCHEN OF THE CENTURY—probably no section of the home reflects progress in layout, equipment and materials to a greater degree than does the kitchen. Above is illustrated a modern cook shop in Monel Metal, a modern industrial solid alloy of nickel and copper finding many household applications. This metal is used for the sink and for the cabinet, table and range tops. Color scheme is black, ivory, red—The International Nickel Co., Inc.

FOLDING STAIRWAY (at right) comes to the job ready to put into opening, is fitted and hinged into the jamb. There is no obstruction to the attic floor. Stairway is well balanced and requires only slight pull on the chain to bring it downward for use—The Marschke Co.



HEATILATOR—a metal form for the masonry produces a fireplace which creates circulating heat. Cold air is taken from floor level or outside into the double wall heating chamber surrounding the fireplace. It is then heated and returned to the room through decorative grilles. Unit is made of special boiler plate iron to assure durability. Installation is simple and danger of smoking of fireplace is eliminated—The Heatilator Co.



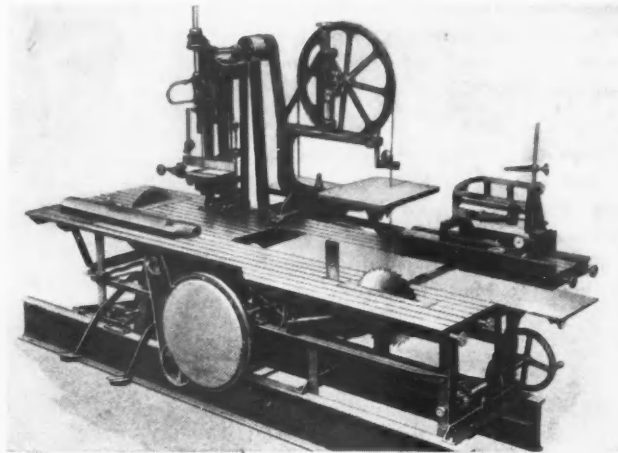
EXHIBITION IN PRINT POWER EQUIPMENT

SKILSAW—the portable electric hand saw shown at left makes every cut required by the carpenter-builder of homes and small apartments. Definite cost figures show that electric tool equipment of this type pays its own way and reduces time and labor—Skilsaw, Inc.



TAKEABOUT SANDER weighs only 21 lbs. and has many new features. Machine is dustless and has zipper opening bag. It is well balanced, has easy switch control, 110-volt motor developing over 1 H. P. Belt size is 3x27 inches and belt can be changed in 10 seconds—Porter-Cable-Hutchinson Corp.

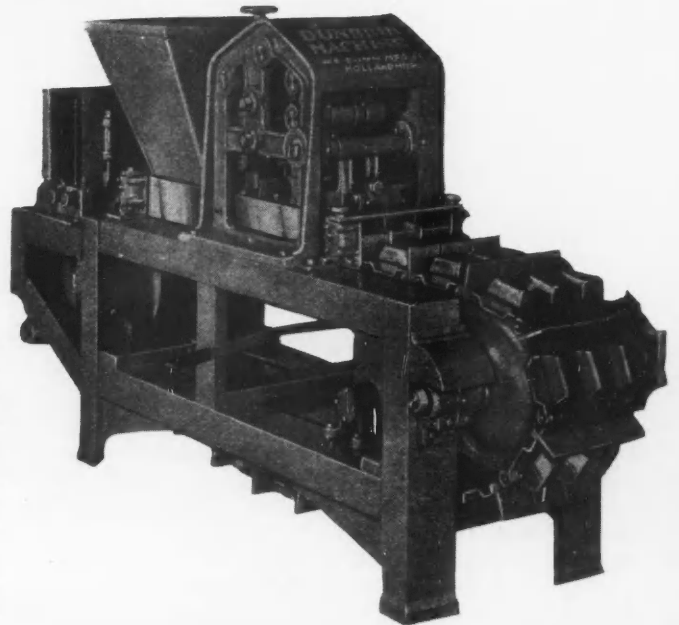
PLANING MILL SPECIAL shown at right combines into one unit a rip and cross-cut saw, a 22-inch band saw, a 12-inch jointer, a tenoner, a hollow chisel mortiser and borer, a swing cut-off saw and a reversible spindle shaper and sand disc—Parks Woodworking Machine Co.



SPEEDOLITE floor surfacing machine at left incorporates desirable features of the heavy duty machine yet weighs, complete, only 80 lbs. Entirely dustless in operation, ball bearing throughout, high speed 7-inch rubber covered sanding drum, surfaces directly up to quarter-round—The Lincoln-Schlueter Floor Mach. Co.

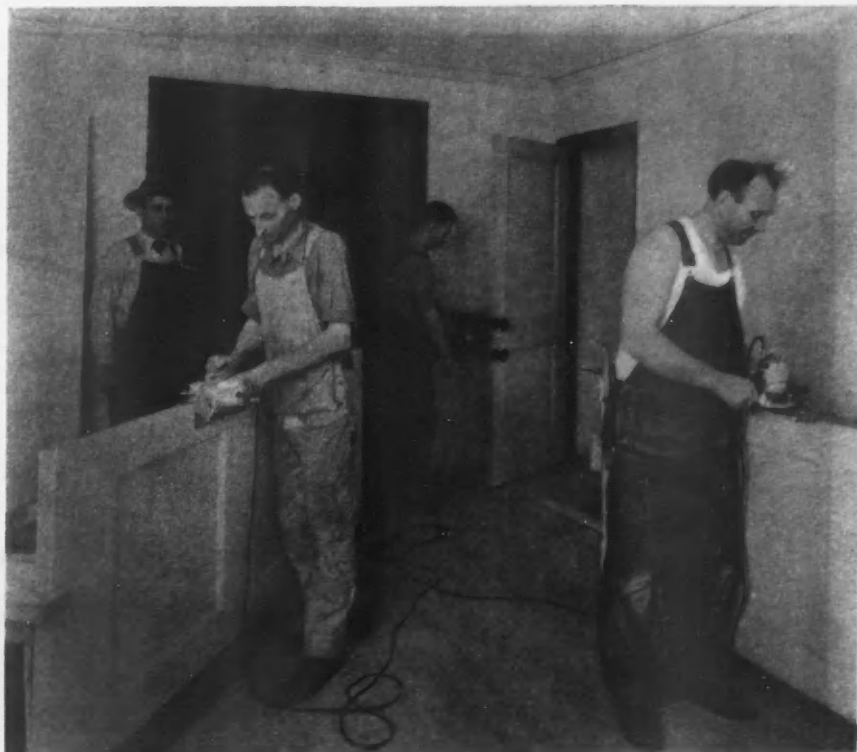
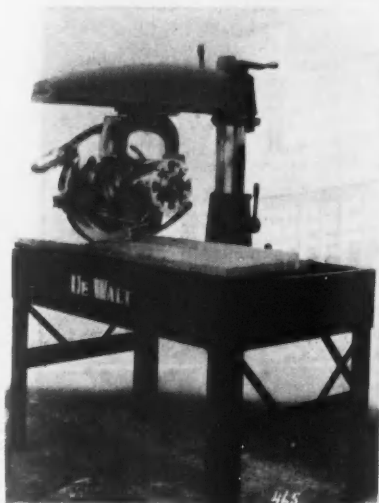


DUNBRIK MACHINE of improved type at right produces concrete masonry units at low cost. Junior model illustrated turns out 12,000 bricks per day, weighs less than 3,000 lbs. A compact plant for dealers or contractors enabling them to make brick on job—W. E. Dunn Mfg. Co.

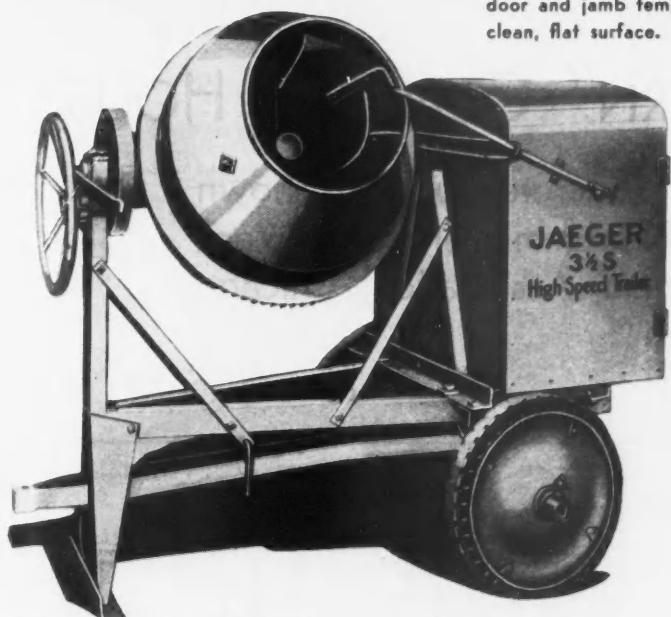


DU
bet
All-
sure

VERSATILE SAW—advance in contractors' equipment is shown by the machine below, which is built to cut wood, metal and stone, and is designed for portability on the job. It is ruggedly built and operates at high speed to force rapid work—DeWalt Products Corp.



