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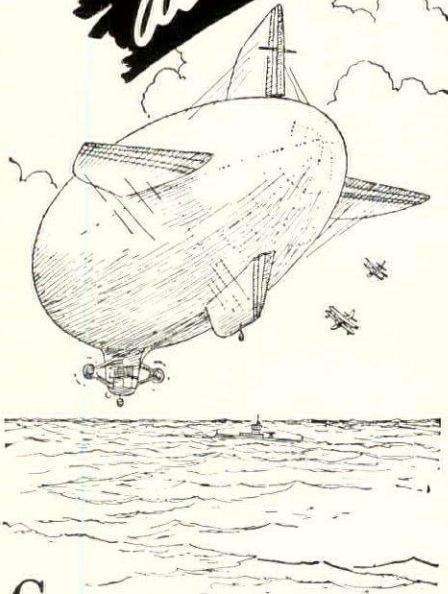


NEW PENCIL POINTS



STEAM Heats  
America—

at war!



**C**LOUDS of blimps to guard sea lanes.

To make it too "hot" for Axis U-boats.

It's the goal of American Industry to produce more blimps than the world has ever seen—and that goal is going to be achieved.

It calls for construction and conversion at record-breaking speeds to get into production as soon as possible.

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Fifty years of experience taught America all of the natural advantages of steam—speed, safety, flexibility and economy.

Webster Systems of Steam Heating have proved their effectiveness in more than 75,000 buildings. The engineering skill that makes Webster Equipment effective is offered to architects, engineers and heating contractors working on war construction.

Today, we are engaged in direct war work, but manufacturing facilities are still available to supply Webster Steam Heating Equipment for buildings serving the war effort.

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Warren Webster & Company, Camden, N. J.  
Representatives in 60 principal Cities

**Webster**  
Steam Heating

This is one of a series of advertisements that tells the public of the part that Webster Steam Heating and the Webster organization plays in the war effort... appearing regularly in leading business, industrial, engineering and technical publications.



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"The wisdom of providing adequate control of volume and distribution of heat is being proved today as the fuel situation becomes more critical," says J. E. Hutchison. "The present users of modern steam heating system controls are enjoying even temperatures with minimum fuel consumption. Irrespective of the fuel or firing method adopted, satisfactory heating results cannot be obtained without effective volume and distribution control. Without this control, heating is uneven and fuel consumption excessive."

Moody & Hutchison have specified the "Controlled-by-the-Weather" Webster Moderator System of Steam Heating for Cooper Hospital, Camden, N.J., and for the Academic Building and Cadet Barracks, U. S. Military Academy, West Point, N. Y. In the latter installation, eight heating zones are controlled from one central point. This firm made plans for Webster Vacuum Steam Heating Systems installed in many outstanding buildings, including the Municipal Court Building, Philadelphia; the Federal Reserve Board Building and Folger Library, both in Washington, D. C.; Bancroft Hall, U. S. Naval Academy, Annapolis, Md.

**WARREN WEBSTER & COMPANY**  
CAMDEN, N. J., EST. 1888, PIONEERS OF VACUUM STEAM HEATING



# New Pencil Points, February, 1943



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**NEXT MONTH:** The principal feature will be the *CHICAGO PLAN*, the Chicago Plan Commission's official scheme for remodeling that city into a truly modern metropolis—orderly yet human, spacious but practical, urban and livable. To indicate only a few facets of the plan, it contemplates reorganizing the sprawling city into a system of neighborhoods, and planning for surface, subsurface, and aerial traffic inside city limits and through the surrounding countryside. As the first concrete program for a large American city, and one which is even now being implemented, it is highly important to all who have an interest in Civic Design.

KENNETH REID, Editor; FRANK G. LOPEZ, Managing Editor; DON GRAF, Technical Editor; ALFRED E. GALL, Associate Editor; PHILIP H. HUBBARD, Publishing Director; JOHN ZELLNER, Circulation Manager; ELMER A. BENNETT and TORBEN MULLER, Drafting.

Cover design, layout, and typography are by RUDOLFSKY. Cover photograph is of Mangel's Department Store, Montgomery, Alabama; MORRIS LAPIDUS Architect. Paintings of small American retail establishments, reproduced on the cover and throughout the issue, are by WITOLD GORDON, and have been exhibited at the Museum of Modern Art, New York.

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# LIVING PICTURES . . .

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**COMPLETE *WOOD* WINDOW UNITS**

The beauty of the outdoors brought to the comfort of the indoors . . . wall areas that live . . . that change with the seasons . . . windows in eye-catching groups that lend distinction to design and personality to appearance—it all means more fenestration for the 194X Home.

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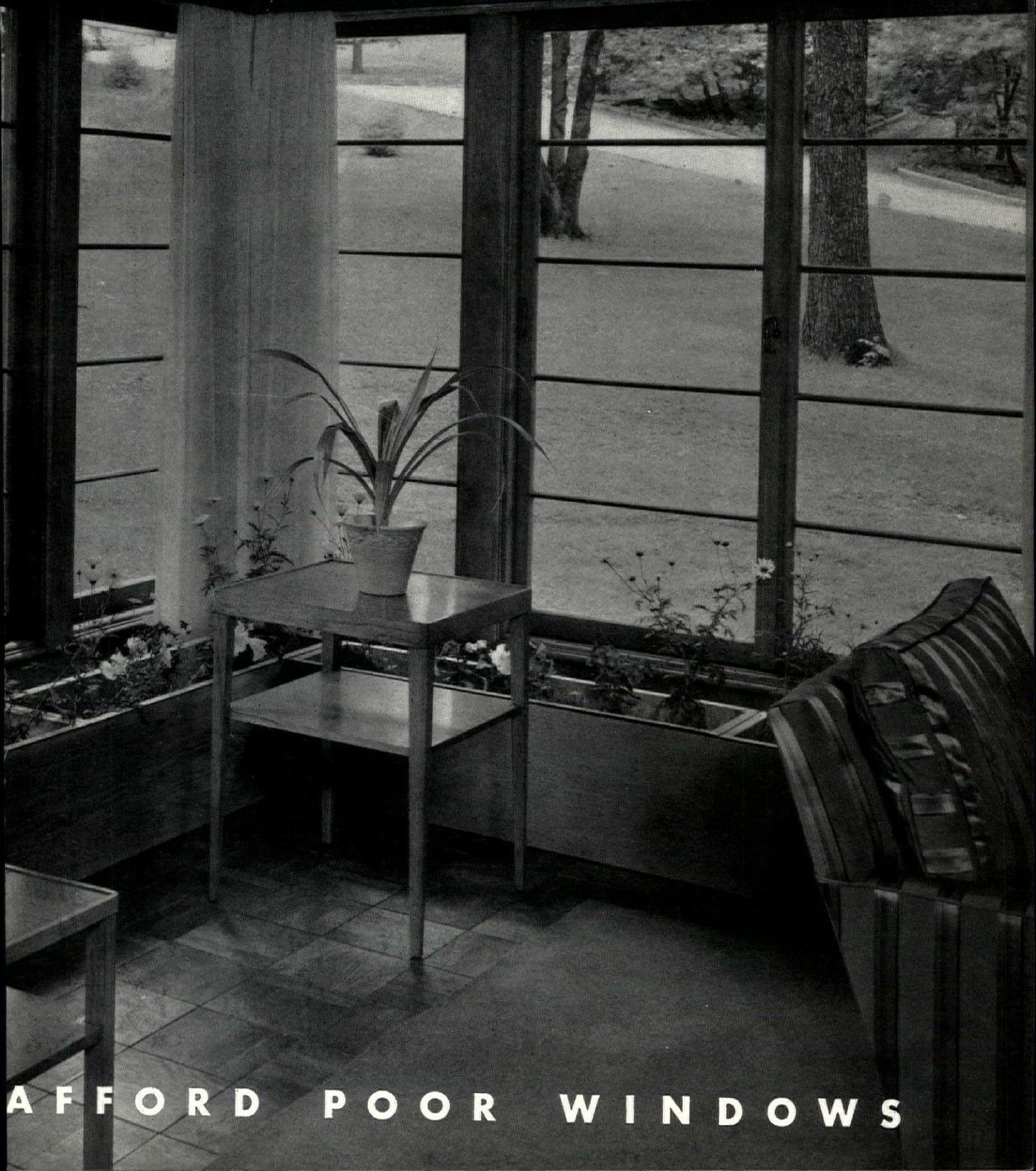
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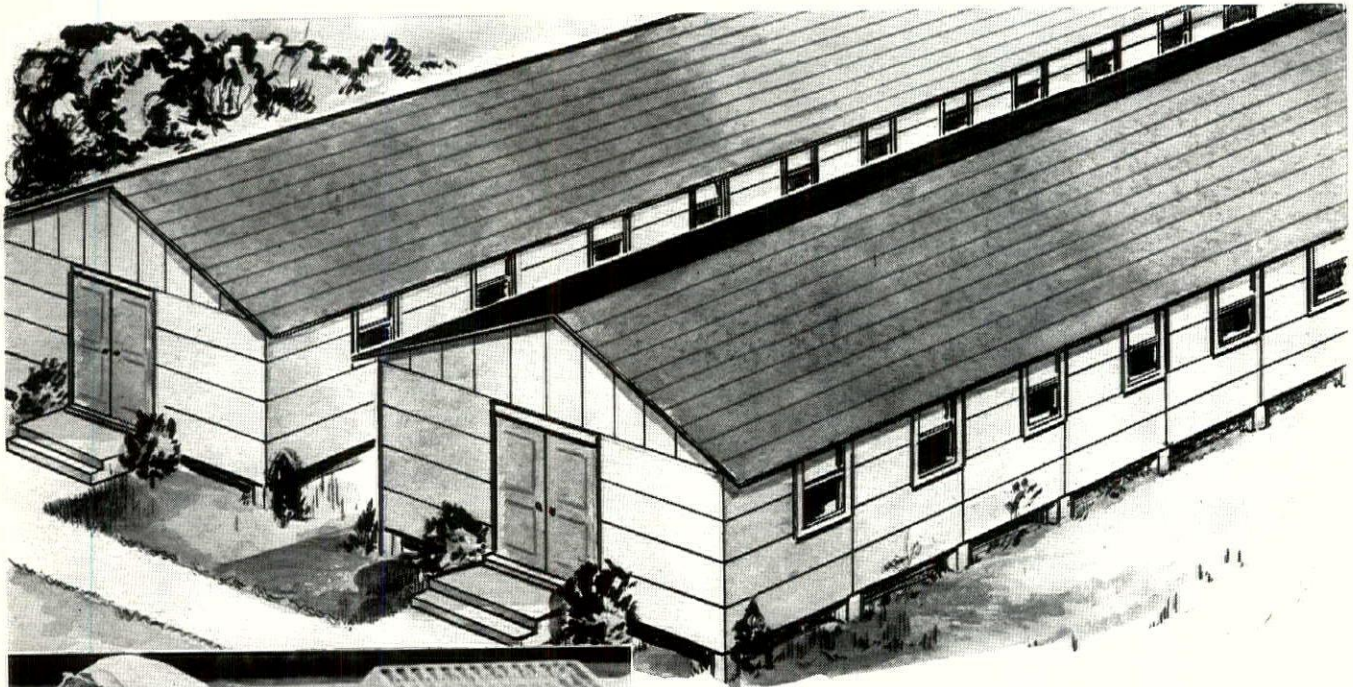


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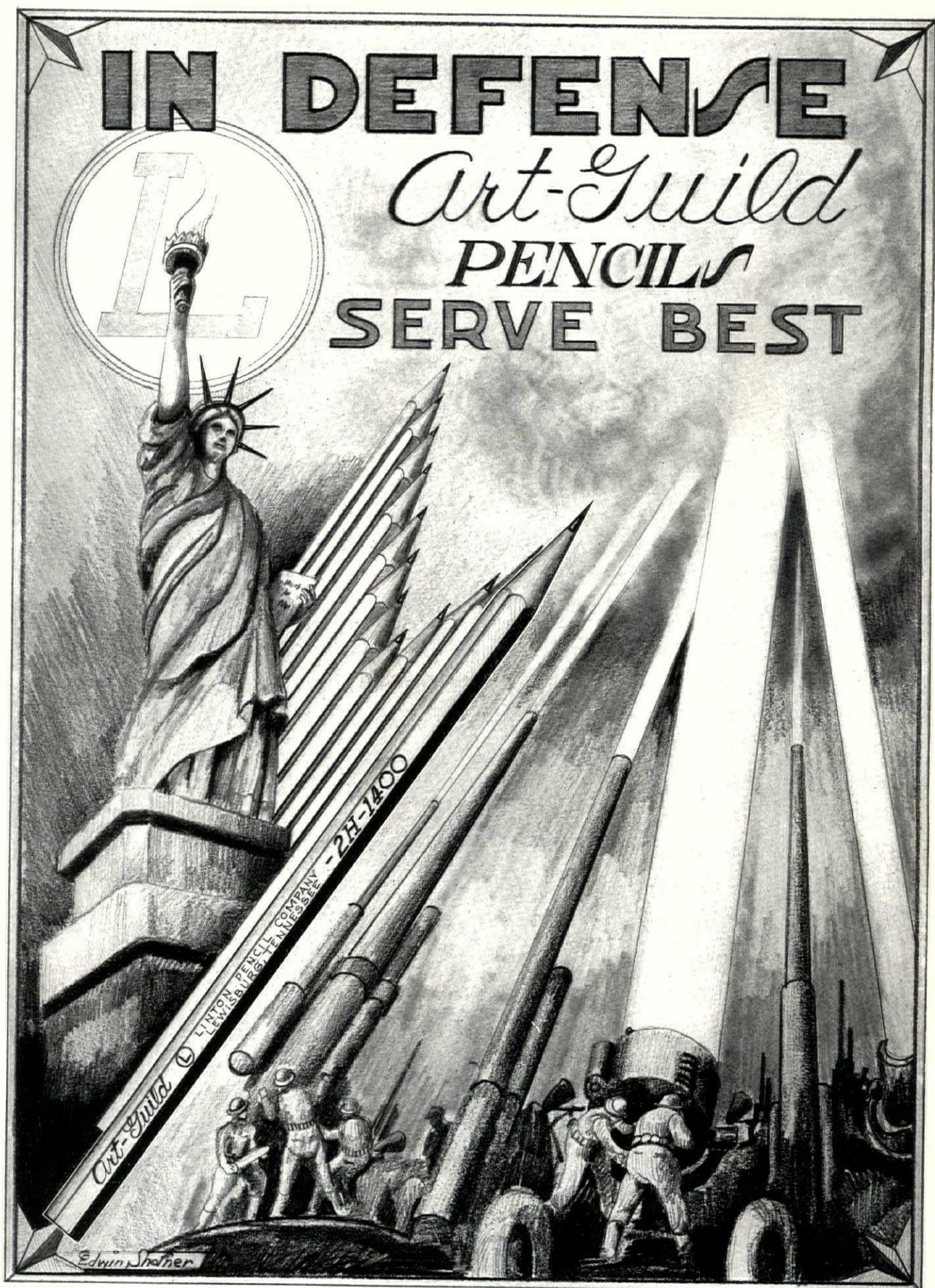
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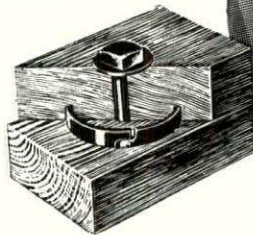
3525 Southwestern Boulevard  
Dallas, Texas



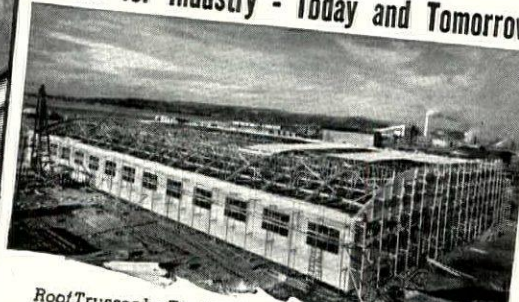
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# Coast to coast, they're saying...

"Dry-built, full wall construction with Strong-Bilt Panels speeded the job... cut costs"



Left to right: Thomas Tufaro, superintendent; H. B. Alston, vice president, Bush Construction Company, New York.

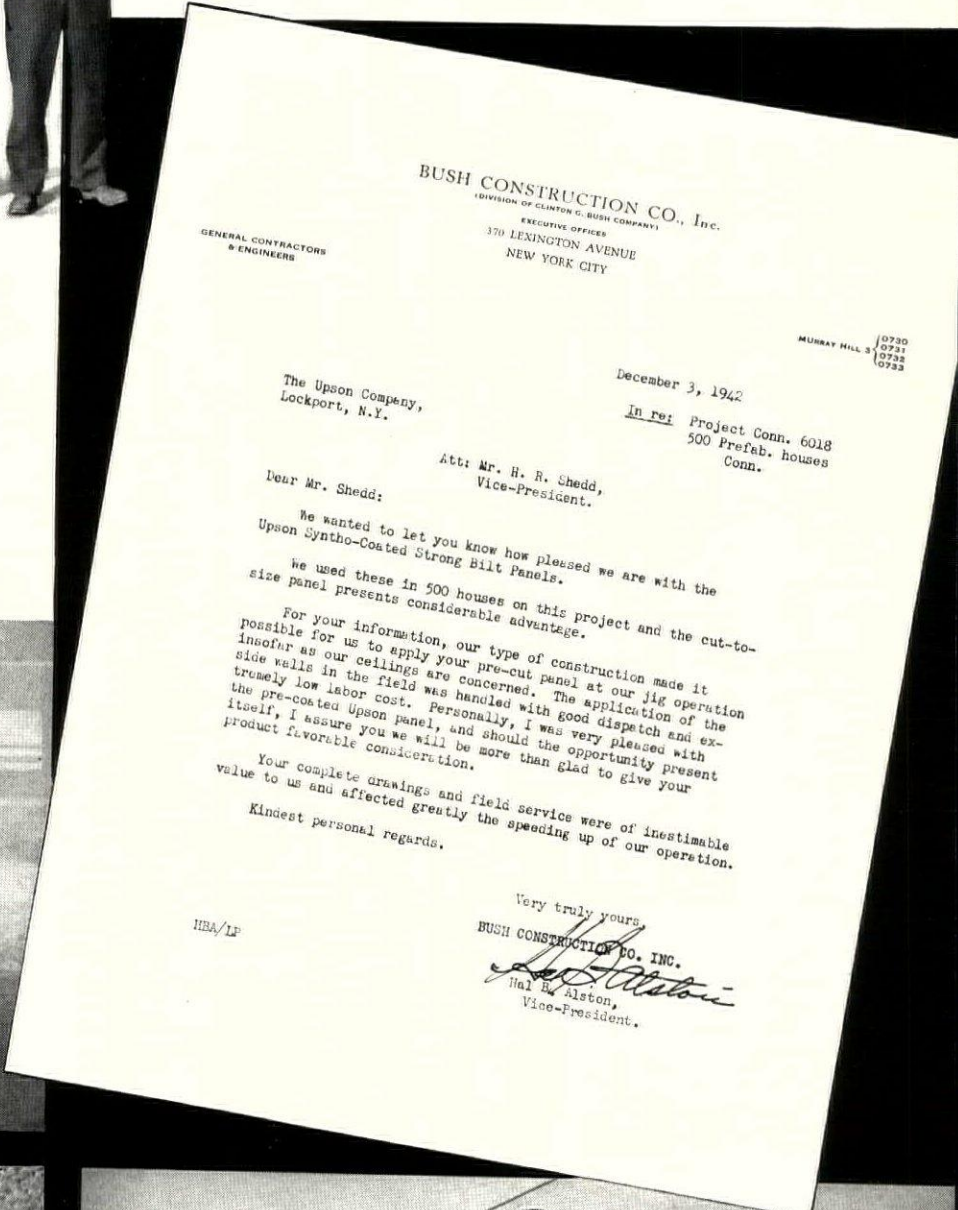
**CASE HISTORY No. 20:** 500 demountable houses erected in Connecticut by Bush Construction Company of New York. Interior walls of Strong-Bilt Panels precut to full wall size at the factory and shipped to the site for application to conventional stud construction. Precut ceiling sizes applied to prefabricated ceiling sections by jig assembly.

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& ENGINEERS

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December 3, 1942

The Upton Company,  
Lockport, N. Y.

In re: Project Conn. 6018  
500 Prefab. houses  
Conn.

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Vice-President.

Dear Mr. Shedd:

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For your information, our type of construction made it possible for us to apply your pre-cut panel at our jig operation insofar as our ceilings are concerned. The application of the side walls in the field was handled with good dispatch and extremely low labor cost. Personally, I was very pleased with the pre-coated Upton panel, and should the opportunity present itself, I assure you we will be more than glad to give your product favorable consideration.

Your complete drawings and field service were of inestimable value to us and affected greatly the speeding up of our operation.

Kindest personal regards.

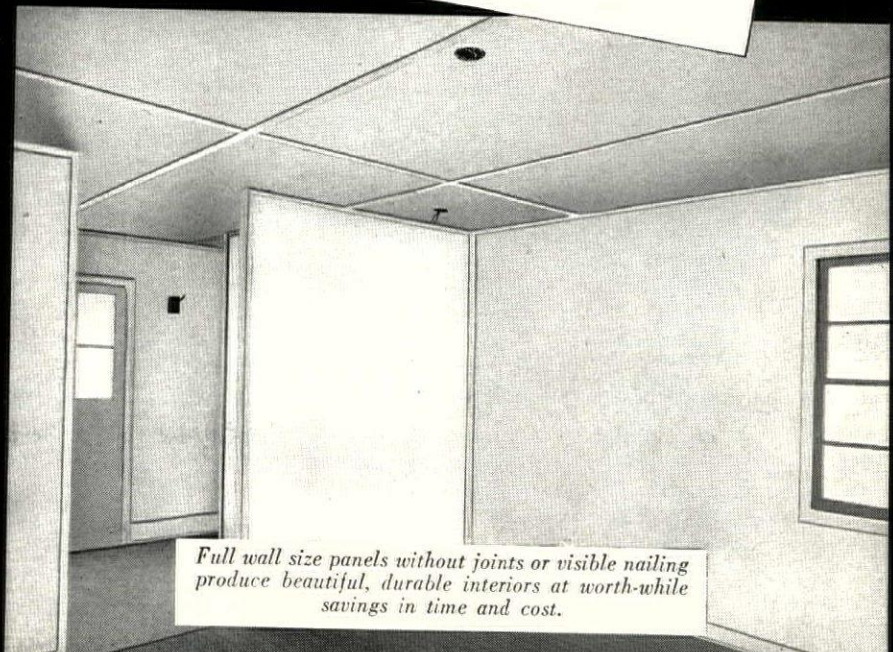
HBA/LP

Very truly yours,  
BUSH CONSTRUCTION CO. INC.  
*H. B. Alston*  
Hal B. Alston,  
Vice-President.

THE *Crackproof* BEAUTY SURFACE  
FOR WALLS AND CEILINGS



UPSON  
**STRONG-BILT**  
PANELS



Full wall size panels without joints or visible nailing produce beautiful, durable interiors at worth-while savings in time and cost.



# Prizewinners, New Pencil Points-Kawneer Competition, "Store Fronts of Tomorrow"

Presented on this page are the photographs, and brief biographies, of the seventeen men whose designs were premiated in the recently-concluded NEW PENCIL POINTS-Kawneer Company competition, "Store Fronts of Tomorrow." A picture of the jury of Award is published on page 10. For the report of the Jury of Award, together with the presentation, in color, of the prize-winning designs, turn to page 30.



**First Prize**

**Seymour R. Joseph**  
New York

Registered architect in New York. B. Arch. New York Univ. Student awards: Finalist. American Academy in Rome Prize, 2nd honorable mention; IES Prize, 1st medal and 3rd prize; AIA Award, 2nd Prize; Samuel F. B. Morse Award, 1st Medal. Designer for architectural firms since 1932. Specialized in housing projects.

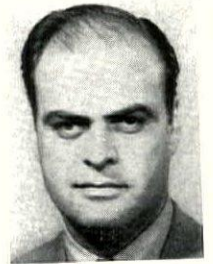


George Larson (left) and George Storz (right), 2nd prize co-winners, are from Chicago, received their B.Arch. at Illinois Tech, where they now are doing graduate work and teaching. Larson received the AIA medal for scholarship, is a registered architect. Storz won the Alshuler Prize in 1940, Hutchinson Medal in 1942.



**Third Prize**

**Maynard Lyndon**  
Los Angeles



B.Arch. University of Michigan, 1928. Travel in Europe in 1933 and 1938. He has worked as a designer in Seattle, Detroit, and for the United States Department of Interior in Washington, D. C. Architect member of the firm of Lyndon & Smith, Architects & Engineers, Detroit, doing schools and public housing, 1935-1942.



**First Mention**

**Wm. H. Scheick**  
Urbana, Ill.

B.Arch., A.I.A. Medal, Carnegie Tech, 1928. Office work in Pennsylvania. Teaching at Oklahoma A.&M., 1929-30; Univ. of Ill., 1930. Warren Prize, 1931; Le Brun Prize, 1932. M.S. in Arch., 1935. Associate Professor at University of Illinois.



**Mention**

**Donald E. Olsen**  
Berkeley, Calif.

Olsen was born in 1919; B.Arch., Univ. of Minnesota, 1942. Work in Minneapolis offices. Awarded scholarship to Harvard where he plans to do graduate work after the war. Fingado, born in 1913, was graduated from University of California in 1936. He has served in several offices in the San Francisco Bay area for the past six years doing residential and commercial work. Both men are at present in the architectural department of Henry J. Kaiser Co. working on housing, shipyard buildings, other developments.



**Alvin Fingado**  
Berkeley, Calif.

**Mention**

**L. J. Israel**  
Richmond, Va.



B.Arch., New York University, 1939. Fellow, 1939-41, while following courses for Master's degree. Associated with Simon B. Zelnik, architect, 1938-41. With U. S. Engineer Office at Langley Field and, since Jan., 1942 at Richmond Airfield, Richmond, Va.



**Mention**

**Ralph Rapson**  
Bloomfield, Mich.

Rapson:—B.Arch, Univ. of Mich., 1938, prizewinner in *Ladies Home Journal* Small House Competition. Co-winner with Eero Saarinen of competition for Theater—Fine Arts Building at William & Mary College. Runnels received his B.Arch. at Univ. of Illinois, won Plym Fellowship in 1938, traveled in Europe. Worked in several Denver offices and with Lyndon & Smith, Detroit. Both are now working in the office of Saarinen & Swanson. The two are co-designers of the "Rol-Fab" house. Both received scholarships to Cranbrook.



**David Runnels**  
Bloomfield, Mich.



**Mention**

**Jedd S. Reisner**  
San Francisco

Jedd Reisner received his B.Arch from the University of Illinois in 1934, won the Plym Fellowship in 1938. He has worked in the architectural offices of Don Hatch, and Moore & Hutchins. Sharp was graduated from New York University in 1938 and worked with Edward D. Stone until 1941. Since then he has been employed on several war projects as designer and draftsman. Both men are at present employed in San Francisco by Harrison, Fouilhoux & Abramovitz on the Pepsi-Cola Center for servicemen.



**J. Stanley Sharp**  
San Francisco



**Special Commendation**

**W. R. Smith**  
Pasadena



**R. W. Dickinson**  
Pasadena

Smith received his B.Arch. from Univ. of Southern California in 1934. Since then he has been with FSA, has designed a number of FPHA projects. Dickinson was graduated from the University of Southern California in 1942 and has worked with Los Angeles architects. He is now studying at the Graduate School of Industrial Design, California Institute of Technology.



**Special Commendation**

**J. C. Harkness**  
New York



**J. M. Johansen**  
New York

John MacLane Johansen and John C. Harkness were graduated cum laude from Harvard in 1939 and from the Graduate School of Design in 1941. Johansen has since worked on housing, construction jobs, postwar planning in New York and Boston offices. Harkness was co-winner in 1941 of the Boston Society of Architects Prize, won the Second A.I.A. medal in 1941.

**Commended**

**Donald Barthelme**  
Houston, Texas



A graduate of the Univ. of Pa. in 1930, Donald Barthelme has a small architectural practice in Houston and Galveston. He has been architectural designer for various firms. He has done war housing and is now doing architect-engineer work for the Army.



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Raymond Soil Investigations  
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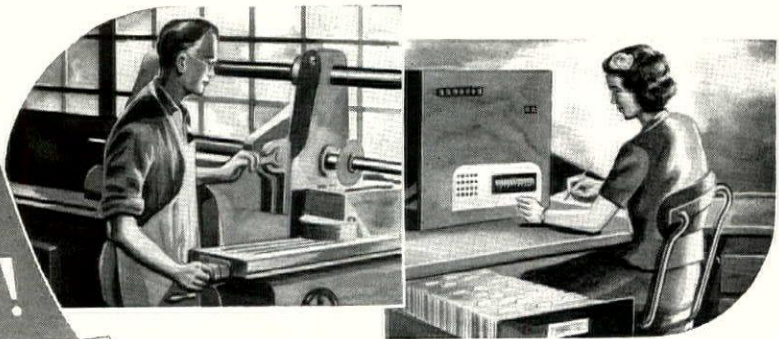


## They Judged the Store Front Competition

The more than 150 entries submitted in the NEW PENCIL POINTS-KAWNEER COMPANY competition, "Store Fronts of Tomorrow," were judged at the Read House, Chattanooga, Tenn., January 13 to 15. The photograph below shows the members of the Jury during one of their sessions. Left to right: Roland Wank, AIA, Knoxville, Tenn.; Morris Ketchum, Jr., AIA, Chairman of the Jury of Award, New York; Samuel E. Lunden, AIA, Los Angeles; Frederick Bigger, FAIA, Washington, D. C.; and Mies van der Rohe, AIA, Chicago. William Lescaze, AIA, New York, was professional adviser; Kenneth Reid, AIA, editor of NEW PENCIL POINTS, was assistant professional adviser.

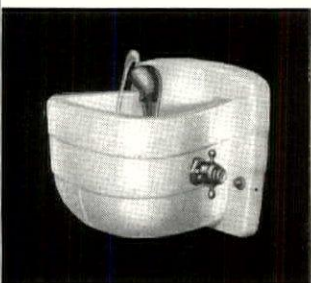
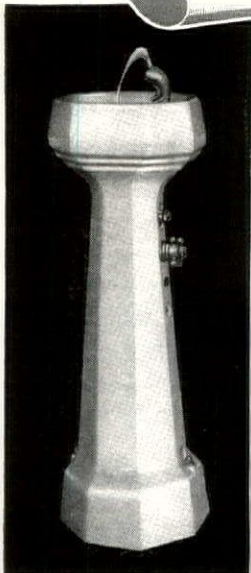


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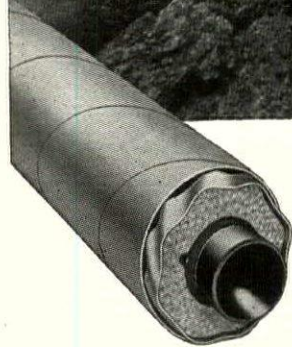
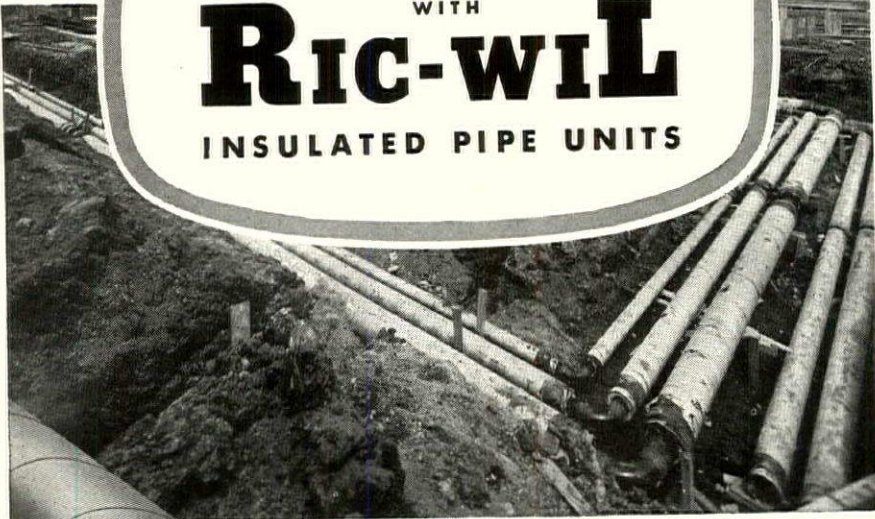
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**CODE OF ETHICS**

The following Code of Ethics, governing the mutual relationship between architects and engineers, has been adopted by the Pennsylvania Society of Professional Engineers and the Pennsylvania Association of Architects, and is reprinted from THE CHALETTE, monthly publication of the Pittsburgh Architectural Club, Inc. The Editors of THE NEW PENCIL POINTS welcome any comments which readers may care to make.

**1. Preamble:**

The practice of Architecture and Engineering in the Commonwealth of Pennsylvania shall be conducted in a dignified and ethical manner. The following code of ethics has, therefore, been adopted by the Pennsylvania Society of Professional Engineers and the Pennsylvania Association of Architects as a statement of conduct which is an ethical guide under ordinary conditions for business relations with the public and among members of both professions. All Architects and Engineers have an obligation to observe it as such.

**2. Definitions:**

- a. Primarily, the practice of Architecture and of Engineering shall be defined as set forth in the respective Licensing Laws of those professions and as issued by the Commonwealth of Pennsylvania.
- b. Each profession recognizes the other as an honored and learned profession of equal merit whose close cooperation is essential at all times for the benefit of the public welfare.

**3. Field of the Architect:**

- a. An Architect may ethically accept commissions for projects involving both architectural and engineering work, provided the primary problems of the project are in a field in which he has actively practiced.
- b. For structures supervised by Architects, which require engineering aid or assistance, Architects will employ Registered Professional Engineers to do such engineering and will pay a mutually agreed upon fee.

**4. Field of the Engineer:**

- a. An Engineer may ethically accept commissions for projects involving both architectural and engineering work, provided the primary problems of the project are in a field in which he has actively practiced.
- b. For structures supervised by Engineers and which require any architectural aid or assistance, the Engineer will employ a Registered Architect and will pay a mutually agreed upon fee.

**5. Use of Seal:**

The seal of the Registered Professional Engineer or Registered Architect to whom the commission is awarded shall be affixed to all drawings. In addition to his seal, the names and registration numbers of those Registered Professional Engineers and Registered Architects under whose direction any separate fields of work have

*(Continued on page 14)*



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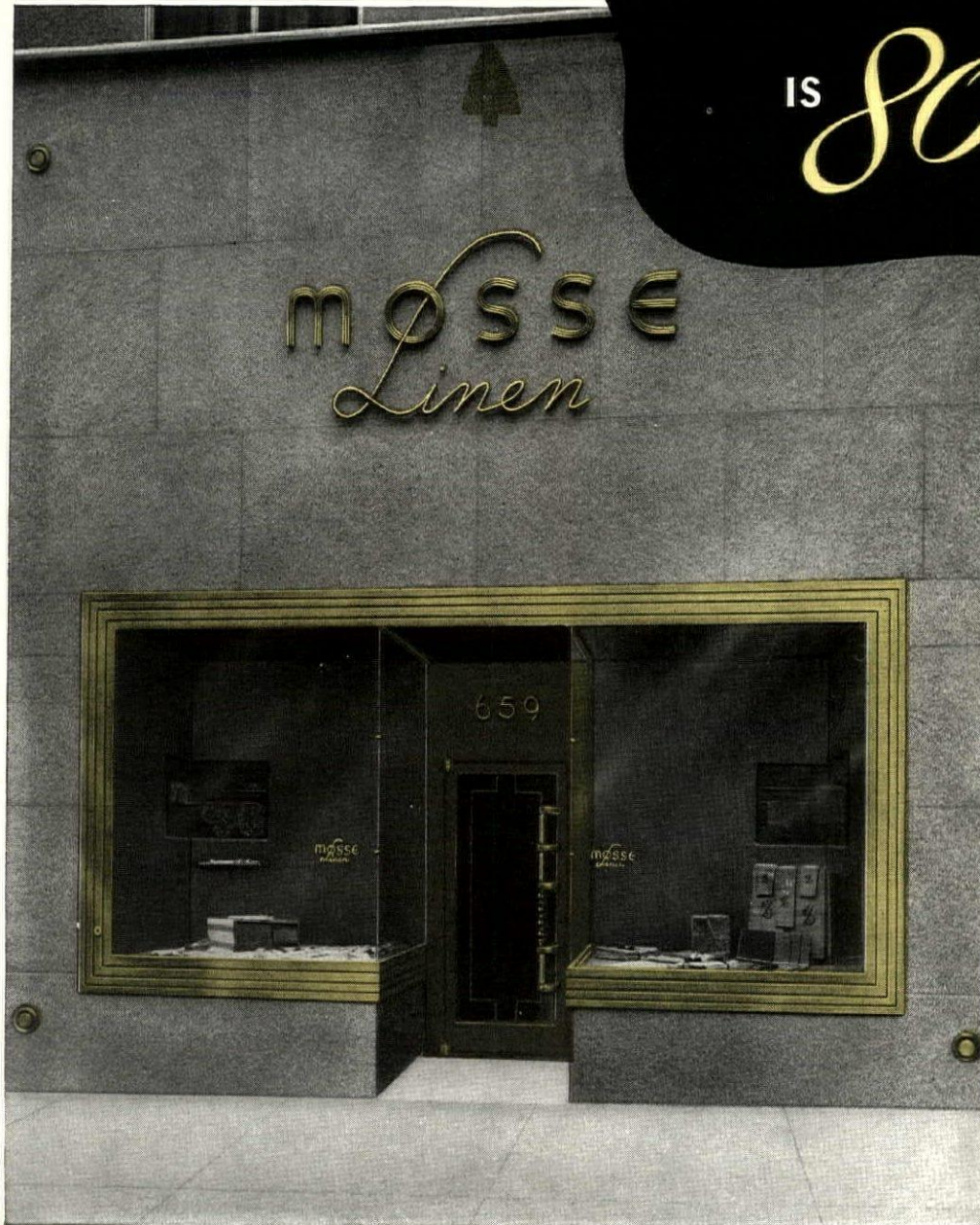


Illustration shows the shop of Mosse Inc., 659 Fifth Avenue, New York City. Paul T. Frankl, Designer. Morris Ketchum, Jr., Associate. Anaconda Bronze Work by General Bronze Corporation, Long Island City, N.Y.

The world's most fashionable shopping district not only reflects the inherent dignity and good taste of architectural bronze—but it emphasizes the fact that this ageless metal adds distinction to displays of merchandise, that it lends a feeling of warm substance and integrity to the establishment whose front it graces.

**A SETTING THAT NEVER GROWS OLD**

Anaconda Architectural Bronze is a sturdy, durable metal...rustproof, of course. Every bit as economical as it is attractive, architectural bronze is easily cleaned;

its natural lustre may be preserved with but occasional attention.

In peace time, The American Brass Company has always been the leading supplier of Architectural Bronze, Copper and Nickel Silver in the form of extruded shapes, drawn shapes, sheets, etc., for the creation of ornamental work of every description. 4318

**THE AMERICAN BRASS COMPANY**

General Offices: Waterbury, Connecticut  
Subsidiary of Anaconda Copper Mining Company  
In Canada: ANACONDA AMERICAN BRASS LTD., New Toronto, Ontario



*Anaconda Copper & Brass*





## THE MOST VITAL FACTOR in Your Drive for Production

That 85% of all manufacturing efforts directly depend on the worker's vision is a fact too often overlooked in the hectic rush for output . . . The most modern production line can reach total efficiency only when operators can see their tasks with unerring clarity . . . As for safety, a recent W. P. B. bulletin states that, *under good lighting*, "Accident hazards will be recognized faster—with increased chances of avoiding them."

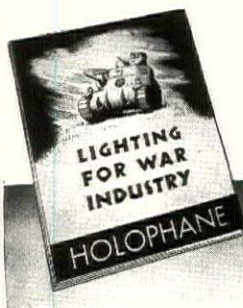
### WARTIME EFFICIENCY CALLS FOR PLANNED LIGHTING

Correct visual conditions are assured when the lighting equipment has been engineered for specific needs and conditions. This is **PLANNED LIGHTING** — sponsored by Holophane for two generations . . . Since the war started, engineers have proved in hundreds of America's leading plants how Holophane lighting accelerates the flow of production while it conserves critical materials, electricity and maintenance costs. In every instance, it has been demonstrated that industrial accidents\* *can* be drastically reduced by planned lighting which increases perception and eases strain and fatigue.

### CONSULT HOLOPHANE ENGINEERING SERVICE

Without charge, Holophane experts offer complete engineering specifications for the safest, most effective and economical solution of *your* wartime lighting problem . . . Write for information. Also send for new bulletin "Lighting for War Industry", available to all executives and engineers.

*\*Because good lighting and the saving of man-power are so unmistakably linked, we have contributed to, and are cooperating with, the WAR PRODUCTION FUND TO CONSERVE MAN-POWER, Wm. A. Irvin, Nat'l Chairman, Chrysler Bldg., N.Y.C.*



# HOLOPHANE

COMPANY, INC. Lighting Authorities—Since 1898

342 MADISON AVE., NEW YORK

HOLOPHANE CO., LTD., 385 Yonge Street, Toronto, Canada

### Code of Ethics, from page 12

been executed shall appear in a special space on each drawing in connection with the title block.

### 6. Mutual Relationships:

a. Architects and Engineers will cooperate to uphold the dignity and progress of each other's professions by exchanging general information and experience, and will foster instructions of students in their respective professions in every practicable way.

b. In any case of dispute over questions of relationship between architects and engineers which cannot be resolved by discussion and which threatens the amicable relationship of the professions generally, or of individual members, the matter shall be referred to a Board of Arbitrators composed of one member of the Pennsylvania Association of Architects and one member of the Pennsylvania Society of Professional Engineers, who shall select a third disinterested party to sit with them and pass on the matter at issue and who shall have power by majority decision to determine it finally.

### 7. Public Responsibility:

a. Architects and Engineers will interest themselves in public welfare on behalf of which they shall at all times apply their special knowledge, skill, and training within the scope of their commissioned work.

b. The professions oppose the practice of furnishing to the public free engineering and architectural services from manufacturers or their representatives on designing and planning work which comes within the fields of the Registered Professional Engineer and Registered Architect. But this shall not be construed as to prevent either profession from calling upon manufacturers of special equipment to furnish full details of their product and the advantages of its application in specific cases.

### 8. Individual Obligations:

a. Each Architect and Engineer will familiarize himself with the Registration Laws of both professions and will not knowingly violate such laws.

b. Each Architect and Engineer pledges himself to respect the honest business interests of every colleague and accordingly:

(a) Will not injure falsely or maliciously, directly or indirectly, the professional reputation, prospects, or business of another Architect or Engineer.

(b) Will not attempt to supplant another Architect or Engineer after definite steps have been taken towards his employment.

(c) Will not compete with another Architect or Engineer for employment on the basis of professional charges, by reducing his usual charges to underbid the other, after having been informed of the charges named by the other.

(d) No Architect or Engineer will review the work of another Architect or Engineer for the same client, except with the knowledge or consent of such Architect or Engineer, or unless the connection of such Architect or Engineer with the work has been terminated and he is fully

(Continued on page 16)





**Dust-laden  
atmospheres  
spell  
DANGER!**

Every safe-guard must be used to prevent arcs that might set off explosions. Therefore many plants have installed

## **FA DUST-TIGHT PANELBOARDS**

as a precautionary measure . . . Underwriters' Laboratories, Inc., have approved these panelboards for "Class II, Groups F and G, Hazardous Locations," covering atmospheres containing carbon black, coal or coke dust and grain dust . . . They are ideal safety equipment in shell-loading plants, coal mines, coal processing plants, grain mills and other plants troubled with dust-laden atmospheres.

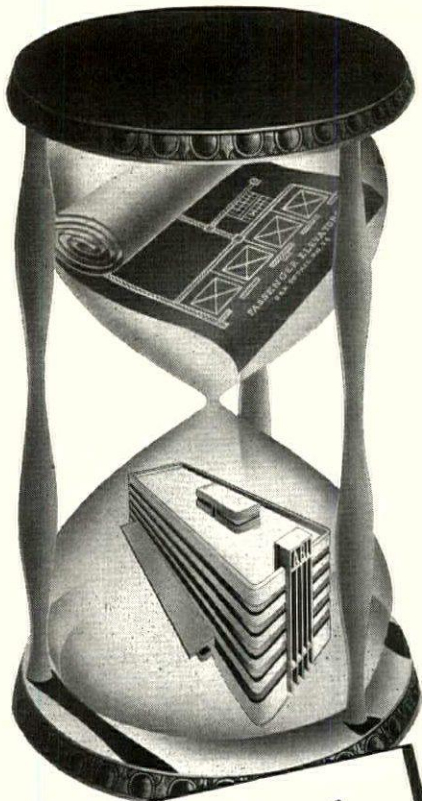
Instead of the usual steel front, consisting of trim and door, this panelboard has a solid steel front plate, gasketed all 'round, and secured with screws to the extra wide flange. It is further rendered dust-tight with welded hubs for conduit outlets, welded box-corners, and handle bushings riveted directly to the steel cover plate. The brackets are welded at the back.

The circuits are externally operable by a mechanism of new FA design. The handles operate through the dust-tight bushings, and engage the regular handles on the circuit breakers inside the cabinet. ON and OFF positions are indicated on the front of the cabinet.

The FA Dust-tight Panelboard may be had in standard type, or in narrow column type (as illustrated). It is of the circuit breaker type, with either FA Type AC or FA Dublbrak circuit breakers, or other types of lighting branch-circuit circuit breakers . . . Capacities: 50 Amperes or less, for 3 wire, single phase, or 4 wire, 3 phase mains, with lugs only. Available with 4 to 42 circuits . . . Frank Adam Electric Company, St. Louis, Missouri.







*When the  
FUTURE BECOMES  
THE PAST!*

Plans now on your drawing board will some day be completed projects. When that time arrives, the material and equipment which you specify must deliver. This will be the yardstick by which your work will be judged. Where freight or passenger elevators are required, specify Montgomery. Proof of the fact that they deliver is found in Montgomery's sales record. During 1941, a typical year, 72% of all the Montgomery Elevators installed were sold to previously satisfied customers. 28% were for new customers. Investigate Montgomery's "Elevator Planning Service" for assistance in solving special elevator problems. No obligation!

**DON GRAF DATA SHEETS**  
on Passenger and Freight Elevators. Use the coupon to get your FREE set!

## MONTGOMERY ELEVATORS

**FILL IN — MAIL TODAY!**



MONTGOMERY ELEVATOR CO.  
23 20th Street, Moline, Illinois

**YES!** Please send me FREE Don Graf Data Sheets on Montgomery Passenger and Freight Elevators.

Name .....  
Firm Name.....  
Address .....  
City..... State.....

### Code of Ethics, from page 14

compensated for the work already performed.

(e) Will not advertise in self-laudatory language or in any other manner derogatory of impartial truth, or of the dignity of the profession.

(f) Will not take advantage of a salaried position to compete unfairly with other Architects or Engineers.

\* \* \*

## "QUOTES"

### Architect's Opportunity

In one manufacturing plant, now running three shifts on war sub-contracts, there is a well-paid man who has no title and who seems to do very little except stroll around the busy plant or sit in his cubbyhole office. He is known only as "Mr. Osgood."

Mr. Osgood is, to his enemies, a visionary, a day-dreamer. To his boss he is a Godsend, for he has the imagination, coupled with sound sense, to do the thinking about the business which the boss used to do in easier times, but which has been forced out of his schedule by frequent trips to Washington and by an enormous new mass of detail, much of which has to have his attention.

To be successful, of course, the day dreamer must be practical as well as imaginative. He must get along with people. He must know that he can't move a half-dozen big machines around to save a few dollars a week. He must be, in other words, a pretty practical dreamer; yet he still must have highly-developed, imaginative qualities.

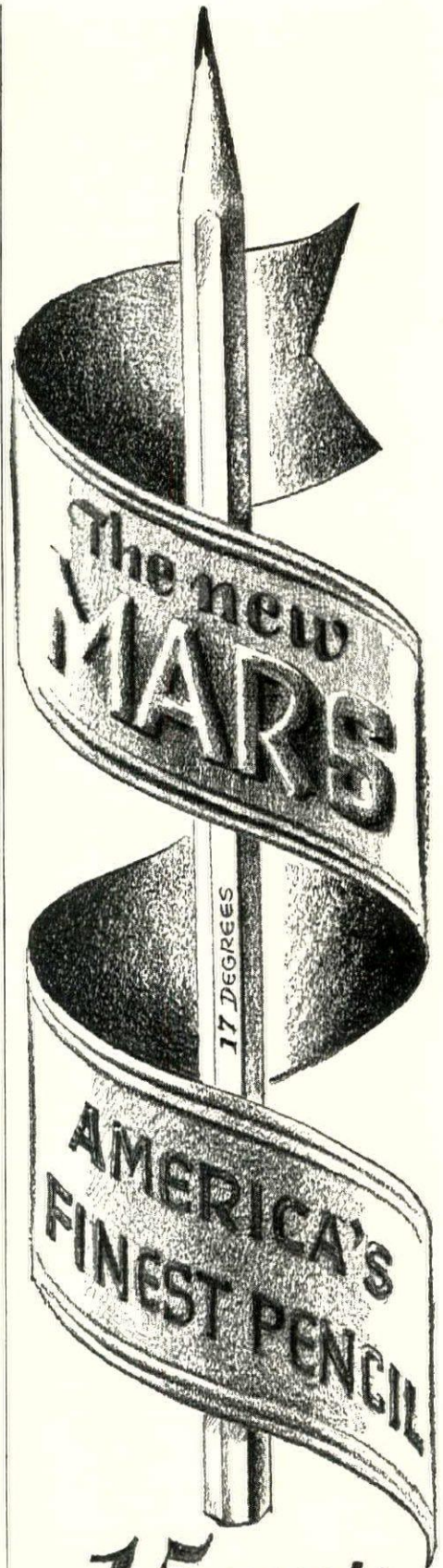
Perhaps there are more men with those qualifications in architecture than in any other profession, for the one thing which architecture seems to demand for success is the rare ability to couple high imagination with common sense, with the demands of the job, and with the cost and return angle.

Perhaps here is an opportunity for a few architects to help do an important job, and at the same time enjoy an experience which cannot be but highly valuable in after-war days when they are back at their profession. It will, obviously, take imagination to develop the right approach to the manufacturer, for he is very busy, he is often constitutionally against paying people for thinking instead of working, and he is sometimes married to techniques and standards developed by his grandfather when a dollar a day was good wages and there was little need for speed.

But it can be done in plants of the right size. The giant corporations spend millions on research and for efficiency studies of all sorts—probably a far larger part of their income than would be involved in the paying of "Mr. Osgood's" salary by the smaller plant.

All this may not be the answer for many architects, yet it might be worth a few minutes thought.

*Reprinted from VON DUPRIN MAGAZINE*



# 15 cents

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## Washington's Hotel Statler

### FEATURES

# LOCKWOOD HARDWARE

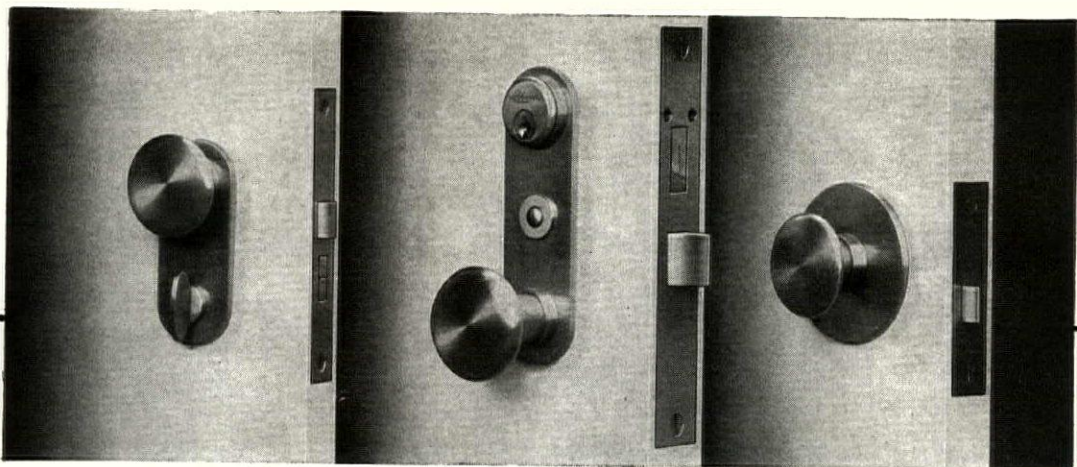
Plans for the interior of this magnificent new building called for very special hardware . . . styled to fit a pattern of dignified simplicity, yet rugged enough to withstand continuous hard use.

Lockwood experts made a thorough study of the special designs conceived by the architects. Then, Lockwood's famous talent for achieving new and strikingly different effects in builders' hardware was pressed into service.

Note the graceful contours of the escutcheon

and roseplate assemblies, shown below. An unusual method of attachment makes screws totally invisible, permitting a smooth, unbroken surface. Unexcelled materials, fashioned with traditional Lockwood skill, assure long, trouble-free service. In every respect, these handsome models bear out the architect's original conception.

The way we co-operated with the architects on this job is typical of the way we'll work with you.



