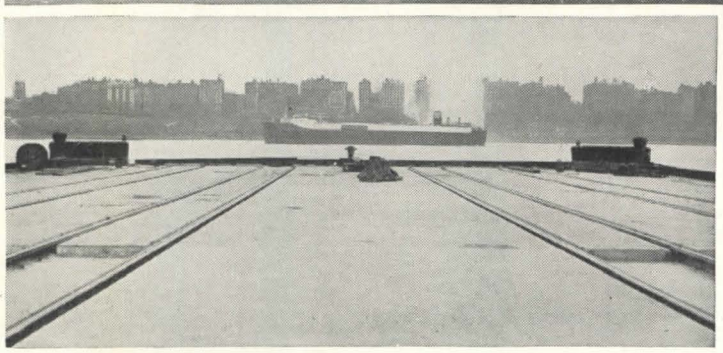
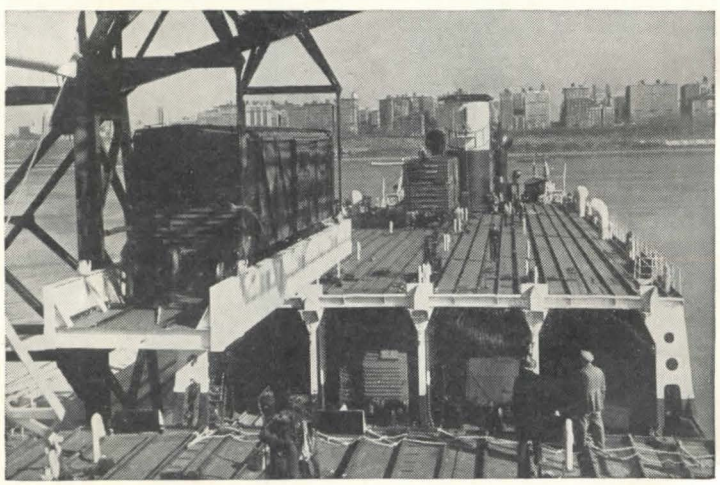
Sea-Going 100-CAR FREIGHT TRAINS





'INCOR' HELPED SPEED WINTER WORK ON NEW SEATRAIN PIER

A Burbank of transportation crossed a ship and a freight car and bred the Seatrain . . . vessels 387 ft. long, 63 ft. beam, with four decks, laid with a mile of track, holding 100 freight cars. Seatrains run weekly between New York, New Orleans and Texas City, with stops at Havana.

Post-war service was resumed last March. Seatrain's 600-ft.-long, open-deck, concrete pier at Edgewater, N.J., had to be completed last Winter. Dependable 'Incor' high early strength helped speed cold-weather concreting, minimized heat-protection problems — and costs. Good design, good workmanship, good cement — result, a ship-shape pier for a ship-shape operation.

Use 'INCOR' 24-HOUR CEMENT for Winter work . . . save time, money and worry. Heat-cured only ONE day, 'Incor'* concrete is service strong, safe from freezing . . . 28-day strengths are 25% to 30% higher than ordinary concrete cured 3 days. America's FIRST high early strength Portland cement saves 2 days' heat-protection on each pour . . . cuts form and tarp costs in half. Backed by 20 years' outstanding performance! *Reg. U.S. Pat. Off.

Owner: **SEATRAIN LINES, Inc.,** New York; Contractor: **J. RICH STEERS, Inc.,** New York; Engineers: **HARDER, BARBATO & CIAMPA,** New York. 'Incor' Cement through: **THOMAS HENRY MATERIAL Co.,** West New York, N. J.

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

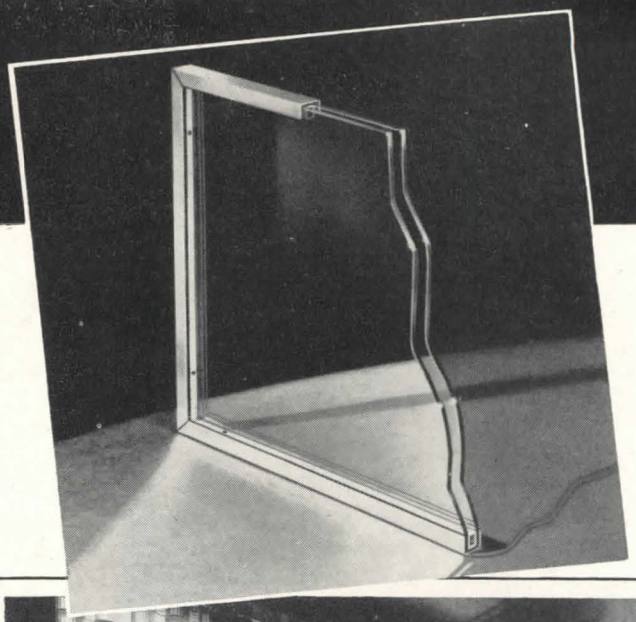
Suggestions for using *Glass* in

AN ATTRACTIVE, modern appearance is more readily achieved in almost any public building interior with installations of Pittsburgh Polished Plate Glass. This glass, available in a wide range of thicknesses, offers architects a variety of design possibilities. Illustrated at the left: partitions and table supports of Plate Glass in a bank. Architects: Walker & Gillette.

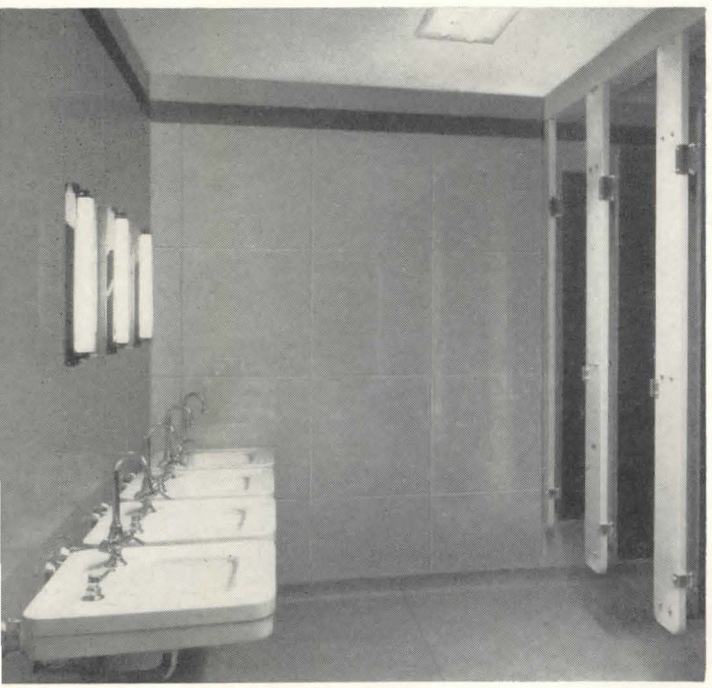
SOLEX, a heat-absorbing Plate Glass, permits ample light to enter rooms but keeps out much of the heat and brightness of the sun. These desirable characteristics make Solex particularly advantageous for windows in airport control towers, on the southern and western exposures of hospitals, hotels, office buildings, and in laboratories and warehouses.

PITTSBURGH PLATE GLASS COMPANY

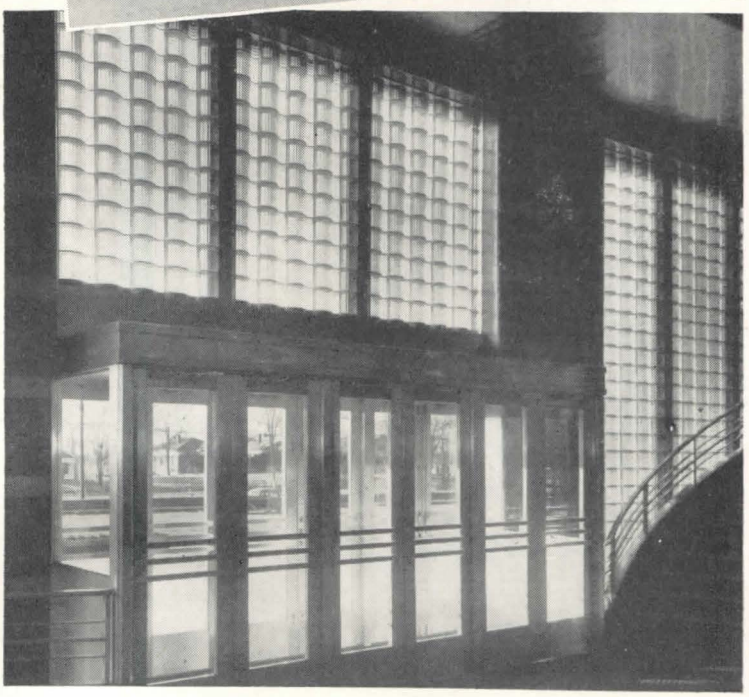
public buildings



TWINDOW, "Pittsburgh's" window with built-in insulation, cuts heating and air-conditioning costs. When made of two panes of glass, its sealed-in air space gives Twindow almost twice the insulating effectiveness of ordinary windows . . . even greater insulating effectiveness when made with more than two panes. It minimizes downdrafts—helps to prevent steaming of windows.



WALLS AND PARTITIONS of Carrara Structural Glass go a long way toward helping you achieve the immaculate cleanliness desired in public toilet rooms. Impervious to moisture, chemicals and pencil marks, Carrara can be kept sparkling clean with an occasional wiping with a damp cloth. It won't check, stain, craze, fade or absorb odors. 10 attractive colors to choose from. Architects: Ray Gauger & Harry Firminger.



PC GLASS BLOCKS can be used in numerous ways to add beauty and practicality in public buildings. They admit daylight abundantly while protecting privacy and shutting off unwanted views. They harmonize perfectly with any style of architecture. Available in 10 patterns. Architect: Louis Wirsching, Jr.

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

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BYERS WROUGHT IRON PIPE

Recent completion of a new 125-room wing rounds off a long program of improvement that makes this famous old hostelry one of the most modern in the country.

As in the previous stages of the project, permanence and freedom from maintenance were emphasized in the selection of materials. Byers Wrought Iron pipe was applied in a number of applications where severe corrosion was anticipated: interior soil, waste, drain and vent lines—hot water heating returns—and exposed mains of the chilled water system. Some of these vital lines are shown in the small illustration.

The soundness of these selections is confirmed by the records of wrought iron's superior endurance. In many areas, wrought iron pipe is reported as still serving in heating, plumbing and sanitary lines after 40 years and more, under conditions that failed ordinary materials in a fraction of that period.

There is no secret as to why wrought iron offers extra durability; it's due to the unique structure and composition of the material. Tiny fibers of glass-like silicate slag, threaded through the body of high-purity iron, halt and "detour" corrosive attack, thus discouraging pitting. The fibers also help anchor the initial protective film, which shields the underlying metal.

If you would like some helpful information on the performance and applications of wrought iron, ask for our bulletin, "Wrought Iron in Piping Services."

A. M. Byers Co., Pittsburgh, Pa. Established 1864. Boston, New York, Philadelphia, Washington, Atlanta, Chicago, St. Louis, Houston, Salt Lake City, Seattle, San Francisco. Export Division: New York, N.Y.

Hotel Roanoke Addition
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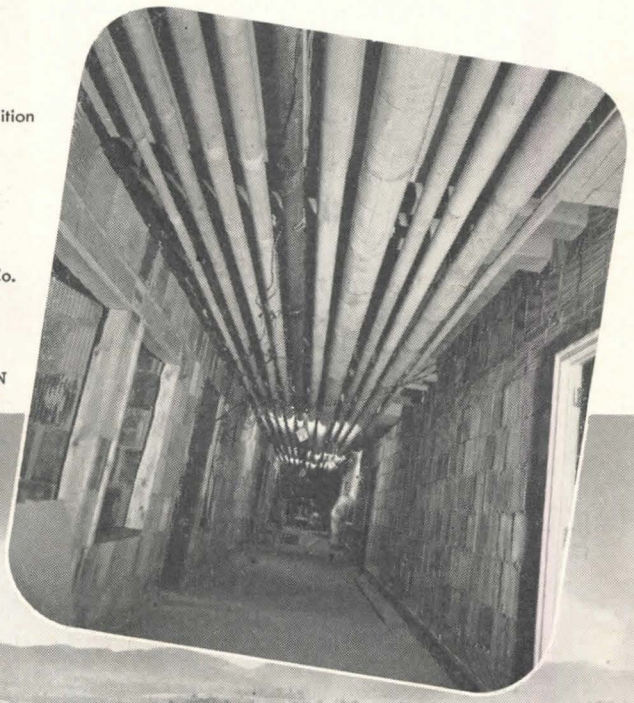
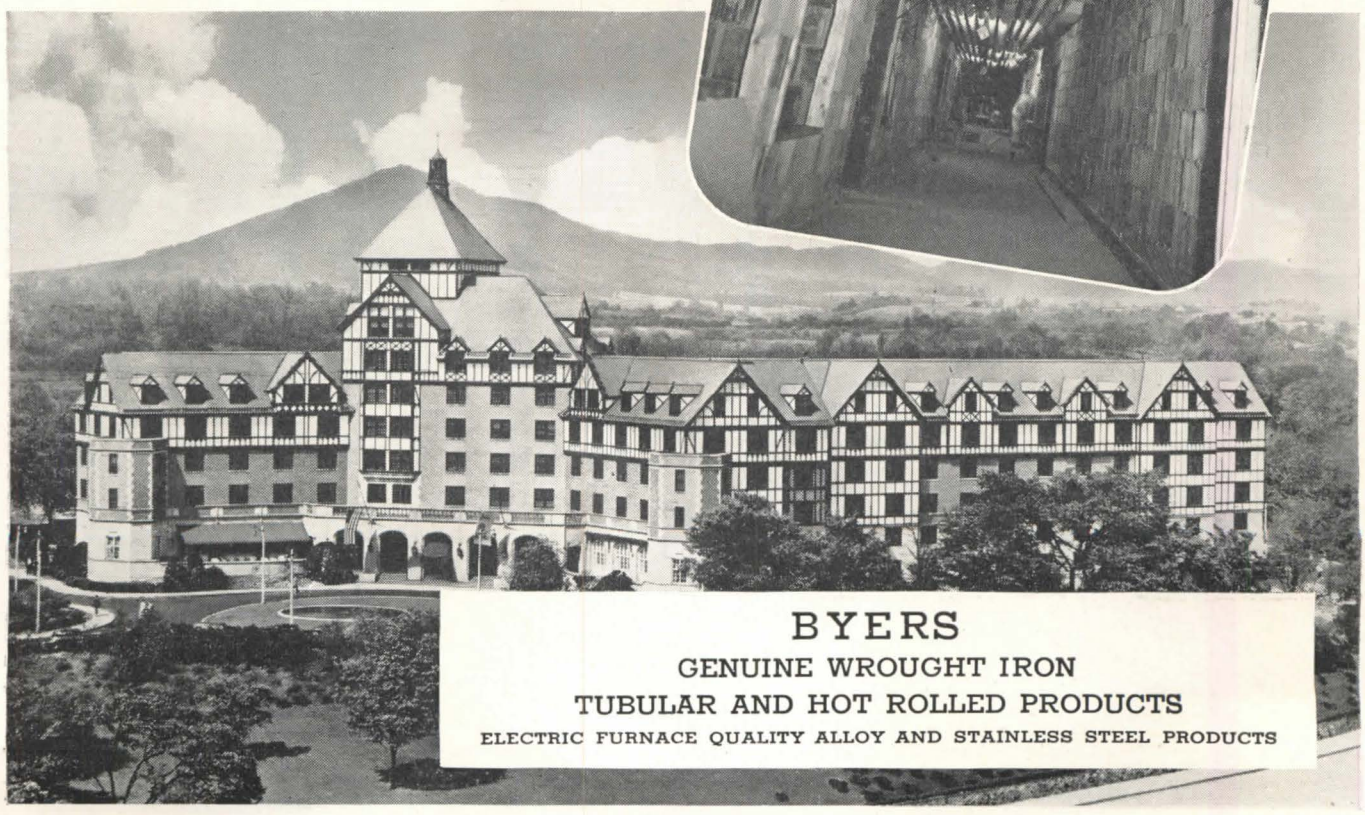


CORROSION COSTS YOU MORE THAN WROUGHT IRON



BYERS
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ELECTRIC FURNACE QUALITY ALLOY AND STAINLESS STEEL PRODUCTS

VOL. 102 • NO. 6 December 1947

ARCHITECTURAL RECORD

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COVER: View of Duke University; Press Association, Inc., Photo. Elevations by Saarinen, Swanson and Saarinen, Architects, and Brooks-Borg, Associated

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WATROUS INDIVIDUAL WALL DISPENSERS

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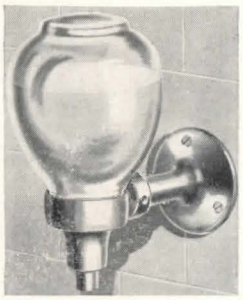
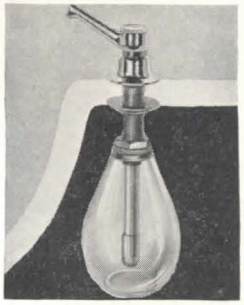
M-807-MJ Horizontal type, metal container



M-815 Push-up type

M-826 Push-down type

WATROUS INDIVIDUAL LAVATORY DISPENSERS



M-801 Pear shaped glass container

M-829 Narrow glass container

WATROUS VALVES FOR GRAVITY SYSTEMS

C-860 Horizontal type

C-866 Push-down type

Watrous SOAP DISPENSERS

THE RECORD REPORTS

Steel Allocation Faces Revision • HHFA Policy Is Outlined • Accelerated Amortization Proposed as a Means of Stimulating Rental Housing Construction

The Administration is so engrossed, as it has been since summer, in the Marshall Plan that not much of the executive zeal, which continually invents new governmental tasks, is left over for housing. Nevertheless, the Marshall Plan itself contains little nooks that involve the construction business, and Congress is more or less under obligation either to "do something" or to issue the kind of report that, in the confusion of headlines and editorials, will look like action.

The Marshall Plan involves economic controls, among them the allocation of steel. Although steel, to be sure, already is allocated by the companies more or less along lines suggested by the government or Congressional committees, sanction of law would surely mean some change in the way of doing business. In allocating the product with an eye to shipping to Europe without hurting any domestic interest that might complain too loudly, Congress if not the Administration would prefer that the companies allocate. This was one of the things to be fought out.

Controls May Have Little Effect

It was not clear that control over the distribution of steel would greatly effect domestic use of supplies. A substantial part of the steel now sent abroad goes not to Europe for reconstruction but to Latin America for products that, insofar as either Administration or Congress is concerned, can wait. So it was apparent that much of the business of allocating would have to consist of redirecting exports — installing a complaint desk, no doubt, somewhere in the State Department for the benefit of those left out.

As the Council of Economic Advisers pointed out to President Truman before the Special Session started, public and private building projects are being shelved because steel is not available, and there is little prospect that the supply of steel can be increased in amounts even approximating increasing domestic and foreign needs. The problem is one of directing the steel supply to the most urgent uses both at home and abroad.

Other building products may not be so much involved in current proposals for curbs. The whole supply picture, though far from excellent, has improved; moreover it is steel, chiefly, among construction components, that must be sent abroad.

General assumption in Washington quarters is that home building will proceed at a heavier pace next year; estimates range from 850,000 to 900,000 starts.

HHFA Policy Outlined

As the new consolidated Housing and Home Finance Agency moves ahead, the views of Administrator Raymond M. Foley, top policy maker, become increasingly important. An official who has devoted 13 years to housing problems, he champions private enterprise housing.

Among his other views, voiced publicly on numerous occasions:

Chief government activity should be to aid private enterprise in reduction of housing cost and in attack upon its problem areas.

Until costs can be pared down to reach lower income groups, some form of public aid to housing is necessary. It should be shared by federal, state and local governments.

Means for such aid should be devised with progressively less public ownership and management.

Government credit should provide incentives for investing private funds in areas of housing finance presently avoided due to unusual risk or prospect of low or uncertain return.

Cost Reductions Proposed

Aside from general policy, Administrator Foley has these suggestions to overcome high costs:

Producers and suppliers of materials must re-examine their profit requirements and their system of merchandising.

Land developers must remove unnecessary margins.

Labor must justify its wage-rates with full productivity.

Subcontractors must sharpen their pencils in bidding.

Operative builders must be satisfied with reasonable profits derived from larger volume operations.

Restrictive practices of building codes, of labor, or of management must be removed where they add unnecessarily to housing costs.

New methods and materials, new techniques such as prefabrication and industrialization should have full support of industry, labor and government.

Congress Units Act

Chairman Ralph A. Gamble of the Congressional Joint Committee on Housing in October named Senator Flanders of Vermont to investigate high cost factors in housing and cost reduction. The Senator was scheduled to make his report this month.

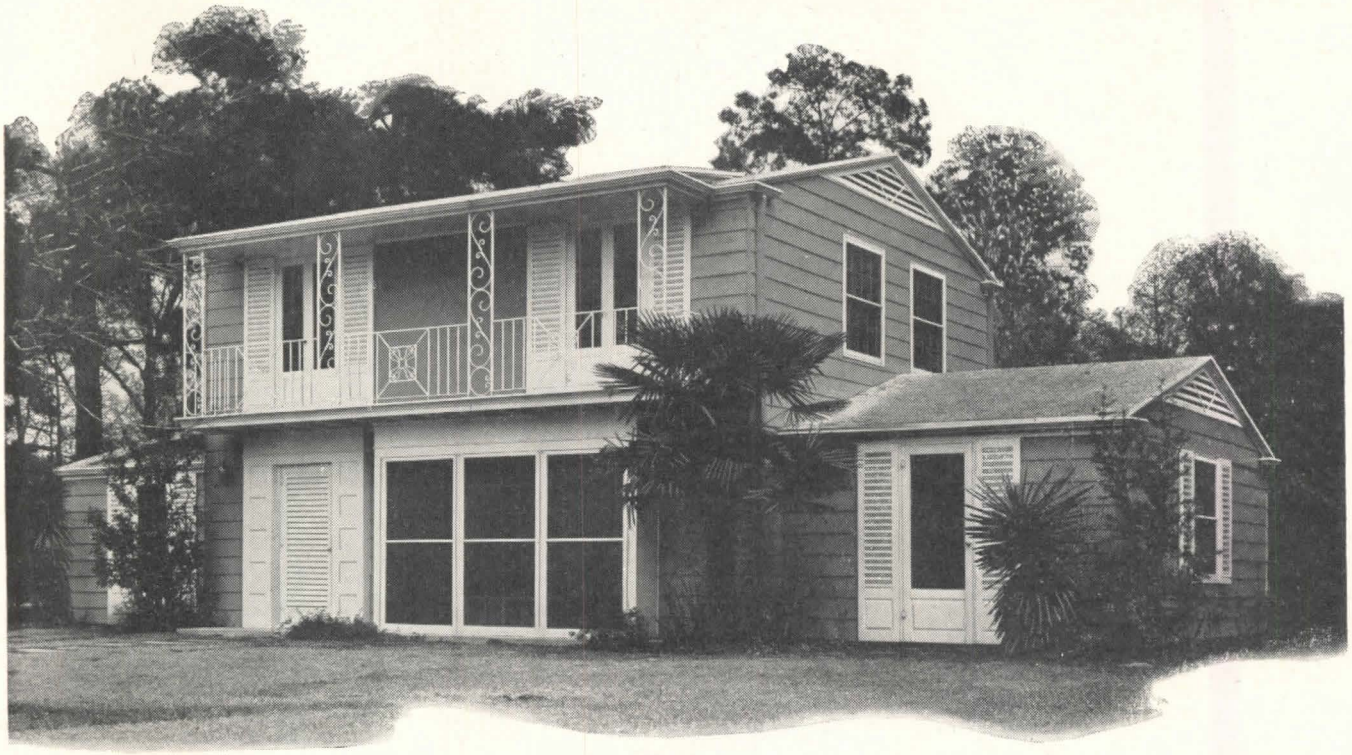
Aim of the project is to find where the housing dollar goes, to study labor practices, analyze profits of contractors and distributors, and discover techniques which could make housing less expensive. It is a part of the Com-

(*Continued on page 10*)

— Drawn for the RECORD by Alan Dunn

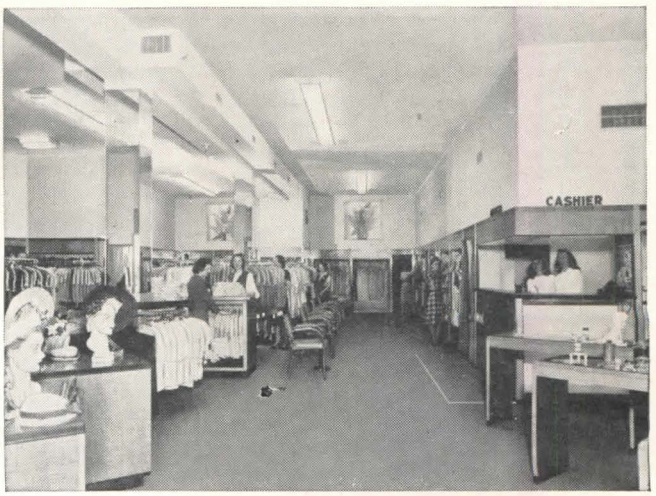
Here is the ideal year-round air

SERVEL *ALL-YEAR* GAS AIR SEASON COMFORT, PROMOTES



The home of Architect Otto Woestemeyer, 2351 Claremont Ave., Houston, Texas, features the year-round comfort of Servel *All-Year* Gas Air Conditioning. Mr. Woestemeyer says, "The summer cooling provided by Servel is most welcome in this warm, moist climate. The air filtering qualities of Servel are superb. Operating costs have been amazingly low."

"We are entirely satisfied with the performance of our Servel," writes Gordon Brown, 4519 Firestone Blvd., South Gate, California. "The comfortable condition of our building is complimented by everyone and is the delight of our employees."



Customers and employees alike appreciate the comfortable indoor temperature and humidity that Servel *All-Year* Gas Air Conditioning maintains the year round in Silverstein's Women's Apparel Store, 342-344 DeSiard Street, Monroe, Louisiana.

conditioner for offices, stores, homes

CONDITIONER PROVIDES ALL-HEALTH, EFFICIENCY, BUILDS PROFITS

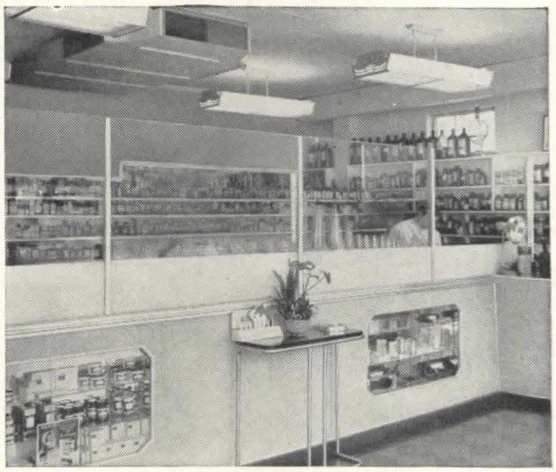
YOU'RE on safe ground when you recommend Servel *All-Year* Gas Air Conditioning. Hundreds of installations are operating successfully from coast to coast. And users everywhere are enthusiastic.

Home owners praise the just-right temperatures, the dehumidified, dust-free indoor climate provided by Servel through every season. Business and professional men report rises in employee health and efficiency, reduced absenteeism. Merchants tell of increased patronage, higher sales volume. All agree that the benefits of Servel *All-Year* Gas Air Conditioning will more than pay for it in a short time.

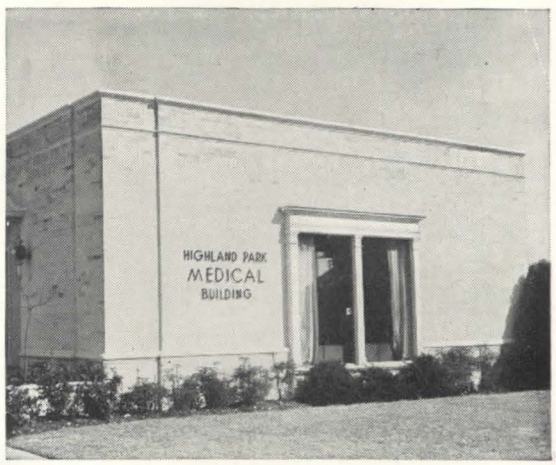
One Unit Does Year-round Job

The reason for this tremendous success is that the Servel Conditioner is completely different from any other air conditioning unit. Servel is a complete air conditioning system *in one unit*, operating through scientifically designed ducts and registers. In summer, Servel refrigerates and dehumidifies air. In winter, Servel heats and humidifies it. Servel also filters out dust, dirt and irritating pollen.

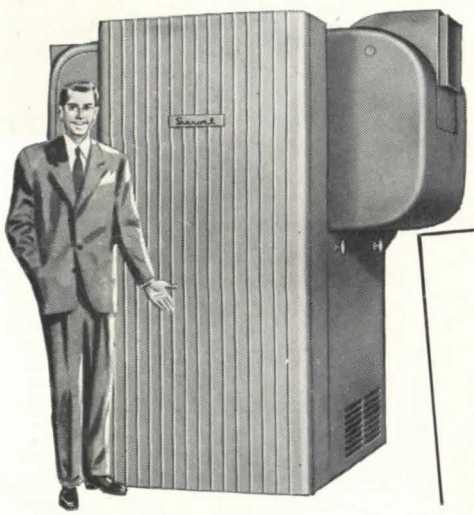
Whenever you are planning new construction that would benefit from the advantages of Servel *All-Year* Gas Air Conditioning, be sure to tell your clients about it. For additional testimony about specific applications, get in touch with your local Gas Company. Or write to Servel, Inc., 8712 Morton Avenue, Evansville 20, Indiana.



Connie's Prescription Shop, 1209 North Walker, Oklahoma City, Oklahoma, is kept comfortably cool in summer, warm in winter by the Servel *All-Year* Gas Air Conditioner. C. J. Masterson, proprietor, reports, "Our Servel Conditioner has been 100 per cent satisfactory."



Patients, doctors and nurses in the Highland Park Medical Building, 5450 Preston Road, Dallas, Texas, all enjoy Servel-supplied cool, clean, invigorating air in summer and clean, draft-free warmth in winter.



TRIED . . . PROVED . . . SUCCESSFUL

(From Boston to San Diego . . . From Bismarck to Miami)

The Servel *All-Year* Gas Air Conditioner is already operating successfully in hundreds of installations from coast to coast. Some have been running for more than seven years. The equipment is tried, tested . . . and *approved* by users everywhere.

Servel

***All-Year* GAS AIR CONDITIONER**

mittee's overall investigation, which included field hearings in most parts of the nation.

During Committee field hearings, incidentally, private conferences were sometimes held with representatives of private capital and manufacturers. Washington hearings were scheduled for early this month.

In looking toward a single model building code, Vice Chairman McCarthy advises that a number of state governors intend to present measures to legislatures to pave the way for adopting such a code.

The House labor subcommittee investigating restrictive labor practices in the building industry, prior to its field hearings in November, heard charges from newsmen, who had conducted a survey, that "at least one dollar out of every five" put into home construction this year would be sheer waste as a result of restrictive practices of labor, business and government. The witnesses cited make-work union practices, low labor productivity, expensive marketing methods for building materials, and laws and regulations hampering building.

Integrated Building: a combination display at New York's Mortimer Levitt Gallery. On the wall, rendering of El Panama Hotel (Edward D. Stone Associates, Architects) and plan of the hotel courtyard (Thomas D. Church, landscape architect). Background, 6-ft. mosaic panel by Max Spivak, to be placed near hotel dance pavilion. Foreground, model of sculpture by Jose de Rivera, to be executed in steel for hotel's swimming pool

INTEGRATED BUILDING

An unusual and interesting exhibition at the Mortimer Levitt Gallery, New York, last month was designed to promote integration of the arts in building, and was the first of a proposed series of similar exhibits at the same gallery.

Called "Integrate Modern Building," the show was a display of architecture, design, mosaic, painting and sculpture. Ten projects were shown, each prepared especially for the gallery as a collaborative effort. Architects contributing were: Edward D. Stone Associates; George Nemeny and A. W. Geller; Reisner and Urbahn, and James M. Allen, Associate; Jessen, Jessen, Millhouse and Greeving; Carl Koch; Daniel Laitin and Samuel Glaberson; and Schweikher and Elting.

Working with the architects were sculptors Jose de Rivera, Robert Cronbach and Charles Umlauf; mosaicist Max Spivak; landscape architect Thomas D. Church; muralists Frederick Wight, Virginia Berresford, Jerome Snyder, and Rudolph Weisenborn; model maker Devon Dennett; and interior designers George Wells and Jac Lessman.

City Planning Grows

Metropolitan planning and expressway data have come recently from the Federal Works Agency and the Commissioner of Public Roads, who cite progress in the field. For instance, Milwaukee City and County are clearing their plans with each other and adjusting differences, and Los Angeles City and County have done so for many years. Louisville has an Area Development Commission under state law on which city, county and private groups are represented.

A number of states have regional planning powers which permit cities and counties to prepare metropolitan area plans, James W. Follin, FWA Assistant Administrator, points out. In recent years the number of cities getting together on such planning has increased greatly.

State laws for urban redevelopment, he explains, are of three types, one letting private corporations engage in redevelopment, one making public housing authorities the administrative as well as the construction agency, and one establishing a land agency in local government to administer redevelopment. California has the third type, which is growing in favor.

Thomas H. MacDonald, Public Roads Commissioner, discussing urban expressways, comments:

"Traffic generally tends to avoid congestion if it is at all possible to do so. Cities that ignore this obvious fact and refuse to modernize their arterial routes will pay a heavy price in loss of business and depreciation of property values in central business districts."

He says further: "Traffic studies and construction costs indicate that it will be far more economical to build expressways for large traffic volumes than to try to serve a growing traffic through street widening or other expedients."

Farm Houses to be Surveyed

A new farm house survey is to be undertaken by the U. S. Department of Agriculture under the 1946 Research and Marketing Act. The aim will be to assemble information on space requirements of farm houses to permit better planning. The survey will get down to brass tacks and analyze household activities of representative farm families.

In carrying out the project, the Department's Home Economic Bureau will work with state agricultural experiment stations. The work will be done by

(*Continued on page 12*)

THE RECORD REPORTS

(*Continued from page 10*)

regions — northeastern, northern, north central and western — and will include among its space arrangement considerations those household activities affected by climate, topography, type of farming, family preference, etc. Closet space and general storage problems will be included.

"Some farmhouses tend to be arranged inefficiently and have too little space for comfort and convenience," comments E. A. Meyer, Administrator of the Research Act. "This is due to (1) lack of plans to meet family living requirements in various regions of the country, and (2) lack of established standards for space to meet these requirements. Filling these omissions is essential if more efficient, livable and economic farmhouse plans suited to regional requirements are to be developed by architects, families planning their own houses, and others interested in housing design."

Other Developments

Other Washington developments in construction include:

1. The new Housing and Home Finance Agency has completed its organization and will have five divisions directly under Administrator Raymond M. Foley — Divisions of General Program, Lanham Act Functions, General Administration, Law, and Information. It should be noted that the General Program Division will include three advisers, one on relations with industry and consumer groups, one on racial and minority relations and one on international inquiries.

2. The Federal Works Agency contemplates a larger road program in 1948 with the total running about a third larger than in 1947. As to federal building construction, plans are for no extensive 1948 program but rather a concentration on a few badly needed projects. However, building designs will be worked out and additional funds sought for site purchases and blueprinting of projects for later years.

3. The National Home and Property Owners Foundation plans a series of meetings in Washington and other cities in January to consider legislative proposals. On its program: federal tax deduction on home payments, as well as interest payments; state tax exemption on first $5000 of value of home; ceiling on real and property tax in every state; elimination of federal government from housing business.

4. The recent Washington, D. C., Home Builders Exposition drew tens of thousands of persons to see its "more

(*Continued on page 14*)

A STORY FOR ARCHITECTS AND DECORATORS from McGuffy's ancient "First Reader"

It seems the bus boy persuaded the chef to let him sculp a lion out of butter for a centerpiece. When the prince saw the masterpiece he said "Junior, you are too good to waste your skill on ephemeral butter, and you shall carve lions in stone to flank my drawbridge and I shall pay you well."

Most modern decorative materials are more substantial than butter, but your skill is largely wasted on some of them. Why?

Often the colorful surfaces you create receive hard usage. They receive poor upkeep, infrequent renewal, and scant cleaning. Sometimes they fade. A few years after you finish a building it has lost the colors you gave it, and it doesn't give a prospective client the right impression of your artistry.

Such things can't happen to a Formica surface. Formica is as hard and smooth as a china dish. It cleans as easily. It will not chip, crack, check, or blister. Food and alcohol and cigarettes won't damage it. It sheds dirt. The lovely colors never fade. Simple cleaning brings out their pristine richness after decades of use.

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THE FORMICA INSULATION COMPANY
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THE RECORD REPORTS

(*Continued from page 12*)

than an acre of exhibits" of new home building products, equipment, furnishings and appliances. Among other awards was a model home.

5. Housing Expediter Frank R. Creedon, who resigned to take charge of an atomic energy construction program, was succeeded by Tighe E. Woods as Acting Expediter. Mr. Woods had been Mr. Creedon's deputy for rent control.

6. The Supreme Court upon opening its term in October upheld a lower court decision which, in turn, upheld a Los Angeles county tax impost on imported Lumber.

❖ ❖ ❖

ON THE CALENDAR

Dec. 1–27: Group Show of Painting, Sculpture and Pottery, Bertha Schaefer Gallery, 32 E. 57th St., New York City.

Jan. 3: Symposium on School and Educational Buildings, sponsored by the Pennsylvania Society of Architects of the A.I.A., University of Pennsylvania, Houston Hall, 3417 Spruce St., Philadelphia, Pa.

Jan. 10–29: "Arts of Early People," exhibition from the anthropology collection of the University, School of Architecture and Allied Arts, University of Oregon, Eugene, Ore.

Jan. 12–16: 2nd National Materials Handling Exposition, Public Auditorium, Cleveland, Ohio.

Jan. 26–29: 5th All-Industry Refrigeration and Air Conditioning Exposition, Public Auditorium, Cleveland, Ohio.

Feb. 2–6: Air Conditioning Exposition (8th International Heating and Ventilating Exposition), Grand Central Palace, New York City.

Feb. 7–26: "French Prints from Corot to Picasso," exhibition of drawing, etching and lithography, School of Architecture and Allied Arts, University of Oregon, Eugene, Ore.

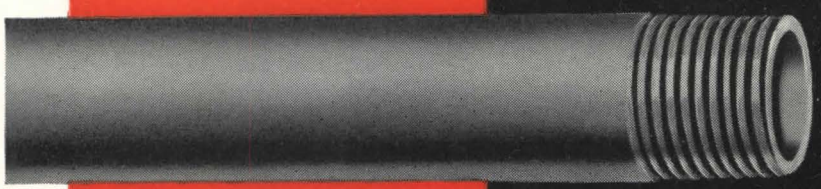
PLAN OFFERED TO SPEED RENTAL HOUSING

Following a series of conferences with investors and builders across the country, the National Committee on Housing has proposed accelerated amortization as a means of stimulating the building of rental housing. In six cities alone, reports the Committee, the plan would produce at least 35,500 apartments in two years.

As explained by the Committee, the plan "calls for liberalization of amortization regulations by Congress to enable

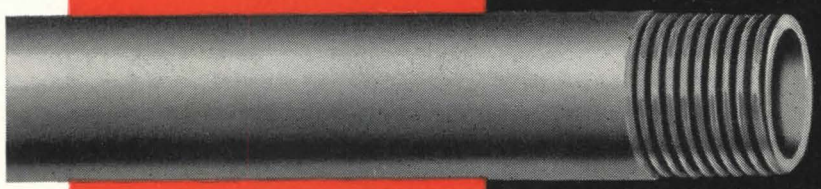
(*Continued on page 16*)

6 reasons Why NATIONAL ELECTRIC SHERARDUCT CONDUIT is better!



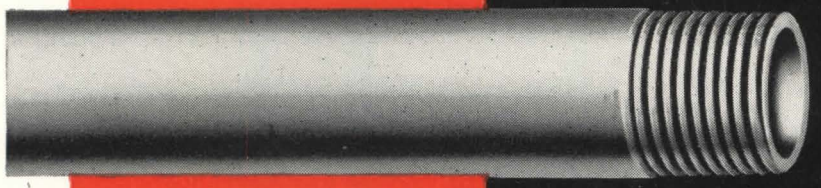
RAW PIPE

1. Made of "Spellerized" steel for easy bending and clean-cut threads.
2. Scale-free—inside and out.



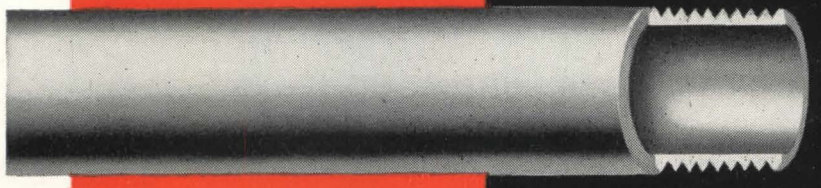
PICKLED

3. All rust-forming impurities removed before SHERARDIZING.



SHERARDIZED

4. Zinc alloyed with the steel on all surfaces.



SHERARDIZED THREADS

5. All threads have the same zinc protection as the walls.

PROTECTED AGAINST ACIDS

6. Acid-resisting Shera-Solution baked into the pores for added protection.

PROVED BY THE TEST OF TIME

National Electric Products Corporation
Pittsburgh 30, Pa.

NATIONAL ELECTRIC PRODUCTS
NE
WIRING 6 SYSTEMS
WIRES AND CABLES

THE RECORD REPORTS

(*Continued from page 14*)

investors to undertake such projects in the face of today's high construction costs." This it would accomplish by amortizing the indebtedness against the property concurrently with the depreciation in book value. It would permit investors, on approval of the Federal Housing Agency, to charge off annually for five years up to 10 per cent of the project cost as emergency amortization in addition to the normal depreciation rate of 2½ per cent.

What this would mean, briefly, is that for five years the investor most likely would have to pay no corporate tax whatever on the development because against a 12½ per cent depreciation annually the project almost surely would show not a profit but an apparent loss. Thus the investor would actually save a 38 per cent corporate income tax (the present rate) on 10 per cent of the cost of the project each year for five years — a sizable sum which theoretically would be applied to the reduction of the mortgage. The plan presupposes that the investor have an income from a source other than the rental project, and that he use such income, without tax liability, toward the amortization of the project investment.

Such a plan, obviously, would appeal only to large corporations, and would not be feasible for insurance companies, which do not pay a corporate income tax. Furthermore, it would be profitable only in the case of large projects and only if the high corporate income tax remains in effect for several years after the projects have been built.

Accelerated amortization is not a new idea, but this is the first time it has been put forward as a definite recommendation. Whether or not it would be acceptable to a very tax-conscious government is a moot question. Even if it were, there remains the question of its acceptability to the average large-scale investor, who under its terms would have to be willing to subject himself to FHA supervision (a certificate of necessity issued by the FHA is required by the plan) in return for a tax saving which may be achieved anyway by the reduction of federal taxes in the near future.

BUILDING NOTES

Wax Research Tower

Ground has been broken by S. C. Johnson, Inc., for the 15-story Wax Research Tower at Racine, Wisc., which will be the principal feature of the new laboratory designed for the company by Frank Lloyd Wright.

(*Continued on page 128*)

It's for Keeps!

Permanent PROTECTION

FOR YOUR LIGHTING DOLLARS with Guth ALZAK* ALUMINUM REFLECTORS

DIAMONDS and ALZAK Reflectors are good investments because they are so permanent, wear so well, give such fine service and do not depreciate!

ALZAK lasts a lifetime! ALZAK Aluminum Reflectors are electrolytically brightened, then coated with a tough film that is ***second in hardness only to the diamond!*** Even hard knocks and bumps will not crack, chip, check, craze, break or peel this film; neither will dust or dirt discolor it. ALZAK is ***permanent*** protection for your lighting equipment!

Guth ALZAK Reflectors offer you finer quality illumination for faster, surer, more comfortable seeing. ALZAK Reflectors give snap and sparkle to Fluorescent Light; they control light rays more accurately; they present lower surface brightness—lamps seem to blend into the Aluminum surface; and they reduce annoying glare.