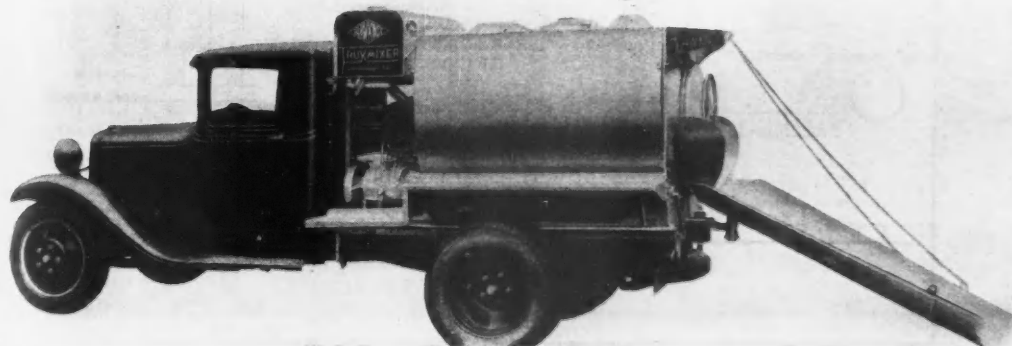
DOOR SET ON THE JOB—at right the carpenter is using an electric hinge butt router and door and jamb templet to cut butt mortises. Mortise is cut quickly and given a smooth, clean, flat surface. At the left a Carter power plane is being used to fit a door. Patented spiral cutter turning 18,000 r. p. m. leaves a smooth surface regardless of grain of wood. In center a lock mortise is being cut in 30 seconds with mortiser. Operator merely pumps the handle—R. L. Carter Co.



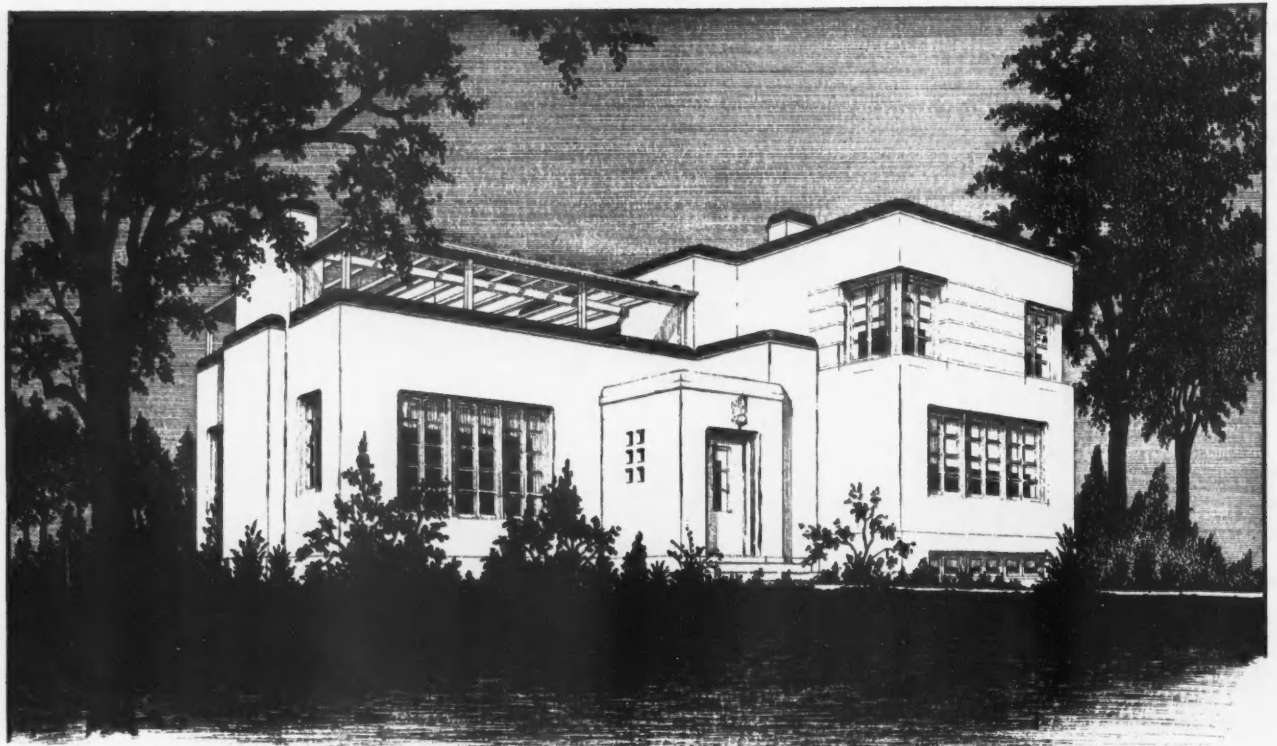
DUAL MIXING—heavy duty trailer mixer produces 10 movements of the batch in every complete drum revolution and doubles speed of mixing. All-steel construction throughout. Balanced semi-automatic dump insures fast handling of tilter drum between batches—Jaeger Machine Co.



SPINNER TYPE floor edging machine above sands the butt ends of the floor as well as the side edges. Does rapid, dustless work at low cost—American Floor Surfacing Mach. Co.



TRUCK MIXER of improved type uses aluminum alloy castings to reduce weight. High efficiency, low operating costs, long life, provided—Blaw-Knox Co.

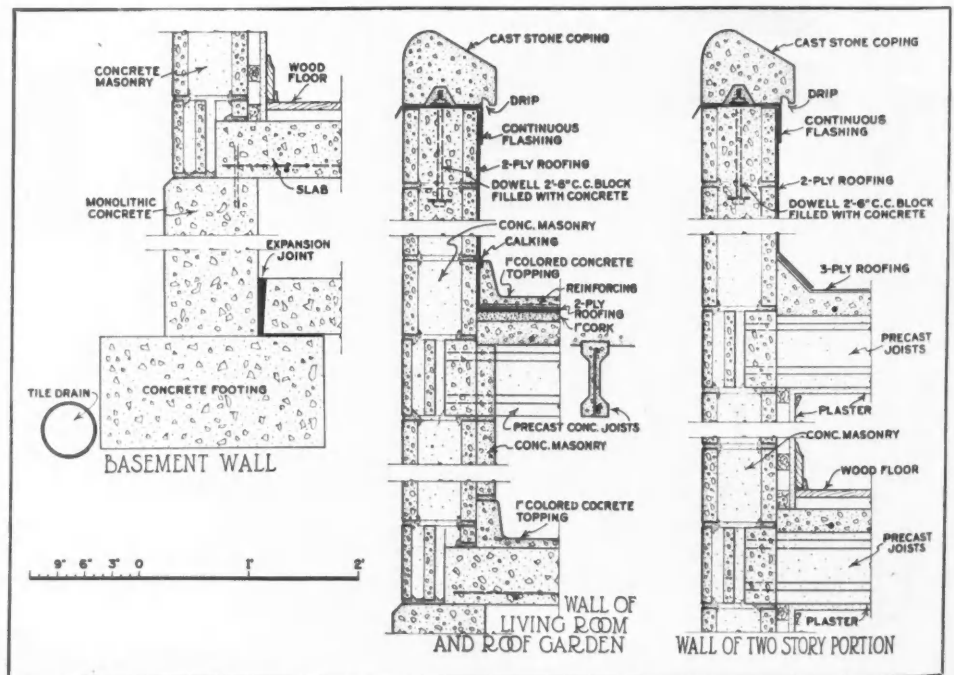


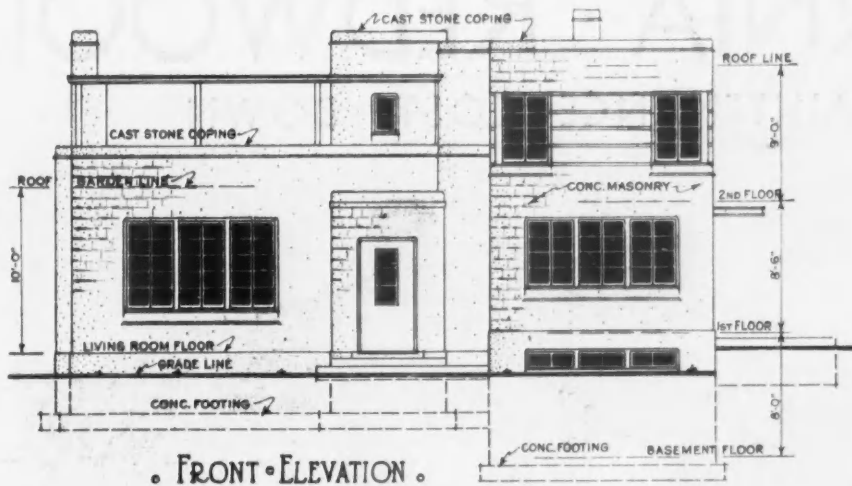
AN "HONESTLY MODERN" CONCRETE HOUSE

A Century of Progress In Concrete Building Shown In New Design by Wyatt B. Brummitt and Wal-Ward Harding for Portland Cement Association, Chicago

MODERNISM at its best means the honest, economical and efficient application of methods and materials to meet a given job. This house is built throughout of standard concrete products providing fire safety, long life and comfort; yet it is thoroughly and honestly modern. The outdoor living room roof garden with its outside fireplace is a striking feature. It is to be screened and covered with an awning—making a delightful spot for summer recreation.