For guest room doors on the corridors (*center*), a long, smooth escutcheon plate with rounded ends. Note the absence of screws. For non-locking doors (*right*), a



graceful knob rose, unbroken by screws. For intercommunicating doors (*left*), a briefer escutcheon, with a simple thumb turn.

## Lockwood Hardware Mfg. Co.

Division of Independent Lock Co.

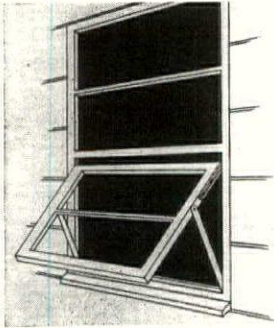
Fitchburg, Massachusetts



# Products Progress

(The columns of this section are open to any manufacturer who has a new product of interest to the architectural profession. Manufacturers who wish to have their product shown should send a glossy photograph, together with information covering the function, characteristics, installation, cost of the product, and a description of what AIA literature is available.)

## AWNING-TYPE WINDOW

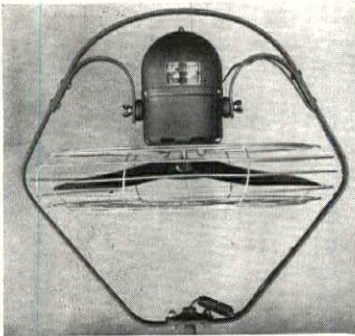


This window, developed by Rolscreen Co., Pella, Iowa, can be used for frame or thin wall construction. Windows set into studding, require no frames, sash weight, balances. Such units are of toxic-treated white pine. There are 14 standard fixed and ventilating units; the latter can be side-hinged for out-projecting casement style adaptation.

## GLASS SHOWER STALLS

Prefabricated shower stall enclosure, made of glass, from Pittsburgh Plate Glass Co., Pittsburgh, Pa. Units consist of three to five panels, with fixture openings drilled to specification. The panels are supplied with the necessary mastic, screws for installation, caulking compound, recessed soap holder and grab, wood shower curtain rod. In addition, a precast concrete receptor may be had. Square type: 30x30; corner types, 36x36-inches.

## HEAT CIRCULATOR

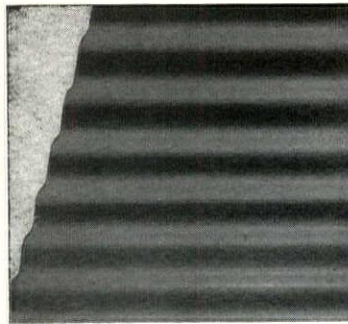


The Reco heat circulator has been designed to bring down the hot air blanket from the ceiling, and distribute it uniformly throughout the room. Available in various styles of ceiling and floor stand models. Manufactured by the Reynolds Electric Co., 2650 W. Congress St., Chicago.

## ASPHALT FLOORING

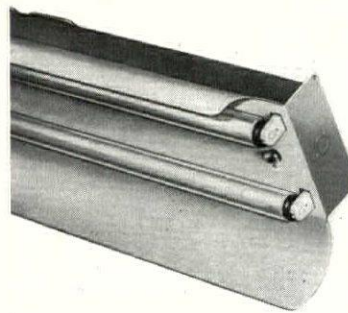
Elastite is a type of industrial flooring laid over a wood base, an alternate for steel and concrete flooring. The product is hard, resilient, fire- and moisture-resistant, has a non-skid surface. Samples and full details from Philip Carey Mfg. Co., Cincinnati, Ohio.

## ASPHALT SIDING



Rags and resin have been combined in this corrugated asphalt siding recently developed by The Celotex Corp., 120 S. LaSalle St., Chicago. The siding: two sheets of heavy felt saturated with a resino-bituminous compound. Sheets are hard, rigid, light in weight, moisture-proof. Available in five sizes—28" x 6', 7', 8', 9' and 10'.

## INSTANTANEOUS LIGHTING



Ballast and starting switch functions are combined to provide fluorescent illumination to full intensity without flicker or delay the instant the switch is turned on. Made for two 40-watt tubes, for 110-125 volt AC, for industrial, commercial installations. Spero Electric Corp., 18220 Lanken Ave., Cleveland, Ohio.

(Continued on page 20)

## WINNERS ON TWO FRONTS

HIGGINS American Drawing Inks are "first" in designing the implements of Victory for the United States and our Allies.



HIGGINS Eternal Black Writing Ink,

being a carbon ink, photographs best for "V" mail. For regular mail and records bombing cannot destroy it unless the paper is destroyed.

Documents written in Eternal Black and badly charred or soaked with water or chemicals can be read as long as the sheet holds together.

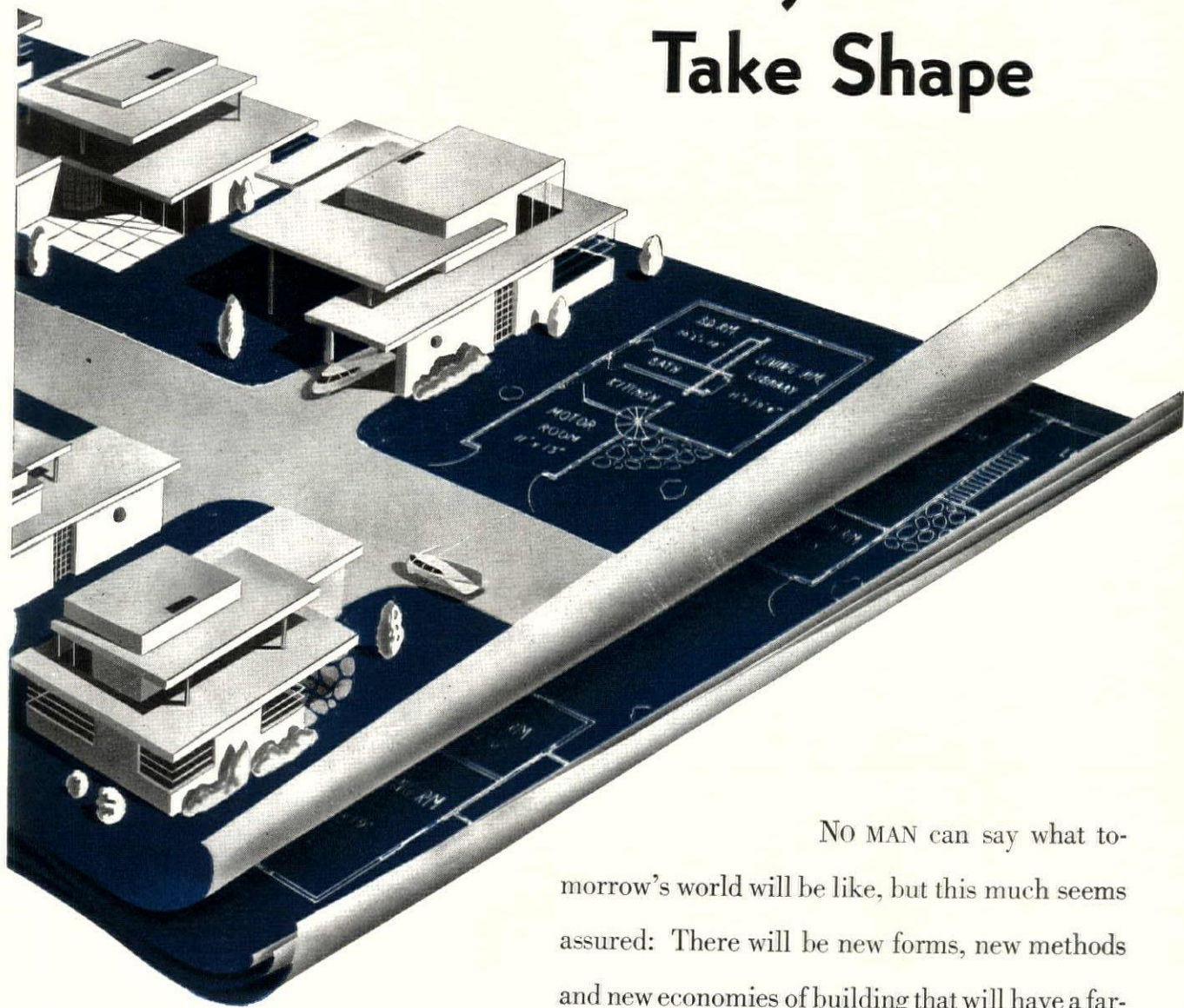
It pays to use these two famous old American products.

HIGGINS INK CO., INC., 271 NINTH ST., BROOKLYN, N.Y.

# HIGGINS



# When Today's Visions Take Shape



NO MAN can say what tomorrow's world will be like, but this much seems assured: There will be new forms, new methods and new economies of building that will have a far-reaching effect on the way of life in this country.

Today, Stran-Steel is doing things with steel that enlarge its scope and create new fields of usefulness. Traditional limitations of design have been overthrown, old practices revised, and a vast fund of engineering knowledge acquired as a reservoir for peacetime problems. Stran-Steel is a progressive organization, well qualified to serve the men whose visions will shape the future.

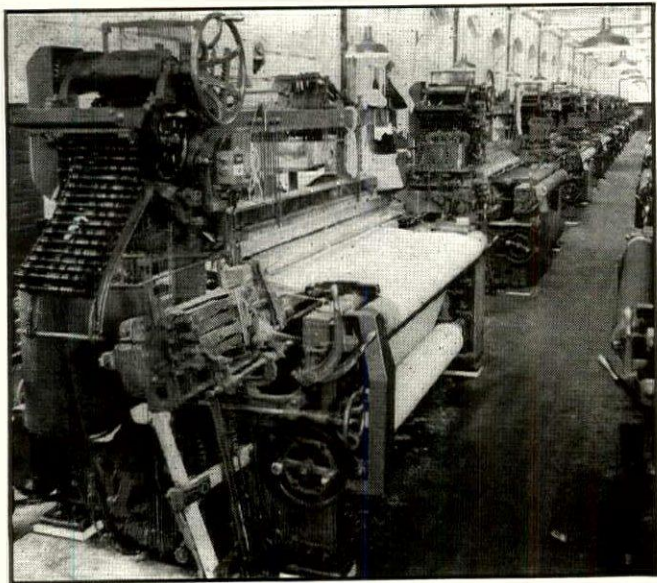
## STRAN STEEL

DIVISION OF GREAT LAKES STEEL CORPORATION  
1130 PENOBSCOT BUILDING, DETROIT, MICHIGAN

UNIT OF NATIONAL STEEL CORPORATION



# After 37 years— STILL A GOOD FLOOR



Laid in 1905 in a Lowell, Mass., weave room, this Maple floor shows scant signs of wear. Looms mounted on Felters Unisorb, without bolts or lag-screws.

## It's NORTHERN HARD Maple Of Course

In hundreds of textile mills, floors of Northern Hard Maple are rolling up records—for long life, sturdy resistance to wear, low cost of upkeep. The Lowell, Mass., floor pictured above, demonstrates again the long life of Hard Maple in textile mills.

A Maple floor is modern! Warm, dry—it increases worker-efficiency. Its tough, non-dusting surface protects machinery. Mill traffic moves easily over its hard smoothness!

Correctly finished, brushing alone cleans a Hard Maple floor. This smooth, tight-grained wood is non-lint-catching. Better working light is reflected by its bright, clean surface. Consider carefully these many advantages of Northern Hard Maple whenever you're planning new floors or reflooring. Specify **MFMA** (trade-marked, guaranteed) Northern Hard Maple in strips or blocks.

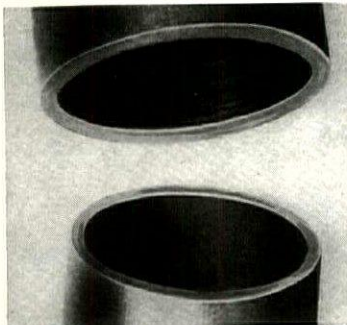
**MAPLE FLOORING MANUFACTURERS ASSOCIATION**  
1785 McCormick Building, Chicago, Illinois

Write for folder on heavy-duty finishes for old or new Maple floors, which further reduce cleaning costs. See Sweet's, Sec. 11/57.

Floor with  
**MFMA** Maple  
REG. U. S. PAT. OFF.  
(NORTHERN HARD)

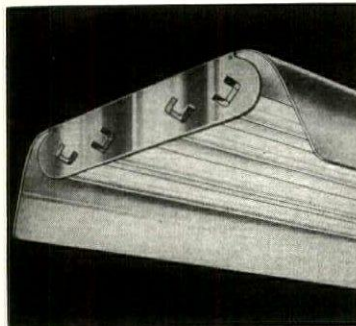
(Continued from page 18)

### FIBRE CONDUIT



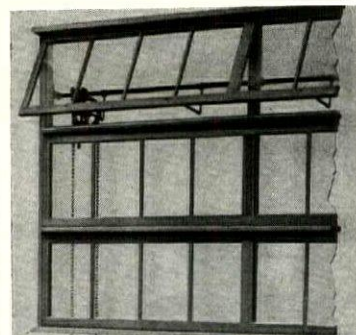
Bermico, product of Brown Co., 500 Fifth Ave., New York, is made of scientifically built-up and heat-treated wood cellulose fibers which are then formed into tubes with a solid homogeneous wall structure. Tubes are then impregnated to produce a chemically inert, lightweight pipe with high mechanical strength and water resistance.

### FLUORESCENT UNIT



Super Maze-Lite lighting unit, made by Edwin F. Guth Co., 2615 Washington Blvd., St. Louis, Mo., designed to provide high-intensity fluorescent illumination for inspection, general factory areas. Equipped with a Masonite reflector. Two sizes: four 40-watt and four 100-watt units for 110-125 volt, 220-250 volt, and 250-280 volt, 60 cycle, AC.

### CYPRESS SASH UNIT



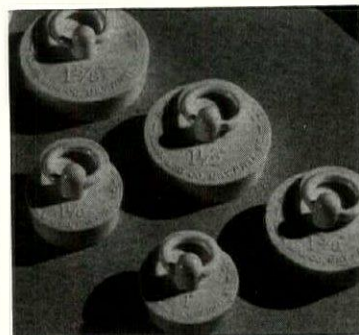
Cypress window units available from Lord & Burnham Co., Irvington, N. Y. Sash made of Tidewater Red Gulf cypress; frame is of clear-heart California Redwood. Furnished complete with necessary mechanical operators ready for installation. Muntins are double-shouldered to make a lock-tight joint. Hinges are of galvanized steel. Available in various units.

### PLASTER INTERCEPTOR



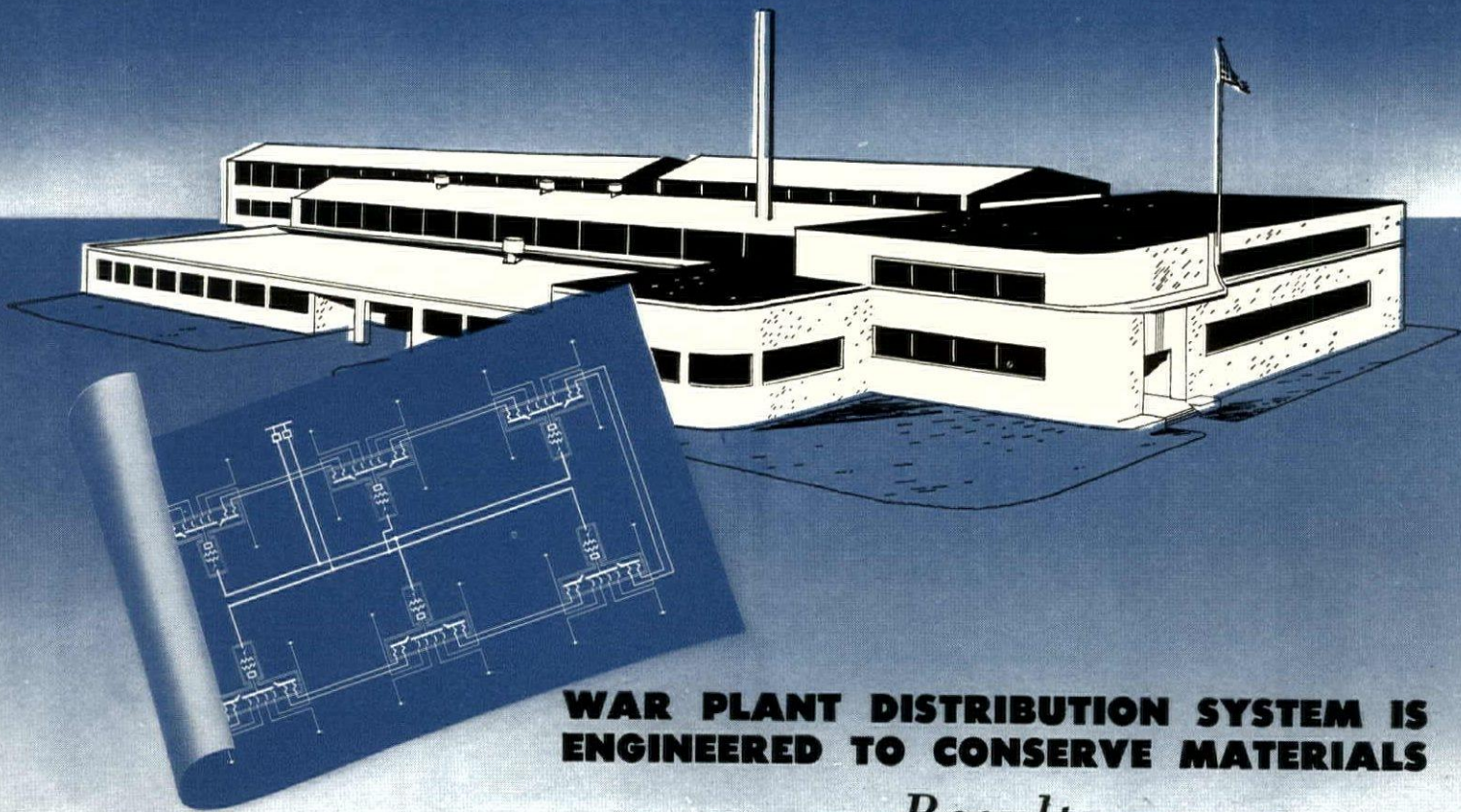
Wartime model employs vitreous china for the body and removable sediment container. Units formerly made entirely of metal. Metal now used only for perforated strainers and cover fastening device. Unit designed to intercept and collect bits of metal, plaster, and other solids thus preventing clogging of drainage lines. J. A. Zurn Mfg. Co., Erie, Pa.

### DRAIN STOPPERS



Drain stoppers, 1" and up in diameter, are now being molded of Lumarith plastic instead of rubber by Kampa Mfg. Co., Milwaukee, Wis. Stoppers are clean, attractive, and light in weight.





**WAR PLANT DISTRIBUTION SYSTEM IS  
ENGINEERED TO CONSERVE MATERIALS**

*Result:*

**6400 pounds of Copper saved**

**HOW WESTINGHOUSE CAN HELP YOU  
SAVE TIME AND CRITICAL MATERIALS**

- **Selecting the Right System**—Wide application experience in all types of industries enables Westinghouse engineers to recommend the system best fitted to your plant.
- **Air-Cooled Transformers**—permit location close to load centers with maximum safety, eliminate expensive vaults.
- **Hipersil**—an exclusive Westinghouse development with  $\frac{1}{3}$  more flux-carrying capacity than ordinary silicon steel. Reduces transformer size and weight.
- **Loading by Copper Temperature**—permits use of *all* the transformer capacity, with complete protection against burnouts.
- **Improving Power Factor**—through use of capacitors, can often save installation of new feeder lines. Westinghouse engineers are in a position to make such practical recommendations.

A New England war plant planned to install a distribution system requiring 44,200 pounds of copper. Westinghouse engineers recommended a more flexible, better-protected system using 6400 pounds less copper.

Savings like this prove that "custom-fitting" the distribution system to the job helps to conserve critical materials.

There is no one universal distribution system suited to all plants or all industries. That's why Westinghouse plans and builds *all* types. The one that will best fit your plant is the one that takes full account of the nature, density, and location of load—with the least use of critical materials.

Any system recommended is designed to use standard distribution equipment. No time is lost in building special apparatus.

If you want fast action, call our local office. Or send for the helpful booklet shown below. Westinghouse Elec. & Mfg. Co., E. Pittsburgh, Pa.

J-94539



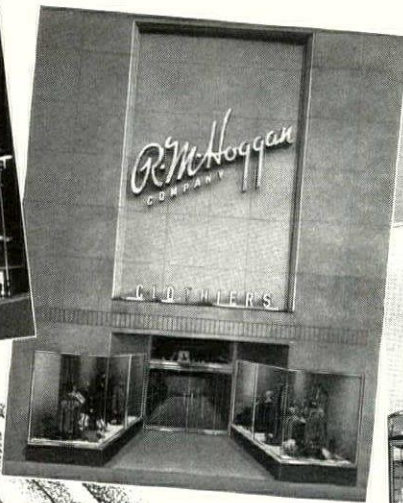
**QUICK FACTS ABOUT  
PLANT DISTRIBUTION SYSTEMS**

Keep up to date on latest plant distribution systems. Send for Booklet B-3152 which briefly describes different plant distribution systems, and points out the advantages of each.



**Westinghouse**  
PLANTS IN 25 CITIES... OFFICES EVERYWHERE





A WORLD OF

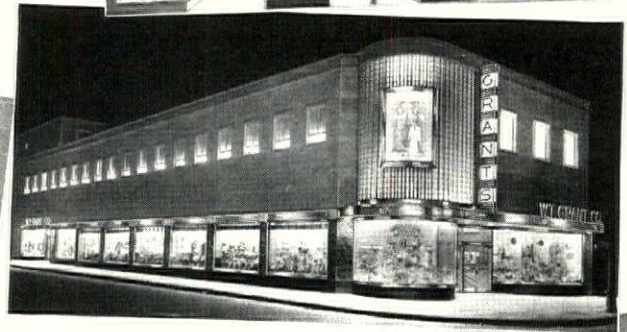
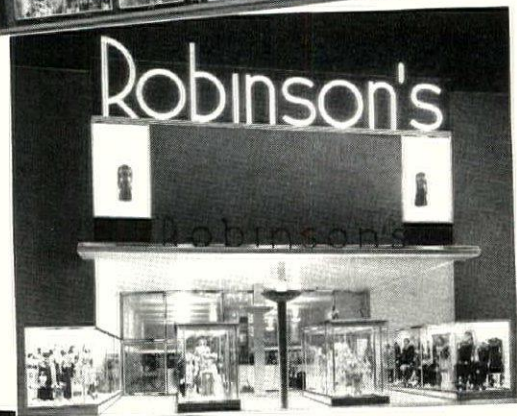
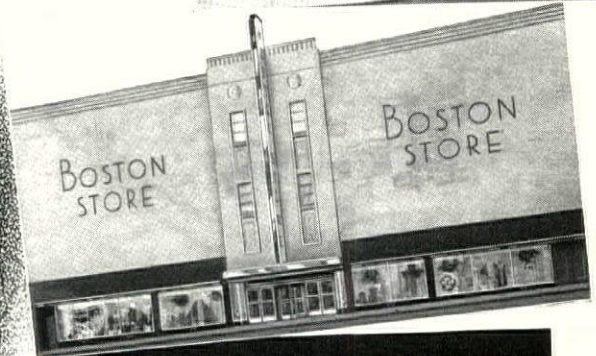
# Brasco

MODERN STORE FRONTS

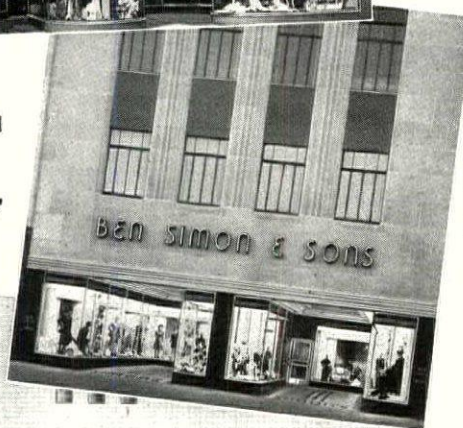
BRILLIANT DESIGN  
PROVEN QUALITY  
CONSTRUCTION

BRASCO MFG. CO.  
HARVEY • ILLINOIS

*National Distribution Assures  
Effective Installation*



BRASCO  
CONSTRUCTION  
has been  
perfected by  
OVER 30 YEARS'  
EXPERIENCE





## THEY SAY . . .

"History is merely gossip."  
—Oscar Wilde

—That Congress, in a resurgent spirit of independence, may make deep slashes in appropriations for non-war operations of the Government. Could this mean that appropriations for postwar planning will become the target of Congressional sniping?

—That industry will find itself, at the end of the war, with worn out equipment, and with taxes in their present form, no money for rehabilitation. Congress, however is reported to be giving thought to remedying the situation.

—That the Nugent Plan of selling goods for postwar delivery may be extended to cover prefabricated houses and home air conditioning. Many variations of the plan have been advanced, but there is no indication any may receive official Administration blessing since any one of them conceivably might drain off as much as \$6 billion of the 1943 excess of income over available consumer goods.

### NRPB TO GO?

Washington — The National Resources Planning Board, which has been making postwar studies for President Roosevelt, was cut off without a penny recently when the House Appropriations Committee, in approving an appropriations bill of \$2,621,104,379 for independent offices for the 1944 fiscal year, recommended nothing for the National Resources Planning Board.

### ILLINOIS REGISTRATION

Springfield, Ill.—A circular of information recently released by Philip M. Harman, Superintendent of Registration, State of Illinois, embodies both the Junior and Senior Syllabi, together with supplementary information covering the change of requirements for admission to the Illinois State Architects' Examination.

Instead of the present three-day, 24-hour junior examination, there will be substituted a four-day, 36-hour examination which will meet the higher examination requirements adopted by most of the States, and will permit Illinois licensees to be registered by reciprocity in other States.

The senior examination remains an oral examination (with exhibits) similar to the present Illinois senior examination. It is open to architects who can prove ten years or more of independent, legal practice as a principal in the profession of architecture.

# New Pencil Points News

## HOUSING STANDARDS REVISED

### WPB AND NHA REVISE WAR HOUSING STANDARDS

Washington—A revision of war housing construction standards, easing in some respects the restrictions on design and material consumption, was recently announced by the War Production Board and the National Housing Agency. The standards were originally established last October.

The principal changes, which are of particular interest to private builders, included: increase of 10-15 percent in permitted floor area, removal of ban on use of softwood lumber

for finished and sub-flooring, expansion of areas in which wood frame construction may be used, elimination of heating provisions, since the major requirements formerly included have been incorporated in the current War Housing Critical List.

The relaxation of the restrictions on the use of lumber does not mean that the critical character of the softwood lumber situation has improved, WPB officials explained, but rather that there is an indication of an increase of side cuts in logging areas where no facilities are available for storage. Moreover, the primary need of the Armed Forces is for timber, and the development of side cuts in logging areas without a ready market may hamper timber production.

### Floor Areas Increased

In prescribing the maximum floor areas for dwelling units of various sizes in the original standards, WPB and NHA officials acted to insure that the maximum number of such units would be produced from the limited visible supply of critical material. In increasing the floor areas, the revised standards will make it easier for builders to operate within the restrictions imposed, and better-planned, more livable homes are expected to result.

(Continued on page 24, Column 1)

## CIVIL ENGINEERS MEET

### DISCUSS HOUSING, POSTWAR PLANS

New York—At the recent 90th annual meeting of the American Society of Civil Engineers the delegates discussed means of clarifying the position of architect-engineers and engineering firms on war projects, especially with respect to government contracts.

### Steel Code Approved

The Society's Board of Direction, acting on the recommendation of the executive committee of the structural division, approved the WPB "National Emergency Specifications for the Design, Fabrication, and Erection of Structural Steel for Buildings." However, it did not approve the ASA building code requirements for structural steel. The board assumed that the higher stresses called for by WPB would be retained in building codes after the war, thus outdating the proposed ASA code.

### Housing Trend

Jacob L. Crane, Jr., NHA Director of Urban Studies, addressing the City Planning Division delegates, stated that there was a definite trend away from permanent housing for war workers. The urgent

need for economical use of materials has forced the government housing program wholly into the provision of temporary dormitories, temporary dormitory apartments for couples, and temporary family dwelling units, he said.

### Postwar Housing

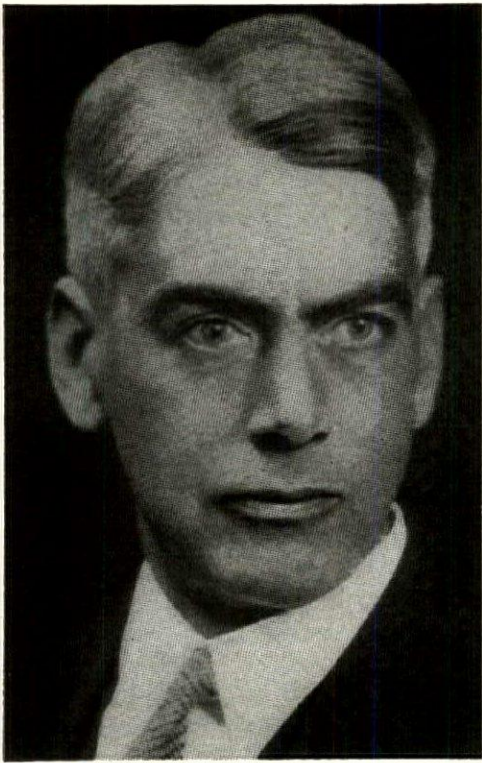
Harland Bartholomew, city planner of St. Louis, estimated that in the 10-year period after the war the yearly construction of 828,000 non-farm dwelling units would be required. This would include 140,000 units to accommodate new population growth in cities, 336,000 units to replace obsolete units now over fifty years of age, and 352,000 units which are becoming obsolete each year. Unless citizens' groups work hard and effectively, Mr. Bartholomew expressed the belief that 95 percent of all postwar housing in American cities would be built in remote suburban areas.

### Technical Program

A number of technical studies were presented at the convention. Charles Wuerpel, senior engineer, North Atlantic Division, U. S. Army Corps

(Continued on page 24, Column 3)





## To Control Land and Planning

W. S. Morrison, M.C., K.C., M.P., was recently designated as the Minister for Town and Country Planning in Great Britain. As Minister, he will control the use of land and administer planning laws in England and Wales. In this connection, it becomes apparent that England is further advanced along the road to postwar planning than America. For additional information on England's postwar program, turn to page 75 for excerpts from a speech delivered by Sir Ernest Simon, of the British Ministry of Works and Planning.

### COAST CONSTRUCTION

*Sacramento, Calif.*—Despite priority restrictions of construction materials, \$6,400,000 worth of architectural and engineering work was completed in California during the

1942 calendar year, reports the State Division of Architecture. Of the amount, about \$4 million worth was construction; the remainder represents completed drawings for projects deferred because of the war emergency.

### WAR HOUSING STANDARDS *Continued from page 23*

In those states within reasonable reach of the Pacific Northwest and Southeastern lumber producing areas, the use of lumber for war housing construction (within certain limitations) will be permitted. In states outside of these two lumber-producing areas, it is provided that all housing structures must have masonry exterior walls constructed of clay or concrete products such as brick, structural clay tile, cement or concrete blocks, and cement brick unless the lumber used does not exceed the maximum normally allowed for structures built of masonry exterior walls.

States where masonry is required include: New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Maryland, District of Columbia, Wisconsin, North Dakota, South Dakota, Ohio, Indiana, Illinois, Iowa, Nebraska, Kansas, Missouri, Oklahoma, and Michigan. Wood frame construction started during the first three months of 1943 in New Hampshire, Vermont, Wisconsin, Iowa, North Dakota, and South Dakota is permitted where it comes within the general lumber allowances provided in the standards.

### CIVIL SERVICE JOBS

*Washington*—The Civil Service Commission urgently needs technically-trained persons for wartime work, and has announced the following jobs: engineering draftsmen, \$1440 to \$2600; naval architects, \$2600 to \$6500; junior engineers, \$2000; engineers, \$2600 to \$8000; training specialists, \$2600 to \$5600; engineering material inspectors, \$1620 to \$2600; traffic and transportation specialists (maintenance of equipment, including construction, appraising, or valuation) \$2600 to \$6500. There are no written tests and no maximum age limits for the positions listed.

### CITY PATTERNS TO CHANGE

*New York*—Miles L. Colean, former FHA executive, told members of the Mortgage Bankers Association here that greater changes are in prospect in the pattern of our cities during the postwar era. New factories built in suburban areas to meet war production needs will serve to build up outlying areas when they are converted to peacetime production, he states.

Guy Greer, co-author of the Greer-Hanson Plan for land use, told delegates that the re-planning and rebuilding of American cities would be the foremost postwar job of the nation. Curt C. Mack, FHA executive, predicted a wide postwar demand for homes in the \$3,000 to \$5,000 class, and urged the building industry to "change its methods drastically to operate on a mass production basis" to meet the demand.

### GREELEY HONORED

*Boston*—William Roger Greeley, President of the Boston Society of Architects, was recently appointed by Governor Leverett Saltonstall as chairman of a committee of three to advise him and the Massachusetts Legislature on safety in building and fire laws.

### ASCE MEETING

of Engineers, outlined the durability of cement and concrete specimens under different conditions. Recent developments in reinforced concrete structures were discussed by A. J. Boase, Portland Cement Association. Developments in wood were discussed by Professor Howard Hansen, Texas A. & M. College, who said that wood was replacing many items on critical materials list, and gave a new formula for determining weight of wood

### HOUSE, SENATE DISCUSS POSTWAR PLANNING

*Washington*—Identical resolutions were introduced recently before Congress calling for the establishing of special committees to start drafting plans for the postwar period. Senator George's resolution calls for the creation of a nine-member committee to study postwar economic problems. A similar resolution was introduced in the House by Representative Hendricks. Congress, it seems, has taken the bull by the horns as far as postwar planning is concerned, since it eventually must pass the laws and appropriate the funds for the work.

### CITY PLANNING COURSE

*Cleveland*—More than 80 people, including 54 registered architects, have completed a lecture course in city planning sponsored by the Cleveland Chapter AIA. The lectures covered the principles and purposes of comprehensive planning, private and public housing development, war housing, urban redevelopment, highway and transportation planning.

### REMODELING RATES CRITICAL MATERIALS

*Washington*—Privately-financed conversion and remodeling of existing buildings to provide added living quarters for essential war workers will henceforth receive access to critical war materials on a par with all other types of war housing operations, FHA Commissioner Ferguson declared recently. Approved projects will be eligible for AA-3 preference ratings.

### DRESSER SUCCEEDS KAHLER

*Washington*—Ferdinand J. C. Dresser, formerly in charge of the Engineering Section of the Army Specialists Corps, was appointed Director of the WPB Construction Division, succeeding William V. Kahler who resigned to return to the Illinois Bell Telephone Co.

*Continued from page 23*

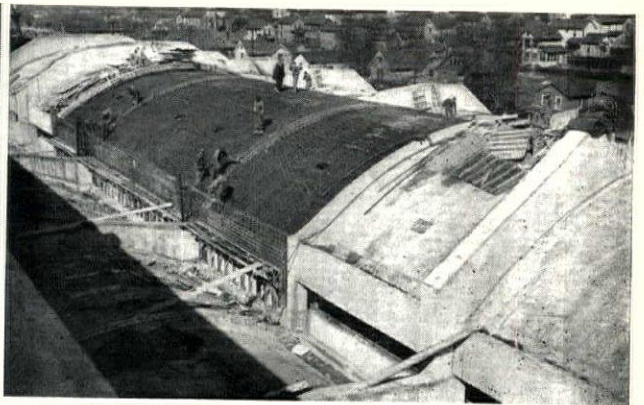
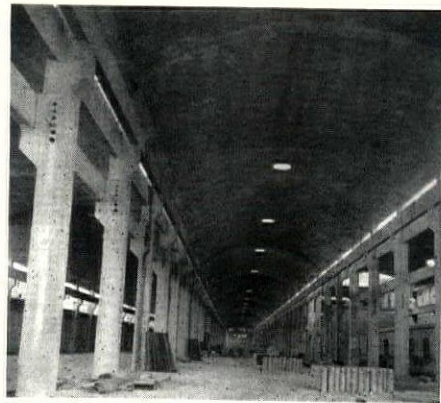
trusses. Verne Ketchum, chief engineer of Timber Structures, Inc., Portland, Ore., said that bowstring arches are 10-12 percent cheaper than other timber trusses since the shape is adaptive to placing maximum stresses in main members and low stresses in the web. Ralph Mann, field engineer, Wood Preservers Association, discussed the present situation in wood construction with wood displacing many materials.



**WOOD AND CONCRETE SAVE CRITICAL STEEL**

*Pittsburgh, Pa.*—Recent problem confronting the construction department of Westinghouse Elec. & Mfg. Co. was the building of a new laboratory around an existing building without interrupting essential research work. Construction engineers resorted to a new type of European structure known as Diagrid. Instead of the usual truss or bridge type supporting members for the roof, a grid of small I-shaped beams and bars was used. This grid slopes from the center to the walls at a slight pitch.

The walls were built, the Diagrid roof framing was erected and closed in with



poured gypsum roof slab, without any stoppage of heat, light, or other services to the old building. Then, after the outer building was completed, the inner one was removed section

by section, without interference to the work in progress.

The new structure is about 270 feet long, with a clear span of roughly 85 feet. There are no supporting columns to

interfere with work operations. Because the usual trusses were eliminated six feet of building height was saved. Approximately 70 tons of steel were also saved.

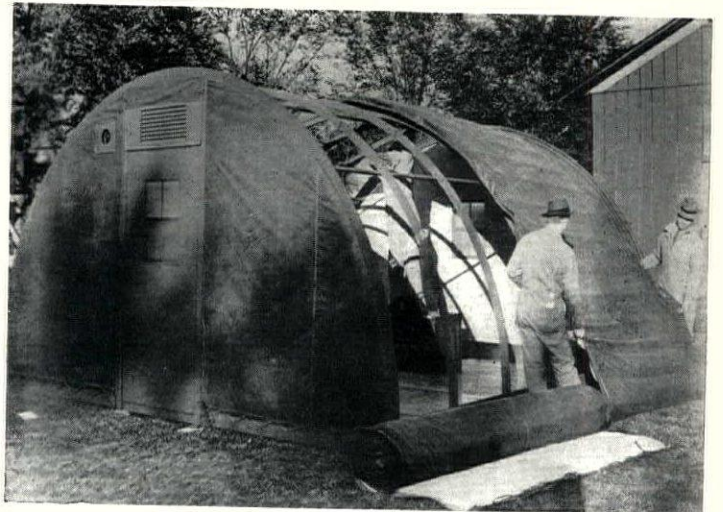
**ARCTIC SHELTERS SAVE CRITICAL MATERIALS**

*Washington*—This new portable shelter, for use by Army Air Corps personnel in Arctic climates, was designed by James Mfg. Co., Fort Atkinson, Wisc. Glass fiber insulation in the walls and flooring are reported to save more than 10 tons in the weight of fuel which must be transported to maintain a comfortable temperature in each shelter.

No metal, other than incidental hardware, is used. Side walls and roof of each 16x16-foot shelter consist of two quilt-like sections composed of glass fiber insulation, faced on one side with flame-proof

muslin and then enclosed with cotton fabric treated with a plastic material which is said to make the fabric water-, rot-, and vermin-proof, and fire-resistant.

The front and back each consist of a single, similar, quilt-like section. Space is provided for a door and window in the rear, and for an entrance door, window, and ventilation grille in the front. Laminated wood ribs are used as the supporting frame. The plywood floor has a layer of insulation on the underside of the panels. Each shelter weighs approximately 1200 pounds.



**HOUSING PROJECT, WASHINGTON, D. C.—KENNETH FRANZHEIM, ARCHITECT; ALAN B. MILLS, ASSOCIATE**

*Washington, D. C.*—The Defense Homes Corp. has announced that its three housing projects in the Capital vicinity will be ready for occupancy in Spring. In the McLean Gardens development, shown here, there is a group of nine residence halls (six for women and three for men), and all for war workers. These are permanent, fireproof buildings which will be completely furnished and operated with limited hotel service.

In addition to numerous attractive lounges in the residence hall group, there is also



a commons building planned to provide a meeting and recreational center for the residents. In connection with the

commons building, there will be operated a large cafeteria, a soda fountain, etc., for the exclusive use of the guests.

Apartments in the McLean Gardens project are permanent brick buildings of Georgian design, efficiently planned to provide modern conveniences at moderate rentals. All apartments have separate service entrances, separate service staircases, and are built over full basements.

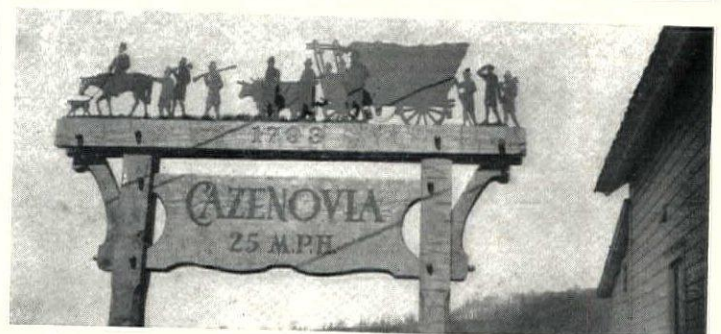
The Defense Homes Corp. projects in the Washington vicinity consist of approximately 4,930 apartments of 2½ to 5½ room units and, in addition, accommodations for approximately 1400 guests in furnished residence halls.

**SIGNS DEPICT VILLAGE FOUNDING**

*Cazenovia, N. Y.*—Signs such as this, depicting the founding fathers in 1793 making their way by oxcart, horseback, and foot to Lake Owahgena to establish the settlement, were recently placed at the principal entrances to this village. The 2"x 5" rails supporting the silhouette are 6'-4" long. The figures are on two planes, thus allowing the snow and rain

to pass through. Supporting posts are 5"x 5" thick. Rails, panels, and brackets are 2" thick.

Silhouettes were carved by R. W. Davendorf, Richfield Springs, N. Y. They are of plywood, painted black, and the supporting frame is of hand-hewn oak fastened together with wooden pins. The lettering is hand carved.





**COUNCIL URGES LOCAL PLANNING COMMITTEES**

*Cincinnati*—In describing the general objectives of the postwar planning program for the construction industry, sponsored by The Producers' Council, and the detailed program for its technical committee, of which he is chairman, George J. Haas, Sales Manager, Stran Steel Division, Great Lakes Steel Company, recently urged architects and engineers, material men, and contractors to organize their own local committees for postwar planning and to join their efforts with local business and industry groups to insure full employment after the war.

**1942 CONSTRUCTION UP**

*Washington*—A record \$13,600,000 was spent on construction last year, according to reports from the Office of War Information. For cantonments, air bases, and other types of building for war, military, and naval use, construction totaled \$5 billion, as compared with \$2,100,000,000 in 1941. New industrial facilities doubled in value over 1941, rocketing to \$4 billion.

**BUY HOME OF TOMORROW WITH WAR BONDS**

*Chicago*—A large-scale advertising campaign, designed to make the postwar American home appear as dramatic, interesting, and exciting to own as the super-streamlined postwar motor car, has been launched by The Celotex Corp. The advertisements illustrate and describe many of the anticipated innovations and improvements in construction and urge the public to set aside war bonds for the purchase of these "miracle homes" when victory has been achieved. The campaign is being carried in the home magazines.

Homes illustrated in the advertisements are actual postwar type dwellings designed by a number of leading architects, including Evans, Moore & Woodbridge, Walter Gropius, George Fred Keck, Richard J. Neutra, and Skidmore, Owings & Merrill. All are planned to utilize new developments in building materials. Also incorporated are such ideas as pre-fabricated bathroom and kitchen units movable partition walls, built-in, dual purpose furniture.

**BUILDING CONSTRUCTION**

*Washington*—A recent revision in the procedure to be followed by operators of loft buildings, apartment houses, hotels, industrial plants, and other substantial buildings in filing a single application for blanket authorization to cover small miscellaneous construction work for a period up to six months, makes it possible for both the operators and WPB to avoid handling numerous applications for construction jobs which are necessary in the larger buildings. All miscellaneous construction jobs, except those estimated to cost \$10,000 or more, may now be included in a single application for authorization. Previously, the limit was \$5,000.

**AA-3 PRIORITY TO HOUSING**

*Washington*—A blanket preference rating of AA-3 has been assigned by WPB to deliveries of materials for use in the construction of most of the war housing projects programmed by NHA. The action affects housing for which preference rating orders P-55 have been issued to a builder, or P-19-d and P-19-h have been issued to FPHA.

**CONCRETE BEAMS HAVE BAMBOO REINFORCEMENT**

*Clemson, S. C.*—Professor Howard E. Glenn, of Clemson College here, is reported to have produced, in experiments, concrete beams reinforced with ordinary bamboo cane. A preliminary test showed bamboo-reinforced beams could withstand a tensile load of 20,000 pounds per square inch. Further experiments will be carried on to determine the amount of bamboo to use and where to place it.

**CONSTRUCTION PROJECT SAVES CRITICAL WOOD**

*Camp Bainbridge, Md.*—Contractors on the Navy camp here were able to eliminate critical wood by the substitution of quarter-inch asbestocement sheets for the 5/8-inch plywood originally specified for exterior sheathing. The sheets came in 4x8-foot sizes and were cut on the job as required. The exterior asbestocement sheets are applied over half-inch plasterboard and tarpaper. Such a fireproof wall was built at a cost of 15 cents a square foot for labor and material.

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**DESIGNERS REGISTER**

*New York* — The American Designers Institute is compiling a list of Industrial Designers and requests that all designers send in a record of their names, address, telephone number, employer, and branch of design. This information should be sent to the ADI at 115 E. 40th St., New York.

**BRUNNER SCHOLARSHIP**

*New York* — Harold Sleeper has been awarded the Arnold W. Brunner Scholarship of the New York Chapter of the AIA. He will make a study of the possible future development of New York's East Harlem area.

**NATION WANTS HOMES**

*Washington* — A nationwide survey, currently being conducted by the United States Chamber of Commerce, reveals possible trends in postwar buying on part of the public. The Chamber's report reveals that one family out of 30 will buy or build a new home after the war, three home owners out of ten will paint, remodel, and modernize bathrooms, kitchens, heating equipment. About a million families, points out the survey, are waiting for the end of the war to get their own homes.

**LAZO WINS DELANO-ALDRICH SCHOLARSHIP**

*New York*—The Delano and Aldrich Scholarship, given to an outstanding young foreign architect for four months or more of study and travel in the United States, was recently awarded to Carlos Lazo, Jr., of Mexico City, Mexico. For the first time since its establishment in 1928, the scholarship was granted to a Latin American rather than to a Frenchman, according to an announcement from Leopold Arnaud, Chairman of the AIA Committee of Pan-American Affairs.

**PLUMBING FIXTURES**

*Washington* — A program for supplying plumbing fixture trim for war housing jobs and for new construction projects of the Army, Navy, and shipping services was put in effect on January 25 with the issuance by the Director General for Operations of an amendment to Schedule V-a of Limitation Order L-42, temporarily easing the restrictions on manufacture of certain specified fittings.

Eight items of plumbing fixture fittings and trim are affected by the amendment.

**NHA RELEASES 1942 WAR HOUSING FIGURES**

*Washington*—During the past twelve months, 278,000 new war housing units were completed under preference ratings with public and private funds, pointed NHA Administrator Blandford recently. This included 150,000 units of private war housing, 128,000 units of public war housing.

Under construction at the start of 1943 were some 80,000 private family units and 214,000 units of public war housing. A total of 170,000 family units remain to be started by private builders during 1943 under the national priorities quota of 400,000 privately financed war housing units. It is estimated that 170,000 additional units will be started

in the first six months of 1943 out of funds presently available for public war housing. Of this total, 146,000 units are already in pre-construction stages of development.

With new construction curtailed sharply under the war housing program, added emphasis is being placed on the need for maintaining the nation's supply of existing home properties in a sound habitable condition.

Under WPB Conservation Order L-41, maintenance and essential repairs that do not change structural design are permitted without authorization, provided the work does not involve the purchase of critical materials.

**MANUFACTURERS HOLD PLANNING CONFERENCE**

*Syracuse, N. Y.* — With cooperation among manufacturers as a keynote, a two-day meeting of representatives of leading industries was held January 14-15 on postwar planning. The conference was sponsored by the Carrier Corporation. Subjects discussed included postwar employment, production, marketing, and distribution. It was the first time since the war

began that a group representing so many different business interests had met to discuss planning for the future.

At the conference were representatives of such national manufacturers as General Electric Co., Aluminum Company of America, Weyerhaeuser Sales Co., Eastman Kodak Co., Revere Copper & Brass Co., Monsanto Chemical Co., Servel, Inc.

★

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FOOD — DISHES — FREIGHT


**LABELLED DOORS**

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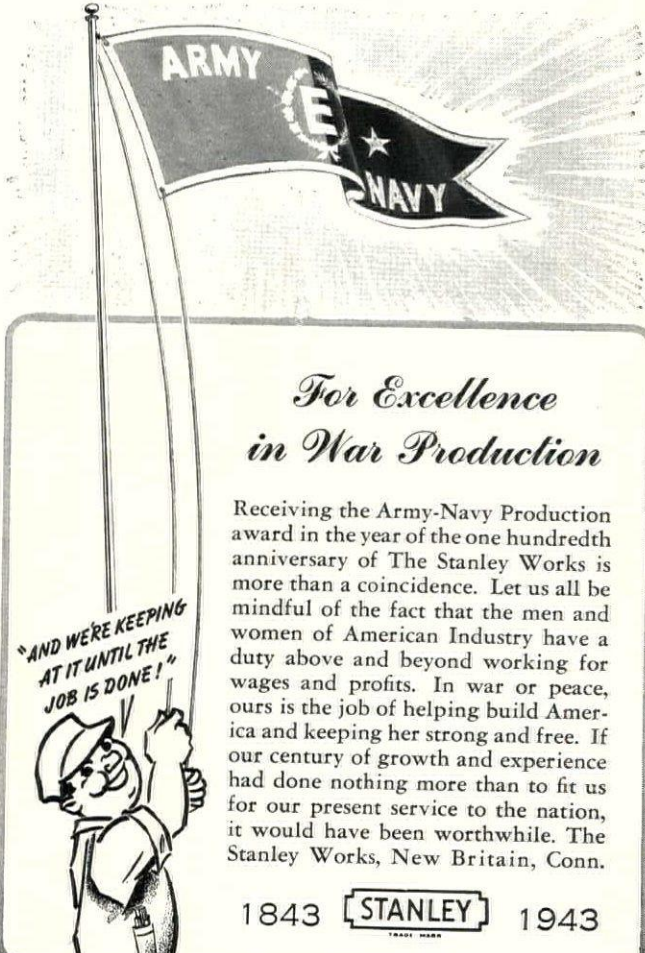
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★



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in War Production

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1843 STANLEY 1943



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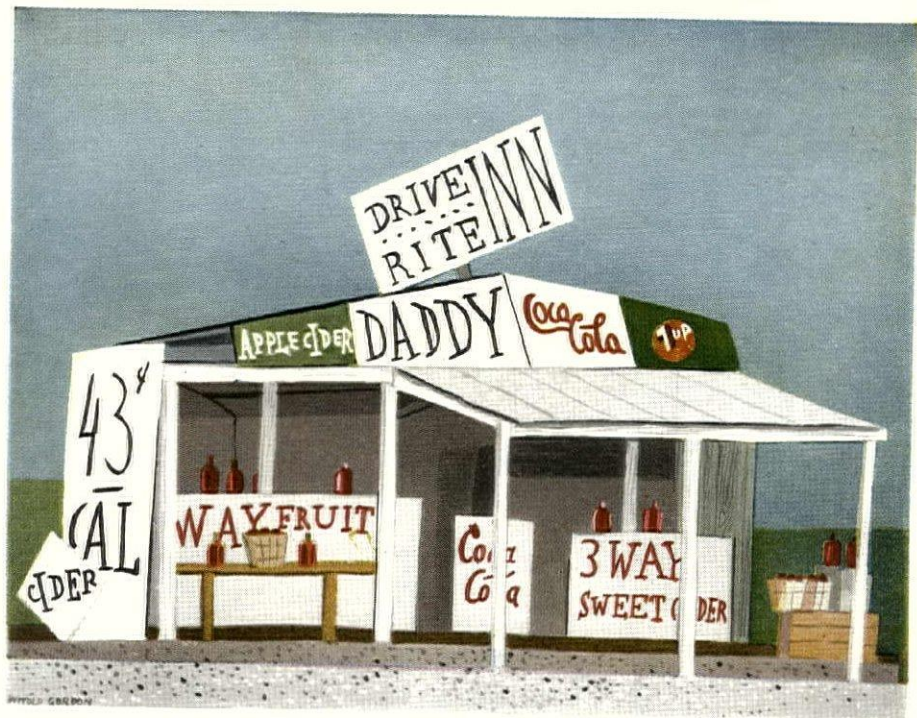


In the following pages will be found the results of the recent PENCIL POINTS—KAWNEER STORE FRONTS OF TOMORROW COMPETITION, held to encourage designers to look beyond the War into the wonderful new world that might lie ahead. There will also be found a number of contemporary shops, built during the recent past, in which the designers were presumably very much up-to-date. At least, they—both the competitors and the authors of the created designs—were very knowing, very correct, very polite, very competent. These designs have merit—or we would not print them.