The superior performance of ALZAK Reflectors can be enjoyed indefinitely, for each time they are properly cleaned they are restored to their original efficiency. There is no depreciation to an ALZAK Reflector.

OUR 45th ANNIVERSARY Year

GUTH FUTURLITERS and TRUCOLITES now offer improved lighting performance with ALZAK Aluminum Reflectors. Write today for complete details; ask for Form 833-7-47.

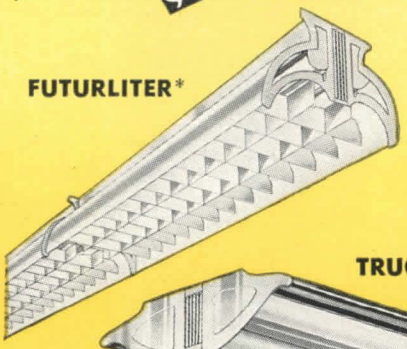
THE EDWIN F. GUTH CO. Guth

ST. LOUIS 3, MO.

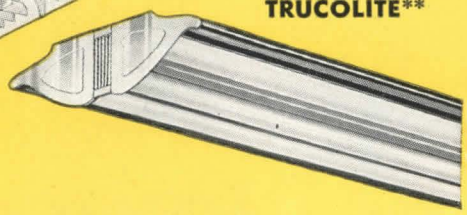
*Trade Mark Registered and Patented by The Aluminum Company of America.

Famous Guth LIGHT PRODUCERS

FUTURLITER*



TRUCOLITE**



Now OFFER THESE Lighting-Extras OF ALZAK

1. **Tough, durable reflecting surface with lifetime high efficiency.**
2. **Increased Light Control for better light distribution.**
3. **Lower surface brightness and reduced glare for more comfortable, more efficient seeing.**
4. **ALZAK will not chip, crack, check, craze, break or peel! It is not affected by dust or dirt.**
5. **ALZAK provides permanent protection for your Lighting Equipment.**

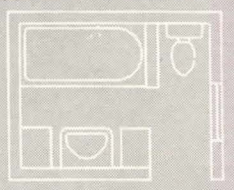
*Trade Mark Registered. Patents Pending.

**Trade Mark Registered. U. S. Patent No. 122586—others pending.

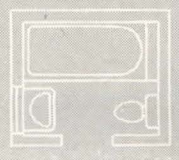
Approx. Size: 9′ 10″ x 6′ 9″

Above is the floor plan of the bathroom shown. Of course, the Crane Criterion Group lends itself to small arrangements, as suggested in the two layouts below.

Approx. Size: 8′ 2″ x 6′ 3″



Approx. Size: 5′ 6″ x 5′ 3″



For your better homes... the *Criterion* bathroom

Here is the answer to the home owner who wants a truly luxurious bathroom . . . here is Crane's finest.

Each piece in the Criterion Group is styled to complement the finest of homes. The careful design of every last detail . . . the gleaming whiteness of the finish . . . the finger-tip *Dial-ese* controls . . . all bespeak the quality that has made Crane the best-known name in plumbing.

Of course, this same Crane quality carries through a wide range of bathrooms, including several groups priced for modest budgets. In kitchens, too, Crane offers a complete selection for every taste and every purse.

For home heating, Crane supplies complete systems of all types . . . for steam, hot water, or air . . . for coal, coke, oil, or gas. See the Crane line in your copy of "Crane Service for Architects." If you do not have a copy, your Crane Branch will supply one.

CRANE

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PLUMBING AND HEATING
VALVES • FITTINGS • PIPE

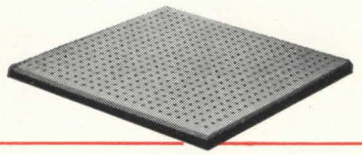
NATION-WIDE SERVICE THROUGH BRANCHES, WHOLESALERS, PLUMBING AND HEATING CONTRACTORS

NOW FOUR ARMSTRONG MATERIALS TO MEET ALL ACOUSTICAL PROBLEMS

Armstrong's complete line of acoustical materials now meets the sound conditioning requirements of almost every plan on your drawing boards. And there's a trained, experienced Armstrong contractor in your vicinity who can give you a prompt, accurate estimate of their cost installed.

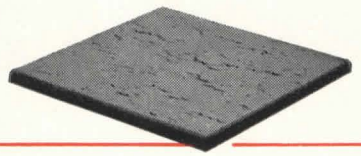
These materials are tested, efficient, economical. They can be repainted without noticeable loss of acoustical efficiency. For detailed information on installation and performance, write today to Armstrong Cork Company, Acoustical Department, 2412 Stevens Street, Lancaster, Pa.

ARMSTRONG'S CUSHIONTONE®



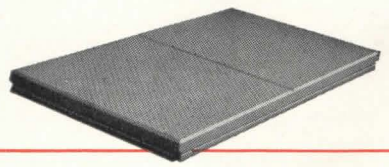
This low-cost, lightweight wood-fiber tile is 12″ x 12″ with 484 deep perforations in each square foot. Available in ½″, ¾″, and ⅞″ thicknesses. Cushiontone is factory-painted white, including bevels. Can be erected by cementing or nailing, over plaster or furring strips. It absorbs up to 75% of the sound striking its surface. Cushiontone also adds insulation.

ARMSTRONG'S TRAVERTONE



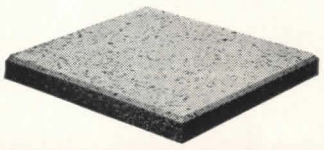
This new acoustical material is named Travertone because its fissured surface so closely resembles Travertine marble. Made of incombustible mineral wool, in 12″ x 12″ tiles, ¾″ thick, it weighs only 1.13 lbs. per sq. ft. It is factory-painted white, including bevels. Installed by cementing. Travertone absorbs up to 65% of the sound striking its surface.

ARMSTRONG'S ARRESTONE®



This 26-gauge steel pan contains a mineral wool sound-absorbing pad wrapped in flameproof paper. The pan is 12″ x 24″ x 1¼″, divided by a bevel into two 12″ squares. Each square foot has 1105 perforations. Arrestone is finished with baked-on enamel. Weighs 2 lbs. per sq. ft. Installed by mechanical suspension. Absorbs up to 85% of the sound striking its surface.

ARMSTRONG'S CORKOUSTIC®



Made of ground cork, pressed into 12″ x 12″ tiles, 1½″ thick. Highly moisture-resistant, Corkoustic is specially valuable over swimming pools and other high humidity rooms. Won't shrink, swell, warp, or mold. Weighs less than 1 lb. per sq. ft. Installed by cementing. Its low thermal conductivity makes it excellent insulation. Absorbs up to 55% of the sound striking its surface.

TRAVERTONE IS A TRADE-MARK FOR WHICH REGISTRATION IS PENDING

ARMSTRONG'S ACOUSTICAL MATERIALS

James Mc Creery & Co. chooses...

McCreery's new Furniture Department features Lokweave Gropoint carpet.

...Bigelow Lokweave Carpet for Heavy Duty in Furniture Department

A wise architect selected Lokweave carpeting for McCreery's striking new furniture floor because he knows it will stand up for years under heavy traffic. This modern type of carpet is installed without sewn seams—the sturdy, closely-woven loop pile is easy to clean—and it comes with "spare parts."

When a spot becomes soiled or damaged, the entire area can be replaced with pieces of carpet left over from the original installation. This amazing feature, plus the low cost of installation, makes Bigelow Lokweave the long-run economy carpet of all time. You will want to use it the next time you select new carpeting.

BIGELOW-SANFORD CARPET CO., Inc.

140 MADISON AVENUE, NEW YORK 16, N. Y.

Fine rugs and carpets since 1825

RUGS & CARPETS
BIGELOW WEAVERS

Standardized Fencraft Combination Windows in Annie M. Warner Hospital, Gettysburg, Pa. Windows in the waiting room included a center fixed light. Windows in bedrooms consisted of two vertical vents and one horizontal sill vent for controlled fresh-air ventilation. Architect, John B. Hamme; Contractor, Earl L. Cump.

Designed { FOR CONTROLLED FRESH-AIR VENTILATION

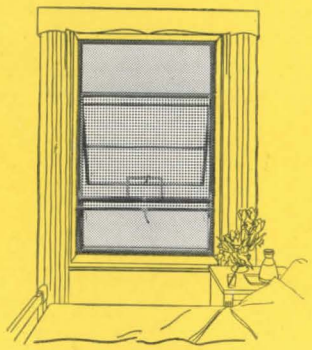
Hospitals call for considerable ventilation in one room, little for another. Likewise, a cheering breeze for one patient, slight air movement for another. That suggests windows that *control* fresh-air ventilation.

The Fencraft Combination Window is such a window. Sturdy vents swing out as much or as little as desired—to scoop in breezes—or to gently deflect air inwardly. A sill vent provides protection from drafts—for the air is deflected upwardly, away from bed or chair levels. Either vent opens easily with one hand and stays in the selected open position.

The attractiveness of these windows is enhanced by fine hardware. Screens are quickly, safely attached from the inside. Washing is quicker and safer—both sides from inside the room for most types.

Fencraft Windows—Combination, Projected and Casement—are standardized to reduce first cost and to save installation time and expense. A complete family of each type enables you to select a window of the right characteristics for the use you have in mind.

For complete information, see Sweet's (Section 16a-9). Or mail the coupon.



FENCRAFT PROJECTED WINDOW

—open-out vent acts as weather-protecting canopy over opening. Open-in vent deflects air upward, sheds water outside. Movable air conditioning unit easily attached.

FENCRAFT CASEMENT WINDOW

—safe outside washing—from inside. Easy to operate. Interchangeable inside screens, protected from outside dirt. Ideal for nurses' homes and staff houses.

Fenestra

COMBINATION PROJECTED CASEMENT

FENCRAFT INTERMEDIATE STEEL WINDOWS

Detroit Steel Products Company,
Dept. AR-12
2252 East Grand Blvd.,
Detroit 11, Michigan

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

Name_____

Company_____

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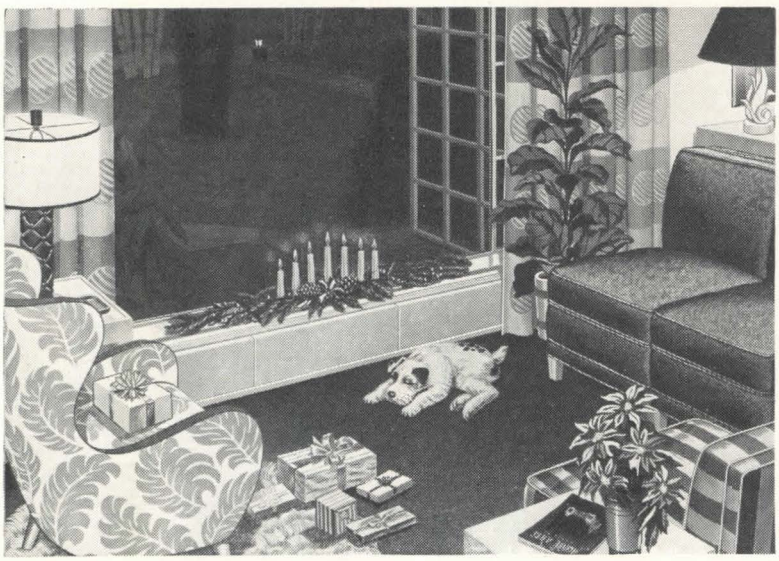
BECAUSE THEY MUST WORK EVERY TIME!

When you have an exit device installed on a busy door of a new building, you can expect that device to be operated several million times. Over the years stretching ahead, the device must operate EVERY time, for panics never send advance warning, never ask whether everything is in working order.

That is why we make Von Duprin devices so strong, so rugged in every part, so simple and foolproof mechanically, that they WILL work every time. They give you complete assurance of safe, sure, instant exit at all times, under all conditions.

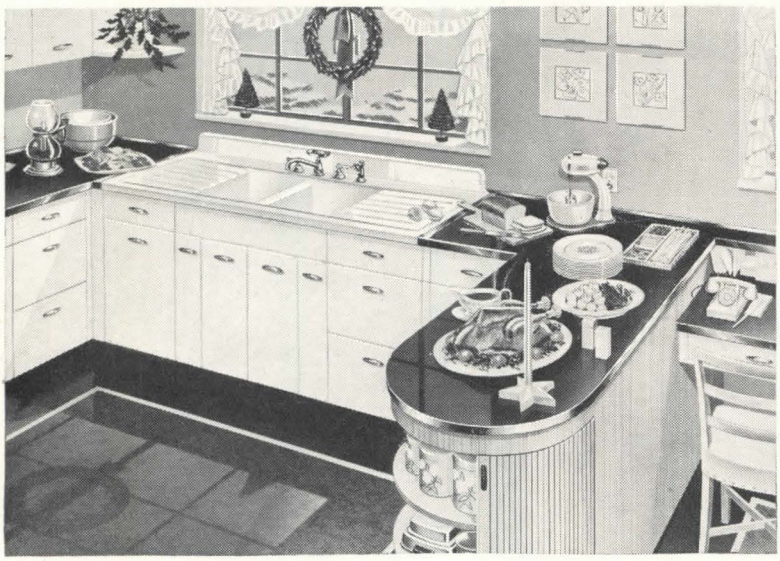
Von Duprin
TRADE MARK REG.
DIVISION
VONNEGUT HARDWARE CO., INDIANAPOLIS, IND.

More Room and Better Living with AMERICAN-Standard



Happy Holiday Warmth

There are no cold spots in this attractive living room, despite its big picture window. The inconspicuous new Baseboard Radiant Panels provide sun-like warmth from floor to ceiling throughout the room. Only 8 inches high, they fit snugly against the wall, look exactly like the baseboard, and can be painted any color to match the wood trim. Give full use of wall and floor space.



Cheery and Convenient

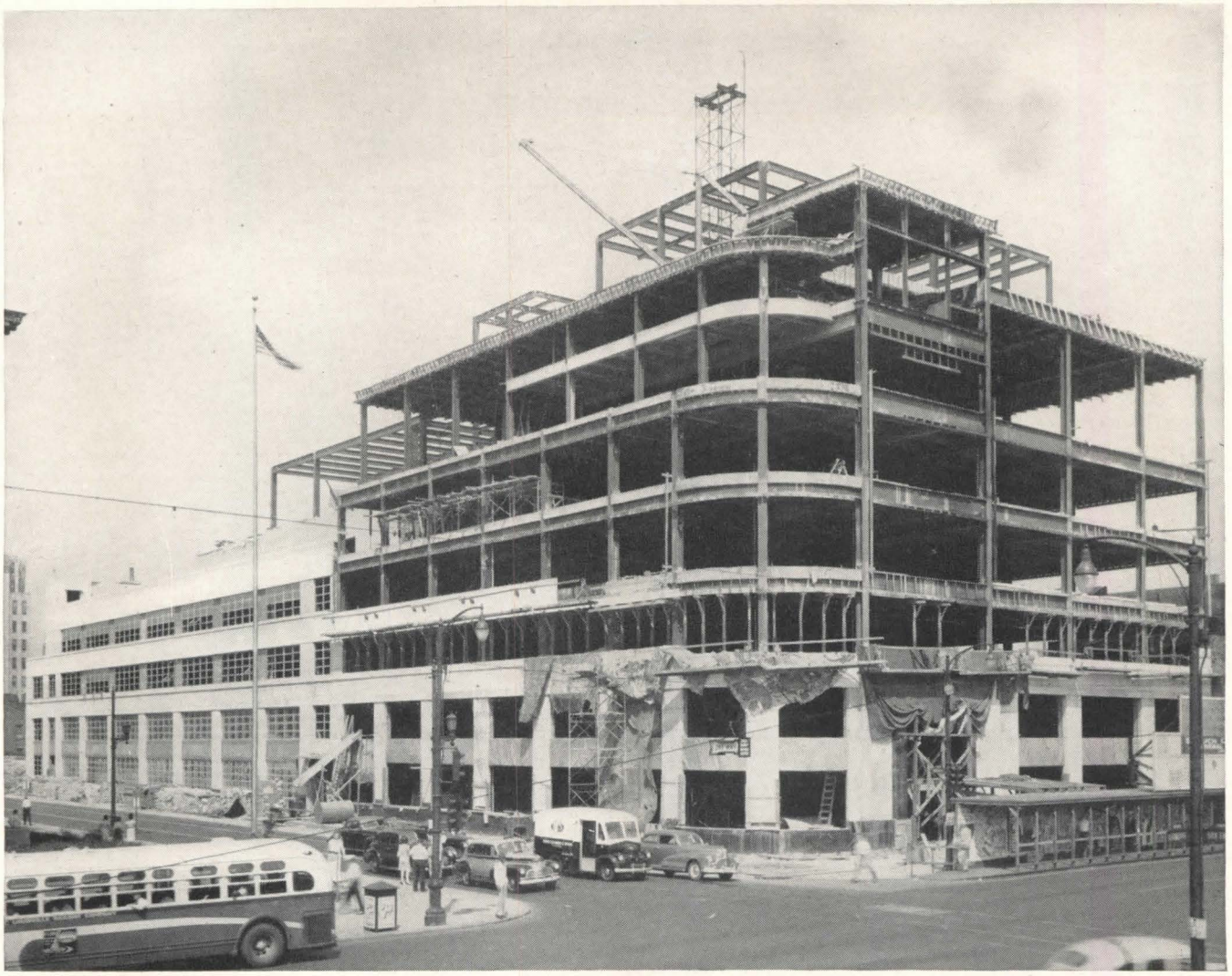
Every day's a holiday in this cleverly planned kitchen, thanks to the ease with which American-Standard's gleaming Royal Hostess Sink fits into the continuous counter-top arrangement. Designed for maximum cleanliness and convenience, this double-compartment, double-drainboard model is made in one piece of rigid cast iron finished with a heavy coating of acid-resisting enamel. In white and choice of many colors.

AMERICAN-Standard
HEATING · PLUMBING

■ In the American-Standard line, you will find heating equipment and plumbing fixtures that are styled, designed and engineered to fit in with, *and enhance,* any architectural plan or decorative scheme. American-Standard Products are as fine as money can buy, yet they cost no more than others. For modernization, they can be purchased on a convenient Time Payment Plan. Contact your Heating and Plumbing Contractor for details. **American Radiator & Standard Sanitary Corporation,** P. O. Box 1226, Pittsburgh 30, Pennsylvania.

Serving the Nations' Health and Comfort

LOOK FOR THIS MARK OF MERIT—It identifies the world's largest line of Heating and Plumbing Products for every use . . . including Boilers, Warm Air Furnaces, Winter Air Conditioners, for all fuels—Water Heaters—Radiators, Convectors, Enclosures—Gas and Oil Burners—Heating Accessories—Bathtubs, Water Closets, Lavatories, Kitchen Sinks, Laundry Trays, Brass Trim—and specialized products for Hospitals, Hotels, Schools, Ships and Railroads.



Architect: Lockwood Greene Engineers, Inc., New York
Associate Architect: Joseph H. Kolbrook, Louisville
Contractor: Struck Construction Co., Louisville

New building to house two famous newspapers

Two of the South's most distinguished newspapers, the morning Louisville Courier-Journal and the evening Louisville Times, will soon occupy this seven-story L-shaped building now under construction.

Like many other buildings throughout the United States, the new home of these two great newspapers will have a framework of Bethlehem Structural Shapes.

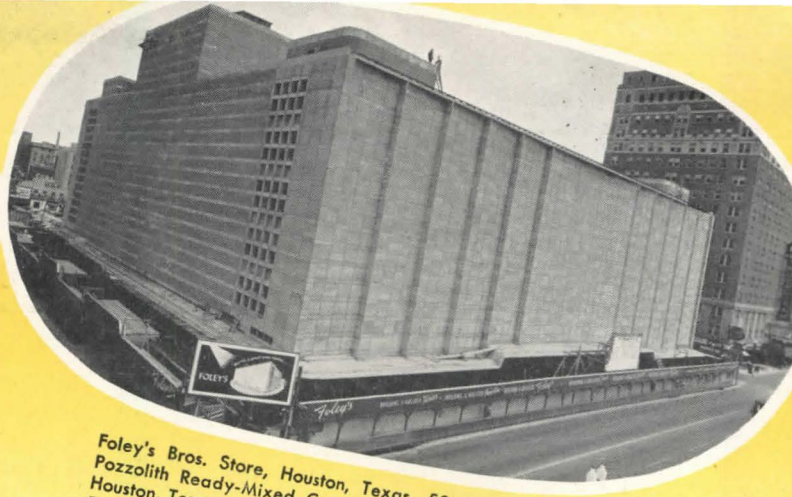
Bethlehem
STRUCTURAL
SHAPES

★ BETHLEHEM STEEL ★

BETHLEHEM STEEL COMPANY, BETHLEHEM, PA.

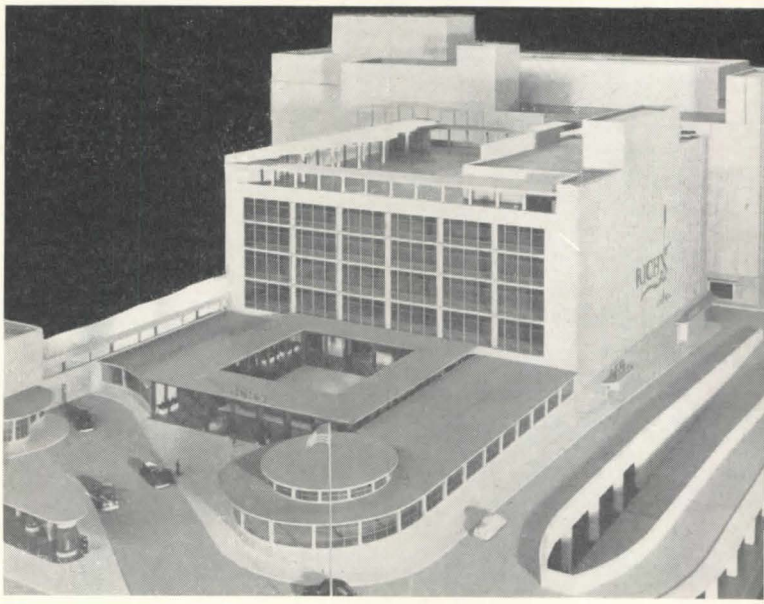
On the Pacific Coast Bethlehem products are sold by Bethlehem Pacific Coast Steel Corporation
Export Distributor: Bethlehem Steel Export Corporation

Sears-Roebuck and W. T. Grant Co., Stores, La Crosse, Wisconsin. Pozzolith Architectural Concrete. Building Owner—Dr. Frank Hoeschler. Archt.—Boyum, Schubert & Sorenson, La Crosse, Wis. Contr.—Theo. J. Molzahn & Sons, Inc., La Crosse, Wis.



Foley's Bros. Store, Houston, Texas. 50,000 cubic yards of Pozzolith Ready-Mixed Concrete. Archt.—Kenneth Franzheim, Houston, Texas. Contr.—Frank Messer & Sons, Cincinnati, Ohio. Ready Mixed Producer—Parker Bros. & Co., Inc., Houston, Texas.

Joseph Magnin Co., Inc., Sacramento, Calif. Pozzolith Architectural Concrete. Archt.—Harry J. Devine, Sacramento, Calif. Structural Engineer—Ernest D. Francis, Sacramento, Calif. Gen. Contr.—Swinerton & Walberg Co., San Francisco, Calif.



Rich's Department Store, Atlanta, Ga. 25,000 cubic yards of Pozzolith Ready-Mixed Concrete. Archt.—Toombs & Creighton, Atlanta, Ga.; Engr.—W. B. Lamb, owner's representative; Gen. Contr.—Capital Construction Co., Atlanta, Ga. Ready Mixed Producer—Whitley Construction Co., Decatur, Ga.

Nation's Most Modern Stores built with POZZOLITH CONCRETE

These four metropolitan stores, embodying the most modern features of department store design, are representative of the many important structures being built today with Pozzolith Concrete.

Advantages gained by the use of Pozzolith, cement dispersion:

1. Easy, fast placing
2. Minimized honeycombing . . . uniformity
3. Great watertightness, durability
4. Economy

Pozzolith not only improves all of the properties of concrete in both the plastic and hardened stages, but it has proved to be the most economical means for obtaining these better results.

Write for information and new Pozzolith book.

the MASTER BUILDERS Co

MASTERBUILT PRODUCTS

CLEVELAND 3, OHIO TORONTO, ONTARIO

CONSTRUCTION COST INDEXES — Labor and Materials

United States average 1926—1929 = 100

Presented by Clyde Shute, manager, Statistical and Research Division, F. W. Dodge Corporation, from data compiled by E. H. Boeckh & Associates, Inc.

NEW YORK

Period	Residential		Apts., Hotels, Office Bldgs.	Commercial and Factory Buildings	
	Brick	Frame	Brick and Concr.	Brick and Concr.	Brick and Steel
1920	136.1	136.9	123.3	123.6	122.6
1925	121.5	122.8	111.4	113.3	110.3
1930	127.0	126.7	124.1	128.0	123.6
1935	93.8	91.3	104.7	108.5	105.5
1939	123.5	122.4	130.7	133.4	130.1
1940	126.3	125.1	132.2	135.1	131.4
1941	134.5	135.1	135.1	137.2	134.5
1942	139.1	140.7	137.9	139.3	137.1
1943	142.5	144.5	140.2	141.7	139.0
1944	153.1	154.3	149.6	152.6	149.6
1945	160.5	161.7	156.3	158.0	155.4
1946	181.8	182.4	177.2	179.0	174.8
June 1947	219.3	221.8	205.9	207.0	203.6
July 1947	223.4	225.0	211.2	212.5	206.6
Aug. 1947	225.5	227.1	215.5	214.9	209.4
Sept. 1947	225.9	227.5	216.4	216.0	210.4
	% increase over 1939				
Sept. 1947	**83.0**	**85.9**	**65.6**	**61.8**	**61.6**

ATLANTA

Period	Residential		Apts., Hotels, Office Bldgs.	Commercial and Factory Buildings	
	Brick	Frame	Brick and Concr.	Brick and Concr.	Brick and Steel
1920	122.8	122.9	108.6	109.8	105.7
1925	86.4	85.0	88.6	92.5	83.4
1930	82.1	80.9	84.5	86.1	83.6
1935	72.3	67.9	84.0	87.1	85.1
1939	86.3	83.1	95.1	97.4	94.7
1940	91.0	89.0	96.9	98.5	97.5
1941	97.5	96.1	99.9	101.4	100.8
1942	102.8	102.5	104.4	104.9	105.1
1943	109.2	109.8	108.5	108.1	108.7
1944	123.2	124.5	117.3	117.2	118.2
1945	132.1	133.9	123.2	122.8	123.3
1946	148.1	149.2	136.8	136.4	135.1
June 1947	180.4	184.1	155.4	154.3	154.4
July 1947	184.0	187.9	160.3	159.6	158.8
Aug. 1947	185.4	189.3	162.4	161.2	161.4
Sept. 1947	185.6	189.5	164.1	162.3	165.0
	% increase over 1939				
Sept. 1947	**115.0**	**128.2**	**72.5**	**66.7**	**74.1**

ST. LOUIS

Period	Residential		Apts., Hotels, Office Bldgs.	Commercial and Factory Buildings	
	Brick	Frame	Brick and Concr.	Brick and Concr.	Brick and Steel
1920	118.1	121.1	112.1	110.7	113.1
1925	118.6	118.4	116.3	118.1	114.4
1930	108.9	108.3	112.4	115.3	111.3
1935	95.1	90.1	104.1	108.3	105.4
1939	110.2	107.0	118.7	119.8	119.0
1940	112.6	110.1	119.3	120.3	119.4
1941	118.8	118.0	121.2	121.7	122.2
1942	124.5	123.3	126.9	128.6	126.9
1943	128.2	126.4	131.2	133.3	130.3
1944	138.4	138.4	135.7	136.7	136.6
1945	152.8	152.3	146.2	148.5	145.6
1946	167.1	167.4	159.1	161.1	158.1
June 1947	202.2	202.2	182.8	185.4	182.1
July 1947	205.6	207.2	187.8	187.8	187.5
Aug. 1947	207.0	208.6	189.9	189.4	190.1
Sept. 1947	207.5	209.0	191.2	190.8	192.3
	% increase over 1939				
Sept. 1947	**88.2**	**95.3**	**61.1**	**59.3**	**61.6**

SAN FRANCISCO

Period	Residential		Apts., Hotels, Office Bldgs.	Commercial and Factory Buildings	
	Brick	Frame	Brick and Concr.	Brick and Concr.	Brick and Steel
1920	108.8	107.5	115.2	115.1	122.1
1925	91.0	86.5	99.5	102.1	98.0
1930	90.8	86.8	100.4	104.9	100.4
1935	89.5	84.5	96.4	103.7	99.7
1939	105.6	99.3	117.4	121.9	116.5
1940	106.4	101.2	116.3	120.1	115.5
1941	116.3	112.9	120.5	123.4	124.3
1942	123.6	120.1	127.5	129.3	130.8
1943	131.3	127.7	133.2	136.6	136.3
1944	139.4	137.1	139.4	142.0	142.4
1945	146.2	144.3	144.5	146.8	147.9
1946	159.7	157.5	157.9	159.3	160.0
June 1947	189.0	187.4	178.4	180.8	181.1
July 1947	195.1	194.0	186.6	190.6	188.0
Aug. 1947	196.7	195.6	188.9	192.4	190.8
Sept. 1947	198.4	196.3	192.5	197.4	195.7
	% increase over 1939				
Sept. 1947	**87.8**	**97.7**	**63.9**	**62.0**	**68.0**

The index numbers shown are for combined material and labor costs. The indexes for each separate type of construction relate to the United States average for 1926–29 for that particular type — considered 100.

Cost comparisons, as percentage differences for any particular type of construction, are possible between localities, or periods of time within the same city, by dividing the difference between the two index numbers by one of them; i.e.:

index for city A = 110
index for city B = 95

(both indexes must be for the same type of construction).

Then: costs in A are approximately 16 per cent higher than in B.

$$\frac{110-95}{95} = 0.158$$

Conversely: costs in B are approximately 14 per cent lower than in A.

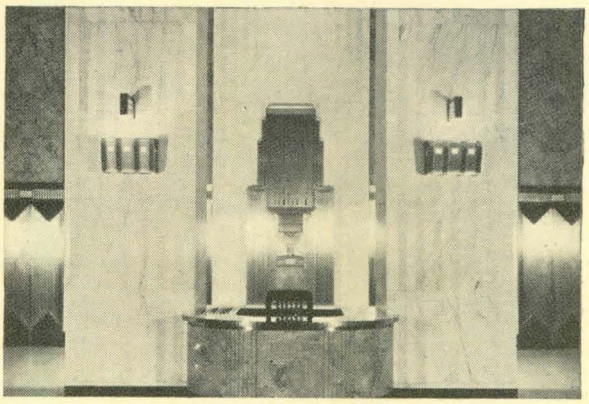
$$\frac{110-95}{110} = 0.136$$

Cost comparisons cannot be made between different types of construction because the index numbers for each type relate to a different U. S. average for 1926–29.

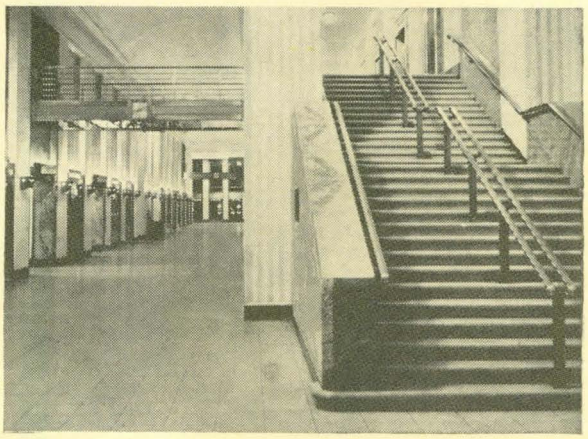
Material prices and wage rates used in the current indexes make no allowance for payments in excess of published list prices, thus indexes reflect minimum costs and not necessarily actual costs.

These index numbers will appear whenever changes are significant.

Chicago's Field Building keeps its youth with the help of ANACONDA NICKEL SILVER



Ingenious treatment of tower elevator lobby combines mail box with elevator dispatch board in the form of the building itself... all in gleaming Anaconda Nickel Silver.



Graham, Anderson, Probst and White, Architects; George A. Fuller Company, General Contractor. Architectural metal work by General Bronze Corporation and Flour City Ornamental Works.

CHICAGO'S monumental Field Building, a gleaming incisor in Chicago's serrated skyline, provides an impressive example of the lasting beauty of Anaconda Nickel Silver.

In the strikingly handsome entrance lobbies and the block-long main arcade that connects them, brown marble walls with fluted white marble columns are set off with hand rails, balconies, elevator doors and trim of this satiny, lustrous metal.

In combining lasting beauty with ease of maintenance, Anaconda Nickel Silver plays its part in helping the management keep the building looking as though it had just opened its doors.

Anaconda Architectural Bronze and Nickel Silver in all wrought forms have been the choice of architects through the years for ornamental work of every description. These Anaconda Metals have likewise been the choice of leading fabricators for their easy workability and uniformity in dimension and composition.

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REQUIRED READING

DESIGNED FOR THE SUN

Your Solar House. Edited by Marion J. Simon. New York 20, N.Y. (1230 Sixth Ave.), Simon and Schuster, Inc., 1947. 10 by 13 in. 128 pp. illus. $3.00.

The 49 house plans here presented are as different as 49 architects from as many sections of the country could make them, but all have one feature in common: the maximum utilization of the sun for light and heat. All are, in short, "solar houses."

This is not, however, a collection of plans chosen at random because they happened to illustrate a given theme. The book had its inception when The Libbey-Owens-Ford Glass Co., as part of a program to introduce its double-paned, self-insulating window, Thermopane, commissioned an architect in each state and in the District of Columbia to "design a solar house to fit the needs, background, and environment of his own locality." The architects were chosen by a panel of professors of architecture, editors and others familiar with the architectural profession throughout the country.

With Talbot Hamlin of the Columbia University School of Architecture serving as architectural consultant, and with the technical assistance of Libbey-Owens-Ford, the resulting plans and renderings were compiled into this volume. For background, three chapters of text were added to give the story of the book itself, some facts about glass making, the history and characteristics of Thermopane, and a brief technical discussion of the solar house (with diagrams to show correct placement of the house and the working principles of the roof overhang). Three pages of questions and answers about the solar house and a table giving percentages of sunshine hours in cities in various parts of the country complete the text material.

The houses themselves stand squarely on their own feet. Each is accompanied by a few paragraphs of description by the architect, stressing the particular needs or characteristics of the locality for which it was designed, and explaining the main features of the plan.

NOT JUST HOUSING

Approach to Better Housing. By Arnold Waring, A.R.I.B.A. London, W. 1, Eng. (17 Stratford Pl.) Leonard Hill Ltd., 1947. 5½ by 8½ in. 102 pp. illus. 18s.

Since well before the end of the war, England has been planning not just to replace the thousands of dwellings that were "blitzed" but to replace them with houses of better quality. Her architects and town planners were engrossed in the problem, in fact, while the bombs were still falling around them. By the time building could be resumed they knew what they wanted, and they were well aware of the mistakes they must avoid. Some of their conclusions found their way into print.

Mr. Waring's discussion is a later, hence more leisurely, exploration of the problem. His conclusions follow in general those of his fellows, but they have been strengthened by a longer period of gestation.

Starting with a resumé of housing from the primitive hut to the 20th Century "litter of suburbs," Mr. Waring studies the field from every angle. He looks at town planning, garden cities and "estate developments," at zoning and at slums, finding in each some suggestion for improvement. The kernel of his book, however, lies in the final two chapters, which deal with house design and construction. Here he goes into great detail, taking the house room by room, and illustrating liberally with plans.

Mr. Waring's chief contribution in this volume is not concrete suggestion but, as his title indicates, a thought-provoking *approach* to the problem of what can be done to improve the quality of housing all up and down the line.

STRUCTURAL DESIGN

Architectural Construction: The Choice of Structural Design. By Theodore Crane. New York 16, N. Y. (440 Fourth Ave.), John Wiley & Sons, Inc., 1947. 6¼ by 9½ in. x + 414 pp. illus. $6.00.

Theodore Crane, Professor of Architectural Engineering at Yale, has given us in this volume a welcome and workman-like text which will appeal as much to the practicing architect as to the student. For not only does it cover its subject with the thoroughness and clarity required of a textbook, it also sums up the available types of construction and offers recommendations as to their applications.

As Prof. Crane explains in his preface, this book "deals with the problem of making an appropriate choice for the structural portions of a building, as governed by the geographical location, site conditions, type of occupancy, equipment and architectural design. It presents a procedure for determining the type of building frame, foundation, floor, roof and wall construction most suitable to meet the requirements of any particular structure."

Starting with a chapter on building codes and design standards, the text covers all the basic considerations in structural design from foundation to roof. Photographs, diagrams and tables are used liberally, and the entire book is arranged for maximum clarity. This should be an important and useful addition to the architect's library.

SCULPTURE

American Sculptors Series: Vol. I, Wheeler Williams; Vol. II, Paul Manship; Vol. III, Anna Hyatt Huntington; Vol. IV, Daniel Chester French. New York (101 Fifth Ave.), W. W. Norton & Co., Inc., 1947. 5 by 6½ in. 64 pp. each. illus. $1.50 each, $6.00 the set.

Published under the auspices of the National Sculpture Society, these four small volumes present photographs of sculpture by four well-known Americans, with brief biographical notes on each. No attempt has been made to assess the value of the artists — all four are too well known to need such assessment; the photos are allowed to speak for themselves, with captions held to simple identification and location.

SKETCHBOOK

Around Waynesboro with Pen and Ink: Historical Sketches by Terry Mitchell. Waynesboro, Pa., The Record Herald Publishing Co., 1947. 8⅝ by 11⅜ in. 32 pp. illus.

Waynesboro, Pa., was laid out as a town in 1797 by John Wallace, Jr., the son of its founder. It dates back as a settlement, however, to around 1750, and some of the original buildings are still standing. It is these especially which lend interest to Terry Mitchell's sketchbook.

The 30 fine pen and ink drawings are accompanied by historical notes by the artist — notes which tell of the town's oldest families as well as of its oldest structures. The two together form a booklet of charm, and an interesting addition to Americana.

NEW EDITIONS

MODERN ARCHITECTURE

An Introduction to Modern Architecture. By J. M. Richards. Revised and edited, with new material by Elizabeth B. Mock. New York 16, N. Y. (245 Fifth Ave.), Penguin Books, Inc., 1947. 4¼ by 7⅛ in. 128 pp. illus. 35 cents.

To bring it up to date, Mr. Richards' seven-year-old discussion of modern architecture has been thoroughly revised, with much new material added. In particular, Mrs. Mock has contributed a new selection of photographs and plans, a few of which are of buildings erected since the original edition appeared.

Mrs. Mock has made an ideal collaborator for Mr. Richards: trained in architecture by Frank Lloyd Wright, she was director of the Museum of Modern Art's Department of Architecture for three years, and is well versed in the best of modern architecture.

(*Continued on page 30*)

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REQUIRED READING

(*Continued from page 28*)

SCHOOLS

The American School and University: 1947–48. New York 16, N.Y. (470 Fourth Ave.), American School Publishing Corp., 1947. 8¼ by 11 in. 650 pp. illus. $4.00.

This 19th edition of a familiar year book contains an unusually good selection of articles of interest to the school architect. Among them are several on specialized subjects: "Modular Design," by A. Gordon Lorimer; "Interior Walls in School Buildings," by Eberle M. Smith; "Radiant Heating for School Buildings," by Ernest J. Kump; "Good Seeing Conditions in Schools," by Leonard V. James; "Good Hearing Conditions in Schools," by Karl R. Schwarz.

PAINT

The National Paint Dictionary. By Jeffrey R. Stewart. 3rd ed. Washington, D. C. (P.O. Box No. 173, Benjamin Franklin Station), Stewart Research Laboratory, 1948. 6 by 9 in. 704 pp. illus. $7.50.

In the six years since the last edition of the "Paint Dictionary" appeared many new terms have been developed, making an enlarged edition imperative. Apart from this addition of terms, however, and the correction of errors and omissions, the dictionary remains essentially unchanged.

The hundreds of terms defined fall into six categories: "(1) industrial raw materials used in the production of paints and allied products; (2) trade names of raw materials and certain finished products; (3) terms describing processes, methods, systems, etc.; (4) terms denoting scientific instruments used primarily for evaluation purposes; (5) terms denoting colors, optical effects, textures, etc.; and (6) miscellaneous terms which give general information to the reader, jargon expressions peculiar to the industry, etc." The terms are alphabetically arranged, defined with utmost simplicity, and occasionally illustrated.

TECHNICAL BULLETINS

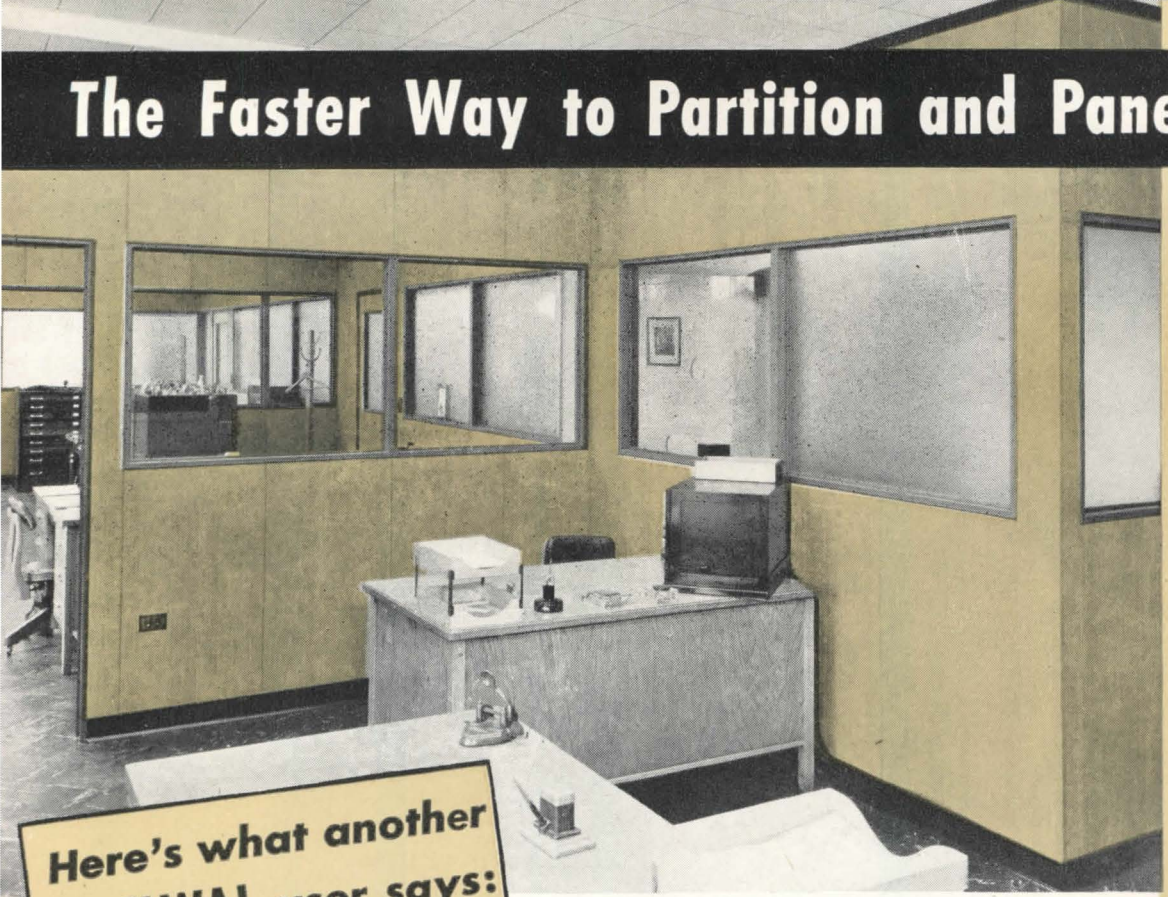
TERMITE CONTROL

Termites. Prepared by O. J. Baker and Dudley L. Pope, Jr. Baton Rouge 3, La., Low-Cost Housing Research Engineering Experiment Station, Louisiana State University, 1947. 8½ by 11 in. 8 pp. illus. Gratis.