DETAILS at right show use of standard concrete masonry units. Floors and roofs are concrete, designed for construction with the new light-weight precast concrete joists. Economy is achieved through elimination of peaked roofs, dormers and other space wasters. It is practical.

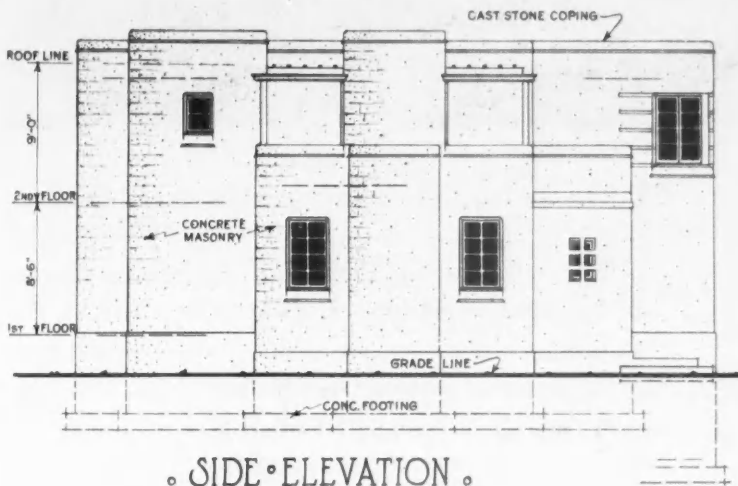




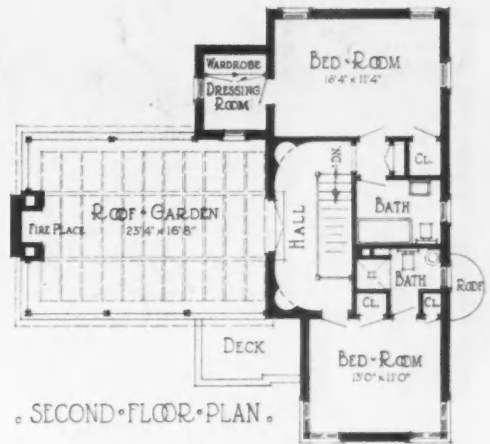
◦ FRONT ELEVATION ◦

BUILDING details of this modern concrete house show how a striking and attractive effect is achieved with thoroughly tested concrete materials. Walls are of standard eight-inch concrete masonry units. The only exterior treatment is cement paint.

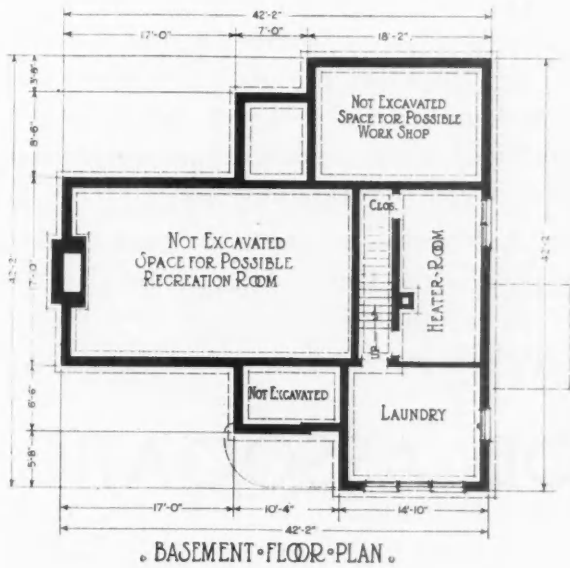
INTERIOR treatment can be carried out in standard methods depending on climate and decorative wishes of tenant. Proper furring out is recommended. Floor plan is economical, practical and has many features of comfort and convenience for today.



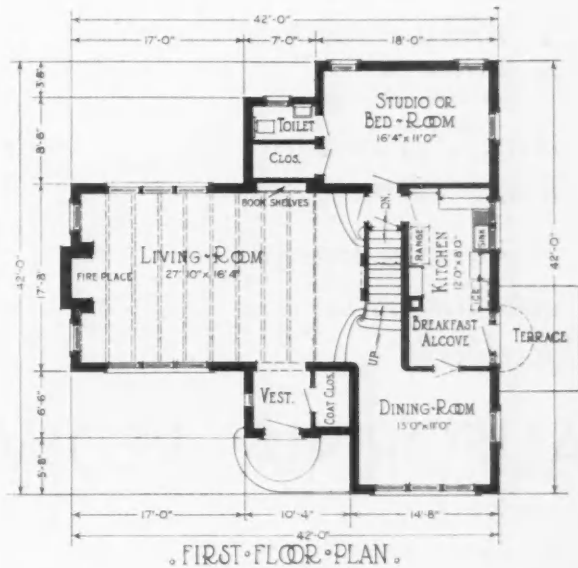
◦ SIDE ELEVATION ◦



◦ SECOND FLOOR PLAN ◦



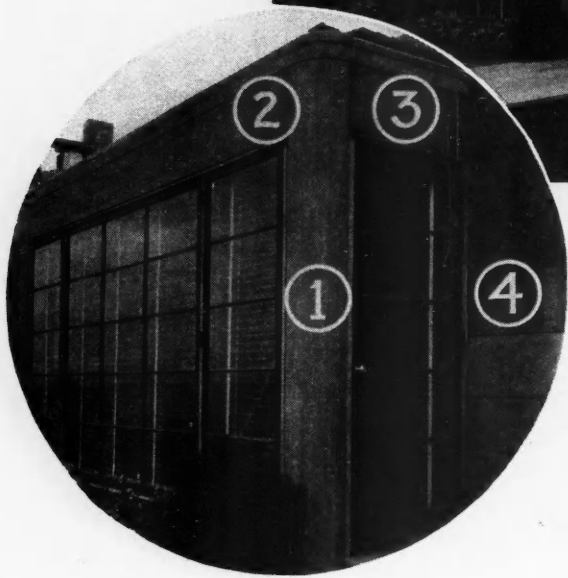
◦ BASEMENT FLOOR PLAN ◦



◦ FIRST FLOOR PLAN ◦

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THE Sunlight House is a splendid example of the use of a proper wood in the proper place. Clear Heart California Redwood was wisely chosen for the exterior siding. Its durability insures the maximum years of service which every home owner has the right to expect. Its freedom from checking and shrinkage provides permanently tight joints. Its wonderful capacity to take and hold paint assures minimum upkeep costs. It is easy to work. Builders like to work with California Redwood.

The United States Government ranks Clear Heart California Redwood as one of America's "most durable woods." We recommend durable lumber for outside finish, porch work, soffits, cornices and buttresses; in fact, anywhere the wood is subjected to rain and sunshine, heat and cold, and other unusually severe conditions. Clear Heart California Redwood will stand up under all these conditions.

California Redwood is available at retail lumber yards throughout the United States. Complete information on California Redwood and its particular uses will be gladly provided by

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NEWS

Building activities of the month

Lively Home Renewal Conference

A FIRST step towards organizing the small construction industry was taken and much good news presented at the National Conference on the Renewal of Home Building, held at the Congress Hotel in Chicago May 9 and 10. Authorities from all parts of the country, covering several special national surveys made for the meeting, reported the following:

1. On conservative estimates the country is short 500,000 homes now. Vacancies are greatly decreasing so that nearly normal vacancy figures prevail in many areas.

2. Taxes on real property have been reduced in states throughout the country, and this movement will continue. Within the next two years the tax bills of home owners everywhere probably will be reduced by one-fourth.

3. The 12 Federal Home Banks located throughout the country will be able to lend direct to home owners and home builders if the Administration Bill now pending is passed; and these banks could immediately loan much larger sums if many home financing institutions would change their methods to conform with the changing times. It was predicted that this will be done.

4. There has been going on in many parts of the country, during the darkest days of the depression, research that has resulted in the development of improved materials, amazing pieces of equipment, and economical new methods for homes.

5. There will be more demand for \$5000.00 homes and homes of approximately this cost with vegetable garden space than for any other kind of homes, when building is resumed.

The 500 architects, builders, real estate men, building and loan officials, union labor representatives and manufacturers attending the Conference were given a picture of what the future holds for the home owning public and for the thousands of people normally employed in the construction industry. They were told that in spite of the accumulating housing shortage, building programs will be resumed slowly, though at a faster rate than that following other depressions. They were presented with a picture of communities of homes dotting the country, in which not only the exterior and the interior of the home will be carefully planned, but that programs so desirable that people will like them, will be put into effect to cover all their waking time.

Herbert U. Nelson predicted a 25 per cent cut in the bills of home owners within the next 24 months, and traced the movement that has gained momentum simultaneously throughout the country to find new sources for raising tax funds so that real property will not have to continue to pay practically all of these bills. One of the most significant changes in this connection, he showed, is the move to transfer all or part of the costs of public schools to state governments, which at once takes many dollars from the annual levy on the home owner. Such a change has been made in North Carolina, Virginia, Indiana, and the State of Washington, and is progressing to this end in California.