One might expect to be astonished or at least greatly stimulated by the surprising ingenuity exhibited. This is to a certain extent true. Yet, in looking the material over, one is inclined to be a little conscious that, with a few exceptions, he has seen all this before. There is a certain dependence upon the familiar tricks of the store-design specialist which, no matter how ably performed, bring a sense of frustration in our search for the new and exciting.

What is wrong? Are we being too captious or too exacting when we expect still greater freshness of invention, still more mature imagination? After all, the architect is supposed to be a creator, an originator.

Is he getting to be too much of a realist—bound so fast to the earthly practicalities that he can no longer get away from them and give full freedom to his fancy? Has he completely succumbed to the standardization imposed by big industry?



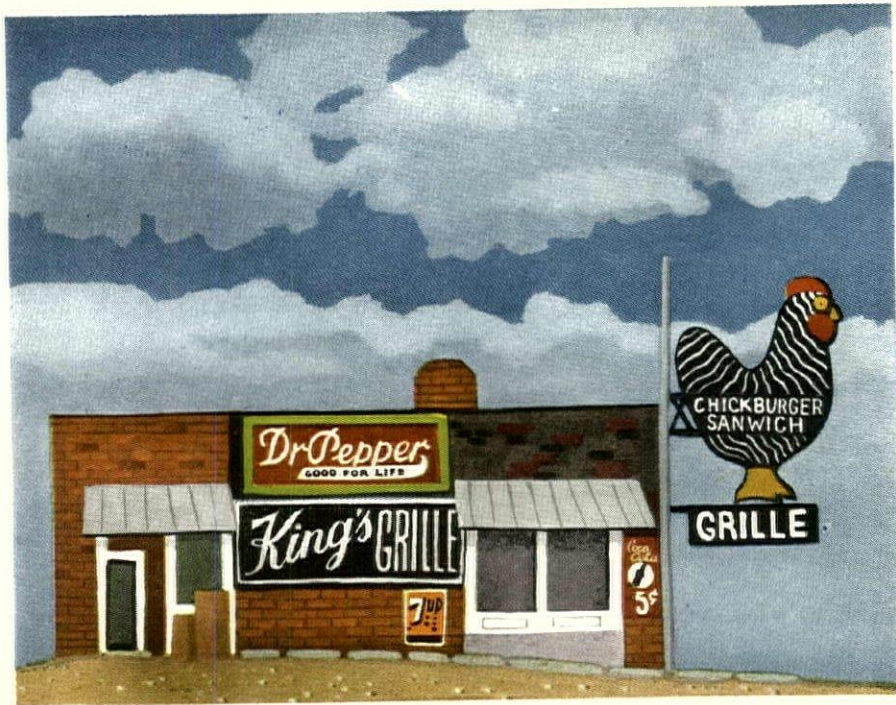
In this mood of vague dissatisfaction with the fruits of deliberately practical, matter-of-fact design, we suddenly came upon something new, something primitive, something fundamental in its appeal. It was in a group of sketches from life, made by Witold Gordon, a Polish painter who came to this country twenty-five years ago and who has looked at it ever since with eyes yet unblinded by popular habits of selective observation.

These little pictures, some of which we are passing on to you here, show what is all around us but is seldom seen—natural, unconscious bits of unstreamlined design—the stores and shops of the people—unspoiled by stylists or merchandising experts. You will recognize them, for they are to be seen in every corner of our land. As examples of design-for-selling they have what the more conventional others lack—the charm of simple directness and complete unselfconsciousness. Their creators took whatever was at hand, and made their compositions without reference to any preconceived notion of what was proper. Like most primitive things they are crude, yet they contain the seeds of truth in expression.

There is a moral in this. Perhaps after the War we will see a resurgence of the individual, voiced through thousands of separate manifestations of the primal urge to create. It seems as though that would be something worth searching for *if design is not to become a mechanical process*, grinding out the regimented uniformities which make our city streets today so tiresome to the eye.

K. R.





## Store Fronts of Tomorrow

**Jury Report, New Pencil Points - Kawneer Competition, by Morris Ketchum, Jr., AIA, chairman of the Jury of Award, Frederick Bigger, FAIA, Samuel E. Lunden, AIA, Mies van der Rohe, AIA, and Roland A. Wank, AIA.**

Stores have had a long and varied career since primitive man progressed from open-air market places to covered shelters where he could store his wares and haggle with his customers. As civilization—and specialization—advanced, bargaining became an art practiced by professional traders. Community markets were not enough for these individualists. They were soon demanding separate stores for separate trades and finally for each trader. Their shopping centers were always found near the most popular resorts of their customers—the Roman public baths were fringed with as many small stores as Grand Central Station is today.

“Open-faced,” open-air, and “closed-front” store types could be found in as much variety in a medieval city as in the designs studied by the jury at Chattanooga. Medieval store fronts, Georgian store fronts, or middle nineteenth century general stores were logically adapted to climatic conditions, and to buying habits of their time, mechanical equipment, and materials at hand.

One can hardly say as much for stores built during the first quarter of the twentieth century. Designers then had a habit of stuffing them into low-ceilinged cubbyholes in a monumental first floor of some pseudo-classic—or pseudo-something-else—building. They were regarded as an afterthought and a nuisance to be finished off by some contractor.

It is only during the last twenty-five years that the architectural profession in America has devoted intelligent thought and attention to the store problem. Merchants have given designers full collaboration, for they are anxious to secure a “functional architecture” that will help them sell.

This progress in store design, the jury hoped, would be evident in the competition drawings. They expected the competitors to go beyond an application of current design formulae and clichés and to make suggestions for solving the store problems of a postwar world.

In searching for the best solutions, certain general trends demanded attention. The first and most important conclusion seemed to be that *group planning of stores (rather than accidental grouping of store fronts)* is the only logical approach to the design of a community shopping center. The architect has two clients to please—the landlord and the individual storekeeper. Both should be given a building that meets all their needs.

For the sake of the landlord, the stores should be a unified group under a single roof with interior walls and entrance fronts flexibly constructed. There should be good general control over space allotments within the building so that future tenant changes can be easily handled with a minimum of effort both in plan and in character. Some form of general control over signs, lighting, and public facilities helps to maintain the value of the landlord's investment.

On the other hand, too many restrictions will kill the tenant's business. An intelligent balance must be maintained so that each store-keeper has a maximum amount of freedom in plan, sign, and display arrangements within the boundaries of his leased space. In the ideal store group, all these problems are solved for the common benefit of landlord, tenant, and the community at large. The jury discarded many designs which showed five different, unrelated stores.

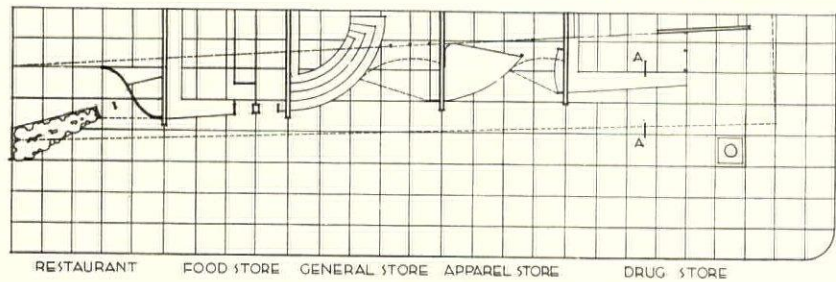
Most of the competitors realized that they had still a third client to please—the public. They did their best to provide for the window shopper's comfort and entertainment by means of sheltered shopping lobbies, well-ordered and legible signs, and varied and interesting displays.

(Continued on page 32)

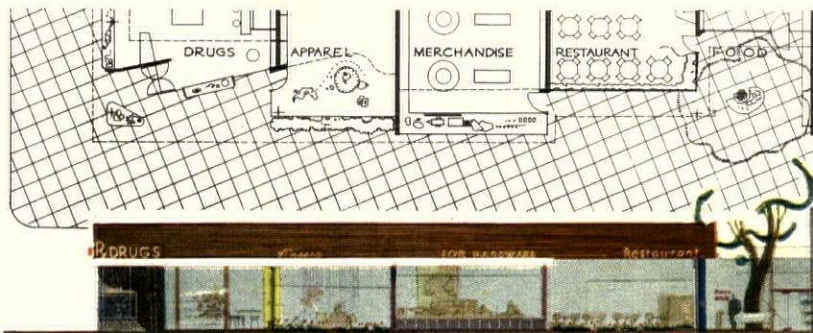




**Unpremiated:**  
Joseph F. Thomas, Architect,  
Knoxville, Tenn.

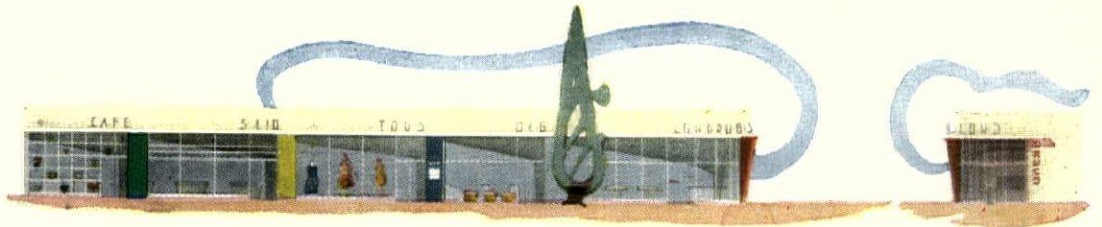


The outdoor shopping lobbies fell into four classifications, each progressively better in plan and function. The first type relied on individual lobbies for every store—either shallow recesses under a projecting marquee or deep outdoor rooms. Some were beautifully handled for the needs of each shop, but all had a fundamental weakness: lack of through circulation along the shopping center. Several examples of this type of planning may be found among the designs awarded honorable mention.

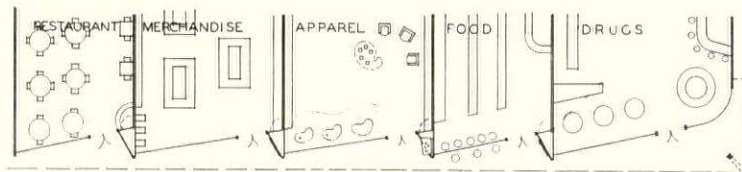


**Unpremiated:**  
Robert A. Nolan, Architect,  
Springfield, Ohio

A second type created a common lobby for several stores—projecting the remainder to the building line. This helped to share the wealth of advertising and display, but still compelled the public to bob in and out from sidewalk to store entrance. The best example of this scheme is the design awarded third prize.



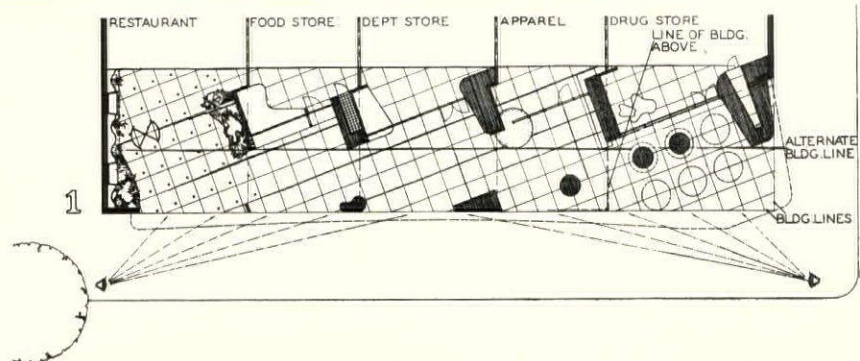
**Unpremiated:**  
Morris Lapidus, Architect,  
New York



A third plan showed a common shallow lobby for the entire store group providing a minimum shelter for window shoppers and easy circulation from store front to store front. As in the second prize design, these lobbies are viewpoints for the store window or interior. They lack the depth necessary for free-standing displays. The last type, and probably the best, was well worked out in both the first prize and the first of the specially-commended designs. Here is a comparatively deep lobby, acting as a vantage point for inspecting all types of display and shared by all stores in the group.



**Honorable Mention:**  
Stanley Sharp, Architect,  
and Jedd Reisner,  
San Francisco





The contestant described his project as follows: Purpose—to provide a comfortable sheltered window shopping area with a flexible scheme for displaying wares. Shelter is provided by a covered arcade, which also prevents undesirable window reflections. Flexibility is accomplished by using mobile display cases, movable wall panels, and an adjustable lighting system.

Cases are designed for use in any combination, and can be rolled indoors for

changes in displays. Subfloor ducts with waterproof outlets provide for lighting. The arcade soffit has removable panels, attached by spring clips, which may be either lighting sources or solid surfaces. Continuous plug-in channels form the electric connections. Movable wall panels may be relocated, permitting each store to be extended into the arcade or shortened.

Materials — Wall panels: prefabricated, non-structural adjustable form with lightweight steel frame and insulation pads.

Plastic surfaces offer variety of color and texture, non-staining and weatherproof. Steel plates: welded for mobile display cases, provide rigidity and esthetic quality. Metal trim: for glass setting, frame and moldings. Synthetic rubber: provides cushion in glass setting. Translucent glass: obscures light sources, permits mobile display soffit. Flat drawn window glass: for clearness and transparency on movable poster display. Plate glass: for extra strength, quality, on cases.

### First Prize: Seymour R. Joseph, Architect, New York City



(Continued from page 30)

The second design in the specially-commended group closed in this continuous outer lobby by adding a transparent display wall at the building line. The result created the effect of a public market by eliminating the necessity for individual store fronts and implied specialized and unusual store management principles. Had the program permitted competitors to explore interior store design, such a scheme might have been expanded to include store-to-store circulation at the rear of the shopping group.

Aside from individual ingenuity and imagination, sign techniques are largely a matter of control. As in the group plan, the entire store building and the individual merchant both benefit from some sort of standardization. Types of signs also vary as to legibility and use. Those placed above, or on, the canopy edge were considered useful for attracting the attention of pedestrians across the street or people in moving vehicles. It was felt that they should be supplemented with store front titles for nearby identification.

Some competitors chose to hang signs from the soffit of the lobby roof, or placed them on top of free-standing lobby showcases, relying on the roof itself as an overall control. Such signs are excellent either at a distance or close-by. This method was used in the first prize design, with the addition of movable posters for store identification or current announcements.

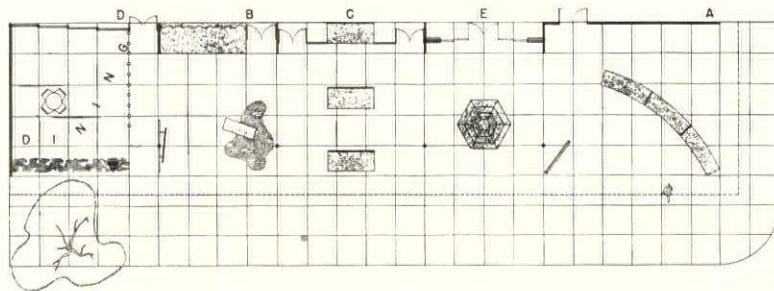
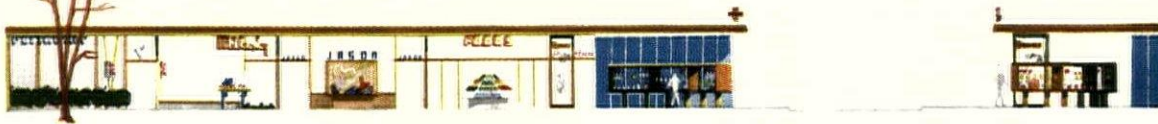
An easy method of controlling signs is to restrict all important lettering to the canopy edge, specifying type and size. Again, additional signs are necessary on store fronts for the benefit of window shoppers. The second prize design and several of the mention awards tried this. The jury was doubtful that such control could be enforced where tenants had "trade-mark" signs of a standard size, shape, and character.

Fundamentally, there are today just two ways of designing store fronts. Either they are closed billboards or open-faced interiors protected by a glass entrance wall. Some entries successfully combined both types with a partly-closed interior; others arranged for a quick change of character by means of interchangeable wall panels.

The closed type may consist of a wall and a door, or a wall pierced by showcases or show-windows, or a wall used as a background for free-standing displays. It may permit a glimpse of the interior for depth and interest, but relies on fixed architectural scheme for its appeal.

The open-faced type is far more than a store front. By permitting the entire interior to act as a display theatre, it opens up new and sometimes dangerous opportunities for the storekeeper. It also creates a real field for the architect and the display manager. Only by thinking in three dimensions can the designer create a truly successful store. One of the worst approaches is an abrupt stop at the entrance front—leaving the job half done. (Continued on page 36)





The general opinion was that this design had the best all-around grasp of plan, structure, advertising, and display. No other entry took such full advantage of the possibilities of group organization, free pedestrian circulation, intelligent structural design, and a far-sighted choice of materials which were "reasonable in cost of both construction and maintenance", or detailed his ideas as thoroughly and intelligently.

This design is well organized in plan. The needs and requirements of both landlord and tenant are solved in a flexible, coherent fashion. Individual store locations are nicely chosen. The drug store is well located at the street corner. The restaurant terminates the group—a beacon for the weary shopper. The common store lobby leads pedestrian traffic in from main street or side street with easy circulation through the outdoor display area into the restaurant.

This common shopping lobby benefits all tenants while giving each store-keeper a good opportunity for a varied display. Free-standing lobby show-cases are movable, so that they can be arranged in a number of different patterns and conveniently brought indoors for a change of display. In the case of the restaurant, the outdoor dining space—open in summer and glazed in winter—provides the best display of all—human activity.

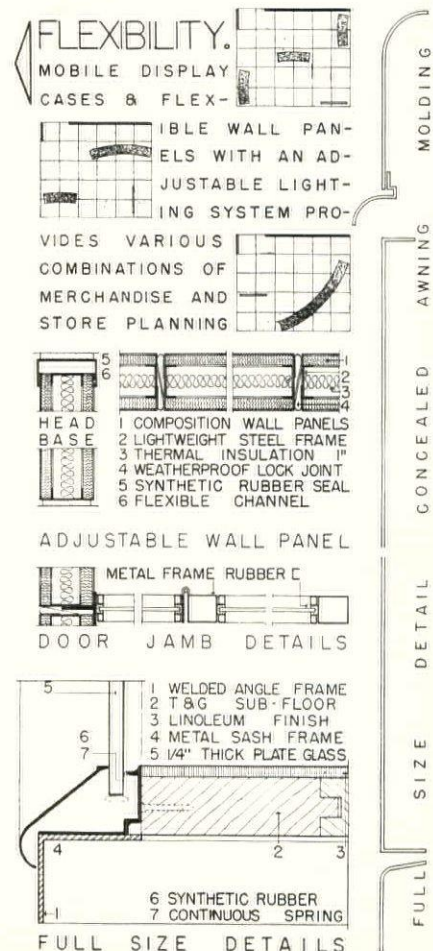
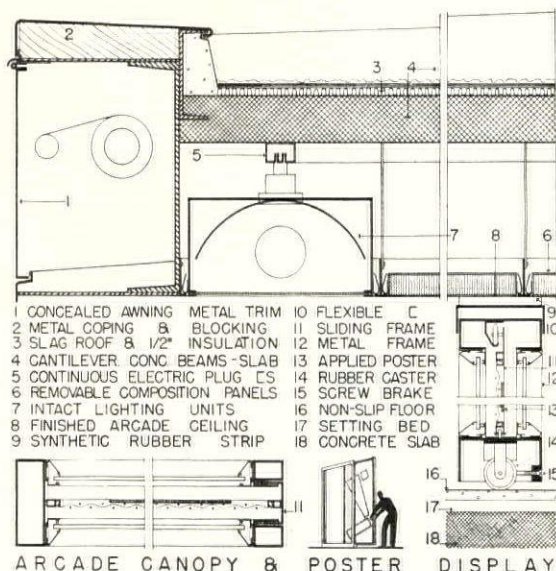
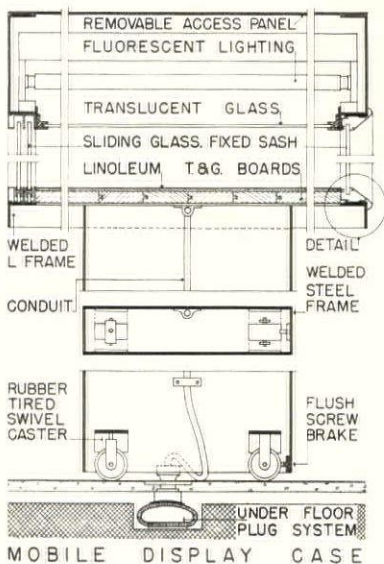
Future alterations due to tenant changes are readily taken care of with demountable plastic wall panels. This system also permits the merchant to

change his store front from a "closed" to an "open" type simply by substituting glass panels for solid panels. Although the competitor chose to show a "closed" type store front in his large scale perspective of the corner drug store, he also used "open" type fronts in the adjacent stores, where the entire interior of the shop is used as a display.

The sign treatment is one of the best in the competition. The common marquee acts as an overhead control for signs which are either suspended from its soffit, attached to the store fronts, or placed on the lobby display cases. The free-standing poster sign shows skill and imagination.

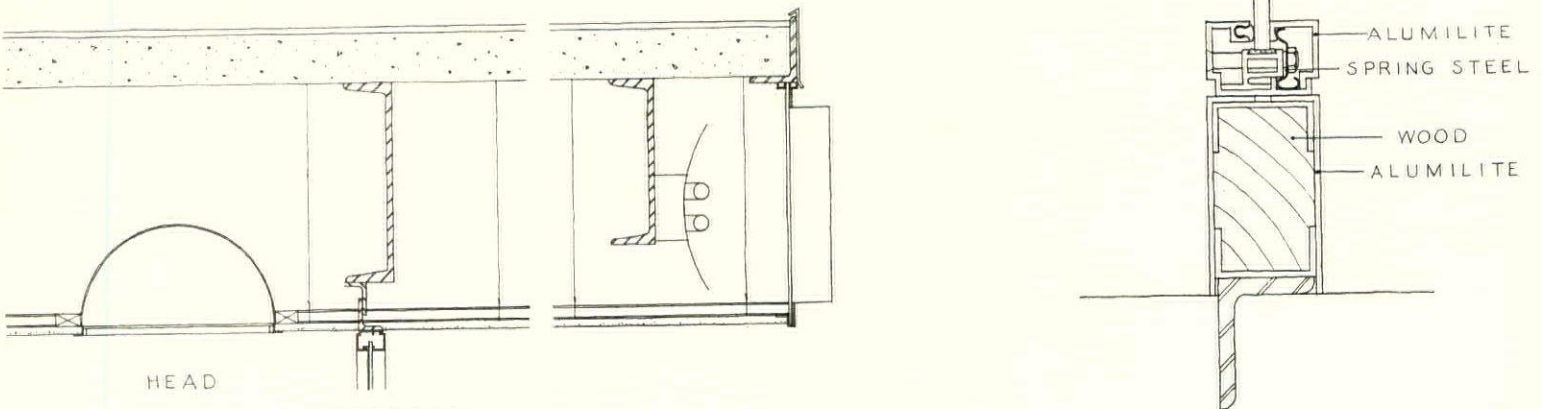
As to lighting systems, two skillful suggestions are made—the ceiling system of interchangeable lighting or acoustic panels and the sub-floor system supplying the movable display cases. Both ideas are good for either exterior or interior use.

Some members of the jury regretted that the simplicity of conception and good taste in detail shown in the design awarded second prize were perhaps not equalled by the winner. The use of a complicated cantilever in order to omit a corner column at the drug store was also questioned but finally thought feasible by all concerned. Simplification of the drug store lobby display case, perhaps by lighting from the ceiling instead of from a heavy box top, would have been an improvement. Development and detailing of ideas were commended by the jury.





Second Prize: George Larson and George Storz, Designers, Chicago

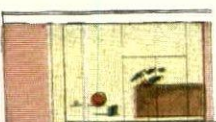
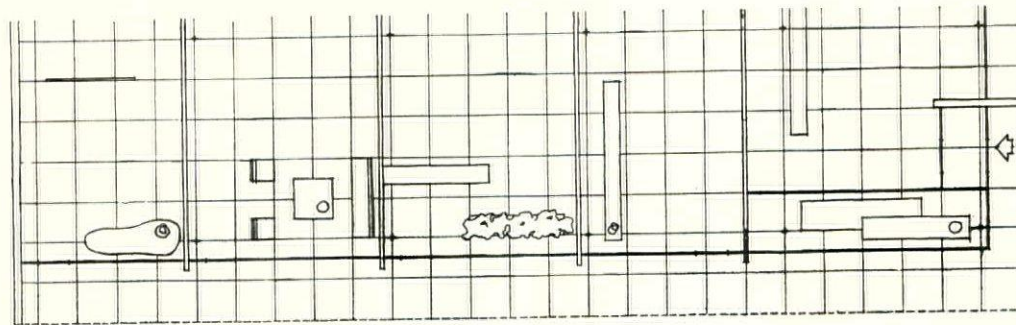


HEAD

JAMB

DOOR  
JAMB

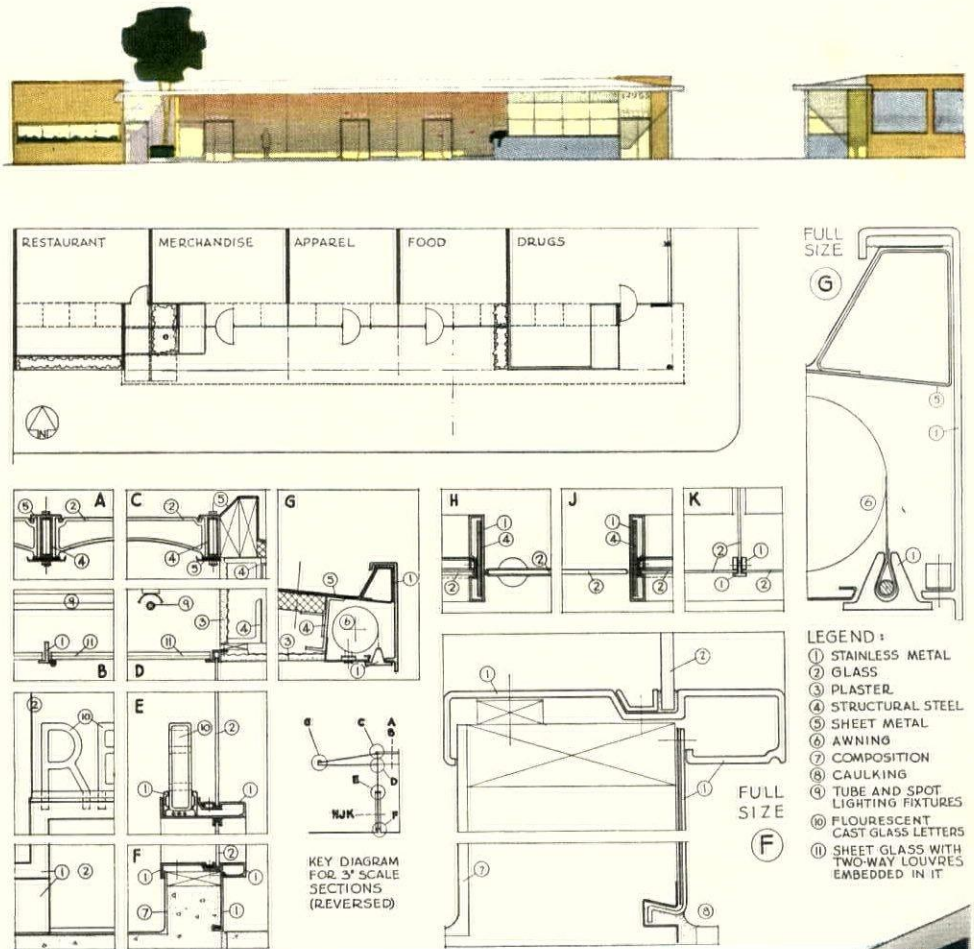
SILL





## Third Prize: Maynard Lyndon, Architect, Los Angeles

The design of the Third Prize Winner, shown at right, aims to do three things: (a) reduce reflection on glass by creating a dark area around the observer by means of a cantilevered canopy; (b) minimize the barrier over the glass pane; (c) make the shop itself the display space instead of emphasizing the outside and inside by having show windows. Materials: Exterior facing—mat-finish porcelain enamel with concrete backing; door frames, window frames, and canopy face—extruded stainless white metal; glass ceiling panels—two-way louver glass made by imbedding two sheets of louver material at right angles to each other in a single sheet of glass; upper panels of outside glass in drug store elevations—one-way louver glass similar to glass ceiling panels except that louvers are horizontal only; roof-light—insulating hollow glass block tile.



## SECOND PRIZE

Pictured across-page is the Second Prize Winner's design. The structure is made of a light steel skeleton enclosed by a glass "skin". All walls are non-bearing and the group becomes a flexible unit which can be easily changed to suit different needs. An overhang is used along the front instead of an awning; this brings the water away from the front of the store, instead of spilling it as an awning does. The overhang also helps to tie together the shop interior with the exterior, and gives one the feeling of being inside the store. Advertising is done with a strip of letters along the canopy; these letters are backlit at night. Material: Structural steel, polished plate glass, extruded Aluminite.



## SECOND PRIZE

This solution is calm, competent, and graceful, with no tricks or forced effects. Treatment of the corner drug store entrance was particularly admired for providing full display on the main street and a poster wall at the entrance. In comparison with the winner, it lacks depth for the shopping lobby—hence has no opportunity for outdoor displays and perhaps inadequate shelter from the weather for window shoppers.

The store interiors became the entire display, with consequent advantages in variety and depth, but concurrent disadvantages in control. The display arrangements shown might not be followed or equalled in reality by each tenant; the group might suffer in consequence.

An improvement might have been the use of more flexible materials for party walls, perhaps dropped below the general ceiling level, but above eye-level, with the remaining space filled in with glass. Then all store interiors would have appeared to be more spacious, and tenant changes would be greatly facilitated.

The signs, harmonious but stiff, would read well from a distance, especially when lit at night, but additional lettering would be necessary for near-by identification, and such extreme limitations on the freedom of tenants might prove unenforceable.

Considerable discussion on the merits of free-standing interior columns versus columns buried in the party walls resulted in placing this feature in the doubtful class, especially as non-bearing party walls were apparently built of plaster or masonry.

## THIRD PRIZE

This picturesque solution attempts to combine building-line display with a generous central arcade. There is a good sweep to the projecting marquee, and a good anchor for this feature in the projecting restaurant. However, there is less value in the projected drug store show window, and it blocks pedestrian traffic from arcade to side street. An adequate sign system and provisions for free-standing lobby displays are lacking as are provisions for later re-allocation of tenant space.

The most noteworthy feature of this design is its lighting system. Surface reflection on window glass has always been a hindrance to clear vision of store interior. Here, as in several other designs, it is counteracted by the shadow of the projecting roof and by an excellent system of combined daylight and artificial light just inside. The designer has skillfully combined a glass brick skylight with combined flood and spot-lighting for the window displays. In the case of the restaurant, "invisible" glazing supplies a view of the interior.

As in the second prize design, the store interiors themselves are the display. Later readjustment of special allocation is rendered difficult by plan and design features.



(Continued from page 32)

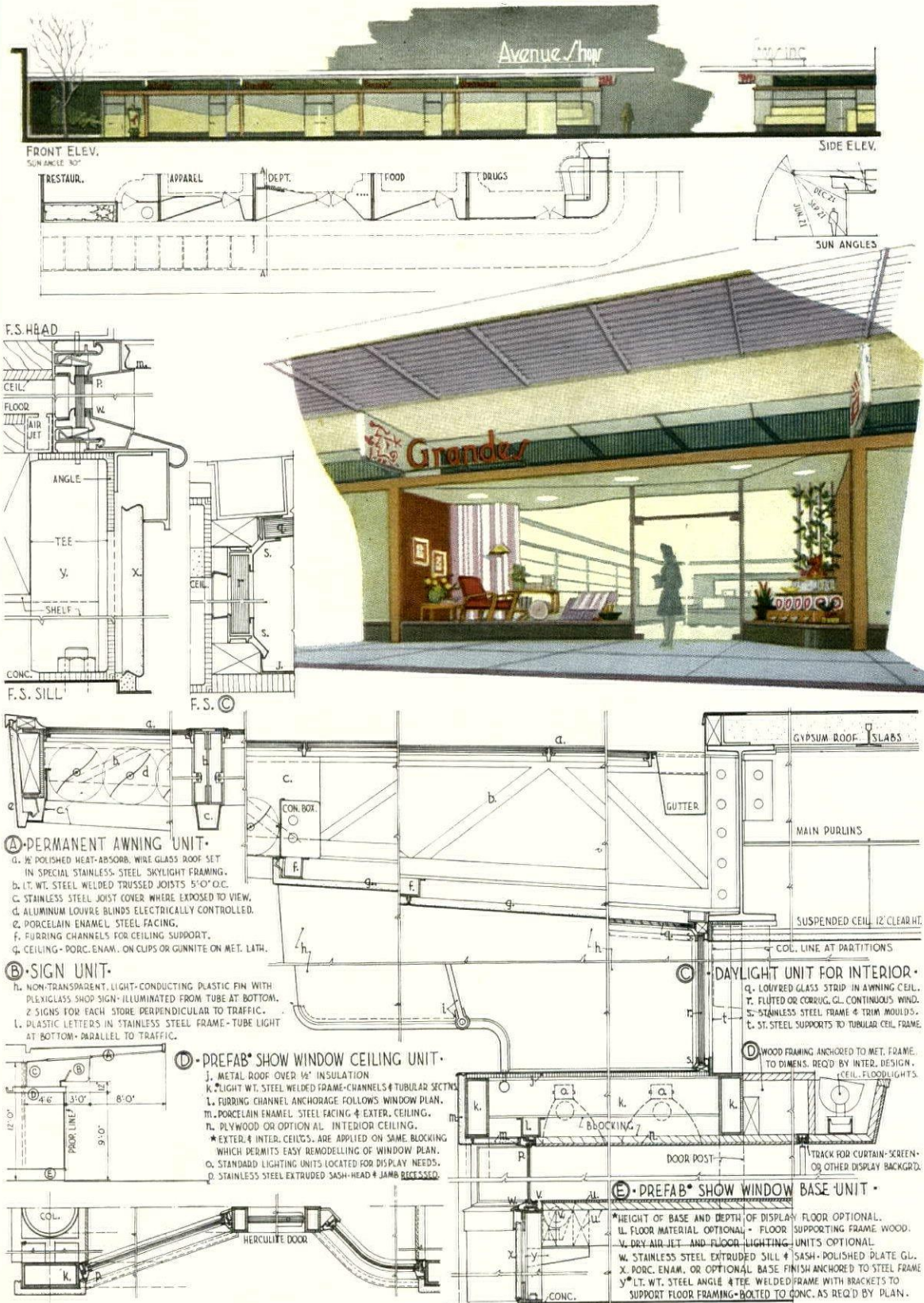
As shown in the competition, both types of store fronts can be helped by free-standing showcases in the shopping lobby. Properly designed, such cases present, almost within the customer's grasp, a free sideshow before entering the big tent—help in overcoming sales resistance.

The program urged competitors to demonstrate originality and imagination in the use of new or old materials or of new applications of familiar materials. The results were very interesting, and in some cases almost revolutionary.

Walls were sometimes constructed of familiar masonry materials such as brick, stone, or marble. But much more emphasis was placed on panels, some applied, some free-standing, some structural; of metal, porcelain enamel, translucent glass, transite, plastic-protected plywood, and transparent, translucent, or opaque plastic. One competitor used fabrics applied to plywood panels and covered with a protective plastic film.

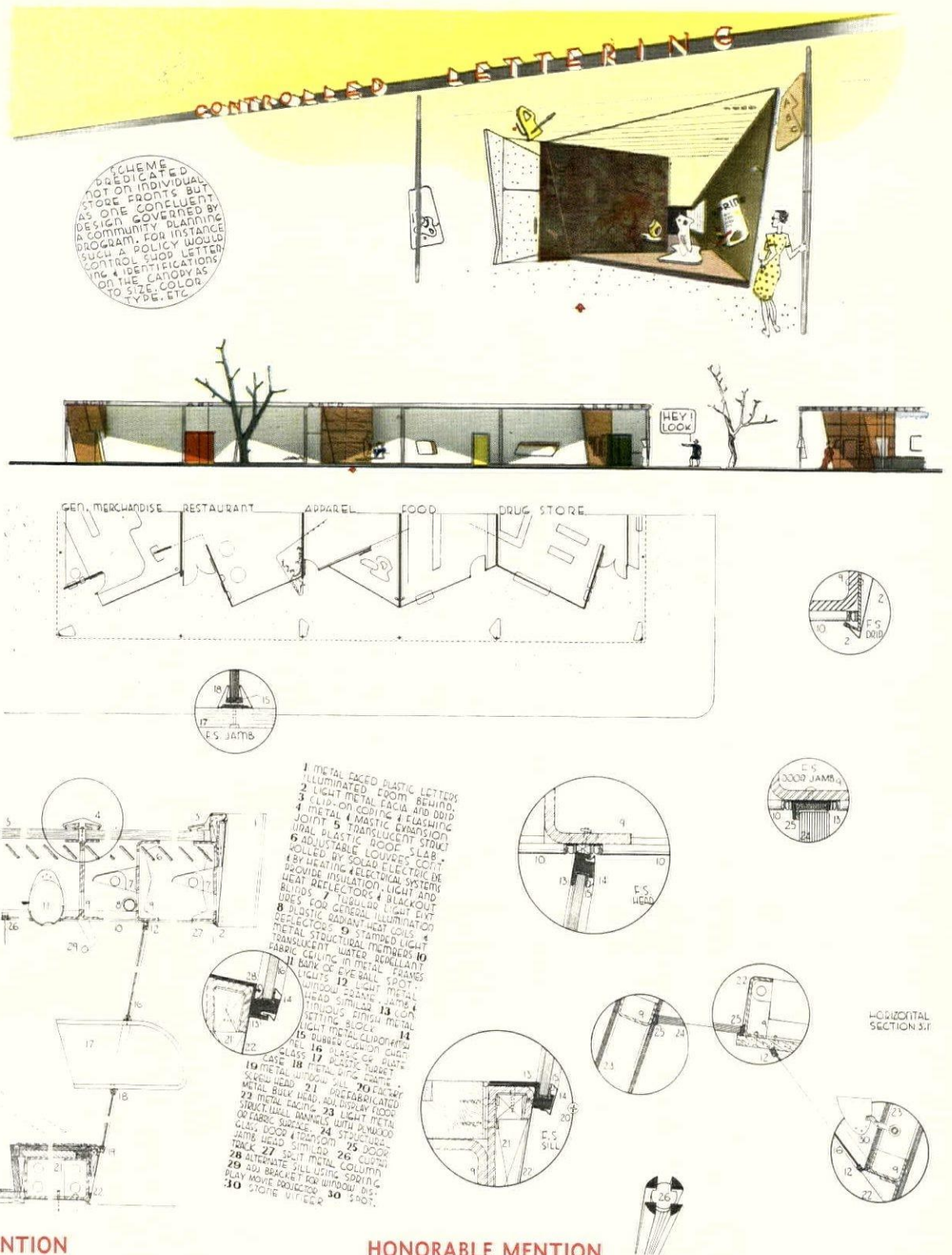
(Continued on page 38)

**First Honorable Mention: William H. Scheick, Architect, Urbana, Ill.**





Honorable Mention: Ralph Rapson and David Runnels, Designers, Bloomfield, Mich.



FIRST HONORABLE MENTION

The design across-page was considered for an award because of its straightforward, well-thought-out group plan. The stores are unified by a common overhanging roof and shopping lobby, with easy pedestrian circulation. Signs, including the well-placed sign identifying the entire group, are adequate for nearby identification. They might be a little confusing en masse, as each successive store sign would overlap a view of its neighbor.

The details show competent study. The jury was particularly interested in the horizontal permanent awning and in the prefabricated showcase detail, but very doubtful about the value of the transom lighting above the show windows. This feature would provide practically no interior light and necessitates a secondary show window ceiling — perhaps a needless expense, certainly a bar to full use of the store front height for display. A better solution might have been to skylight the interior.

It was noted that there was no provision for hiding the wall of the building adjacent to the restaurant. This could have been done by carrying out the restaurant wall to building line, thus providing an additional opportunity for signs or displays at the far end of the shopping lobby.

HONORABLE MENTION

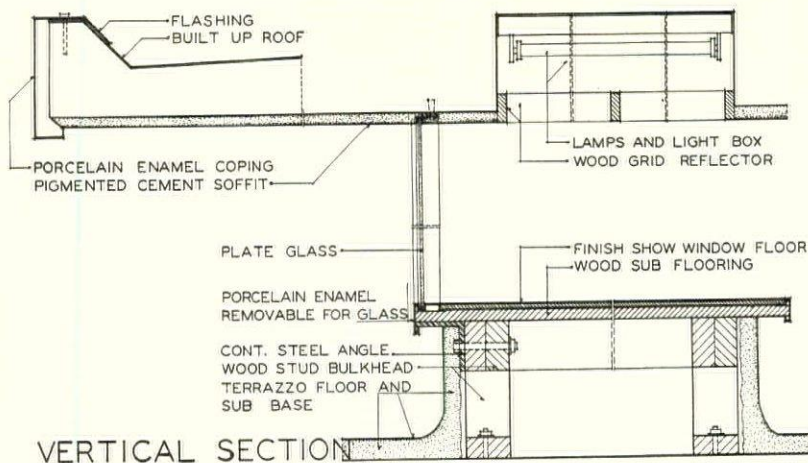
In contrast to the First Honorable Mention, the design above was not only competent but brilliant to the point of fussiness. The group shopping lobby, the store front and free-standing displays, the large "controlled lettering", the small scale signs, the structural details, and the choice of materials are all excellent.

In particular, the jury liked the detailed store front—where the "open-faced" shop is partly hidden by a screen wall used as a background for the show window. Often an open interior may reveal that the store is empty of customers, thus scaring away possible shoppers. Here the partial openness gives an interesting glimpse of the interior combined with a good foreground.

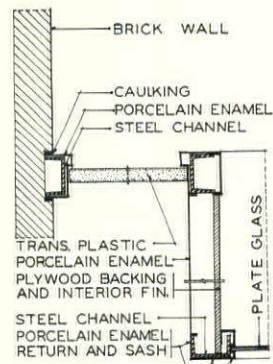
However, the designers did not know when to quit. Their plan, with its elaborate system of angular walls and glazing, is as "busy" as the strained tilting of the same walls in elevations.

The designers apparently assumed a parking lot at the western end of the store group plot; this was considered permissible within the program.

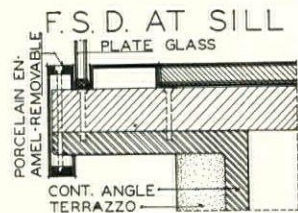
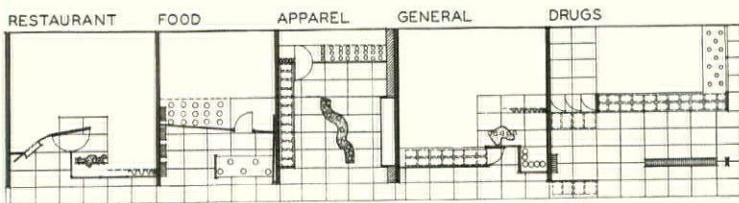




VERTICAL SECTION



SECTION THRU DOOR & WINDOW



If a system of very individual store boxes, tied together by a common projecting roof, is accepted as an answer to all the problems of a store group including the requirements of both landlord and tenant, this design meets the program perfectly. The jury could not agree with the idea that window shoppers would enjoy weaving in and out of the successive shopping arcades. One or two separate lobbies in half a city block are bearable, but five in line are both monotonous and physically fatiguing. However, the very charming color schemes, the unusual if somewhat out-size sign system, and the competent handling of the individual stores were highly commended. So was the choice of materials, including the use of porcelain enamel trim and sash, but not including the use of semi-permanent, masonry bearing walls.

(Continued from page 36)

Floors were usually of conventional terrazzo, but one designer suggested monocork for resiliency. The popularity of plastics did not extend to flooring, although plastic manufacturers tell us that non-slip plastic floors are just around the corner.

Ceilings got a great deal of attention. Suggestions, usually well detailed, ranged from light-transmitting plastic roof- or ceiling-panels to the conventional plaster or stucco, and included glass block skylights, acoustic glass fiber panels, wire glass, and louvered glass. One of the new suggestions was stretched fabric ceiling panels, plastic-waterproofed, to permit light transmission from artificial or skylight sources.

The glazing problem involved in huge sheets of unbroken plate glass was sometimes shrugged away by stating that such out-size pieces were made of plastic. However, some went so far as to intelligently work out glazing details for plastic panes. Metal trim was well represented, including stainless steel, magnesium alloy, and porcelain enameled metal. Plastic trim for glazing and showcase moldings was universally popular. Aside from metal or porcelain enamel letters, there were several interesting solutions which relied on edge-lit glass or plastic signs to capture the public's attention.

In the field of showcase design, there is a real opportunity available to the designer who intelligently applies the possibilities of plastics. Joints—which are hard to handle in glass—are completely eliminated by fusing plastic sheets together. What trim is left can readily be constructed of metal, porcelain enamel, or plastic sections.

Store equipment is due for a revolution. The familiar canvas awning will be a rarity in post-war design. Adjustable metal or plastic awnings will probably take its place—most of them built on the principle of a horizontal or vertical Venetian blind. Radiant heating in floors, ceilings, or

(Continued on page 41)



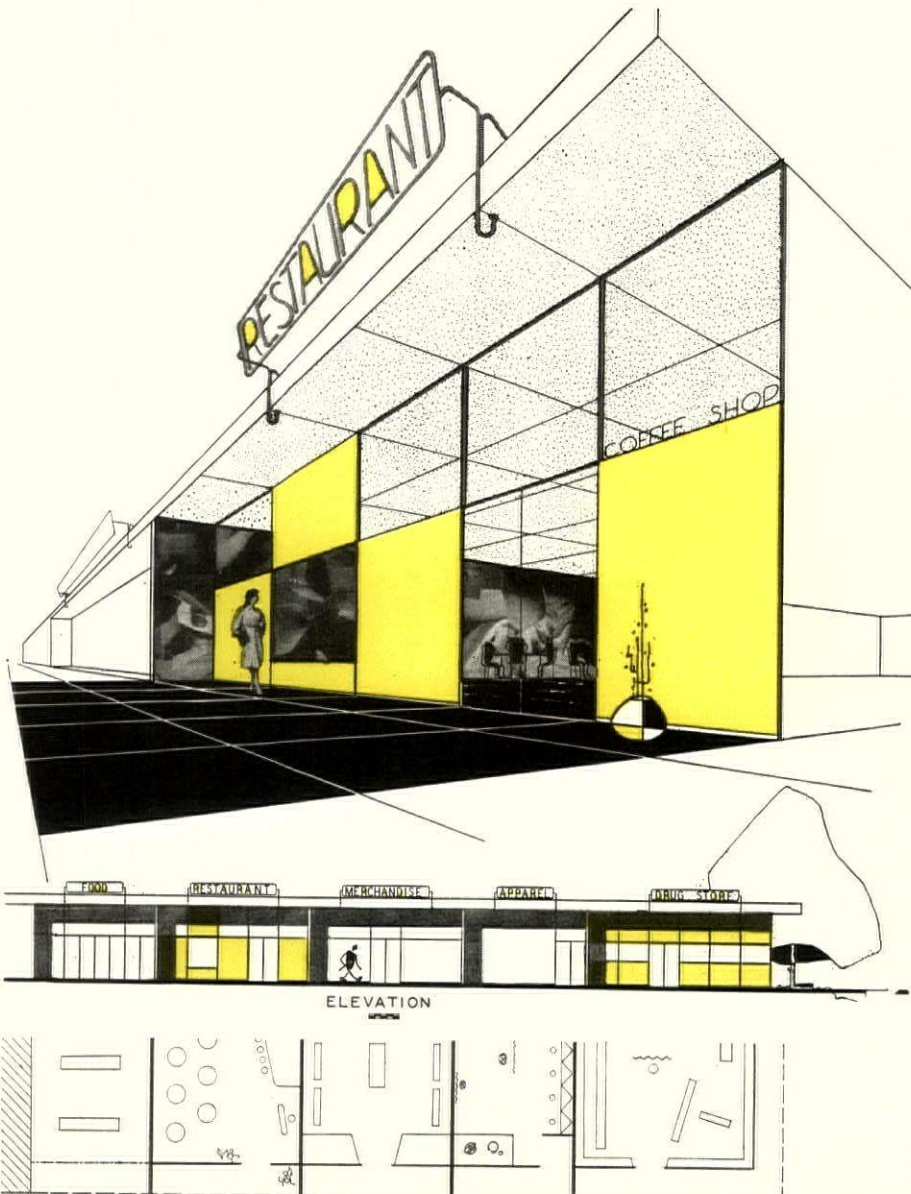
**Honorable Mention: Stanley Sharp, Architect, and Jedd Reisner, San Francisco**



Perhaps the most sophisticated rendering presented in the entire competition, excellently detailed as well, this design (above) suffers from the lack of a coherent group plan and elevation. The staggered system of store fronts is a good idea, as is the use of full-length display along main street—although more spacious entries at the doorways would have been a further improvement. The food store interior is nicely handled. The signs, the display systems, and the lighting are excellent.

Were it not for the fact that the staggered plan breaks the group in half at its apex and that the too-narrow courtyard is used as a store approach instead of for outdoor dining for the restaurant, this design would have been proposed for a prize. Another unfortunate detail is found in the use of no less than three types of superstructure—a projecting marquee, a parapet wall, and a flat slab. This diversity of design tends to make the building fly apart instead of composing as a single shopping center.

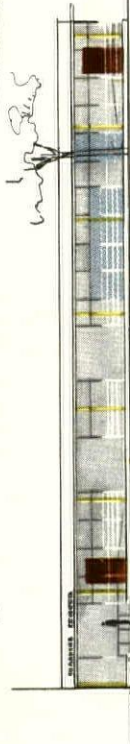
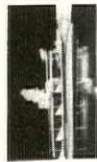
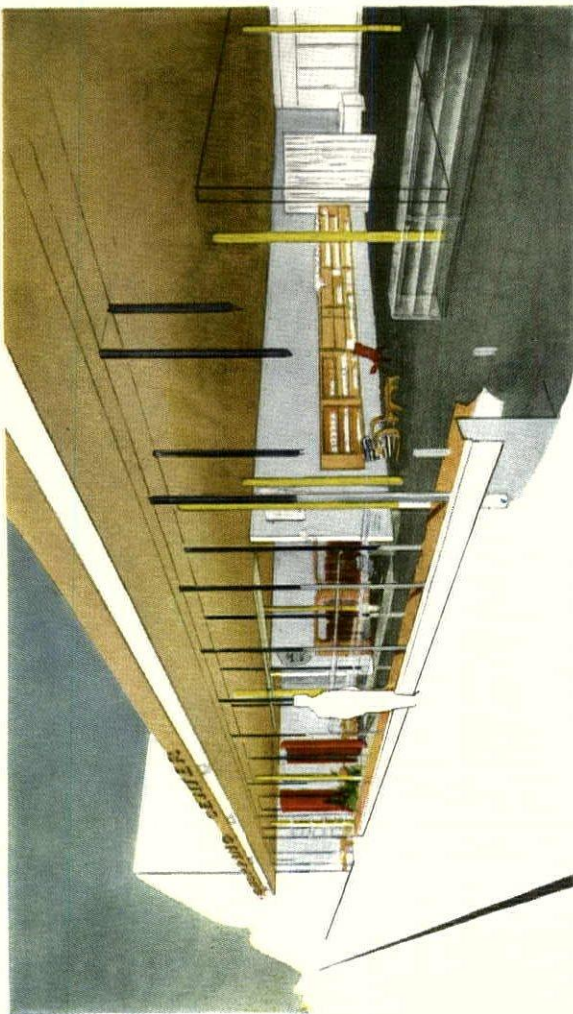
**Honorable Mention: Donald E. Olsen and Alvin Fingado, Designers, Berkeley, Calif.**



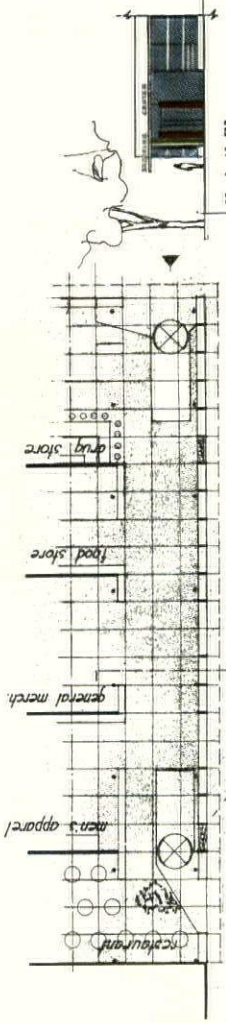
This entry (left) showed a new and imaginative system for store front construction, with unlimited possibilities for flexibility in advertising and display. The structural members of the store wall are the only permanent feature. On these may be clipped opaque or translucent plastic panels in whatever pattern the designer wishes—from an open-front to a solid poster wall. Since the panels are of stock size and make, it is possible to vary the design of any front from time to time. The signs would also build well, preferably as neon tubing. The designers have not forgotten that roof signs are chiefly valuable from a distance. They have also shown small storefront lettering for closer vision. Unfortunately, their inspiration did not extend to group planning. Their projecting roof slab is hardly deep enough for shelter; it certainly does not justify omission of the awning. Window shoppers must bob in and out of each successive store front. The whole scheme fails to hang together as a community shopping center.