What termites are, what they do, how to find them, how to get rid of them, and how to prevent them, is explained concisely and clearly in this latest bulletin issued by the Louisiana State University Low-Cost Housing Research Experi-

(*Continued on page 160*)

The Faster Way to Partition and Panel



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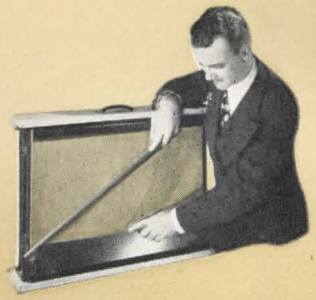

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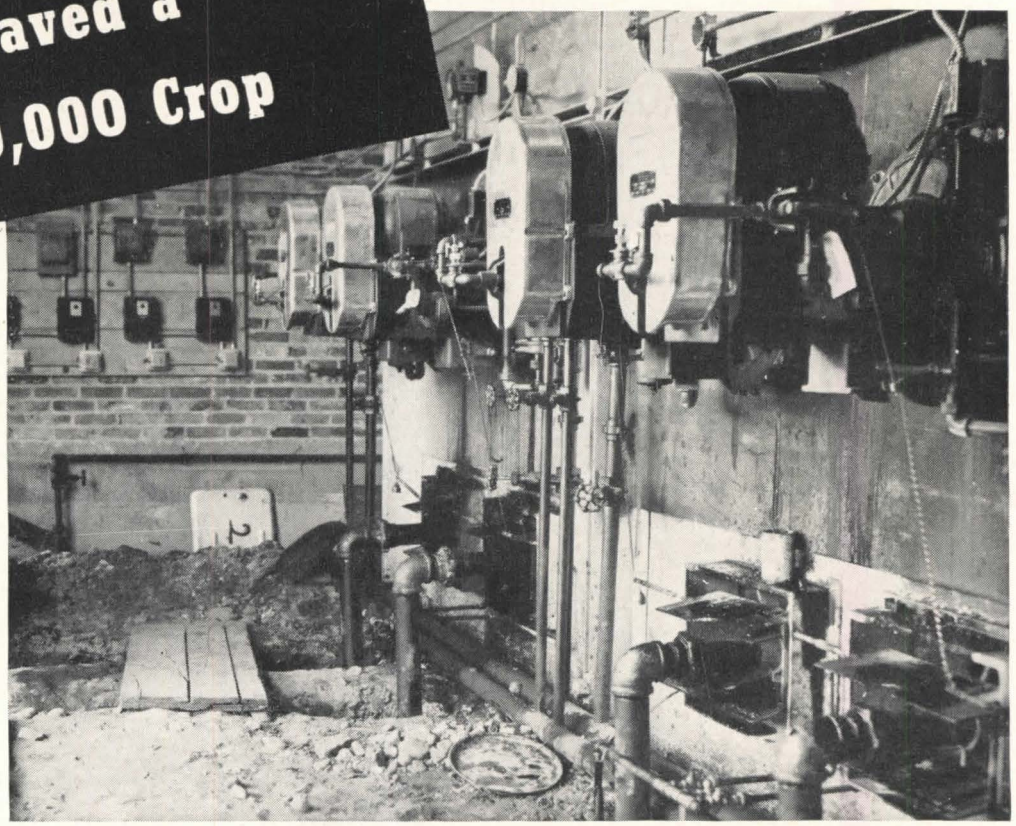

When the Eddington Canning Company in Springfield, Utah, was given 24 hour notice of the discontinuance of their coke oven gas supply, they had $40,000 worth of peas in various stages of processing. Faced with the possibility of a total crop loss, Eddington officials lost no time in contacting the Enterprise distributor in Salt Lake City—the Power Engineering Company. Steam requirements called for four of the J-2 size oil burners, each with capacity of 70 gallons per hour, which were rush-ordered on a Friday from Enterprise's San Francisco plant. They arrived via air cargo liner Sunday morning, were rushed directly to the job, installed in the boilers, and producing steam by Tuesday noon. Not a dollar of crop was lost.

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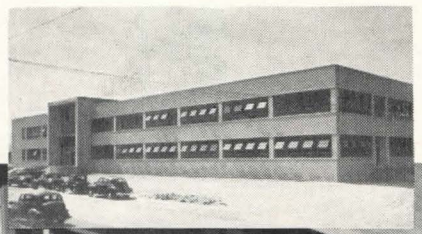
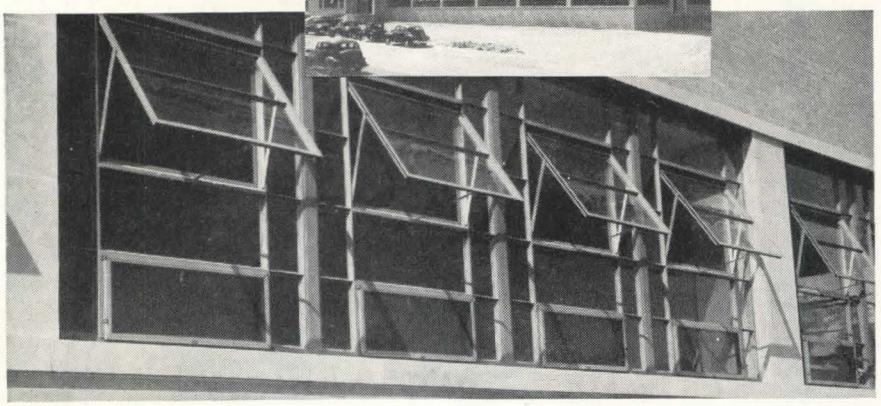


Truscon Intermediate Projected Windows installed in the Eight-by-Six-Foot Supersonic Tunnel office building at the flight Propulsion Research Laboratory of the National Advisory Committee for Aeronautics, Cleveland, O.



The National Advisory Committee for Aeronautics is engaged in development work that is aimed at keeping and increasing America's leadership in air flight. At the Flight Propulsion Research Laboratory, Cleveland, Ohio, a supersonic tunnel is the scene of much development work that will influence aeronautics.

The office building for this project is liberally equipped with Truscon Intermediate Projected Steel Windows, to permit the generous use of nature's free light and fresh air.

Where neat design and economy are the keynote of construction, architects and builders will appreciate the quality, appearance, performance and low cost of these windows. The projected feature is especially valuable when ventilation depends upon the natural clearing off of vapor, smoke and stale air. The tilted ventilator acts as a deflector of the elements and can be kept open in all kinds of weather. Drafts are eliminated and a continuous change of air is obtained.

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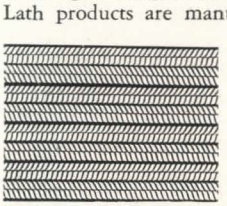

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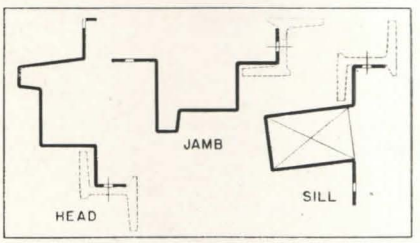
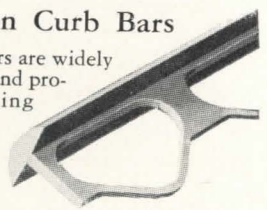


Of particular interest to builders in concrete block or similar standard masonry units, are the resultant modular dimensional opening widths when steel surrounds are used with the popular two, three and four light wide casements. The opening dimensions of 3'-4", 4'-8⅛" and 6'-0⅜" work in closely with standard 16" modular masonry units, thus permitting the masonry walls to be laid up around window openings with full-blocks and half-blocks at minimum cost.

Truscon formed steel surrounds are designed for shipment knocked-down, permitting assembly and attachment in warehouse or at job site. The corners are accurately coped to present neat joints and the surround members are conveniently secured to the casement by self tapping screws.

The surround jamb members are made in the four standard Residence Casement heights. Head and sill members are provided for single unit openings in the four standard casement widths and, in addition, in widths permitting combinations of units up to a total of six lights wide. It is expected that the popular picture window openings of 1-3-1 or 1-4-1 unit combinations will prove particularly pleasing to architects, builders and owners. Write for catalog.

Truscon Curb Bars



Truscon Curb Bars are widely used to dress up and protect the projecting corners of concrete areas such as loading platforms, steps, curbs, sills, etc. They add greatly to the life of concrete in such service, where heavy blows and extreme traffic are common. Write for literature.

New Literature

A new 36 page catalog on Truscon's complete line of steel doors is now available. Includes illustrations, installation details and specifications. Write for your copy today.

TRUSCON STEEL COMPANY
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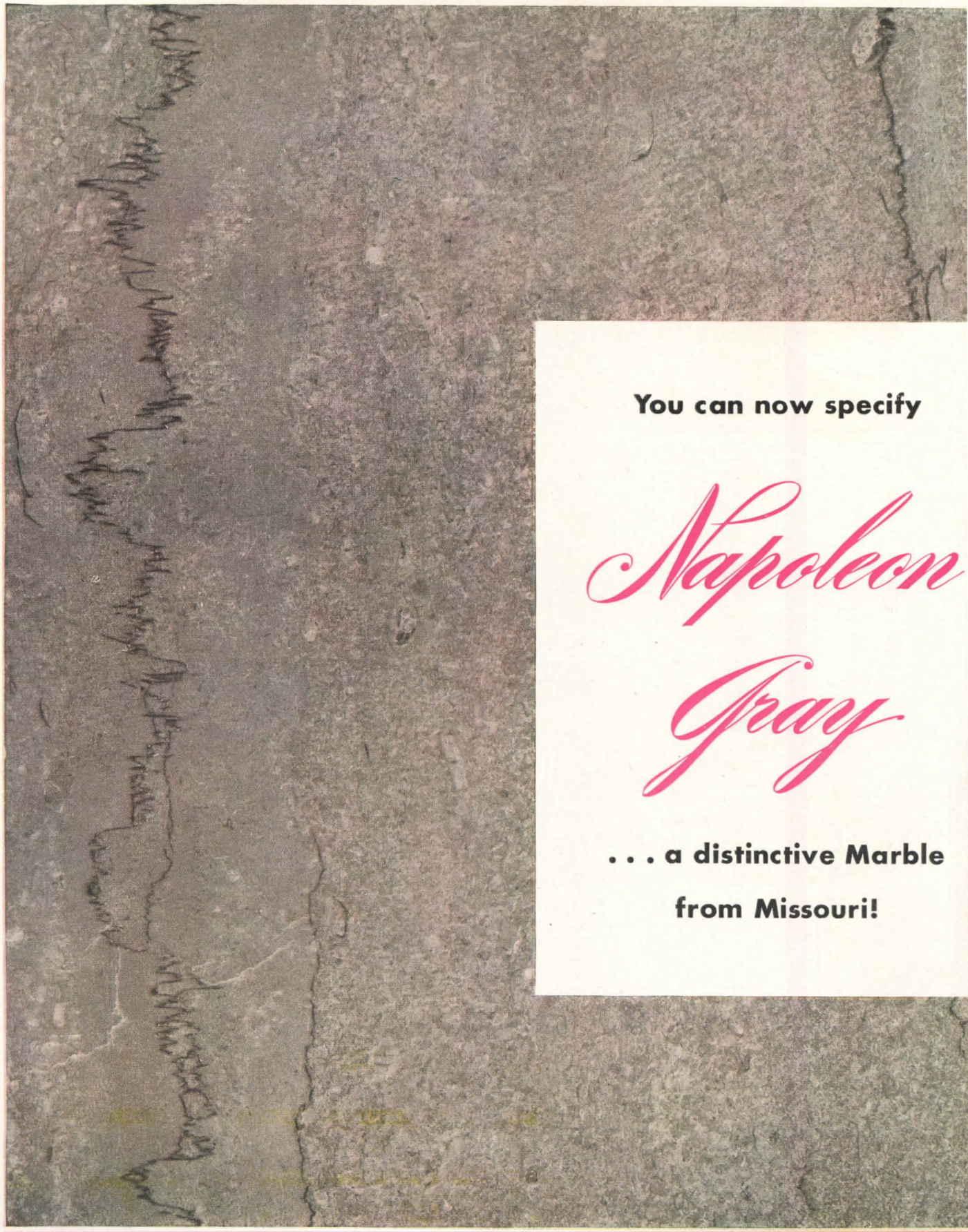

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Napoleon Gray

. . . a distinctive Marble from Missouri!

VERMONT MARBLE

Application of Napoleon Gray Marble in lobby of Commercial National Bank, Shreveport, Louisiana. McKimm, Mead & White, New York City, Architects. James Stuart & Co., New York City, Contractors.

The Marble Industry, having been affected by the same difficulties that have hampered the whole construction field, is at least keeping pace with the field, with fair prospects of competing for the lead.

An important factor in its development will be the increasing production of Napoleon Gray Marble from Missouri. Long known for its warmth of color, uniformity of texture, and the adaptability of its neutral tone and marking to both decorative and sanitary purposes, Napoleon Gray Marble is also recognized for the superiority of the surface-finish put upon it.

Although we import all the popular varieties of marble from Europe, and produce a wide range of marble, including the lightest to the darkest of colors, in our Vermont quarries, there seems to be a definite need for just the additional type of marble found in the Napoleon Gray product. We have therefore undertaken to bring it to a high state of production.

Napoleon Gray Marble is now available in quantity and in sizes for wainscot, toilet and shower partitions, trim of openings and all sorts of floor treatment. It is being finished at our plants in Proctor, Vermont; Remington, Indiana; Dallas, Texas; San Francisco, California; Peterboro, Ontario. And also by many of the other marble companies who are buying blocks and sawn slabs for their own fabrication. Specify "Napoleon Gray Marble."

* * *

Other notable examples of institutions in which Napoleon Gray interior marble has proved its worth:

Missouri State Capitol, *Jefferson City, Mo.*
Mechanics Institute, *Montreal, Canada*
Standard Oil Company, *Baltimore, Md.*
Technical High School, *Omaha, Neb.*
American Tel. & Tel., *New York, N. Y.*
Standard Arcade, *New York, N. Y.*
Masonic Temple, *Omaha, Neb.*
St. Thomas Aquinas Church, *Chicago, Ill.*
Union Gas Company, *Brooklyn, N. Y.*
Union Station, *Toronto, Canada*
Roosevelt High School, *St. Louis, Mo.*
Bank of America, *New York, N. Y.*
First National Bank, *South Amboy, N. J.*
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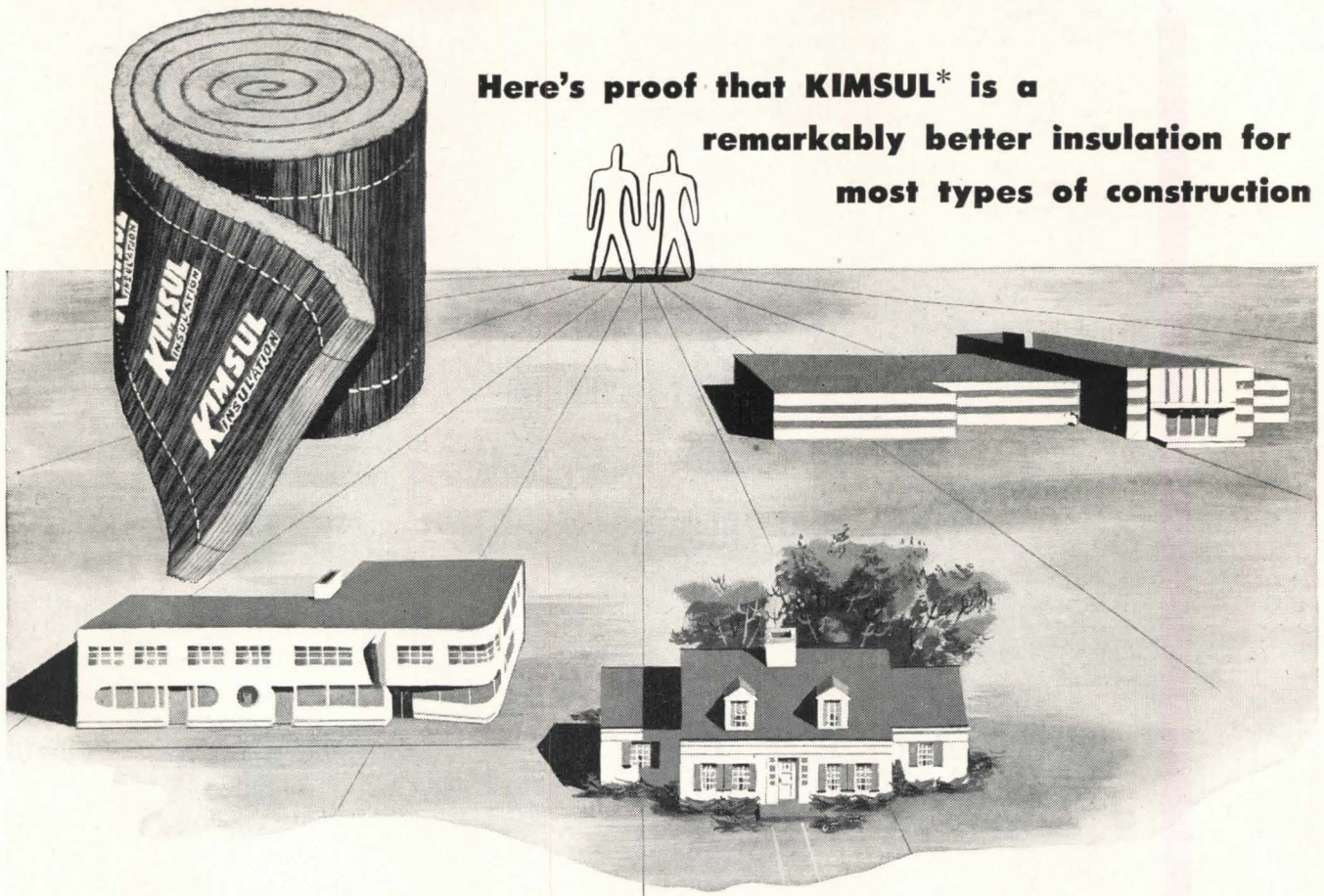
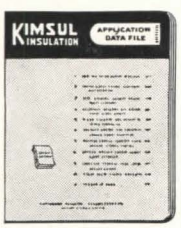


Here's proof that KIMSUL* is a remarkably better insulation for most types of construction

KIMSUL* insulation is equally efficient in homes, commercial buildings and industrial construction. Scientifically designed, its many-layer stitched construction automatically provides uniform protection over every square inch of insulated area. KIMSUL is permanent. Won't sag, sift, or settle—resists fire, moisture, vermin and fungi, is termite-proof. It's light in weight, adds little to structural load. And it's easy to apply. The KIMSUL blanket is prefabricated to fit standard stud and rafter widths; contains no sharp particles to irritate workmen's skin; requires no special installation skill, no expensive machinery.



Send today for this instructive guide on the latest and best ways to insulate your buildings with many-layer KIMSUL. Simply mail a request on your letterhead for a copy of the Application Data File.

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A PRODUCT OF Kimberly Clark RESEARCH

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Check these 6 exclusive KIMSUL advantages . . .

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As members of the Producers' Council, Inc., we are cooperating in the Industry-Engineered Homes Program sponsored by the Producers' Council and the National Retail Lumber Dealers' Association.

FUNCTIONAL . . .

even to its Color!

Asphalt Shingle Prices 3% Below Those of 1926

PERFORMANCE-WISE, COST-WISE

Asphalt belongs in today's plans . . .

Asphalt Shingles are *made* to be both practical and beautiful. Year after year they have delivered to the home owner extra value in weather protection, in fire safety, in color, in looks, in long, low cost service.

Today, these extra values are at an all-time peak. With production of Asphalt Shingles at more than 2¾ times the level of 1926, wholesale prices are actually below those of that active building year. And today's Asphalt Shingles are a better product than ever; better made, better looking, better wearing. They are construction's biggest dollar's worth!

The book pictured above, illustrated in full colors, prepared with the help of architects, offers some new thoughts on the design and color possibilities of Asphalt Shingles. Write for a free copy.

CONSTRUCTION'S BIGGEST DOLLAR'S WORTH

ASPHALT SHINGLES

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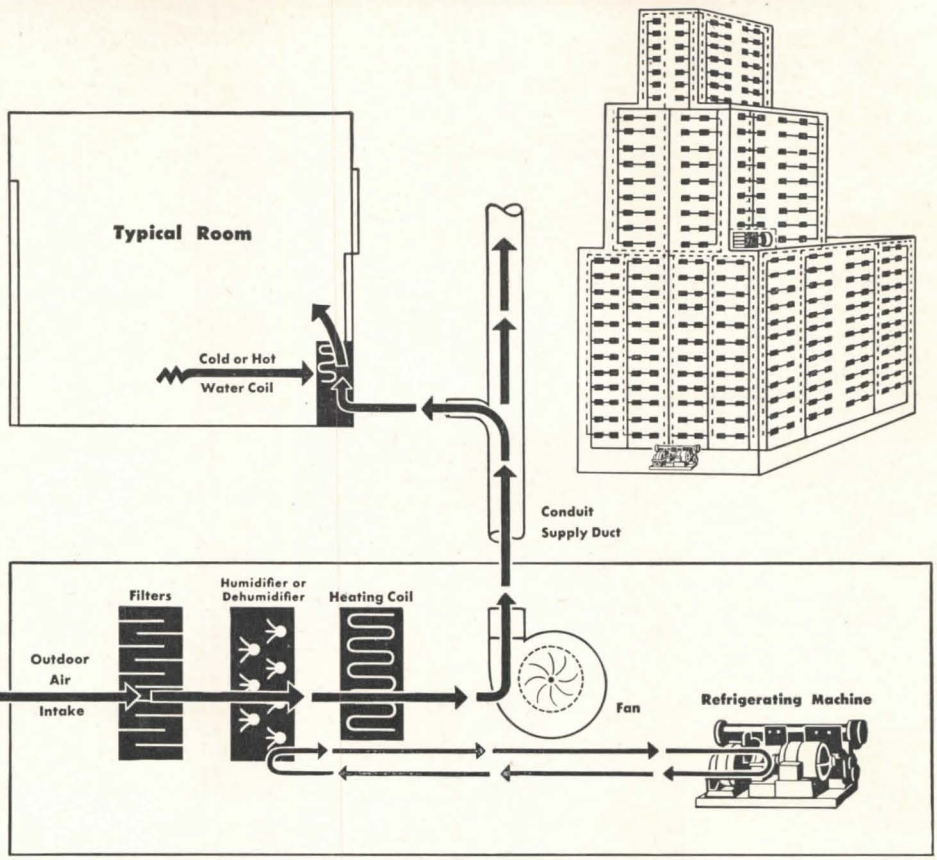
SPONSORED BY 28 LEADING MANUFACTURERS OF ASPHALT SHINGLES • ROLL ROOFINGS • SIDINGS • AND BUILT-UP ROOFINGS



plan a year-round air conditioning system

Today's office building tenants, hotel guests, hospital patients and others want year-round comfort—the kind of air conditioning they enjoy with a Carrier *Weathermaster* System.

The conduit type, as illustrated, is one of two *Weathermaster* Systems that provide comfortable, healthful air conditioning through the year in any multi-room building. In scores of leading office buildings, hotels and apartments here and abroad they supply cool, dehumidified air in summer, and cleaned warm, humidified air in winter.

Unlike conventional types, the Carrier *Weathermaster* Systems permit *individual room control*. Every room can have comfortable indoor weather regardless of exposure, the time of day or season of year. The systems are adaptable to either new or old structures.

The development of dependable, efficient air conditioning takes ceaseless research and years of experience. Carrier engineers work closely with architects and their consulting engineers to bring the greatest efficiency —and lowest operating cost—to the individual installation. Write for the 40-page booklet—"Air Conditioning for Multi-Room Buildings." Carrier Corporation, Syracuse, New York.

Carrier

air conditioning
refrigeration
industrial heating

This "slot" always pays off

DESIGNERS can lay out electrical systems with what seems to be ample allowance for future needs.

But they aren't fortune tellers. They can't foresee that some day a machine will have to be moved, an entire line relocated, or a lighting set-up shifted.

That's why it's wise to specify BullDog Universal Trol-E-Duct with the slot that always pays off. Universal Trol-E-Duct is slotted over its entire length. *So every inch is a potential outlet* to supply needed current for any type of lighting fixture or small tool.

Once Universal Trol-E-Duct is on the job in any plant, there's no need for expensive rewiring, no matter what changes are required. Current is available through twist-out plugs or through trolleys that can be moved with the lights or tools. Either tap-off device can be removed and reinserted to serve any point along the duct.

And if major alterations call for radical changes in electrical distribution, Universal Trol-E-Duct can be dismantled, moved and reinstalled with *complete re-use of all material.*

You can learn more about this modern, efficient system by calling the nearest BullDog Field Engineer. He can give you full technical information and show you a BullDog installation near your own office. Or, write BullDog direct and we'll send descriptive folders.

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BullDog manufactures Vacu-Break Safety Switches—SafToFuse Panelboards—Superba and Rocker Type Lighting Panels—Switchboards—Circuit Master Breakers—"Lo-X" Feeder BUStribution DUCT—"Plug-in" Type BUStribution DUCT—Universal Trol-E-Duct for flexible lighting—Industrial Trol-E-Duct for portable tools, cranes, hoists.

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"Design for modern living is encouraged by steel windows. Their versatility, graceful lines and inherent strength make possible effects attainable in no other way."

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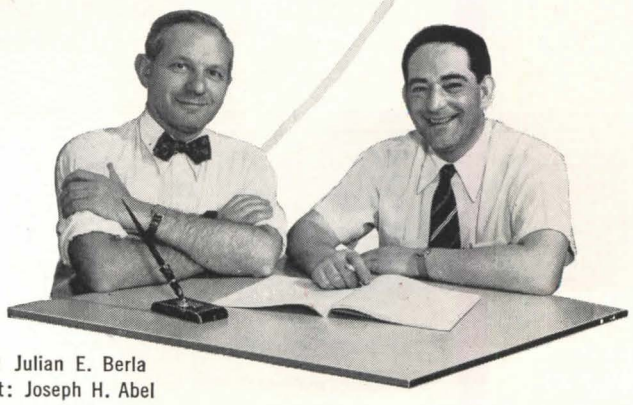
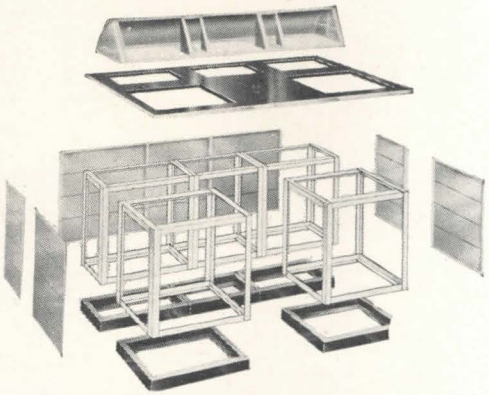
Washington D. C.



Left: Julian E. Berla
Right: Joseph H. Abel

For your copy of the Mesker Book of Apartment Windows write to Mesker Brothers, 4338 Geraldine, St. Louis 15, Mo.



Standard frames and panels easily assemble into basic units.

RCA'S *Unit-Built* CONSTRUCTION SIMPLIFIES SOUND SYSTEM PLANNING

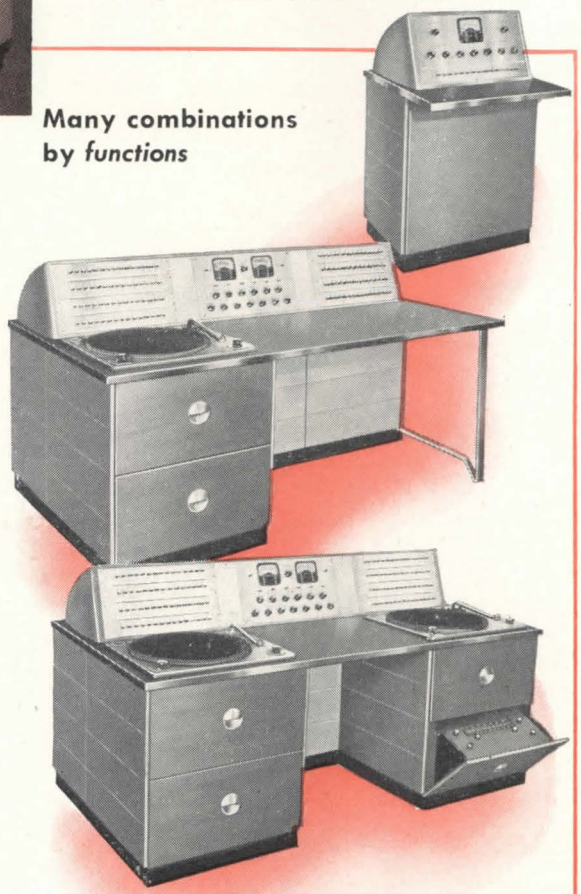
IN JUST ONE SERIES OF MODELS . . . standardized in dimension, styling and function . . . RCA has included every sound service required in modern institutional and industrial buildings.

Flexibility is the keynote of the new RCA Master Sound Control equipment. The completed control unit may contain only paging facilities in a single pedestal . . . or paging may be combined with record transcription turntables, microphone inputs, recorders, and radio units. All included functions are assembled in basic units . . . occupying minimum building space . . . and arranged for easy, efficient operation.

Because of the standardized units and uniform modern styling, RCA's Unit-Built Sound Systems are high in favor with the designers who have already included them in new and modernized buildings. They provide custom-built consoles within the price range of regular production equipment.

RCA's Architect's Consulting Bureau will be glad to work with you on your sound system planning. Write to Dept. 10-L.

Many combinations by *functions*



Three of the many possible combinations of RCA Unit-Built Master Sound Control Consoles are shown on this page. They range from a simple pedestal with paging facilities to loudspeakers in 16 zones, to a console capable of distributing announcements, music, radio, and interdepartmental communication to loudspeakers in 128 zones.

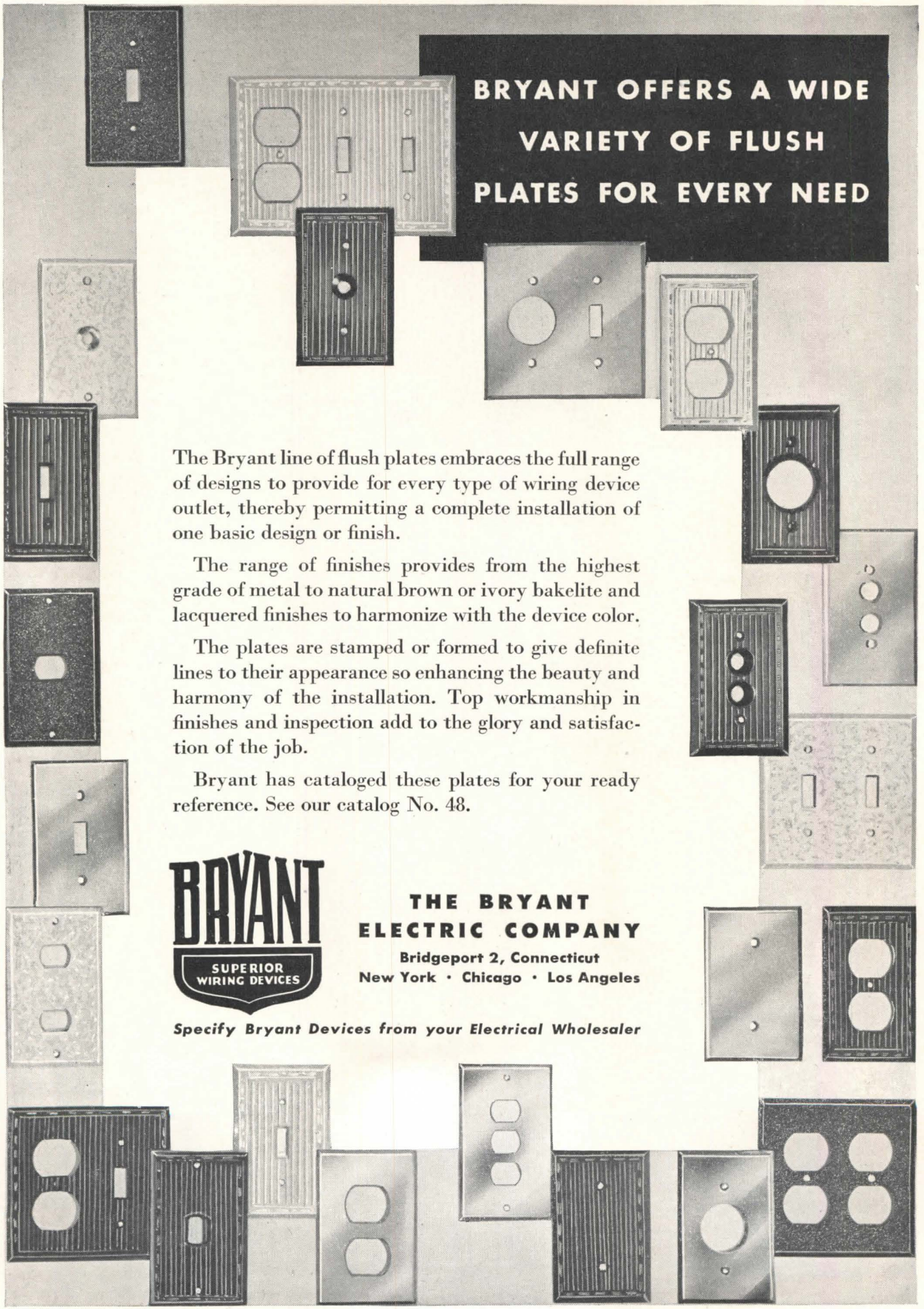
SEE OUR CATALOG IN SWEET'S

SOUND SYSTEMS

RADIO CORPORATION of AMERICA

ENGINEERING PRODUCTS DEPARTMENT, CAMDEN, N.J.

In Canada: RCA VICTOR Company Limited, Montreal



BRYANT OFFERS A WIDE VARIETY OF FLUSH PLATES FOR EVERY NEED

The Bryant line of flush plates embraces the full range of designs to provide for every type of wiring device outlet, thereby permitting a complete installation of one basic design or finish.

The range of finishes provides from the highest grade of metal to natural brown or ivory bakelite and lacquered finishes to harmonize with the device color.

The plates are stamped or formed to give definite lines to their appearance so enhancing the beauty and harmony of the installation. Top workmanship in finishes and inspection add to the glory and satisfaction of the job.

Bryant has cataloged these plates for your ready reference. See our catalog No. 48.

BRYANT
SUPERIOR WIRING DEVICES

THE BRYANT ELECTRIC COMPANY
Bridgeport 2, Connecticut
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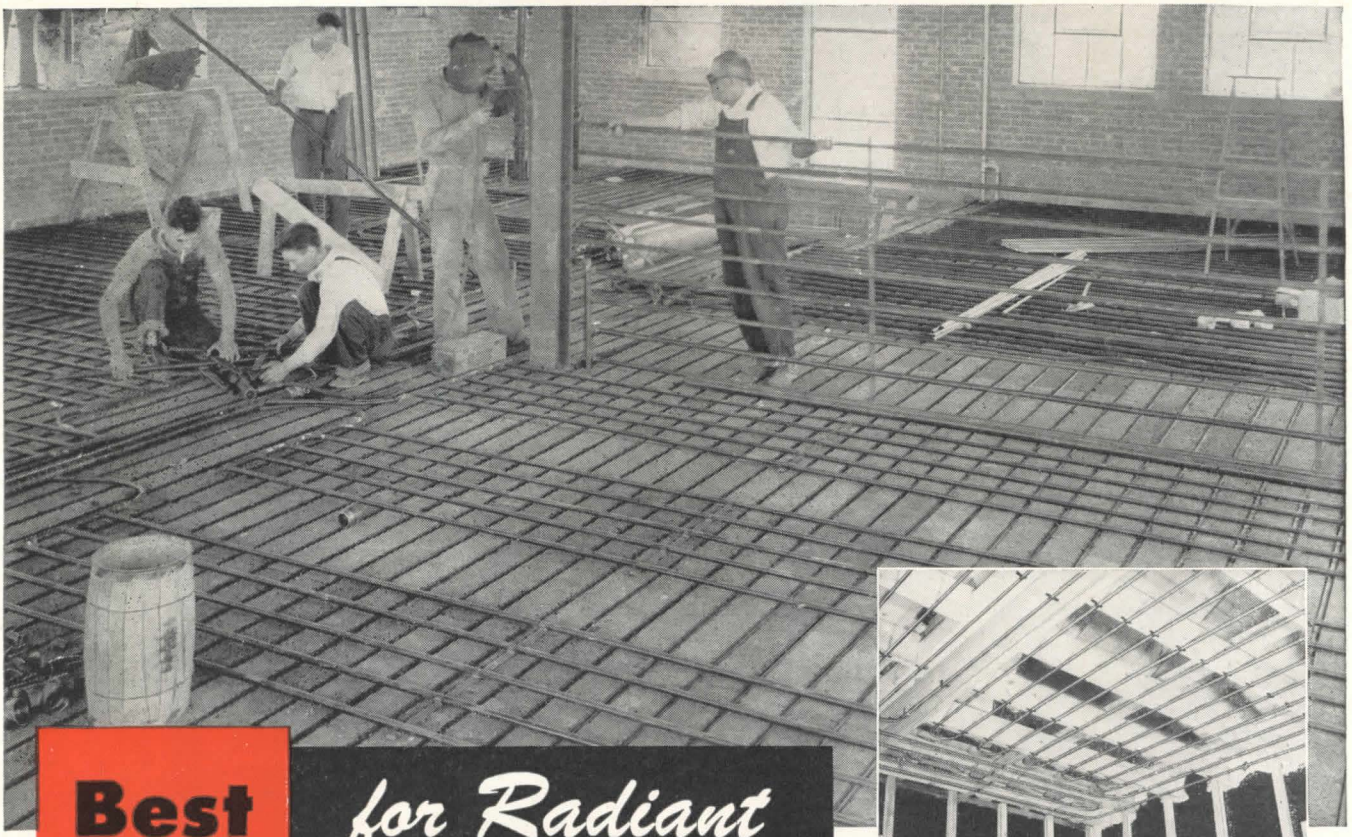
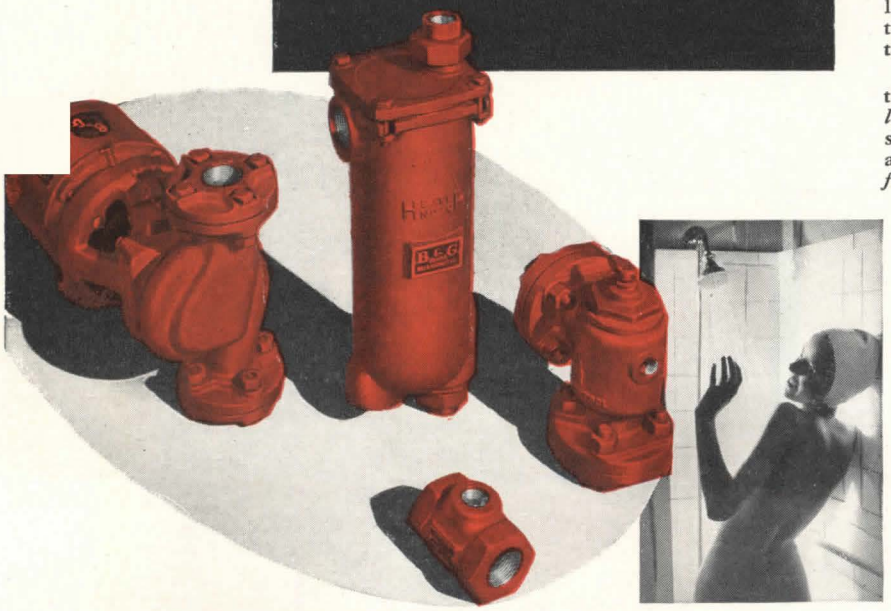
Specify Bryant Devices from your Electrical Wholesaler



Best for Radiant Panel Heating

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



Radiant heating has taken a firm grip on the interest of both home and industrial builders. More freedom in planning room arrangements—more comfort at lower air temperatures—greater cleanliness—lower operating cost . . . these are a few of the reasons people are asking questions about this *completely concealed* heating.

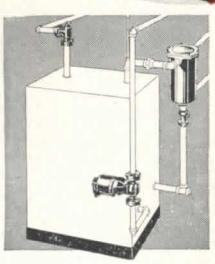
Successful radiant panel heating depends upon the use of comparatively large heating surfaces at *low temperatures!* What other heating method can satisfy these requirements as easily, accurately and economically as B&G *Hydro-Flo* Heat—*a forced hot water system*?

The simple, dependable equipment of a B&G *Hydro-Flo* Heating System positively controls the flow of water through the panels. It smoothly varies the water temperature to meet changes in the weather so that room temperature is maintained constantly at the comfort level. The system circulates water at any level, either above or below the boiler.

Year 'round hot water an added feature

The B&G *Hydro-Flo* Heating System provides an all year 'round supply of low-cost hot water for every household use. Remember that automatic clothes washers, dish washers and showers call for liberal quantities of hot water . . . that's why the economy of B&G water heating is a big selling feature! No separate heater needed—the same boiler that heats the house also heats the water for kitchen, laundry and bath.

If you haven't complete information on B&G *Hydro-Flo* Heating Systems, write today.



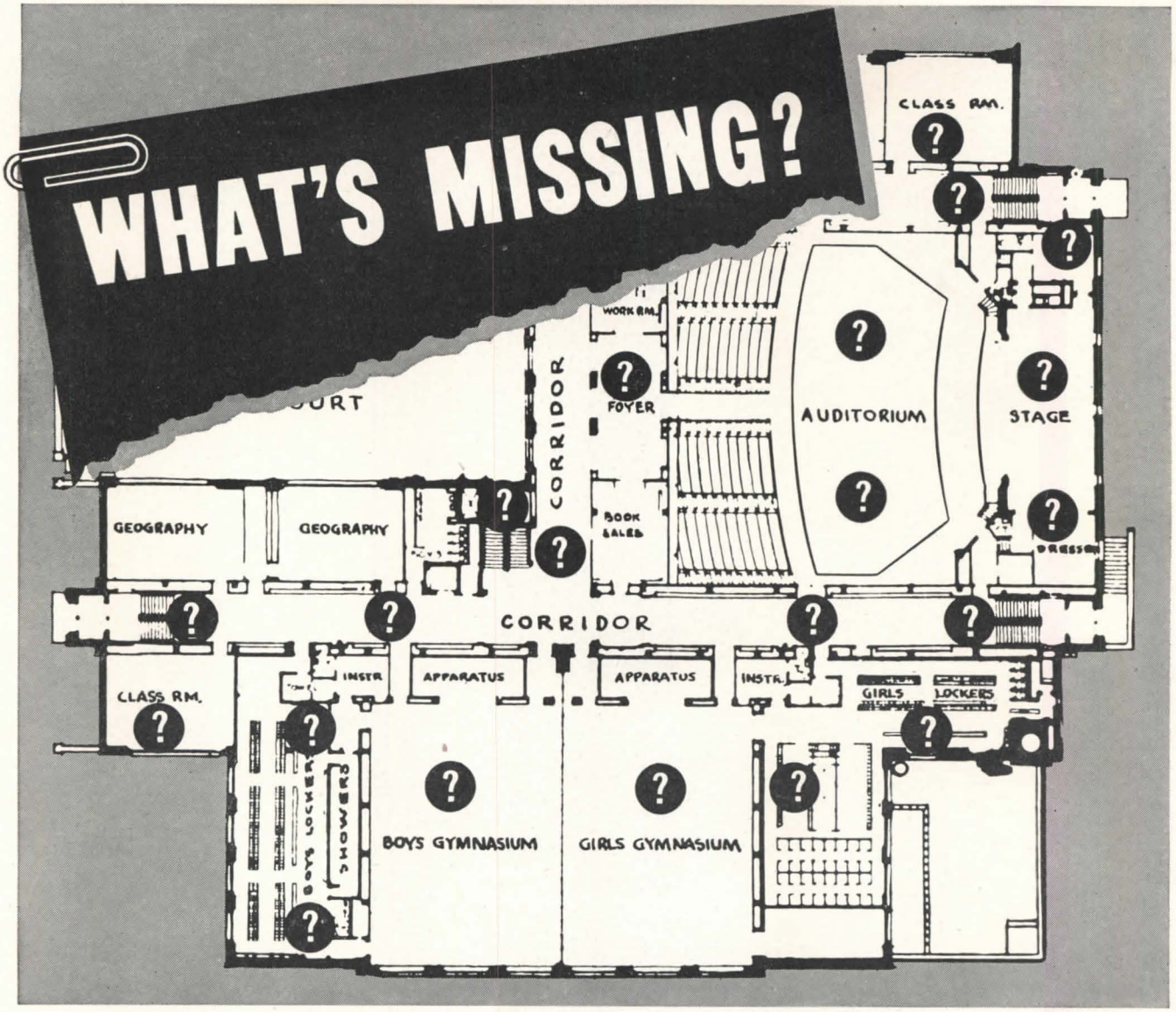
B&G *Hydro*-Flo Heating equipment can be installed on any hot water heating boiler.