A resolution was adopted calling for a committee of 15 to organize a National Housing Conference Board with a broad membership representative of all interests—business, civic, and social—whose purposes would be:

(a) to bring about through conference and discussion a reconciliation of viewpoint and a unity of purpose among all interests in matters affecting housing.

(b) to serve as a contact with government.

(c) to work with all existing agencies interested in housing.

(d) to serve as a national clearing house for information.

(e) to encourage residential building and home ownership along sound lines.

(f) to set up appropriate divisions under strong committee leadership for the study of various problems such as improvement of building methods, improvement of financing methods, and taxation.

(Continued to page 82)

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Of all the equipment required for the fireplace the damper is by far the most necessary. It forms the proper size and shaped throat which is the basis for the successful operation of all properly burning fireplaces. Its cost of a few dollars is insignificant compared to the satisfaction of having a fireplace which will always be free from trouble. The Peerless Fireplace Damper is simple in construction, easily installed and operated and will last indefinitely. It is made in every necessary size and three styles of control.

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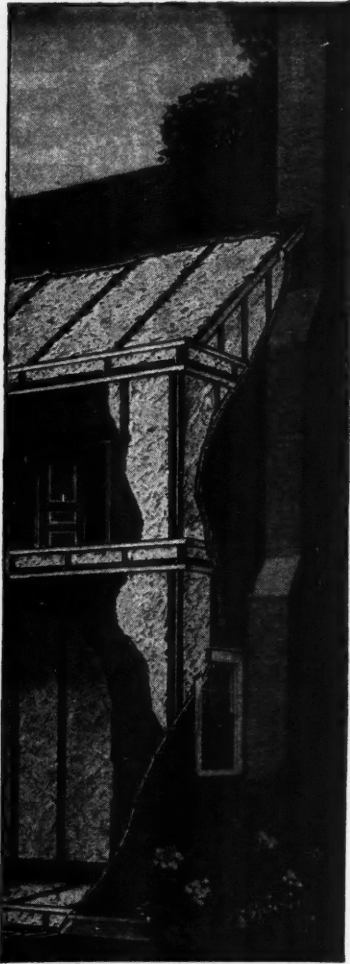
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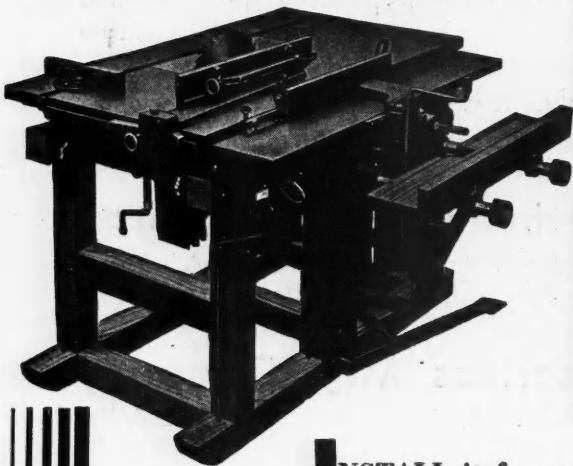
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NEWS of the Month

May Residential Building Passes '32

CONTRACTS awarded during the first half of May for residential building were reported on May 20 to have increased 36 per cent over the first half of April, against a normal April-May decline of 10 per cent.

The F. W. Dodge Corporation reports that if the rate continues through the rest of the month, which is likely, the total will exceed May, 1932, by a modest amount and would be the first time since the spring of 1931 that residential building awards have been able to rise above their respective totals for the comparable period of the previous year.

Contracts awarded for all classes of construction in the first half of May (in the thirty-seven states east of the Rockies) totaled \$41,715,400. Residential contracts accounted for \$12,795,300, much of it in small homes.

An Increase of 21.2 per cent in indicated expenditures for total building construction in April as compared with March, 1933, was reported by the Bureau of Labor Statistics of the Department of Labor from 778 identical cities having a population of 10,000 or over. The 1933 increase of April over March was greater than the increase shown in comparing these two months in any of the previous three years. Comparing April, 1933, with March, 1933, there was an increase of 29.4 per cent in the number and an increase of 10.3 per cent in the estimated cost of new residential buildings. New non-residential buildings increased 44.7 per cent in number and 43.4 per cent in indicated expenditures.

There was an increase of 17.7 per cent in the number of additions, alterations, and repairs and an increase of 8.3 per cent in indicated expenditures for this type of structure. The total number of building operations increased 23.1 per cent while indicated expenditures for total building construction increased 21.2 per cent during this period. During April, 1933, 2,378 family-dwelling units were provided in new buildings. This is an increase of 2.3 per cent as compared with March.

Home Mortgage Bill Progress

PRESIDENT ROOSEVELT'S plan for lifting the fear of foreclosure from thousands of small home owners through the 2 billion dollar refinancing program moved out of committee May 22 to take its place on the Senate calendar.

In passing the bill on to the Senate, the banking committee liberalized and enlarged the scope of the measure as submitted by the administration and passed by the House.

The most important change was to include within its broad reach homes valued up to \$25,000, instead of limiting the aid to homes worth \$10,000 or less as recommended by President Roosevelt, or placing the limit at \$15,000 as in the House bill.

The Senate committee increased to 50 per cent of the value of a home the amount that might be advanced to a home owner to retire a partially paid off mortgage on which he was threatened with foreclosure.

The administration bill had no such provision and the House limited the cash advance to 30 per cent of value.

The Senate committee also struck out a House limitation that not more than \$10,000 could be used for refinancing a home, leaving the limitation at 80 per cent of the value of the property.

What Bill Is—Horace Russell, general counsel of the Federal Home Loan Board, described the bill as follows in an address May 13: "The Home Owners Loan Act of 1933 proposes to repeal the direct loan provision in the Federal Home Loan Bank Act and leave that System as a reserve system for home financing institutions. It proposes the Home Owners Loan Corporation as a relief agency, which will be operated wholly separately and apart from the Banks, as a recognized relief agency. It will not make direct loans in cash to take up existing mortgages. The Government has not the money to take up twenty billion dollars worth of mortgages, or even to take up the several billions now in default.

"The Corporation will have \$200,000,000 of cash capital and will be authorized to issue \$2,000,000,000 of bonds, the interest on which is guaranteed by the United States. It will simply refund the mortgages in the direst distress by exchanging these bonds

where the mortgagee will take the bonds for the present mortgage, and, in connection with the exchange, pay accumulated taxes, etc., in cash.

"By this means the mortgagee who has been unable to collect anything for a long time and where both the mortgagee and mortgagor are unable to keep taxes paid, will be able to get one of these 4 per cent bonds instead of losing everything by a tax sale, and the home owner will save his home and his indebtedness will be carried at 5 per cent interest over fifteen years, which will require payment of about \$8.00 per month per thousand of indebtedness, and the Corporation can extend these payments temporarily for home owners out of employment.

"Not many mortgagees will or can afford to take these bonds, but many mortgagees had better take the same than to lose everything, and, in all cases where the refunding takes place, the mortgagor will get better financing of his home and should be able to carry on and save his place. It is not intended that this Corporation should take over the normal mortgage business; it is intended as a relief agency. It has a cash capital amounting to 1 per cent of the total amount now owing on mortgages, and it is authorized to issue bonds in an amount equal to about 10 per cent of the total amount now owing on mortgages.

"It is hoped with these bonds to refund five or ten per cent of the mortgages in the worst shape in this country, and it is given enough cash, it is thought, to take up the taxes and some of the charges in connection with such refunding operations. In order to enable this Corporation to function as a relief agency it is permitted to go up to 80 per cent of value in its refunding operations. It will probably have to pursue a rather liberal appraisal policy to effect reasonable relief."

Mortgage Bankers Object—A loud complaint that the home mortgage bill "will put the U. S. government into the mortgage business" was made by Louis K. Boysen at the Chicago Mortgage Bankers' Association banquet May 26. He said private capital will not be able to compete with government terms.

Enthusiastic endorsement of the Roosevelt program by practically every other group in the building industry has been given. Spokesmen pointed out that if it is a case of choosing between the mortgage banker and the U. S. government, most building men would prefer the latter.

Plan to Prevent Bid Peddling

THE Nashville plan to eliminate price cutting has been recommended by a joint committee of the American Institute of Architects and the Associated General Contractors. The chief feature of the plan, according to W. F. Creighton, chairman of the Building Contract Committee of the A. G. C., is that every general contractor must submit a sealed list of the names of the subcontractors he has used to some agency acceptable to both buyer and seller. No general contractor is excluded, all having equal opportunity.

"If the contractor submits the list," Creighton explains, "and agrees to other simple terms of their bidding practice, he is given every consideration. But if he will not agree, he does not receive a bid from any member of the subcontractors' organization. If he should secure the contract, none of them will accept any work from him.

"If the subcontractor cuts his price, or accepts work from a general contractor who does not subscribe to the plan, he is expelled from the organization and the general contractors do not request future bids from him."

The result of a year's operation of the plan in Nashville, according to Creighton, has shown the contractor that he must add a profit to his estimate, since he cannot earn a profit under the new regulations by trading and peddling sub-bids. The subcontractor must quote his best price because he will have no opportunity to reduce it.