In considering a final selection of premiated entries, the jury was greatly influenced by the program's statement that the competitors were urged to design "Store Fronts of Tomorrow"—not in terms of today's knowledge or conditions, but in terms of "after-the-war" knowledge and conditions. On this basis, two very interesting submissions were discussed at great length. It was finally decided that these competitors' bases for design were too far advanced in the future, or too unusual in application, to warrant the term "Stores of Tomorrow." They might better be called "Stores of the Day After Tomorrow." As such they were awarded Special Commendation. (See pages 40, 44.)



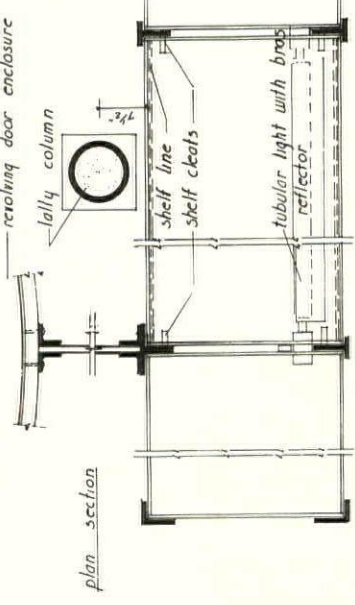


SOUTH ELEVATION



PLAN

EAST ELEVATION



SECTION

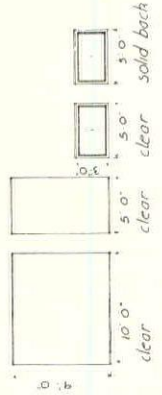
UNITY OF DESIGN  
standard show case types  
unified functions

SALESMANSHIP  
depth of display

FLEXIBILITY  
variety of show case types  
movable shelves within types

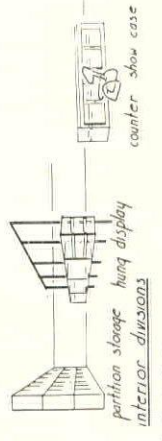


the show case—a building block  
for stores of transparent  
plastic

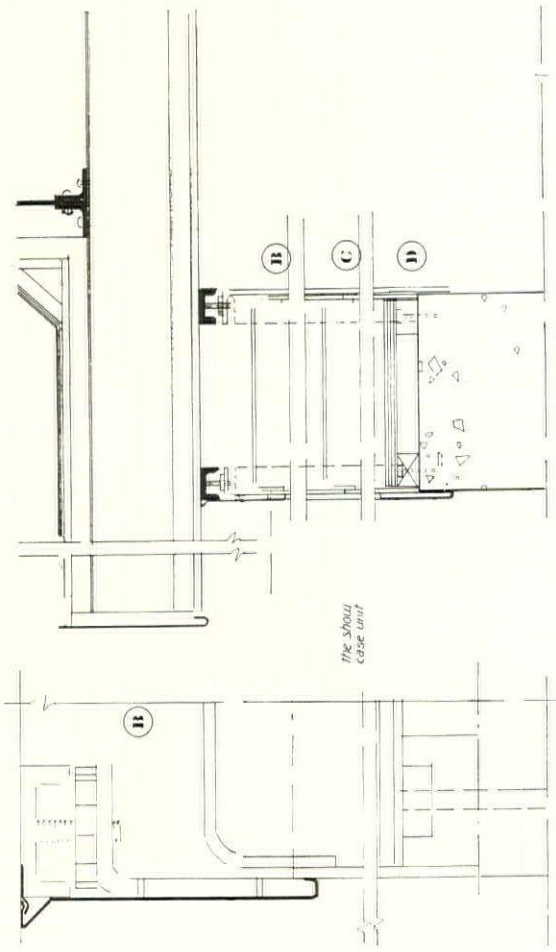


TYPES

large display complete transparency  
small display  
exterior walls double glazing value



U.S.D.S.



FULL SIZE SECTION AA

DETAILS  
In this solution, the designers have assumed a common ownership or operation of the five stores. This, in turn, enables them to minimize store front barriers behind the protection of an outer show case strip. The resulting variety and depth of display are a valuable asset to all the stores. The designers have used considerable ingenuity in the use of plastics for outer display cases, shelves, and interior furnishings. Although ramps and revolving doors at each lobby entrance might be confusing to pedestrians laden with bundles, the outside window shopper is given an excellent view of each store interior. The jury felt that both the closed shopping lobby and the ingenious display system used for the outer showcase strip were valuable design suggestions, but perhaps too specialized for general use.

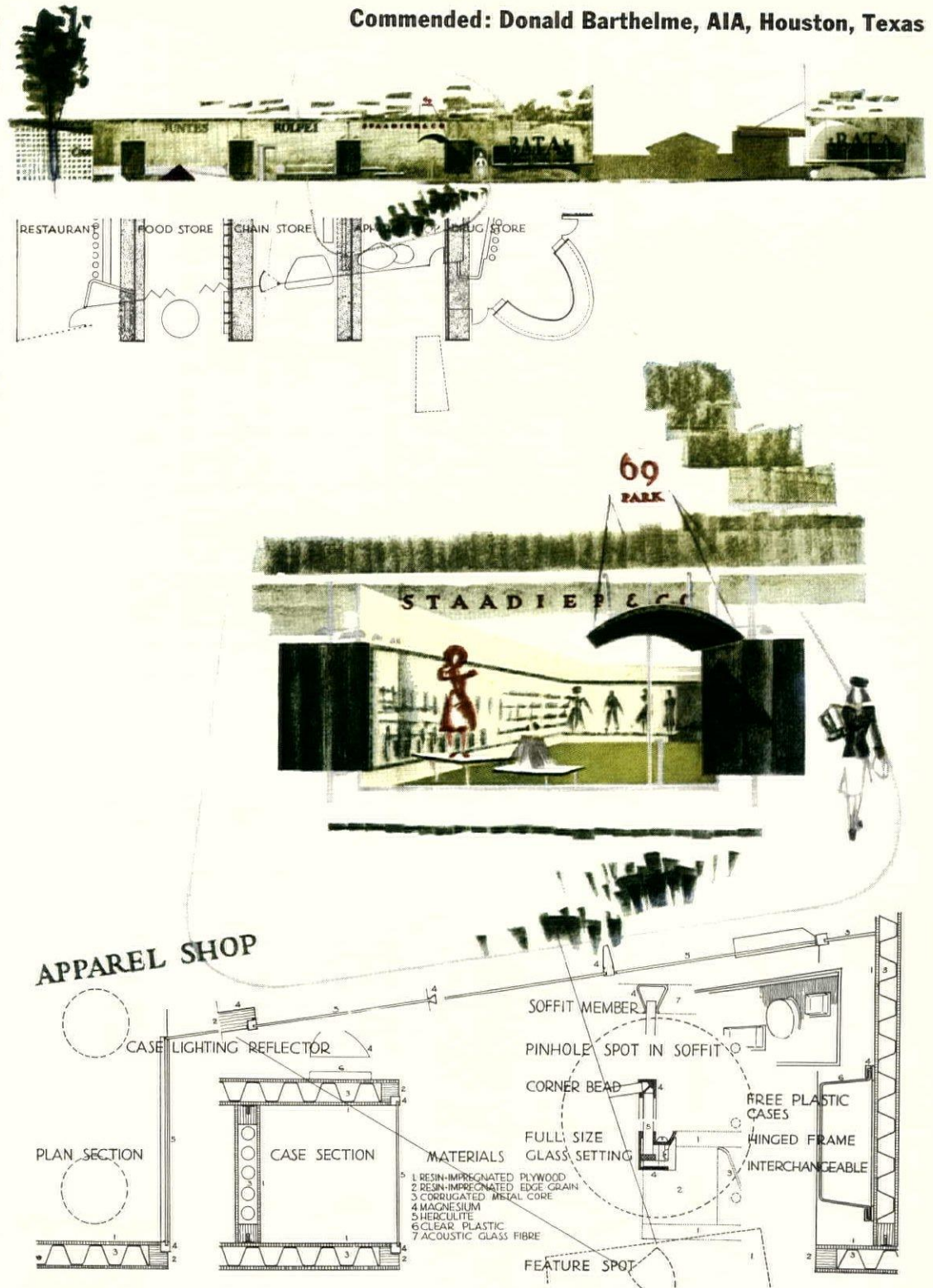


The jury felt that this entry was worthy of special comment, even though it was not of the calibre shown in the group selected for honorable mention.

Its group plan suffers from the same faults as the previous design—a tiresome succession of separate arcades. Nevertheless, this disadvantage is partly counteracted by an interesting variation in treatment between the grouped restaurant, food, chain, and apparel stores and the boldly individualized corner drug store. In elevation and in the detailing of signs and displays there is considerable charm. The restaurant's pierced screen wall, the apparel shop's hung marquee, and the interesting corner display at the drug store are all worthy of study.

One regrets that the ends of the projecting showcases which divide the stores were not used for signs or displays, but realizes that the designer was using these cases to create a rhythm in his store group.

Commended: Donald Barthelme, AIA, Houston, Texas



(Continued from page 38)

side walls may vitally affect the whole store front system. Lighting devices are also due for a thorough overhauling. In combination with glass block or plastic skylights, intense artificial illumination immediately inside the glass plane of the store front will probably counteract the bad effects of glass reflection so that window shoppers can actually see into the open-faced store. Flexible wiring systems will provide more opportunities for architect and display manager. Interchangeable light panels and acoustic panels for ceilings, all-over plug-in systems for walls, floors and ceilings, will never allow the store's lighting to become obsolescent.

Although satisfied with the general quality of the submitted drawings, the jury was somewhat disappointed with their conventionality. The program allowed a choice of either a one-story or a two-story building, but there were few entries with well-organized plans for a two-story structure and those were eliminated upon consideration of their other features. Everyone also assumed that the basic structural system should be founded on column, beam, and girder. In a group of five stores, the space to be enclosed could have been covered by a truss—with consequent freedom from fixed columns or bearing walls. Some suggestions for illuminating schemes might have been based on fluorescent lighting excited by black or ultra-violet light sources. There was general regret that these design opportunities were not explored.



# Store Design Practice

by Joseph Douglas Weiss, AIA

Much is being written about the fate of the architectural profession in the postwar world. Changes in social and economic alignments loom in the future; the architect's potential field of activity may be deeply influenced by them. Technological developments, such as prefabrication, and its yet unsolved marketing problems, further obscure the picture. Therefore, speculation on the postwar activities of the profession in general is most difficult.

However, some special branches of architectural practice, including retail store design, are not in as great danger from abruptly-changing, outside influences. Distribution, display, and selling methods will probably continue to follow a normal path of development. There might be radical changes in materials used in store construction, new types of layouts, and other physical changes, but after the war an architect's clients in the retail store field will still be individual merchants, corporations, and chain store organizations. Merchandising remains an individual process.

Outside of a possible extension of the co-operative store movement, no major change appears likely to influence the business side of architectural practice in this field. For this reason, a pictorial presentation of contemporary store design and an evaluation of the architect's place in this competitive field are most timely. Whether the profession will get its due share of the tremendous backlog of store construction and modernization after the war depends entirely on the architect's preparedness for this special task, on his understanding of the methods of his competitors, and on the requirements of his potential clients.

## Philosophy of Selling

The sole purpose of a store is to sell. That *visual display of goods has the greatest sales appeal* is the leading premise of store design. Of course, this rule has exceptions, such as those imposed by the exclusive apparel trade, and stores selling merchandise not suited for display; and it has its modifications to suit special cases.

## Locations

The criterion of a store location is *potential buyers' traffic*. Crowded sidewalks obscure show window displays and are not conducive to leisurely shopping. Dense pedestrian traffic usually occurs near railway stations, sport arenas, etc. People usually hurry to these destinations and take no time to shop; their "buying power" is negligible. Too dense traffic of the wrong kind is just as bad as lack of traffic. To establish the desirability of a proposed location, merchants will survey it most carefully, counting the number of people passing it during shopping hours, and living or working within shopping distance. The figures are broken down to show the number of men, women, and children separately and, for special purposes, are analysed further as to income group, buying power, etc.

In general, a corner of two business streets is the best site; an inside location on a business street next best. Some specialty shop proprietors prefer exclusive, side-street locations, right off a busy street. Shifts in preferred store locations occur frequently. The usual sequence is: First, exclusive stores group together on a street, then competitors move in selling cheaper merchandise; the exclusive stores move and the neighborhood slips into cheaper trade. (The Fifth Avenue Association in New York City fights this tendency by prohibiting methods of attracting traffic which have a lower buying power, such as animated displays, electrically-lighted signs, etc.) Sometimes a new theatre or hotel building, etc. will completely change the values of store locations for a given street. In general, a public building, church, park, or museum hurts store location values on the same side of the street because it interrupts the continuity of a shop row. Supermarkets and neighborhood food stores follow their customers to the suburbs or to easily-accessible highway locations.

## Leases

In general, two types of leases are customary in the retail trade.

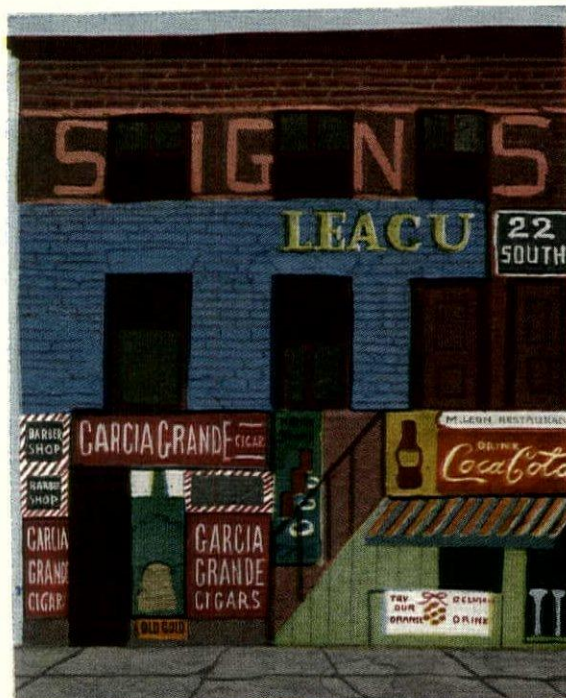
1. *Fixed leases*: These are established through competitive store values and may contain a graduated scale under which rent payments increase periodically during the term of the lease.

2. *Percentage leases*: Under this form the merchant pays a fixed percentage of his gross sales as rent. The percentage, while subject to negotiation, follows in general an empirical formula.

TABLE OF PERCENTAGES

Art and Gift Shops	10% to 12%
Bakeries	6% to 8%
Candy:	
(a) Without Soda Fountain	8% to 10%
(b) With Soda Fountain	10% to 12%
Children's Ready-To-Wear — Popular Price	6% to 8%
Children's Ready-to-Wear — Higher Price	8% to 10%
Drug stores, including soda, luncheonette, perfumes, cosmetics and cigarettes	7% to 10%
Florists	8% to 12%
Furs and fur trimmed coats	8% to 10%
Furniture (New — Household) — Cash and Credit	6% to 8%
Groceries	13% to 8%
Hosiery and Lingerie	8% to 10%
Jewelry:	
(a) Genuine	8% to 10%
(b) Novelty	12% to 15%
Luggage:	
(a) Popular Price	10% to 12%
(b) Higher Price	12% to 15%
Men's Shoes up to \$5	6% to 8%
Men's Shoes above \$5	8% to 10%
Men's Clothing	5% to 8%
Men's Haberdashery	8% to 10%
Men's Hats	8% to 10%
Millinery	10% to 15%
Optical Stores, including cameras, binoculars, etc.	10% to 12%
Restaurant, including service and self-service and including the sale of beer and liquors	6% to 8%
Sporting and Athletic Goods	7% to 9%
Women's Shoes up to \$5	6% to 8%
Women's Shoes above \$5	8% to 10%
Women's Ready-to-Wear, including dresses, suits, coats — Popular Price	7% to 9%
Women's Ready-to-Wear, including dresses, suits, coats — Higher Price	8% to 10%
Barber Shops	10% to 13%
Shoe Repairing	12% to 15%
Beauty Parlor	10% to 15%
Auto Parking Lot	40% to 50%

The above tabulation of percentage leases, while not officially promulgated by local real estate boards, is based on current practice in the New York metropolitan area. Some of these figures may vary widely due to special conditions affecting certain locations and types of trade.





These four color reproductions, from a series on New York storefronts done by Witold Gordon, record what may be termed folklore architecture. Like those on previous pages, which are from another of his series, painted over the course of several years, they are from simple, direct originals whose counterparts exist all over America—examples which store designers might study with profit.

### Store Exteriors

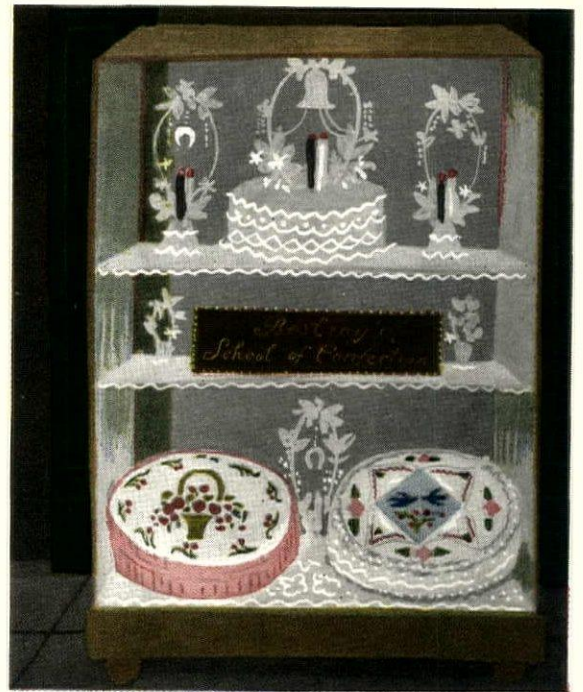
The individual store, or a shopping group as a unit, has to attract attention. They all have to avoid dullness, and also the bizarre. This is a major problem which, with proper architectural judgment and restraint, can be solved by emphasizing the store's identity, by lifting it out of its surroundings in architectural treatment, color, or material used, by changing merchandise display methods, by lighting, by setting the front of the building or store back, by changing the form of the show window, etc.; or, in a row of stores, leaving large wall surfaces as contrast and using small displays; or by signs—painted, plastic, or electric. Any of these methods will fail if not applied within the bounds of good taste, but can succeed when well used.

Show window display space should be ample, and not broken up by columns and divisions; show window backing should be movable for easy access and also for the purpose of "opening up" the store to the street view, if desired. Making the inside display part of the sales attraction from the street is a new, healthy trend which should be carefully studied. Avoid bizarre or moving trick devices—they attract attention to themselves and not to the merchandise. The display platform and lighting should be designed for the type of merchandise the show window will accommodate. The height of show window platforms above the sidewalk level varies. For grocery stores it is usually 20", for men's shoe stores 12", for jewelry stores 36", for dress shops 12". Ventilated glass settings prevent condensation.

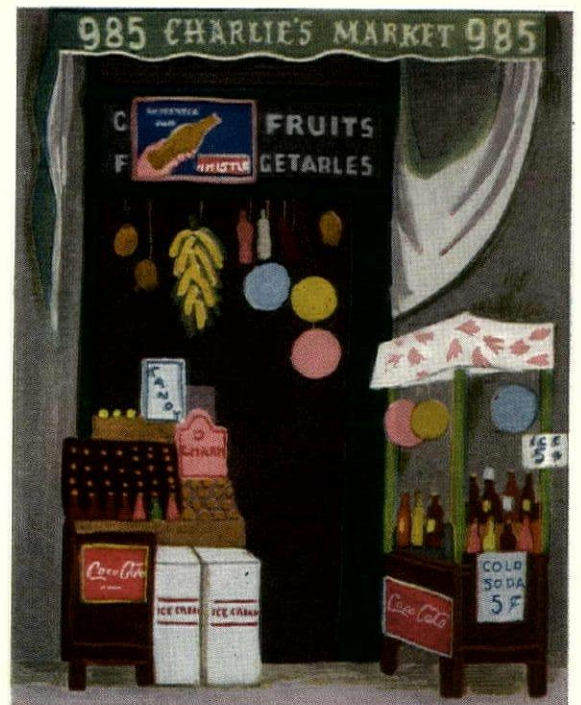
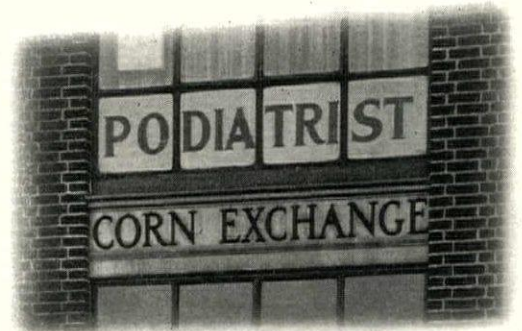
The finest architectural effect can be completely ruined by a badly-designed sign. A sign must be an integral part of the whole conception of the store; it helps to identify the store and augment its sales attraction. Signs are expensive equipment; the fee which the architect receives for designing one is substantial.

### Interiors

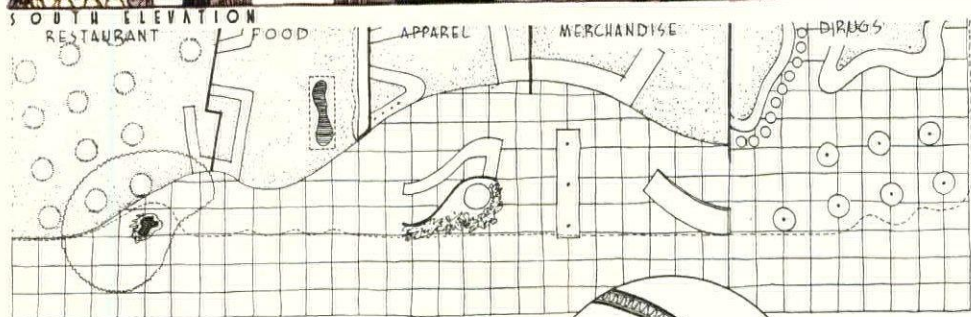
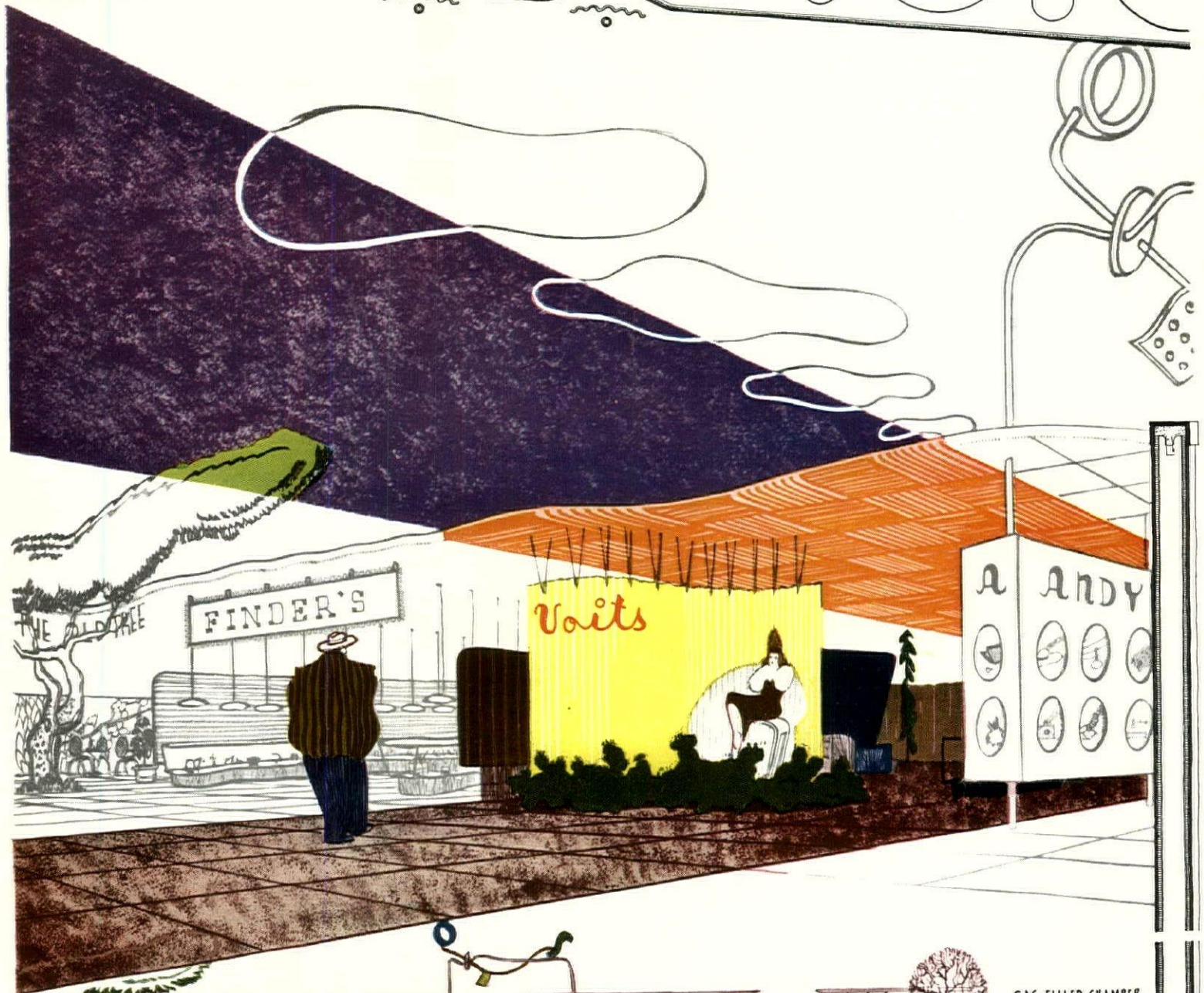
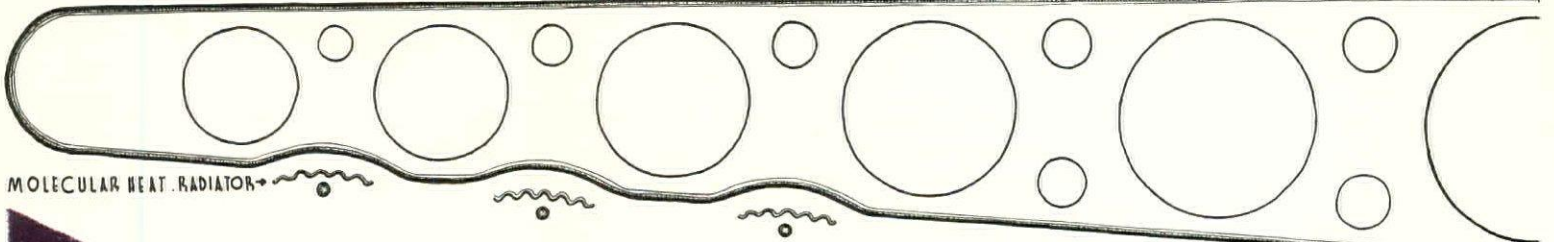
The store design problem does not end when the front and bare walls are provided—a fact too little considered by many architects. Perhaps this misconception grew out of the practice of building structures for rent, in which the client, or owner of the building, rented a store to a merchant after the architect's job was supposedly done. Considering the fact that today almost every store is designed by someone, it is surprising what a small part of this work goes to architects.



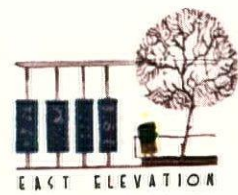
Sign control: Medical offices on the upper floor, branch bank is below. (Gottsch-Schleisner photo.)



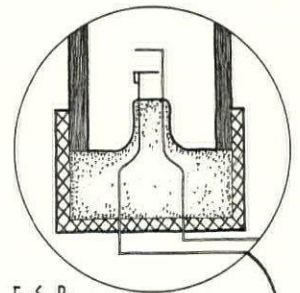




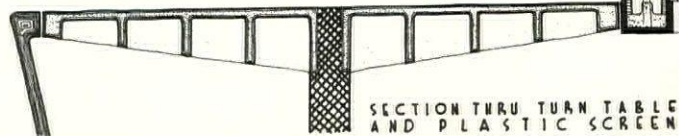
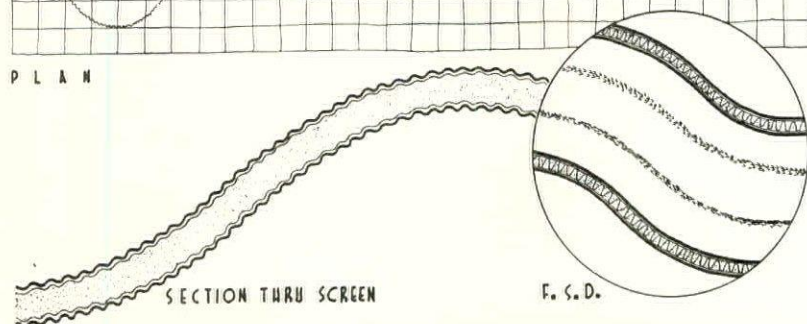
PLAN



GAS FILLED CHAMBER  
ACRYLIC RESIN  
THERMOPLASTIC SHEETS



F. S. D.





The main design principles can be generally stated as follows: The aim is to provide a pleasing background for the merchandise displayed, to produce an atmosphere for comfortable shopping, and to create a layout for maximum sales efficiency.

The layout of a store is essentially a problem of display and traffic. The owner (and the head of each merchandising department) of the store should be consulted on special requirements such as type and quantities of merchandise to be carried on the shelves or in stock, preferred methods of display, sales methods used, etc.

For details of conventional store layouts and general guidance as to space required, published data is available and may be consulted. In modern practice these are often completely disregarded and free design creates a new disposition of sales counters and display areas. In all stores, the merchandise displayed is organized into various departments, where articles of related nature are grouped. Traffic through and to these departments is directed by the arrangement of counters and the placement of display equipment. *It is well to consider certain psychological factors, such as the fact that people, after entering a store, instinctively turn and walk toward (1) the right side, (2) more light, (3) the more spacious aisle, (4) bright colors.*

Self-service stores are becoming increasingly popular, especially in the packaged goods and grocery lines. In self-service stores all merchandise is displayed openly—ready-packaged and price-marked. Wall shelves are never higher than 6'-2" for easy reach. Counter, wrapping, and cash register stations are in a convenient location at the exits.

Space does not permit an enumeration of all the factors governing details of design, but a few reminders may be of some help:

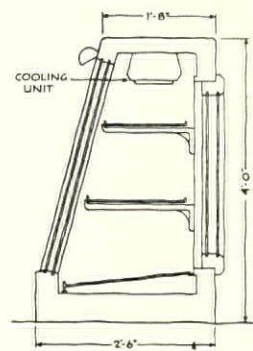
Package wrapping stations and cash register locations should be next to each other, not more than 40' from any sales counters in the respective department. Dressing rooms should be easily accessible, close to sales racks or counters, with ample room in front of them.

Some unassigned space should be left in almost every department for special sales demonstrations.

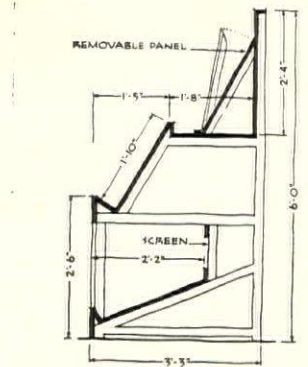
Expensive fashion shops require relatively-large open spaces with a fine background treatment for models who show hats, dresses, and coats.

Certain special merchandise requires completely individualized treatment; furniture displays may be arranged in model rooms.

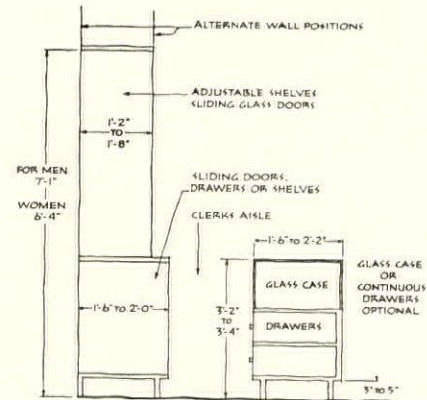
After a general plan is established, each fixture should be carefully studied, and designed to hold and display its special merchandise. The tendency now is toward the use of light woods and quiet color finishes. The fixtures are designed to show up merchandise, not to call attention to themselves. Construction should be sturdy but not heavy in appearance. Moldings which might collect dust are to be avoided. A knowledge of special showcase hardware is imperative. In the design of island show cases, it is important to achieve an impression of permanence and worth, in order to avoid the appearance of portability or transience, and to avoid stiffness and monotony. To establish the necessary backgrounds or divisions of space, do not



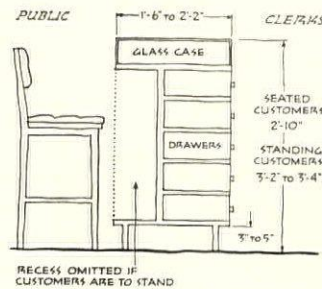
Refrigerated Counter



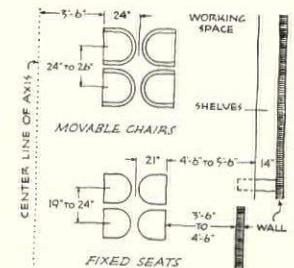
Vegetable Counter



Standard Wall and Counter Cases



Glove Counter



Plan, Shoe Sales

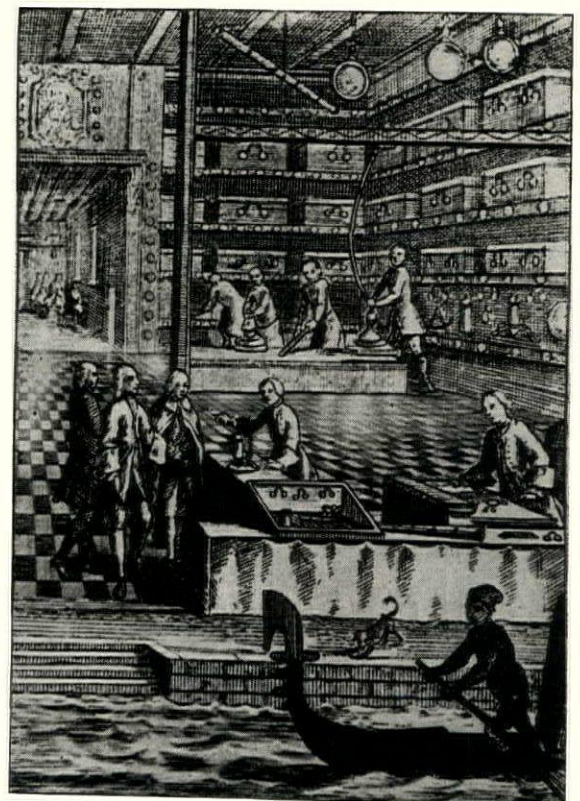
## NEW PENCIL POINTS-KAWNEER COMPETITION: Special Commendation — Whitney R. Smith, Architect, and Robert W. Dickinson, Pasadena, Calif.

(Across-page.) The Jury of Award reports: "This imaginative, beautifully-presented design is based on the supposition that science will someday permit control of weather, without use of enclosing walls, by means of radiant heat or cold, and other undisclosed marvels. The scientist who accomplishes this will be a hero to every storekeeper; shopping lobbies, all-glass fronts, electric-eyed doors are all devices for getting customers through the doors.

"In this design, the individual storekeeper finds that customers have free access to the store—something now possible only in a public market. Yet in the market or department store, the storekeeper loses his independence.

"Aside from this radical, 'frontless' approach, the group plan is well handled. Public circulation is excellent. Signs, displays, vistas are the best of their kind. Freedom, flexibility, and spaciousness result from the treatment of the store party-walls as low, free-standing screens. This is perhaps the most commendable general feature; it unifies the stores under a common roof and lighting system. Even with the glass fronts and glass screens (from party walls to ceiling) which would probably be needed if the project were to be built today, this would still be distinguished architecture."

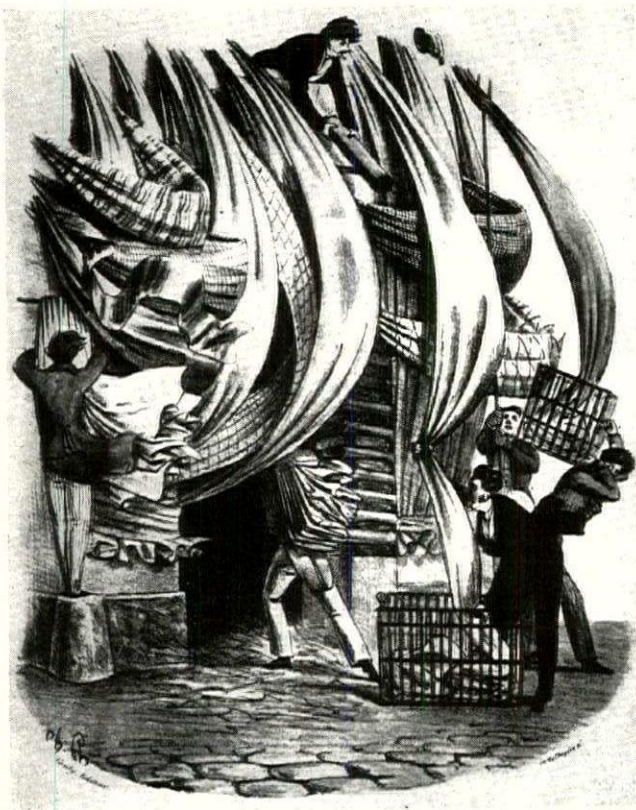
EDITOR'S NOTE:—Aside from the emphasis on atmospheric control, which may or may not be a necessity in our ultra-refined times, is there any essential difference between this competition drawing and the no-longer-existent, open-front spectacle shop in Venice, shown at the right? (Bettmann Archive print.)







The shopping center above, which is a typical Renaissance market place, demonstrates that the desire for crowding into central shopping districts is no modern development. Optician, bootmaker, and scribe plied their trades in adjacent booths. The textile store below, in Paris, existed when window glass was not yet in common use. Displays were in the open air; a shower caused frenzied activity.



hesitate to break away from straight walls with curves, from rectangles with oblique angles. Stairs should be wide and inviting.

Administration, receiving, storage, and shipping traffic should be separated completely from sales spaces. In smaller shops the manager usually wants his office in a place overlooking the whole store.

Air conditioning is now a necessity. Space should be allowed for it in a location where fresh air is accessible, noise of the machinery is not an objection, and from whence supply and return ducts can be carried without difficulty. The most practical location for supply ducts within the store is usually the space between the tops of wall cases and the ceiling. Returns can be placed almost anywhere.

Lighting, of course, is a major problem. Any or all of the types available today can be used satisfactorily, but they must be handled knowingly as part of the design rather than as any mere accessory. Fluorescent, incandescent (direct or indirect), spot and floodlighting systems and fixtures are available in bewildering variety. Exactly as in stage set design, light can be used to create mood or to enhance architecture; sometimes it is essential to provide special lighting for color-matching or inspection of fine merchandise.

In show windows, when the background is dark, artificial light has to be used even during the day to prevent reflection. The front part of the store has to be brightly lighted to overcome the contrast between natural daylight or very high intensity show window illumination and dimly-lighted interiors. The rest of the store may be illuminated by 5 to 15 foot-candles according to the color of the merchandise, the color of the background, or the specific requirements of the displays. Lighting sources should be located in such a way that they illuminate the displayed merchandise. The traffic aisle may be much dimmer. Special wall case and counter illumination has to be about three times higher in foot-candle intensity than the general store lighting.

### Merchants' Point of View

Retail merchants are very "fashion minded." They keep well informed, not only of changes in design trends, but of all new ideas used by their competitors. It is their business to be up-to-date. They accepted and used "modern" design long before the general public did in other fields. They are constantly on the lookout for new ideas.

To a retailer, construction is a necessary evil. Unless he is opening a new store or branch, it is postponed until it is absolutely unavoidable, either because he needs room for an urgent expansion, or his lease has expired, or he must modernize in order to meet progressive competition. To him, "store construction" is the complete job; building, equipment, carpeting, lighting, signs—all except the merchandise on the shelves. Behind the prospect of construction loom the worries of dealing with real estate men, architects, contractors, lawyers, bankers; then with the unknown factors of cost, extras, and the hazards of completion time. It is natural that the merchant wants to cut the entire operation short and shed as many of the worries as possible.

To him, any building operation is just an investment; his main consideration is a financial one. He wants a well-designed and original store because it is good business, not for any other reason.

When the decision has to be made on building procedure the merchant will do one of two things: 1—If he is aware of the proper functions of the architect and knows a competent one he will call him in and the architect does the job and earns a fee. 2—He may call in (or may be sold by) a "store building and equipment company" or a "designer," in which case no architect gets a chance at the job.

### The Better Mouse Trap

Architects are equipped with a fundamental knowledge of design which can be applied to the specific needs of a store. This is proven by the finest examples of original store design in this country and abroad. Yet the world does not make a "beaten path to their offices." In this country, most store work goes to shop equipment companies and "designers." Since competition is the life of trade, let us see on what it thrives.



## "Equipment Companies"

The shop "equipment" or "fixture" companies are specialized business organizations which take a contract for a complete job of designing, building, equipping, and financing store construction. They usually develop out of a cabinet maker's or general contractor's business, at times with the aid of a promoter. They advertise, and employ high-powered salesmen experienced in selling store equipment. These men have a wide acquaintance among merchants and make it their business to know their market. They study the trade papers, such as *Women's Wear*, and read the financial and business sections of the newspapers, the mimeographed commercial reports of credit houses and resident buyers' offices. They follow up store leases and chain store expansion programs. Last but not least, they cultivate connections with real estate brokers. They get tenants for brokers and brokers get prospects for them.

These salesmen are well acquainted with the merchant's needs and worries. They talk *his* language, know *his* point of view, and tackle the job of selling him from that angle. They do not talk architecture, design, or layout, but establish themselves in the merchant's confidence by discussing store rentals, leases, sales costs, P. M.\* s., sales promotion methods, competition gossip—and eventually "blueprints," prices, and terms. The services such an organization renders normally start with free preliminary plans, and often perspectives with a price estimate; and after signing up, continue with store plans, general contracting (usually all subcontracted), interior design and cabinet work, lighting, carpeting, and finally, financing by giving the merchant credit against his notes, which in turn discount at a bank. Sometimes they work out an arrangement whereby the landlord advances money against the cost of improvements.

The incomplete plans and specifications which the merchant gets from the fixture company before he signs a contract do not enable him to apply to this usually big buying task the same competitive tests he uses in all his other business transactions, but the merchant thus gets the whole job from start to finish from one organization. He may or may not know that he pays for the plans (at least as much as an architect's fee), but the cost is painlessly included in the price of the whole job. It should be said here, in all fairness, that some of these companies have at times done fine work, especially when they have talented architects in their employ or as associates.

## "Designers"

"Industrial designer" and "designer" names appear more and more frequently in connection with retail store jobs. Some of them are talented designers (and employ talented architects) but all of them are masters of publicity and salesmanship. The architectural profession can learn a great deal from their success and business organization.

## Architect's Future in the Field of Retail Store Design

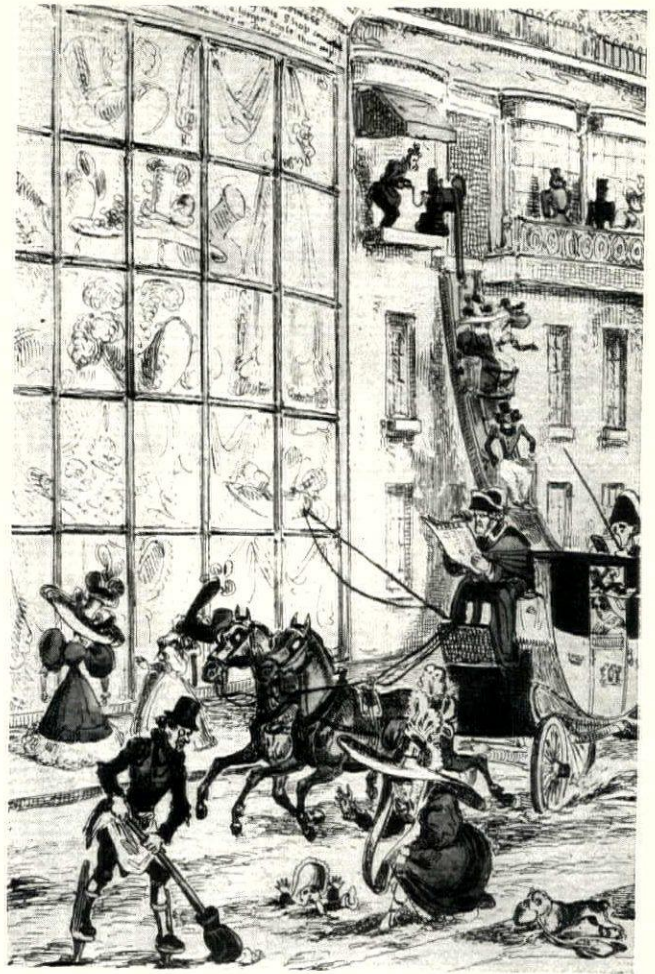
The weakness of the sales argument of the "store equipment companies" is obvious to any architect. In knowing this lies hope for the architect to participate in this large and lucrative field of practice with greater success. If, in addition to his basic knowledge of planning, design, and construction, he equips himself with the knowledge which, up to now, has been used only by his competitors, he will be gaining the basic information which he should have had in the past, without which he can scarcely call himself an architect. Briefly these tools are:

- (1.) Specialized salesmanship, with the underlying knowledge of facts about stores and the "market."
- (2.) A cost file for reference and ability to give quick preliminary estimates.
- (3.) Knowledge of financing methods and ability to work out credit arrangements with banks and contractors.
- (4.) Concentrated interest in stores and store news; collections of published designs here and abroad for reference; a record of successful stores and a photographic file as a sales aid.

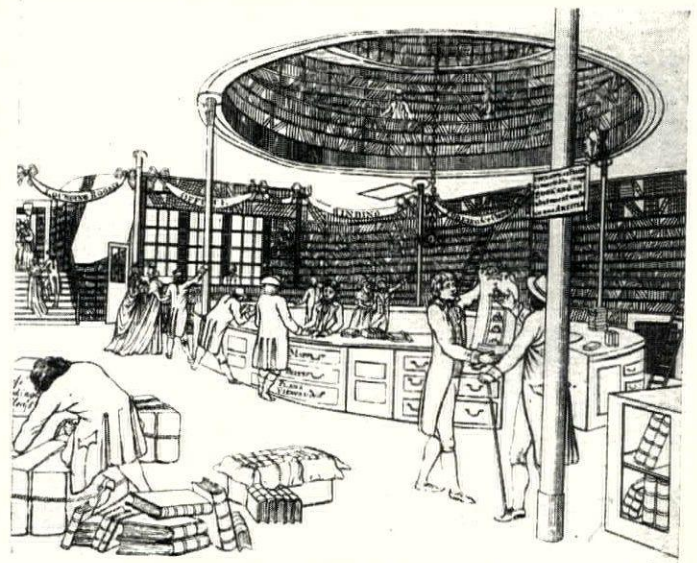
The architect has definite and important advantages which will stand up against any but prejudiced sales resistance.

- (1.) The architect knows design and originates ideas. Almost without exception the novel, imaginative, and successful stores are done by architects. They are later copied, by the dozen, by others. Original ideas are rated very highly by the merchants.
- (2.) The architect creates competition for the cost of the job, with obvious advantages to the owner.
- (3.) The architect supervises the job, and guards the owner against possible unfair practices of contractors, thereby lessening the likelihood of "extras."
- (4.) The architect is equipped to handle, and is legally licensed to deal with, structural changes and construction.

\* Pin Money items, which salesgirls sell on a percentage basis.



The satirical print above, taken from "The March of Intellect," published in London in 1828, shows a huge display window and pokes fun at talk of mechanical lifts—both of them problems for today's store designer. Below is the bookshop of Blackwell and Co. in the early 19th century—one of the earliest examples of open, column-supported interiors. (All prints from Bettman Archive.)





# ALAIN-RITCHIE Perfume Shop, New York

Williams and Harrell, Designers

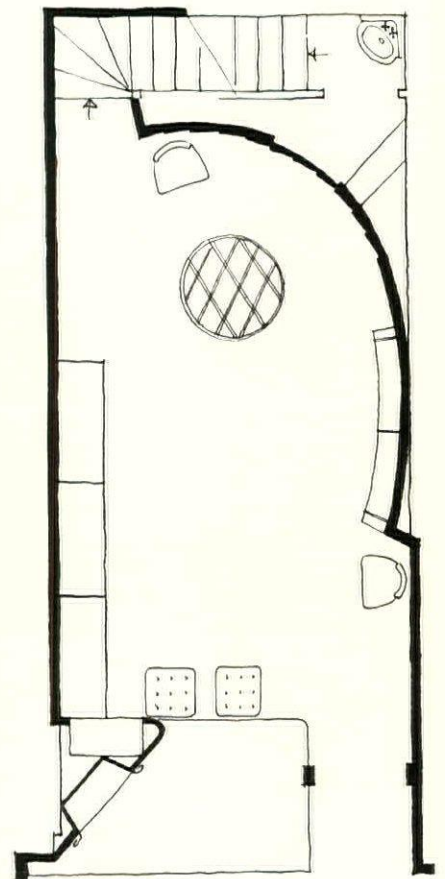
George Foster Harrell, AIA, Architect

This perfume shop, the first retail outlet of a new manufacturer, is an example of what may be done with an unusually small (10x24 feet) space.

No change was permitted to the exterior except for adding a brightly-striped awning. Inside the conventional, high, show window a more intimate display setting was devised, at the same time maintaining a full view of the shop interior from the street. The interior is in keeping with the quality of the merchandise, without the use of conventional sales counters. A basement serves for storage, and a small balcony, extending over the rear two-thirds of the shop, is used for entertaining and for special customers.

The floor is covered in squares of alternating dark blue and light green linoleum. Walls and ceiling are painted white, and cabinets are lacquered in dark blue and white. The wall surrounding the window display case is covered in a dark blue and green marbled paper. The specially-designed chairs are covered in magenta velvet. Lighting is direct, using flush lens units.

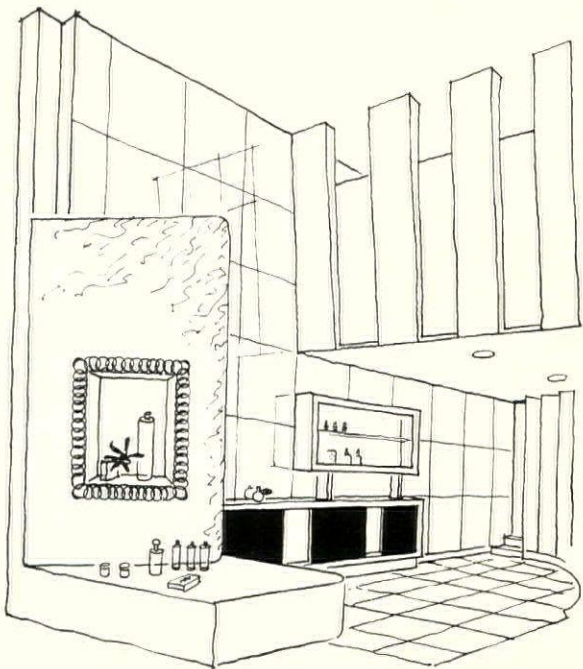
Cost of the alterations and furnishings was approximately \$1,000. (Photographs by Nyholm.)







The straight wall is completely covered with mirrors to increase the apparent size of the interior. The curved wall, which also lends a feeling of space, is constructed of fiber board and wood. Part of the display space is provided by plate glass shelves, cut to fit the curved wall and hung from the ceiling in painted metal stirrups.







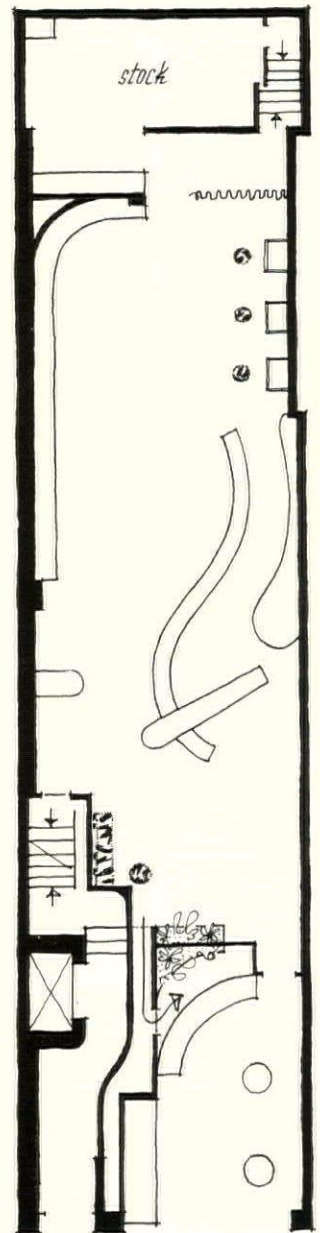
Looking toward the rear of the shop: a folding leather door, blue in color and 14½ ft. high, separates the shop from the stock rooms.