Hydro-Flo* HEAT

BELL & GOSSETT COMPANY

Dept. AH-32, Morton Grove, Illinois

*REG. U. S. PAT. OFF.



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Schools, hospitals, theatres . . . all buildings where large numbers of people gather at night . . . should be protected against lighting failures and the dangers that might follow.

For despite all precautions of utility companies, accidents beyond their control can cause interruptions of normal electric current. Storms, floods, fires and collisions may occur with little or no warning and are a serious menace to electric power lines.

Safeguard the buildings you design against such dangers. Indicate the installation of Exide Emergency Lighting, which provides safe, sure, modern protection. It can be adapted to suit any lighting requirements from a few rooms to an entire building or group of buildings . . . and is always ready to take over the lighting load *instantly* and *automatically.*

IN EVERY SCHOOL THESE POINTS NEED PROTECTION

- Assembly Halls
- Auditorium
- Gymnasium
- Class Rooms
- Locker Rooms
- Corridors
- Stairways
- Exits

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PITTSBURGH PERMAFLECTOR Fluorescent and Incandescent Equipment represents a great advance in the science of planned lighting.

Designed and engineered to meet the requirements of all types of installations—commercial, industrial, institutional—this "ready-made" equipment gives "custom-made" illuminating results.

A call to our representatives or home offices will bring details on how you too can get more efficient illumination for every application by the use of Pittsburgh Permaflector Lighting Equipment.

"Pittsburgh" Permaflector

"A Permaflector Portrait"
THE THREE SISTERS
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Architect: I. M. Cohn

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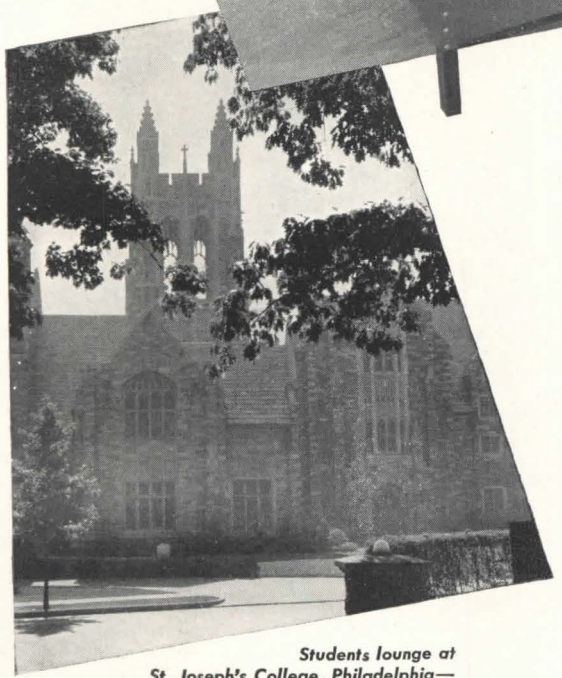
Lighting Engineers in All Principal Cities

PITTSBURGH PERMAFLECTORS ARE DISTRIBUTED BY BETTER ELECTRICAL WHOLESALERS EVERYWHERE



Students lounge at St. Joseph's College, Philadelphia— Duran all plastic upholstery used.

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FOR BEAUTY — LONG WEAR

PLIANT AND VERSATILE . . for superb effects on furniture . . walls, doors and panelling.

NON-FADING DECORATOR COLORS . . handsome grains for all types of interiors.

LONG WEARING . . easily washable . . resistant to scuffing, water, perspiration, grease and alcohol.

DURAN IS ALL PLASTIC . . it will not chip or peel . . gives years of public service . . builds lasting client satisfaction.

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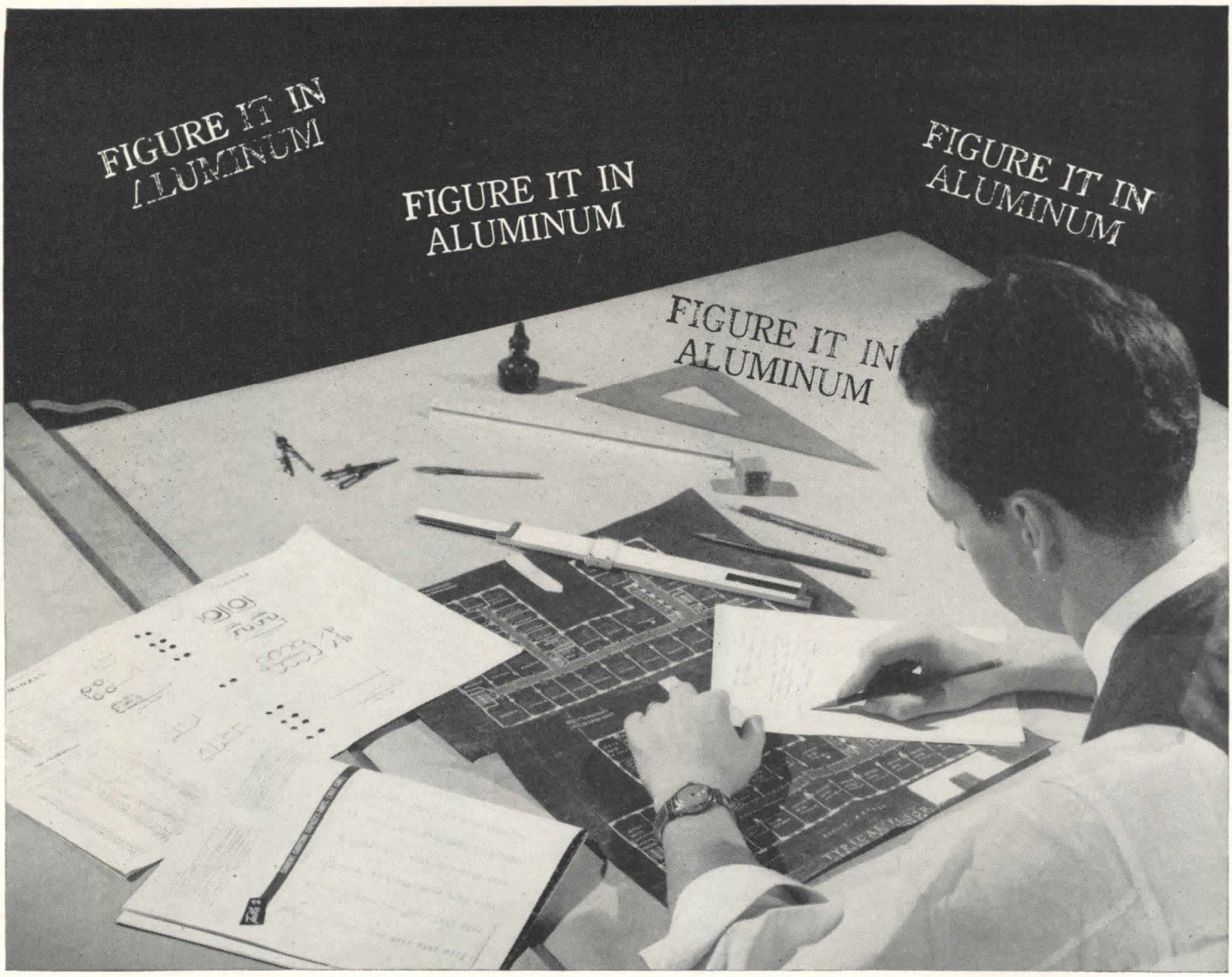

TO CUT WIRING COSTS, SPEED INSTALLATION!

Cut wiring costs by specifying insulated wire and cable of Alcoa E. C.* Aluminum for your next job—and know that you *can* get delivery—fast.

Wire and cable made from light, strong, conductive Alcoa E. C. Aluminum has a past of proved performance that assures your client's complete satisfaction with the electrical installation.

On your next job, "Figure it in aluminum"—not only for lower first cost, but also for efficient service. "Figure it in aluminum"—pound for pound the most efficient electrical conductor.

Alcoa sells E. C. Aluminum to leading wire manufacturers who draw, strand, insulate and sell it under their own trade-marks. Ask your supplier about it, or write ALUMINUM COMPANY OF AMERICA, 1441 Gulf Building, Pittsburgh 19, Pennsylvania.

*E. C.: Electrical Conductor Aluminum

NO PROBLEMS of Conductivity
NO PROBLEMS of Joints and Terminals
NO PROBLEMS of Conduit Layouts
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ALCOA EC ALUMINUM

FOR ELECTRIC WIRE AND CABLE

Only $400 per classroom

brings 40% greater educational growth

With the elements pictured above, you can get the correct p/l/f/s* in a schoolroom at about $400 additional per room if done when a 20-room school is under construction. Most existing schoolrooms can be so modernized at a moderate cost.

The benefits of correct p/l/f/s as revealed by accurate tests and measurements in Texas schools are: (a) 10 months educational gains in 6 months, and (b) significant improvements in the physical well-being of the school children.

*p/l/f/s—the initial letters of the words "painting; lighting; fenestration; seating" which are the essential elements of the Harmon Technique for schoolroom improvements as developed under the supervision of Dr. Darell B. Harmon, Executive Director of the Inter-Professional Commission on Child Development.

Luminall paint is used in these p/l/f/s programs because it combines high light reflection and complete light diffusion. Covers in one coat; dries in 40 minutes; is very economical. Comparable efficiencies to those obtained in schools may be expected in many types of factories, workrooms and offices.

The makers of Luminall will be glad to forward a copy of Dr. Harmon's "LIGHT ON GROWING CHILDREN," reprinted from Architectural Record. On receipt of sketches showing dimensions and details of schoolroom, specifications will be furnished according to the Harmon Technique without cost or obligation. NATIONAL CHEMICAL & MFG. CO., 3617 S. May Street, Chicago 9.

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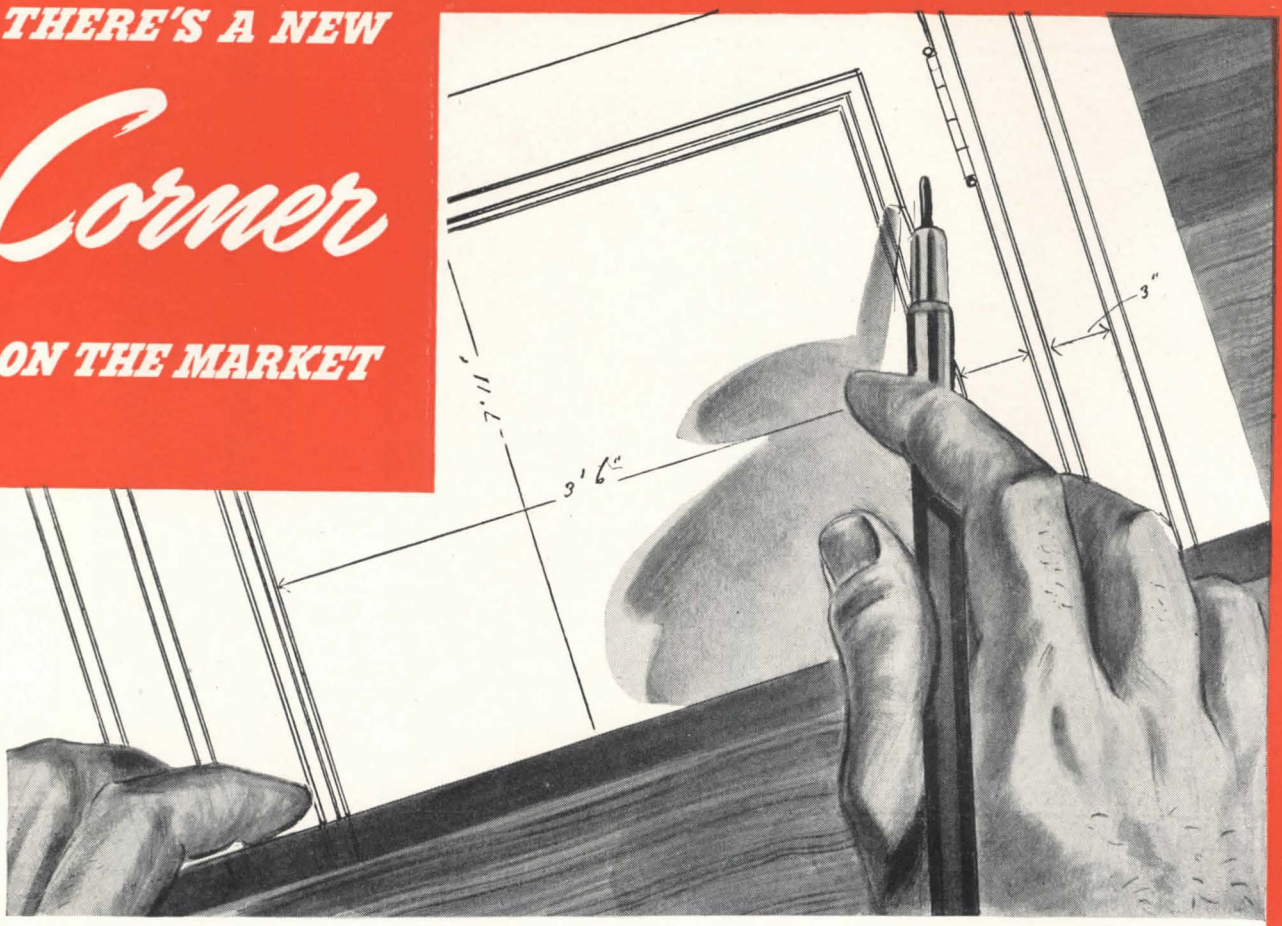
You can use Luminall over new plaster—the moisture in the plaster will not damage it. Luminall has a porous film that allows moisture to escape through it. No long waiting for plaster to dry before delivering a structure fully decorated! Send for your copy of PAINTING FOR LIGHT AND DECORATION, a useful and comprehensive 24-page book on casein paste paint and specifications for applying Luminall.

LUMINALL

the light-reflective paint for interiors

THERE'S A NEW *Corner* ON THE MARKET



Now you can free your doorways of **BULKITIS** *in the "door closer corner!"*

NEW YALE COMPACT DOOR CLOSER *has been voted the world's most beautiful closer*

You've always hated the door closer corner — for there has never been an *attractive* door closer. They've all had *bulkitis* — which means too big, too bulgy, too clumsy — ugly!

Now comes the Yale Compact Door Closer — the one that architects from coast to coast have voted the world's most beautiful door closer. A new operating structure — rotary piston checking — makes possible an equally powerful, yet 36% smaller door closer — without bulgy "hips". Closing is controlled over the full closing swing, two-speed adjustment at the latch.

It's a door closer to make any door proud. Brackets, too, are handsome. Priced no higher than ordinary closers with *bulkitis* — it is your answer to the door closer problem.

FREE: Data Sheets and 4-Page Folder illustrating simple operating method, leakproof feature, famous Yale workmanship, "hold-open" device, etc. "Quality Checking Chart" proves Yale Compact Door Closer leads all other makes on 17 quality points. Mail coupon now.

More Beauty . . . Smaller Size
Smoother Action . . . Same Price

TRADE **YALE** MARK
Compact Door Closer

THE YALE & TOWNE MANUFACTURING COMPANY
Stamford, Connecticut

Please Send Me Free 4-Page Folder and Data Sheets on Yale Compact Door Closer.

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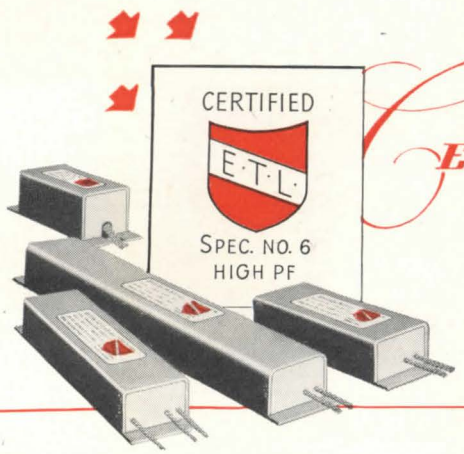
Certified Ballasts:

★ *They assure dependable operation of a Fluorescent lighting fixture*

★ *They are tested, checked and Certified by Electrical Testing Laboratories, Inc. as meeting rigid manufacturing specifications*

★ *Leading fluorescent lamp makers will guarantee lamp performance when Certified Ballasts are specified in a fixture*

The word "CERTIFIED" on a fluorescent lamp ballast tells you instantly that here is a product that gives you the greatest possible efficiency in operation and performance of fluorescent lighting. Insist on ballasts bearing the ETL shield in the fluorescent lighting equipment you sell. Give your customers the protection they need and want.



CERTIFIED FLEUR-O-LIER MANUFACTURERS, RLM STANDARDS INSTITUTE and CERTIFIED LAMP MAKERS have solved their ballast problems by writing CERTIFIED BALLASTS into their specifications.

CERTIFIED BALLAST MANUFACTURERS

Makers of Certified Ballasts for Fluorescent Lighting Fixtures

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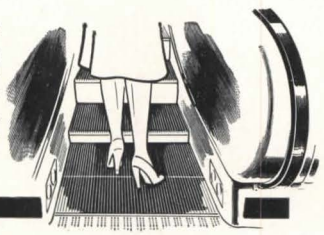
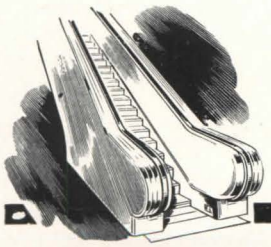
A Great New Escalator

AT A NEW LOW PRICE!

WIDE ENOUGH for adult and child—or traveler and luggage. The new Escalator carries 5000 people an hour comfortably. It is designed for any vertical rise up to 23 feet.

SAFETY FEATURES include narrow-gage metal treads, semi-circular extended newels, continuous pinch-proof rubber hand rails . . . the world's safest transportation.





A LIFETIME OF BEAUTY. The modern Escalator's graceful lines and gleaming aluminum balustrade combine to give buildings the New Look in level-to-level travel.

It's big in capacity

It's Otis throughout

HERE NOW— the first Escalator designed especially for the medium-sized and smaller building. The result of many years' research, this new Escalator has all the time-tested features of earlier models, plus a wealth of post-war design features . . . it is truly the last word in Escalator design.

Capable of carrying 5000 people an hour, it handles more persons per dollar investment than any other moving stairway. Wide enough to comfortably carry an adult and child on one step, it is the ideal size for most stores, stations, plants, banks and other public buildings. Yet for all its spaciousness, it requires less space and structural work than narrower moving stairways.

Best of all there has been no compromise with quality. In eye-appeal, in safety, in the inherent ruggedness that makes for long life and low upkeep, it is the equal of any Escalator we ever built. And remember, only Otis makes Escalators.

NEW FREE BULLETIN B-700F tells the whole story. Write for your copy to Otis Elevator Company, 260 Eleventh Avenue, New York 1, N. Y.

"Escalator" is a U. S. Patent Office registered trademark of the Otis Elevator Company. Only Otis makes Escalators.

Otis ELEVATOR COMPANY

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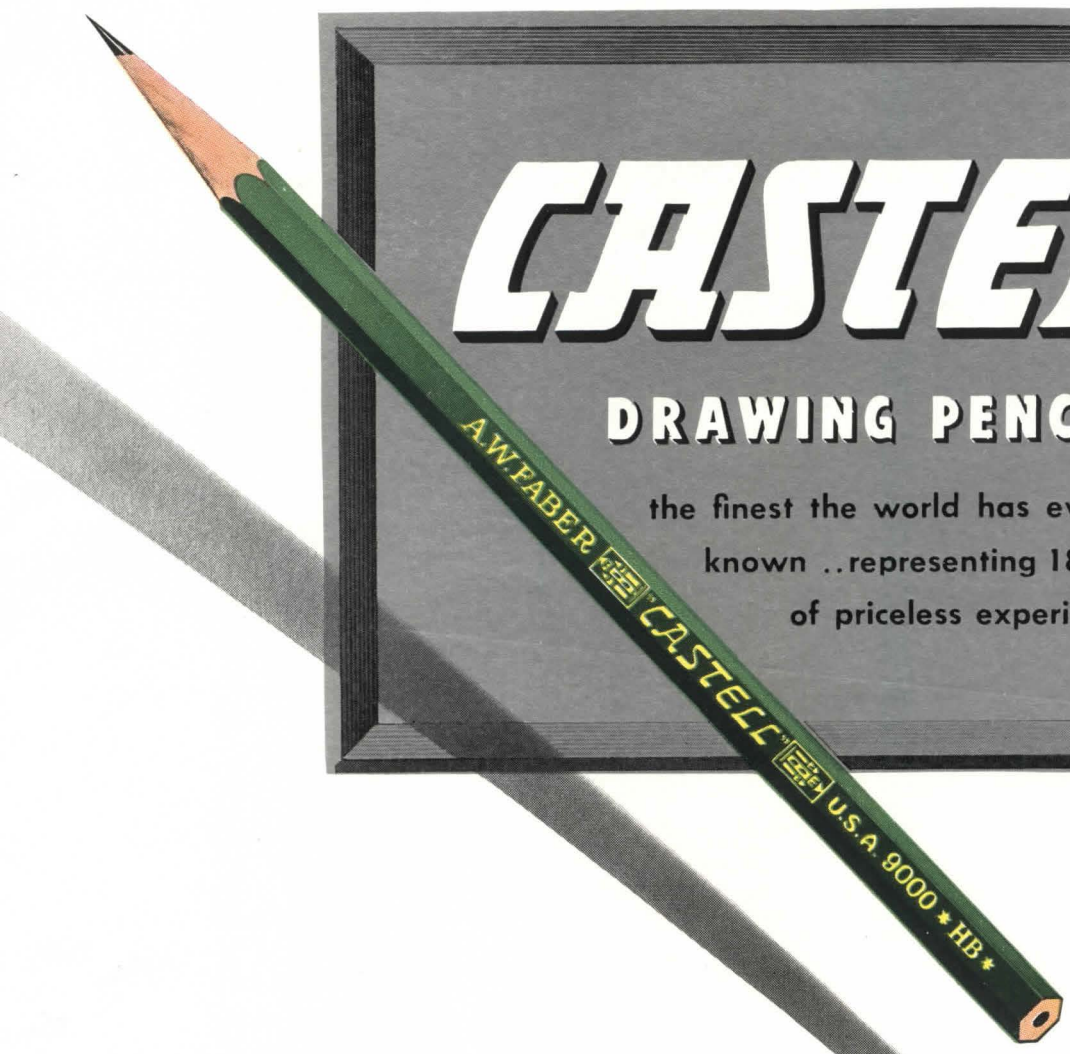
Answering the Question thousands have been asking....

CASTELL

DRAWING PENCIL

the finest the world has ever known ..representing 186 years of priceless experience



is back!

Yes, CASTELL is back.

Since 1761 the little town of Stein, in Bavaria, has been the world center of pencil craftsmanship.

And now the incomparable Bavarian Craftsmen are again compounding and milling CASTELL graphite according to the original secret micrometric process of the world-renowned House of A. W. Faber.

CASTELL, the standard by which all other pencils are judged . . . unbelievably smooth, grit-free, easily-sharpened, uniformly graded CASTELL . . . is now being imported with the sanction and approval of the U. S. Military Government in Bavaria.

In our own country American production genius teams up with inimitable old-world skill. Here this unexcelled CASTELL graphite is encased in choice, nature-seasoned aromatic Southern cedar—each pencil stamped in gold with the certification of original CASTELL quality, the favorite of American Professional Men for generations . . .

the Drawing Pencil of the Masters

A.W. FABER-CASTELL
PENCIL COMPANY INC., NEWARK 4, N.J.

MATURE PROFESSIONAL MEN... you who depended on the undeviating excellence of CASTELL year after year . . . we know how you must thrill to the dramatic news—"CASTELL is back!"

YOUNGER PROFESSIONAL MEN... you who heard echoes of CASTELL'S fame in the wistful conversation of your seniors . . . now *you* will be privileged to use the Drawing Pencil of the Masters.

Now you will know the singular satisfaction of using a pencil that translates gray matter into black, that gives free-flowing expression to robust ideas with a rich, graphic opacity no other pencil in the world can match.

DEALERS... We of the House of A. W. Faber-Castell thank you for your patience. This is a proud announcement for us as it must be a great day for you. Thousands of your customers engaged in the arts, the professions and in business—artists, architects, engineers, designers, draftsmen and executives—are waiting for

CASTELL

the Drawing Pencil of the Masters

In 18 matchless degrees of black . . . . . **7B** to **9H**

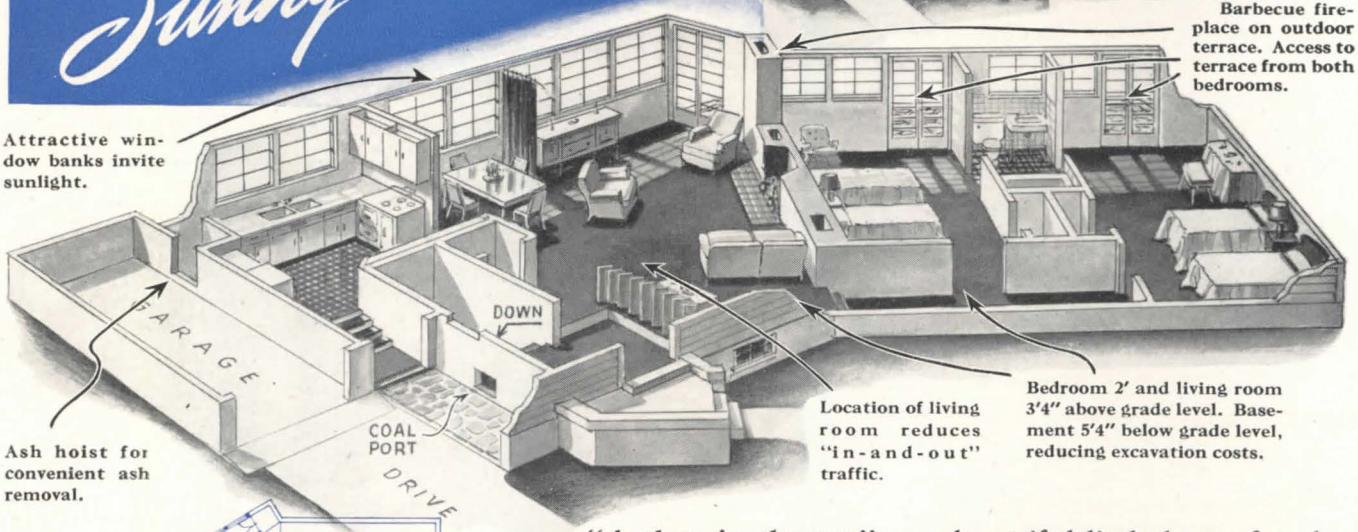
15c each . . . less in quantities

WRITE, WIRE OR TELEPHONE

A.W. FABER-CASTELL PENCIL COMPANY INC NEWARK 4, N.J.

"Yours for Sunny Living"

Barbecue fireplace on outdoor terrace. Access to terrace from both bedrooms.

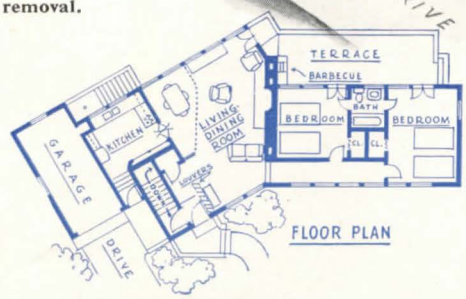


Attractive window banks invite sunlight.

Ash hoist for convenient ash removal.

Location of living room reduces "in-and-out" traffic.

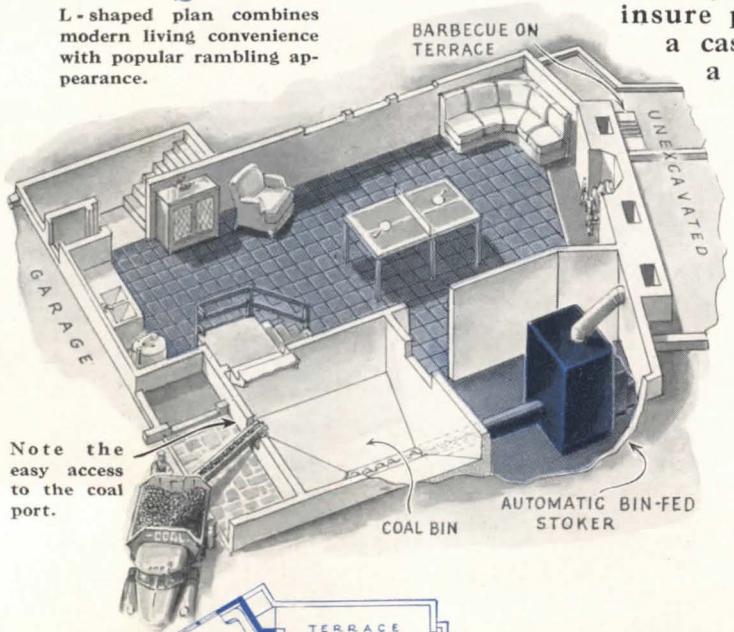
Bedroom 2' and living room 3'4" above grade level. Basement 5'4" below grade level, reducing excavation costs.



L-shaped plan combines modern living convenience with popular rambling appearance.

"A place in the sun" — a beautiful little home for the south side of the street, planned for people who love to live in the sun. Location and design of this house welcome the warm winter sun from every angle . . . but wide, overhanging eaves tone down the summer sun wherever necessary. This is the way to stay on the sunny side of the street —*literally!*

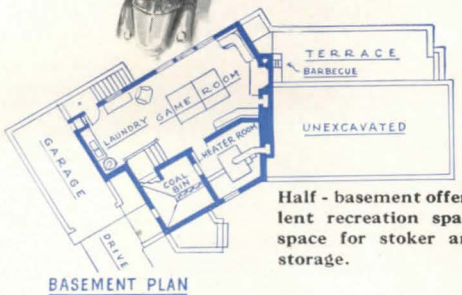
Your client will find many other attractive features in the "Sunnyside" house . . . windows at level to insure plenty of privacy and ventilation . . . a casual style that means "good living" . . . a floor plan that cuts down corridor space and sets the living room off to its own private self . . . a half basement requiring minimum excavation . . . and, best of all, a design for *smart, economical coal heat!*



Note the easy access to the coal port.

COAL HEAT *is* ~~EVEN~~ HEAT

There's always a fire in the furnace of the house heated by coal! No pop-on and pop-off periods which cause room temperatures to climb and plunge, inviting sniffles, colds, sore throats! A design for coal heat, with modern, automatic stoker installation keeping attention-to-furnace at a minimum, is a design for good living. It's a design for *assured* heat, too, for while other dwindling fuels may soon be exhausted, there's enough *known* Bituminous coal to last 3,000 years!



Half-basement offers excellent recreation space plus space for stoker and coal storage.

ANOTHER ADDITION TO A DISTINGUISHED FAMILY

Now . . . A Complete New Line of NATIONAL Commercial STEEL BOILERS

Designed and engineered for the largest heating jobs where extra heating capacity and economical operation are prime considerations. National Commercial Steel Boilers are available in 16 sizes with SBI net ratings ranging from 2,500 to 35,000 square feet of steam radiation—these standardized sizes complying with Standard Practice Recommendation R157-37 of the United States Department of Commerce.

National Steel Boilers have been designed with particular attention to the needs of Automatic operation with stoker, oil and gas firing. Hence, this new National Steel Boiler embodies all the latest features desirable in an Automatically fired boiler. Too, hand fired boilers can be readily converted, after installation, to Automatic firing.

Check these features:

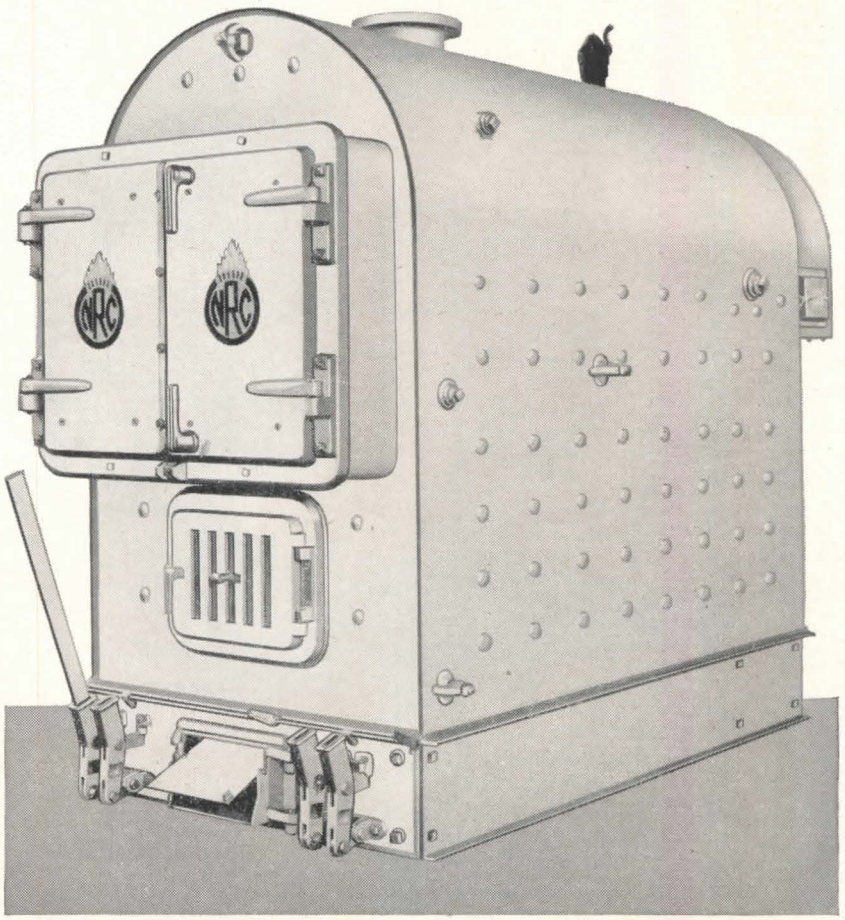
LONG, TROUBLE-FREE SERVICE from durable flange quality steel construction and Electrunite tubes. Design and construction meet or exceed the requirements of the Steel Boiler Institute Rating Code, and the American Society of Mechanical Engineers Boiler Construction Code. Each boiler is inspected and approved by a representative of The Hartford Steam Boiler Inspection and Insurance Company. Generous firebox proportions conform with the recommendations of the Stoker Manufacturers' Association.

FUEL ECONOMY from self-cleaning True-Arch Crown Sheet which prevents heat-insulating sludge from accumulating over hottest part of the firebox crown, maintaining maximum efficiency of heat transfer. Exterior surface of boiler shell finished with aluminum paint for heat conservation.

PLENTY OF HOT WATER—A wide selection of Indirect Hot Water Heaters available for year 'round supply of domestic hot water. Storage or tankless types for single and multiple heater installation. High grade brass and copper construction assures corrosion resistance, long dependable service.

UNUSUAL ACCESSIBILITY—Tight-fitting doors of generous size provide ease of firing, inspecting, cleaning. Detachable bottom plate on smoke hood gives access to rear end of tubes without disconnecting the breeching or removing the hood.

CONVENIENT GRATES built in four sections—two front and two rear (except in smallest size, one front and one rear). Greater ease in shaking and dumping the fire or removing the rocking-type grate bars. In mild weather, when rear sections can be left covered with ashes, a slow fire on front sections provides just enough heat to remove chill and provide domestic hot water.



For complete information, call your nearest NRC heating sales branch or write to The National Radiator Company, 221 Central Avenue, Johnstown, Pennsylvania.

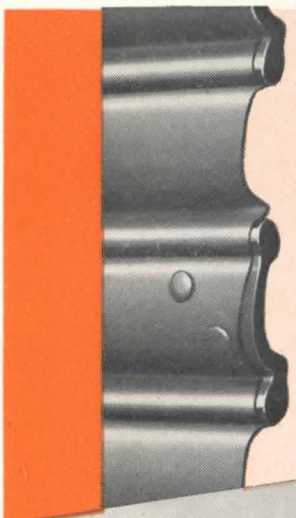
NRC

The NATIONAL RADIATOR Company

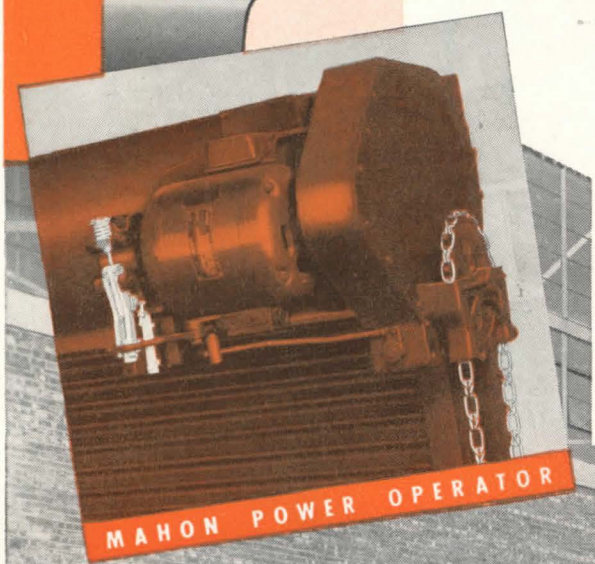
JOHNSTOWN, PENNSYLVANIA

Rolling Steel DOORS

Manually • Mechanically • Power Operated



One of Three Standard Interlocking Slats that make up the Rugged Curtains of Mahon Rolling Steel Doors.



MAHON POWER OPERATOR

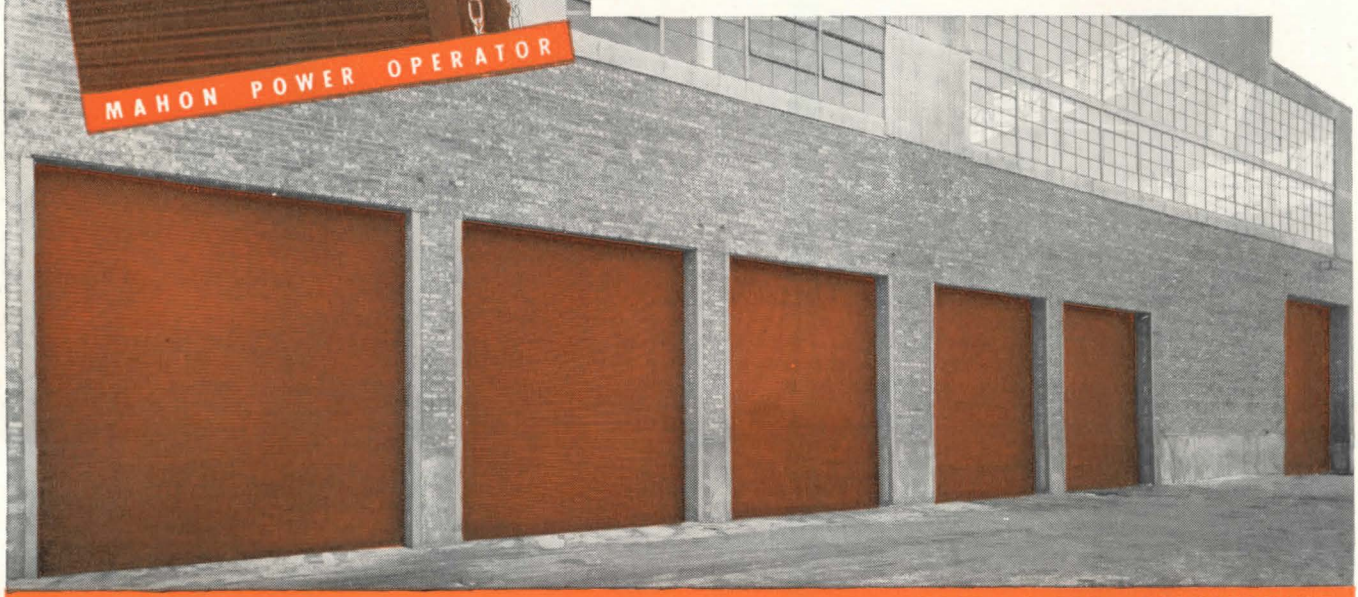
For any shipping, truck, or railroad opening in commercial or industrial buildings, Rolling Steel Doors are the best investment you can make . . . they consume less space, require less maintenance, and give greater protection throughout a lifetime of trouble-free service. In Mahon Rolling Steel Doors you will find the latest developments in doors of this type—and many exclusively Mahon features worthy of your investigation. See Mahon's Insert in Sweet's File for complete information, or call in a Mahon representative.

THE R. C. MAHON COMPANY

Detroit 11, Michigan • Western Sales Division, Chicago 4, Illinois

Representatives in All Principal Cities

Manufacturers of Rolling Steel Doors, Shutters and Grilles, and Mahon Steel Deck for Roofs, Sidewalls, Partitions, Acoustical Ceilings, Permanent Floor Forms and Oversize Doors.

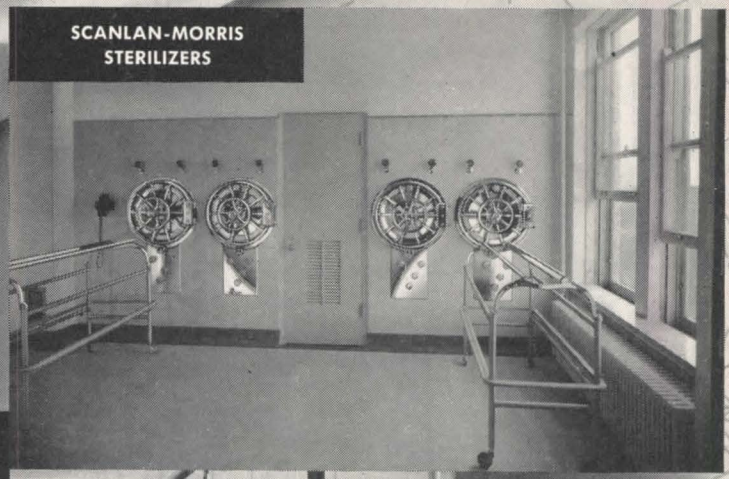


ROLLING STEEL DOORS, SHUTTERS AND GRILLES TO MEET EVERY REQUIREMENT

Mahon Rolling Doors Installed in the Plant of the Lafayette Steel Company, Chicago, Ill. A. F. Stein & Sons, Inc., Engineers. Poirot Construction Co., Contractors.

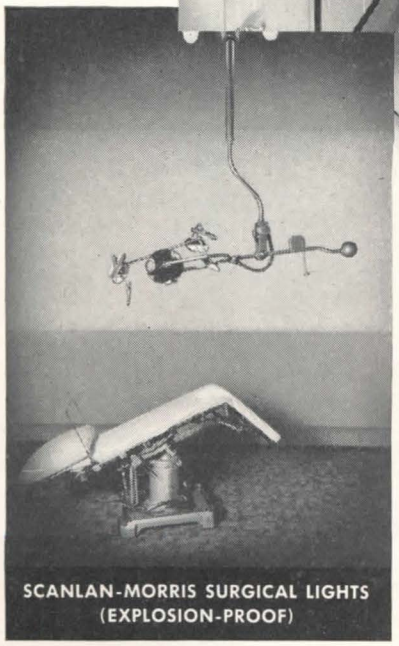
MAHON

AUTHENTIC DATA and CONSTRUCTIVE ASSISTANCE for Hospital Architects



SCANLAN-MORRIS STERILIZERS

SCANLAN-MORRIS RECESSED CABINETS



SCANLAN-MORRIS SURGICAL LIGHTS (EXPLOSION-PROOF)

● Many prominent hospitals, both large and small, are equipped with Scanlan-Morris sterilizers, surgical lights and recessed custom-built metal cabinets, as well as other Ohio Chemical equipment.