"It does not interfere with the existing relationship between individual subcontractors and general contractors," says Creighton; "since prices are not made public, a subcontractor is not bound to give every general contractor the same price."

"Organize to Renovize"—Kohler

A NATIONWIDE co-ordinated renovizing campaign supported by an appropriation for self-liquidating loans by the federal government would do more to relieve unemployment and in-

(Continued to page 84)

Save Your Breath • And Your Time • with RICO Flooring Nails

Life's too short to waste energy in "cussing" flooring nails that bend or split when you try to drive them. Use RICO—the four-sided, wedge-shaped nails that go straight into the wood every time. These nails are specially hardened and tempered—cut from solid plate—to make floor laying a quicker, easier and more satisfactory job.

Rico Flooring Nails minimize the effect of floor "weaving" because they hold every board firmly in place. Once you put them in, they're in to stay—for generations. That means satisfied customers, more business for YOU. Write for the name of the nearest RICO distributor.

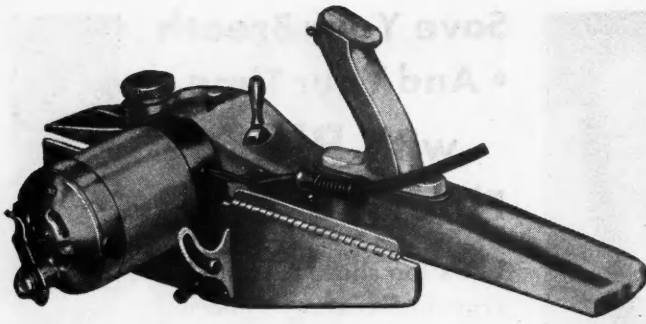
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SPECIALY HARDENED AND TEMPERED

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Carter Power Plane

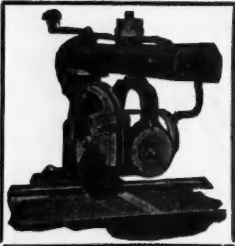
Use this modern electric tool to fit doors, transoms, sash, etc. You can't match its work by hand — the patented spiral cutter, turning 18,000 R.P.M., leaves a smooth surface regardless of the grain of the wood.

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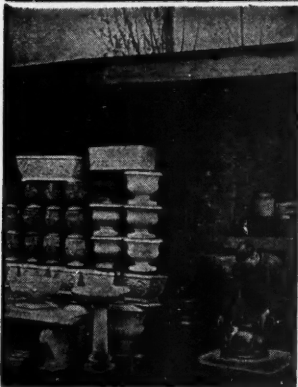
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Colored Pottery, Art Novelties, Garden Furniture.—A Pleasant, Profitable Home Industry. 40 Beautiful and exclusive designs. Sell quickly at 3 to 5 times cost to make. Art Novelties and sculptured pieces sell at sight up to 400% profit. New casting process—easily molded with our new, flexible rubber molds.

Learn about the Large Earning Power of these enterprises and the small investment required. Investigate. Write today for complete information and the opportunities offered right in your own locality.

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500 Ottawa Ave.,
Holland Michigan

NEWS of the Month

(Continued from page 83)

crease business than a forced artificial public works program, declared Walter J. Kohler in a speech May 3 before the U. S. Chamber of Commerce.

"If we are actually to achieve a real American standard of living, home modernizing must be continually and energetically carried on by the collective agencies affiliated with the building industry," he declared.

"At present, promotional efforts are directed by individual companies and industries, each for its own restricted benefit. While organizations representing single trades or industries will help the movement along, working alone they cannot hope to reach the desired goal.

"The maximum of accomplishment can be effected only through the co-ordinated and energetic effort of all the building trades and suppliers of material, with the support of civic-minded citizens and public officials.

"A central co-ordinating organization should be established, operated and financed by business. The cost of a central office would be negligible compared with the benefits or in relation to the collective sums, running into the hundreds of millions of dollars, annually expended for sales and sales promotion in normal times by the constituent units of the construction industry.

"There has been much talk of over-building, but in the small residence field this condition does not exist. With the great reduction in residential construction since the middle of 1928 and with our increasing population, it appears probable that there will be a greater shortage of housing at the end of this depression than there was immediately following the World War.

"The time to start on a co-operative undertaking of extended modernizing is now. Faith and courage are essential. Giving work to a goodly share of the army of unemployed is a pertinent subject and a responsibility of every citizen in the nation in a position to help.

"The time has come for all agencies in the construction industry to adopt a co-ordinated plan and to put it into practical effect in every community."

Realtors Meet in Chicago June 12

REALTORS planning their own business for effective work under changed conditions will make up the convention of the National Association of Real Estate Boards at Chicago June 12-17 inclusive. Three important subjects to be covered are: (1) what will inflation mean for real estate? (2) what changes are coming through federal mortgage refinancing plan? (3) what readjustment in individual business methods is necessary?

Dr. C. E. McGuire, Washington, D. C., will be a principal speaker before the convention on the important question of what inflation will mean to real estate.

How to marshal social forces strong enough to re-create blighted areas is one of the subjects to be taken up.

Abram Garfield, chairman of the Cleveland city plan commission, will describe the Cleveland plan, projected to re-create seven districts within the Cleveland metropolitan region having an aggregate area of some 22 square miles.

The Cleveland proposal is of national interest because it is based upon the most detailed collection of facts and studies as to present real estate use and trends which any city of the country has yet made.

Clifford R. Bechtel will describe the Chicago plan, which is notable because its central idea is that of neighborhood cooperation by the property owners themselves in the districts affected. Under it some forty houses in six blocks have already been reconditioned. Neighborhood values, as a consequence, are already rising, rental demand indicates.

Cyrus Crane Willmore, president of the Cyrus Crane Willmore Organization, Inc., St. Louis, will draw a picture of the future of the Realtor, as he sees it. Mr. Willmore, head of a firm which despite the times has sold more than 3½ million dollars' worth of subdivision lots since 1929, will address the general sessions of Friday, June 16.

In its lighter moments, the convention will move bodily over to "Hollywood" at A Century of Progress Exposition. A

complimentary buffet dinner here for all delegates and their guests will be given June 15, following which the annual Home Town Speech Contest will be staged in one of Hollywood's several theatres, some seating 3,000 people.

Friday, June 16, will be Home Ownership Day at the Exposition. Saturday, June 17, following adjournment of the convention proper, is Century of Progress day on the convention program.

Atkinson Joins Weyerhaeuser

E. W. DAVIS, general manager of the Wood Conversion Company, recently announced the appointment of Luther H. Atkinson, general sales manager of the affiliated Weyerhaeuser company which manufactures Balsam-Wool, Nu-Wood, and a long line of insulating and sound deadening products.

Mr. Atkinson is known throughout a large portion of the United States as vice president and sales manager of the Red Top Steel Post Company. The dealer organization which was built up under his direction was one of the most efficient in the retail lumber field.

The sales already made of insulation in the retail lumber yard have not scratched the surface yet, says Atkinson. He is making a survey of the territory served by Wood Conversion Company, and is spending the first month in the field with district managers and salesmen.

Fight Gangs with Housing

HOUSING reform to fight Chicago's gang menace is urged as a social necessity by Henry K. Holsman, Chicago architect, in a report on slum eradication made public by the American Institute of Architects.

Scoffing at decentralization plans which predict ultimate abandonment of the city, Mr. Holsman names neglect and weakness of civic spirit as the cause of failure to solve the housing problem. An area of 5,000 acres surrounding central Chicago, he declares, is "blighted" and should be rehabilitated. Much of the population consists of homeless men, drifting women, and vicious gangs.

Modern building methods and financial organizations, Mr. Holsman believes, can provide good fireproof homes in this region for from three to six times the possible present population and leave one-half the land for open air gardens and playgrounds at a cost to tenants of about what they now have to pay.

Home Loan Bank Active

THIRTY-EIGHT home financing institutions were approved by the Federal Home Loan Bank Board for membership in the Home Loan Bank system during the week ending May 13, 1933, according to a statement made public by the Board May 20. In addition, 102 institutions which have made applications for membership were awaiting approval by the Board.

The admission of these 38 associations into the system increases the total number of members approved to 1,127, and the total number of shares of Home Loan Bank stock subscriptions, including 3,213 shares subscribed by the new members, to 105,792, a total subscription of \$10,579,200.

Reports issued by the Board show that in the first two weeks of May the Home Loan Bank system has expanded to include 89 new members and has approved 125 loans to the extent of \$5,182,498.17. A total of \$43,944,738 of loans has been authorized by the Home Loan Banks. Of these, 866 loans amounting to \$34,600,556.08 have actually been advanced.

Dull Moving Day

CHICAGO had its quietest May 1st moving day in several decades. According to Daniel Healy, secretary of the Moving Association of Chicago, comprising most of the local moving and warehouse concerns, business was only about 50 per cent of the year before and probably from 75 to 80 per cent below the usual May first hegira of tenants into new homes.

Leading rental firms confirmed this statement by admitting that it was the dulllest May 1st in many years. Frank J. O'Brien, vice president of McKay & Poague, stated that only 22 per cent of the leases expiring on May 1st were affected by moving plans. In normal years about 35 per cent of tenants whose leases expire on May 1st move into different quarters.