# REBAJES Jewelry and Gift Shop, New York

José A. Fernandez, Architect

The principal counter is suspended from the ceiling by thin steel rods. The hassocks and built-in settee are covered with black and white calfskin.



*Fifth Avenue*

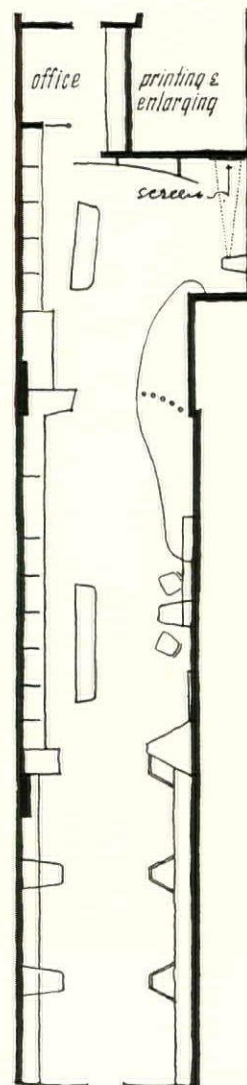
One feature of this shop's interior was designed to form an impression upon the customer's memory. This feature is the use of the lobby as actual sales space. So completely is this purpose carried out that it is hard to tell in plan where the lobby ends and where the shop interior begins. As the plan indicates, there is access from within the store to space behind the lobby counter. In good weather, some of the actual selling of merchandise takes place at this counter.

The face of the shop is of gray marble, which is carried into the lobby to form the bulkheads of the show cases. The left wall of the lobby is of pickled oak, a material which is carried into the interior of the shop for its entire length. The right wall is mirrored and is also carried through the interior. The lobby floor is of black terrazzo; black asphalt tile is used for the floor of the shop. The ceiling is painted oyster white and has recessed incandescent lights. The S-shaped counter is illuminated by a fluorescent fixture which follows its curve. Other materials used are gray and white Margranite marble, hollow bronze storefront and interior trim, white plastic counter facings, and doors of tempered glass. (Photographs by Roman Cecilia.)



# AJEMIAN Camera and Sporting Goods Store, New Jersey

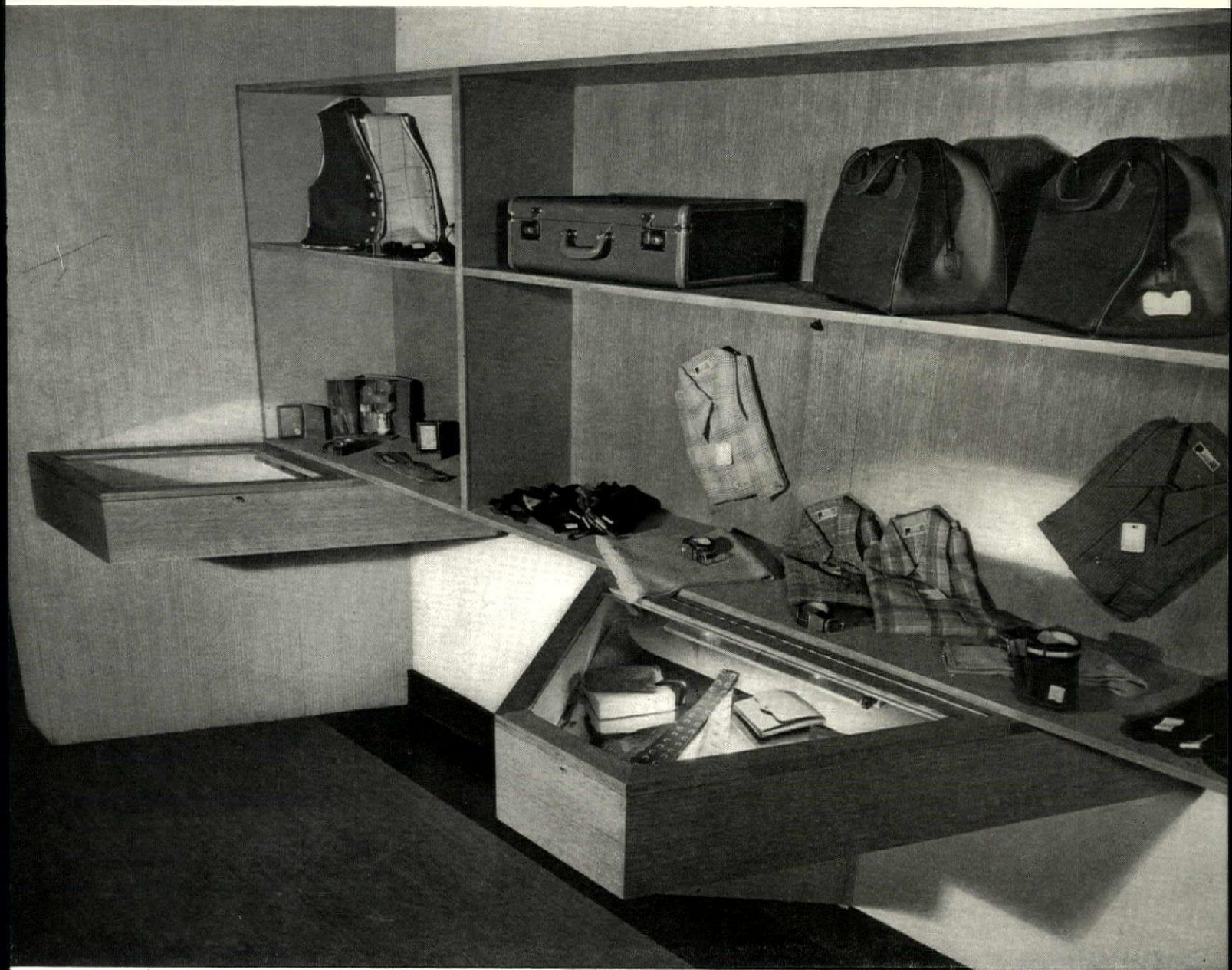
Ernst Payer, AIA, Architect



The owner of this shop enlarged a very successful store to include sportswear and equipment. The shop is extremely long and narrow. The plan shows only a portion of the rear, which was organized to fit photographic needs. At the extreme rear, a court serves to provide access to the shop. Counters and display for photographic equipment were placed in the center of the south wall and in the rear, so that clients for this merchandise would have to pass the display of other materials. The store is easy to oversee, partly because no crowds are expected, and consequently a very light and open display is possible.

The walls are painted a light chartreuse; the inexpensive, yet well-designed, fixtures are of natural oak finished with satin lace and white wax. The floor is surfaced with grey green jasper linoleum. The heavier cases are painted grey on the inside. The lighter cases in the front of the store are painted a pastel blue on the sides, top, and bottom; the front edges of shelves and the backs of the cases are of natural oak. The square display places over the tables are finished in coral paint and natural oak.





The larger photographs show only two of the wide variety of provisions for displaying merchandise. Although extremely inexpensive, these are attractive and colorful. In addition to the units shown, there are small shelves designed to hook into the moldings, similar racks of heavy wire, pegs from which to hang, or against which to lean, skis, golf clubs, etc.

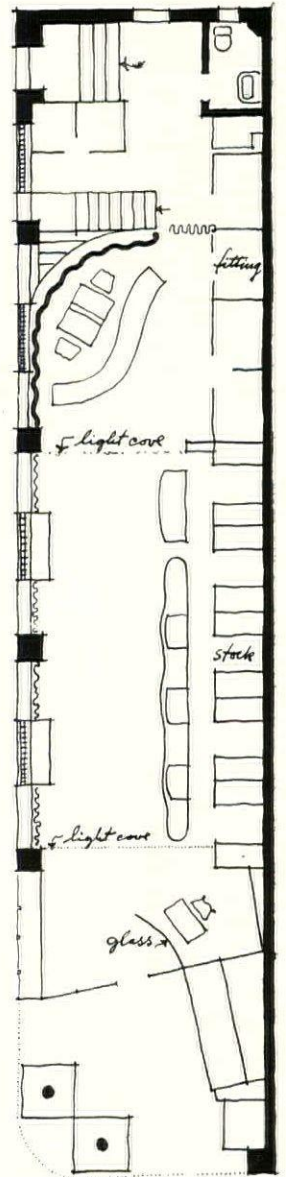
View of the interior looking toward the rear. As the plan shows, the long, narrow, front portion was divided into three spaces, using glass cases, wood rods, etc. to create the effect. At the rear of this portion is a curved plywood screen, painted a dusty rose, which contrasts with the deep powder blue wall and is brightly lit. The purpose is to arouse curiosity and draw customers to the rear of store. (Photographs by Rodney McCay Morgan.)





# CORSETORIUM, Rego Park, Long Island, New York

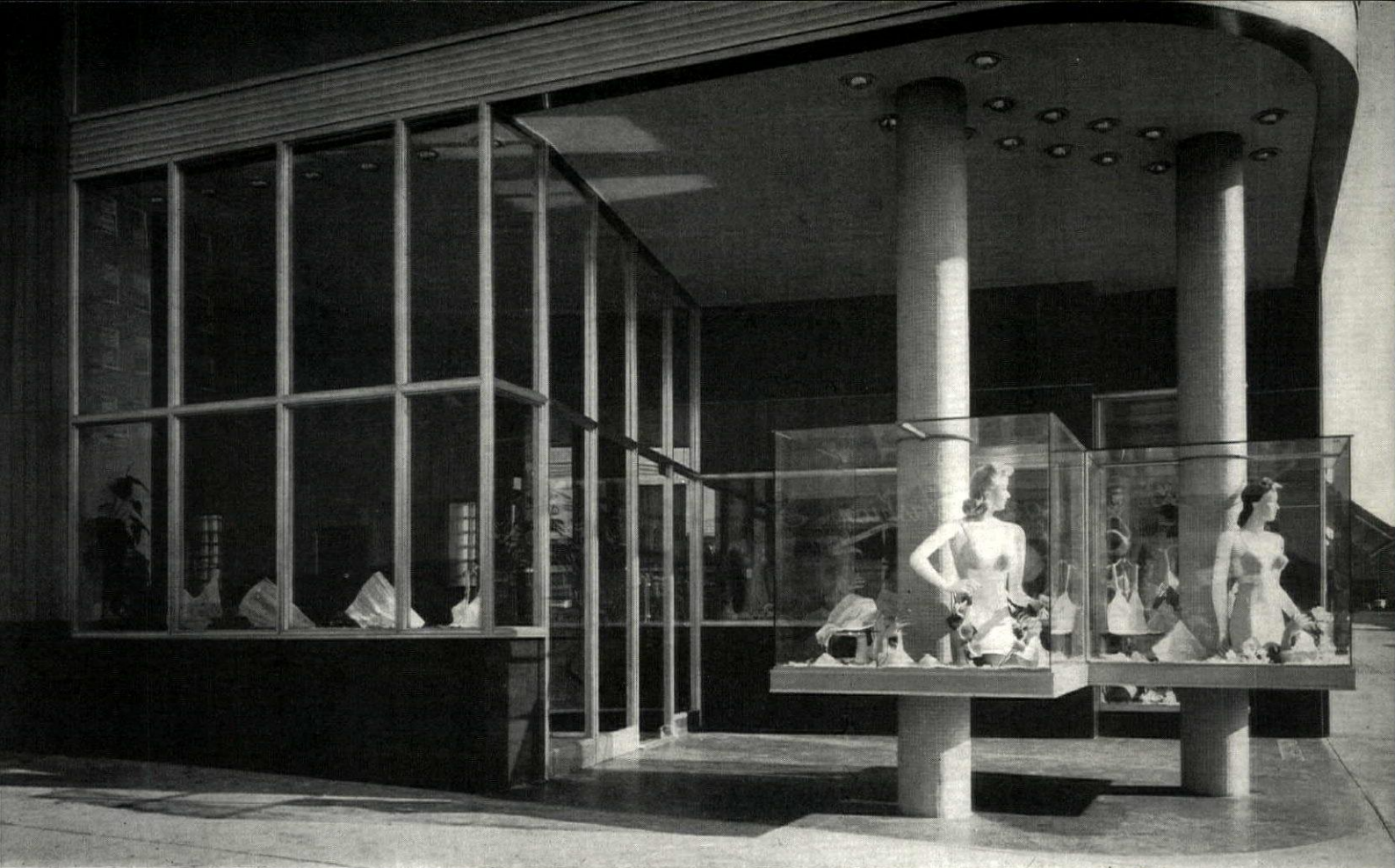
José A. Fernandez, Architect



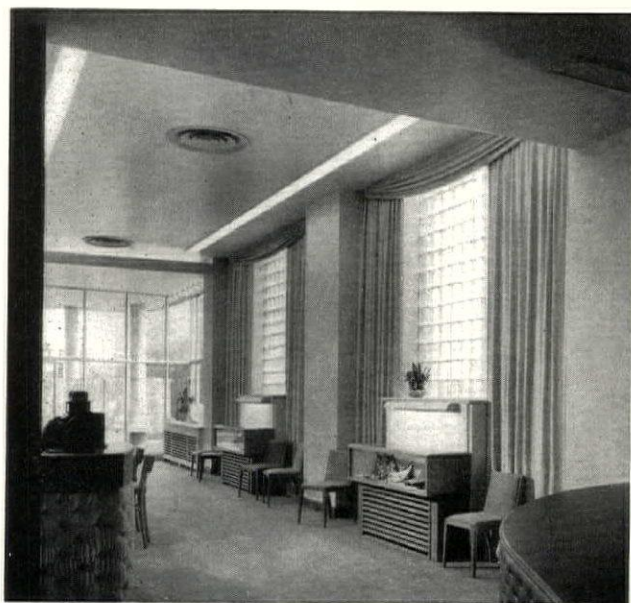
Indicated in the plan, although not very visible in the photograph, is a feature which was incorporated for its "memory value"; this consists of carrying into the interior of the store the glass wall of the show window at the left of the lobby. Behind the glass screen thus formed there is a sewing machine at which an operator sits repairing and making corsets. The light front is as open as conditions permitted. The storefront is of white metal and glass, and the exterior wall has two glass block windows, to provide a maximum of daylight in the shop. All interior lighting is fluorescent; in the show windows a combination of fluorescent and incandescent lighting is used.

The shadow boxes shown in the photograph above are illuminated from a concealed source above the stock cabinets. Counter fronts are upholstered.



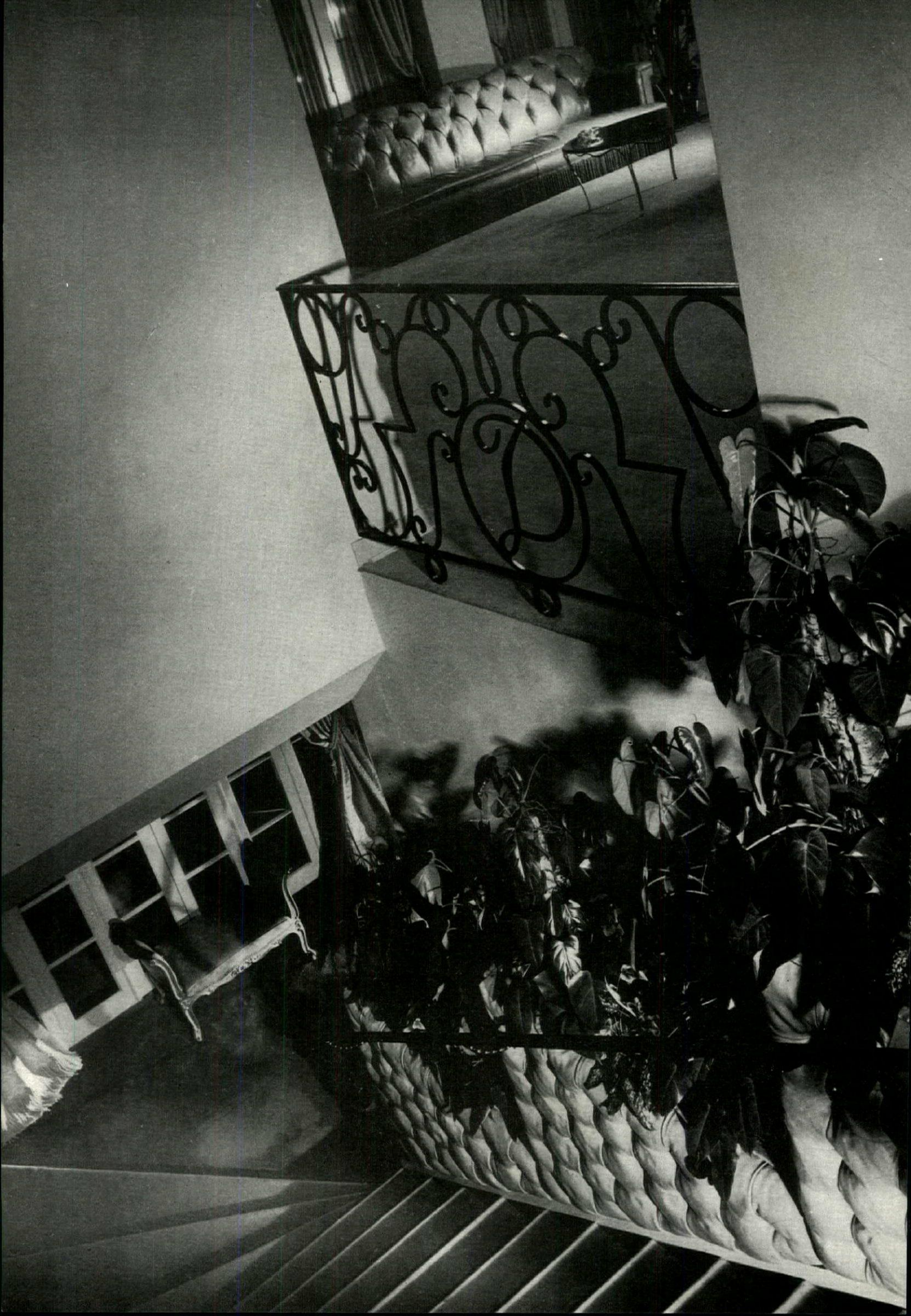


The existing columns were thought, at first, to hamper the production of an open front, or deep lobby, treatment. However, by encasing them with pale blue tile and mounting upon them two square show cases, the architect has contrived to make a virtue of necessity. The lobby walls are of blue and gray structural glass. The floor is of black terrazzo. The doors are of tempered plate glass. (Photographs by Ezra Stoller.)



The color scheme of the interior is turquoise, pale rose and gray. This scheme is carried out in the rug, the upholstered counters, chairs, draperies, and walls. The curved back wall is of woven wood painted pale rose. All woodwork is bleached walnut.



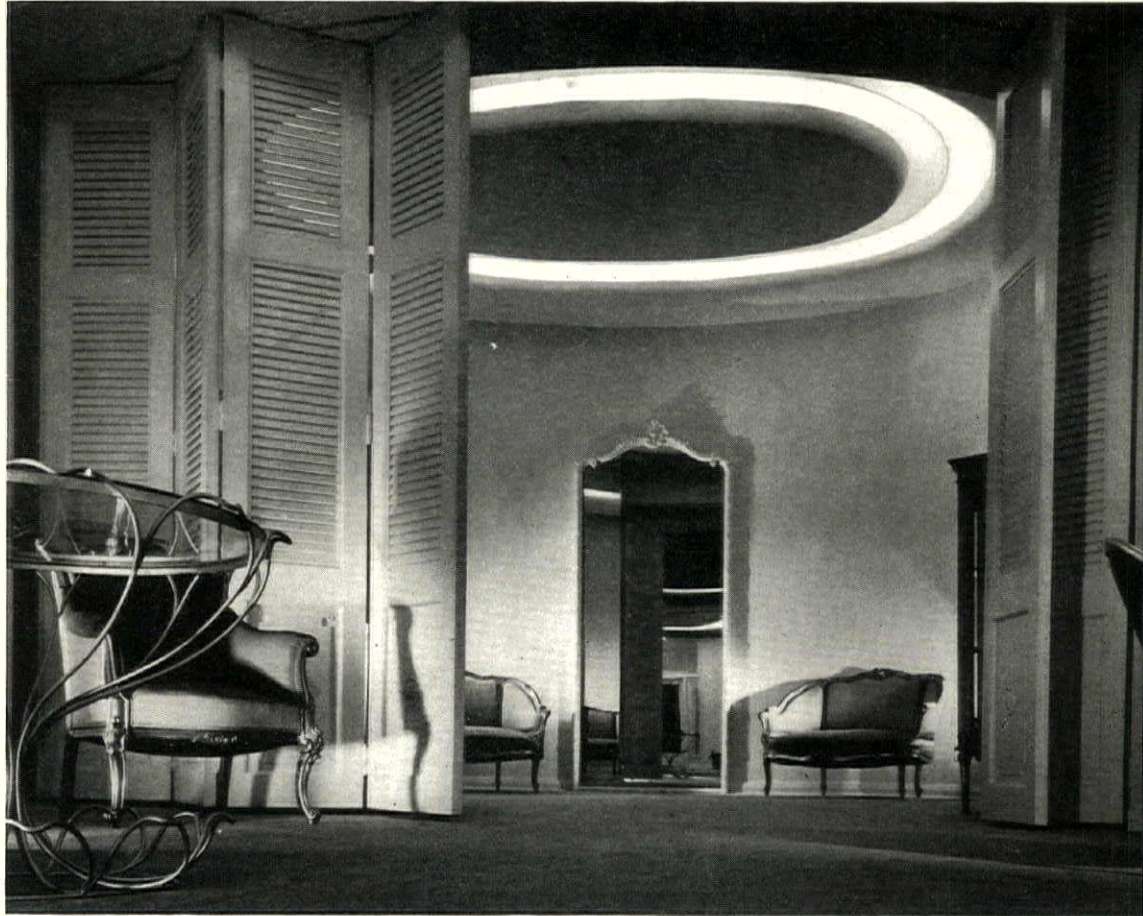




## DOOP'S Women's Specialty Shop, New Jersey

Paladini and Barmache, Designer

A two-story building which formerly housed a restaurant and an apartment was remodeled to make room for this fashionable and exclusive women's specialty shop in East Orange, N. J. The shop is one of a chain of similar stores operated by the management throughout the country. The selling area on the first floor is devoted to handbags, costume jewelry, accessories, millinery, and a fur salon (see illustration below). The sliding and folding slatted doors are also used to shut off the fur salon from the rest of the shop. Women's and misses' dresses and sports apparel are sold on the second floor, reached by a carpeted stairway (photograph across-page). Ample space has been provided on both floors for fitting rooms and stock. The decorative scheme is French in character.



Color schemes include pastel shades of gray, green, yellow. It was the designers' aim to keep the color subdued, with accents furnished by the bright spots in the upholstery. The entire shop is carpeted in gray. Feature of the stairway is the mirrored wall on one side, and a leather-covered plant stand on the other. The French windows in the background (photograph below) serve effectively in maintaining the decorative scheme of the design and are, in reality, the doors opening to the shop's window displays. Lighting fixtures and furniture are identical with those in the other units of this chain. (Jean St. Thomas photographs.)



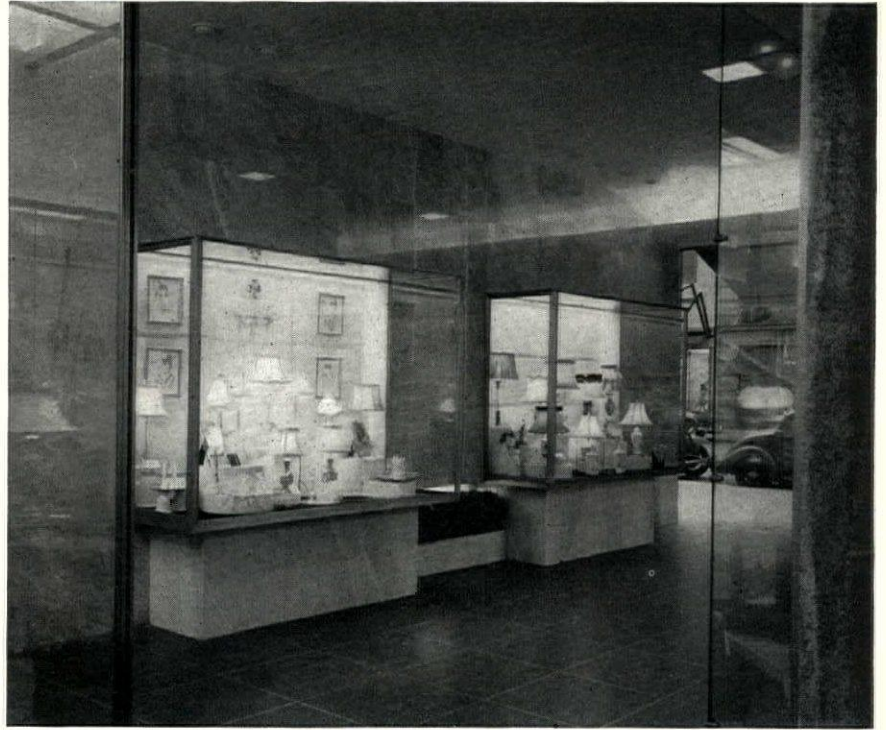
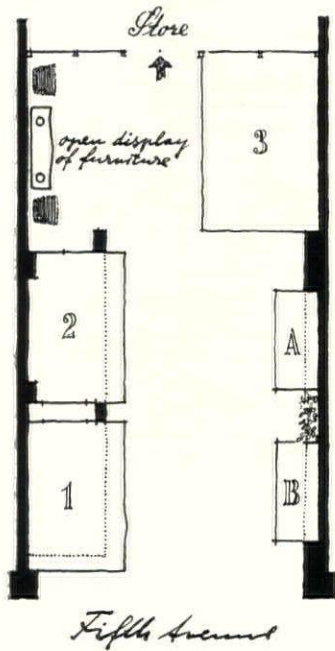


# PARIS SHOP Furniture and Interior Decoration, New York

José A. Fernandez, Architect







The most interesting part of this shop is the lobby, which incorporates an outdoor salesroom within its generous "open" treatment. This lobby sales space, which adjoins the interior of the store, is protected at night by a metal grille which descends from overhead. In addition to the outdoor showroom there are five show cases for small objects such as lamps. Show cases 1 and 2 have louvered glass ceilings above which are combinations of fluorescent and incandescent light fixtures. Show window 3 is illuminated by fluorescent strips concealed by specially-designed, enameled iron "beams." In this show case there are also some incandescent spot lights. (Photographs by A. Studley.)

The storefront has rose and gray marble walls, laid up in squares. The ceiling is of plaster painted a light rose. Storefront metal is extruded bronze, and the floor is of black terrazzo with  $\frac{1}{4}$ " bronze division strips. The bulkheads of the two smaller show cases are of rose and gray marble; those of the three larger show windows are of black terrazzo. One wall of the outdoor show room is covered with pine panels in squares, on which are applied gray and gold hand-made wall paper designs. The dividing wall between the vestibule and shop interior consists of large panels of glass with pickled oak mullions.

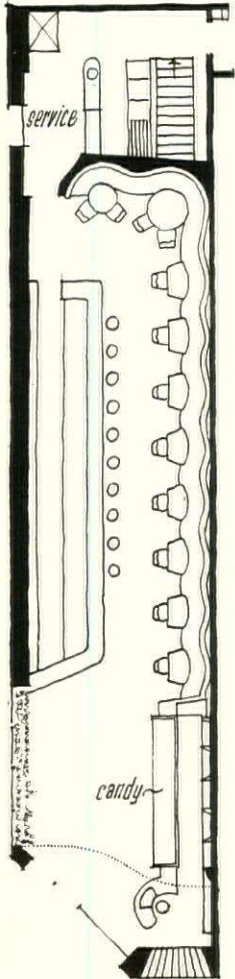
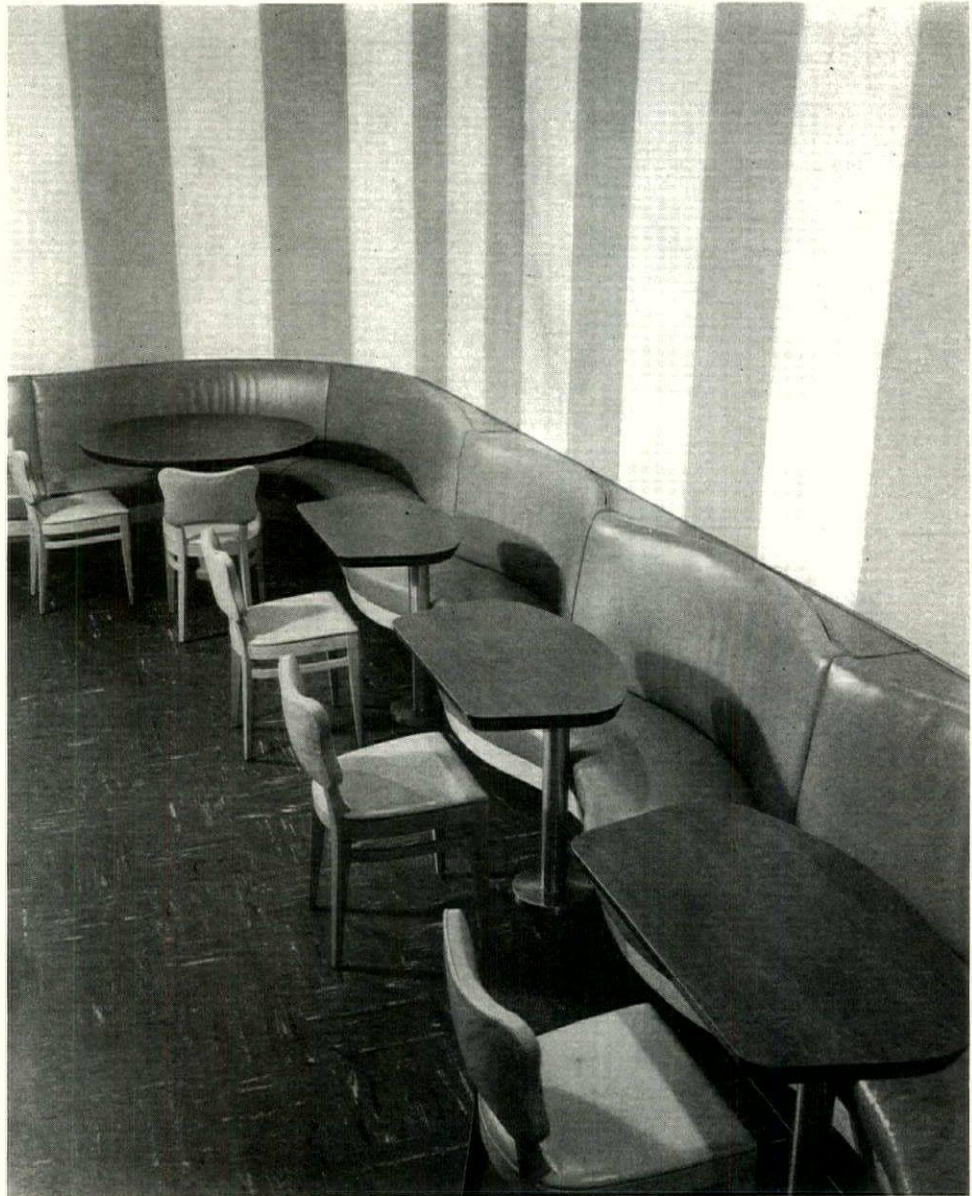




# GOOD HUMOR Ice Cream and Candy Shop, Jackson Heights, N. Y.

Williams & Harrell, Designers

George Foster Harrell, AIA, Architect



The first permanent shop of the Good Humor Corporation was visualized by the executives of this well-known vehicular purveyor of ice cream as a modern version of the old-fashioned, neighborhood candy kitchen and ice cream parlor. With the aim thus stated, the problem was enlarged with further details, and a corner shop with an extremely limited width was selected. Only minor changes were permitted to the exterior, which is what might be called Italian Romanesque in character.

The front of the shop was opened up as much as possible so that the interior could easily be seen from the street and would be inviting to the passerby. A small display window is provided for candy, but the rest of the plate glass windows are unencumbered. Quality candy, introduced here by Good Humor for the first time, was placed near the entrance for obvious reasons of sales appeal and convenience. The cashier is located in a controlling position. The long soda fountain is provided with seats except near the front, which is left open for standing purchasers of bulk ice cream.





Serpentine wall seats with fixed tables provide seating for three, or four if necessary. Two larger, movable tables at the rear provide seating for groups or parties.

The small service space at the rear is used for dishwashing, and for women employee's locker room. A full basement is used for storage, men's locker room, and air conditioning machinery.

The wall behind the candy section, and for a limited height behind the soda fountain, is covered with mirrors to increase the apparent width of the shop. Above the mirrors behind the soda fountain, the wall is spotted with low-relief sculptured fruit, indicative of the ingredients of various flavors of ice cream. The fountain top is mahogany, and the face is dark blue linoleum with a terrazzo base. The candy case is zebra wood with a dark finish. Other wood-work near the entrance is pickled oak.

The candy stripe, the principal decorative motif, is inexpensive, yet colorful and highly effective. Used vertically over the serpentine bench, whence it is reflected in the soda-fountain mirror, spirally on the suspended lighting fixtures, even recalled in the zebra-wood candy case, it provides the gaiety necessary to a shop of this kind, and there is no sense of straining for effect which sometimes characterizes less happy attempts at festive atmosphere. (Photographs by Nyholm.)



As this view of the ceiling shows, the simple lighting and air conditioning fixtures have been thoroughly integrated into the design. In the lower left corner of the photo, the air return grill is visible. Reading from left to right across the photograph are the spherical, striped luminaires, diffusing air supplies, flush spotlights focused on the tables, and fluorescent lighting trough.

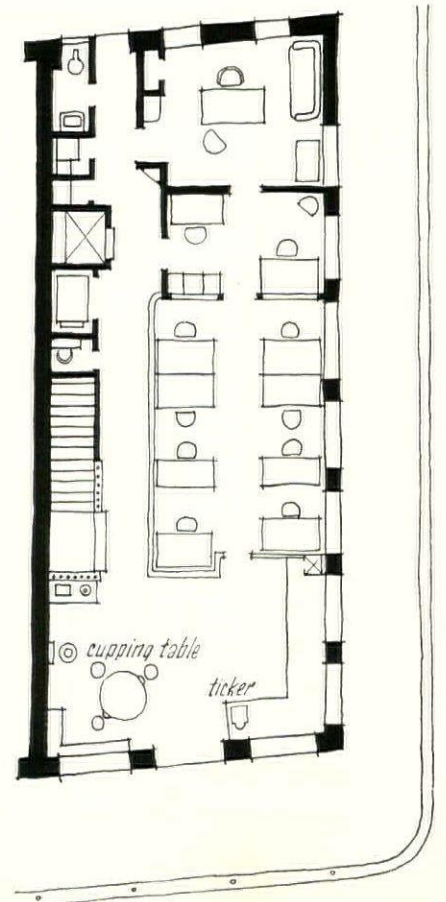
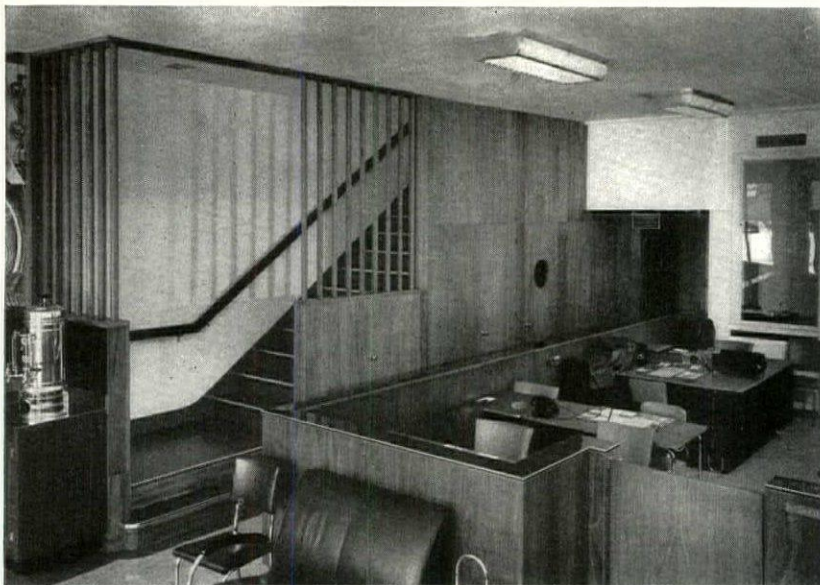


# J. ARON CO. INC., Importers and Exporters, New Orleans, La.

Emilio Levy, Architect

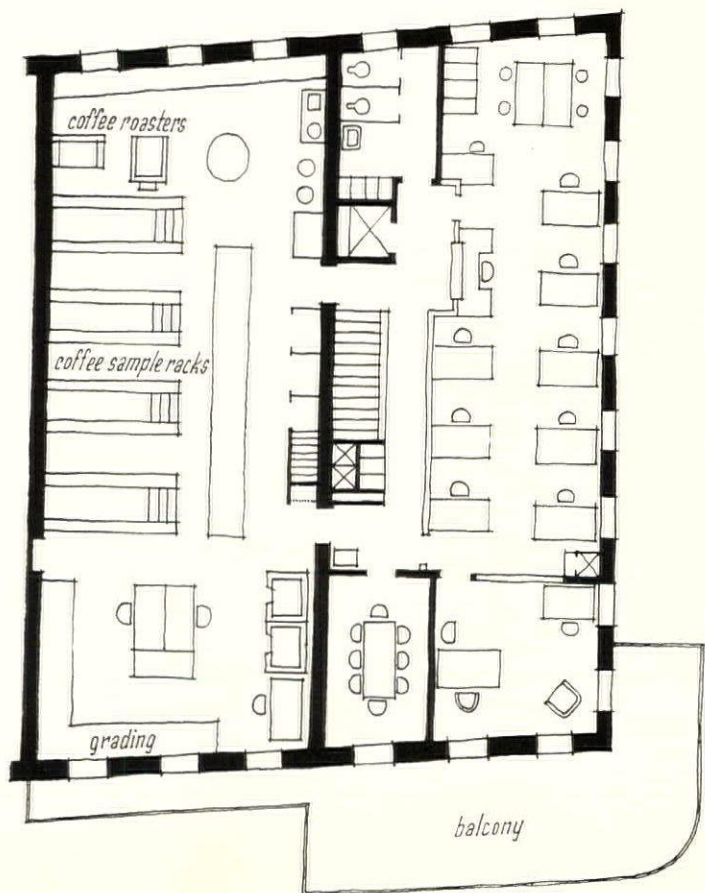
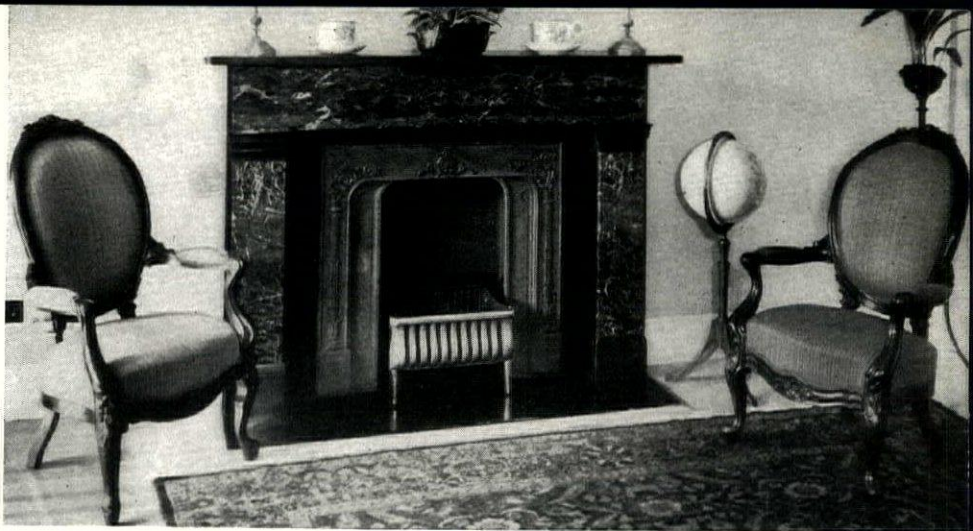


The problem here was one of remodeling a landmark of old New Orleans into a completely modern building. As the photograph shows, the exterior was almost untouched except for necessary repairs. Note the contrast between this hundred-year-old treillage and the plywood-surfaced interiors of some of the offices.





At right is one of the second floor offices. Here, as on the exterior, the old atmosphere was maintained. At right below is perhaps the most modern piece of equipment in the building—a coffee-taster's table. Above it, though not shown in the photograph, is a mural depicting the story of coffee, which is the work of E. Schoenberger, New Orleans artist.



The building had fallen into a bad state of repair; however, when its twelve coats of paint were removed the exterior brick walls and granite piers were found to be well preserved. Inside the building all kinds of devices for comfort and efficiency have been employed. Fluorescent lighting is used, and the building is air-conditioned throughout. Equipment includes a small, push-button-operated, electric elevator, electric dumb-waiter, electric clocks, electric water coolers. Underground pneumatic tubes connect this office with the telegraph companies, and the attic contains an automatic dial switch telephone exchange.



# B. ALTMAN & CO., Suburban Store, White Plains, N. Y.

Williams & Harrell, Designers

George Foster Harrell, AIA, Architect

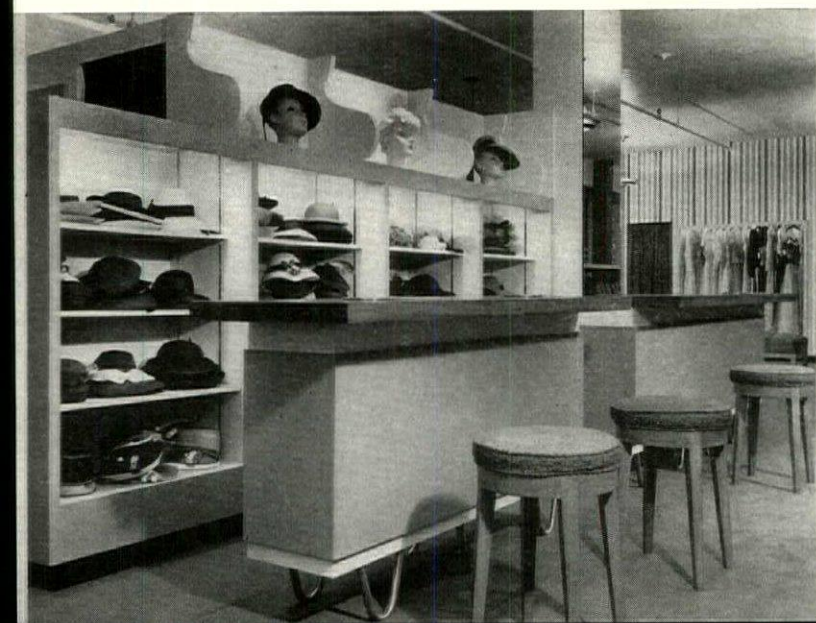


The White Plains, N. Y. suburban store of B. Altman & Co. is somewhat like Topsy, it just grew. About twelve years ago its beginning was a small sample room occupying the corner shop of the present building. Orders were taken on the basis of the samples for the merchandise to be delivered from the main New York store.

Left: Women's Dresses; below, Sportswear.



Below: left, Girls' Hats; right, Millinery Department.

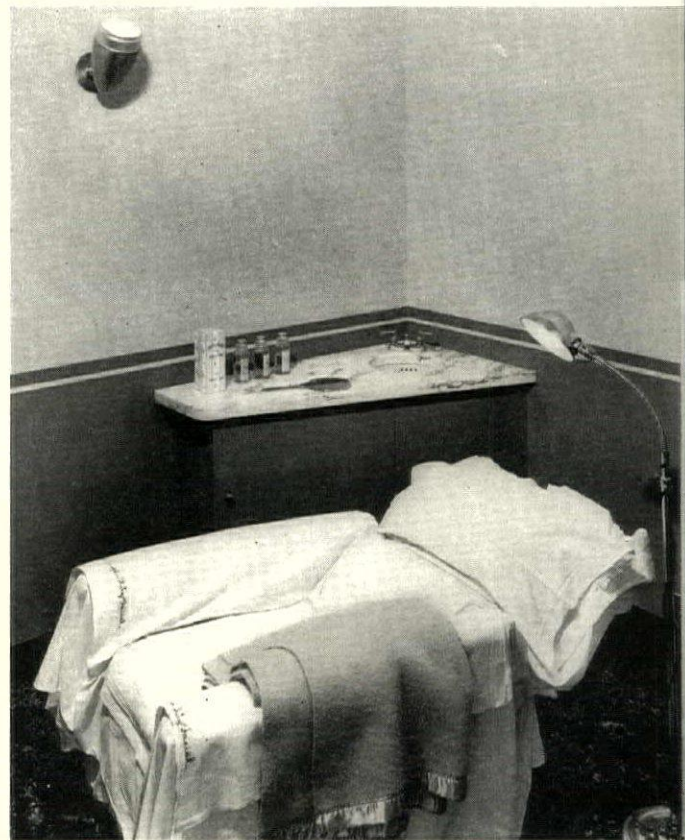




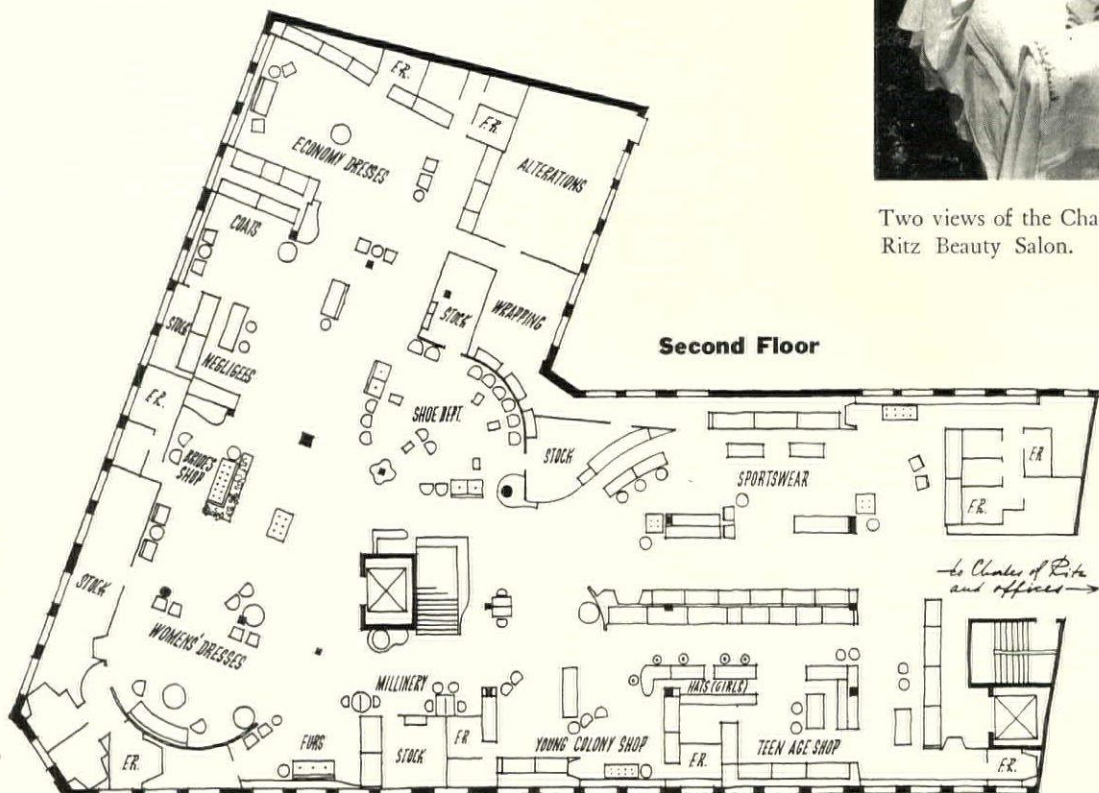
Additional second floor space was acquired when an adjoining building was erected, and this space has been utilized for offices, rest rooms, and the Charles of the Ritz Beauty Salon. The floor of the beauty salon is covered with marbled black linoleum, and the working counter tops and back wall surface of the typical booth are covered with black rubber.



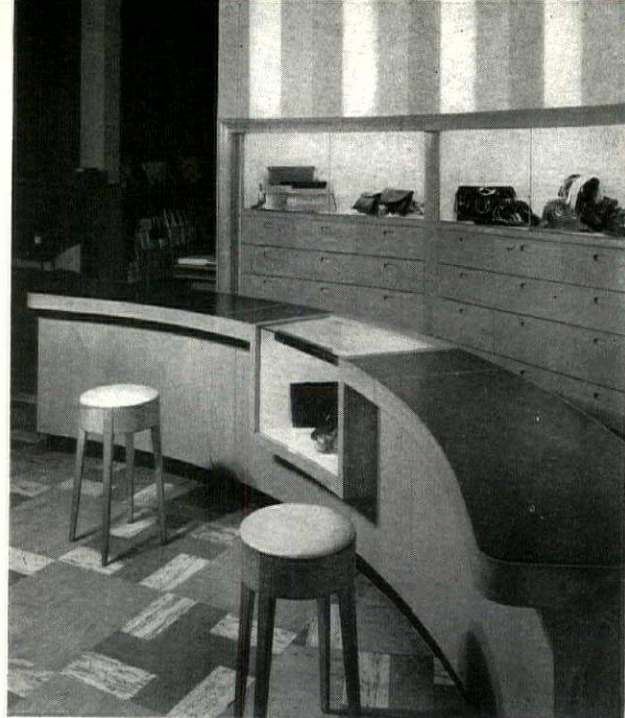
The building is a product of the boom period just prior to 1929, and was designed for small shops on the ground floor and offices on the second floor. As business increased Altman's branch expanded bit by bit until finally it occupied the whole building. This process of expansion was marked by a lack of planning for the eventual end, each step apparently being considered the last—a costly procedure. The final move created the problem of unifying and coordinating the various departments and service elements, at the same time utilizing existing facilities such as stairways, elevators, etc. Also involved was creation of a rear entrance on the ground floor to newly-acquired parking space. The result was an almost complete rearrangement of the second floor, and a partial rearrangement of the first floor. Each phase of the work was scheduled to interfere as little as possible with business. (Photographs by Nyholm.)



Two views of the Charles of the Ritz Beauty Salon.



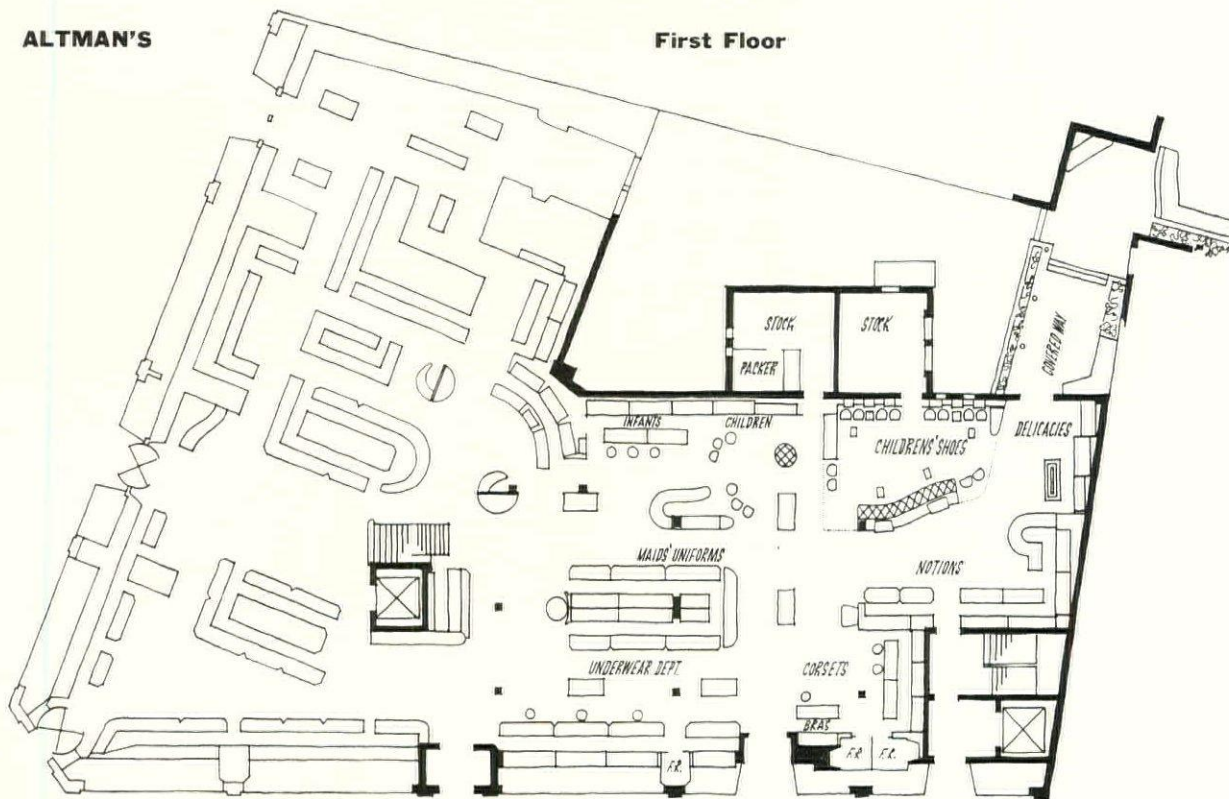




The replanned second floor provides segregation of departments but maintains a pleasantly-open and seemingly-spacious interior. Segregation is accomplished by means of projecting walls and cases, open screens, color and wallpaper treatments, and arrangement of furniture. A number of windows remain open to the floor at strategic points to provide a desirable amount of daylight.