Years of experience in manufacturing and equipping hospitals and clinics, and the direct personal contact with architects, superintendents, surgeons and engineers, qualify our Technical Sales Service Department to give valuable assistance and authentic guidance in the planning of hospital facilities.

Architects are invited to write for Scanlan-Morris illustrated catalogs and planning manuals on: (1) Surgical Sterilizers and Bedpan Apparatus; (2) Operay Surgical Lights, and (3) Recessed Custom-Built Metal Cabinets. Our Technical Sales Service Department will be glad to supply suggested layouts and recommendations for the most efficient and economical installations to meet requirements.

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MANUFACTURERS OF MEDICAL APPARATUS, GASES AND SUPPLIES FOR THE PROFESSION, HOSPITALS AND RESEARCH LABORATORIES

BRANCH OFFICES IN PRINCIPAL CITIES

OHIO

Flower petals really *repel* water

The moisture that is so vital to velvety gardenias and roses is drawn up through the roots. The petals actually repel water. That's why you see droplets on freshly-watered or dewy blooms.

This quality of water-repellency is very vital to roofs. One material that has proved it can resist the damage from hard rains, and the slower—but equally-serious—effect of pools of water, is coal tar pitch and felt. It is one of the oldest roofing materials in use today, but it is also one of the most effective.

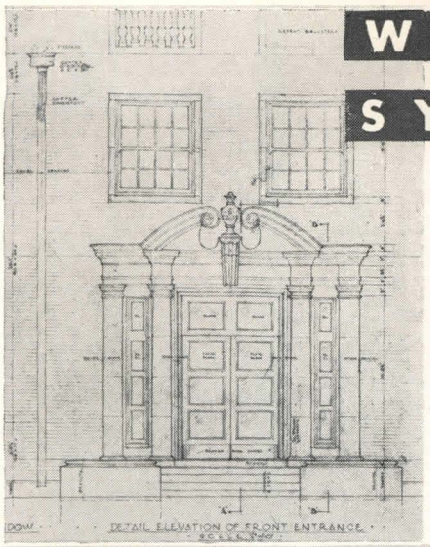
Koppers Old Style Pitch and Felt has been doing a good job . . .
not only in repelling water, but also in protecting buildings from the sun's scorching rays and other severe weather conditions. Use Koppers Old Style Pitch and Approved Tarred Felt when you want a roof that will not deteriorate from moisture, heat, or other weathering.

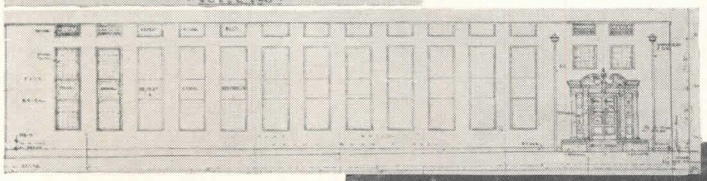
KOPPERS COMPANY, INC., PITTSBURGH 19, PA.

K KOPPERS **ROOFING AND WATERPROOFING**

Naturally,
a Koppers roof for long life

WALKER UNDERFLOOR SYSTEMS ENGINEERED





FOR *Modern* BUILDING DESIGN

Architect
John C. Van Balen
Chicago
General Contractor
Turner Construction Co.
Electrical Contractor
Ross Elec. Construction Co., Inc.

Construction of this new office building for Certain-Teed Products Corporation at Ardmore, Pa., called for a 3 inch monolithic concrete floor on Steeltex wire lath supported by bar joists.

A WALKER System of Underfloor Duct was specified by the architect because of its ready adaptability to this modern method of construction—and to insure flexibility of the electrical system during the life of the building.

Write to us for our Catalogue No. 146 or consult Sweet's Architectural File for further details.

WALKER BROTHERS
Conshocken, Pa.

walker of Conshohocken UNDERFLOOR SYSTEMS

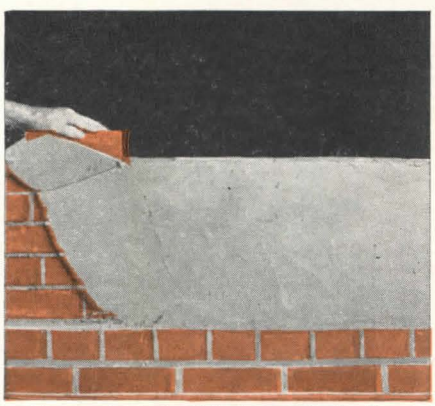
BRIXMENT Encourages BETTER WORKMANSHIP!

Really first-class brickwork calls for parging or tooling the inside surface of the face brick, as a final protection against the possibility of leakage. The photographs below give full details for both procedures.

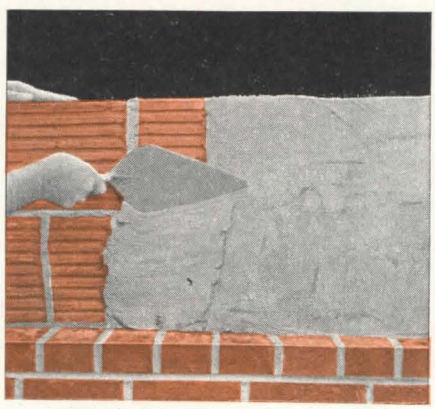
No. 6 OF A SERIES—

PARGING OR TOOLING THE BACK OF FACE BRICK

PARGING



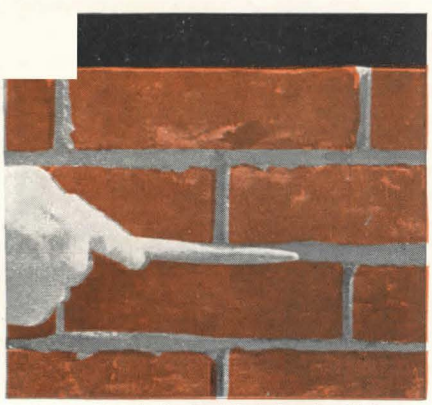
The face brick should be back-plastered with not less than ⅝" of mortar before the back-up units are laid.



Or if the back-up units are laid first, the front of the back-up units should be plastered in the same way.

Before backplastering, however, all mortar joints should be cut flush. Parging should not be attempted over protruding mortar joints.

TOOLING



As an alternate for backplastering, the joints on the back of the face brick may be tooled to give a concave finish.

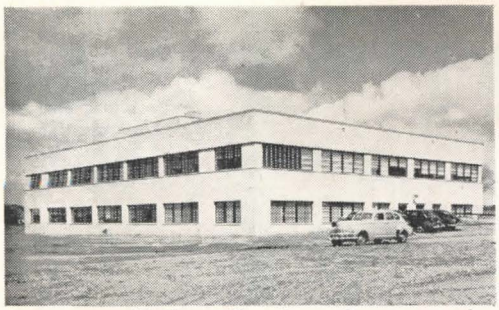
This encourages the bricklayer to fill the head joints, since proper tooling cannot be done if mortar is lacking.

Therefore before the tooling can be completed, it is necessary for the bricklayer to point up the open joints.

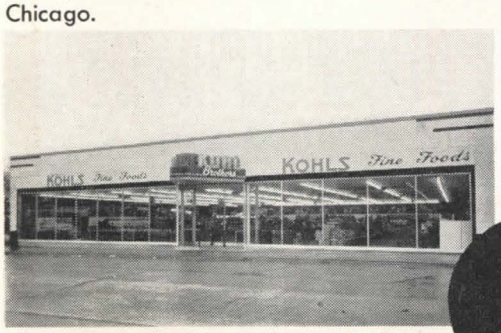
Because Brixment is more plastic and works easier, it actively encourages the bricklayer to do *better work.* The brick are bedded more quickly, with full joints, and without excessive tamping. Parging and tooling are done in minimum time, with minimum effort.

In addition to greater plasticity, Brixment also has higher water-retaining capacity and bonding quality, greater resistance to freezing and thawing, and freedom from efflorescence. Because of this combination of advantages, Brixment is the leading masonry cement on the market.

LOUISVILLE CEMENT COMPANY, Incorporated, LOUISVILLE, KENTUCKY

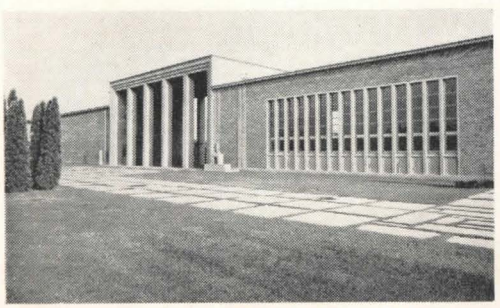


Minnesota Valley Canning Company, Le Sueur, Minnesota. Architect: The Austin Co., Chicago.

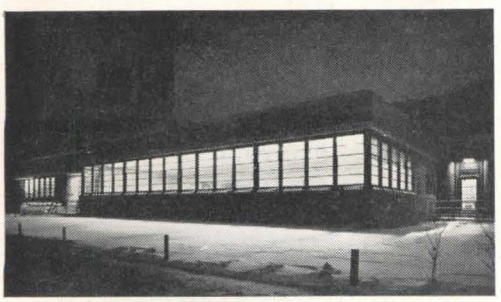


Thermopane in Visual Front of Kohl's Fine Foods, Milwaukee, Wisconsin. Architect: Walter F. Liebert, Milwaukee.

Detroit Steel Corporation. Architect: O'Dell, Hewlett & Luckenbach.



Library of Cranbrook School, Bloomfield Hills, Michigan. Architect: Eliel Saarinen, Detroit.



Offices of Architects A. Epstein & Sons, Inc, Chicago, have continuous fenestration.

Coca-Cola Bottling Plant, Albuquerque, New Mexico.

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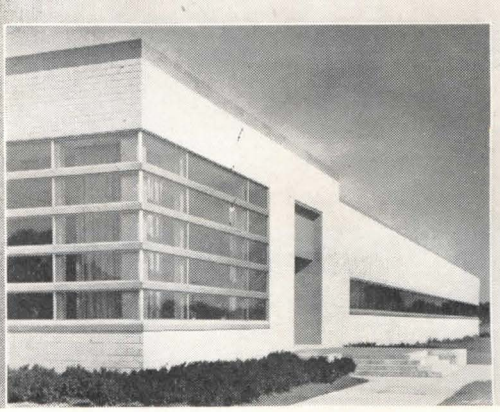
REG. U.S. PAT OFF.

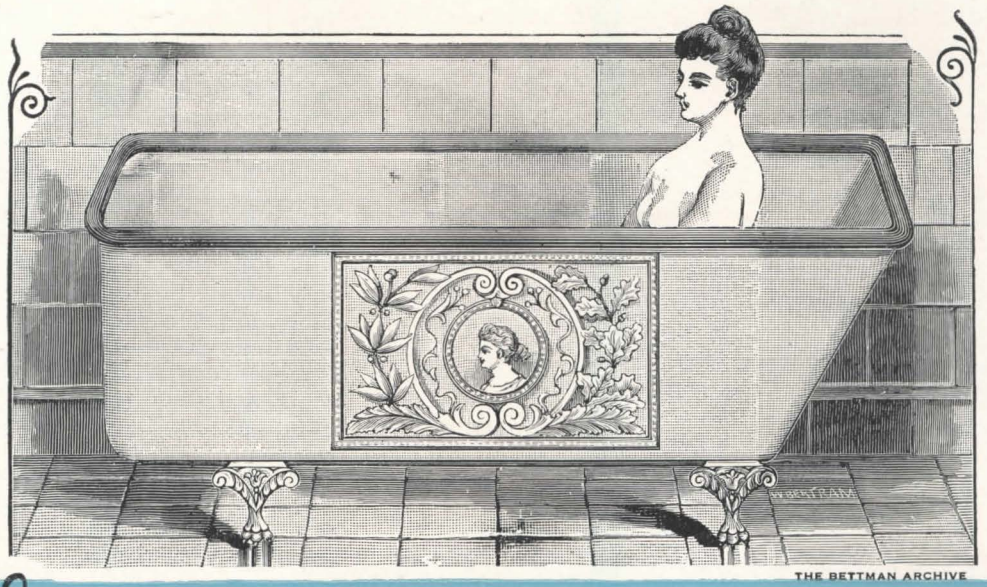
These eight buildings are evidence that business men in every industry recognize *Thermopane's* superior insulating value. *Thermopane* reduces heat losses—cuts sound transmission. It lessens the load on air conditioning systems, minimizes condensation on glass, assures greater year-round comfort. *Thermopane* is available now in over 60 standard sizes. Libbey·Owens·Ford Glass Company, 65127 Nicholas Building, Toledo 3, Ohio.

L O F

Business Institute, Milwaukee, Wisconsin. Architect: Ebling & Plunket, Milwaukee.



Johnson & Johnson. Cranford, New Jersey. Architect: Ballinger Company, Philadelphia.



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We've come a long way since then

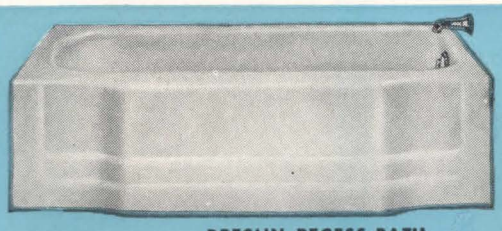
IN THEIR DAY, both this model tub and the model in the tub were considered beauties. But just contrast them with today's! Ever since the Saturday night scrub in the round tin tub, progress in bathtub design has been made. And Richmond has contributed mightily in the making.

DESIGN with a practical feeling of tomorrow and manufacturing methods keyed to craftsmanship have earned a definite and enviable place for the Richmond line. To specify Richmond bathroom fixtures is to make certain of sound styling, superb finish and the smooth, everyday dependability that keeps friends.

HEATING PROGRESS, TOO. In heating, too, Richmond has taken full advantage of their long experience in this field. Every piece of heating equipment bearing the Richmond name is designed and built to deliver the performance and economy you expect when you specify it.

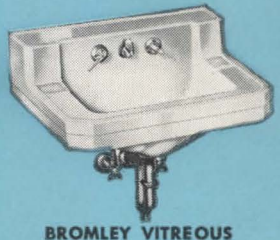
GUARANTEED. On all Richmond plumbing fixtures there is a full year's replacement guarantee, as approved by the U. S. Bureau of Standards. And there's AGA approval on Richmond gas-fired heating equipment. For details on any Richmond product, address Richmond Radiator Company, Dept. AR-12, 19 East 47th St., New York 17, N. Y.

HEATOMAT GAS BOILER

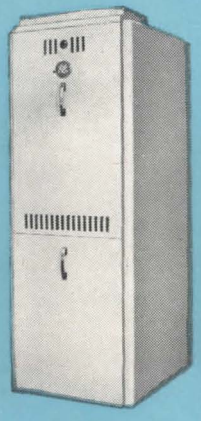


BRESLIN RECESS BATH

SERVILLA ENAMELED CAST IRON SINK



BROMLEY VITREOUS CHINA LAVATORY



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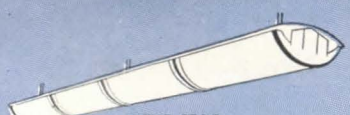
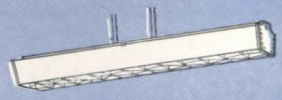


THE STAR

THE GRENADIER

THE COMMODORE



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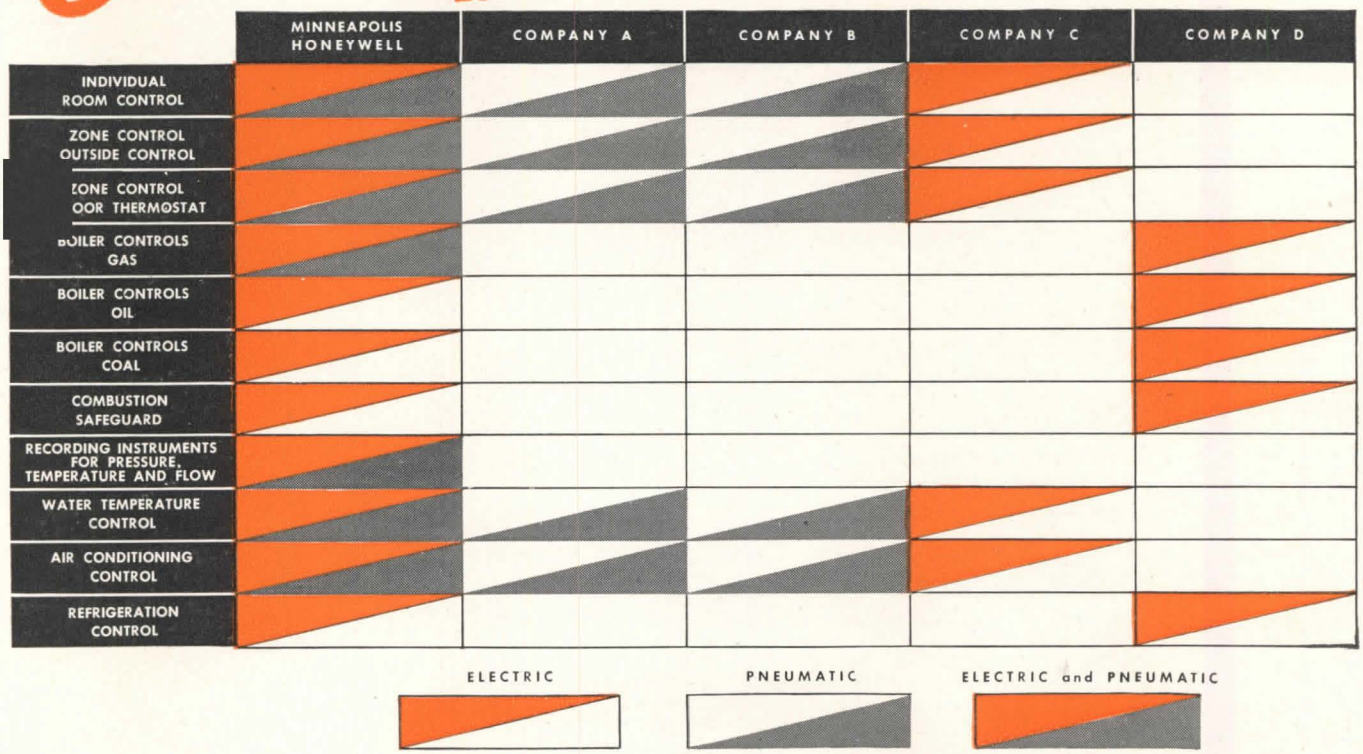

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REDUCING THE COST OF HOUSES

NATURALLY every factor in the home-building field is looking for ways to reduce the cost of building houses, and just as naturally, for ways that do not reduce its particular and individual share of profits or wages. There's the rub! But the whole subject needs to be examined less subjectively, more objectively, even to an analysis of the cost of designing houses.

There are two types of operation to be considered: (1) houses in large-scale development projects where machinery, on-site-fabrication, pre-assemblies, timed crew rotation and standardized repetitive plans reduce costs; and (2) the individually-designed custom-built house for the individual owner. For the first category (obviously more economical than the second) further cost reduction seems to lie in the direction of further improvement in techniques toward the fully industrialized house manufacture, more scientific design, more efficient use of materials, and, perhaps most important and feasible in the near future (according to large-scale builders), the elimination of pyramiding profits inherent in the present method of merchandising and distributing building materials and equipment. Also, many items of equipment might be redesigned for cheaper production costs, less material, fewer processes.

In the second category, the individual custom-built house, these factors also apply in greater or less degree. But in this classification the proportion of cost incurred for plan, design and supervision increases to the point of being a major consideration, and, to many, a seemingly disproportionate expense. Contradicting this view is that of the architectural profession that these services create value far in excess of cost, and frequently save more than the professional fees through efficient space-use in planning, through economy of design and detail, and by insuring quality of materials and workmanship through competent supervision.

However true this is, the public has not been universally convinced and often seeks to eliminate or circumvent the architectural fee. The profession might well therefore (1) concentrate on convincing the public of the value of its services, (2) find ways to integrate its services with that of actual construction, or (3) find ways to reduce the costs of designing and supervision.

Course No. 1 is obvious, but deserving of greater emphasis. No. 2 would suggest that the architect take the sub-contractor's bids and become the administrator and executive of the job, a return to the "master builder" concept of architecture. This would place upon the architect, or his deputies, additional tasks and responsibilities. It incidentally might make the practice of small-house architecture more lucrative to the architect and still insure reduced cost to the client.

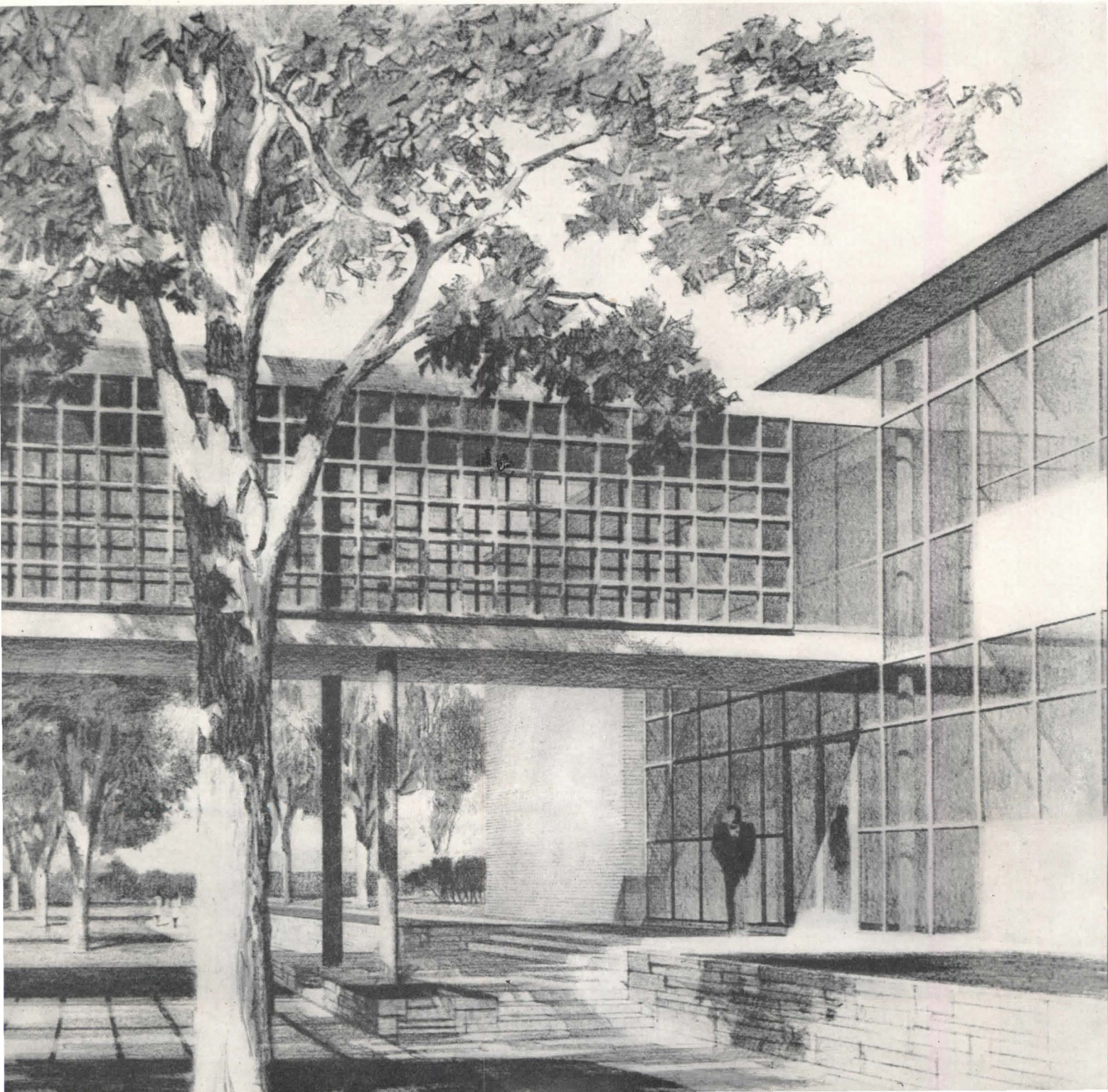
Alternative No. 3, reducing the cost of the design factor alone, involves increasing office efficiency and also might well indicate repetitive use of plans and even consideration of stock plan possibilities — but that is another story, for another time.

Kenneth K. Stowell

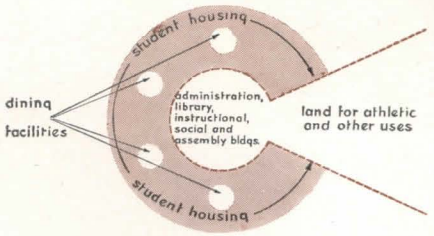
EDITOR

COLLEGE PLANNING

After a twenty-year lull we find college planning changed most decisively in precisely its broadest aspects. Impossible, therefore, to attempt any kind of "guide to accepted practice." Instead, the editors have concentrated on one superior example of thorough planning technique — the work of the Saarinens for Drake University. They present the thinking of one man of proved architectural wisdom and academic experience — Dean Hudnut of the Harvard Graduate School of Design. They outline the planning procedures adopted by one energetic and discerning urban university — Massachusetts Institute of Technology



ARCHITECTURAL RECORD'S BUILDING TYPES STUDY NUMBER 132

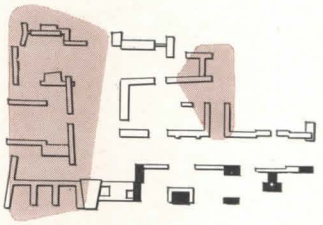


A

A UNIVERSITY CAMPUS PLAN UNDER WAY

FOR DRAKE UNIVERSITY, DES MOINES, IOWA

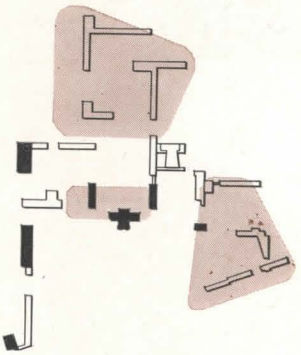
Saarinen, Swanson and Saarinen, Architects*


B

COLLEGE attendance in the U. S. is surpassing all records. A total of 2,338,326 students in institutions of higher learning, reported by the U. S. Office of Education, exceeds 1946 figures by 12½ per cent, and surpasses the 1940 peak by about one million.

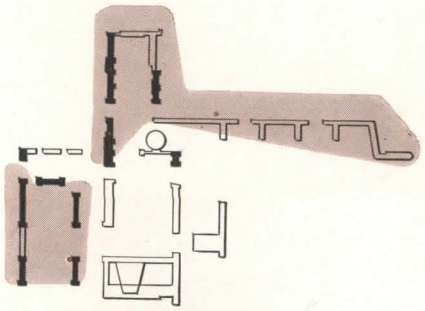
Drake University, at Des Moines, with her prewar enrollment of about 1000 students, has an expansion problem no less than New York University, now serving 46,000; and Drake is more typical.

By long-range planning, President Harmon hopes to conserve energy, preserve a general direction, avoid all possible back-tracking, keep growth coherent — and pleasant.


C

The accompanying graphic illustrations by no means constitute a "presentation" of something finished. Like a tree, such a planned institution produces finished leaves, and the beginning of new main roots, simultaneously. The Science and Pharmacy Building (pages 74 to 81) is already under construction; dormitory plans for the first group (pages 84 to 87) are well studied but still subject to possible major revision; the ultimate campus plan (page 83) is still strongly diagrammatic.

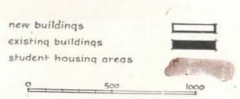
Typically, a college is a fairly complete community within the town or city. It has its working quarters at the center, surrounded by residential areas, open to recreation (Diagram A). Specific situations distort the details (B, C, D). Chief modifying factors are: land, transportation, existing plant, central services.


D

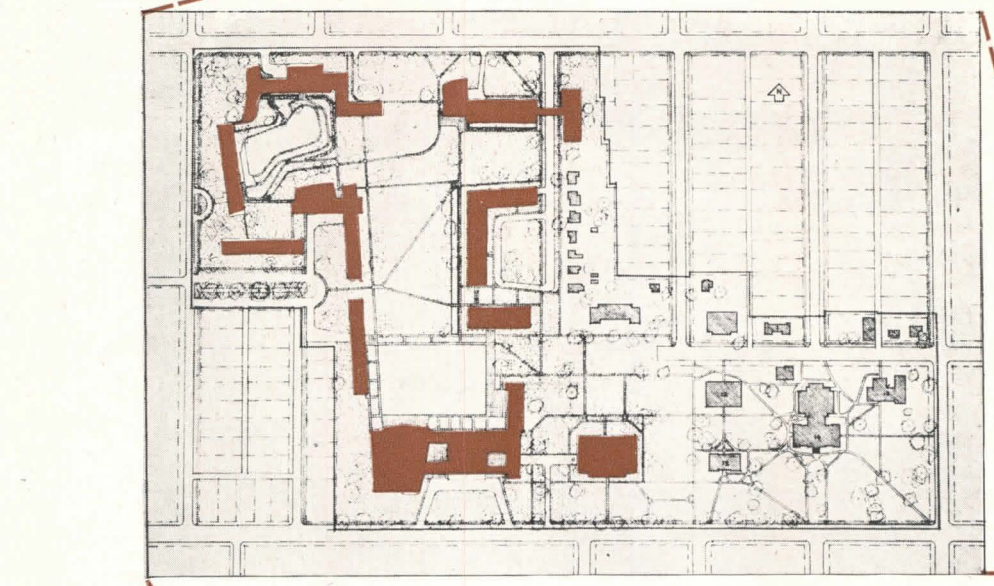
One consequence of growth not generally appreciated by university administrators is a *shift in the intangible center of gravity* of the institution. Existing buildings, now central and important, may be peripheral later both in situation and in visual influence. Architect planners must be allowed to center on this future, not on the past.

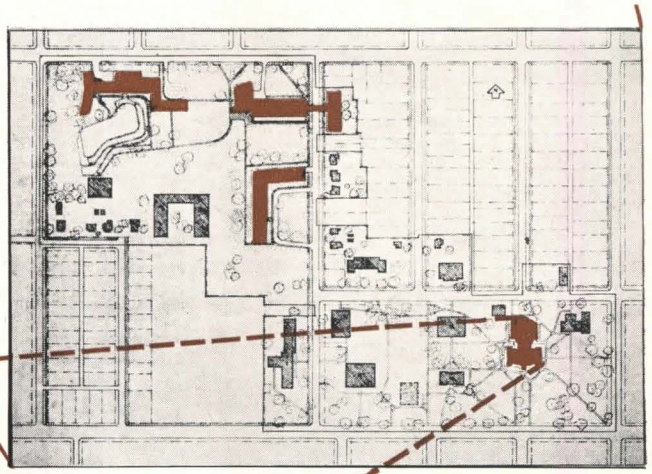
* *Campus plan by Saarinen, Swanson and Saarinen. Science and Pharmacy Building by Saarinen, Swanson and Saarinen; Brooks-Borg, Associated. Preliminary dormitory plans by Saarinen, Saarinen and Associates*

A. Basic elements of a university as a "community within a community"
B. Drake University, existing and projected. Student housing shaded
C. Antioch College plan: same basic elements, different distortions
D. Stephens College, early planning stage. All by the same architects

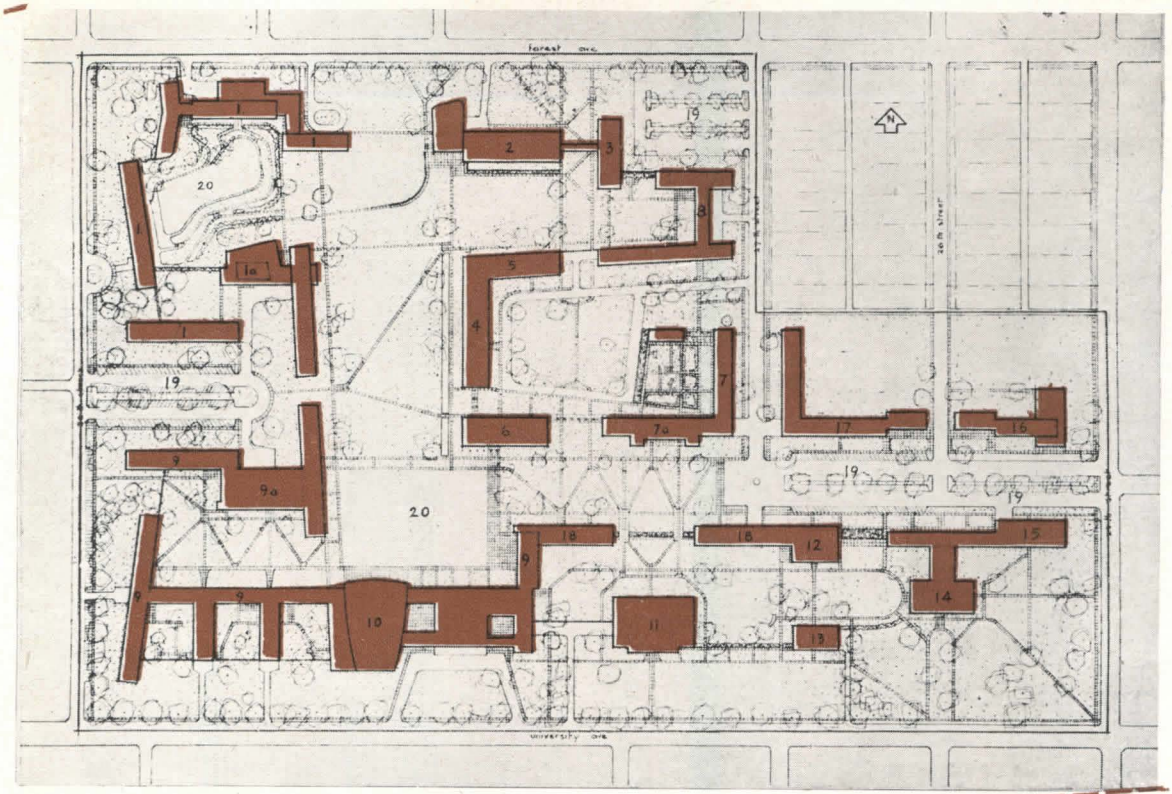


Rendered by J. Henderson Barr





Quintessence of Victorian "collegiate," the old administration building speaks for its day. Sketches for new dormitories, across-page, speak for ours with corresponding eloquence

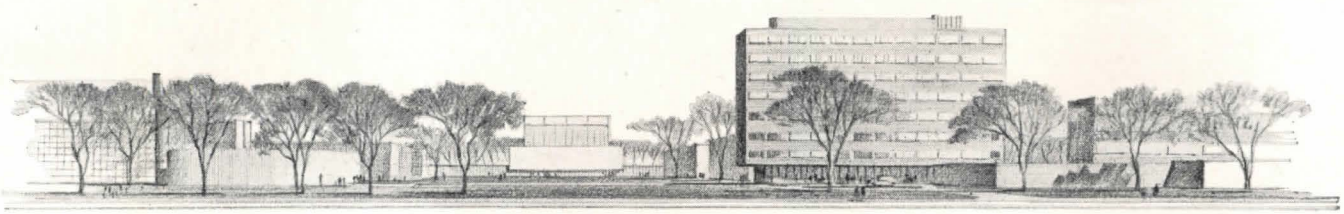


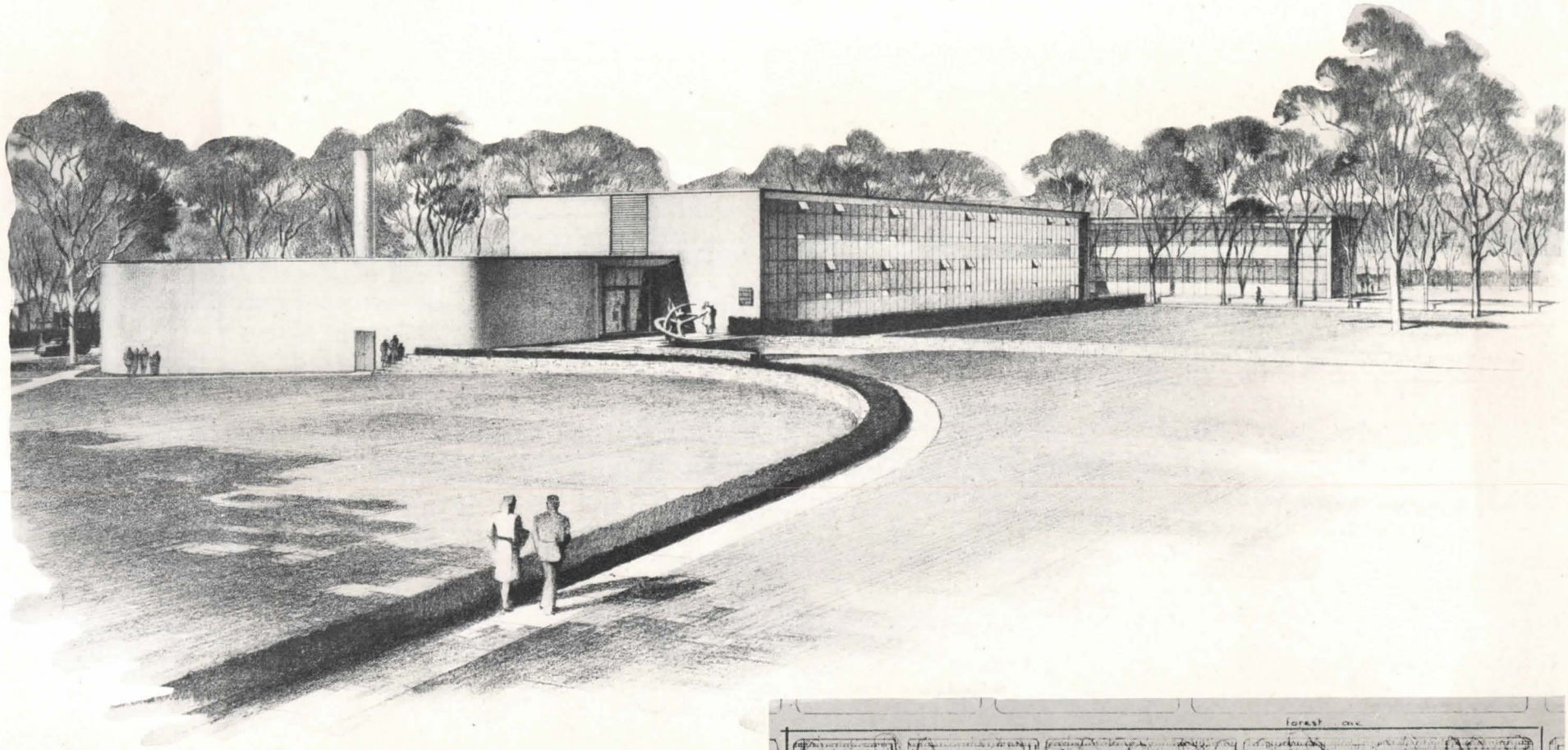
KEY TO PLAN

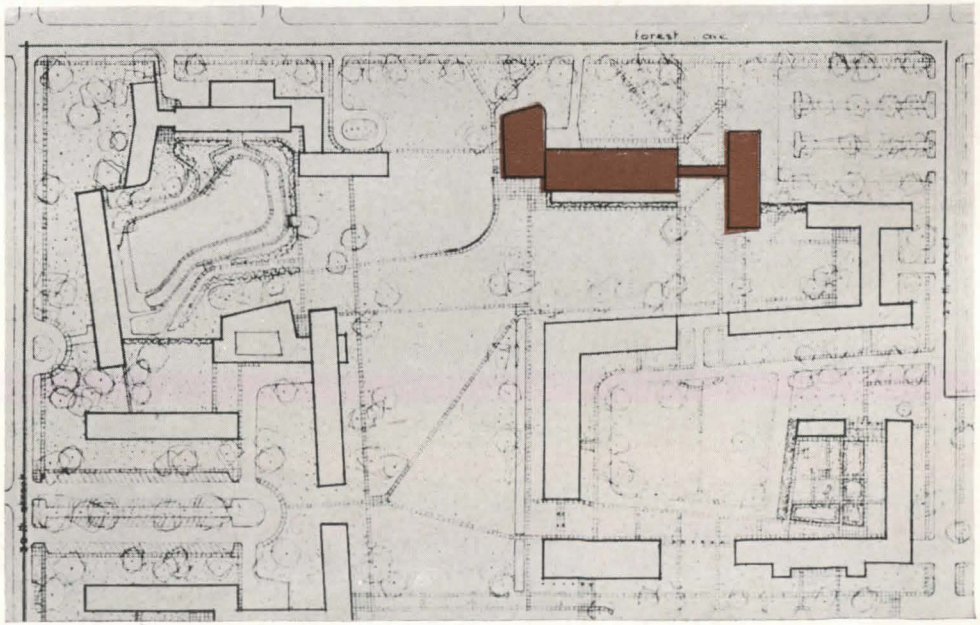
1. Women's Dormitories
1a. Dining Hall
2. Harvey Ingham Hall of Science
3. Fitch Hall of Pharmacy
4. Liberal Arts
5. Commerce
6. Journalism
7. Law School
7a. Law School Dormitory
8. Future Dormitories
9. Men's Dormitories
9a. Dining Hall
10. Auditorium
11. Cowles Library
12. Carnegie Library
13. Cole Hall
14. Administration
15. Howard Hall of Music
16. School of Religion
17. Fine Arts
18. Unassigned
19. Parking
20. Pool

MASTER PLAN SHIFTS CENTER OF GRAVITY

In clockwise rotation, plans seen on these two pages show successive stages of contemplated growth. The first added group already begins to pull the "center of gravity" from southeast toward northwest. The process somewhat resembles the creation of city squares, each built successively of, and by, its own time. Development gradually circles back toward the point of origin. The oldest buildings are then connected up and absorbed as an incident in the larger harmony.



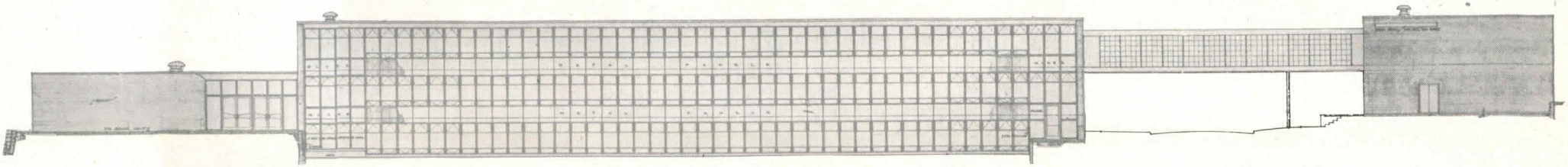




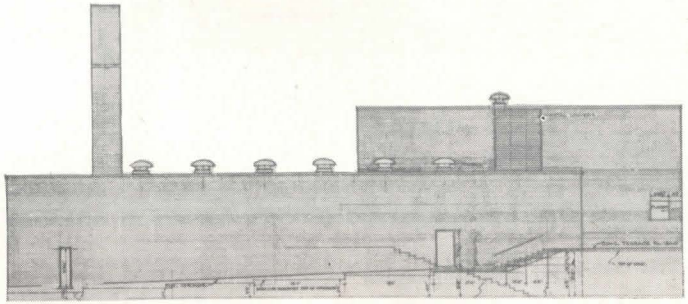
BUILDINGS FOR SCIENCE AND PHARMACY

Saarinen, Swanson and Saarinen, Architects; Brooks-Borg, Associated

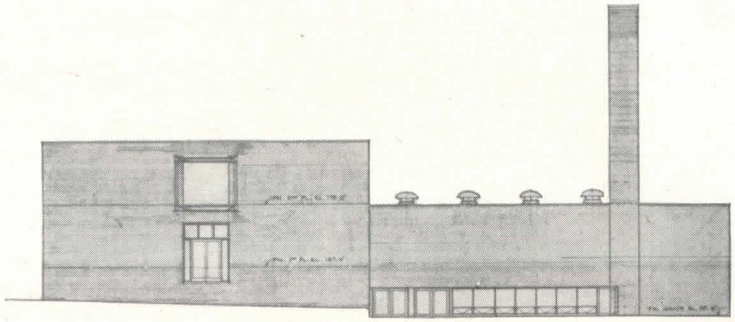
This is the first new Drake University unit to go forward. It is now under construction. The architects have sought to meet the *specific* demands of the program and at the same time produce a *typical* contemporary building of its kind. On the principle that university funds should be used to the limit in making education available to all possible applicants, architectural elements have been abjured that are costly, non-productive, purely "decorative," in favor of a beautifully proportioned design.