(Continued to page 86)

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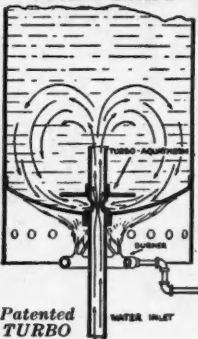
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NEWS of the Month

(Continued from page 85)

He reported a substantial increase in occupancy since the first of the year, and that a tendency for doubled up families to unscramble was noticeable.

Oliver Turner, vice president of Baird & Warner, stated that more people were renewing their leases than ordinarily and as a result there was not nearly so much moving.

Lumber Orders Make Record

FOR the first time this year or last, lumber orders booked at the mills exceeded 200,000,000 feet during the week ended May 6, and lumber production was highest since last fall, according to telegraphic reports to the National Lumber Manufacturers Association from regional associations covering the operations of 643 leading softwood and hardwood mills. The gain in new business was shared by both hardwoods and softwoods. All production totaled 123,845,000 feet; orders 208,665,000 feet; shipments 149,544,000 feet.

News and Views of Fair

CHICAGO'S Century of Progress Exposition opening May 27th costing \$37,500,000, is already on a "paying out" basis. Of this amount the Century of Progress corporation has spent \$12,310,382 for buildings and other expenses; the concessioners have spent \$6,000,000 on buildings and equipment; and the exhibitors have spent \$19,261,629 for buildings and exhibits. The Fair can accommodate more than a million people a day, and will run for 150 days.

The great motorized public of today is expected to bring an unheard of volume of visitors. Conservative plans call for fifty million visitors. Large high speed buses have been developed which will travel over special roadways fenced off from pedestrians. Capable of carrying 100 passengers at a time, the fleet of sixty units will have a capacity of 25,000 passengers per hour.

Home Planning Hall is the exhibit centerpiece of the housing show. This L-shaped structure comprises 47,200 square feet of exhibit space arranged so compactly that visitors will be able to view the various displays with comfort and facility. The building was designed by Ely Jacques Kahn, New York architect. Exhibits of heating, plumbing, air conditioning, hardware and household appliances are shown, as well as a spectacular exhibit by the American Gas Association, telling the story by mural paintings around the walls of the production, distribution and utilization of gas.

Then and Now—In 1893, the world famous Ferris Wheel made people gasp, and many of the present generation have been entertained by their parents' or grandparents' stories of that remarkable machine. Today, the \$1,200,000 Sky Ride with its great towers 628 feet high will make the old Ferris Wheel look like a small contraption.

Such new products as aluminum, reinforced concrete, gypsum board, asphalt, asbestos, stainless steel, wood fiber, composition, plywood and a host of other products are prominent in the new World's Fair construction which had either not been heard of or were in the early experimental stages in 1893.

Large size panels of these modern materials replace in 1933 the mixture of plaster and jute fiber, known as "staff," placed on a backing of burlap and lumber which was widely used for exterior wall surfaces in the Columbian Exposition buildings. Instead of the creamy white color used almost exclusively on Chicago's first exposition, today's World's Fair is a symphony of colors with 24 shades of paint used on the exteriors, supplemented by 33 shades on the interiors.

Lighting effects made possible by the neon tubes and the use of indirect floodlighting in brilliant shades and colors is a strictly modern development of the 1933 Century of Progress. The amazing effects made possible in building interiors through use of synthetic and composition products were totally impossible 40 years ago.

In the field of dance halls and casinos, restaurants, stands, shops, stores and the run of small buildings that need to be erected inexpensively and yet present a striking effect, the World's Fair architecture will have its greatest influence.

Sky-Ride—A radically different type of elevator car, probably the forerunner of cars of a few years hence, has been designed by the Otis Elevator Company for use in the "Sky Ride." Rivets, instead of being hid, are given prominence. The aluminum and steel of which the cars are built are used without any attempt at camouflage. Most striking, however, is the use of photographic murals on two sides of the car. Designed by Rittase, these are symbolical of the progress of construction as made possible by the elevator.

A Display by the United States Building and Loan League shows the scientific financing procedure enabling people to own their homes debt-free. A graphic depiction of the exact workings of the Federal Home Loan Bank System, where the money comes from, and how it is retailed through existing institutions is given a prominent place in the display.

Building Paper Used—Extensive use of their waterproof building paper in Fair construction is reported by The Sisalkraft Company. Three general types of applications were: (1) concrete curing; (2) temporary protection; (3) permanent waterproofing in walls, floors, paneling, etc.

The concrete curing was on the floors of buildings including some of the very important structures. It was also used for curing the terrazzo esplanade in front of the Planetarium. The temporary protection took many forms, ranging from the simple one of throwing a piece of Sisalkraft over a pile of lumber, wallboard, etc., up to the complete wrapping of the Pantheon of War, two Pullman cars and in some cases practically the complete building. The extremely wet weather which contractors encountered during the last month led many of them to take extra precautions. For instance, the National Poultry Council Building was actually completely wrapped in the paper as fast as it was erected. In the structures where good construction was necessary or desirable, Sisalkraft was used, including the Lumber Manufacturers House, the Furniture Exhibit Building, the National Poultry Council Building, the Masonite Home, etc.

Less than one cent an exhibit building is the cost of seeing A Century of Progress—the Chicago World's Fair of 1933.

The general admission—fifty cents for adults and twenty-five cents for children—will admit one to the twenty buildings erected by the Exposition itself and to all the thirty-three special buildings put up by outside interests at the Fair.

Among the striking features of the Fair is the glass-block building and tower erected by Owens-Illinois Glass Company of Toledo, Ohio. This is located in the Exhibit Homes group. In the exhibits shown in this "Crystal Palace" is a complete display of various types of warm air furnaces and equipment. The opening is particularly timely since it coincides with the annual meeting in Chicago of the National Warm Air Heating Association, June 6-7-8.

An underground city of conduits and sewers has been built—ten miles of water mains, ten miles of sanitary sewers, five miles of storm sewers, ten miles of conduits and utility cables—facilities for a city of 1,000,000 souls. A water pumping station, sewage pumping stations, and a central electrical substation to accommodate a population of Exposition visitors approximating the population of Detroit or St. Louis are provided.

Construction of Fair

(Continued from page 53)

attached with clips or screws to the steel framework. A progressive development in these materials occurred, and a number of different types were used with success. The first to be used, which was in the construction of the Administration Building, was ¼-inch sheets of Transite, made of compressed cement and asbestos fiber. Each board is wide enough to extend onto three studs and is fastened to the intermediate stud with case hardened screws which cut their own threads in the steel studs as they are driven. A metal batten strip is used over the joints and also fastened to the studs. The edges of the cement asbestos sheets are thus left free to move, taking care of expansion and contraction.

(Continued to page 88)



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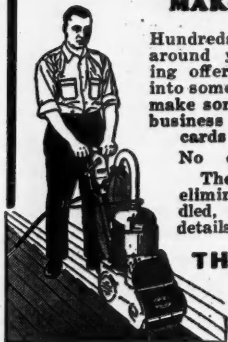
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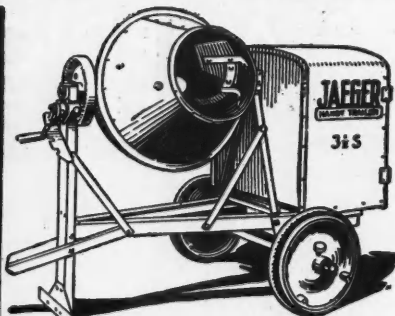
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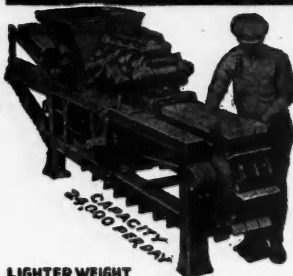
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Construction of Fair

(Continued from page 87)

In the Administration Building which was a permanent structure and was used throughout the winter, the space between studs was blown full of a mixture of emulsified asphalt, sodium silicate and shredded paper. A 3½ inch thickness of this insulating material was placed between the exterior and the gypsum wallboard interior, which was fastened to the studs by the use of case hardened screws.

On the Travel and Transport Building, one of the largest and earliest structures, the exterior walls are of 20-gauge sheet metal, shop fabricated in long lengths of interlocking channel shape. These are set vertically with the flat surface outside, and the ribs resting against and securely into the horizontal steel girders framed between the columns. To prevent transmission of undue amounts of heat through this sheet steel wall, a layer of fibrous insulation board was fastened to the legs of the panels on the inside. This combination formed a vertical flue in each channel which is used for ventilation. The air enters these flues at the bottom, and as it takes the heat from the inside of the steel, it rises and is expelled at the top to the outer air. It is expected that this device in combination with the insulation on the roof and the mechanical ventilation system provided for the building will keep the inside temperature within 5 degrees Fahrenheit of the outside.

Plywood panels, in addition to being widely used as rough flooring over steel joists in the buildings, are used as exterior wall covering in several, notably the Hall of Science. The panels come in ½-inch thickness, sanded and treated at the mills with hot linseed oil with a slight white lead pigment. A tight joint is made by half-lapping the edges, each edge being cut at the mill to lap, the horizontal joints lapping to weather. These joints were given another coat of white lead and oil as erected. The boards are attached to the studs with cement coated nails through the lap.