**ALTMAN'S**

**First Floor**



Stock cases, display cases, etc. are constructed of plywood and painted, papered, or finished natural. The natural wood finishes are chestnut, oak, and walnut. Reeded gum wood by Artek-Pascoe is used as a wall covering and counter facing in the sportswear department. Counter tops in this department are covered with treated rawhide, while counter tops throughout the remainder of the store are covered in various colors of linoleum. Partitions from floor to ceiling are covered with 3/16" Masonite on wood studs. Covering of exposed sprinkler pipes, etc. on the ceiling was not permitted because of cost.

The floor is carpeted and the ceiling is painted flat white. The existing general illumination, supplied by conventional indirect fixtures, was augmented with flush lens units in certain places, and also with flexible spotlights fastened to the ceiling. Fluorescent lighting is used in all stock cases and recessed displays.



# PAUL BRY SHOP, Interior Decorators, New York

Paul Bry, Designer



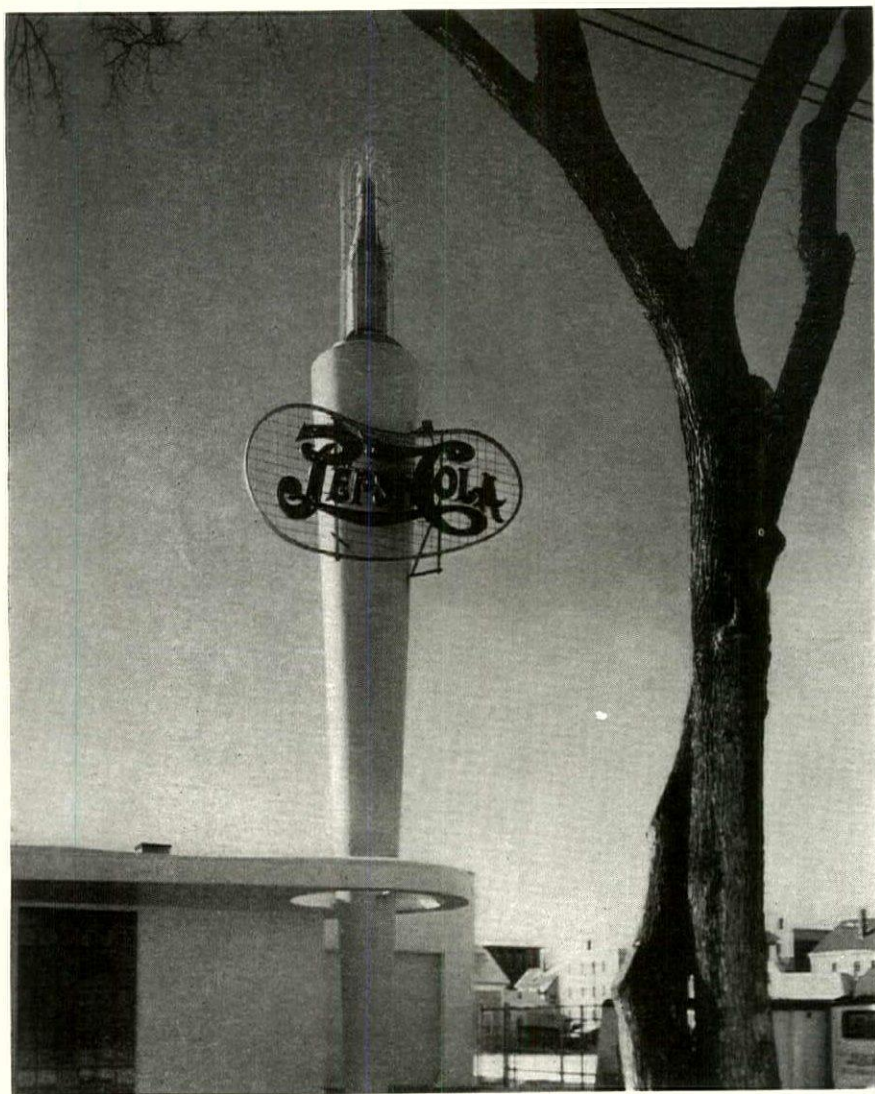
This shop had been a Russian restaurant, with its facade pilasters covered with copper molded in high relief. The circular stair was formerly enclosed with plywood. In remodeling the shop, redwood was used to sheath the lower floor; second floor brickwork was painted and equipped with redwood shutters. Inside, the stair (which leads to a workroom) was painted white, the walls gray. The floor was covered with jaspé linoleum and gray broadloom. At the left of the interior view may be seen the small alcove which serves as an office. The shop contains a display of typical Bry furniture, including a dining table especially designed for city apartments. The table consists of two wings pivoted to a center pedestal, and can be opened flat against a wall to serve as a console or for buffet meals, or with one or two or both leaves opened for use as a bar or pre-set dining table (Photographs by Jean St. Thomas.)



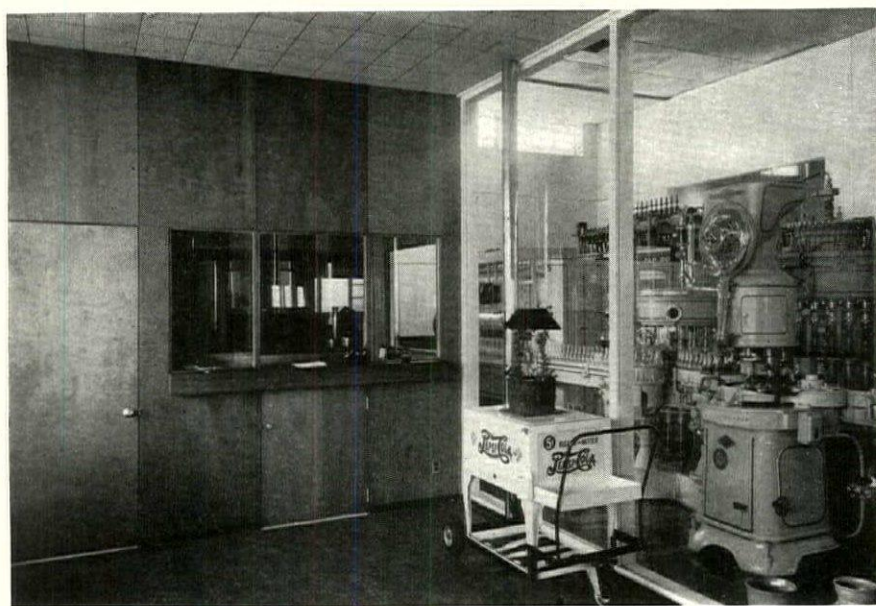


# PEPSI COLA Bottling Plant, Methuen, Mass.

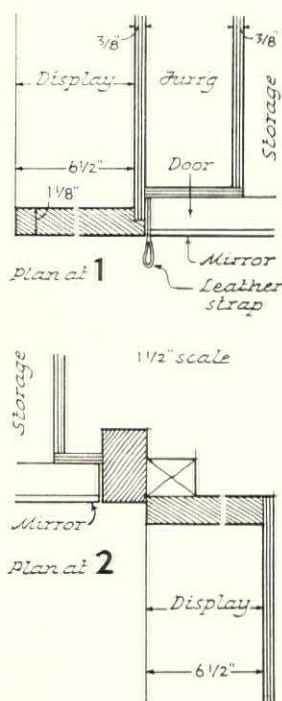
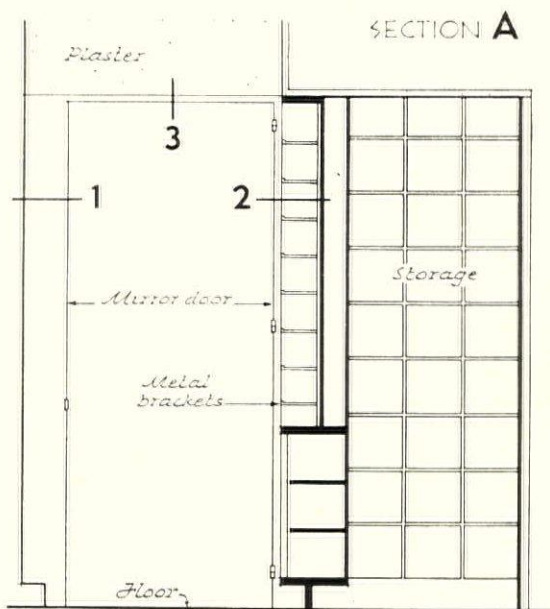
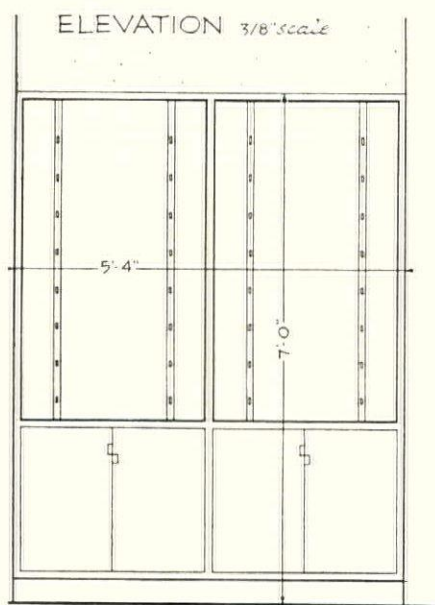
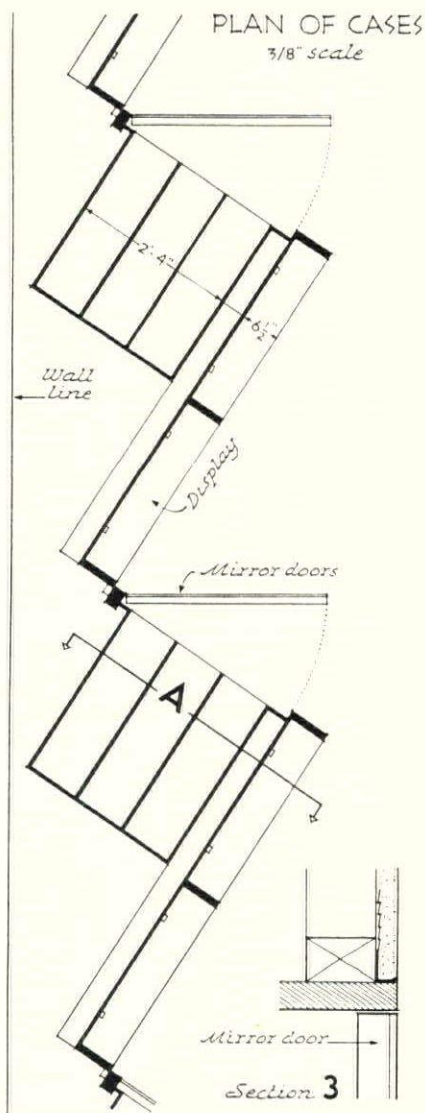
Samuel Glaser & Ladislav L. Rado, Architects



Several of the soft drink manufacturers have come to realize that principles of displaying merchandise used in store design are well suited to their needs. In this example, although no retail sales are made, most of the requirements of the modern retail store appear. There have to be a large sign, a show window which permits a view of the activity within, and an office from which the establishment can be supervised. It is necessary to separate the customers' room from manufacturing space. However, the separation is accomplished by means of a glass wall, which permits the process of bottling and capping beverages to be seen from the street. In addition there are, of course, a garage and loading space. (Photographs by Cushing Gellatly.)







EDWARD D. STONE . . . . . Architect



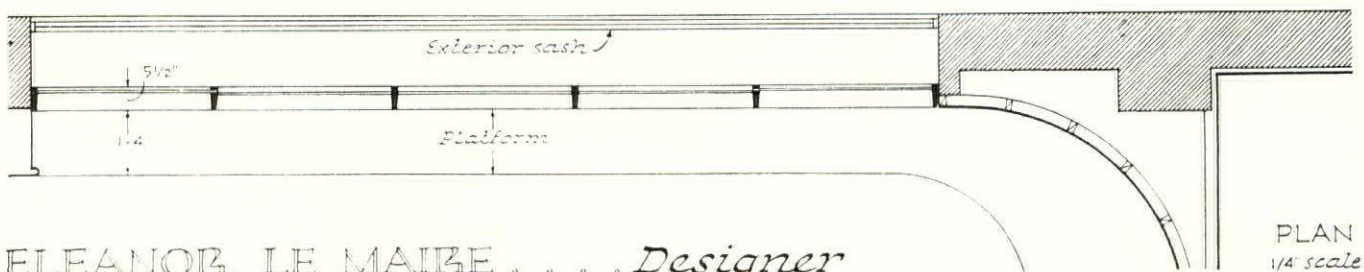
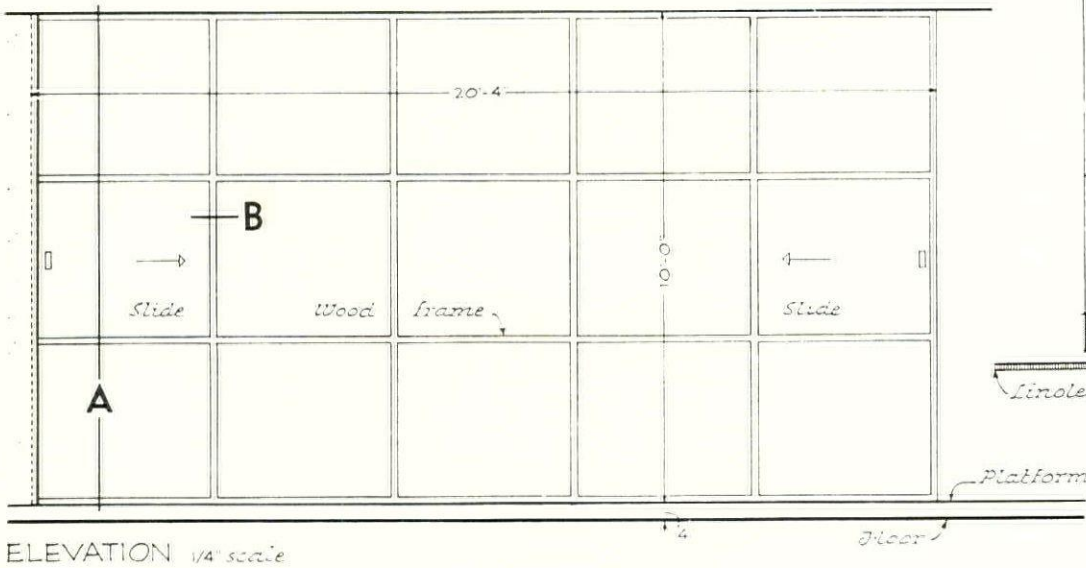
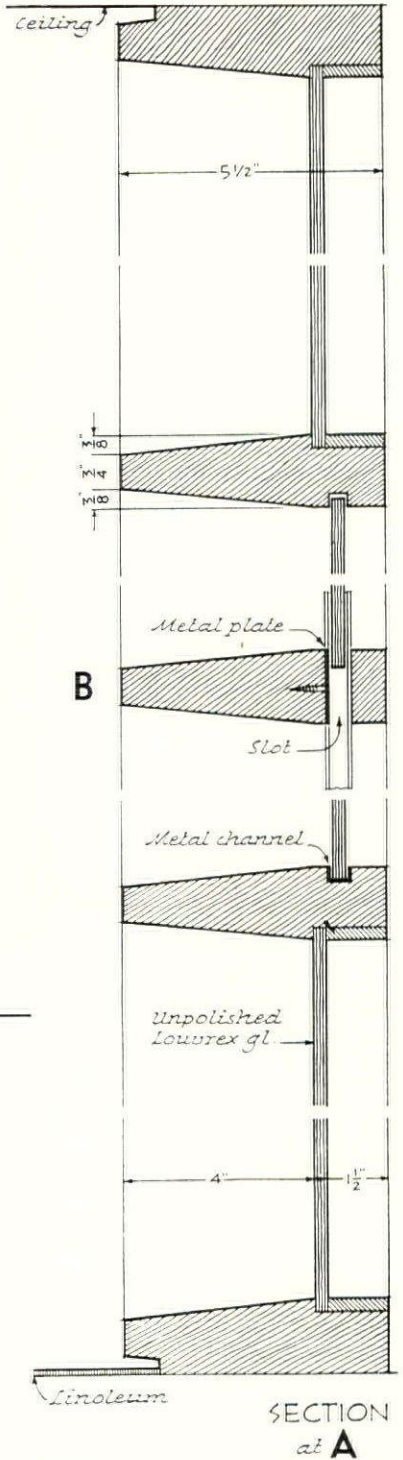
# Shop Interiors

## Showroom Glazing

Selected Details



EZRA STOLLER



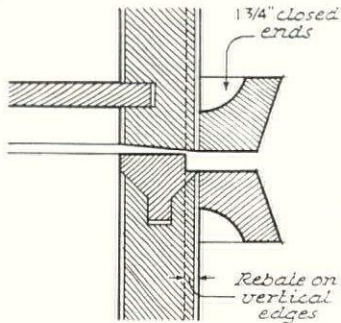
ELEANOR LE MAIRE . . . Designer



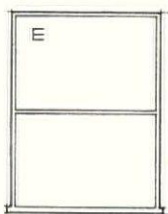
# Shop Interiors

## Buyer's Table

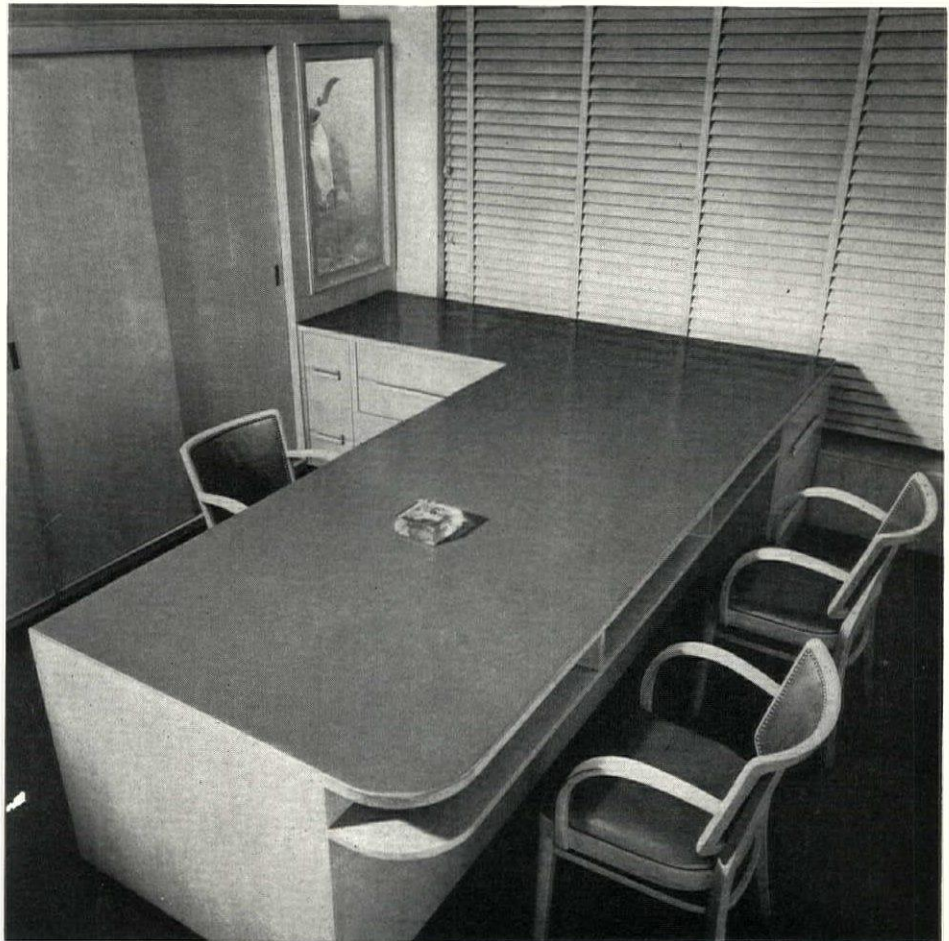
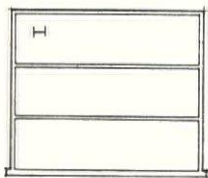
Selected Details



DRAWER PULLS *Half size*

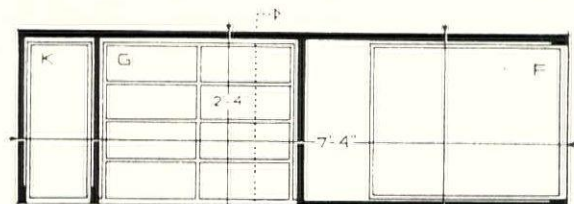
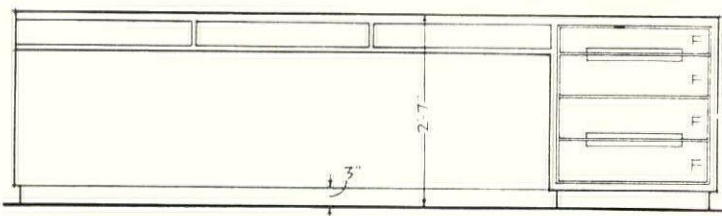


PLAN OF DRAWERS

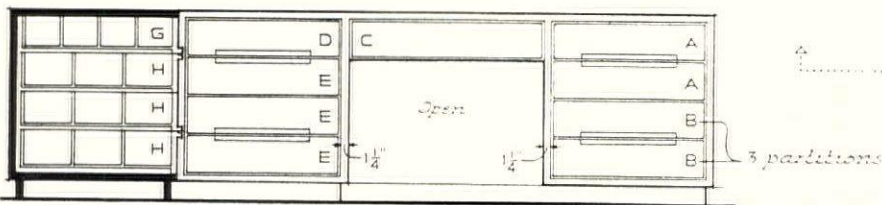


DESK FRONT

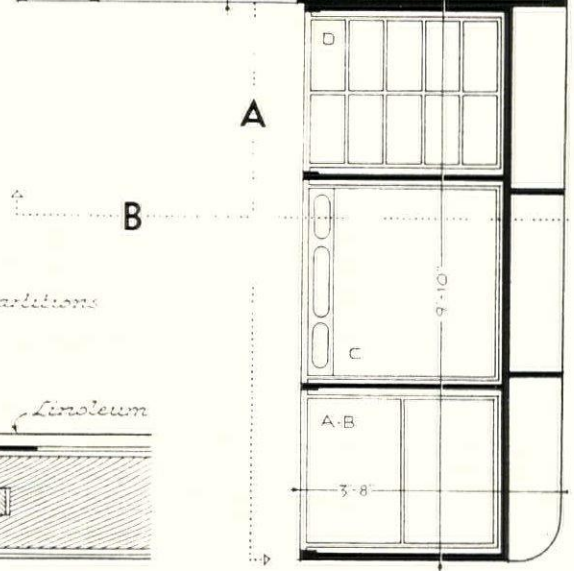
EZRA STOLLER



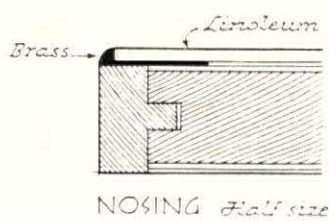
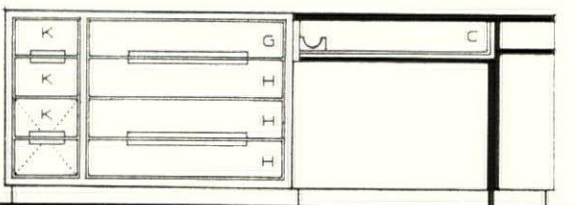
ELEVATION A



A



ELEVATION B



ELEANOR LE MAIRE *Designer*



# Four Viewpoints on Architecture and Planning

## THE ARCHITECT: Co-ordinator

by Arthur C. Holden, AIA  
(Fourth and last of a series on  
Changing Aspects of Architectural Practice)

Only a very small proportion of the public has ever been brought directly into contact with architects. Those who have had intimate contacts, especially in connection with large buildings, realize how great a proportion of the value of architectural service lies in the ability of the architect to co-ordinate the work of other experts, other specialists, and all types of skilled craftsmen. Because of the diverse knowledge that must go into the design and construction of a simple building, architects have had to develop the ability to co-ordinate.

The proficiency which they have attained should be capable of a wider application. Group design requires even a greater degree of co-ordination than the design of a single building. If real, forward-looking, large-scale planning is to be accomplished, architects should recognize that they should begin by taking stock of the elements to be co-ordinated.

Group planning obviously involves social, legal, and economic relationships. The object of the group plan is to increase the physical and functional advantages of the interests represented in the area; but it is obvious that a plan cannot be made so that these advantages may be equitably distributed without altering the physical boundaries and legal limitations of the existing properties. The architects who handle group plans must appreciate the complexity of the property relationships involved, and realize that equitable composition of these relationships must become a part of the group plan.

Since the architect's task is primarily co-ordination, it would be well for architects to remember that a functional grouping of their own activities would not only assist the architects themselves to better appreciate their own tasks and to render improved service, but would give the public a broader understanding of those basic, functional values which are enhanced by the contribution of the architect.

Unfortunately, the professional organizations have, in general, given greater attention to defending the prerogatives of the architects than to increasing their usefulness. The AIA has led in maintaining standards of ethical conduct and professional competence, and has established the grade of Fellowship as recognition of advanced standing and achievement in the profession; but as yet it has done little to explain to the public how to obtain different types of services. The time has come when the Institute should go much further in establishing the qualifications of its membership and in differentiating between the design and execution of a project for a simple building and the evolution of a plan for a group design involving the redevelopment of a neighborhood. Furthermore, the Institute should differentiate between the ability to execute a project and the ability to give critical and analytical advice regarding special types of projects such as hospitals, libraries, office buildings, railroad stations, industrial buildings, or housing.

Faced with the war emergency, architects made a real effort to catalogue and classify their own abilities. Questionnaires were circulated by the AIA and, on the basis of these questionnaires, architectural offices were grouped in categories to indicate both specialized experience and the facilities available in large and small offices for the execution of work. Crude as was the machinery for making this classification, it was a step in the right direction. Perhaps the mistaken impression was given that the larger offices were in all cases the most competent.

## PLANNING: Urns or Urbanism?

by Serge Chermayeff  
Chairman, Dept. of Design, Brooklyn College

(1) "Civics as applied Sociology."

*A paper read by the late Professor Patrick Geddes before the Sociological Society in England on July 18, 1904.*

(2) "Plan for the Reconstruction of London."

*Royal Academy Exhibition, London, 1942.*

(3) "Urban Biology." From J. L. Sert's, "Can Our Cities Survive?"

*Published in 1942 by the Harvard Press, U.S.A.*

*"Alike in interpreting things actual and in designing things possible, I have not hesitated to be definite, even at the risk of criticism. Holding as a naturalist a brief for regional survey as uniting all its component special sciences; as garden maker urging the employment of both formal and naturalistic styles, each in its due place; as antiquary and builder in old Edinburgh and elsewhere, pleading here for the retention and repair, yet social and educational use of that open air museum of the centuries . . . as long occupied in educational pioneering, I feel it essential to insist upon the present transformation in education; the closing of its memorizing and bookish stage, and to press forward for the education of nature and activity . . . amid constructive proposals so many-sided, naturalist and gardener, archaeologist and antiquary, historian and art critic, architect and decorator, musician and dramatist, educationalist and museum maker will find points of criticism; and I submit these designs under correction and with due openness to their amendment . . . Civics as an art, a policy, has thus to do not with imagining an impossible . . . but with making the most and best of each and every place . . . Furthermore I submit that the time has come to be fully setting about this . . . through existing machinery, municipal and other, or through such new forms of civic union as may prove needful; and this whether the private generosity or public wealth be at first available or no."*

*So wrote Patrick Geddes in 1904 in a preface to his study of city development, an outline of general principles of 'civics as applied sociology' and their concrete application to his native city of Dumferline. It may still not be too late, although after thirty-nine years the wisdom of this approach to the problem of the city has had relatively little general acceptance, and the practical applications of such ideas are few and far between. It may still not be too late, in spite of ever-recurring misconceptions, confused discussion- and conflicting action which makes it appear as though the subject matter has only just emerged out of the present war, or at the best to the laymen appears to be a kind of mysterious science.*

*Would it not be more honest to admit that it has been the systematic neglect of such truths in the city-planning field which is bringing our cities to bankruptcy, and that the same systematic neglect of comparable truths in other fields has precipitated the collapse of a civilization which has trailed behind it blight and slums, chaos and obsolescence, poverty and misery, along with the nice, new, shining gadgets?*

*Can we afford to continue this negligence? In a period of accelerated transition, accelerated by war and revolution, it appears imperative for all those who are directly or indirectly concerned with planning to grasp that the isolated examples of the last forty years of research in the planning field generally, and urban planning in particular, are beginning to coalesce into a continuous, tangible process of thinking, the validity of general principles of which can no longer be denied; they exist as an established methodology of universal application even if actual programs for action may vary in local particulars.*

*The data and argument of such groups as CIAM presented in Sert's book "Can Our Cities Survive?" with its significant sub-title, "An ABC*



## **PUBLIC WORKS as a Reservoir?**

by Major General Philip B. Fleming  
Administrator, Federal Works Agency

Above the tumult of war, the voice of the planner is once more heard in the land.

In the days immediately following Pearl Harbor the voice had sunk to little more than a whisper. That today it has become much louder and more insistent is a hopeful sign. It means that the American people now know that they can win a peace for which it will be possible to plan, for obviously there would be no object in making plans for the future if the Axis were to win. Hitler would take care of that and we know how he would do it. It means also a wide-spread recognition of the fact that at the end of the war we inevitably will be confronted by a multitude of problems and that we cannot safely drift through them to satisfactory solutions.

Today a dozen or more departments and agencies of the Federal Government have post-war planning programs under way. States and municipalities are making plans, as are numerous private business corporations and trade associations. And yet planning will be of little value unless means are provided for putting plans into effect, and a multitude of separate programs may lead only to confusion unless care is taken to weave them into a consistent, over-all pattern. States, municipalities, and businessmen will need to know at least the broad outlines of the Federal government's post-war intentions in order that their own plans may conform.

The strong likelihood that immediately after the war we shall be faced with a very critical problem of unemployment is generally understood, and this is a field in which there is well-nigh unanimous agreement that planning is necessary.

No one knows, of course, how extensive post-war employment will be. Our experience after the first World War offers no reliable criteria. A much larger proportion of American industry was converted to war production in 1941 and 1942 than in 1917 and 1918. In December it was estimated by the War Manpower Commission that 20,000,000 persons were then employed exclusively on war production, and that the number would rise to 22,000,000 in 1943. Millions of these people have been uprooted from old homes in small towns and rural areas and have been swept in great migratory waves into cities. In addition, we are enrolling an Army very much larger than in the first World War.

Whether we will have an even more difficult unemployment situation after this war than we had in 1933 will depend upon many things. For example, it will depend in part upon whether all war contracts are instantly cancelled after the last shot is fired. It will depend in part upon whether the Army is immediately demobilized and brought home and thrown upon the labor market. It will depend upon whether rationing, price ceilings, material allotments, and other war-time controls are relaxed at once, as some businessmen already are demanding, or whether they are relaxed gradually over a period of months or years. When controls were withdrawn at the close of the last war, the cost of living rose tremendously. It will depend to some extent also upon whether further provisions are made for social security.

Some commentators are predicting a great boom after the war. They point to wide-spread savings in War Bonds that will presumably be translated into a demand for long-denied consumer goods. The extent of this demand may easily be exaggerated, however. The man who used to trade in his car for a new model every spring will not be in the market for four or five cars to compensate for those he couldn't buy during the war: he'll still buy only one car. The man who had to get along with one spoonful of sugar in his coffee instead of two will still only want two, not six or seven, and maybe only one. Moreover, some time must elapse before industry can retool to supply consumer goods, and this reconversion process will employ relatively little labor.

Unless we plan it otherwise, it seems altogether likely that millions of people, including the returning soldiers, will be out of jobs at the end of the war. Some of these are women who will withdraw from the labor market when the emergency has passed. Some are old people who have come out of retirement to work in war factories and who will return to retirement. Some have migrated from rural areas and will return to rural areas and find work on farms. But making all necessary allowances for such special situations, and also for the ameliorating effects of social security measures and unemployment compensation, it seems unsafe to assume that there will not be very considerable unemployment after the war. Even if we are happily disappointed in that assumption, it would still be

**Sir Ernest Simon, of the British Ministry of Works and Planning, has been travelling extensively in the United States, inspecting our procedures and progress. Below are excerpts from a speech he delivered in December 1942, before the Washington Housing Association, in which the British plans for reconstruction are outlined.**

*What many of us have in mind is a long-range plan spanning a generation, to plan the building of houses and the actual planning of our cities, to plan the building trades, so that in thirty years we can practically rebuild Britain. That involves three separate plans: planning the building industry, planning the housing, and the actual city planning.*

*The first — planning of the building industry — involves, again, really a triple plan. The first thing is manpower. We want a tremendous increase in the number of skilled workers — carpenters, bricklayers, plasterers, and all the rest. The trade unions say, "We agreed to a considerable increase after the last war, and then we had that disastrous unemployment. Why should we agree again?" There is the first job of reconciliation. We have to persuade the trade unions to agree to take an active part in training an immense number of skilled men for the industry immediately after the war.*



For example, let us assume the need for the design of a hospital. An architect is selected either because the man himself is personally known to the committee, or because he may be known to have done hospital work. The profession fails in either case to give the public an adequate background as to the man's standing or to indicate that the general body of professional knowledge, as represented in the organized profession, stands behind the individual to assist him in giving the public full professional service. The individual chosen may have been made a Fellow of the AIA for excellence in hospital design, but if the public attempted to look the man up in the Annuary of the AIA, the written record would merely show this particular architect had been advanced to the grade of Fellow in a given year. This is in contradistinction to the methods of the medical profession where attainments and connections are a matter of record.

There is as much need for exploratory and research work among the architects as there is among the doctors. The architect, however, does not have the advantage of foundations or clinics through which he can conduct his exploration work. Such research as is needed, with the exception of the field of archaeology, the architect must do on his own. It is by its nature "unofficial." It is seldom taken note of by the profession as a whole unless, by chance, it happens to be written up in one of the architectural magazines.

At the present time there is a need for research and experiment in the technique of group planning, particularly for the redevelopment of blighted urban areas.

By way of preliminary suggestion, the Institute, or possibly a single Chapter, might divide one of our larger, metropolitan centers into planning districts or local neighborhoods. To each one of these local districts should be assigned an architect experienced in group planning. To this architect, in his capacity as district planner, should be referred all architectural projects handled by members of the Institute within this area. It should be the task of the district planning architect to co-ordinate the individual project with the development of the neighborhood as a whole, and to give the project architect and his client constructive criticism for this purpose. A district planning architect would be pledged not to handle or seek the execution of specific projects within his particular district, but he would be free to handle individual project work outside. For his work in district planning, he would receive compensation in due course, ultimately from local planning associations, possibly also through consulting fees from the financial institutions. At the outset, he might be limited to modest consulting fees, such as might be paid by members of the AIA handling individual projects under an agreement to assign a portion of their fee for the services of needed consultants.

If it were made clear to the public that the architect's contract provided for the means of securing the services of other members of the profession in support of the work of the project architect, there would be less misunderstanding about the need for fees adequate to provide for full, co-ordinated services. It would greatly improve the relationship between the younger and older men definitely to establish recognized grades, functions, and specialties, and for the Chapters courageously to designate the members and Fellows qualified for various types of service. In the eyes of the public all architects would be strengthened, once it was realized that each individual project architect was supported by an organized and co-ordinated profession.

The professional competence of individual architects would be advanced by experience at serving in varied, functional capacities. In addition, the economic position of all would be improved by encouraging or requiring every architect serving as a project designer to put aside a part of his fee as compensation for architects rendering advisory and exploratory services. As architects grew in experience, they would have the opportunity to serve in several capacities, as: 1) assistant architect draftsman, or superintendent; 2) project architect; 3) district architect, re-

*of urban problems, their analysis, the solutions," is an important contribution to this continuous process of building up a new science, inasmuch as it reveals in the simplest terms the realistic, contemporary approach to the problem of a city—a form of presentation so direct and dramatic as to make the arguments clear to politicians or any other laymen, clear enough even to touch those architects who have been living in their private-cloud cuckoo-lands, which they have had to forsake under the pressure of external events.*

*The immediate importance of understanding the basis for this and similar expositions is clear to anyone who through historical accident, economic necessity, or by predilection lives in urban areas. It would seem superfluous to underline the tremendous importance of these ideas for the purposes of the technicians who might be directly concerned with the creation of our physical environment, were it not for the ever-recurring evidence that these basic ideas in fact find little response among the professionals. The architectural profession in particular remains blissfully ignorant or deliberately standoffish, as the Royal Academy Plan for London amply testifies. Enough has already been said in criticism of a scheme which would provide precessional ways and vistas of ubiquitous urns and crisp cornices of a bygone era, while leaving all fundamental problems of a contemporary city unsolved. We might, however, well ask if this is the kind of thinking which is representative of the architectural professional as a whole. Is the ever-growing body of architects, when faced with problems of city planning, to be committed to facade building with conciliatory gestures to modern traffic and sewage on the side?*

*I mention the architectural profession specifically, because strictly speaking there is no planning profession as yet. It is in the making. The training of personnel for this new profession, capable of a new kind of thinking and doing, is almost the most important task.*

*If in looking at such diagrams as were presented to the British public under the misleading title as the "Mars Plan for London" or if in reading books such as "Time, Space and Architecture" by Gideon, or "Can Our Cities Survive?" by Sert, the architectural profession can be reminded of Geddes and those who closed the gap between, and in the process grasp the thinking and feeling behind the texts and illustrations, these expositions will not have been made in vain.*

*The common idea underlying these various things, however superficially they may vary, is succinctly summarized by Mr. Sert in the book mentioned above:*

*"Urban Biology. It has become necessary to resort to all the means of research at our disposal, both old and new, in order to know our cities thoroughly. This knowledge should not be sought in the manner of the past, ignoring the mobility, the changing structure, and the future possibilities of cities, but by considering cities as living organisms; as things which are born and which develop, disintegrate, and die. For cities can no longer be studied as immobile and finite units. In its academic and traditional sense, city planning has become obsolete. In its place must be substituted city biology or the study of the life of cities and of the living conditions within them."*

*Mr. Sert joins hands with Professor Geddes across thirty-eight years, and one feels that the R.A. plan is already a picturesque ruin. We cannot, however, afford to be complacent about this. The common purpose expressed by Geddes and Sert must be realized.*

*That the architectural profession above all others is most concerned will be felt by all those who, like myself, believe that it is from the architectural body that the manpower for the new profession of planners can best be drawn. Evidence to support this belief is to be found wherever the progressive (and this usually means the younger) architects are gathered together in discussion, for purposes of research, or on those all-too-rare occasions when they control operations.*

*That these people have in other walks of life fellow spirits who speak the same language is a compensation to those who found that they had little in common with a large number of other holders of architectural degrees. Such compensation becomes positive comfort when the language is translated into closely-related ideas such as those lately revealed through the publication in the November issue of PENCIL POINTS of communities planned by Neutra on the basis of a peripheral*



wise to plan for it, for the cost of planning now will be relatively insignificant as compared to the cost of another great depression and its sacrifice of human values.

From the days of the Roman Empire governments repeatedly have turned to the construction of public works in order to take up the unemployment slack, in whole or in part. We know from our own recent experience that public works construction is, perhaps, the most useful of all governmental activities in providing jobs. This is true because it enlists much unskilled labor, as well as a large variety of skills, and also because the work-making benefits extend back into the mines and forests and factories where raw materials are produced and fabricated, and to transportation.

But a public works program cannot be improvised. Planning is always a necessary preliminary, and unless the planning is done now the program will not be ready for execution when it may be most needed.

Before construction can start on a new housing development, or city hospital, or the extension of a sewer system, many initial steps must be taken. The governing authorities must reach a decision to initiate the work. Arrangements for financing must be made. It may be necessary to obtain public approval of a bond issue. Land must be acquired, sometimes by the usually slow processes of eminent domain. Architects and engineers must draw and prepare blueprints. Specifications must be provided. Thus, many months or years may elapse between the recognition of need and the beginning of construction.

The history of the Public Works Administration, of which I was executive officer and deputy administrator from 1933 to 1935, is illuminating. PWA had been given \$3,300,000,000 to provide employment quickly. It was directed to prepare a comprehensive program of public works to include federal and non-federal projects. The directions of the Act were thus in conflict since it was impossible both to program public works and to provide employment quickly. The necessary organization did not exist and had to be assembled. Non-federal projects for its processing were lacking and had to be selected, developed, and authorized by local legislation. Even federal projects ready for construction were few. It was not possible in the circumstances to prepare a program—that is, to schedule projects in proper relation to the resources in labor and materials, and to their importance to the nation and the community. The test of acceptance by PWA necessarily became the degree of readiness of projects for advertisement and contract. Few were ready or could be made ready immediately. Eighteen months elapsed before as many as 100,000 of the millions of unemployed could be put to work on PWA projects, and to keep men and women from starving the President, in November, 1933, set up a force account agency—the Civil Works Administration, and allotted to it \$400,000,000 of PWA funds to provide work on such projects as could be improvised. If some of the CWA projects seemed to be as futile as leaf-raking, it must be remembered that the critics themselves had nothing better to offer; they hadn't done any planning either.

We have learned our lesson in some degree. Also, our task is easier. In 1933 we were in the depths of depression; in 1943 we are in a period approaching full employment. The machinery for planning is far advanced over its condition then. The Federal Works Agency, the successor of PWA and WPA and heir to their experience, has the necessary organization and techniques.

As a result of the old PWA program almost all of the States have enacted revenue bond legislation, and bond buyers have learned to accept that form of security. The capacity of State agencies to finance their public works has been greatly enlarged. In cooperation with the Local Public Works Programming Office, set up under the sponsorship of the Federal Works Agency and the National Resources Planning Board, eight States have prepared six-year programs and seven additional States have them under way. About 75 cities have completed such programs and some 25 more municipal programs are close to completion.

The Federal Housing Administration, having an enormous stake in urban real estate, has made studies of the alarming and progressive decadence of large areas of our cities, and attributes it to lack of reasonable city planning and of adequate public control of land use. FHA urges that local planning agencies be strengthened and their plans legislated into effect. It also suggests that cities create "urban realty corporations" to acquire continuously tax delinquent, blighted, and other appropriate areas to be utilized for parks, streets, housing, or for other facilities according to the city plan. The States of New York, Illinois, Michigan, and Kentucky recently have provided for redevelopment corporations to acquire and redevelop blighted areas pursuant to municipal plans. Such projects might be included in a comprehensive program of public works.

The Public Roads Administration also has studied municipal decadence. It is convinced, and has gone far in persuading Congress, that an effective remedy would be to carry wide avenues of the Federal-State highway system into and through blighted urban districts and the hearts of our cities, thereby furnishing those districts with light, air, and means of access, lack of which has caused their decay.

Congress has enacted legislation of great importance in the preparation of a public works program. The Defense Highway Act of 1941 for the first time enables the Commissioner

*When we have the manpower planned, we have to get building planned, so that the number of buildings available each year is just right for the amount of manpower, and then we have to have a series of material plans so that all the bricks and the timber and the cement and the steel will also be available in the right quantities. Those three together are the first piece of planning.*

*I can't say whether we can do it all or not. It is an ambitious plan. It has to extend over thirty years. It is all based on the manpower plan so that we rush up the number of men in the industry within three years to a maximum, keeping it level for, say, ten years, and then gradually training the people out of the industry until it gets the right number for the normal building industry.*

*The second plan is the housing plan. At the end of the last war we had a certain standard for housing. That plan was adhered to right through the interwar period, and because the plan was there and the people had made up their minds what the standard was to be, we did, in fact, build 4,000,000 houses in that period, none of them below a certain accepted standard, which is very much the same standard as the Federal housing now being built in the United States. The main difference is that we always insist on having a garden of about 2,000 square feet for each of these houses.*

*Here again there was a very definite conflict of opinion (but eventually) the Labor Party brought in a very drastic slum clearance act, (which) really was the beginning of an agreement that all houses above the net economic rent of about 12 shillings should be left to private enterprise. Subsidies were given only to public housing, and in fact, in ten years about 2,000,000 private enterprise houses were built and something under 1,000,000 public low-rent houses were built. After this war we have probably another 6,000,000 houses to build, and I hope that the same sort of understanding will carry on.*



sponsible for group design; 4) functional specialist, in such varied fields as hospital construction, office building construction, factory or industrial work, design of public buildings, school work, theatre work, multi-family housing, or the design of housing neighborhoods.

In urging the architect to make himself part of a better form of professional organization, we must not forget that other groups beside the architect are eager and willing to serve the public. The task of co-ordination for which the architect is fitted is not performed unless the architect is ready to use ability wherever he can find it. This applies to those many activities which we have pointed out as seeming to compete with the architect for the service of the public. Rather than to think of the developing realtor, or the carpenter-builder, or the lumber dealer as a competitor, the architect should find ways of keying his own usefulness into the activities of these other groups. The architect can do this if he can free himself from the belief that he must render his service according to one stereotyped formula. There has been a battle in the profession over what have come to be called "partial services." Basically, it appears to the outsider as a battle on the part of the architect to maintain the prerogatives of what he chooses to call "complete services."

Architects have worked themselves into a difficult position by insisting that the more complete and inclusive they can make their services the better these services will be. As a result of this attitude, more detailed drawings are being produced and specifications are becoming more exacting. The architects' decisions, made in the drafting room, set materials and methods of construction precisely. There are both advantages and disadvantages to this policy. Unless the architect is closely in touch with the market for materials, and unless he knows local aptitudes and abilities in construction, the decisions which he makes may be costly to his client and to himself, for the rendering of his services may be increased disproportionately to the advantages gained.

Although the architect must be thorough, he ought to be adaptable. He ought to be able to free himself from the burden of minutiae which can be taken care of by others. Hence, if an architect finds that a lumber dealer is dominating the small house field in a town of 25,000 population, he can get better results by co-operating than by attempting to persuade the public that an architect ought to be retained and ought to be allowed to go through the elaborate process of plan making, specification writing, bid taking, and completely controlled supervision for each individual house. It ought to be self-evident that, while the architect is waging his battle on a competitive basis with the lumber dealer, he may be neglecting an opportunity for co-ordination on a large scale for the planning and production of better communities.

Architects should consider the impression which a serious effort at co-ordination might make upon the public and should contrast this with the very different impression which the public must derive from those spasmodic campaigns which are focused solely upon urging the public to consult individual architects. The latter are self-confessed drives for business. They fail to deal with competitive factors outside the profession. They attempt to set the architect up above his rivals. They emphasize the difference between the architect and the builder and other factors in the industry instead of showing how closely the whole industry is inter-related.

The bruises which the architect has received because of the jolt to which society has been subjected would be very much less painful were the architect less set in a rut. He has it in his power to alter his position. To a much larger extent than he realizes, he has the power to control his own destiny. It is not a return to old conditions that the architect should pray for. What the architect needs is greater appreciation and understanding of the factors that underlie the conditions which confront society today.

road, and the argument of the assistant commissioner of Scotland Yard, Alker Tripp, in his recently-published book, "Town Planning and Road Traffic," in which he advocates that buildings should turn their backs upon main traffic arteries and be planned around reservations where people may live and work away from traffic noise and danger. As PENCIL POINTS might have commented upon the Neutra plans, and as the *Architectural Journal* of London indeed comments upon Tripp's book, this is "... a street theory which, if put generally into practice, will create a revolution in town planning more far-reaching than any since city walls were taken down."

It is thinking along these lines which has distinguished the work of the groups of the CIAM as much as the individual work of men like Corbusier, Gropius, and Neutra, from the run-of-the-mill stylists among their less-aware contemporaries. It is this same thinking which distinguishes Mr. Tripp and an increasingly-large number of workers in federal and municipal agencies in this country from the run-of-the-mill policemen, politicians, commissioners, economists, and engineers who have been all too often invested with the responsibility of formulating principles which they were not equipped to do, as well as with the execution of special tasks for which they were often superbly, if somewhat narrowly, trained.

The most important part of the immediate planning problem I believe is the production not of city plans but of planning personnel—personnel capable of bringing urban planning out of the realm of theory into the realm of actuality, and soon enough to enable us to prepare a careful analysis and propose an intelligent and far-reaching plan before ill-considered action in the immediate postwar period brings once again the havoc of unbridled and uncontrolled enterprise.

One of the most important agencies for the prevention of this is that of education. Educators must, above all, understand the implications of the contemporary urban life and must be prepared to train, at all the levels, personnel capable of dealing with the complex problem. The acceptance of a new approach to urban planning implies a drastic revision of traditional categories and curricula. The primary need is to break down both obsolete concepts and obsolete barriers between different subject matters relevant to the main purpose; to provide an integrated program, horizontally broad enough to enable a student to obtain such preliminary training as will stand him in good stead (whether he finally chooses a career of architect in its traditional narrow sense, or that of an architect-planner in the urban biological sense, or a regional planner in a still broader field); to make the training program vertically more complete and, in terms of time, longer, to enable both the student and the young planner-architect to acquire adequate knowledge and first-hand experience in his chosen field.

There is ample evidence to suggest further that not only is drastic revision required in the educational area, but that an equally drastic change must be accepted by the practicing professional in organization. The field of action is too broad, and the available knowledge to be co-ordinated and research yet to be done too vast, for this work to be carried out any longer by brilliant amateurs.

The era of the great individuals is on the wane, and with it the exploitation of assistants' talents by principals. On every side we see the signs of the emergence of the new era of group work, of collaboration between an increasingly growing number of highly-specialized people sharing common purposes and ideals. The architect-planners will have to recognize this trend. In many instances groups already organized on this pattern are operating and demonstrating their effectiveness. So far, the process of group formation has been empiric, but in the future we will have to go about our job of co-operation scientifically. The groups which will make the greatest contribution are those which will include in their ranks sociologists, economists, and psychologists, together with the designers, engineers, builder technicians, and traffic experts, capable co-operatively, as an organic entity, of making a clear analysis of the problem in the first place and capable of synthesizing their specialist findings into an architectonic, organic reality in the second place. It is on the integrity, intelligence, and strength of such groups that the survival, not only of our cities, but of the architectural profession depends.



of Public Roads to advance funds to local authorities to acquire rights-of-way for projects authorized by the Act. These include extensions to the strategic network of highways, which may include city streets. He is also given \$10,000,000 to finance the federal share of the cost of advance engineering plans and surveys. This Act contains another new provision which I believe will produce large economies in money and time. It authorizes the Federal Works Administrator to acquire forthwith by purchase or eminent domain any lands required for projects authorized by the Act and to convey such lands to the highway department of the State or to its political subdivision upon its promise to maintain the improvement. This means that we need no longer wait in constructing such projects for the slow processes of eminent domain of the States. The laws of most of them require that ascertainment by a court of the value of land to be taken must precede its occupancy and use by public authority. Under Federal law the land may be used forthwith upon filing a certificate of taking in the Federal court. Its finding of the value follows in due course.

Our highway system, rural and urban, still in great part designed in horse-and-buggy days, has lagged far behind the nation's needs. Relocation of population and industries, economic changes, the development of facilities for air transport, have made much of the system obsolete. Redesign and construction with regard to regional, State, and local master plans is necessary. Highways, of course, are not ends in themselves but means to ends. The ends are set out in such master plans. It is also clear that emphasis on the development of the Federal-State highway system should be transferred from the country to the cities, since it is in the urban areas that congestion exists.

Relief of urban congestion is dependent upon increased facility in acquiring the necessary land. The powers of the Federal Works Administrator under the Defense Highway Act will help greatly. Title II of the N.I.R.A. gave the Public Works Administrator power to acquire by purchase or by eminent domain land for any project included in the comprehensive program of public works there provided for. Under the Lanham Act the Federal Works Administrator may so acquire land for war public works and may also dispose of it to the appropriate agency of the State. No good reason appears why the same powers should not be given the Administrator of a postwar program of public works. He could then acquire the land, construct the improvement, and in proper cases convey it to the appropriate agency of the State upon its promise to maintain the project. If Congress confers these powers on the Administrator the program will be expedited and its cost substantially reduced. State rights would not be infringed as the arrangement would be with the consent of the State. Few States, in my opinion, would refuse consent. Congress may also confer on the Administrator the power to take and dispose of land marginal to the improvement; that is, adjacent land which he finds is so connected with the improvement that public control of its use is necessary to the public's enjoyment of the improvement or to the accomplishment of the city plan. In many cases the disposition of the adjoining land, with proper controls of use, will substantially reduce in the long run the cost of the improvement. Such powers may be so utilized as to contribute to the arrest of the blighting of our cities.

Useful as was the type of work carried on by the Public Works Reserve and its successor, the Local Public Works Programming Office, it obviously does not meet the entire need. If the programming were completed for every State and city in the nation we would have a list of needed public works, arranged with reference to priority, with estimates of the costs involved, the amount of labor that would be employed, and the ability of governmental agencies to finance the contemplated operations. But if we do no more than this we will still be left at the end of the war only with lists of things to be done. The time-consuming activities of obtaining land and drawing the blueprints would still remain before construction could be gotten under way.