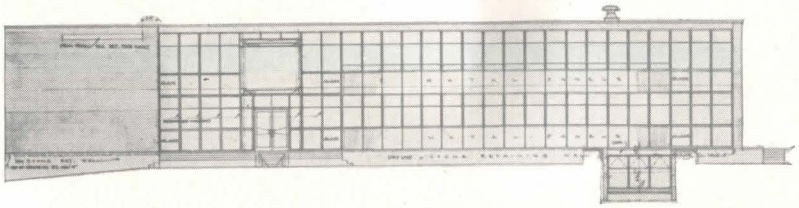
South Elevation, both buildings



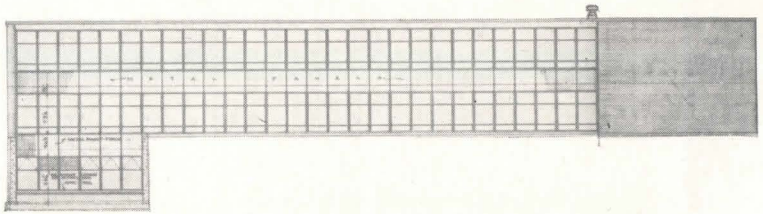
West Elevation, Science Building



East Elevation, Science Building

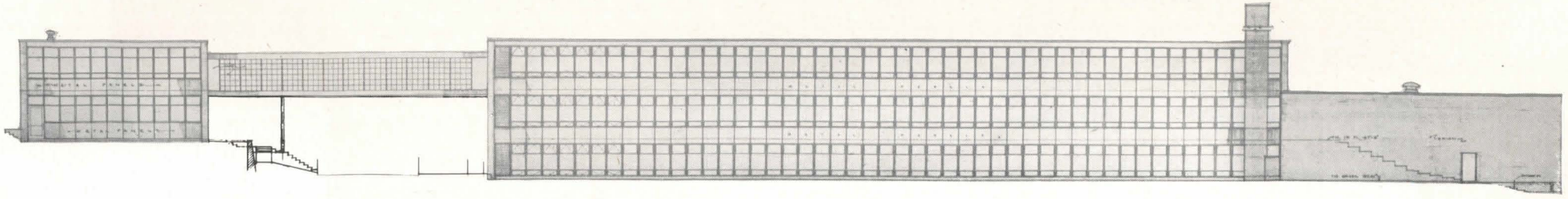


West Elevation, Pharmacy Building



East Elevation, Pharmacy Building

North Elevation, both buildings

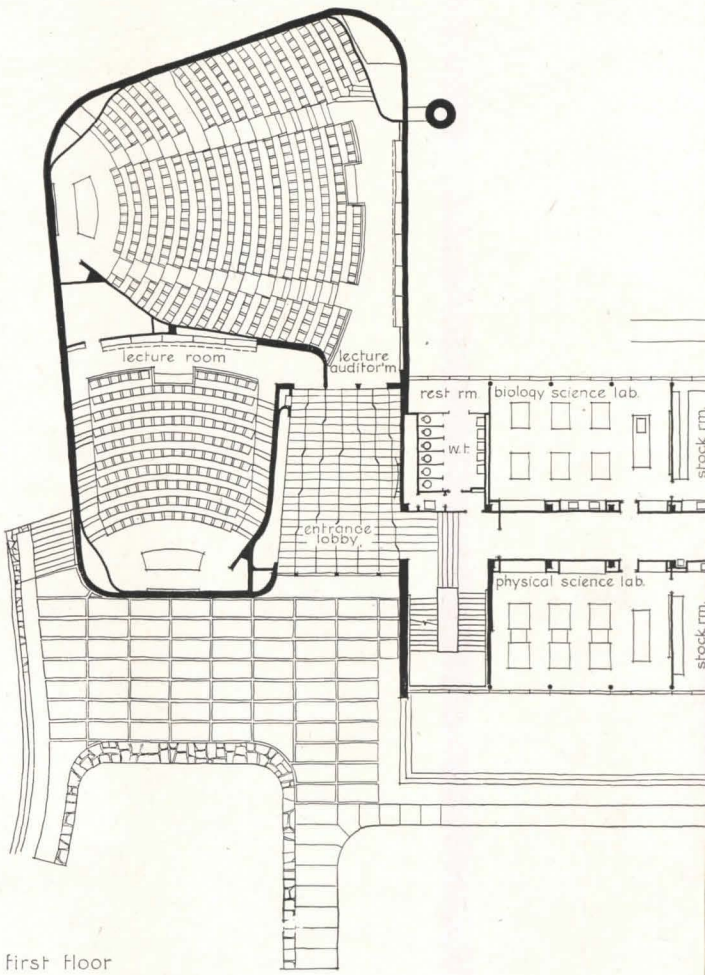


In any laboratory building of today there are three main elements to be arranged: laboratory rooms, lecture halls, and offices (apart from service facilities such as the power plant). Laboratories and offices require changeable lengths in a simple rectangular shape. Lecture halls are permanent in shape but require convenient access for lecturer and audience.

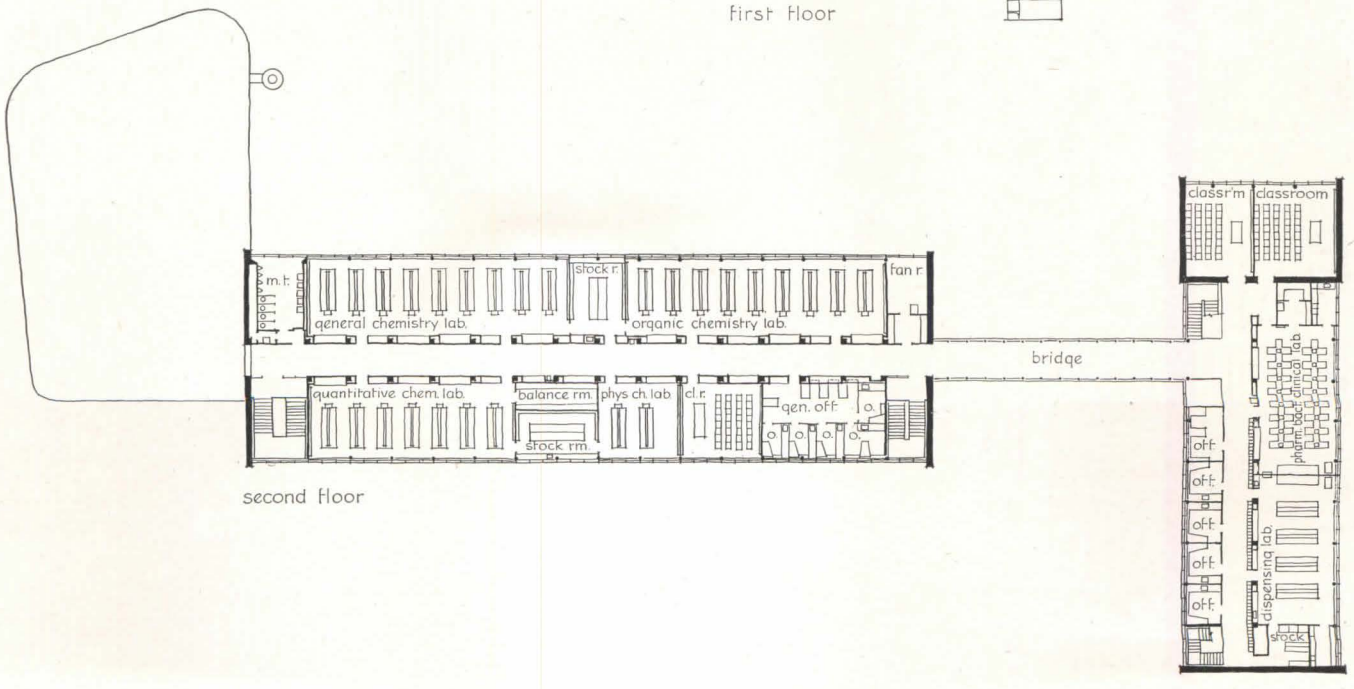
The central frame of reinforced concrete and the curtain wall in this example permit a wide range of interior arrangement and rearrangement within the main wings.

In the lecture-hall wing, for the sake of exterior contexts of the building, the architects have deviated from the usual symmetrical plan. Student access is held very direct, and the preparation rooms for lecturers will be found (top, right-hand page) on the ground floor.

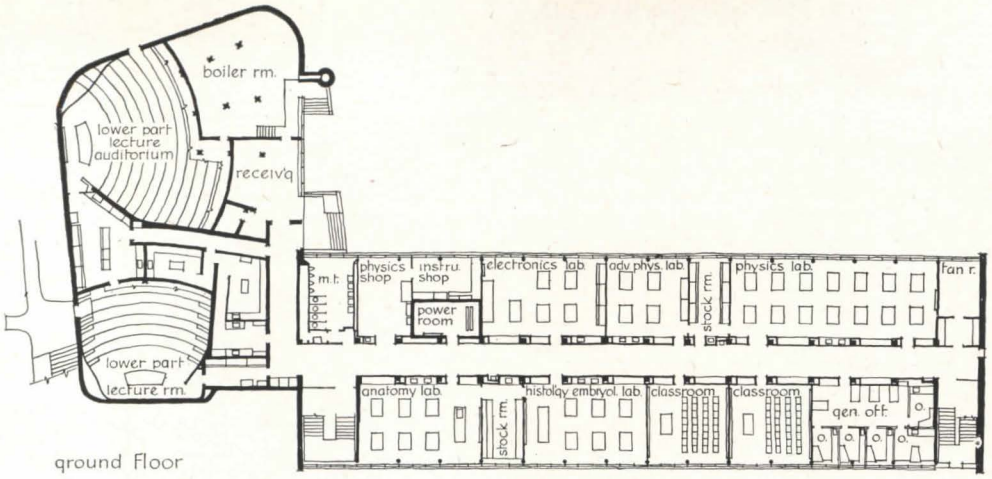
The rendering shows the Pharmacy Building from beneath the connecting bridge.



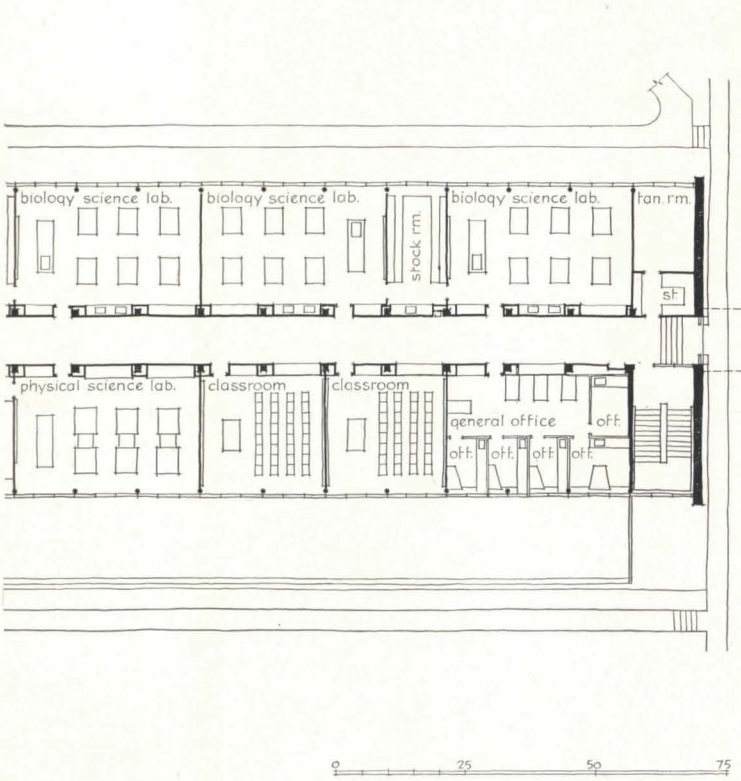
first floor

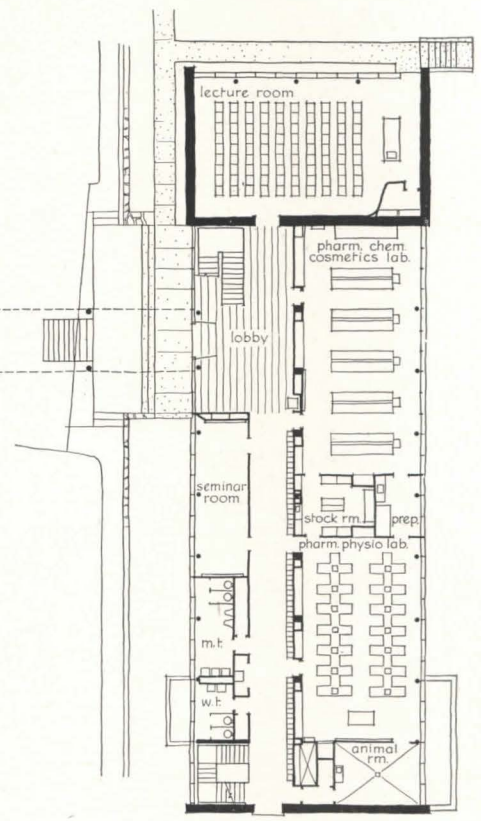


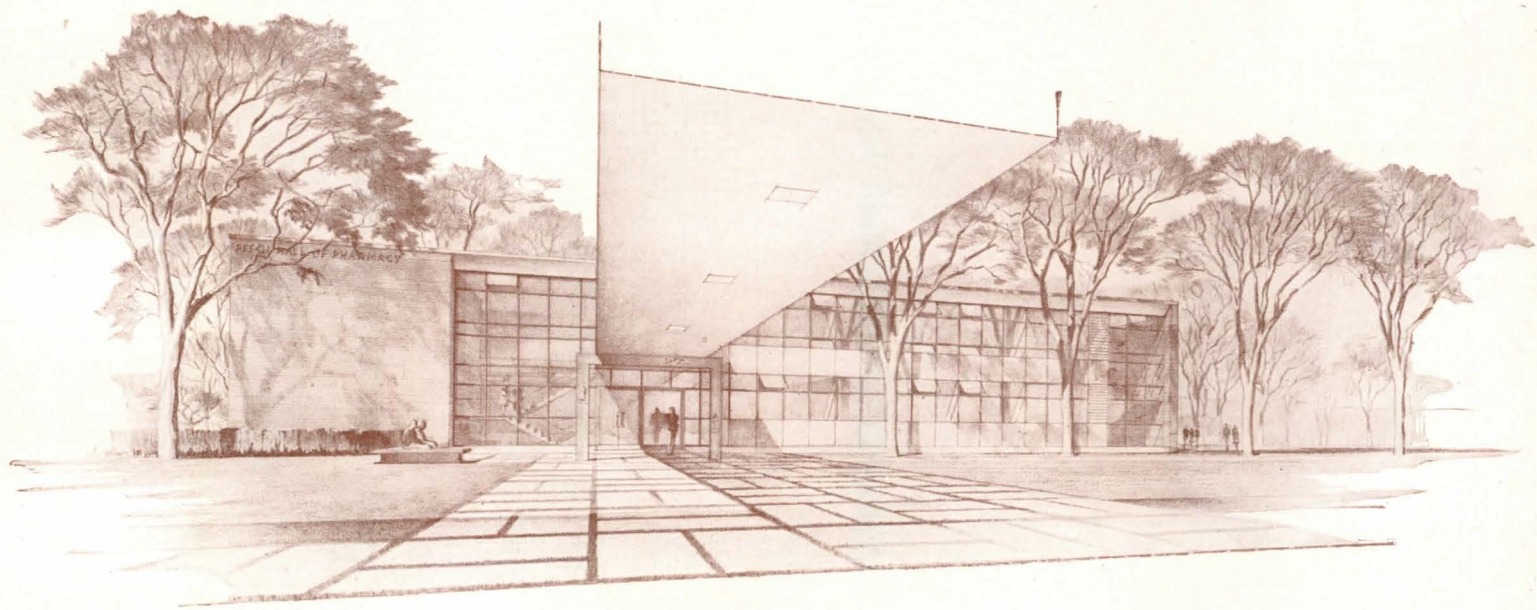
second floor

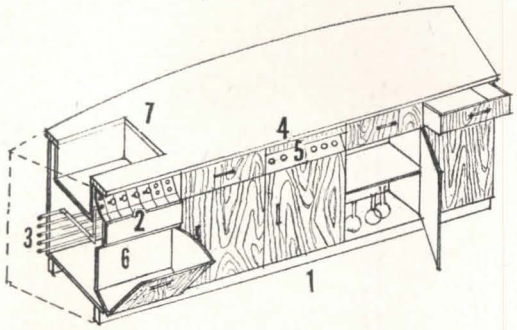


ground Floor



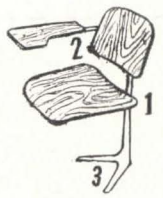






LECTURER'S BENCH

1 Flush wood doors
2 Control panel, hinged front, concealed fluor. light, controls for distilled, cold, hot water, compressed air, vacuum, gas, a.c. and d.c. current
3 Pipe space
4 Space for folding metal reading stand
5 Control panel for lights for blackboard, top spot-light and reading stand, also push buttons for indicator lights on projector stand
6 Hinged plywood waste bin with removable metal container
7 Stone top and sink



SEATING (Possible Design)

1 Molded plywood seat and back based on design by Charles Eames
2 Plywood book support
3 Metal frame bolted to floor

SPECIAL LECTURE ROOM EQUIPMENT

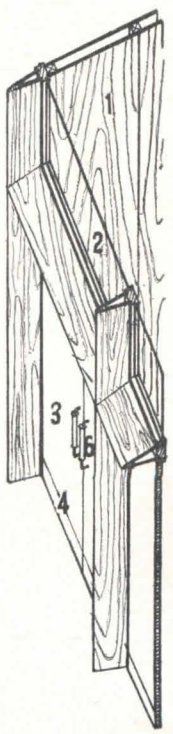
Here we see the comprehensive care with which a conscientious architect carries a master plan to its ultimate execution in the form of buildings.

Scientific lecture auditorium equipment is "special" in its nature, and this is an example of complete detailing. The lecturer's bench and the projector stand in particular are worthy of special study.

Equal care was devoted to details common to all sorts of buildings — door hardware, lighting fixtures, and the like.

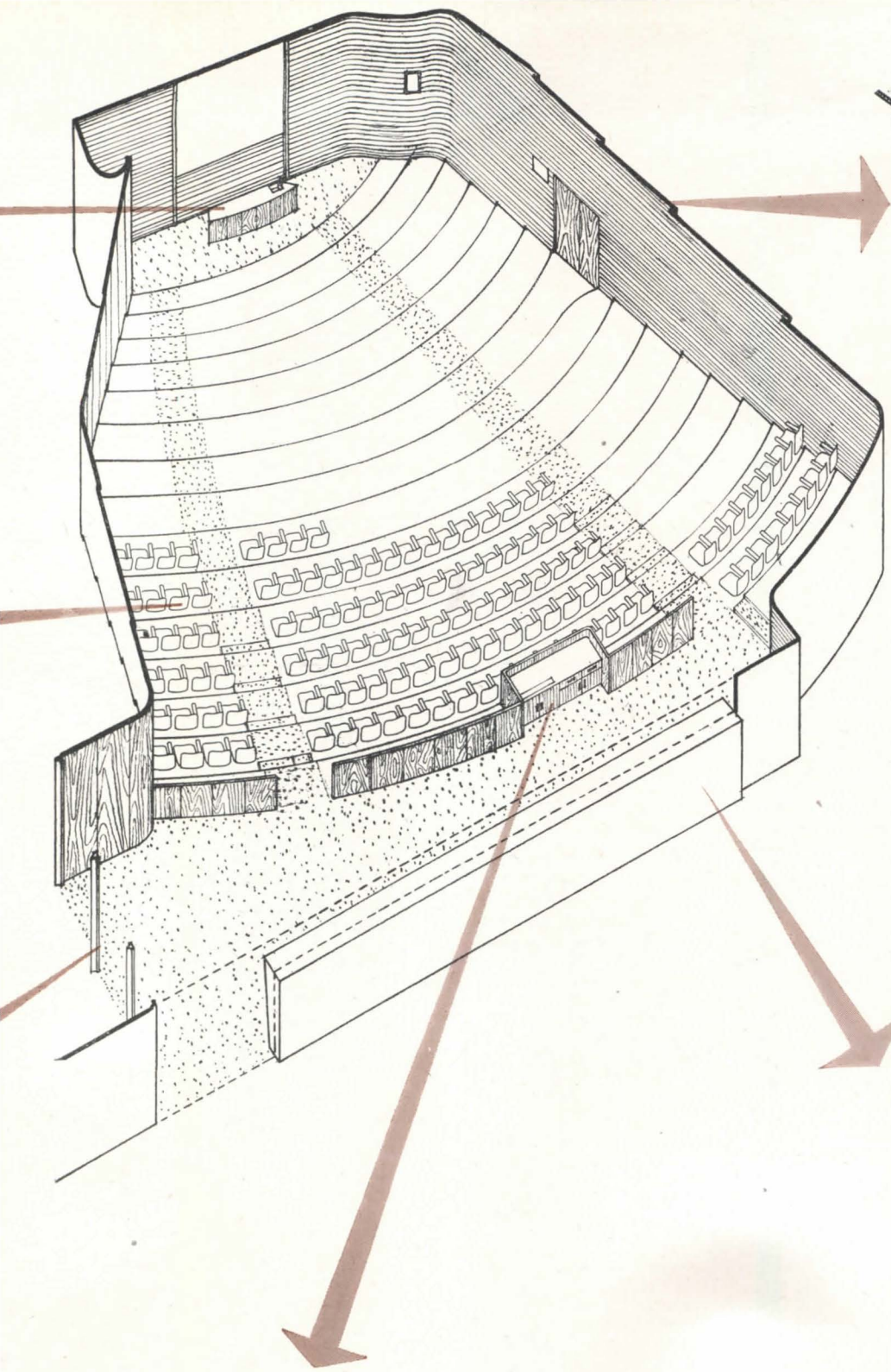
Auditorium lighting, it may be noted, combines the convenience of fluorescent sources with the dependability and different characteristics of incandescent bulbs. (Stanley McCandless was the lighting consultant.)

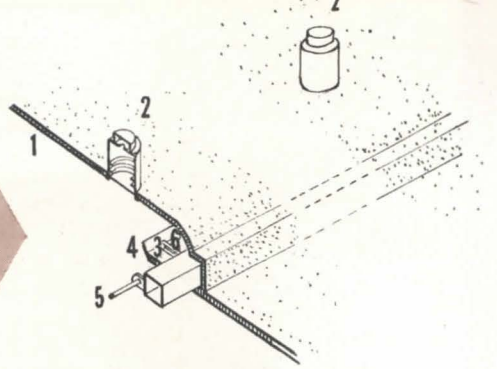
The seating method is "suggested" only, on the basis of a well known design by Charles Eames.



ENTRANCE DOORS

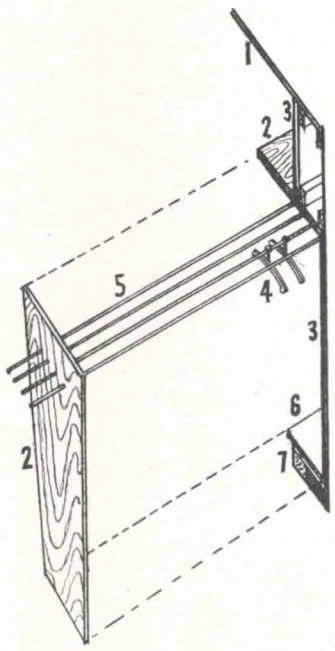
1 1⅜" plywood
2 Plate glass
3 Wood doors covered with fabricoid
4 Formica plates
5 Wood pull grips on ½" rods





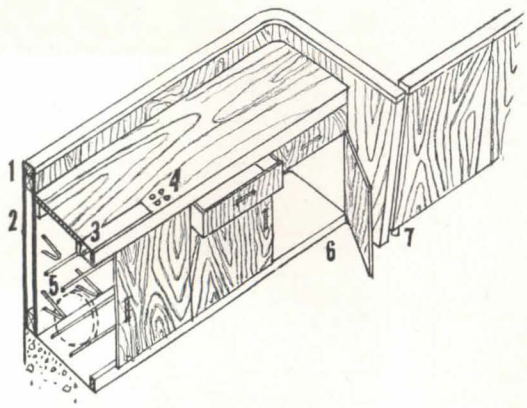
LIGHTING

1 Acoustic plaster
2 Downlights approx. 5'0" o.c.
3 ¾" channels
4 16 ga. metal
5 Indirect lighting—40 w. tube light, wireway and ballast space
6 Aluminum foil reflector



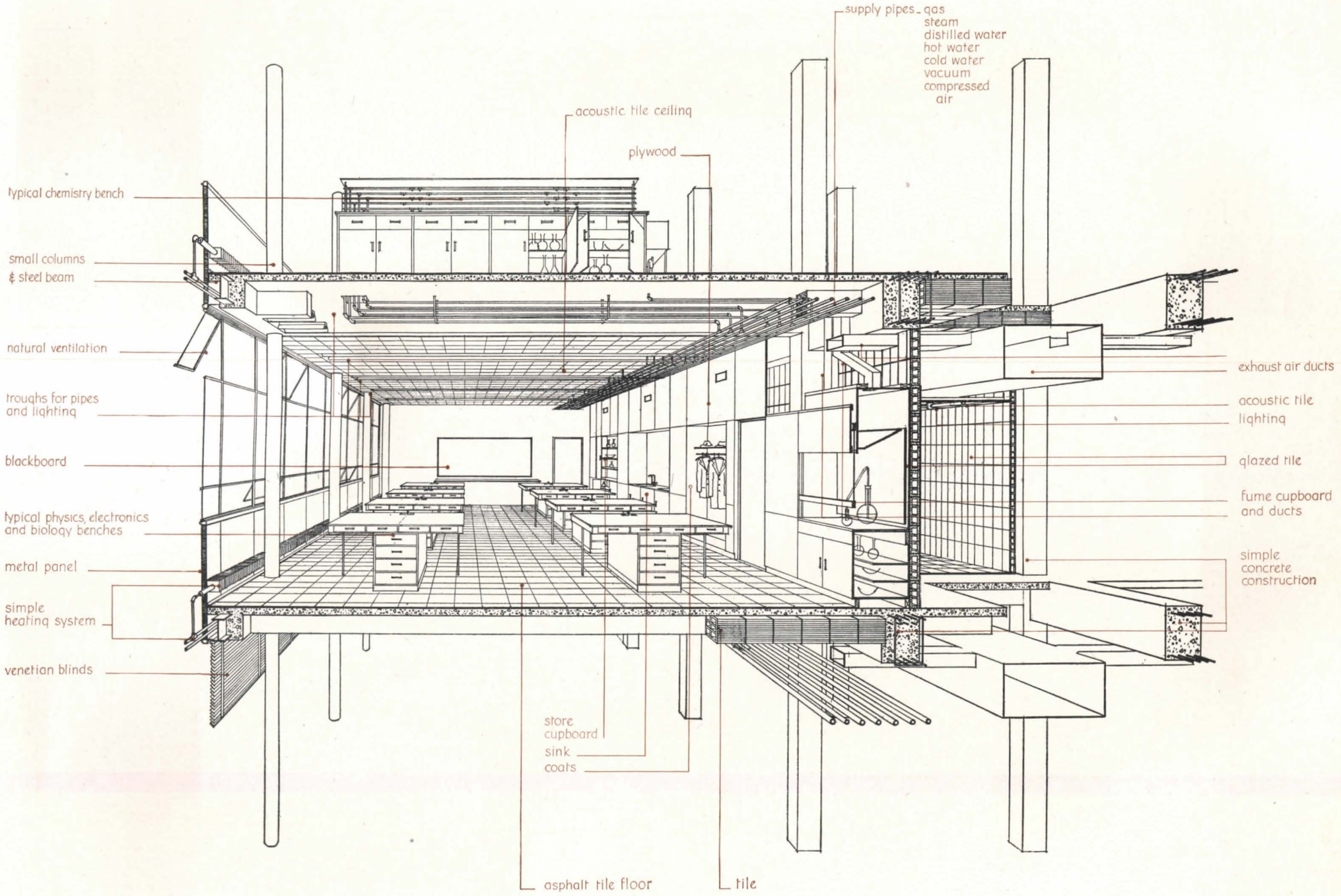
COAT RACK

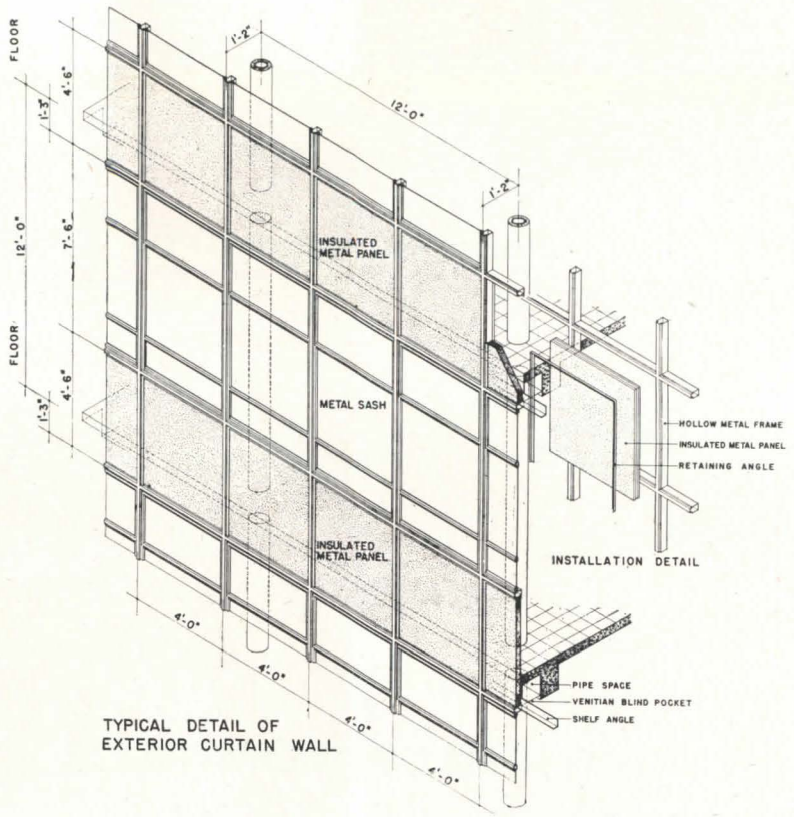
1 1" acoustic plaster
2 1⅛" top, ends and partitions
3 Perforated transite and sound absorbing blanket
4 Cast aluminum coat hangers
5 1" s.s. pipe rails
6 Linoleum flooring
7 Painted concrete base



PROJECTOR STAND

1 Hardwood cap
2 ⅜" plywood
3 Tube light, glass top and bottom
4 Indicator lights
5 ½" metal rods and supports for film reels
6 Movie and slide projector store cup'd
7 Pipe supports for rear screens

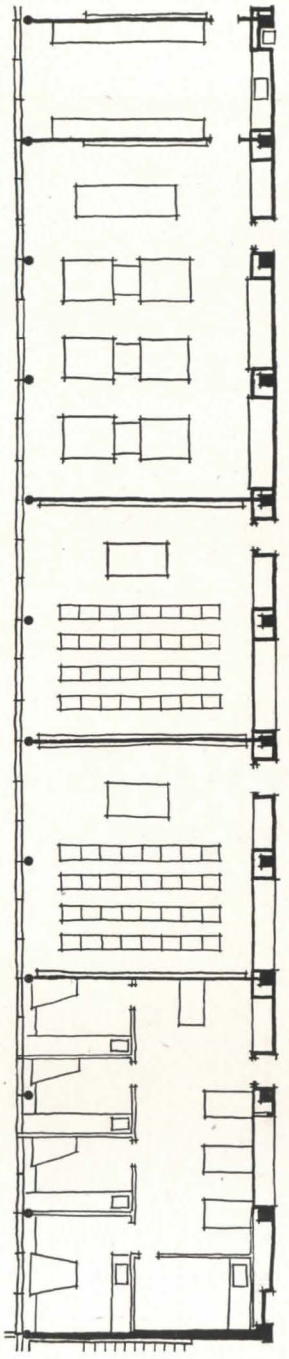

supply pipes_ gas
steam
distilled water
hot water
cold water
vacuum
compressed air
acoustic tile ceiling
plywood
typical chemistry bench
small columns
& steel beam
natural ventilation
troughs for pipes and lighting
blackboard
typical physics, electronics and biology benches
metal panel
simple heating system
venetian blinds
exhaust air ducts
acoustic tile
lighting
glazed tile
fume cupboard and ducts
simple concrete construction
store cupboard
sink
coats
asphalt tile floor
tile



TYPICAL DETAIL OF EXTERIOR CURTAIN WALL

STANDARDIZED LAB STRUCTURE AND SUPPLY SYSTEM

In the cut-away perspective (top page) there is opened to study a direct and uncomplicated basic structure of concrete frame, and a supply system in which the longer runs are *horizontal* instead of vertical (as they are in many of the recent industrial installations). For still further economy, and accessibility, pipes are left revealed against the ceiling, not concealed. Ducts and fume exhaust are hidden, however, in the continuous closet space along inner walls. Interior framing and exterior curtain wall are adapted to unit subdivision (seen at right).



UNIT SUBDIVISION

1-Bay storage

3-Bay laboratory

2-Bay classroom

2-Bay classroom

3-Bay office space

MAIN FACTORS IN THE DORMITORY PROBLEM

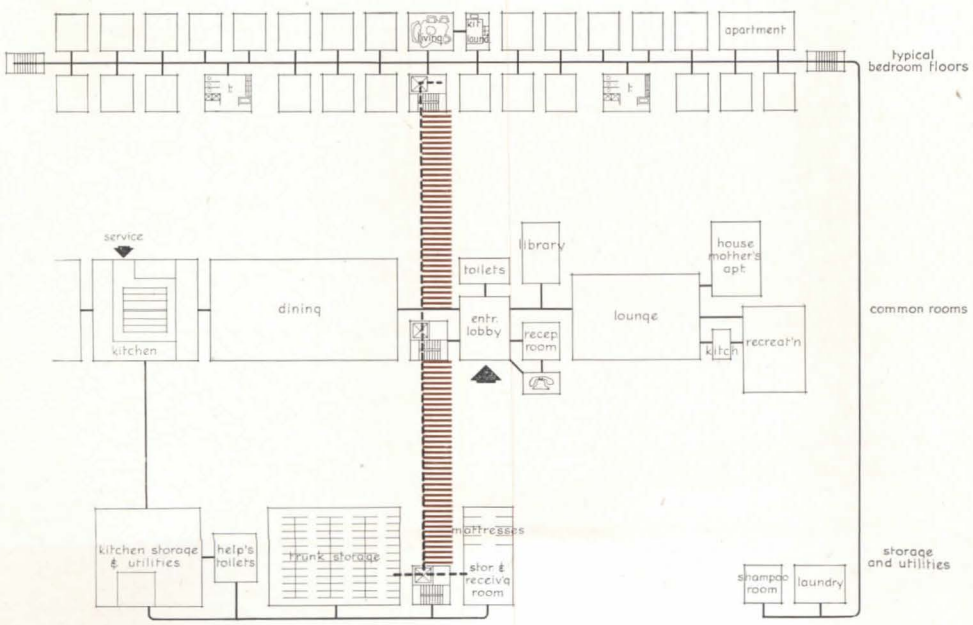
Alone among college or university buildings, dormitories are usually self-liquidating and may be financed by investment money. Cost and efficiency are important. Tabulations based on outlay "per student" or "per room" can, however, be misleading when not based on comparable situations in relation to: housing men or women; inclusion of kitchen and dining room costs and *degree* of food service; laundry facilities; lounges and recreational provisions; size of student rooms and number of students per room; amount of built-in and movable equipment and furnishings; type of finish.

One school of dormitory planning regulates building unit size by a dining room capacity of around 75, two dining rooms off each kitchen. The Saarinens have, however, concluded that midwestern college girls are not averse to an outdoor walk to meals, and have accordingly proposed one large ring-shaped general dining room, open to view on three sides, to serve a group of dorms, in addition to individual dining rooms in *some* dorms.

Another school of thought starts from the supposed desirability of some limited number of students, either per floor or per entrance. In the present study this number is allowed to vary considerably from one unit to the next.

Another important question relates to passenger use of elevators, essayed in a 6-story element of the Drake project (see succeeding pages). The architects have reasoned that the shafts and machinery are needed in any event for trunk lifts and can economically receive further development. This is still under study by the university. The chosen method of handling trunks is, incidentally, always a major factor in deciding on placement of service entrances and arrangement of the basement in a dormitory.

In studying any dormitory, say the architects, it is highly useful to evolve a functional diagram of relationships, as below. Yet to *build* the units in diagrammatic form, all alike, would be to deprive life of spice.

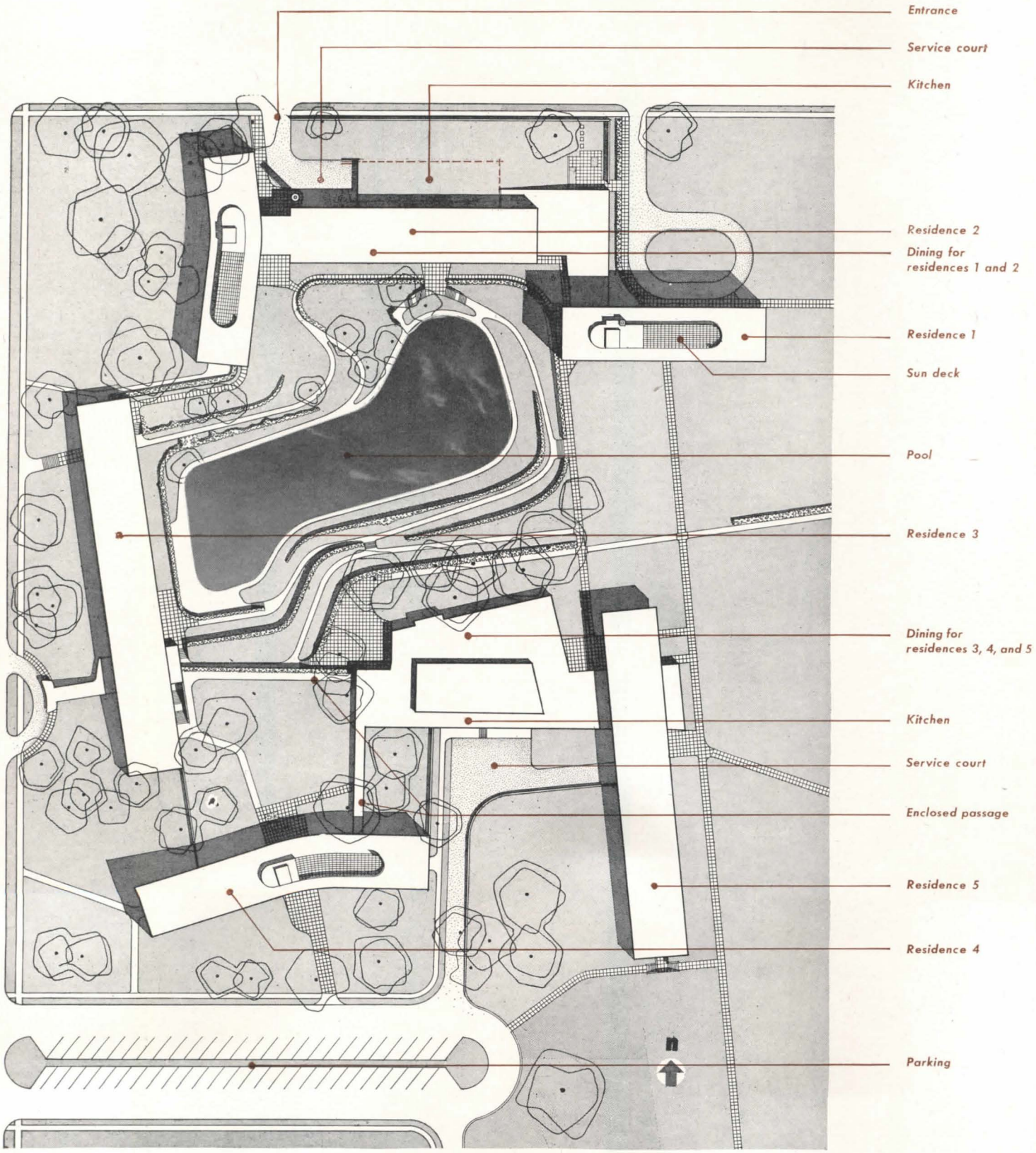


Showing how a diagrammatic analysis is set up for a specific dormitory problem (Drake University)