By far the most extensively used World's Fair surfacing material is gypsum board. Experiments showed that the ½-inch paper covered gypsum boards would have ample strength for exterior application if protected from effects of moisture. Their use gave a flexible very low cost exterior material. To protect it against the weather, all boards were primed both sides and edges at the mill with aluminum paint which also added insulating qualities.

The mill-primed gypsum board panels are nailed to the studs or held by metal runners which clamp the board and are secured to the studding.

Tight joints are secured between the gypsum panels somewhat in the same manner as in the plywood section. Horizontal joints are tongued and grooved and all joints and metal runners are filled with mastic to make them water-tight.

While the various wall coverings described will not be suitable for widespread permanent building construction, it is evident that the use of pre-fabricated wall units of somewhat the same size but more permanent construction, and with proper wearing and weathering qualities, should serve a wide demand. Development of suitable pre-fabricated units for permanent work should be given considerable emphasis by the successful demonstration of this type of construction in these World's Fair buildings. Certain it is that the phenomenally low cost achieved should be an incentive.

Interior walls and ceilings of the bulk of the Fair buildings are covered almost exclusively with ¾-inch paper covered gypsum board. An important consideration in this respect is that this material is non-combustible and provides resistance against bursts of flames. Throughout the buildings, the architects have been careful to keep out materials which, if a small fire should occur, would create large quantities of fumes or smoke.

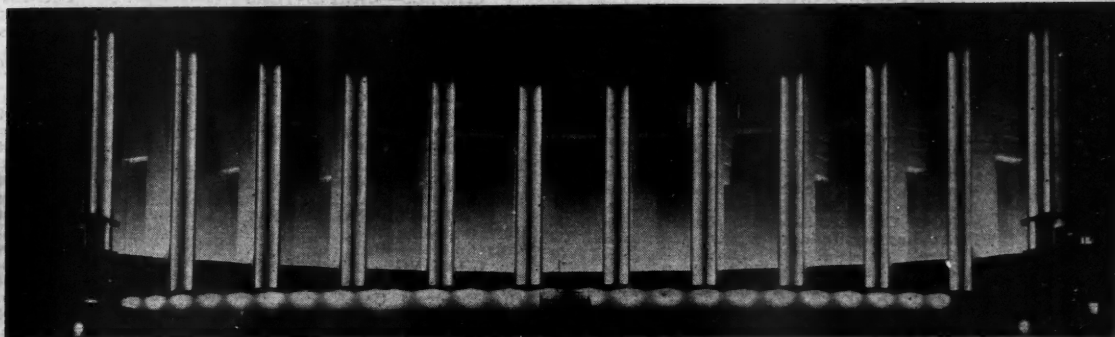
Interior gypsum boards are, for the most part, 4x12 feet set vertically to typical 12-foot ceiling height, and nailed to studding or ceiling furring. Nails are closely spaced and joints are exposed. A different architectural effect is achieved by use of the gypsum board in narrow widths. One common form is 2 feet wide for ¾ inch thick, and 2 feet 8 inches wide for ½ inch thick section, in long lengths for the height of the room if set vertically. If set horizontally the long edges are held by clamping metal runners that are attached directly to the studding. The metal runners form a closed projecting batten effect.

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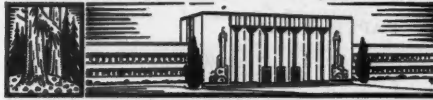
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Eastman, Gardiner & Co.	76	CLIPS—REINFORCING BAR		DOORS—FIRE	
Exchange Saw Mill Sales Co.	74	Truscon Steel Co.	10	Edwards Mfg. Co.	89
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Frost Lumber Industries.	76	Edwards Mfg. Co.	89	Edwards Mfg. Co.	89
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Goodyear Yellow Pine Co.	78	COATINGS—ASBESTOS ROOF		DOORS—FOLDING	
Edward Hines Lumber Co.	69	Johns-Manville Corp.	8-9	Truscon Steel Co.	10
Michigan-California Lumber Co.	75	The Ruberoid Co.	13	DOORS—FORMICA	
Southern Cypress Mfrs. Assn.	79	COATINGS—CEMENT		Formica Insulation Co.	2
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CABINET TOPS		Truscon Steel Co.	10	Edwards Mfg. Co.	89
International Nickel Co., Inc.		CONCRETE SPREADERS		Overhead Door Corp.	14
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Exchange Saw Mill Sales Co.	74	Republic Steel Corp.	17	DOORS—SOFTWOOD	
Frost Lumber Industries.	76	COPPER—ROLL OR SHEET		General Timber Service, Inc.	12-70
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Edward Hines Lumber Co.	69	Edwards Mfg. Co.	89	Overhead Door Corp.	14
Southern Cypress Mfrs. Assn.	79	Truscon Steel Co.	10	Truscon Steel Co.	10
Michigan-California Lbr. Co.	75	CORNERS—METAL		DOORS—TINCLAD	
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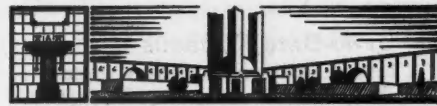
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2—NEW SHINGLES OVER OLD

Folder describing methods and procedure for laying Red Cedar shingles over old shingled roofs without removing the old shingles. Advantages of this method told. Red Cedar Shingle Bureau, Seattle, Wash.

3—WATERPROOF BUILDING PAPER

Catalog sheet which is both a sample of Sisalkraft waterproof building paper and a description of its uses and advantages. Details of waterproofness, toughness, pliability and long life given. Sisalkraft Co., Chicago, Ill.

4—FINANCING PLAN

"A Million Dollars to Lend," a booklet describing the new Johns-Manville non-recourse deferred payment plan for financing home modernizing work and improvements. The Johns-Manville Corp., New York City.

5—BRICK TYPE SIDING

"Eternit Brick Type Siding for Modernizing," information on asbestos cement siding applied in 6" x 30" strips, colored and textured like brick. The Ruberoid Co., New York City.

6—OAK FLOOR DATA

Catalog describing adaptability and attractiveness of Southern Oak flooring. Also excellent specifications on how to prepare sub-floors, place sleepers and prepare surface. Southern Oak Flooring Industries, Little Rock, Ark.

7—PRE-FABRICATED HOUSES

Information on "Snug Harbor Tourist Cottages" and other pre-fabricated house designs of one to five rooms. The Fordyce-Crossett Sales Co., Chicago, Ill.

8—BETTER MASONRY

"Brixment for Better Masonry," a description of mason's cement and its uses. Louisville Cement Co., Louisville, Ky.

9—METAL TILE

Folder describing the new beauty in kitchens and bathrooms obtainable with metal tile laid in cement to provide durable, economical tile walls. Sani-Metal Tile Corp., New York City.

10—FIREPROOF CONCRETE HOUSES

An attractive book of concrete house designs in modern style showing floor plans. These are low cost houses ranging from \$2,700 to \$6,000. Portland Cement Assn., Chicago, Ill.

11—FORMICA FOR BUILDING

A folder describing uses of Formica for wall covering, window stools, cabinet tops and many other building and architectural uses. Contains helpful color chart and detailed drawings of installation methods. The Formica Insulation Co., Cincinnati, O.

12—BETTER ROOFING

"New Standards of Roofing Quality for Asphalt Shingles and Prepared Roofings," describes a product supplied to leading roofing manufacturers to make good roofs better, by the Brown Co., Portland, Me.

13—HOME FINANCING

Information and data on low cost financing of home building through local lumber and building material dealers. National Homes Finance Corp., Chicago, Ill.

HOME EQUIPMENT

14—HEATILATOR FIREPLACES

Helpful details on fireplace construction and diagram showing how Heatilator fireplace circulates heat. The Heatilator Co., Syracuse, N. Y.

15—UP-TO-DATE KITCHENS

A helpful booklet giving advice on scientifically planned kitchens; also giving diagrams and photographs of modern kitchens. The International Nickel Co., Inc., New York City.

16—BATHROOM CABINETS

A booklet describing line of bathroom cabinets, including mirror door cabinet with side lights. The F. H. Lawson Co., Cincinnati, O.

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"Use Your Attic," a folder giving specifications for compact, folding stairways and suggestions for their use and installation. The Marschke Co., St. Paul, Minn.

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Planning for home telephone conveniences is described in a 52-page booklet by the American Telephone and Telegraph Co., New York City.

19—STORAGE HEATER

Information on equipment to furnish home owner with never-failing source of hot water by copper automatic storage heater. The Dahlquist Mfg. Co., South Boston, Mass.

20—FIREPLACE CHARM

Descriptive information on Peerless fireplaces and equipment. Peerless Mfg. Co., Louisville, Ky.

21—WINDOW GUARDS

Folder describing the Shur-Lock Window guard which makes the home safe for women and children, and prevents window accidents. Shur-Lock Window Guard Corp., New York City.