In my opinion we will, if we are wise, have all the preliminaries out of the way before the employment need arises. We will have the land acquired, the legal preliminaries disposed of, the blueprints drawn, and the specifications written. Then, in our hour of need, we can go to the cupboard, pull out the plans, and put the contractor and his men to work without further delay. Moreover, we can accelerate construction in some places where the necessity is great, and slow it down in localities where need is not apparent. A nationwide program of public works already prepared for execution will make for flexibility. If the optimists are right in their predictions that the war will be followed by a great boom, none of the program may be needed. If the optimists have guessed wrong, we will be ready.

The justification of providing needed employment is obvious. Perhaps there is even a greater justification in the fact that America needed the public works. The American people need millions of new and better homes, new schools, new hospitals, new community facilities of all kind. And in the face of that need it is unsafe to assume that next time our war veterans will be content to sell apples on the street corners.

It is unnecessary to add that this work of rebuilding our cities offers the greatest possible challenge to our architects and engineers.

*The third plan is the actual "town and country planning," as we call it. I haven't time to go into its various aspects so I propose to confine myself to the one essential aspect that is a grave hindrance to planning.*

*That is the question of the use of privately-owned land for public purposes, or its use for whatever purpose the national or local planning authority thinks best in the public interest.*

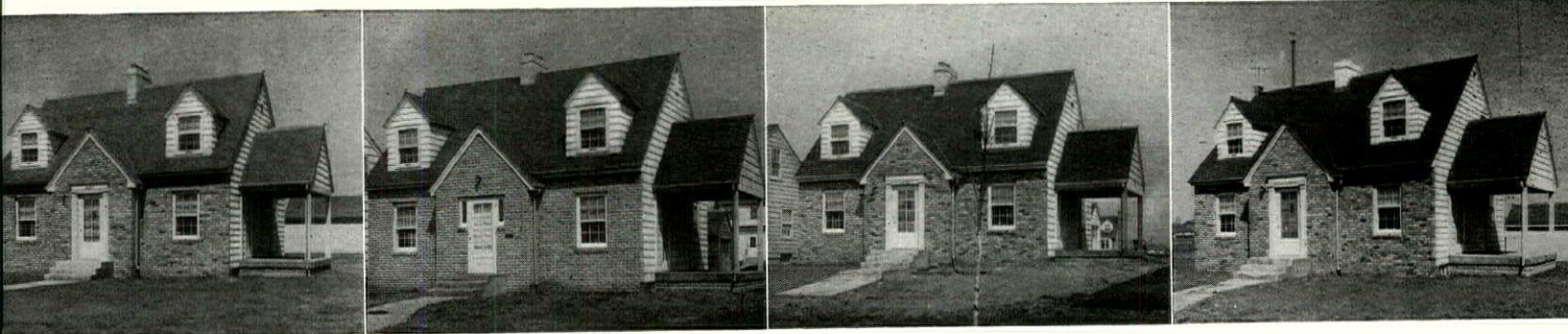
*In our country the separate ownerships of land and the high values of land have been the chief stumbling blocks in the way of planning. There has been a growing feeling that somehow this conflict of interest (between the public need for land and private ownership) must be resolved, and about 18 months ago our Conservative (or predominantly Conservative) Government appointed an expert commission, known as the Uthwatt Commission, which sat for 18 months and reported just before I left England on this question of the use of land.*

*That Commission started out — and this shows what public opinion has got to in our country — by saying, "We assume that there will be a powerful national authority with initiative, powers, and finance, that there will be equivalent local authorities and regional authorities, and that those authorities will determine the best use of all land in the public interest and that that public interest in the use of land will always override the wishes of any individual land owners. Public interest must prevail. Compensation (which must be neither excessive nor too low) must, of course, be paid to the land owners."*

*We have got to reconcile the trade unions to a great increase in the number of men. We have got to reconcile the private builders to a very large amount of public building. We have got to reconcile the land owners to a great deal of public control of their land. Those are three clashes of interest which have to be overcome, and I think in our country we are making a pretty good effort to do it.*

*This very revolutionary report was discussed the other day in the House of Lords, and one of the Labor representatives in the House of Lords got up and said he wished to pay a tribute to the House of Lords. It was a very remarkable thing in that House, the very home and citadel of our land owners, that they should be foremost in advocating the reform of the ownership of land with a view to placing it under public control.*





House 0

House 0.9

House 1.7

House 2.3

## How Much Insulation?

by Don Graf

There has long been something more than a faint suspicion that calculated heat losses for frame buildings are not in the strictest conformity with actual heat losses. As a matter of fact, the phenomenal claims that have been advanced from time to time for the benefits of insulation, storm sash, weather stripping, etc., have led to the inevitable wisecrack that with all these things you could start with an empty coal bin in the fall and find it filled up by spring.

To prove or to disprove that a disparity exists between theory and practice was one of the purposes of an extensive experiment conducted by the Wood Conversion Company, and it was decided to not only try to discover the truth as to actual savings resulting from insulation of various thicknesses, but to present the findings and conclusions in such a way as to imply nothing not borne out and provable from the careful experimental data. This was one of the most elaborate controlled experiments ever attempted in the realm of heat loss theory.

### Four Test Houses Built

For the study, four 1½-story houses were built at St. Paul, Minnesota. These houses were identical with the exception of the insulation. All the houses were within the area of four city blocks, so located that, as far as practicable, each test house would have equal exposure to sun and wind. The plots on which the houses were constructed were fairly level and all houses faced south.

The four test houses can be referred to as House 0, House 0.9, House 1.7, and House 2.3—the numerals indicating the thickness of insulation. The control House 0 had no insulation. In the other houses the insulation consisted of felted wood fibers in an envelope of asphalt-saturated and coated paper. In House 1.7 and House 2.3 the insulation was divided by an in-

termediate layer of paper dividing the total thickness into two layers. The  $k$  factor of the insulation was 0.25 Btu per square foot per hour per F° per inch thickness.

Insulation was placed in the outside frame walls, between the rafters of the sloping ceiling, across the ceiling joists, and down the rafters of the opposite ceiling slope. Thousands of temperature readings were made and recorded using thermal couples located at over forty positions throughout the construction and in the room spaces. The heating system consisted of a forced warm air oil-burning furnace. Fuel consumption was accurately determined and recorded.

### Real Conditions Simulated

Throughout the entire experiment the most careful precautions were observed to simulate real conditions within the limits necessary for eliminating possible error. For example, during certain periods of the tests bedrooms were ventilated at night. However, the houses were not occupied or furnished since it would have been impossible to control the number of times

doors were opened, shades drawn, windows opened, as well as other variables.

The curve showing the actual savings in Fig. 1 is one of the most interesting and useful results of the experiment. The light that is shed upon conventional calculation methods should lead to an entire re-examination of accepted methods of selecting insulating materials.

When the thermal conductivity of an insulation is given we know that twice the thickness will produce half the heat loss under laboratory conditions. It is natural, then, to suppose that in a house, the more insulation we put into the outside shell the greater will be the return of the investment effected through savings in fuel.

### Test Results

The following results from the four-house test are particularly revealing:

House 0.9 saved 294.7 gallons over House 0

House 1.7 saved 43.9 gallons over House 0.9

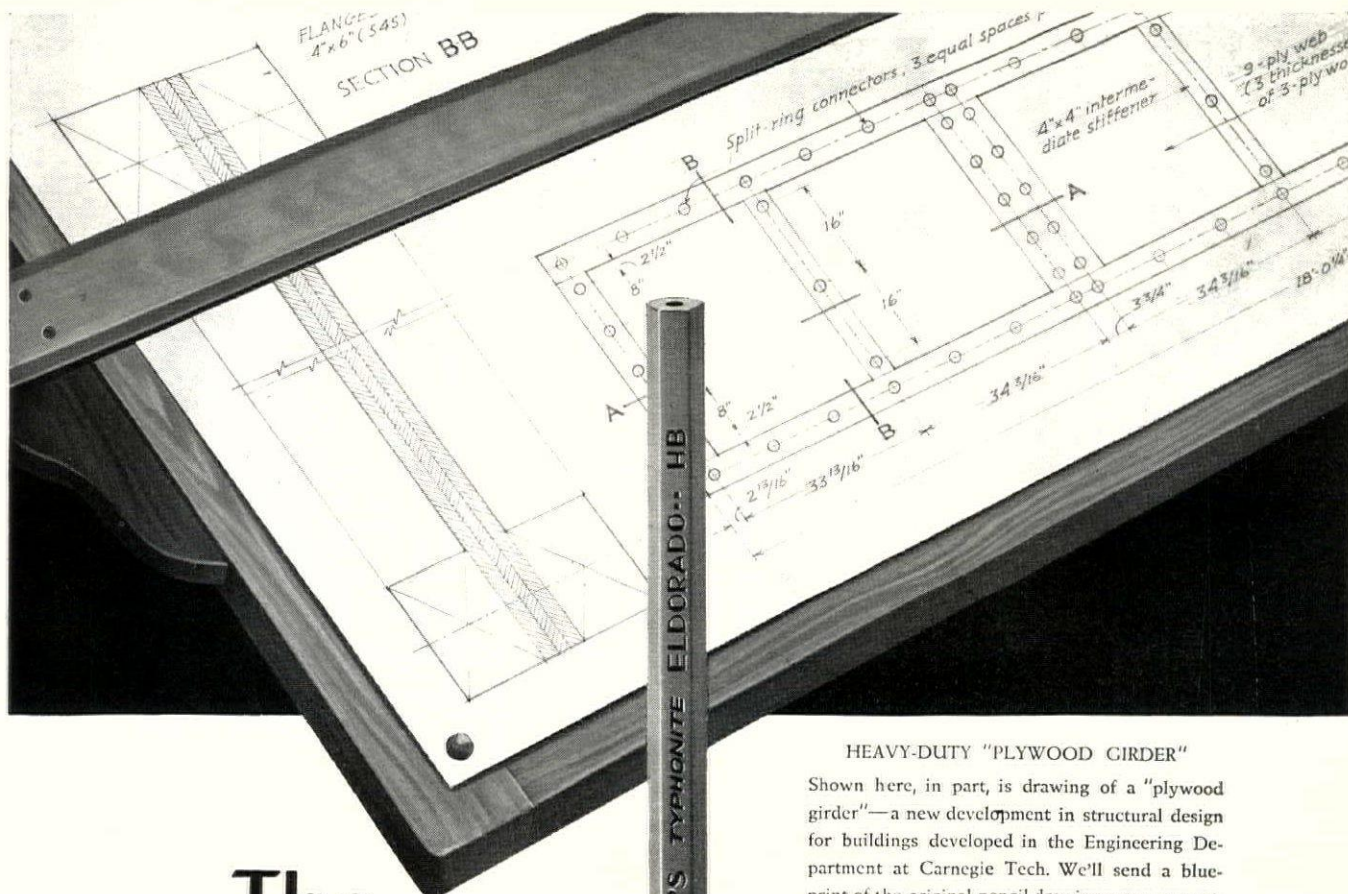
House 2.3 saved 9.2 gallons over House 1.7

(Continued on page 80)



At night, temperature readings being taken with potentiometer at central panel.





HEAVY-DUTY "PLYWOOD GIRDER"

Shown here, in part, is drawing of a "plywood girder"—a new development in structural design for buildings developed in the Engineering Department at Carnegie Tech. We'll send a blueprint of the original pencil drawing upon request.

# The Mighty Pencil

The man behind the ELDORADO is a threat to the Axis. His lead is proving as deadly as the kind used by the man behind the gun. His job is that of creating the blueprints of destruction to destroy said Axis.



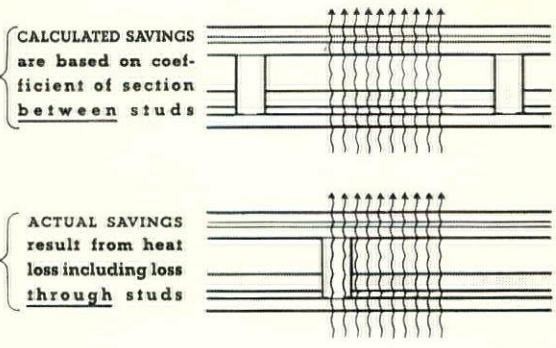
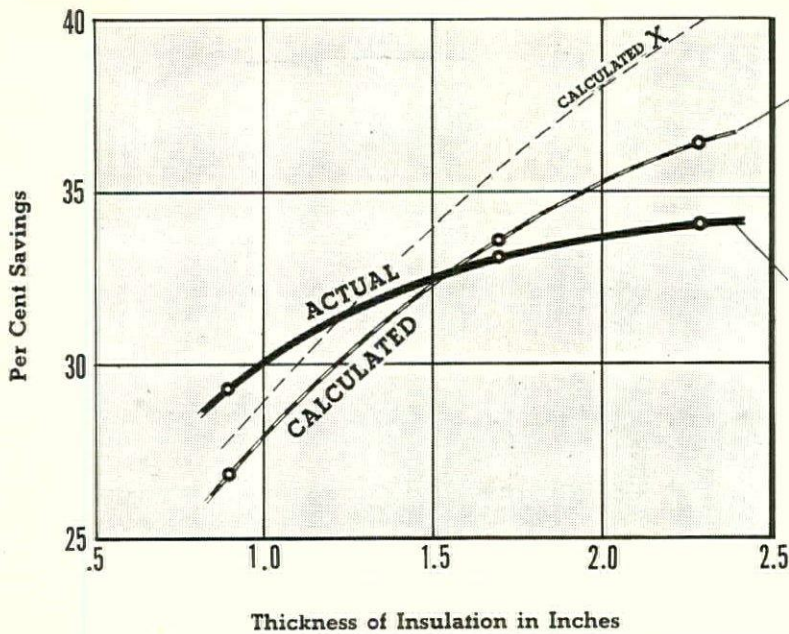
Never underestimate the value of Typhonite ELDORADO pencils in Ameri-

ca's drafting rooms. They're doing magnificent work! Drawings made with Typhonite ELDORADO leads insure clean, easy-to-read blueprints... *in less time*. There's no time out for inking in... the density and accuracy of ELDORADO'S leads guarantee blueprinted whites sharp—readable.

# TYPHONITE ELDORADO

PENCIL SALES DEPARTMENT 167-J2, JOSEPH DIXON CRUCIBLE COMPANY, JERSEY CITY, N. J.





(Fig. 1). Most likely explanation for disparity in the curves is shown diagrammatically by the wall sections above. Possible shape of the entire curve would be parabolic with the axis vertical, the left ends of the curves passing through zero positions, and the right ends approaching horizontal as the insulation thickness is increased. Different curves would result from every change in the wall construction.

(Continued from page 78)

These figures will be eye-opening to a great many in the building field! The first increment of 0.9 inches of insulating material saved 32 times as much oil as did the addition of 1.4 inches to the original 0.9-inch first increment! Only 9.2 gallons of oil were saved by increasing the insulation thickness from 1.7 inches to 2.3 inches—9.2 gallons for the third increment of 0.6 inches.

Obviously, with fuel oil at 6c to 10c a gallon, a saving of less than 10 gallons would be hard to justify on the basis of the investment in the thicker insulation unless the matter of wall temperatures and resultant comfort as well as first cost of plant should become factors.

#### Savings Analyzed

Now it must be remembered that the actual savings figures given here are the results of carefully-controlled experiments on real houses—they are not theoretical and they are not calculated. The ease with which one can become misled is shown graphically by the two curves in Fig. 1, above, which are designated as "calculated" and as "calculated X." The figures read from the calculated curve could warrant, for any given type of construction or house, entirely erroneous conclusions as to the insulation which would return the greatest return on the investment. The direction of the curve is also misleading since it indicates a greater increase in savings for increased insulation thickness than was found by the experiment.

Attention is particularly called to the curve marked "calculated X" which is charted from information published elsewhere in 1940. This curve represents a building of reasonably similar character to the four houses in the experiment but otherwise is totally unrelated. This curve, carried beyond the confines of the chart to a 3 3/8-inch thickness, shows the amazing savings of 45.2%—a very substantial saving indeed but one hardly to be expected in actual practice when compared with the direction of the curve showing the actual savings in the experiment.

(Continued on page 82)

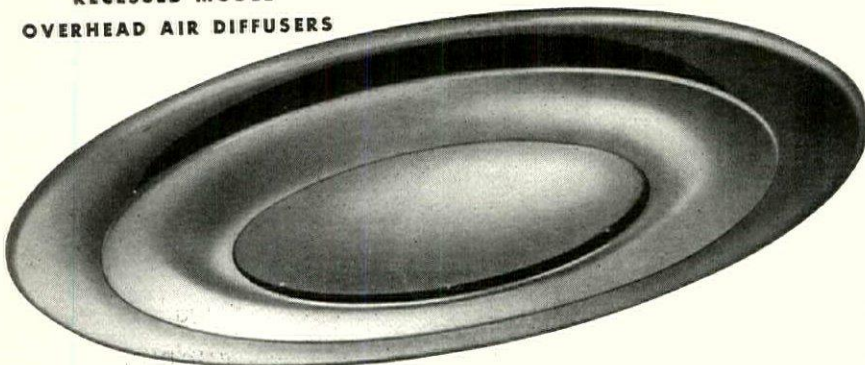
**BARBER-COLMAN**  
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**venturi-flo**  
OVERHEAD AIR DIFFUSERS  
AIR DISTRIBUTION

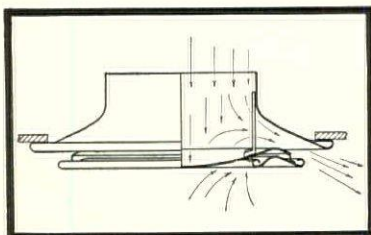
GRILLES & REGISTERS  
AIR DIFFUSERS

AUTOMATIC  
CONTROLS

#### RECESSED MODEL OVERHEAD AIR DIFFUSERS



## FOR BETTER AIR DISTRIBUTION



#### CROSS-SECTION OF UNIT

The sectional view shows the location and arrangement of the various elements. The arrows indicate the flow of supply air and how it picks up room air by suction created in the venturi throat section, discharging the diffused mixture in a slightly downward direction at the periphery. VENTURI-FLO units are made in a wide variety of sizes, capacities, and finishes, for various types of service. Selection of the proper unit for any situation is accomplished by use of scientific data and not by guess-work, and satisfactory operation is *guaranteed*.

THIS is one of several models of VENTURI-FLO Air Diffusers specially designed for properly distributing air from overhead outlets. The internal construction of this diffuser makes use of the Venturi principle to obtain a suction effect which draws in room air through the bottom of the unit, mixes it with the supply air, and discharges a properly mixed and diffused flow uniformly around the periphery in all directions. At the same time, the air flow is so smoothly handled by the carefully designed contours of the directing elements, that there is a minimum pressure drop and an extremely low noise level. VENTURI-FLO Overhead Air Diffusers are not only highly adaptable to all air supply systems with overhead outlets, but are very decorative as well. For full details, consult the Barber-Colman UNI-FLO Catalog (filed in Sweets' Architectural).

**BARBER-COLMAN COMPANY** 1230 ROCK STREET  
ROCKFORD, ILLINOIS



# PLAN THE "HEALTH ZONE" CAREFULLY

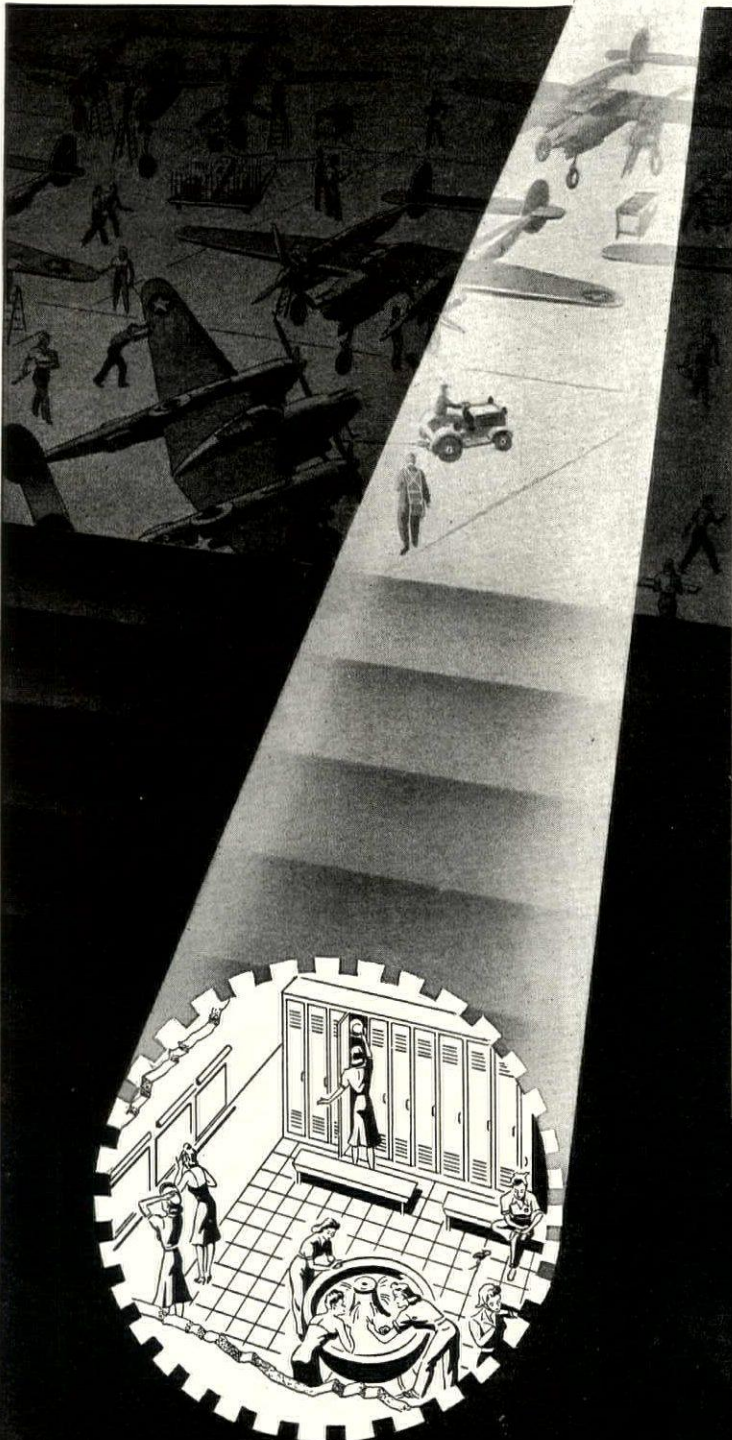
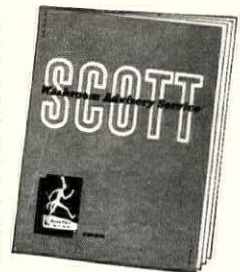
...it can keep  
workers on the job

**T**WENTY-FOUR hour production schedules can't wait for absent workers. And employers know that a great deal of lost time, due to minor illnesses, can be prevented by making working conditions as sanitary as possible.

For that reason your industrial clients are paying more attention to washrooms than ever before. Records show that clean, up-to-date washrooms, equipped with plenty of soap, hot water and individual tissue towels, can substantially reduce the spread of common contagious diseases.

Such washrooms are an important part of any industrial health program. They are literally "health zones." They should be planned as an essential part of every manufacturing plant you design. Ample facilities should be provided, in convenient locations, and all fixtures should be placed to insure most efficient use and a smooth flow of traffic.

The Scott Paper Company can aid you in designing washrooms that help keep workers on the job. The latest Scott Washroom Advisory Service Manual gives basic washroom layouts that have proved practical in all types of industrial buildings. For your copy, and a set of Don Graf Data Sheets on washroom planings, write Scott Paper Co., Chester, Pa.

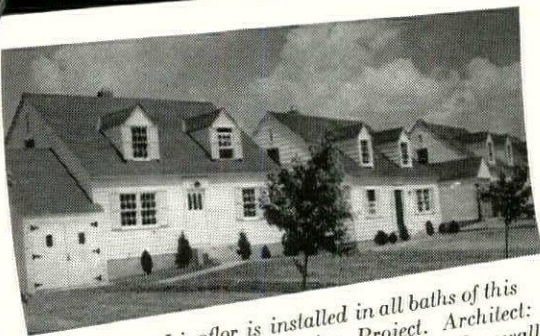


# SCOTT

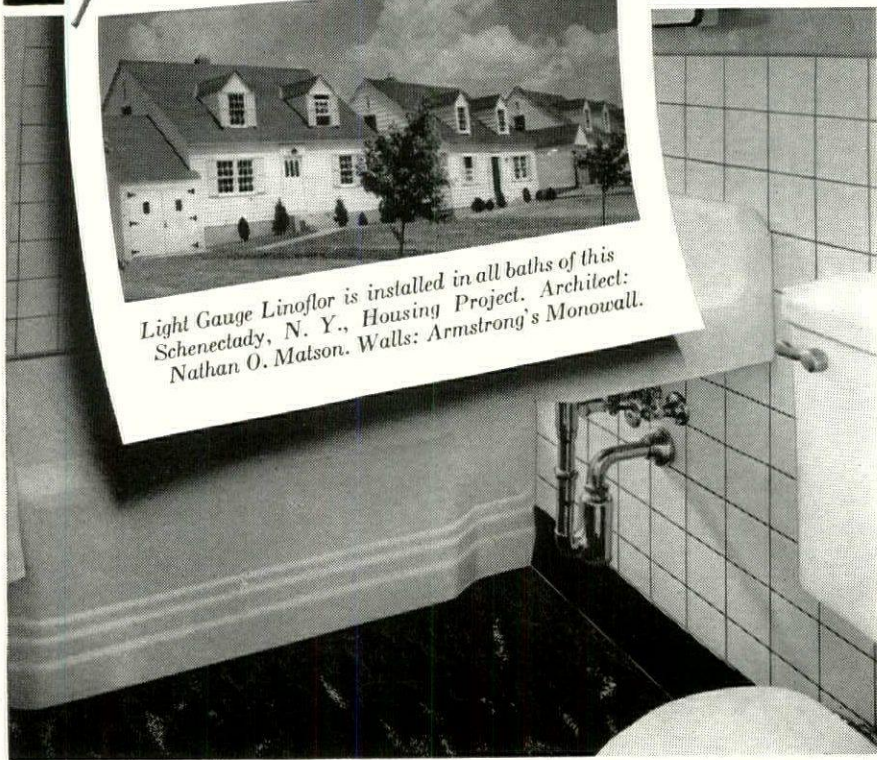
## WASHROOM ADVISORY SERVICE



# Now... ARMSTRONG'S LINOFLOR in light gauge for low-cost housing



Light Gauge Linoflor is installed in all baths of this Schenectady, N. Y., Housing Project. Architect: Nathan O. Matson. Walls: Armstrong's Monowall.



**T**HE FLOOR that you select for mass housing jobs must be low in cost and speedily installed with a minimum of labor. Armstrong's Light Gauge Linoflor is a special flooring that meets these essential requirements . . . and offers the important plus advantages of color and design besides.

Light Gauge Linoflor has a wearing surface of linoleum composition. In line with the modest cost of the product, this wearing surface is, of course, thinner than that of other Armstrong Floorings. For this reason, Light Gauge Linoflor is most satisfactory when used in war-time housing, temporary quarters, rented properties, and other similar types of low-cost construction.

Armstrong's Light Gauge Linoflor is manufactured on a sturdy felt back. It is available in Marbelle and Straight Line Inlaid patterns. Installation is quick and inexpensive—for this product can be satisfactorily laid over wood or above-grade concrete subfloors without the use of lining felt.

For more information on Armstrong's Light Gauge Linoflor, see the 1943 *Sweet's*, File 11-46, or write directly to us for samples and file-sized specifications. Address Armstrong Cork Company, Floor Division, 6902 State St., Lancaster, Pa.



The Army-Navy "E" has been awarded to the men and women of Armstrong's Lancaster plants for excellence in the production of munitions and other vital war materials.

## ARMSTRONG'S LINOLEUM LINOFLOR AND LINOWALL

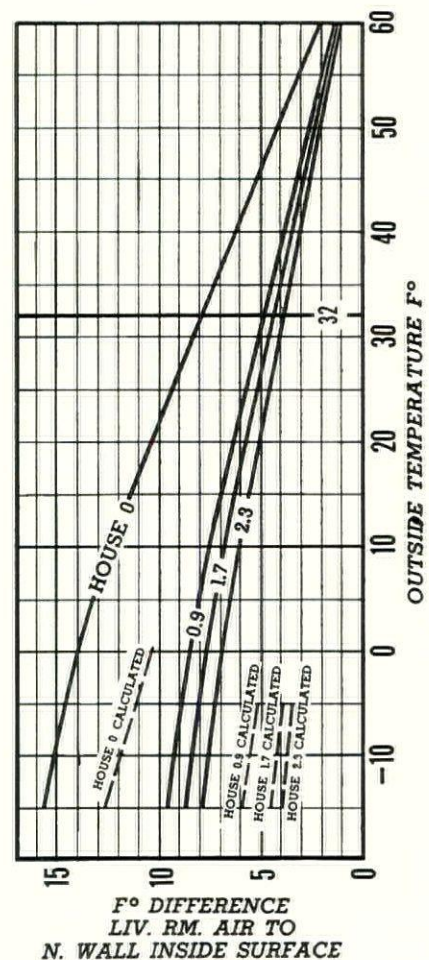
Custom-Laid or  Standard Designs

(Continued from page 80)

### Wall Sections Explain Disparity

The probable explanation for the disparity between actual and calculated savings is shown in the diagram by means of wall sections. The conventional method of determining heat loss is to consider the square foot of the wall construction between studs. Since something like 10% of an exterior wall area is taken up by studs, sills, plates, bracing, sash weight boxes, and fire stops, it can be readily seen that a substantial error is possible in calculated losses if the transmission through the framing parts is at variance with that of the spaces between the framing members. The four-house study results are particularly significant because they show the crossing of the two curves. It should be obvious that where the insulation is of a thickness identical with the heat resistance of the insulation and its air spaces, the actual and calculated savings will be the same. That these curves are approximately correct is attested by

Wall surface temperatures were carefully observed. The wall surface temperature of House 0.9 at 10° below zero is about 6° lower than House 0 (see illustration below) and would require 0.3 degrees per degree higher temperature for the same degree of comfort, according to studies at the ASHVE research laboratory.





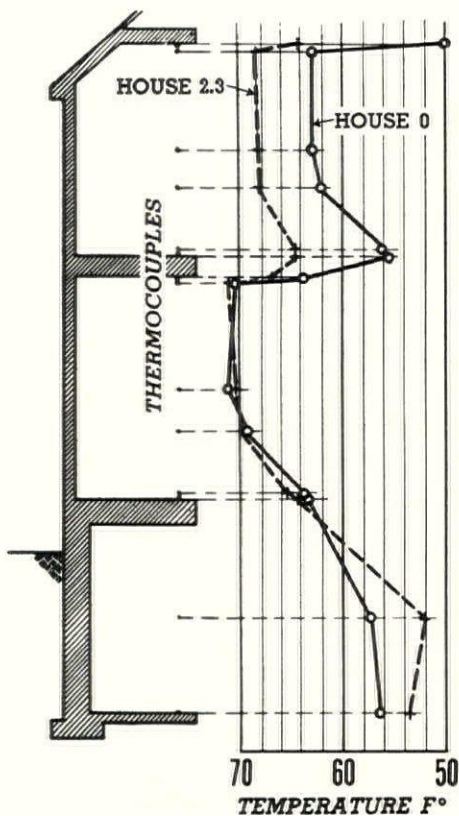
the fact that 1½ inches of the insulation used has approximately the same resistivity as a 3¾-inch stud.

With thinner insulation the framing areas of the wall will increase the actual resistance to heat loss from that calculated mathematically.

However, as the thickness of the insulation increases to a point greater in resistivity than that of the framing, the framing will cut down the actual resistivity from that theoretically calculated.

It is worth noting that the actual savings curve at 2.3-inch thickness of insulation is rapidly approaching a horizontal line—meaning, of course, that added insulation thickness will really contribute little to the previous savings—probably because of the “leakage” through the framing areas of the wall. It is much like increasing the thickness of metal in a sieve in order to make it more watertight without changing the number of or size of the holes. A statement some years ago on this matter of marginal utility attempted to prove by means of calculations only that the law of diminishing returns did not apply to insulation. The four-house study, however, would indicate that in this particular experiment the law applied very definitely.

*This sectional diagram shows the temperature distribution from basement to second floor ceiling for a typical day. Note that the second floor temperatures in the house with 2.3 inches of insulation are higher and more uniform than in the un-insulated house.*



## A DISTINCTIVE FLOOR THAT'S

# Versatile

It's long-wearing Asphalt Tile

... as made by Armstrong

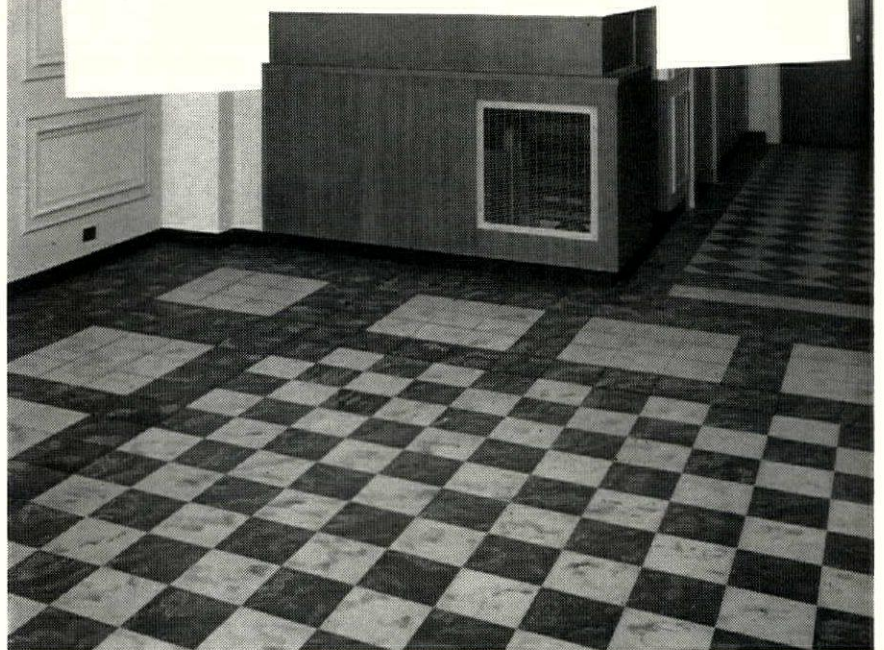
**T**HIS versatile flooring is just as much at home amid fine furnishings as on strictly utilitarian areas. It will please your clients when installed, and continue to give satisfaction for a long time.

Because asphalt tile is hand-set, innumerable designs of beauty and distinction can be created. It can be installed over wood or concrete subbases . . . even concrete in direct contact with the ground, for it is not affected by moisture or alkali. Moderate first cost and low-cost maintenance make Armstrong's Asphalt Tile popular for public buildings and residential basements.

For all the facts, consult Sweet's, or write for free illustrated booklet: "Low-Cost Floors with a Luxury Look." Armstrong Cork Company, Resilient Tile Floors Dept., 6902 Duke Street, Lancaster, Pennsylvania.



*In recognition of their skill and workmanship in making munitions and other vital war materials, the men and women in Armstrong's Lancaster plants have been awarded the Army-Navy Production Award.*



*There's clean beauty in this floor of Armstrong's Asphalt Tile in the Independence Sanitorium, Independence, Missouri. The architects: Bloomgarten and Frohwerk. General contractor: Morris Hoffman.*

## ARMSTRONG'S ASPHALT TILE

*The low-cost floor*  *with the luxury look*

MADE BY THE MAKERS OF ARMSTRONG'S LINOLEUM



# Manufacturers' Literature

Publications mentioned here are all 8½" x 11" unless otherwise specified and will be sent free of charge, upon request. When writing for any of the literature noted here, please mention THE NEW PENCIL POINTS.

## Plant Protection.

Twelve-page brochure offers comprehensive analysis of blackout, air raid damage, and glass splinter protection for industrial plants. Included: suggested installation methods for Ozite blackout and air raid safety blanket for protection against flying glass splinters. Clinton Carpet Co., Merchandise Mart, Chicago, Ill.

## Calking.

Pecora calking compound, for use with a knife or in a cartridge calking gun, is described in an 8-page leaflet, 3½ x 6½", available from Pecora Paint Co., 3501 N. 4th St., Philadelphia. A separate 4-page folder describes the construction and operation of the high-pressure, cartridge calking gun used in applying the compound.



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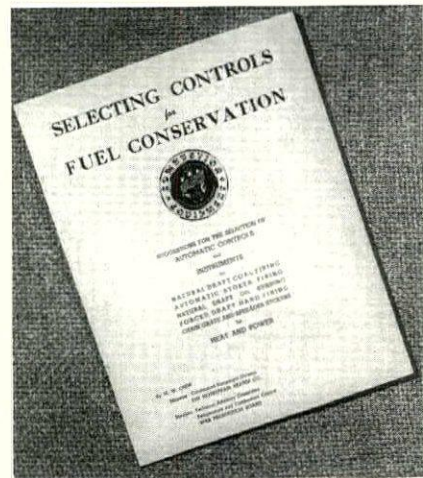
ESTABLISHED 1893

164 West 15th Street New York, N. Y.  
MEMBER OF PRODUCERS COUNCIL, INC.

**ELEVATORS ★ HOISTS ★ DUMB WAITERS**

## Fuel Conservation.

16-page manual, "Selecting Controls for Fuel Conservation", explains in simple terms how the controls apply to different types of firing, the fundamental rules and



formulae which govern the proper burning of fuel and the utilization of the heat so created; offers suggestions for the selection of equipment with which the most efficient use of fuel can be attained. The manual is divided into five major divisions: natural draft coal burning, automatic stoker firing, chain grade and spreader stoker operation, forced draft hand firing, natural draft oil burning. Each type of installation is illustrated. A brief analysis of the use and value of combustion instruments is also incorporated as well as other pertinent suggestions applying to all types of plants. Hotstream Heater Co., 8007 Grand Ave., Cleveland.

## Housing.

The National Bureau of Standards has published in its Building Materials and Structures series, a Glossary of Housing Terms (BMS91), in which is presented a large number of expressions, found in housing literature, which are generally accepted and currently used. This is a revision of a publication issued in 1937. Additions are most extensive in the field of landscape and construction work. Superintendent of Documents, Washington, D. C., 15c.

## Floor Finish.

Six-page booklet (A.I.A. File No. 25-C-11) shows recent applications of Minwax floor finish. 4 pages of specifications for wood floor finishes, paneling, and trim, are included. Minwax Co., Inc., 11 W. 42nd St., New York.

## Wood.

"The Forest Fights", 48-page book, 8¼ x 11¼", of news pictures showing the jobs the forest industries are doing to further the war effort. It has some 200 photos, with brief descriptive copy. Chapters show wood in war use, uncommon or revived uses of wood, improved engineering methods in timber, research that is developing broader uses for wood, and the equipment and methods that are protecting the forests against fire. Timber Engineering Co., Inc., Washington, D. C.

(Continued on page 86)



# \$2,000.00 CASH PRIZES

OFFERED BY

## *Fenestra*

Detroit Steel Products Company, peacetime manufacturer of Fenestra Metal Windows, invites architects, engineers, designers, draftsmen and students to participate in either or both of two "Fenestra Architectural Competitions." Some of the principal features are:

**1. PROBLEMS.** Better postwar *window* designs (a) for hospital buildings, and (b) for small houses.

<b>2. CASH AWARDS</b>	Hospital Window	Small House Window
First Prize.....	\$ 500.00	\$ 500.00
Second Prize .....	300.00	300.00
Four Mentions,\$50.00 ea.	200.00	200.00
	<hr/>	<hr/>
	\$1,000.00	\$1,000.00

**3. PROFESSIONAL ADVISER.** C. William Palmer, A. I. A., President, Michigan Society of Architects.

**4. JUDGES.** The judges (registered architects) for the Jury of Awards, selected from localities near Detroit, to conserve transportation facilities, are:

*Edward G. Conrad*, Cleveland  
*Robert B. Frantz*, Frantz & Spence, Saginaw  
*Branson V. Gamber*, Derrick & Gamber, Detroit  
*John N. Richards*, Mills, Rhines, Bellman & Nordhoff, Toledo  
*Amedeo Leone*, Smith, Hinchman & Grylls, Detroit  
*Alfred Shaw*, Shaw, Naess & Murphy, Chicago

*R. W. Weed*, Eastern Sales Manager, Detroit Steel Products Company, will be the seventh judge, representing the sponsor.

**5. SANCTION BY THE A. I. A.** The Committee on Competitions of the American Institute of Architects has approved this program.

**6. COMPETITION DATES.** Competitions will start at 8 A. M., Monday, February 1st, 1943, and close at 5 P. M., Friday, March 26th, 1943.

SEND FOR DETAILS TODAY



*Fenestra* **POST  
WAR** *Windows*

Mr. C. William Palmer, A. I. A.  
 Professional Adviser, Fenestra Architectural Competitions,  
 C/o Prince & Company,  
 5033 Grandy Ave., Detroit, Michigan

Please send me at once the Program of the Fenestra Architectural Competitions, offering \$2,000 in cash prizes.

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 Designer,  Student.

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(Continued from page 84)

### Gages.

Bulletin on the SR-4 strain gage describes a new method for determining stresses in structures and machines, gives detailed descriptions of the three standard gages, their application in measuring and recording dynamic and semi-dynamic strains, and instructions for installing the gages.

Also published: Two bulletins, one on the SR-4 strain recorder and the other on the SR-4 portable strain indicator. Includes descriptions of the two instruments and installation operating information for their use with SR-Strain Gages. Baldwin Locomotive Works, Baldwin Southwark Division, Philadelphia, Pa.

### Switchboards.

Revised edition of Bulletin 3000 (A.I.A. File No. 31-D-21) on circuit breaker and fusible switchboards. 16 pages, illustrated. Dimensioning data and specifications included. Square D Co., 6060 Rivard St., Detroit, Mich.

### Redwood.

The essence of what makes Redwood tick is highlighted in a 4-page circular (Section VI, File 6-B-1) recently released by California Redwood Association, 405 Montgomery St., San Francisco. Discussion covers the physical, mechanical, and chemical properties of Redwood.

### MANUFACTURERS' DATA WANTED

MAYO LARKIN, Industrial Designer, 1713 Commonwealth Ave., Boston, Mass. (Literature and data for A.I.A. file, manufacturers' catalogs, and samples.)

MANUEL SALAZAR Y ARCE, Architect and Engineer (National Railways of Mexico) Ave. Garrido, 15, Guadalupe Hidalgo, Mexico, D.F. (Data for A.I.A. file.)

O. T. RAY, FWA Regional Director, 20 Fifth St. N.W., Atlanta, Ga. (Manufacturers' data on construction materials and equipment for school buildings, hospitals, and municipal buildings.)

GEORGE S. McKEAN, Chief, Engineering Unit, CAA, Anchorage, Alaska. (Architectural, engineering, and building material catalogs and data for engineering files.)

JOSEPH M. O'NEIL, Architect and Builder, 43 Gilman St., Springfield, Mass. (Manufacturers' data wanted on gasoline systems, plumbing details for factory work, sewage ejectors and pumps, entrance water connections, water tower hook-ups, oil piping to machines and pumps, layout of air lines in factory work.)

### POSITION OPEN

DRAFTSMAN-DESIGNER WANTED. Capable mechanical draftsman for elevator company now engaged in war work. Memphis location. Good salary, company, and working conditions. Write details your experience to Hugh Allan, vice president, Rotary Lift Co., 1054 Kentucky St., Memphis, Tenn.

### THE MART

JOSEPH P. CONDON, Designer, 805 Lake St., Johnson City, Tenn., wants to buy a copy of "Treatise on the Design and the Construction of Roofs," by N. Clifford Ricker.

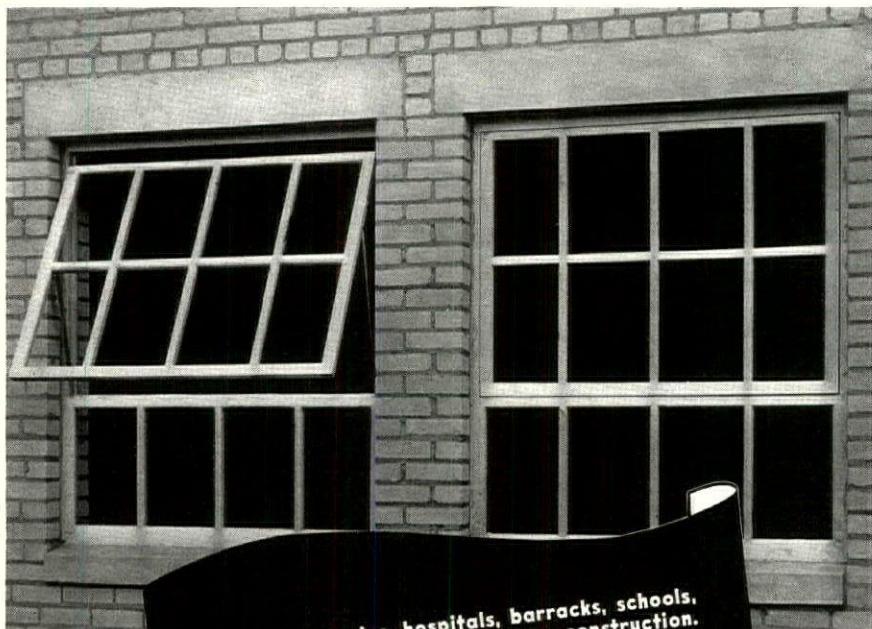
MARGARET I. JARDINE, Landscape Architect, Groton, Mass., who has given up her practice because of ill health, has the following magazines for sale: PENCIL POINTS—1933 (except January and May); 1934 (complete); 1935 (February, October-December missing); 1937 (complete); ECOLOGY—January, 1937-December, 1938; ARCHITECTURAL FORUM—1936 (March-December); 1937 (6 numbers missing). Also—lecture lantern, screen, 100 hand colored slides, collection of colonial wrought iron hinges, etc.

### PERSONALS

SUREN PILAFIAN, Architect, has moved his office from New York City to 112 Madison St., Detroit, Mich.

ALAN MATHER, Designer, Detroit, and Mrs. Mather have announced the birth of twin boys, January 7.

LORIMER RICH, Architect and City Planner, has moved his offices to 215 Montague St., Brooklyn, N. Y.

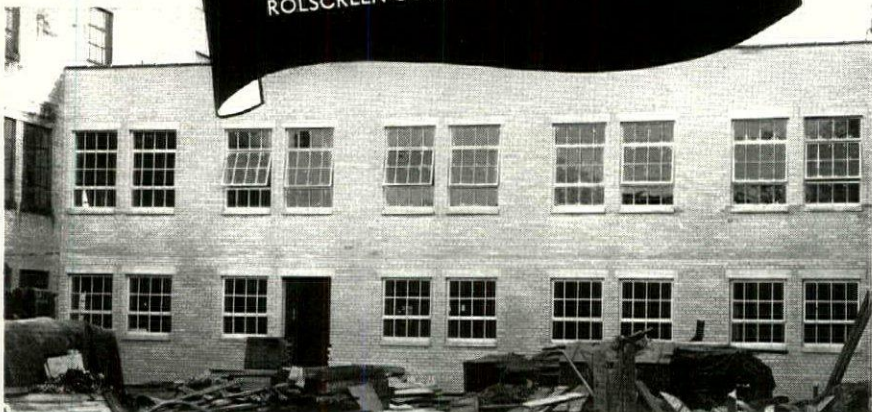


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Grand Rapids,  
architect.





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WATERTIGHT CONCRETE—  
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TIME and again we hear it said, "Architects take cement pretty much for granted." We beg to differ—and with good reason. Because, since 1927, leading architects the country over have specified millions of barrels of 'Incor' 24-Hour Cement for all types of construction.

These years of practical job experience highlight the basic advantages of 'Incor':

**Earlier Occupancy** at lower cost, through savings in forms and time. 'Incor's dependable high early strength means concrete ready to use in 24 hours or less.

**Watertight Basements, Tanks and Stucco:** Greater curing efficiency and plasticity assure impervious concrete in one-fifth the usual time. Honeycomb-free surfaces are clean, hard and dense.

**Non-dusting Concrete Floors:** Uniform, workable 'Incor' mixes produce longer-wearing, non-dusting concrete floors. Thorough curing in 24 hours means durable, scratch-free surfaces in one day instead of five to seven.

Take advantage of 'Incor' quality on your next concrete job. Specify 'Incor'\* 24-Hour Cement where it does you the most good.

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## Of Current Interest

### Urban Development

The Massachusetts Institute of Technology announced recently the setting up by its City Planning Division of an Urban Redevelopment Field Station with funds granted for the purpose by the Albert Farwell Bemis Foundation. Associated in the direction of the Field Station's research program are Professor Frederick J. Adams, head of Technology's City Planning Division; Philip H. Cornick, Institute of Public Administration, New York City; Edwin H. Spengler, Associate Professor of Economics at Brooklyn College

and consultant to the National Resources Planning Board. Co-operating agencies include the City Planning Board of Boston, and the American Public Health Association's Committee on the Hygiene of Housing, of which Dr. C.E. A. Winslow of Yale University is chairman.

One problem now being studied is that of the rehabilitation of urban residential areas where existing buildings are in sound structural and sanitary condition but where the neighborhood pattern is obsolete. Careful estimates are being prepared of both the capital and operating

costs of bringing the environmental conditions in such areas up to a standard in line with modern needs and habits of living, particularly in respect to the planning of the local street system and the adequacy of parks, playgrounds, and other community facilities.

In addition to the municipal costs involved in such a program, studies are also being made of changes in the fiscal or administrative policies of the local government which might be necessary or desirable if such a program were to be carried out on a city-wide basis, particularly as they might relate to increases in the percentage of tax-exempt property and in the costs of maintenance and supervision for a greatly augmented program of neighborhood recreation.

### Brazilian Exhibit

The Brazilian Government leads all other national governments in the Western Hemisphere in its discriminating and active encouragement of modern architecture. This is the conclusion reached by Philip L. Goodwin, FAIA, New York architect, who spent several months in Brazil last summer making a survey of its architecture for the exhibition *Brazil Builds*, currently on view at the Museum of Modern Art, New York.

Although the emphasis is on modern building in Brazil, most of it erected in the last decade, the older architecture has not been neglected. The exhibition embraces a period of almost three centuries, from 1652 to 1942. Brazil's old buildings, its early churches with elaborate gold-encrusted interiors and the picturesque fazendas, comprise almost a third of the exhibition. The exhibit is composed of enlarged photographs, architectural renderings, drawings, plans, maps, and continuous screen projection of forty-eight color slides. Three models are also shown.

The first gallery of the exhibition is devoted to the colonial architecture of Brazil. This is followed by several sections of modern architecture: government buildings; transportation buildings including seaplane base and hangars; and a section on schools. The central section of the exhibition is devoted to Brazil's great contribution to modern architecture: the control of heat and light externally through sun breaks rather than internally through expensive artificial air cooling or inadequate venetian blinds. In this section models show the principal types of Brazilian sun breaks.

The exhibition also shows a group of miscellaneous modern buildings such as the Institute for Snake Serums, a water tower, and an anatomical laboratory. Succeeding galleries show hotels, apartments, and private houses. A section of recreational buildings follows, showing the casino near Belo Horizonte, a yacht club, and a restaurant. The final section is devoted to views of a day nursery.

After the exhibition closes at the Museum on February 28, it will be circulated to schools and colleges throughout the country.



And warplant draftsmen need the best tracing cloth money can buy . .

### ARKWRIGHT

Only the best quality tracing cloth is smooth enough to take erasures without smudging . . . strong enough to stand up to the corrections constantly being made today. Only the best quality tracing cloth is transparent enough to insure the sharpness of transfer that war drawings must have to be read easily, quickly, and accurately. That's why it's important, during these critical years, to use the best tracing cloth money can buy . . . ARKWRIGHT. Arkwright Finishing Company, Providence, Rhode Island.



*Arkwright* TRACING CLOTHS

AMERICA'S STANDARD FOR OVER 20 YEARS





# ATTACK

IS THE BEST DEFENSE!

## HERE'S HOW TO ATTACK YOUR BATTERY MAINTENANCE PROBLEMS

- 1** Keep adding approved water at regular intervals. Most local water is safe. Ask us if yours is safe.
- 2** Keep the top of the battery and battery container clean and dry at all times. This will assure maximum protection of the inner parts.
- 3** Keep the battery fully charged—but avoid excessive over-charge. A storage battery will last longer when charged at its proper voltage.
- 4** Record water additions, voltage, and gravity readings. Don't trust your memory. Write down a complete record of your battery's life history. Compare readings.

If you wish more detailed information, or have a special battery problem, don't hesitate to write to Exide. We want you to get the long-life built into every Exide Battery. Ask for booklet Form 3225.

Our strongest defense is a hard attack. That's an old Naval tradition now proving its truth on all the waters of the Seven Seas.

In similar fashion, the best defense against maintenance problems is a relentless, unceasing attack on carelessness and wear. Battery care, for example, is simplified if you observe four basic rules... which

may be called your rules for attacking battery maintenance problems. Follow them faithfully, and remember, Buy to Last and Save to Win!