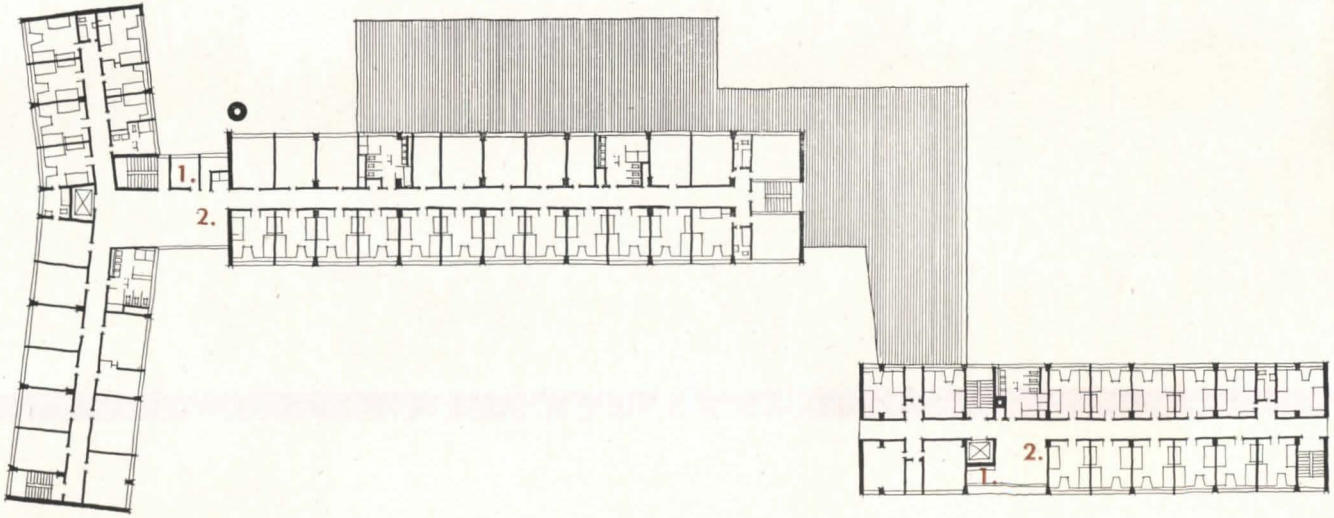
PROPOSED WOMEN'S DORMITORY GROUP

Saarinen, Saarinen and Associates, Architects

Converting a ravine into an architectural asset



PROPOSED WOMEN'S DORMITORY GROUP

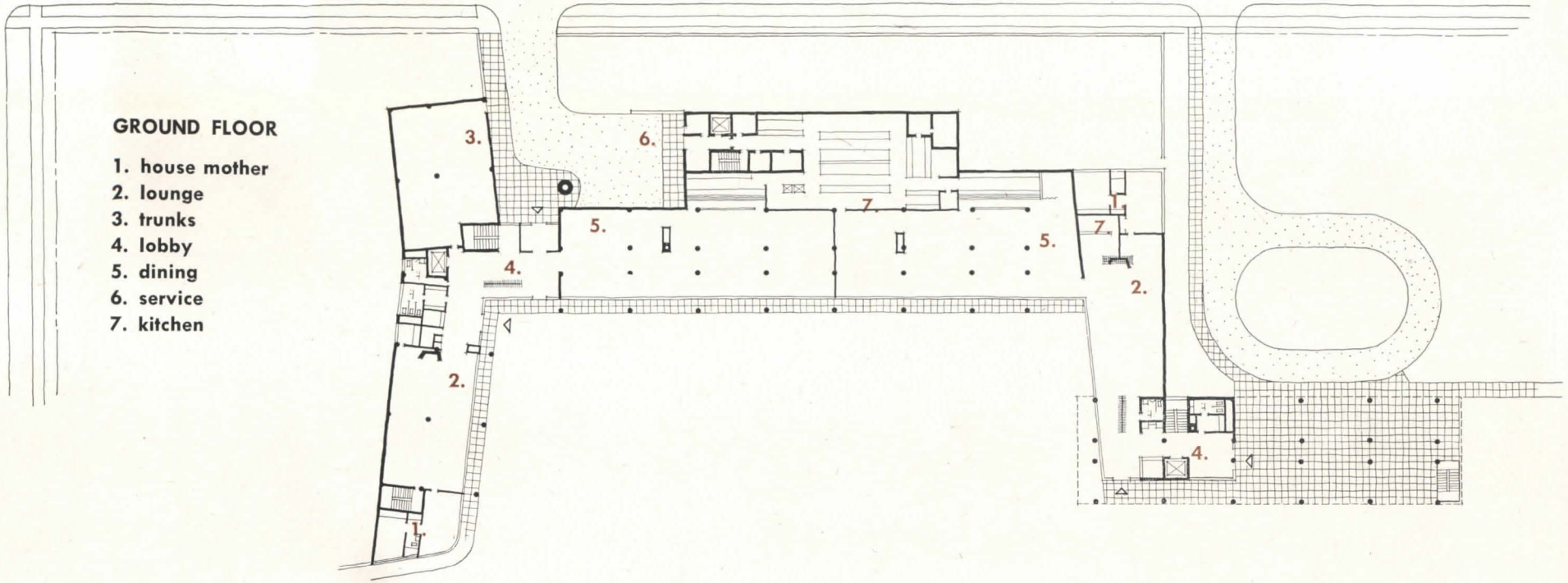


TYPICAL BEDROOM FLOOR

1. kitchen
2. dining

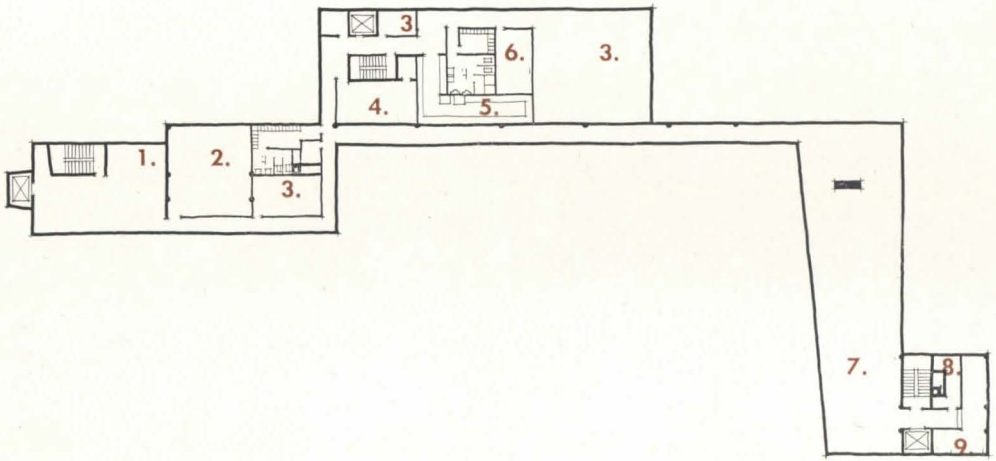
GROUND FLOOR

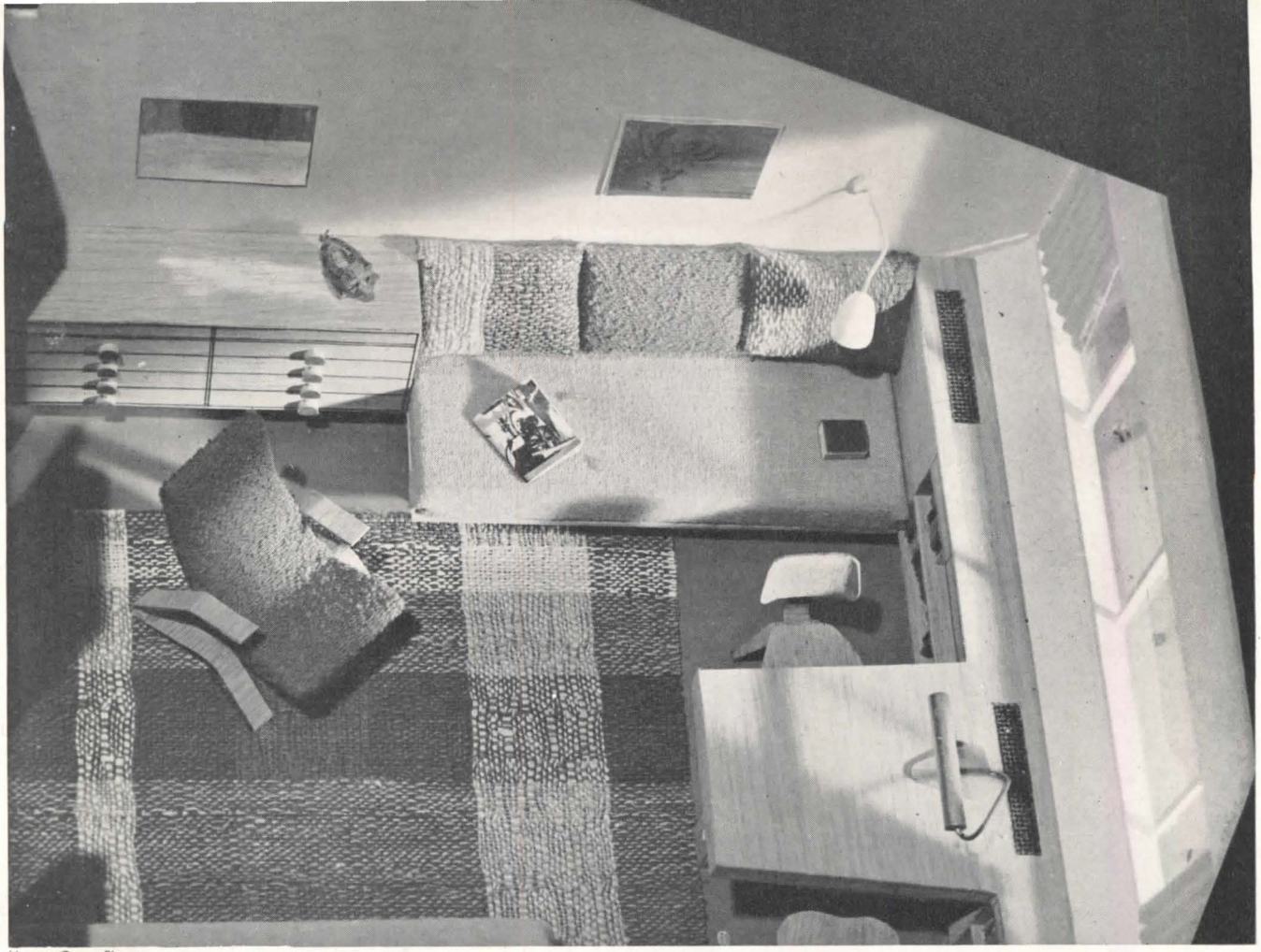
1. house mother
2. lounge
3. trunks
4. lobby
5. dining
6. service
7. kitchen



BASEMENT

1. trunks
2. boiler
3. storage
4. bake shop
5. dishwashing
6. mechanical equipment
7. storage and trunks
8. incinerator
9. laundry exchange





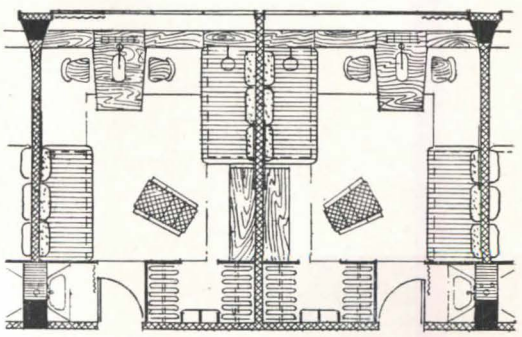
Harvey Croze Photos

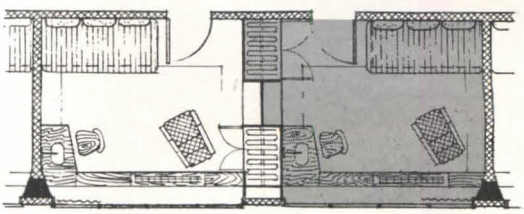
TYPICAL DORMITORY ROOMS FOR ONE OR TWO

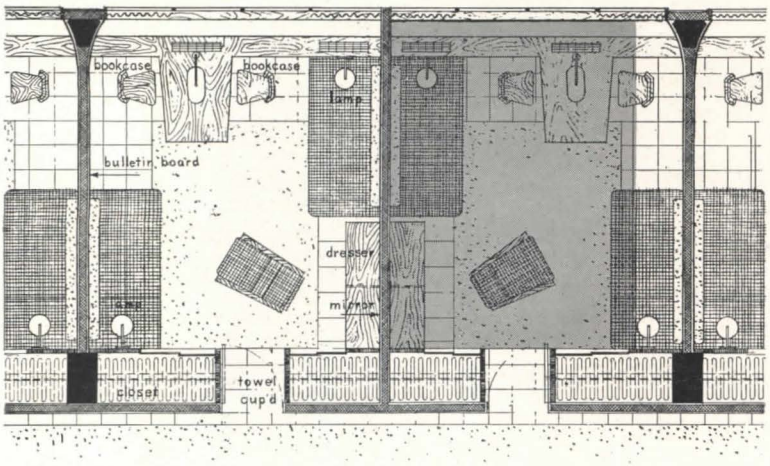
A dormitory room involves the fascinating problem of an almost complete living unit in small compass; there is added the demand for good daylight and artificial illumination for study — rarely met in colleges today.

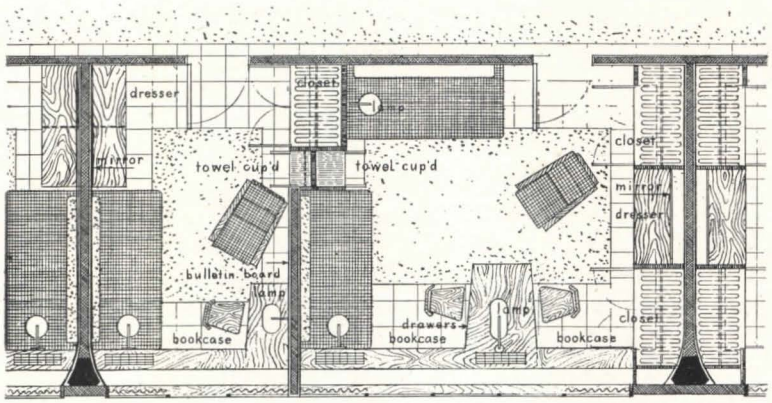
The fenestration seen in the photograph above and the plan to the right of it is distinguished. The glass area is not exceptionally large; yet the ingenious splaying of *all* embrasures, above and below as well as at the sides, greatly diminishes glare and aids diffusion. The economy of a single desk leaves open the minor criticism that students face one another, yet this is better than facing the window.

An early study (right, below) supplied a higher proportion of single rooms, gave the double rooms walk-in closets and wash basins. Eliminating the latter and offsetting the central row of columns made possible a greater density of comfortable occupancy.

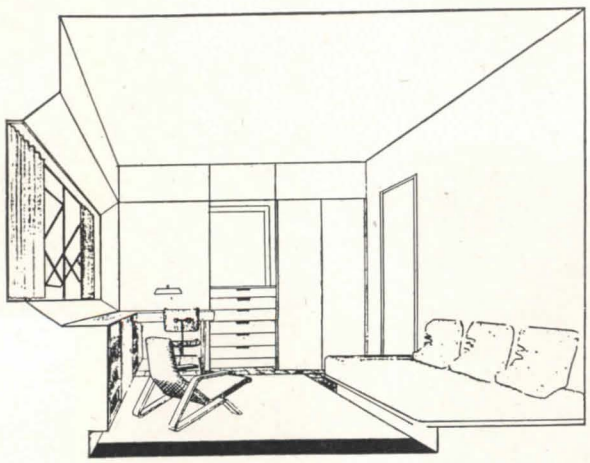








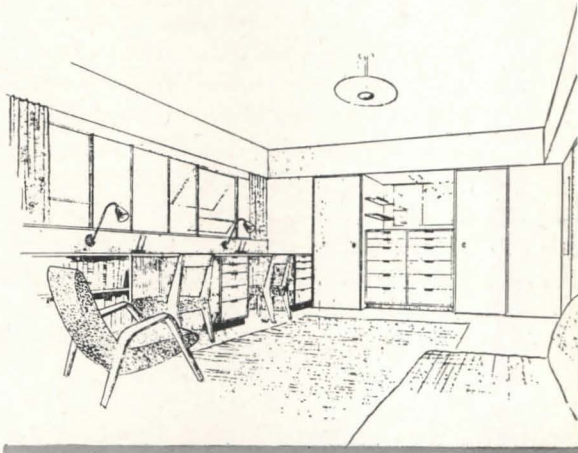
Double rooms are introduced on both sides of the corridor by offsetting the central line of columns. Note splayed column shape in outer wall

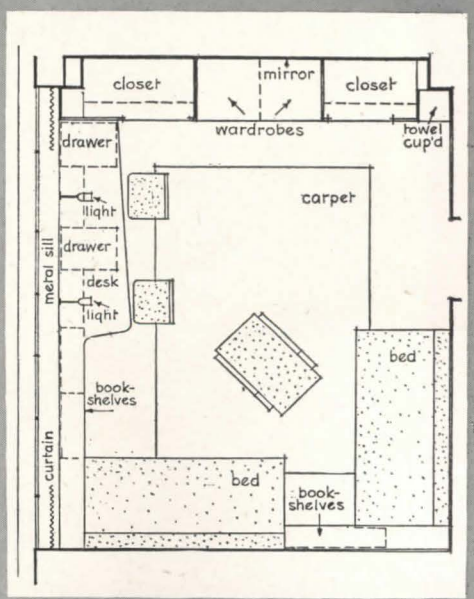


Single room as evolved in an early study shows the specially splayed head and sill of moderate sized but efficiently placed windows

AT ANTIOCH COLLEGE

This earlier dormitory plan achieves a nice articulation of the room into three loosely defined areas for study, relaxation, and dressing. The demands in terms of building periphery are correspondingly larger than they are in the latest scheme for Drake University (drawing, left, and photo across-page)





ON FORM IN UNIVERSITIES

By Joseph Hudnut

Dean of the Harvard Graduate School of Design

"We need a new tradition which shall at long last deliver our universities from the vagaries of architectural succession"

MR. MIES VAN DER ROHE has prepared a general plan for the new buildings of the Illinois Institute of Technology: a modern version of those *grand compositions* which from time to time have added brief periodic splendor to the dreams of American universities. The architect, in his role of pattern-maker, joins the present facilities of a training school for engineers to its future facilities so that all of these exist in his imagination as a single work of art, complete and timeless in its perfected symmetry. The noisy workshops and foundries, the life-filled laboratories, classrooms, gymnasia and libraries are by the magic of art made the materials of a harmony as ethereally classic as a symphony of Haydn.

Thus hope springs eternal in the architectural breast. Ever since the day when Thomas Jefferson laid out his neat scheme for the University of Virginia — and no doubt since long before — architects have thus played with universities, corseting the body of a live and unpredictable creature within firm frames of brick and architectural idea; and thus they have prefigured growth and development, imposing upon future generations whatever ideal of form might be current in their day. In every instance the live creature has refused the mould; or, if temporarily bound, has broken through its architectural shell into great splashes of dishevelment and stylistic chaos.

If precedent is a guide in these matters the Illinois Institute of Technology will never inhabit more than a part of the crystal home which is prepared for it, each element of which depends so much upon its relevance to its neighbors and to the space these organize. Some new Gothic Revival will upset this quiet synthesis; some masqueraders from a more boisterous camp of modernists will join this *ballet mechanistic*. Such has been the fate of all architectural Edens.

The University of Virginia — no Eden, to be sure —

WHAT HAPPENED TO JOHNS HOPKINS . . . WHAT MAY HAPPEN TO ILLINOIS

"The thread of circumstance gives at least partial absolution"

may be thought an exception to this law; but we have forgotten the monstrous building which in Victorian times leaned against the Rotunda. That building was by the grace of God burned; and yet the architects who restored the damaged Rotunda, and who surely ought to have known better, closed the fine axial vista which welded the Lawn to the distant hills. That is a serious impairment, altering the character of Jefferson's design more radically than do the acres of dull buildings which now surround it. These are forgotten inside the quiet Lawn.

Jefferson's classicism, in spite of its Palladian origin, is strongly tinctured with showmanship. It is pure theater: a setting rather than a shelter. The group at Charlottesville does not depend, as does the Chicago project, on nice adjustments of plane and mass; it is, like all things baroque, less absolute in its creed, less inhospitable therefore to strangers. It will suffer less from change and addition. Baroque? What could be more baroque than the housing of university professors in the temples of the Roman gods? I was once a professor at Virginia and I know how gods can be uncomfortable.

The perfect flowering of the patterned university is no doubt Columbia, conceived as one vast monument. The Low Library there might be an equestrian statue raised on its Piranesi-like pedestal above a flight of steps that Le Notre might have imagined and encircled by the eternal solemn quadrilles of Italian palaces. A world put in order to fit the longings of the humanist soul. The impact of events upon such a world is far more shattering than upon those which are more humanly organized upon principles less abstract.

That is why, if I had to choose between Princeton and Columbia, I should choose Princeton. The buildings there are unified by style — by a principle of planning which is, like the textured walls, the traceried windows, the dormered roofs, an element of style; and that principle has become an adjunct, so to speak, of picture-making rather than of abstract relationships in mass and plane. When the ideal is quaint clutter and ye spirit of ye olden tyme, the planner can admit some accidents into his design and leave to his successor the privilege of an occasional whimsey. When, for example, you have to build a great new library, as intricate in form and as efficient in services as a Diesel engine, you can spread your medieval sauce over its surfaces without apparently the slightest impediment to its operation.

Incidentally, I have always liked those two white temples at the center of Princeton — perhaps because I think of them as hard marble peas in the slippers of the Gothicist. If you have such relics it doesn't seem to matter what you build around them. Dartmouth Hall is unruffled, as a gentleman should be, by the jejune buildings which face it or the little library near by, pretty enough to dance at the Senior Prom; and that "Christopher Wren Building" at William and Mary would, if transplanted to Ann Arbor, turn that university into a slum.

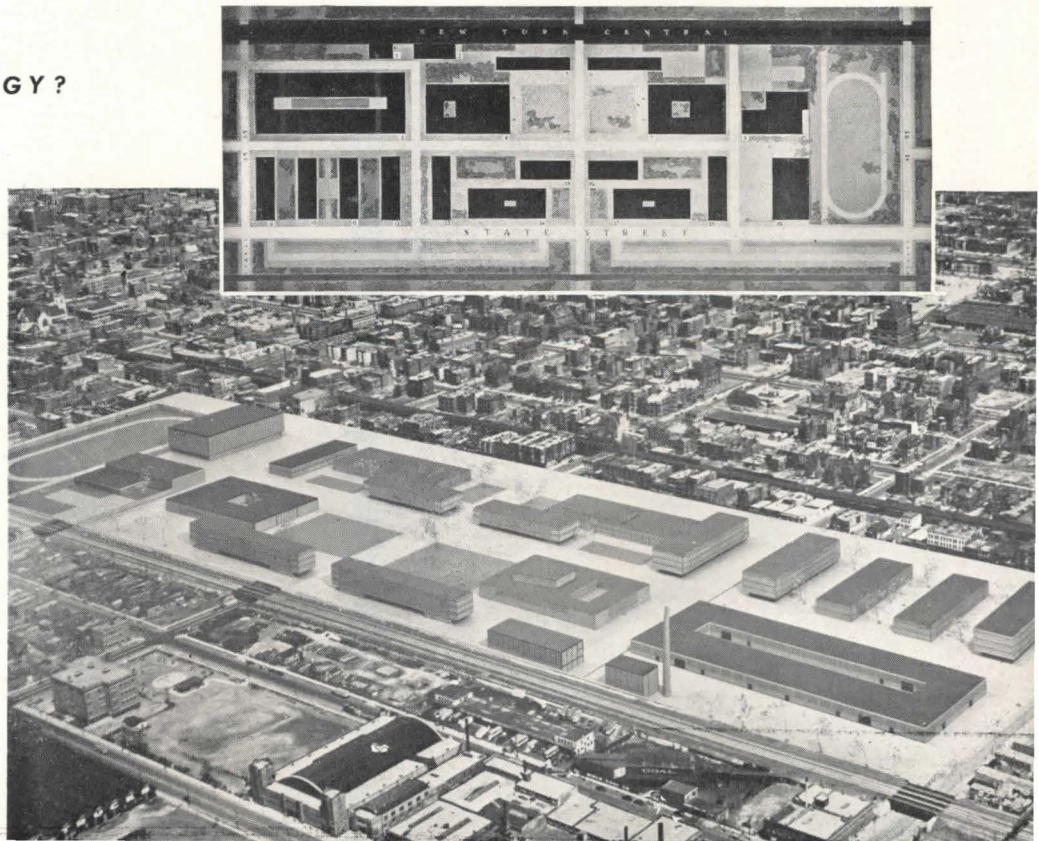
We should be grateful for such buildings, bestowed by the caprices of the gods, but we should not think of them as basic patterns from which, by imitation, we can develop a university pattern. They are not pegs upon which to hang a newly-manufactured tradition. I know a university which gave its jewels a greater brilliance by surrounding them with a square mile or so of paste — ancestor worship inconceivable to a Georgian architect.

I salute the Massachusetts Institute of Technology, corseted until recently in as heavy and implacable a precedent as ever haunted a classicist's dream: a Roman

INSTITUTE OF TECHNOLOGY?

"Perhaps there is here a guide-post to . . . new tradition . . ."

Mies van der Rohe, Architect



Plan photo: Williams & Meyer Co.
Air view background: Kaufmann & Fabry Co.
Courtesy Museum of Modern Art

emperor never imposed his will more tyrannously upon space and peristyle. Yet the new buildings at Tech — after a pious dome had been laid on the School of Architecture — are free, rational and contemporary in feeling. They poured only a little of their new wine into their Alexandrine bottle and then looked about for more crystalline receptacles.

It must be understood that my comments are not meant as admiration for all the new buildings projected at Tech. (I must ask the privilege of disliking at least one of them.) I am referring, obviously, to a program or policy in building: to the policy which refused the heavy direction of a dead hand.

I do not look upon such a policy, as some people do, as a betrayal of past friends — or, at any rate, as necessarily a betrayal. The new athletic building, containing the swimming pool, at Tech, for example, states with clarity and force a modern creed without offering any insult to the older buildings which it must companion.

It seems to me that this is the only policy possible for the new buildings of universities. Every attempt to bind them to a pattern laid out in advance has failed — and ought to have failed. That lesson is written in large letters over universities. We must set them free to develop their environment in whatever way may best suit their existing needs; they have paid much too high a price for architectural conformities. The most advanced techniques of planning and construction are as appropriate to a university as they are to garages, department stores and the buildings of the United Nations.

What then becomes of the *grand composition* — of that wide and general pattern which might express in plastic terms the unity and direction, the social attitude and content, of a university? What becomes of form in universities?

• • •

If my readers will now tolerate an academic interlude, I should like to review some of the premises which, it seems to me, underlie this problem of form. Afterwards I shall note some procedures in planning which these suggest.

First. In our time form in buildings is rarely eloquent when it is distinct from techniques of construction or from the purpose to which buildings are addressed. That is because our era is saturated with technological thought: because we have made of our world one vast machine and are at every moment aware of its structure and its pulsations. We cannot apprehend the form of anything that is made except with reference to the way it is put together and the way it works. The power of form to enhance the quality of our lives must rest upon its identity with that life: upon its identity therefore with organism and function.

That which is true of buildings is true of groups of buildings whenever, as in a university, these are united by the invisible threads of purpose and use. Not alone the individual buildings — library, dormitory, laboratory — are to acknowledge in mass and plane the task which they have to perform, the methods by which they have to perform, the methods by which they were built.

COLUMBIA UNIVERSITY. *"The impact of events upon such a patterned world is shattering. If I had to choose, I should choose*

Fairchild Aerial Surveys Photo

but these must also be clearly revealed in the pattern of the university as a whole.

I think that most of us are persuaded of this functional basis of form. We see clearly that theories of esthetics, stylistic uniformities and sentimental associations are less trustworthy guides in our search for form than are those adaptations to service and techniques which anchor our buildings in a reality which, however harsh, is ever present and known.

We must accept this principle; but it does not include all that can be said about form. Form in buildings is idea made visible. Form is the medium through which those meanings which we have discovered in buildings can be apprehended by those who look at them; not apprehended merely but made active and persuasive in their consciousness. At least one source of form is faith: faith in the worthwhileness of human nature, in the dignity of man's enterprise. Form may be an accident; form may be logical consequence; but form is more often a philosophy.

People who build universities usually believe in them. Their need for form will not be satisfied by convenience in operation merely or by the perception of organic truth but by the way in which the university idea is given definition and eloquence.

What then is wrong with the architecture of Columbia and Princeton? Is it merely that their buildings fail to exhibit contemporary techniques in planning and construction? I could forgive them that failure, considering the time and circumstances which surrounded them, if only they had been fitted to the living idea which they contain. They are not in truth fitted to any idea. They are self-sufficient moulds into which ideas are poured.

In the arsenals of architecture there are many such moulds, beautiful grooves each waiting for its idea. Architects sometimes go about searching for such ideas. The idea which fits perfectly is seldom found but it is possible to re-shape an idea — to leave out a part of it or graft upon it some adventitious material. There is something of Rome in Columbia, something of Oxford in Princeton, and if we ignore that which is contemporary in these institutions, if we disentangle from them that which is vital and in evolution, they will fall neatly into the brick and stone baskets waiting to receive them.

Ideas are creative things. They will not remain long within the confines of a formula. They are active to build, urgent to give vitality to that which is built.

Our task is to open a channel for these ideas which lift our art above the level of mere building and yet impress upon them the character of that practical purpose for which they were built.

Second. The task to be performed in university buildings and the methods by which they are built constantly change. Their nature tomorrow cannot be predicted. No *program* is possible which extends beyond a dozen years.

There are now enrolled in American universities about two and a half million students. The University of California has 27,000 students; Boston University, 20,000. Jefferson thought that a university might have enrolled 300.

How many among these two and a half million students are preparing for the learned professions, once the

PRINCETON. . . . *"The planner can admit some accidents . . ."* *(Note basic similarity with "modern" work, pp. 73, 83 — Ed.)*

Fairchild Aerial Surveys Photo

Fairchild Aerial Surveys Photo

WHAT HAPPENED TO UNIVERSITY OF VIRGINIA

"Serious impairment, altering the character of Jefferson's design more radically than do the acres of dull buildings . . ."

sole purpose of a university? And, by the way, *are* there any learned professions? What has become of that Christian sentiment which once filled the air of universities? of those aristocratic standards, now that the university is the instrument of democracy? of pure science in these vast training schools of medicine and engineering? of the humanities crushed under the weight of the social sciences?

No one can say what will be the task of tomorrow's university or what will be its new relationships to the society which nourishes and uses it; and no one can guess what new miracles of steel and glass, of magnesium and plastics, will compel new and unheard-of aspects in its structures.

That is one reason why I am not greatly distressed by the persistence of the historic styles. I know that this live creature will not be forever patient with these imprisonments.

Third, (a deduction from the first and second), no plans can be fitted to an unpredictable growth. Even the city planners have renounced crystal-gazing.

Accepting these premises as valid, what hope have we for form in universities?

Let's begin by conceiving form as a function of time. Let's imagine the university, as the city planners imagine the city, as a growing organism whose form lies partly in the past, partly in the future. Our university will never be completed. It will always be on its way.

If we make a master plan then, it must be in such general terms as will admit of new interpretations and unexpected development. We can take nothing for granted. Those facilities which have endured the longest may be the first to disappear. Who could have imagined, as late as 1900, a university without a chapel? The library grows like a volcano at the edge of Italy — but who knows how soon the library function (such is the language of sociology) will become an attribute of the state? And what university can continue to bear the cost of empirical research in competition with the Du-Pont de Nemours Company and the Atomic Energy Commission?

If we make drawings, we must project upon them only the facilities for such activities as are now taking place — or about to take place. Reserve plenty of ground for development; provide for the expansion of buildings — and their contraction; and when in doubt make free use of temporary construction. Let no building depend for its character upon its relation to another, nor let any of the open spaces be of such absolute proportions that new constructions built into them will destroy them.

Beyond these principles I think that there might be general groupings of related facilities. It would not be risking too much to assume that administration will be near the center of the site and that if there is a dining hall it should be accessible from the kitchen.

All this is less art than common sense; but I have noticed that time, which willy-nilly is thus the chief architect of universities, which brings into being their functions and the shapes and groupings of their buildings, is also the chief ingredient in their characters. There is a continuing element in universities, a becoming and unfolding, which is often clearly revealed in their forms, even when those lack all style and architectural grace. Old universities are always more beautiful than new, not merely because they are romantic, and not because the art of architecture has suffered a decay, but because they have a history. Like an invisible chain, history surrounds, unites and illumines.

Sometimes I think that the many styles of architecture which plague our campus have done us at least this service: they set forth in dramatic form the sequences of temper and incident which have shaped the life they decorate. It has happened that the road to unity — of feeling, rather than design — lies more often through the styles than through a style. There are secret understandings among buildings as among men.

It is said that in the 1890's a rich and eccentric gentleman offered Harvard a million-dollar building on condition that it should be in the Turkish style. When asked "Why Turkish?" he replied, "The Turkish is the only style not already in the Yard."

It is a pity we did not accept that offer. Turkish would have faithfully represented our soul at the end of the century. As it is, there is an important bangle lacking in our bracelet of souvenirs.

The civic center at Venice is a good example of the way in which a quality of life may give unity to buildings diverse in character — I *am glad* that the architects of Venice were not "consistently Byzantine" — and even in so monstrous a mound as Johns Hopkins University one may discover the thread of circumstance which, once it is understood, gives absolution, in part at least, for the decalog of architectural sins committed there. There is something at Venice which has escaped the notice of Johns Hopkins University, but the two have this in common: both are events, not monuments.

This is not said in defense of the styles. The styles illustrate the role of time in group planning; this complexity and dissonance, this decomposing of grand compositions witnesses the malice of time; and we have seen also how time can deal generously with university buildings. Perhaps we should take time into our partnership.

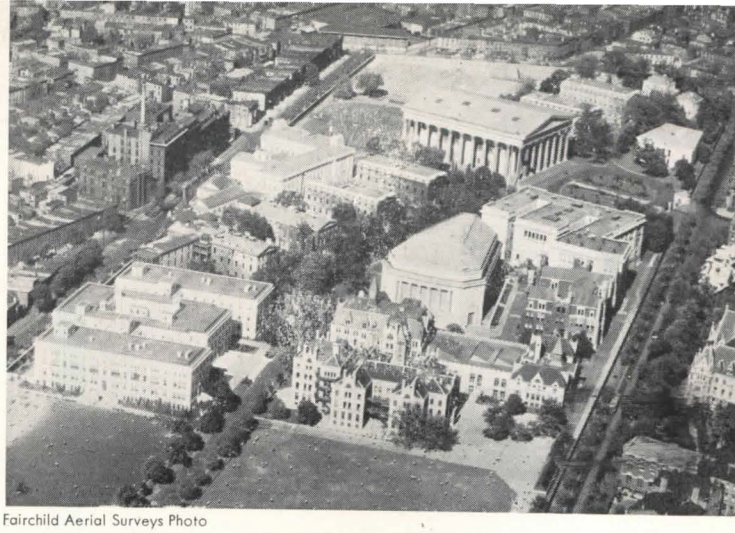
Let's look once more at our universities. Was it their changing course alone — their unexpected growth, their lack of foresight, their new services and ambitions — which created these vast dishevelments? These are indeed fundamental causes; but there is another cause almost as determinant. Architecture also has changed its course, not once but a dozen times within a century. The universities are, in a sense, our victims. We exercised upon them an unstable and inconsistent art. These confusions are our confusions.

Perhaps then we ought to begin by putting our own house in order. We must give some consistency to our practice, and to our art a vitality which can survive at least one generation. If we had possessed and held a tradition, the buildings which we built for universities would, however changing in purpose, scale and techniques, yet have followed each other in a harmonious progression. In architecture tradition only is the master-planner.

Must I explain that I do not mean a style — conformities in motif and ornament and techniques of organization? I mean a principle of form, known and firmly held among architects and a practice which, although evolving and hospitable to idea and invention, is yet steadfast in its general direction. I mean a basic understanding and consistency, a clear notion of the purpose of architecture, a definite standard of attainment. I would have individuality but not the negation of all authority. I would leave room for an occasional rebel, but not a rebellion every Tuesday. I would admit advertisement, but not an art which is one big, buzzing advertisement. I would have a religion, but not the incessant multiplication of strange gods.

I sometimes think that all of Nineteenth-Century architecture — and the greater part of Twentieth-Century — can be interpreted as a search for such a tradition: an obstinate questioning and experiment of which the strange costumes of university buildings are consequence and clear witness. The Gothic Revival was the bravest, as it was the most mistaken, of these essays in dialectic and stone. Neo-classicism was only half doctrine; half hope for a renaissance. The rediscovery of the Colonial was an answer to a prayer more naïve but not less sincere. And those architects who built upon new theories and those who sought out new inventions were equally inspired by visions of a new and universal architecture, as were also those who put their faith in genius and those who were confident of genius in themselves.

Perhaps then a future historian will find in this pursuit and adventure still another stream of unity in the forms of our universities. I should be somewhat disingenuous if I reminded universities that they are creators no less than guardians of traditions.



Fairchild Aerial Surveys Photo

WHAT HAPPENED TO GIRARD COLLEGE

A part view, showing the charming effect that can occur by accidental juxtapositions through historical chance

To return now to the design of Mr. Mies van der Rohe for the new buildings of the Illinois Institute of Technology.

It seems to me that those who invented the International Style (unfortunate phrase) were also concerned with this search for a tradition. They sought the principles of a new architecture in contemporary techniques of planning and construction. They did not intend that the work they did should itself represent a new style — new formulae of motif and procedure — but rather that the ideas thus set forth might form a basis from which a new progress might be possible. Le Corbusier called his book not *Architecture* but *Vers une Architecture;* and if his work, and the work of those who were addressed by similar means to similar ends, cleared our buildings of some of that load of romance, ancient techniques, speculative esthetics, and cant with which we had burdened them, that was not in order that these buildings should achieve "stripped and stark asceticism, rigid and dogmatic," but that our architecture might be set free upon a new foundation.

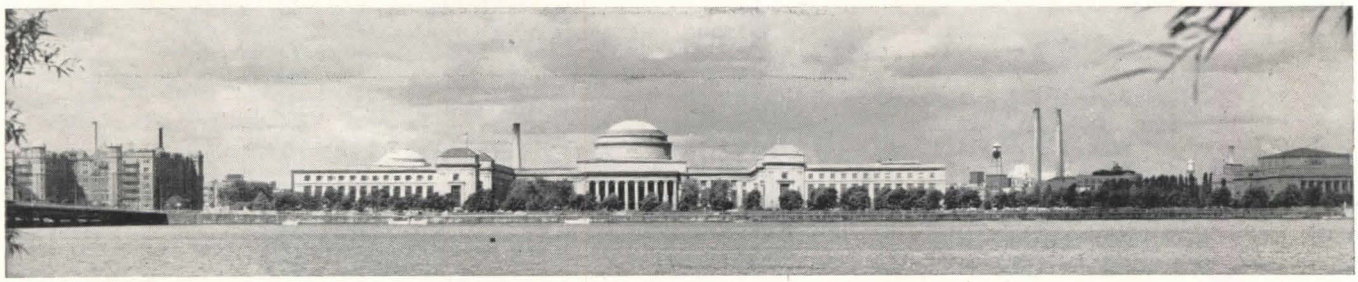
If our younger architects give the International Style an ever-widening range and a deeper human content, that is no reproach for those who initiated that movement, for that is precisely what was intended. Variety and individuality, lyrical beauty and grandeur, wit and fantasy are not alien to a mode of building which is consistent with our genuine culture; and Mr. Mies van der Rohe has shown us that such a mode of building may attain also a serene elegance.

Perhaps then this pattern for the Illinois Institute will, after all, resist the battering of new styles and unexpected events. It may be that Mr. Mies van der Rohe may escape that Gothic raid. Perhaps there is here a guidepost to that new tradition which shall at long last deliver our universities from the vagaries of architecture. This stone is well and truly laid.

WHERE UNEXPECTED EVENTS ARE EXPECTED

MASSACHUSETTS INSTITUTE OF TECHNOLOGY'S FRESH APPROACH TO PLANNING

Below: M.I.T.'s "palace of science"; across-page, her general plan



BETWEEN the new plans of Massachusetts Institute of Technology and her existing palace there is a difference of approach that should be highly instructive for all college and university programs.

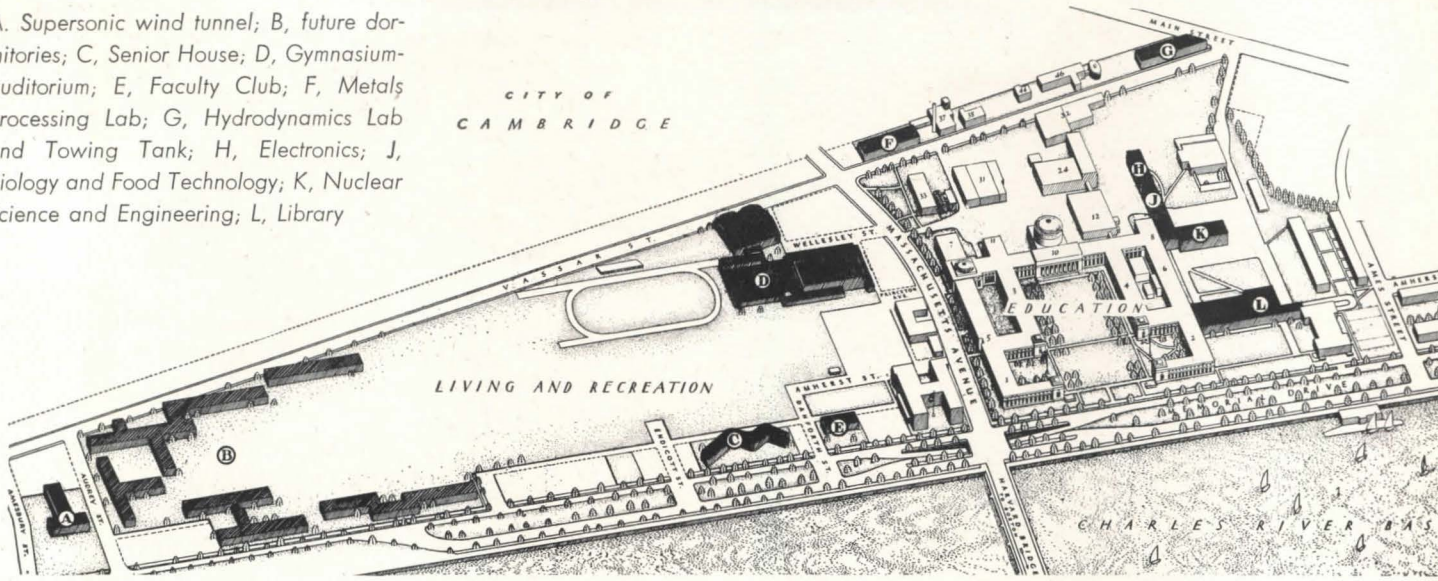
The classical phalanxes on the Charles River have too long been discussed merely as a rather smashing example of a "grand composition." Their other aspect, almost universally missed, is that, back in 1913, they were conceived as a pace-setting building group, up to the minute technically and in function. For the first time in academic work the designers employed standard "unit construction;" measured needs by square feet and not literary description; employed non-bearing partitions for easy change, and a "corridor" plan for easy expansibility. The record is a bit deflationary for those who think that the language of functionalism was invented yesterday. Strip the classic garment, cant the lines a little, punch gaps at the angles, and it is stock "contemporary."

The significance of the palace therefore is that it convincingly applied a unified (and traditional) garment to a unified functional scheme. M.I.T. was the last great American university to achieve this. When Yale clothed her quadrangles in doublets in the Twenties the younger generation was already smiling.

M.I.T.'s later experience seems to invalidate for her future use *both* the idea of the classical garment *and* the idea of the unified scheme for a master plan. This emerges clearly from a brief survey of her present situation.

Superficially, M.I.T.'s expansion differs from that of most universities in seeking not an increased enrollment but vastly more instrumentation *per student.* This demand parallels the course of the industrial age which the school nourishes. M.I.T.'s chosen assignment is to train top leaders. Before the latest war she enrolled an average of 3100 students. The number is now 5600. Permanent

A. Supersonic wind tunnel; B, future dormitories; C, Senior House; D, Gymnasium-auditorium; E, Faculty Club; F, Metals processing Lab; G, Hydrodynamics Lab and Towing Tank; H, Electronics; J, Biology and Food Technology; K, Nuclear Science and Engineering; L, Library



plans envisage 4000 to 4500. Mass training must be left to a different kind of institution.

M.I.T.'s academic needs revolve about highly specialized buildings, mostly shops and laboratories. She built some important ones during the war. Since then she has enlarged the Sloan Laboratories dealing with motors and gas turbines. She has under construction a supersonic wind tunnel. Plans are complete for a hydrodynamic laboratory and naval towing tank, and a new metals processing laboratory. A new research center is being developed for study of cosmic rays. Other expansion definitely projected deals with nuclear science, electronics, biology, and food technology, not to mention the library.

In most of these instances the "architectural" control over basic form is small. Engineering calls the tune. Architecture and planning endeavor to keep it harmonious and expressive.

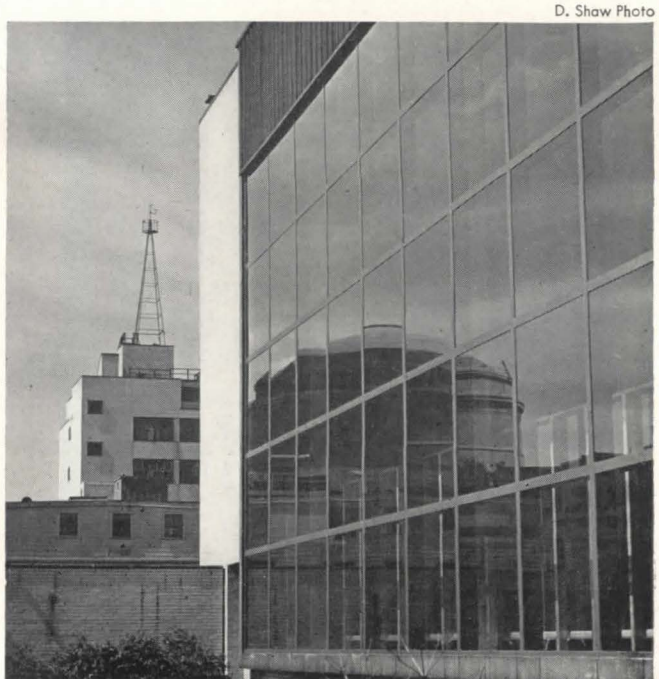
A common characteristic in many of the new units is their demand for a new, almost interplanetary, scale of separation. No longer can technological departments all co-exist across a court or across a street. The wind tunnel is at the far end of the new residential campus. The cosmic ray center is at Lexington, putting 15 miles between its delicate measuring instruments and the disturbances caused by an electronics lab capable of generating charges in the range of 20,000,000 volts. Such developments cannot be neatly "master planned" by accepted techniques. They are explosive.

So too is the acceleration in speed of work. Sites had to be chosen during the war for major units, permanent in nature, within less than a single week. This might be considered cataclysmic: but nowhere is there a guarantee that such "cataclysm" will be exceptional. It must be part of the expected procedure.