LUMBER AND MILLWORK

22—HOUSE FRAMING

"Standard Specifications for House Framing," a comprehensive handbook of details, drawings and specifications for modern frame construction. Prepared by architects and engineers of General Timber Service, Inc., St. Paul, Minn.

23—DATA ON PINE

Information on uses of Yellow Pine. The Goodyear Yellow Pine Co., Picayune, Miss.

24—SOUTHERN PINE

Data on Southern Pine, its grades, uses, and advantages for home construction. Eastman-Gardiner & Co., Laurel, Miss.

25—SOUTHERN HARDWOOD

Descriptive data on Southern Hardwood, its uses, advantages, grades and quality. Eastman-Gardiner Hardwood Co., Laurel, Miss.

26—APPALACHIAN HARDWOOD

Descriptive data on Appalachian Hardwood and hardwood flooring. Offered by the W. M. Ritter Lumber Co., Columbus, O.

27—PONDEROSA PINE

Details of uses, quality, grades and advantages of Southern Pine, Ponderosa Pine and Southern Hardwood. Exchange Sawmills Sales Co., Kansas City, Mo.

28—USES OF PINE

Information on the uses of Southern Pine, Southern Hardwood and Oak flooring, their grades, qualities and advantages. Frost Lumber Industries, Inc., Shreveport, La.

29—COMPLETE LINE

Information about the complete building service and lumber products offered by the Edward Hines Lumber Co., Chicago, Ill.

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Details and data on California Sugar Pine and Ponderosa Pine, its qualities, advantages and grades. Michigan-California Lumber Co., Camino, Calif.

31—LOG CABINS UP TO DATE

A 16-page booklet on log cabin construction giving details of building with Shevlin pine log siding. Well illustrated with interesting cabins and giving construction ideas. Shevlin Pine Sales Co., Minneapolis, Minn.

32—LOG CABIN DETAILS

The California Redwood Assn. has published a 30-page booklet entitled, "Mountain Cabins and Week End Cottages," with suggestions and floor plans by leading architects. Full of ideas and very helpful. California Redwood Assn., San Francisco, Calif.

33—SOUTHERN CYPRESS

Information on Southern Cypress, its proper uses for home construction and its qualities, grades and advantages. Southern Cypress Mfrs. Assn., Jacksonville, Fla.

INSULATION MATERIALS

34—NU-WOOD INSULATION

Booklet describing insulating products combining insulation, noise hushing, wall finish, decoration at low cost. Wood Conversion Co., Cloquet, Minn.

35—WOOD FIBER BOARD

"Specifications and Details on the Use and Installation of Insulite, the Wood Fiber Insulating Board," constructive information on the use of lath, sheathing, exterior finish, interior finish, tile, fireproofed board, termite board, acoustile and for sound deadening. The Insulite Co., Minneapolis, Minn.

36—MINERAL WOOL INSULATION

A booklet describing house insulation against heat and cold. Offered by the U. S. Mineral Wool Co., New York City.

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The uses and description of Celotex, described in a booklet offered by the Celotex Co., Chicago, Ill.

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40—OPEN TRUSS JOISTS

Booklet presenting information on shop fabricated, light weight steel joists with or without nailer strip. Also "Insulmesh," a plaster base that insulates and reinforces. The Truscon Steel Co., Youngstown, O.

41—STEEL SHEETS

"Apollo Best Bloom and Keystone Copper Steel Galvanized Sheets," a booklet for builders; "Better Buildings," a booklet on farm and industrial buildings; and "Steel Sheets Applied to Modern Construction," a booklet on heating and ventilating. American Sheet and Tin Plate Co., Pittsburgh, Pa.

42—STRAN-STEEL FRAMING

A folder presenting the advantages of the new steel frame type of construction, emphasizing the ease with which nails can be driven into the steel members. The Stran-Steel Corp., Detroit, Mich.

43—STEEL BUILDING PRODUCTS

Products of the Truscon Steel Co., described in a booklet covering the complete line of steel building products. Especially useful data on window construction and installation details for residences. The Truscon Steel Co., Youngstown, O.

44—REPUBLIC METAL PRODUCTS

Enduro stainless steel and Toncan iron as used for building purposes, offered by the Republic Steel Corp., Youngstown, O.

GLASS AND PAINTS

45—GOOD GLASS

"Selecting the Right Glass," a description of flat glass, flat drawn, polished plate, safety, figured and wire glass for all uses. Libbey-Owens-Ford Glass Co., Toledo, O.

46—MODERNIZING WITH GLASS

"The Sunny Side of the House," a portfolio of remodeling suggestions showing what can be done by building glazed porches, bay windows and solarium. The American Window Glass Co., Pittsburgh, Pa.

47—STORE FRONT DETAILS

Products of Pittsburgh Plate Glass Co. described in 18-page booklet on latest types of glass. Features store front details for modernizing. Pittsburgh Plate Glass Co., Pittsburgh, Pa.

48—ALUMINUM PAINT

Uses and application of aluminum paint described in a handbook prepared by the Aluminum Co. of America, Pittsburgh, Pa.

49—HOUSE PAINTING

"Quick-Dri House Paint Book," 16 pages with directions for success in applying paints. Enterprise Paint Mfg. Co., Chicago, Ill.

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50—FLOORING NAILS

"Rico Flooring Nails," information on specially hardened and tempered wedge-shaped nails. Reading Iron Co., Philadelphia, Pa.

51—GARAGE HARDWARE

"National Garage Hardware," a booklet on garage hardware offered by the National Mfg. Co., Sterling, Ill.

52—OVER-THE-TOP DOORS

Folder describing the latest types of garage door equipment with which any set of old doors can be remodeled into upward-acting type, or equipment for new garages. Frantz Mfg. Co., Sterling, Ill.

53—OVERHEAD DOORS

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54—LOCKS AND LATCHES

"Quality Hardware for Quality Buildings," a catalog of products of interest to the hardware trade, featuring Dexter locks and latches. The National Brass Co., Grand Rapids, Mich.

55—GARAGE DOOR OPENERS

"Door Operators" and "Radio Control for Door Operators" are described in two folders offered by the Barber-Colman Co., Rockford, Ill.

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Data on metal weather strip installation with details of various types and methods of installation for all kinds of wood, metal or metal covered windows and doors. Accurate Metal Weather Strip Co., New York City.

57—WEATHERSTRIPPING

A complete sales kit including charts showing standard material and installation of Allmetal Weatherstrip; also giving details and data showing advantages of weatherstripping windows and doors. The Allmetal Weatherstrip Co., Chicago, Ill.

CONTRACTORS' EQUIPMENT

58—CONCRETE MACHINES

"Four Keys to Success," presenting opportunities in cement brick. The W. E. Dunn Mfg. Co., Holland, Mich.

59—ELECTRIC TOOLS

Portable electric planes, lock mortisers, butt mortisers and weatherstrip tools described in a folder offered by the R. L. Carter Co., New Britain, Conn.

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A booklet offered by the American Saw Mill Machinery Co., Hackettstown, N. J.

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"De Walt Saws and Woodworking Machines," details of equipment for today's fast work. The De Walt Products Co., Lancaster, Pa.

67—PARKS MACHINES

A complete catalog of woodworking machines that do the work at lowest cost. The Parks Woodworking Machine Co., Cincinnati, O.

68—SPEED MACHINES

"Speed-O-Lite Floor Surfacing Machines," a folder describing light weight, high speed machines at low cost. Also "Lincoln Twin Disc Floor Machine." The Lincoln-Schlueter Floor Machinery Co., Inc., Chicago, Ill.

69—GARDEN FURNITURE

"Molds for Pottery & Garden Furniture," and "Profitable Home Industry for Contractors & Builders." Offered by Colorcrete Industries, Inc., Holland, Mich.

70—EQUIPMENT FOR CONTRACTORS

"Contractor's Catalog for Builders, Contractors, Lumber Yards," describing machinery and tools offered by the Porter-Cable-Hutchinson Corp., Syracuse, N. Y.

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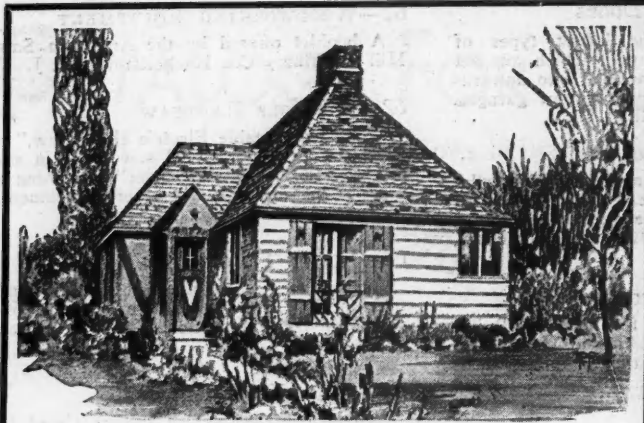
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NOTICE TO ADVERTISERS

Forms for the July Number of the American Builder and Building Age will close promptly on June 15. New copy, changes, orders for omissions of advertisements must reach our business office, 105 W. Adams St., Chicago, not later than the above date. If new copy is not received by the 15th of the month preceding date of publication the publishers reserve the right to repeat last advertisement on all unexpired contracts.

AMERICAN BUILDER AND BUILDING AGE.