## Exide

EMERGENCY  
BATTERIES

THE ELECTRIC STORAGE BATTERY COMPANY, Philadelphia  
*The World's Largest Manufacturers of Storage Batteries for Every Purpose*  
 Exide Batteries of Canada, Limited, Toronto



# Books and Periodicals

## Industrial Drawing

*Pennsylvania State College, by H. R. Thayer, M.S., under the direction of the Division of Engineering Extension. (\$1.75, 192 pages, 6 x 9 inches, illustrated—McGraw-Hill Book Company, Inc., 330 West 42nd Street, New York.)*

It is almost impossible to write a fair review of a book in which one of those abortive triangular scales is labeled as an "architect's" scale. God forbid that any architect in his right mind would use such an implement of the devil. As a matter of fact, architects usually re-

fer to these insane, three-sided execrations as "engineer's" scales. (Reminiscent of Benvenuto when he was accused in France of Italian sex vagaries, which in Italy were referred to as French.) But if we can forgive the author, who after all is an engineer, the book is in every way up to the high standards set by other volumes in the same series. The illustrations are beautifully drawn, the type of binding permits the pages to lie flat. It is indexed. For architectural men who are doubling in mechanical and engineering drawing, no better reference book could be suggested. **D.G.**

## The City

Eliel Saarinen, noted architect and city designer, has completed his book, "The City—Its Growth, Its Decay, Its Future." The book embraces the results of his experience in dealing with the problems of cities both here and in Europe and describes the basic philosophy upon which, he feels, must be based the program of urban rehabilitation which should be carried on after the war and for fifty years or more into the future.

In the first part of the book he discusses the principles which governed the development of the medieval city and presents the reasons for their excellence. In part two, Mr. Saarinen considers the cities as they are today, points out the economic and physical causes of their decline, and demonstrates the steps that must be taken if we are to arrive at a state of healthy environment which "will provide adequate living and working accommodations for the population."

Setting up the principle of "organic decentralization" which underlies all healthy, natural growth, and which, he believes, applies equally to the works of man, he arrives at a procedure whereby, over an extended period, the cities can be made to provide adequate living and working conditions for all.

THE CITY will be published about April 15 by Reinhold Publishing Corp., 330 W. 42nd St., New York. The price has not been definitely established, but it will not be over \$3.50.

*He Also Serves Who Saves*

## DUNHAM DIFFERENTIAL HEATING

This Heating System distributes only required heat units to offset heat loss whether the weather is bitter cold or fair and mild. As a gauge of its economies one group of 33 buildings made an average saving of 39.2% in fuel. C. A. Dunham Co., 450 E. Ohio St., Chicago.

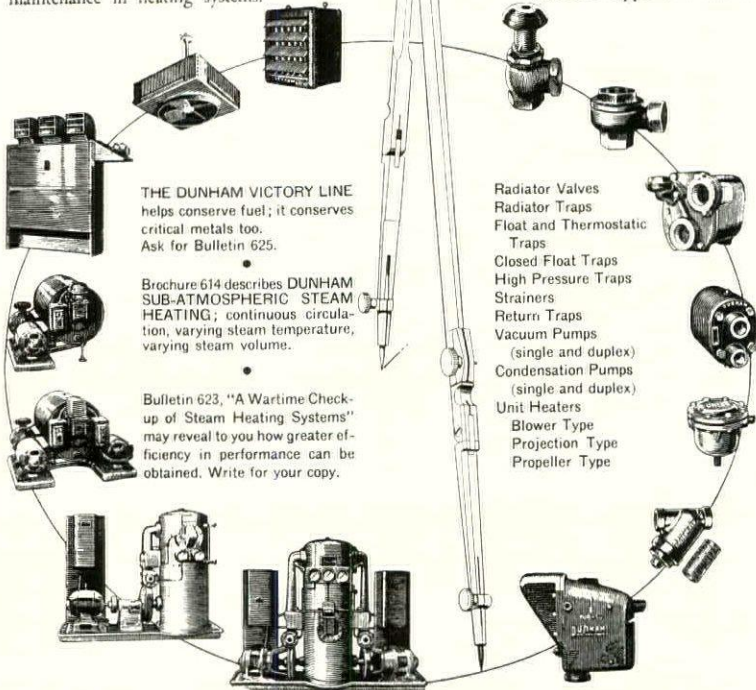
### THE DUNHAM *Victory Line* VAPOR AND VACUUM HEATING SPECIALTIES

#### Heating Fuel Must Be Conserved

For the duration, The Victory Line will replace standard Dunham equipment for new construction and for maintenance requirements. This change is made to provide for government approved repairs and maintenance in heating systems.

#### Dunham Makes Fuel Go Further

All "Victory" Traps and Valves have cast iron bodies (instead of Dunham standard bronze). "Victory" Line Unit Heaters have ferrous radiators with steel fin and tube assembly replacing standard copper and bronze.



THE DUNHAM VICTORY LINE helps conserve fuel; it conserves critical metals too. Ask for Bulletin 625.

Brochure 614 describes DUNHAM SUB-ATMOSPHERIC STEAM HEATING; continuous circulation, varying steam temperature, varying steam volume.

Bulletin 623, "A Wartime Check-up of Steam Heating Systems" may reveal to you how greater efficiency in performance can be obtained. Write for your copy.

Radiator Valves  
Radiator Traps  
Float and Thermostatic Traps  
Closed Float Traps  
High Pressure Traps  
Strainers  
Return Traps  
Vacuum Pumps (single and duplex)  
Condensation Pumps (single and duplex)  
Unit Heaters  
Blower Type  
Projection Type  
Propeller Type

## PERIODICALS

### Interiors

In the January issue there is a series of projects presented by leading American designers, the third annual collection of "Interiors to Come." Included is a one-room house for a servantless couple, a prefabricated one-room house on stilts, and a house which develops the idea of using a radio-television set as the center of interest, rather than the traditional fireplace. Designers and architects whose works are represented include Peter M. Blach, Richard M. Bennett, John M. Hatton, L. L. Rado, Paul Thiry, Joseph B. Platt, Harrison, Fouilhoux & Abramowitz (with Morris Ketchum, Associate), Dan Cooper, Richard J. Neutra, Tommi Parzinger, and Ernst Schwadron.

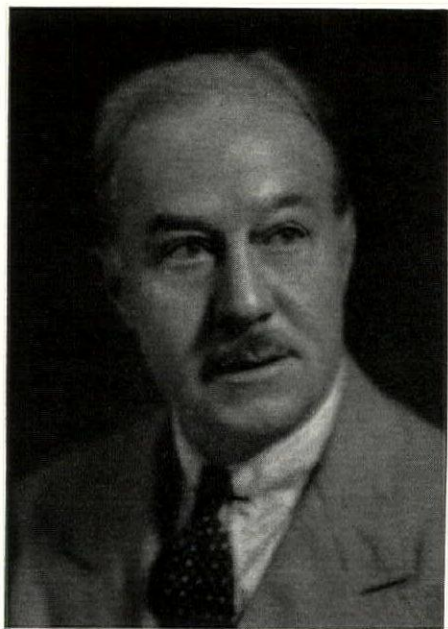
### Journal, Royal Institute of British Architects

Architects in Great Britain, too, are interested in planning. The December issue has an article, "Architecture and Civic Planning", a discussion on the architect's part in municipal affairs. Included in the issue is a list of manufacturers of prefabricated houses in the United States. The list is designed to serve as an index for British architects, and includes the firm name and address together with a description of the method of prefabricated construction used.

*Dunham Makes Fuels Go Further*



# An Architect Evaluates



the Built-in Reserve Capacity in

## OIL BURNING SYSTEMS

John Matthews Hatton is well known as the architect of many notable industrial and public buildings in the East, and is one of the architects for New York City's Park Department. Mr. Hatton has specified Petro equipment for numerous jobs and speaks of oil burning systems from his practical experience:

*"I have acquaintance with several clients who are responsible for war production. They tell me that the Petro Oil Burning Systems in their plants were shifted from peace-time to war-time operation with the minimum of effort and without sacrificing firing efficiency, and that they are now operating with utmost reliability."*

"In our war-time production it is a satisfaction to know that Petro renders this hundred per cent performance, also that Petro service is available for making the wisest use of oil. In the post-war world when markets are free I will be glad to know that Petro Systems are again available for my use in new buildings."

### *Petro's Engineering Practice Is Sound*

The engineering of the system's installation supplements, and makes effective in operation, the excellences built into the equipment by the manufacturer. And this careful pre-planning service is being rendered today as fully and effectively as ever on every installation which existing restrictions permit.

And even under the stresses of war production loads on Petro Systems, we have had no unusual increase in calls for field service—a fact which supplies its own comment on the "plusses" which have become traditional in Petro design and manufacture.



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Full data on Petro Industrial Burners are in our Catalog in Sweet's Catalog file—or we will gladly send copies on request.



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## Competitions

### Fenestra Competition

Detroit Steel Products Co., 2250 E. Grand Blvd., Detroit, Mich., has announced the Fenestra Architectural Competitions for the design of a window unit, respectively, for postwar (a) hospitals—a private room, and (b) small houses costing less than \$5,000—a living room. In each competition, first and second prizes of \$500 and \$300 respectively will be awarded, in addition to four \$50 prizes in each competition for design mentions. Any of the non-premiated submissions may be purchased by the sponsor for \$50 each.

The design of a basic window unit is desired. The window could be manufactured in various standard widths and heights, in both ventilated and fixed types. To fill large openings, the architect could combine, vertically and/or horizontally, two or more basic window units. Competitors are urged to demonstrate originality and imagination in their designs of windows for postwar hospitals and small houses, and in their selections of materials. The principal objective, points out the sponsor, should be a design for a better window at lower cost, such as will help a window manufacturer to operate successfully in postwar competitive markets.

Merits of the window design will be adjudged on the basis of appearance, util-

ity, and cost factors, as listed on an accompanying sheet, and from any additional factors that may be supplied by the competitor.

The competition, which has been approved by the AIA, will close on March 26. Further information may be had from the sponsor or from the professional advisor, C. William Palmer, AIA, c/o Prince & Co., 5031 Grandy Ave., Detroit, Mich. Entries will be judged a week after the closing date of the competition.

### Lincoln Awards

The James F. Lincoln Arc Welding Foundation, Cleveland, Ohio, has announced a new project—the first \$6,750 Annual Engineering Undergraduate Award and Scholarship Program. Its object is to encourage engineering students to study arc welded construction so that their imagination, ability, and vision may be given opportunity to extend knowledge of this method and thus aid the war effort and the economic reconstruction in the peace which is to follow.

Any resident engineering undergraduate student registered in any school, college, or university in the United States, or any cadet registered in the Military Academy, Naval Academy, and Coast Guard Academy is eligible to compete.

The awards will be made for papers describing the conversion from other methods to arc welded construction of parts of machines, complete machines, trusses, girders, or structural parts.

### Soap Sculpture

The 19th annual Ivory Soap Sculpture Competition, with prizes totaling \$1,120 in cash, has been announced by the National Soap Sculpture Committee, 80 E. 11th St., New York. The competition will close May 15, 1943. Awards will be made in three classes—advanced amateur, senior, junior, with special group and reproduction prizes. A 24-page illustrated booklet, announcing the competition and showing some of the previous prizewinning sculptures, may be had from the Committee.

Serving on the Jury of Award are such well-known sculptors as Gactano Cecere, Paul Manship, Robert Laurent; and the following architects: Ely Jacques Kahn, and Harvey Wiley Corbett.

### Wakefield Award

The F. W. Wakefield Brass Co., Vermilion, Ohio, has introduced a plan whereby students at colleges and universities are sponsored by the company into the Illuminating Engineering Society. The Wakefield Award is given to the top man enrolled in any illuminating engineering course in universities throughout the United States and Canada. The student is designated by the professor in charge, and expenses of admission are paid by the company.

Among the first to receive the Award for unusual ability and brilliant scholastic record are E. H. Leonard, Oklahoma Agricultural & Mechanical College; Wilbur DeHart, University of Kansas; and Raymond L. Smith, Jr., Brown University.



# FIRE WON'T WAIT!

War and its camp followers—overcrowding, poor upkeep, inadequate manpower—provide the conditions under which fire thrives.

Factories, schools and amusement spots in a hundred war-plant areas are crowded as never before.

The demand for safe, sure, instantaneous exit—for Von Duprin devices—is tremendous and insistent. Fire won't wait!

And, strive as we may, we can supply only a small part of that demand, so we make these three suggestions, earnestly hoping that they have your serious consideration:

1. See that every Von Duprin on any building over which you have supervision is in perfect operating condition.
2. Have the Von Duprins carefully removed from any building which is to be abandoned or destroyed, for use on the doors of the new building.
3. When a new building necessitates the ordering of new Von Duprin devices, have them ordered just as early as possible, regardless of whether the order carries a high or low preference rating.

Thank You!

## Von Duprin


Division

### VONNEGUT HARDWARE CO., INDIANAPOLIS



Check what **you** want  
 ✓ in a drawing pencil!



□ **STRONG POINTS** that stand up when you  bear down

□ **SMOOTHNESS**  that will speed your work

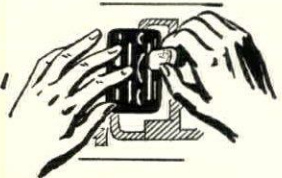
□ **PRECISION GRADING**  accurately spaced

□ **DURABILITY** to save you time and money



□ **OPACITY** for sharp  reproduction of every line

□ **CLEAN ERASURE** that leaves no "ghost lines"



**CHECK THEM ALL? THEN GET THEM ALL, IN**



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(SUPER BONDED)

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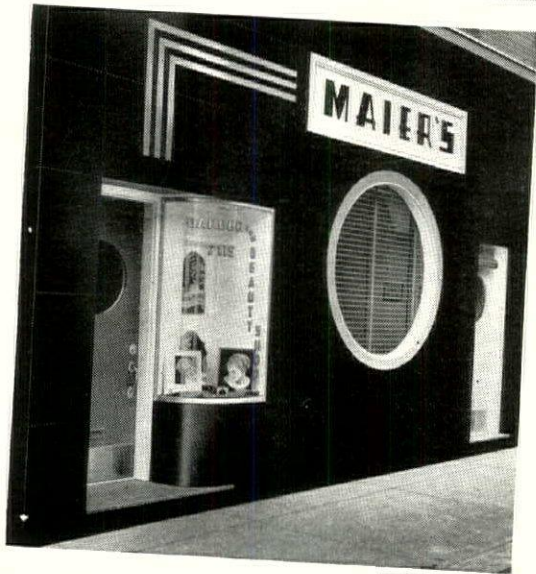
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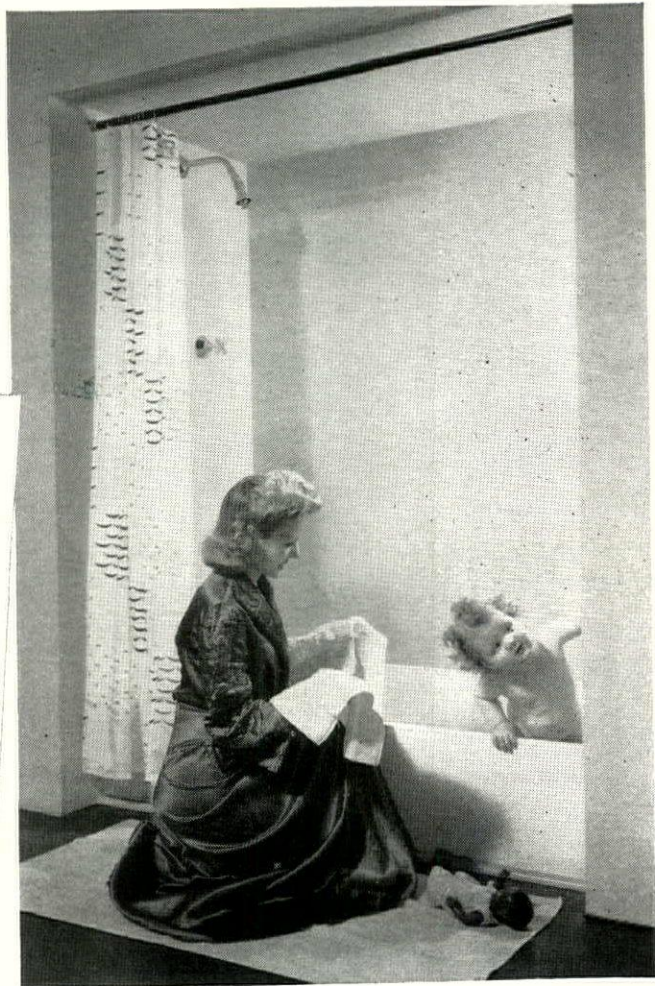


# NEWS ABOUT GLASS from "Pittsburgh"



## A DESIGN WORTHY OF NOTE

is this beauty shop front by Architect R. Maurice Trimble. Simple, modern, highly attractive. This design is well worth saving in your file for reference when building restrictions are lifted.

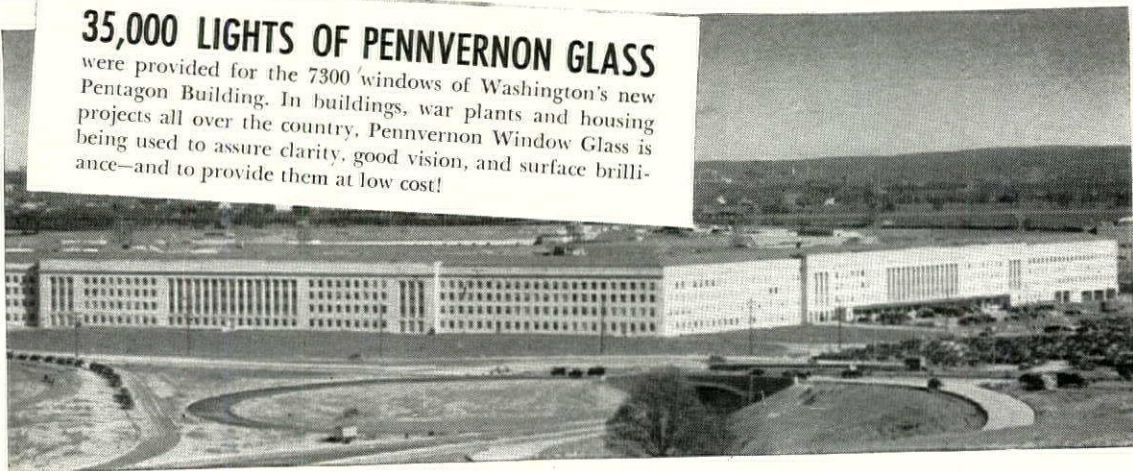


## NEW! TUBS OF TEMPERED CARRARA GLASS

Ideal for defense housing projects. No priority materials are required in the tub's construction. Cost is low. Comes in a variety of beautiful colors. Will prove popular with house occupants, especially where children are too small to use showers. Available for immediate shipment.

## 35,000 LIGHTS OF PENNVERNON GLASS

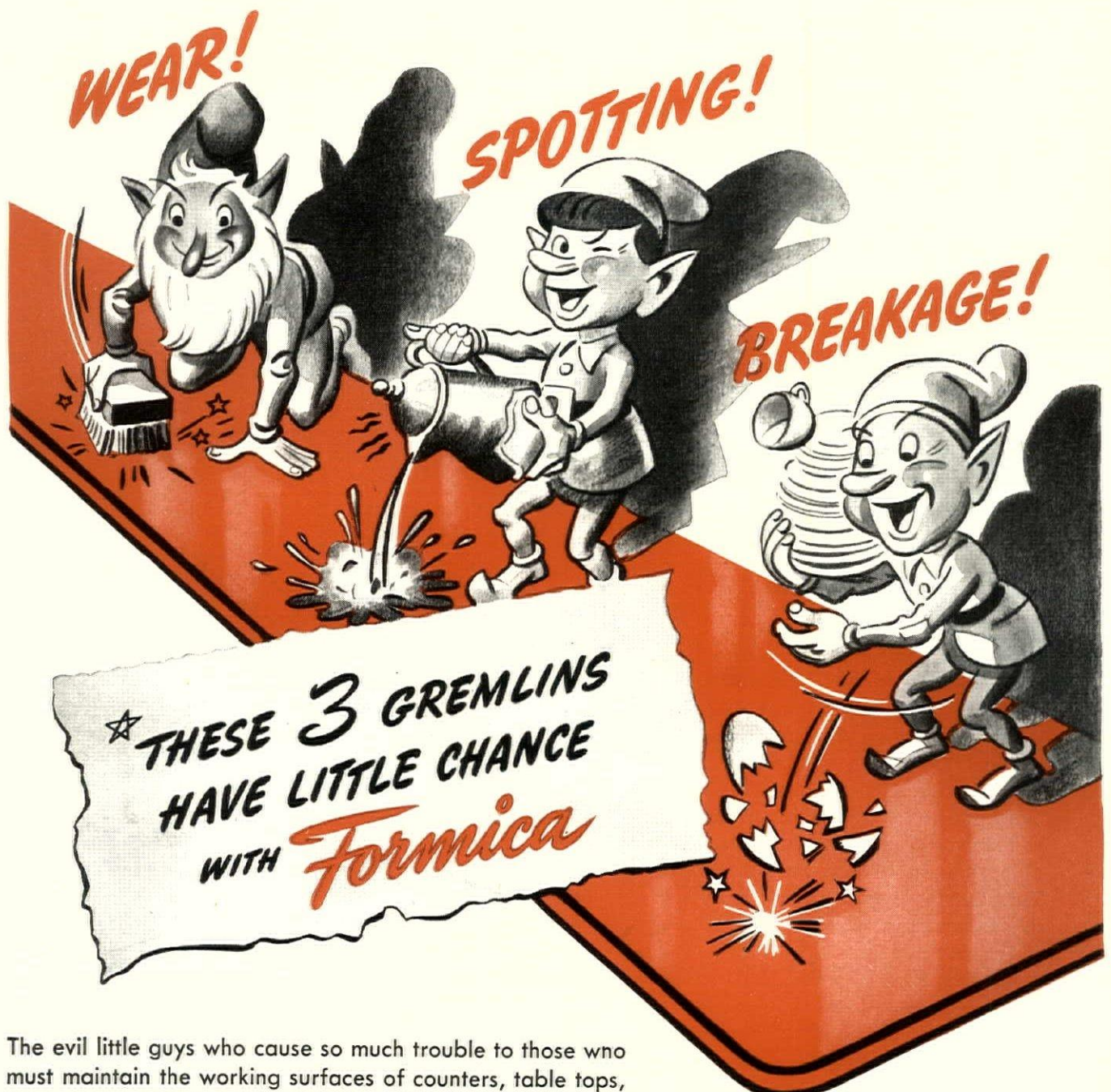
were provided for the 7300 windows of Washington's new Pentagon Building. In buildings, war plants and housing projects all over the country, Pennvernon Window Glass is being used to assure clarity, good vision, and surface brilliance—and to provide them at low cost!



PITTSBURGH PLATE GLASS COMPANY · PITTSBURGH, PA.

*"PITTSBURGH" stands for Quality Glass and Paint*





★ THESE 3 GREMLINS  
 HAVE LITTLE CHANCE  
 WITH *Formica*

The evil little guys who cause so much trouble to those who must maintain the working surfaces of counters, table tops, doors and walls, have two strikes on them, if the surface is covered with Formica.

Formica is harder than marble and very durable. It is not absorbent, and it is chemically inert so it is very hard to stain. It is not brittle and the sharpest kind of a rap will usually not injure it. It may be cigarette proof. The colors are stable and maintain their original appearance over the years.

No wonder so many restaurants, hotels, public buildings, ships and trains make use of Formica surfaces. Watch Formica after the war.

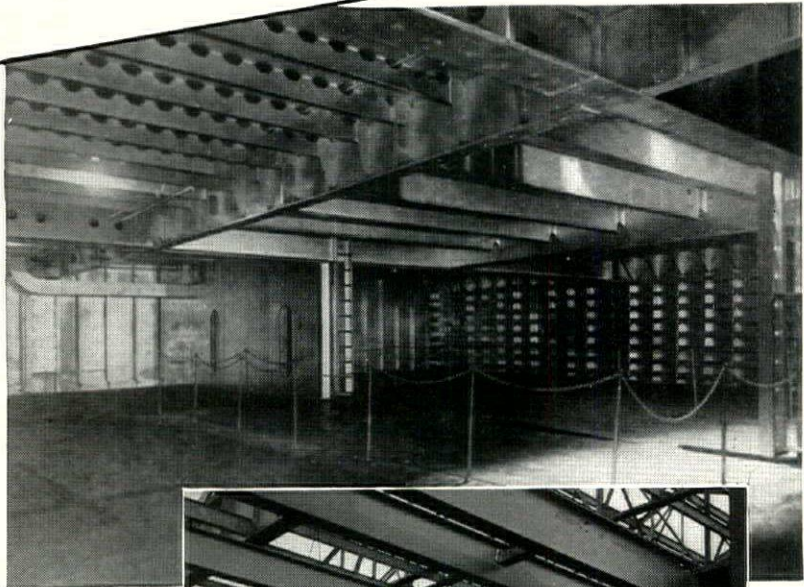


THE FORMICA INSULATION COMPANY • 4621 SPRING GROVE AVENUE • CINCINNATI, OHIO



# WELDED FRAMING

*for ships  
and  
buildings*



A comparison of the structural framing in the hold of a welded ship and that in a welded steel building shows certain points of similarity between the design problems of the naval architect and the building architect.

In building Liberty ships welding is used to save time and materials and to achieve rigidity and structural strength. These are also desirable objectives in welded building construction. Therefore the latest methods employed in welded ship construction will probably interest architects and structural engineers.

Air Reduction's Applied Engineering Department has acquired extensive experience in the use of welding in the construction of both ships and buildings. Architects, engineers and designers are invited to make use of Air Reduction's experience in working out problems of design for welded structures.

*In the hold of a transversely framed, all-welded cargo ship (top), the main transverse hatch end beams receive their end support from the side frames of the vessel and their center support from main pillars or stanchions. These beams support heavy longitudinal girders to which transverse deck beams are end-connected. The deck plating is welded to the beams as a battle deck type floor might be in a building. In some buildings there is an advantage in developing continuity of beams and girders which is greatly facilitated by the use of welding as employed in a ship's structure.*

## Air Reduction

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MAGNOLIA-AIRCO GAS PRODUCTS CO.

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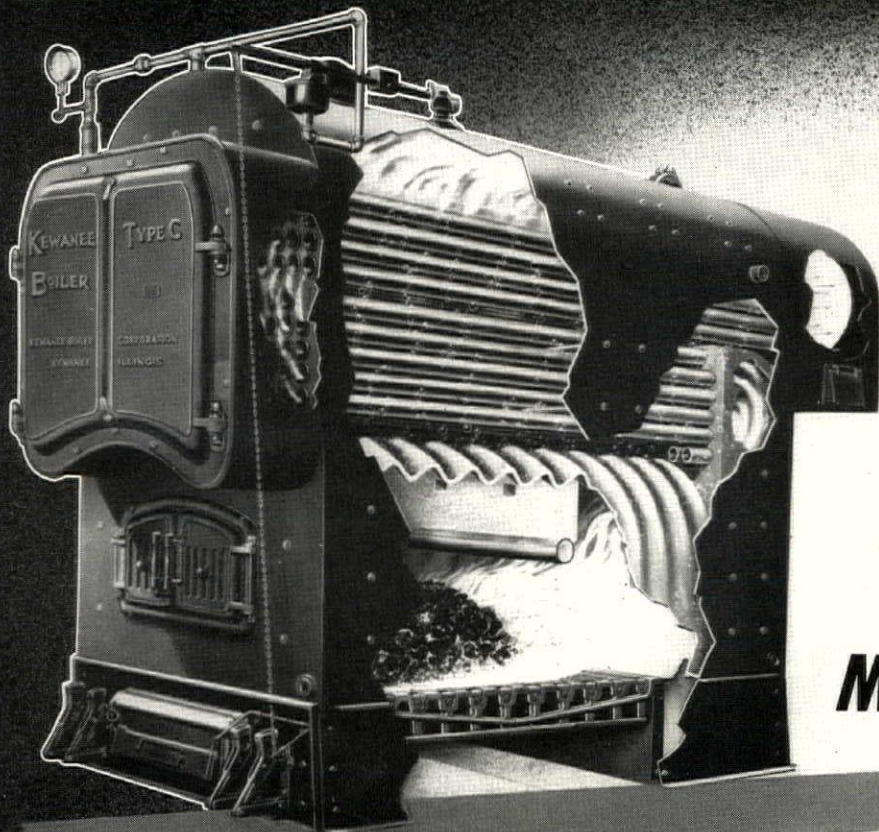
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**IDLE CYLINDERS ARE PRODUCTION SLACKERS: *Keep 'em rolling for victory!***





Kewanee Type "C" an easy steaming boiler fired by hand or stoker. Burns Coal, Oil or Gas with high efficiencies.

**NOW...  
Every Ounce  
of Fuel  
Must Be Saved**

# KEWANEE STEEL BOILERS

**DO MORE WITH LESS FUEL... AND  
INSURE A LIFETIME OF DEPENDABILITY**

● Boilers for heating or power, all are properly designed to extract and use the maximum amount of heat contained in any fuel available to the owner of a Kewanee. Steel construction insures extra years of service.

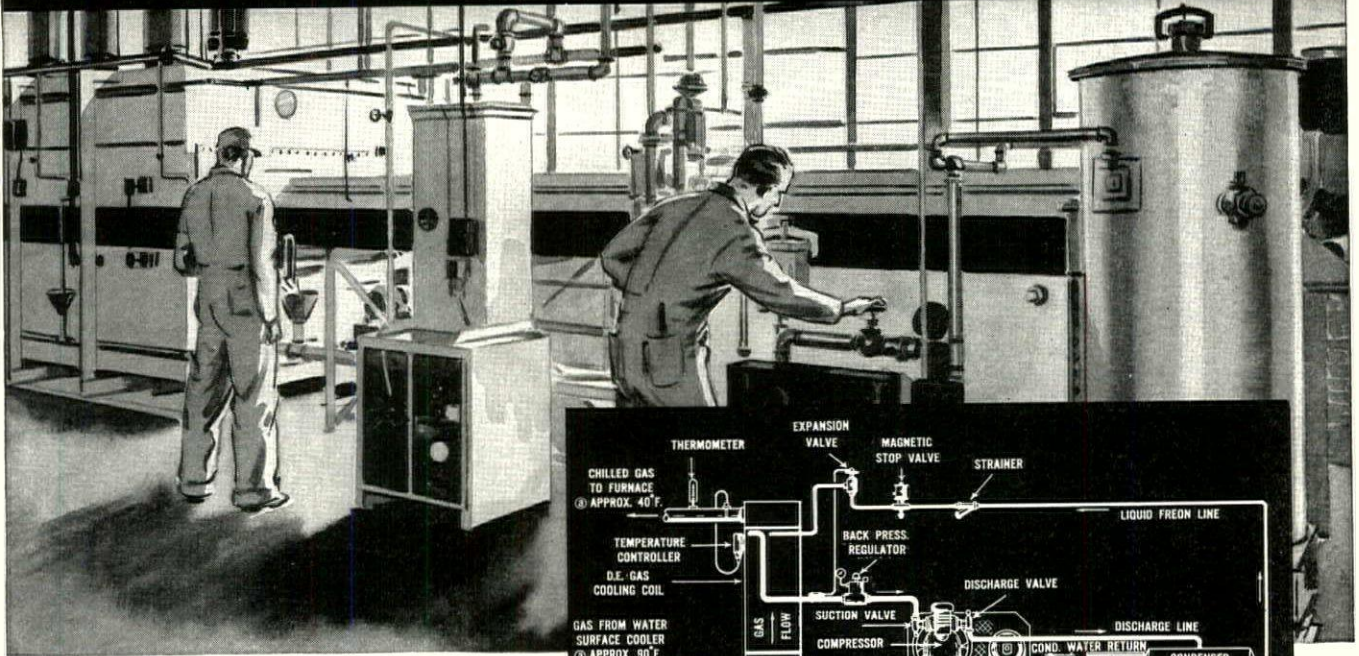
**Another important fact:** No matter what its type or size . . . any Kewanee Boiler can be quickly converted from oil or gas to coal (hand or stoker fired) and back again without changes in the boiler proper.

**KEWANEE BOILER CORPORATION**  
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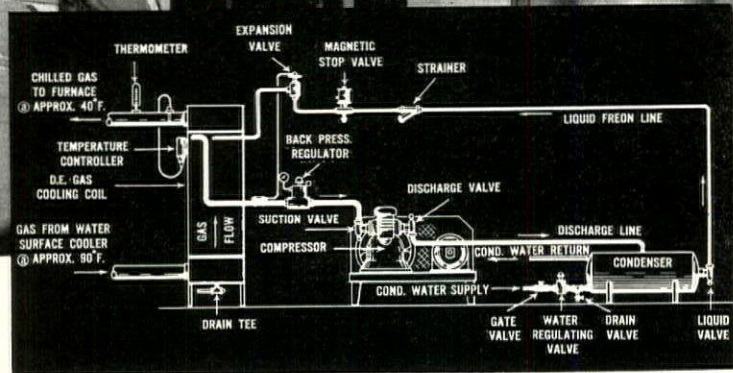
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## What happened when TRANE wrung water vapor out of half burned gas!



The Piping Connections of the Gas Cooling Coil and the Refrigeration System which makes it possible to cool electric furnace protective gas to remove moisture.



## Protective atmosphere solves war production problem that saves precious metals and machine tools

THE ELECTRIC Furnace Company, Salem, Ohio, an important manufacturer of heat treating equipment, had to create a protective atmosphere in the sintering furnace it produced. In powdered metallurgy, the method that saves machine tools and materials in the manufacture of bushings and single articles for vital war industry, powdered metal is placed in the form desired, subjected to tremendous hydraulic pressure and then treated in the sintering furnace. The protective atmosphere was required to prevent oxidation and scaling created by the air in the furnace.

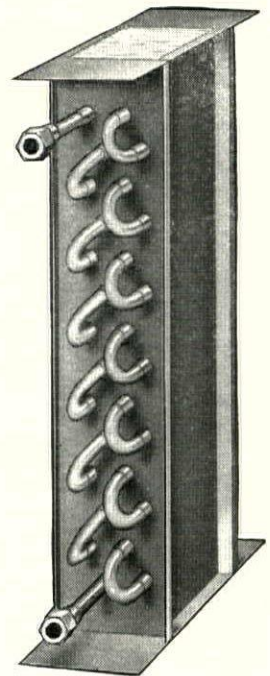
It has been found that this protective atmosphere can be produced most economically by partially burning commercial fuel gas. Unfortunately, however, this burning process produces water vapor which is also an oxidizing agent. Only a very low water vapor content is permissible for satisfactory results.

Condensation of the water vapor seemed to be the most effective way to do the job—especially since water at ordinary temperatures could be used to cool the gas. Tests, however, showed that the temperature of the gas could not be reduced sufficiently for the required degree of water vapor removal.

To solve the problem, Trane Air Engineers provided a special gas cooling coil. A direct expansion refrigerant was circulated through this coil. The temperature was reduced almost to freezing.

Thus Trane provided the means for a truly protective atmosphere completely free of all harmful oxidizing effects.

As in this and hundreds of other cases, the facilities of the Trane design engineering department are at the disposal of government and industry in the design of new and refined equipment to speed the war effort. Your nearby Trane Field Office will be glad to furnish details.



This Unit Cools Protective Atmosphere to Remove Dangerous Moisture

The Trane Gas Cooling Coil, utilizing a direct expansion refrigerant, cools partially combusted gas from 90° to 40°, thereby removing dangerous water vapor in a vital heat treatment process. This represents another of the many problems solved through the use of Trane Heat Transfer Equipment of both standard and special design.

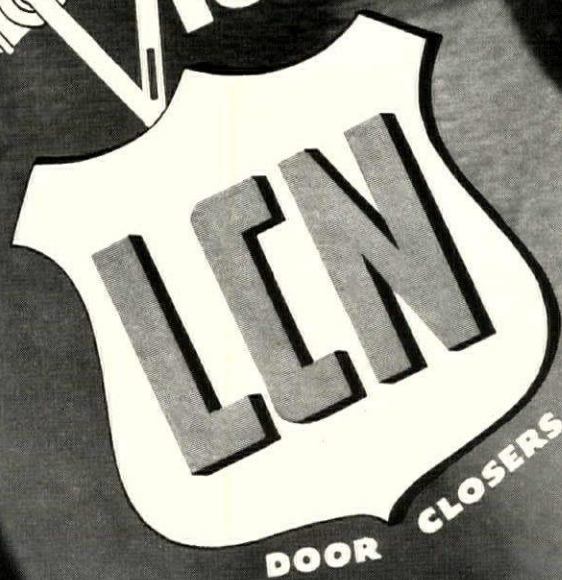
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HEATING • COOLING • AIR CONDITIONING EQUIPMENT FROM 85 OFFICES



100 per cent small parts production  
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Official U. S. Navy Photo

## U. S. NAVY'S Seabees learn REFRIGERATION

THE official U. S. Navy photo above shows a refrigeration class at the Naval Construction Training Center near Norfolk, Virginia. Training of refrigeration specialists is greatly facilitated by the visual demonstrator of the refrigeration cycle.

The Seabees shown are following the instructions of Chief Shipfitter W. A. Edwards, who is pointing to the "mock-up" of the Carrier circuit. All men selected from Seabee

battalions for special training in operation and maintenance of refrigeration equipment have been previously enlisted and rated on the basis of their civilian experience in the mechanical refrigeration field.

Carrier refrigeration and air conditioning first went to war in World War I. Today, the control of air temperature, humidity and circulation of cleaned air is provided by Carrier equipment and technique

for Army camps, Navy bases and war production.

Users of Carrier equipment will find their nearby Carrier Branch Office or distributor ready to cooperate in every way to help keep present equipment operating efficiently and economically for the duration. Mail the coupon for a copy of the helpful booklet: "Civilian Conservation of the B.T.U."

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Please send copy of booklet "Civilian Conservation of the B.T.U.," telling how to keep air

conditioning and refrigeration equipment operating for the duration.

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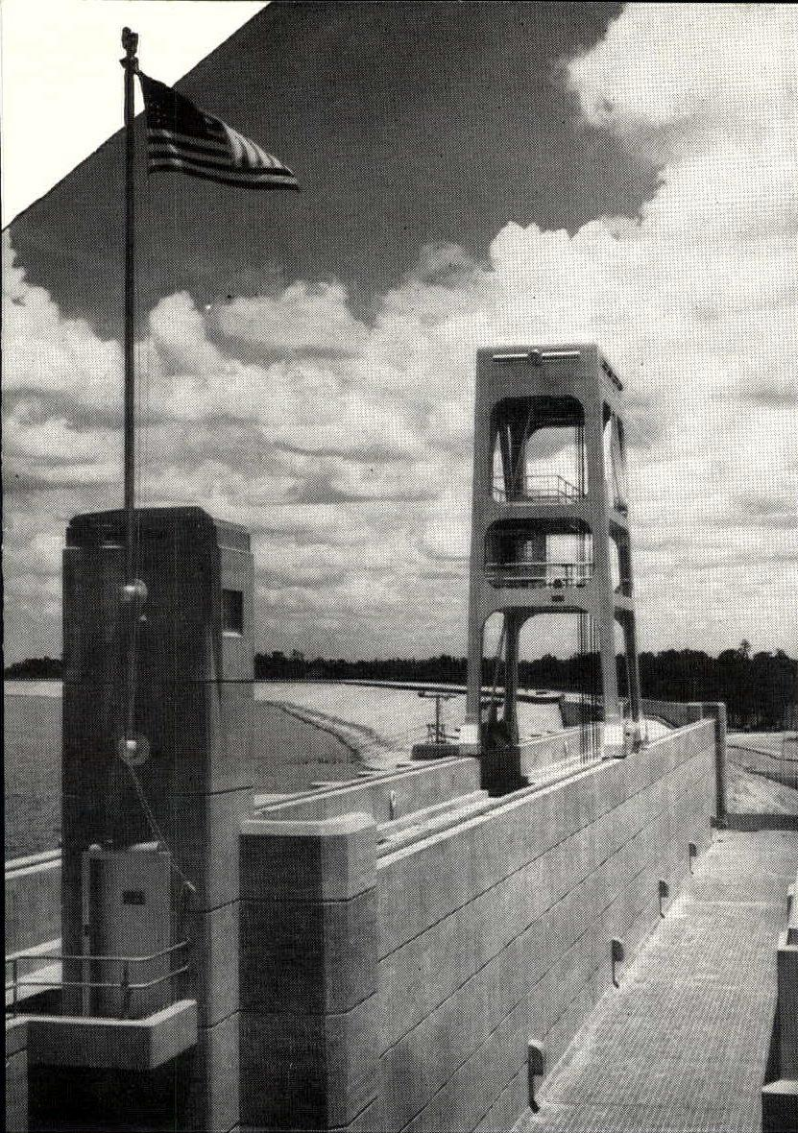


*This most coveted honor, the Army-Navy "E", was awarded to Carrier Corporation for continued excellence in war production.*





# C oncrete provides rugged strength *for* war structures



Top of powerhouse at Santee-Cooper power and navigation project 50 miles north of Charleston, S. C.

**W**HERE rugged strength and appearance in keeping with the function of a structure are demanded, architectural concrete meets all the requirements.

Designers of the huge Santee-Cooper power project used architectural concrete, placed in forms with absorptive lining.

The unique adaptability of architectural concrete is being demonstrated every day by its use in army depots, aircraft factories, hangars, munitions plants, warehouses and power plants. Availability and speed of construction make concrete a logical material for war projects. With this versatile material, sturdy, firesafe, low maintenance structures of good appearance are created at relatively low cost.

Technical assistance in solving problems related to concrete construction is available to architects and engineers engaged in war projects or any essential building. See Sweet's Catalog, 4/33.

**PORTLAND CEMENT ASSOCIATION**  
Dept. A2-25, 33 W. Grand Ave., Chicago, Ill.

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



Rustication lines give scale to mass walls of Santee-Cooper powerhouse. Building designed by Harza Engineering Co., Chicago. Built by Central Engineering Co., Davenport, Iowa.

*Buy more war bonds*





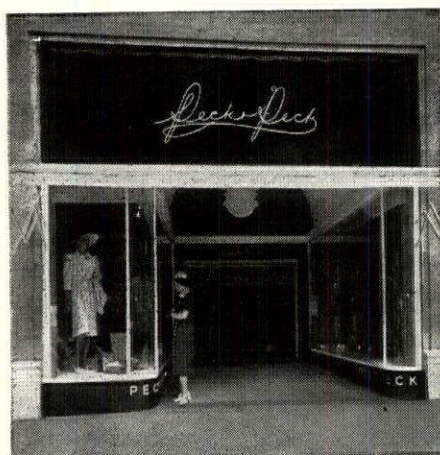
Walk-Over Shoe Store, 5th Avenue, New York; Black Serpentine ashlar front; Kenneth Norton, Architect.



Distinctive Valley Stream, N. Y., Branch Bldg., Queensboro Gas & Electric Co.; Voorhees, Walker, Foley & Smith, Architects; Black Serpentine facing and bulkheads.



Insets in panels supply an interesting note; McCallisters, Caterers, Philadelphia, Pa.; Black Serpentine bulkheads and panels; Armand Carroll, Architect.



Peck & Peck's modern shops in several cities have Black Serpentine bulkheads and trim.

## An excellent, BLACK design material for strong tone and color variation

When your scheme calls for black, we suggest that you consider Alberene Black Serpentine. This natural, quarried stone has become very popular, because outstanding designers and architects have found it ideal, both structurally and from the standpoint of design, for the black masses and accents of black which are features in modern exterior design. Having great toughness and density, Black Serpentine can be cut into sections as thin as  $\frac{7}{8}$ " , which makes it even more economical for panels, bulkheads, facing and spandrels. The stone will retain its color (no worry about oxidation), and will maintain its polish, but it is neither reflective nor mirror-like. A request on your business letterhead will bring you samples, conveniently boxed, showing the range of stones, including black and mottled dark blues and greens. Please address Alberene Stone Corporation of Virginia, 419 Fourth Avenue, New York. Quarries and Mills at Schuyler, Virginia. Sales offices in principal cities.



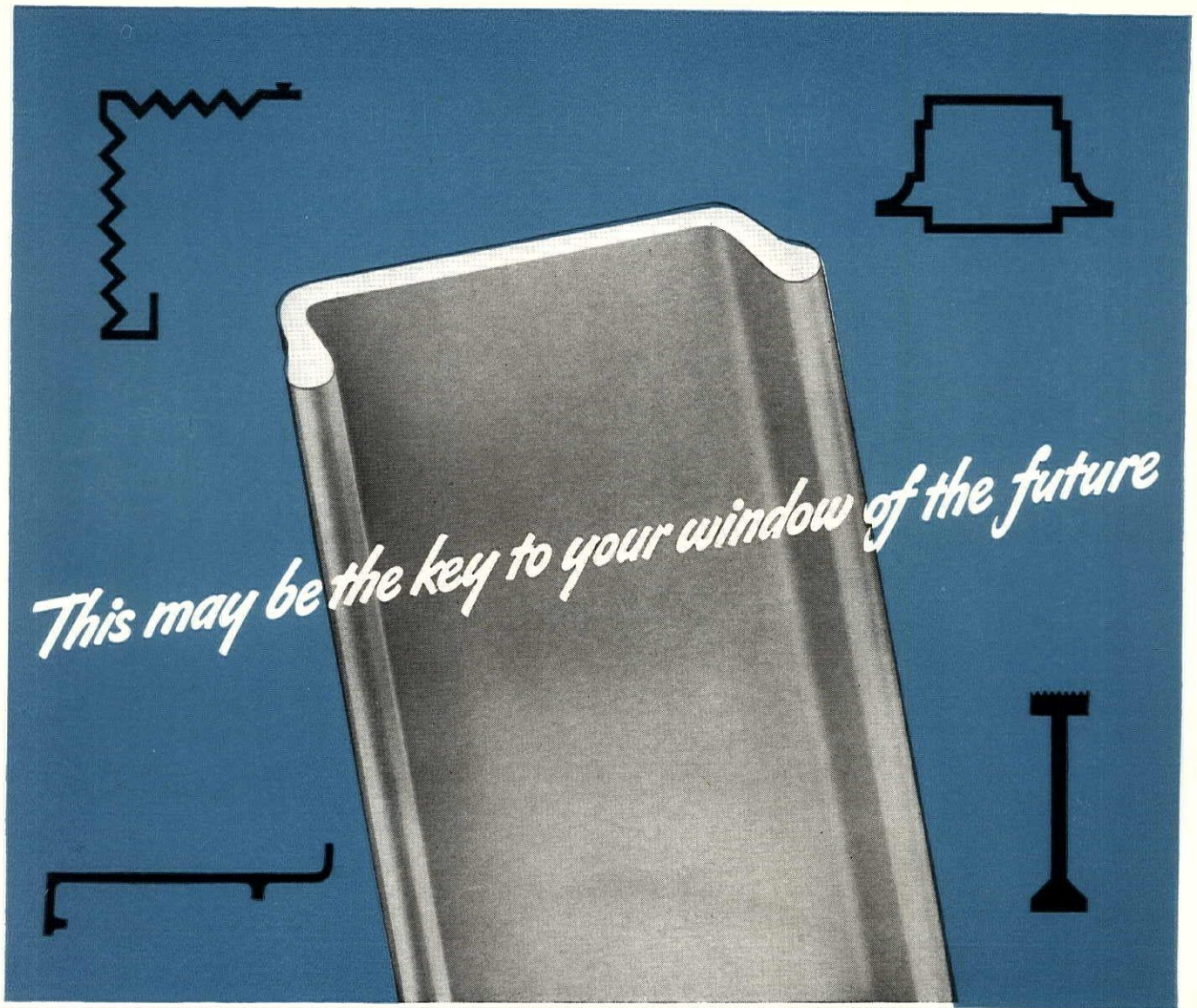
Sheer facades of Black Serpentine; Central Bank of Grand Rapids, Mich.; Knecht, McCarthy & Theband, Inc., Architects.

*Alberene*

**BLACK SERPENTINE**

PERMANENT, NON-REFLECTIVE, ECONOMICAL





*This may be the key to your window of the future*

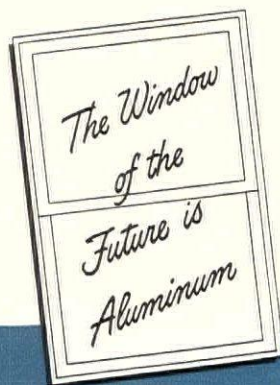
This is an Alcoa Aluminum extruded shape, produced for use in building vital war equipment. Such shapes can be designed with contours exactly meeting your needs. At the same time, metal can be placed just where needed for strength and stiffness. Shown also, in silhouette, are other Aluminum Alloy extruded shapes, produced for architectural uses before the war.

Prewar Aluminum windows, built up of Alcoa extruded shapes like these, were light in weight, easy to operate, weathertight, and fine

in appearance. That, too, is your window of the future.

And windows are but one place in the architectural picture where you'll see such Alcoa Aluminum extruded shapes used to advantage; as sills and coping, in store fronts, skylights and partitions, as building hardware. The design possibilities, the light weight, corrosion resistance and attractiveness of Aluminum, are certain to cause Alcoa extruded shapes to be used widely for many architectural applications.

ALUMINUM COMPANY OF AMERICA, 2198 Gulf Building, Pittsburgh, Pennsylvania.



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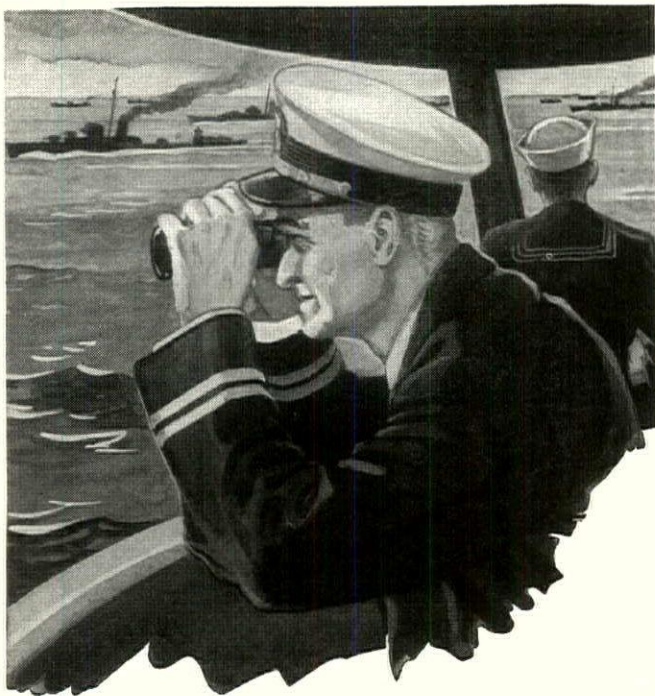
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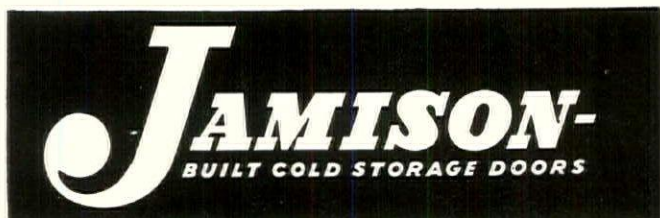
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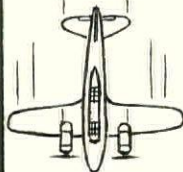


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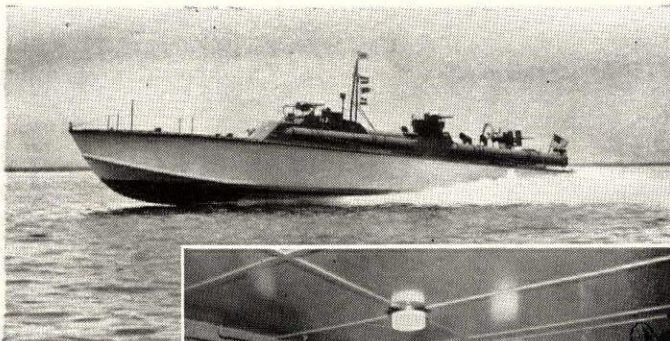


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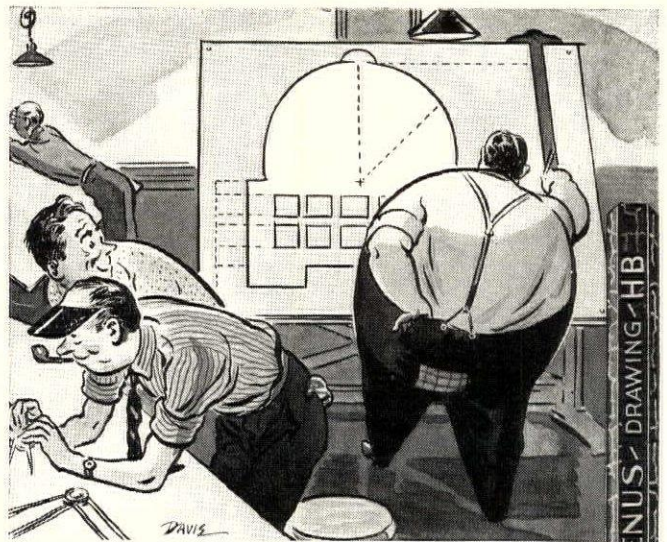
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