M.I.T. shares with other universities a compound

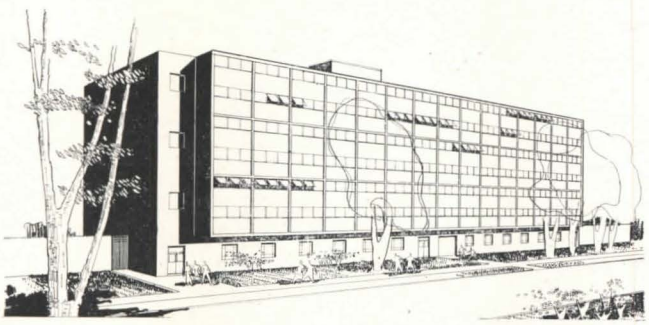
Left, across-page: M.I.T. on the Charles; temporary student housing in foreground. Below, "temporaries" designed by Robert Kennedy, of the School of Architecture and Planning staff; right, swimming pool (prewar) by Anderson and Beckwith

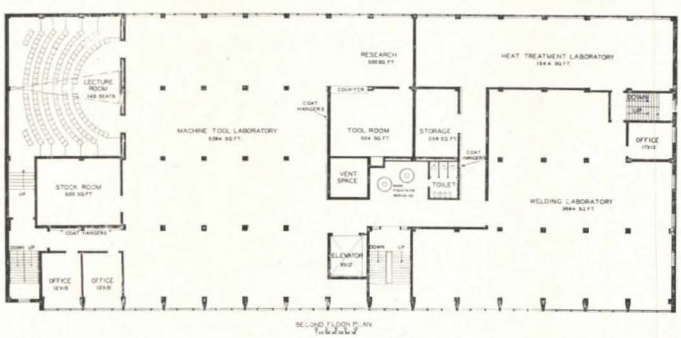
D. Shaw Photo



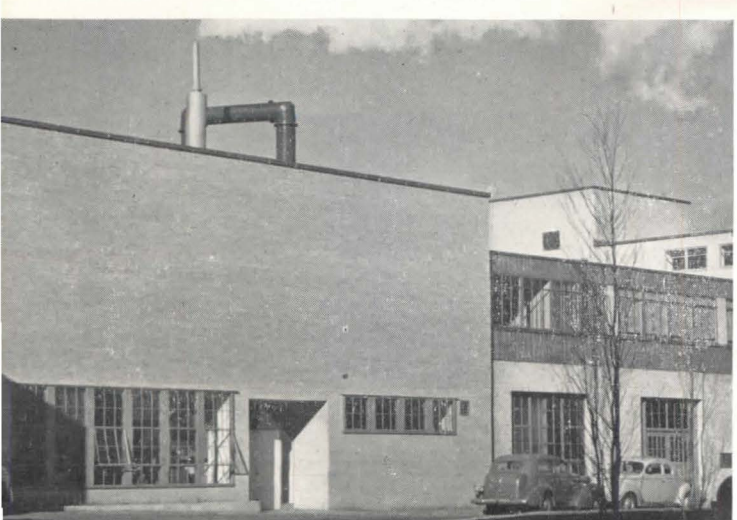
D. Shaw Photo

Above, Radiation Laboratory, built during the war from plans by faculty members L. B. Anderson and H. L. Beckwith (Building numbered 31 on general plan on previous page)





Above, projected Metals Processing Laboratory, designed by Perry, Shaw and Hepburn, scheduled for immediate construction. Below, part of the Sloan Laboratory for Motors and Gas Turbines, recently completed from plans by Anderson and Beckwith, to be published in a future issue of ARCHITECTURAL RECORD



problem of student and faculty housing and recreation, not to mention parking. Here the requirements would seem to be less volatile, except that M.I.T.'s experimental temper has left her very little satisfied with current stock solutions as a basis for settled planning. The student population comes from 46 foreign nations and all 48 states. M.I.T. intends not only to secure the ensuing vast benefits of intellectual association but to study actual preferences and proficiences in different ways of living. The first step was to set up excellently planned temporary dwellings for married veterans. The next is the highly experimental and original senior dormitory by Alvar Aalto, now under construction, of which the RECORD is privileged to release the first plans to be published. Later steps include carefully considered faculty housing, a new field house and gymnasium, an attempt at a comprehensive solution for parking — perhaps involving multi-story open parking garages.

Such a program is obviously just as volatile and provisional in detail as it is comprehensive in nature. M.I.T.'s greatest contribution in the field may be her *planning method* devised to meet this "chaotic" situation.

The first significant step is *utilization of the university's own planning resources*. Realizing that he has on his own staff some of the keenest educational and architectural planners in the country, President Compton has gathered them on an Advisory Committee on the Development of Building and Grounds, chairmaned by W. W. Wurster, Dean of the School of Architecture and Planning. (In most American universities it is customary for the head of the school of architecture to learn of his own institution's building program from the newspapers.)

The next is the commissioning from time to time, as advised by this committee, of *specific plan studies*. Even the students have helped on these, and seen their ideas adopted.

The third is *assignment of actual buildings* not to a single architectural firm but to a number of them. A part, but far from all, of the actual design has been done by faculty members. This not only secures continuity and intimate knowledge in planning but prestige to the education which is offered through these men by the university.

The result is a type of university growth that is neither hamstrung in form nor resigned to the haphazard. Dean Wurster describes it as a "sort of controlled chaos." It is the conflux of many needs, many minds, many emergencies, but under continuous intelligent guidance.

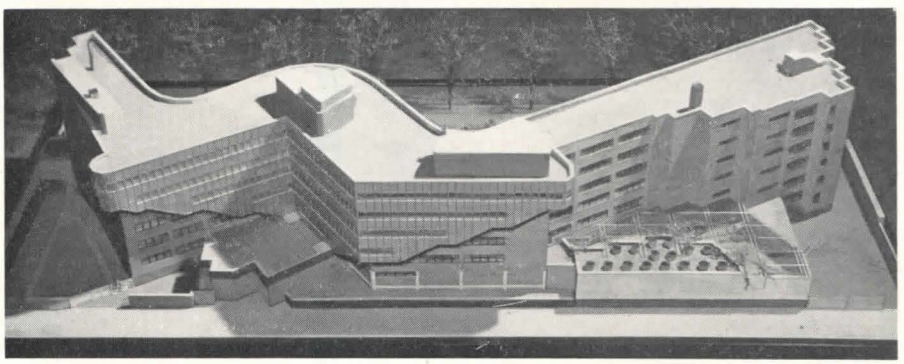
In the United States, technical schools have been the chief generators of change in university architecture. Their problems are more realistic: they deal more with fate and are less amenable to fiat than the liberal arts colleges.

Because the approach of M.I.T., though no less humanistic, stands in such contrast to the inherited habits of most liberal arts colleges, the RECORD will explore the subject farther in a later issue.

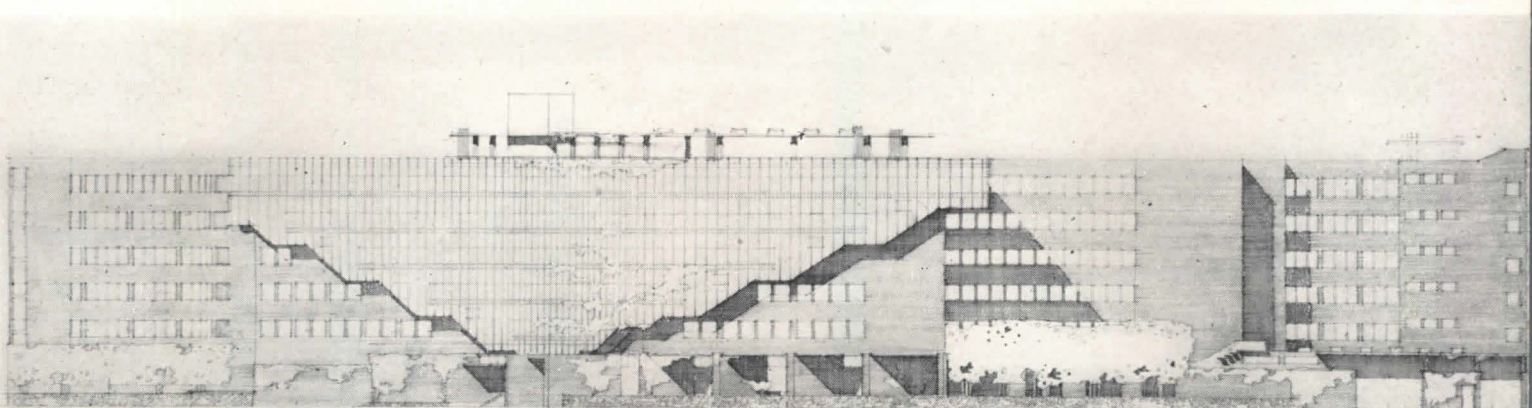
A DORMITORY THAT EXPLORES NEW IDEAS OF STUDENT LIFE

M.I.T. Senior House — Alvar Aalto, Architect; Perry, Shaw and Hepburn, Associated

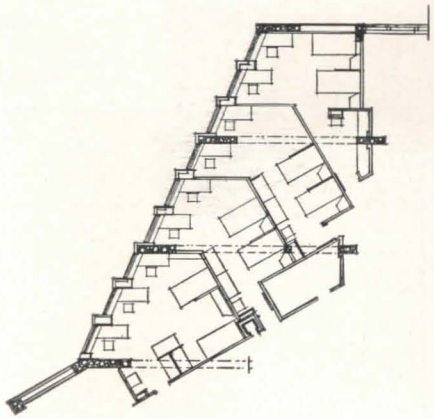
The striking form results from the play of many-sided imagination upon a many-sided analysis. What is the one best way for college men to live? Nobody knows. Probably there is no one best way. Some singly, some in pairs, some in big rooms, others in small; some noisily, others in quiet. Aalto has imagined most of the students approaching sociably together; splitting off in groups and dispersing as they mount the spreading stairs



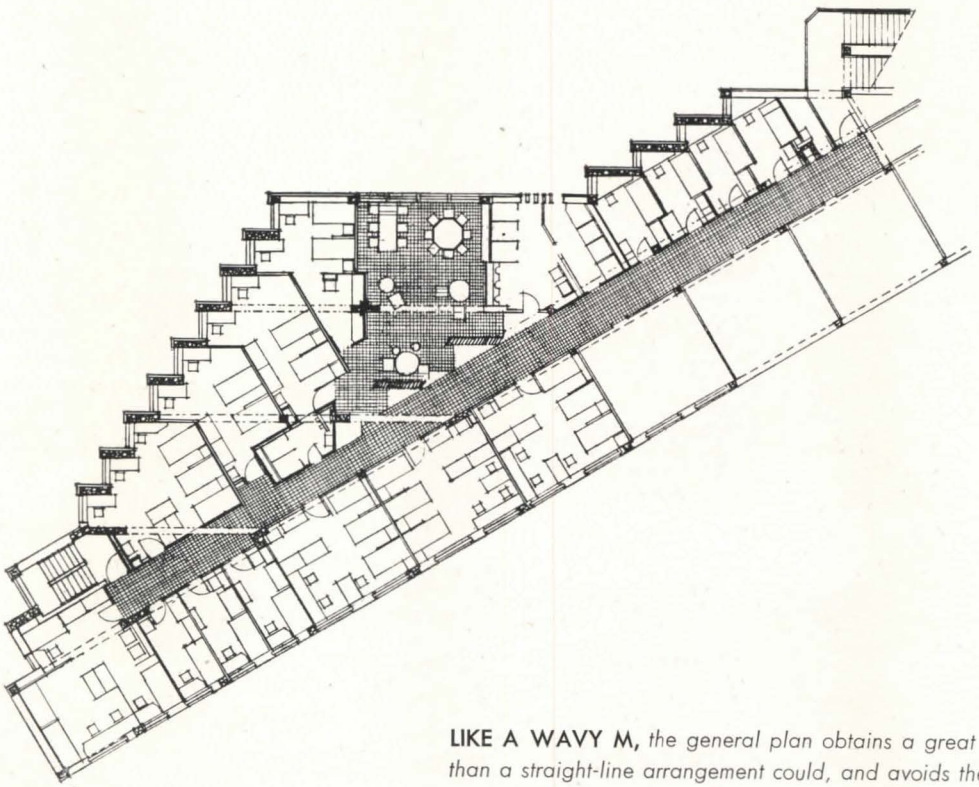
Perspective, top of page (drawn by Ralph Rapson) shows the south side of the building, facing the Charles across Memorial Drive. (Some modifications in detail appear on page 99.) Elevation (bottom of this page) is from the north, showing the cantilevered stair hall. It is an earlier study than the model. Reasons for the wavy M plan appear overleaf



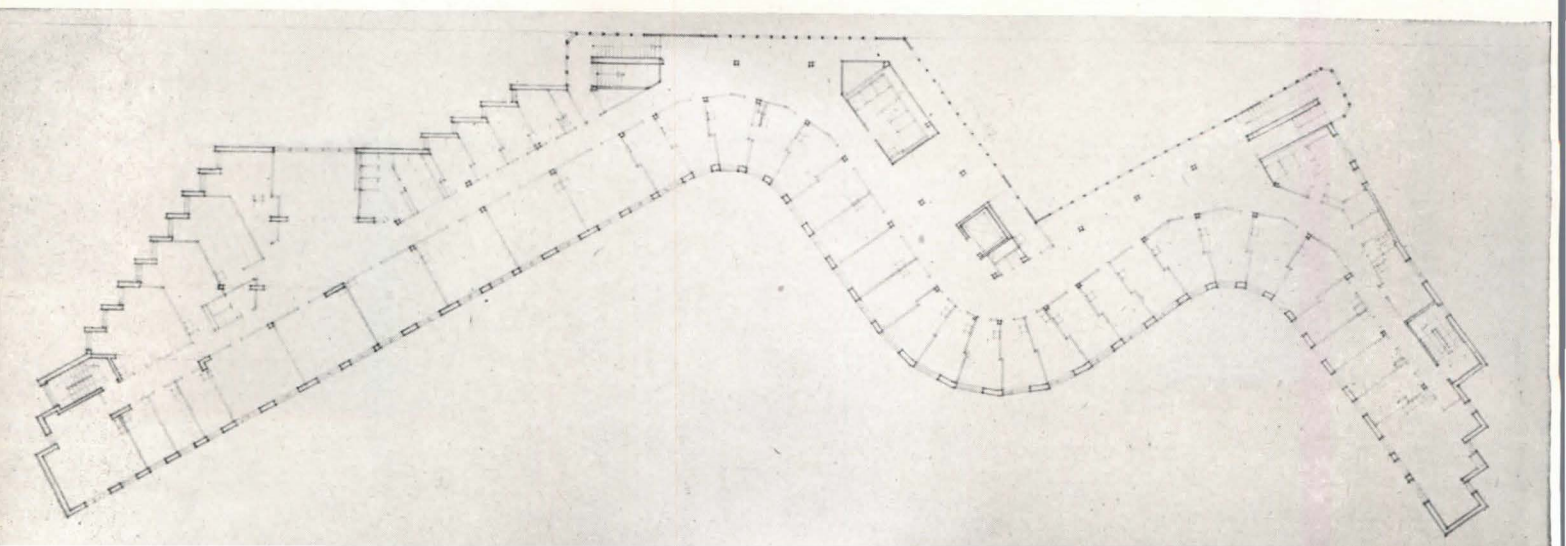
PLANS AND ELEVATIONS UNDER DEVELOPMENT

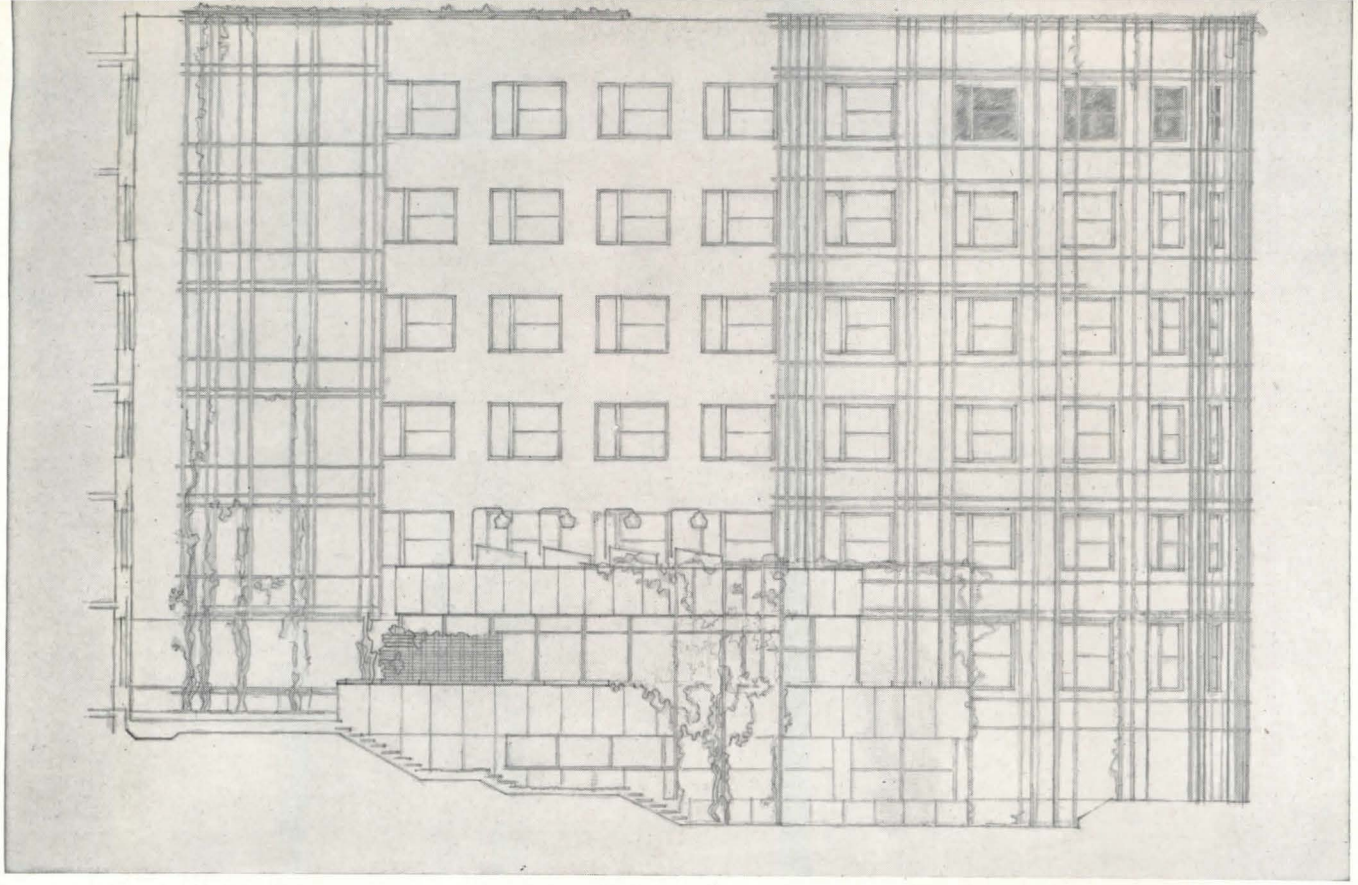


LIKE THE BRANCH OF A PINE TREE, *the plan thickens at the western end, sending off extra twigs. Though there are no rooms facing north, efficiency of land use is the same as if there were. Note great variety of living arrangement and the good interiors. The smaller drawing is a later modification, giving a greater effect of interior space, while preserving the alcove-like privacy and fine daylighting of the desks*



LIKE A WAVY M, *the general plan obtains a great many more rooms on the same lot than a straight-line arrangement could, and avoids the second-class quarters that would ensue from H plans or echelons. At no point does the corridor (which is saved from an oppressive sense of length by its curved shape) need light other than it obtains by the manner in which it widens into informal lounges. The highly original cantilevering of the branching stair (see previous page) supplies added lounge space, which increases in amount with each successive story. Plan below is a typical upper floor*





LIKE A VINE-COVERED ROCK, *the southern face of the building (seen in the part elevation above) will be cooled in summer by planting to climb on trellis. This is to be made of aluminum pipe, which in itself will form an interesting pattern when the vines are bare. Trellis is confined to portions of the building which face south.*

The part-elevation below is taken at the entrance, in the re-entrant angle of the building seen in the model (page 97). The pattern of squares is to be executed in a rough-faced surfacing material, contrasting with the rough-faced brick of the building. Balustrades are to be of marble

"When you stand by a river and look," asked Alvar Aalto of his students, "which way do you stand ? Do you stand square in front ?"

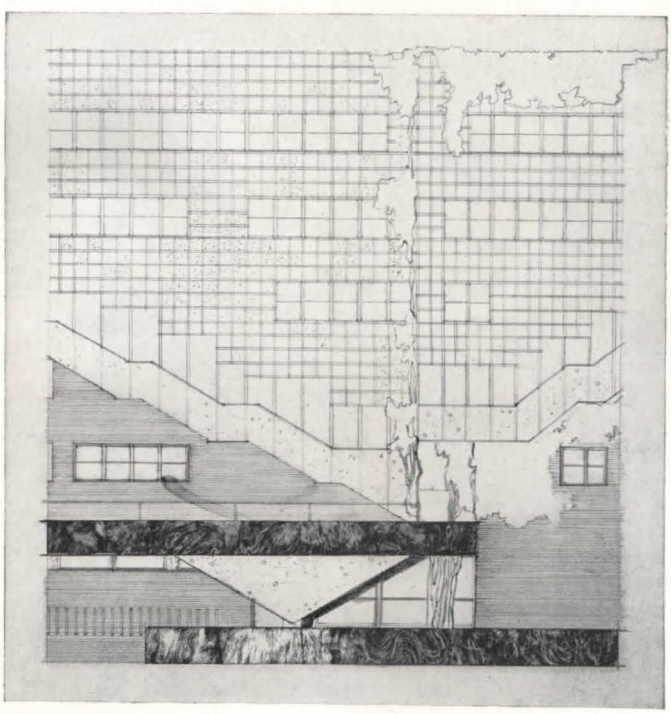
"No," replied the students, "we look upstream or down."

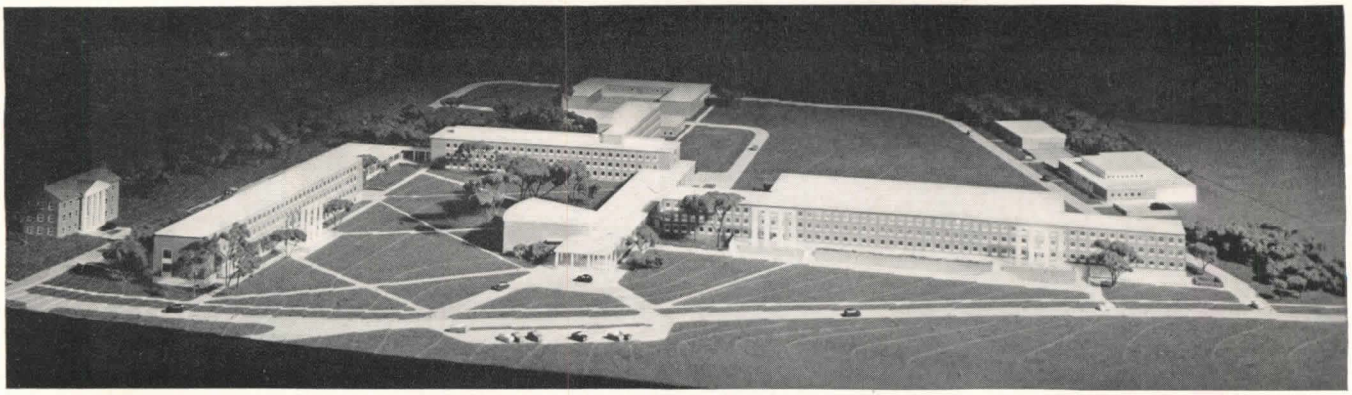
"So," said Aalto, "we shall do that in our building. The rooms will look upstream or down."

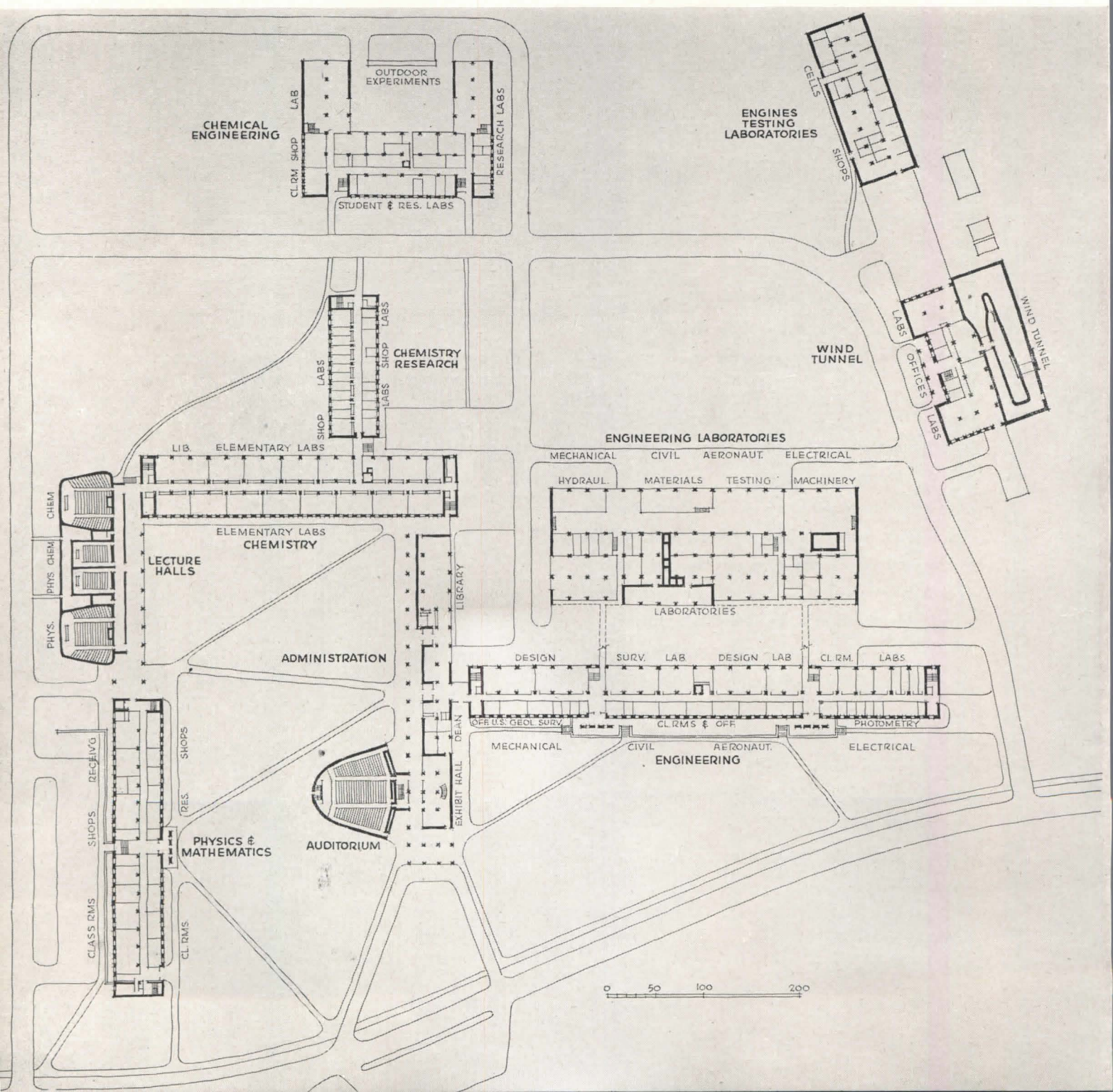
In great imaginative architecture it has ever been convenient that impulses of human amenity fit so well with the results of objective analysis. The same plan that lets you look up the river or down conforms also with statistics of land coverage and percentages of value. The charts prove it.

And yet Aalto, an avid reader of Mark Twain, has warned against the perils of high-hearted navigation. Capable himself, as the event has proved, of adding to the plan accommodations for no less than sixty students after foundations had been already well started—and all without damage—he has looked up quickly from a perusal of* Life on the Mississippi *to remark,

"Let no young pilot try to manage a curved building. That is for the old hands."






CHEMICAL ENGINEERING
OUTDOOR EXPERIMENTS
LAB
CL. RM.
SHOP
STUDENT & RES. LABS
RESEARCH LABS
ENGINES TESTING LABORATORIES
CELLS
SHOPS
WIND TUNNEL
LABS
OFFICES
LABS
WIND TUNNEL
CHEMISTRY RESEARCH
LABS
SHOP
LABS
LABS
SHOP
LIB.
ELEMENTARY LABS
ENGINEERING LABORATORIES
MECHANICAL
CIVIL
AERONAUT.
ELECTRICAL
HYDRAUL.
MATERIALS
TESTING
MACHINERY
LABORATORIES
CHEM
PHYS. CHEM.
PHYS.
ELEMENTARY LABS
CHEMISTRY
LECTURE HALLS
LIBRARY
ADMINISTRATION
DESIGN
SURV.
LAB.
DESIGN
LAB
CL. RM.
LABS
OFF. U.S. GEOL. SURV.
CL. RMS & OFF.
PHOTOMETRY
DEAN
MECHANICAL
CIVIL
AERONAUT.
ELECTRICAL
ENGINEERING
SHOPS
RECEIVG.
RES.
EXHIBIT HALL
PHYSICS & MATHEMATICS
AUDITORIUM
CLASS RMS
SHOPS
CL. RMS.
0
50
100
200

NEW ENGINEERING SCHOOL FOR MARYLAND UNIVERSITY

GLENN L. MARTIN COLLEGE OF ENGINEERING AND AERONAUTICAL SCIENCES

University of Maryland, College Park, Md.

Skidmore, Owings and Merrill, Architects

In adding the Glenn L. Martin College of Engineering to the University of Maryland, the architects enjoyed a more clean-cut assignment than would be the case if they were merely expanding an existing plant. Both physically and contextually the engineering school will be an adjunct facility. This does not mean, of course, that the architects were free to ignore the university campus and its buildings, but it does mean they could assume virtually complete freedom to dispose the new buildings and integrate them naturally.

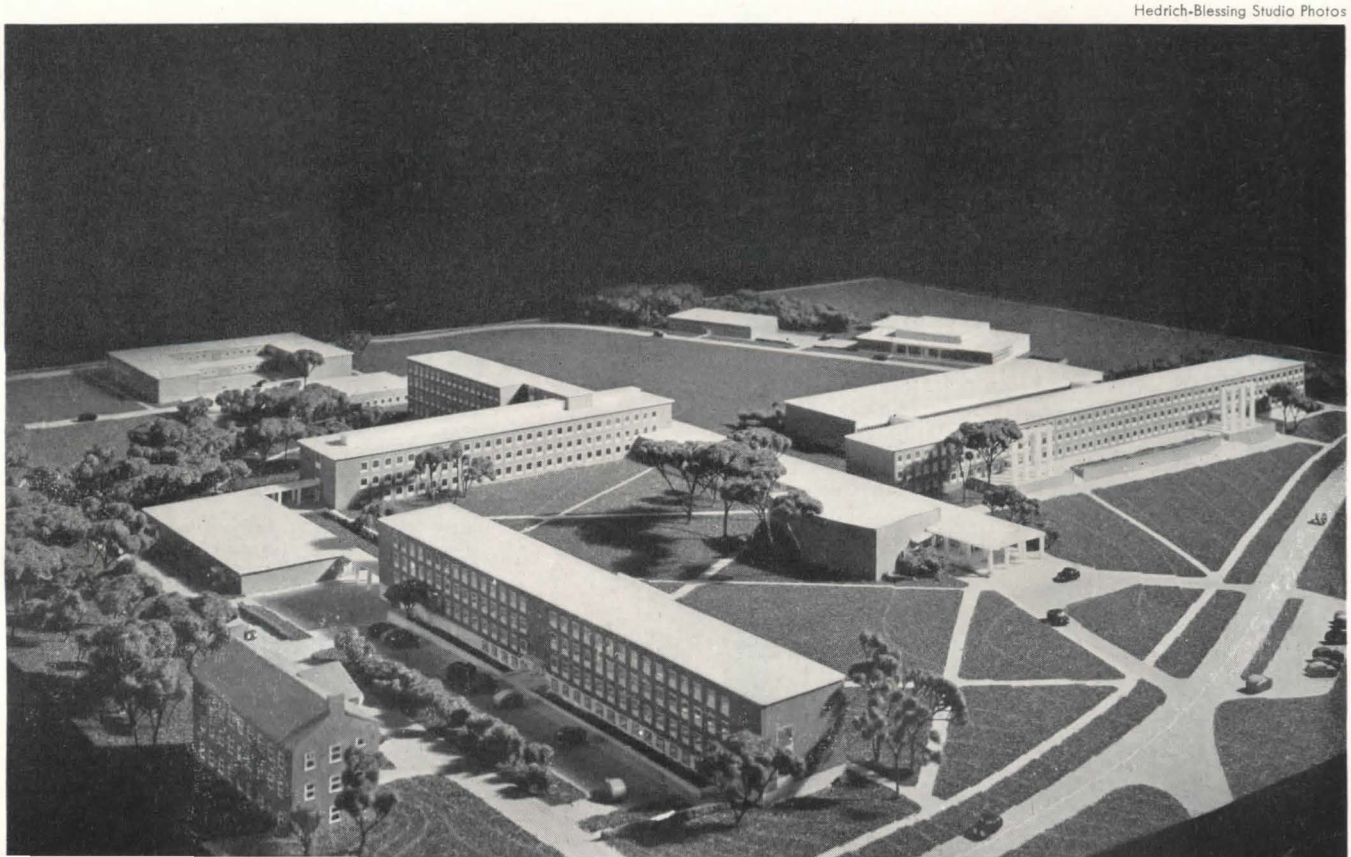
The College of Engineering has been planned to accommodate initially 1000 engineering students, with provision for eventual 100 per cent expansion. The site is a wooded area, roughly triangular, fronting on the university's drill field and touching its main campus only at one corner. While this situation focused the traffic flow largely at one corner of the triangle, it gave the engineering school a very favorable aspect.

From a planning standpoint, perhaps the focus of interest is the combination of Engineering Building and Engineering Laboratories. Four related engineering departments — Mechanical, Civil, Aeronautical and Electrical — are housed together in the two buildings. The longer, taller one contains offices, classrooms, and design and drafting rooms, plus smaller laboratories. The other groups the large laboratories for the four departments, has a 48-ft. crane for heavy test apparatus extending its full length of 360 ft.

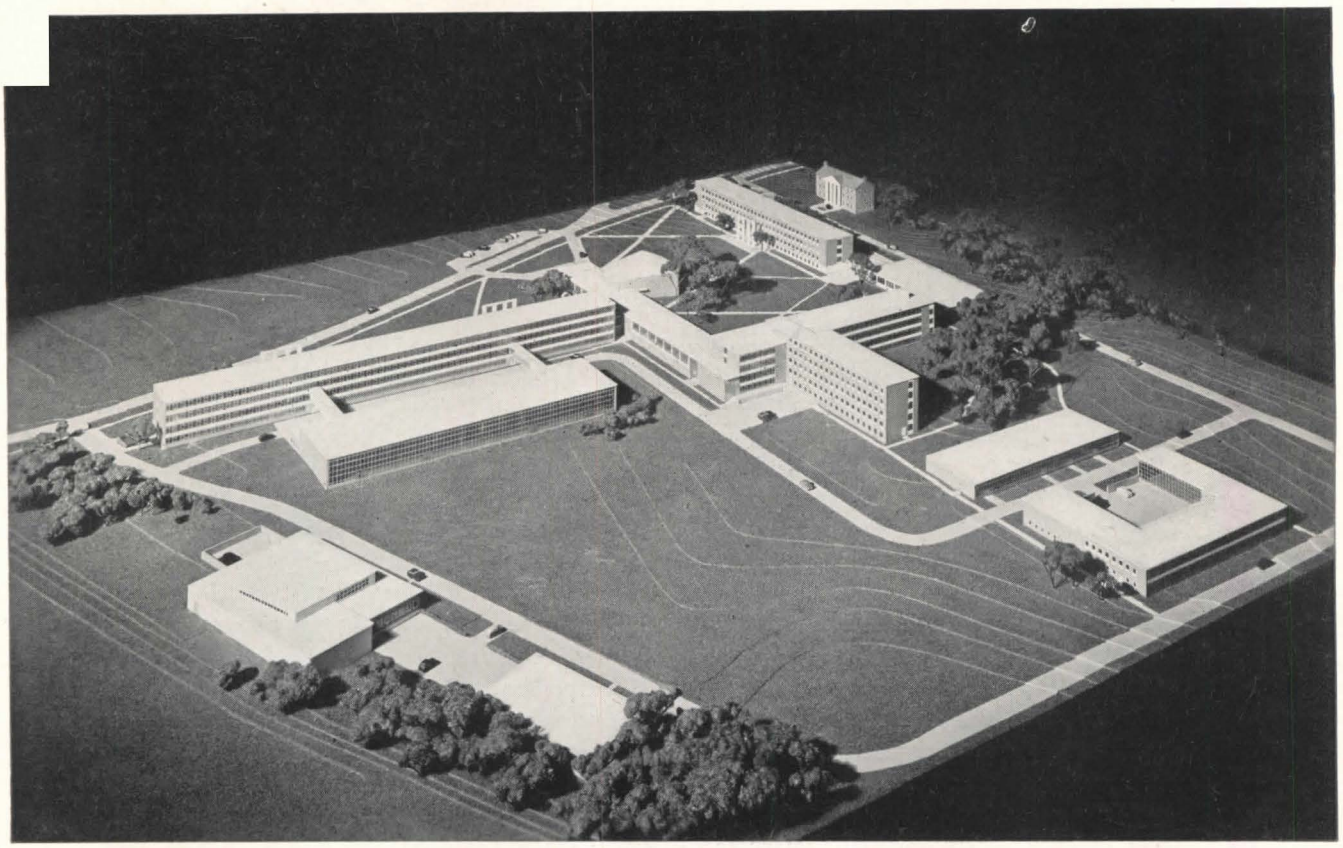
Something of the mutations that eventually produced this grouping can be read in the sketch plans on page 104 showing various stages in the concept of this group, beginning with a separate unit for each department. An H-shaped building with a laboratory core was considered more than once, but did not really block a fairly consistent progress toward the final solution.

Obviously the more complete integration is highly

Hedrich-Blessing Studio Photos



Upper corner of model (in view below) points toward main campus of University of Maryland; buildings are disposed with this corner as a focal point. Those around the court house the more academic sciences most closely associated with the university; engineering sciences farther removed



functional; it also contributes the precious asset of extreme flexibility. The jet-propelled speed of technology today fairly screams for flexibility, not only in laboratories but also in office and classroom facilities.

Buildings for studies more closely associated with the rest of the university are grouped in the area closest to the main campus — Physics and Mathematics, Chemistry and the lecture halls for the two. In logical relationship with the Chemistry Building are the buildings for Chemical Engineering and Chemistry Research, these to the north, farther from the main traffic corner.

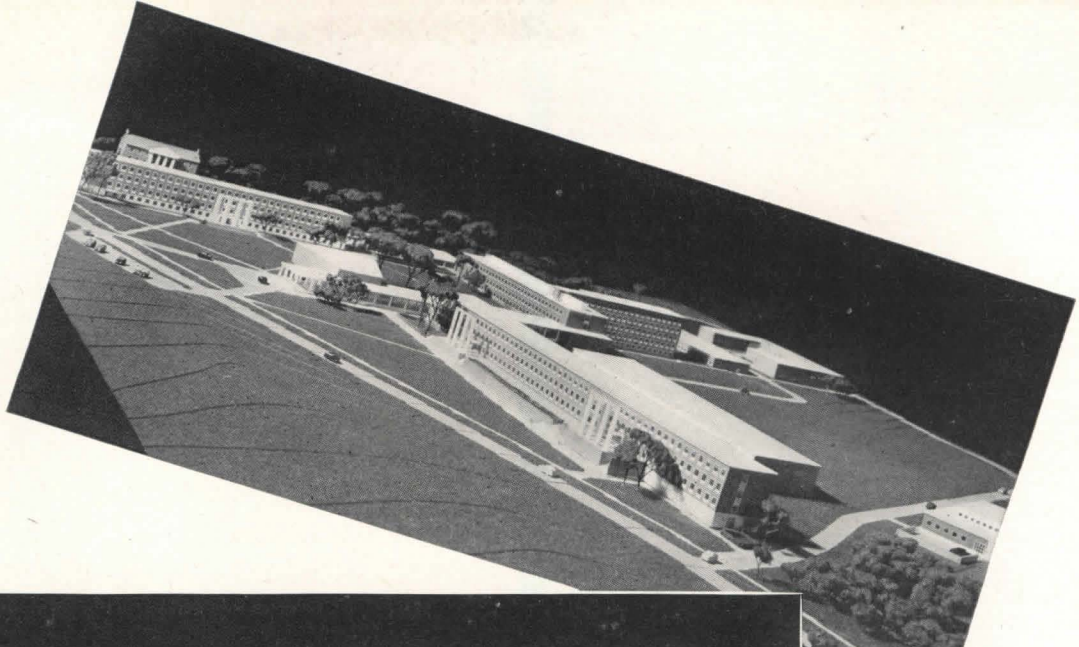
Connected to both physics and chemistry departments are four lecture halls, two with a capacity of 325, and two accommodating 100 students, these larger halls being difficult to handle in classroom buildings. Preparation and equipment rooms are also concentrated in this scheme. Projection booths and demonstration tables are provided in all. These auditoria will also be available to other departments of the university, also to outside groups.

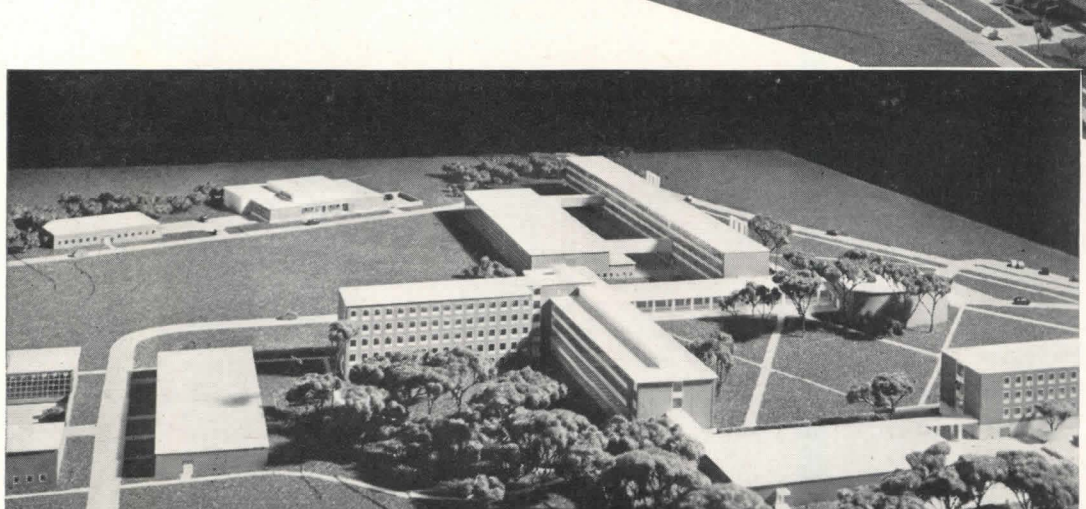
At the far side of the plot plan are placed the Wind Tunnel and Engines Laboratories, because of the highly specialized nature of these facilities and the amount of noise they will produce. Also they will be adjacent to a future airfield.

In the middle distance are the auditorium, exhibit hall, library, and administration offices. These start, at the south, with a visitors' motor entrance, leading to a covered walk serving this whole group. Thus auditorium and exhibit hall are accessible to special concentrations of traffic, and visiting dignitaries would be well received in the dean's suite.

The central library is designed on the Baltimore Plan, with reading room on the first floor and a stairway leading directly down into the stacks on the ground floor. Along inside walls on both floors are study carrels and a limited number of cubicles for persons using typewriters. There are also decentralized departmental libraries in other buildings.

The traffic principle of planning is used throughout individual buildings, except where it runs counter to laboratory requirements. In other words, while the natural tendency is to focus heavy traffic rooms — classroom concentrations, for example — on lower floors, it is





frequently found that the special needs of the labs dictate lower-floor locations, particularly where material storage and handling become important. In general, however, traffic problems still can be served: elementary laboratories get the nearer locations, advanced ones in the farther reaches.

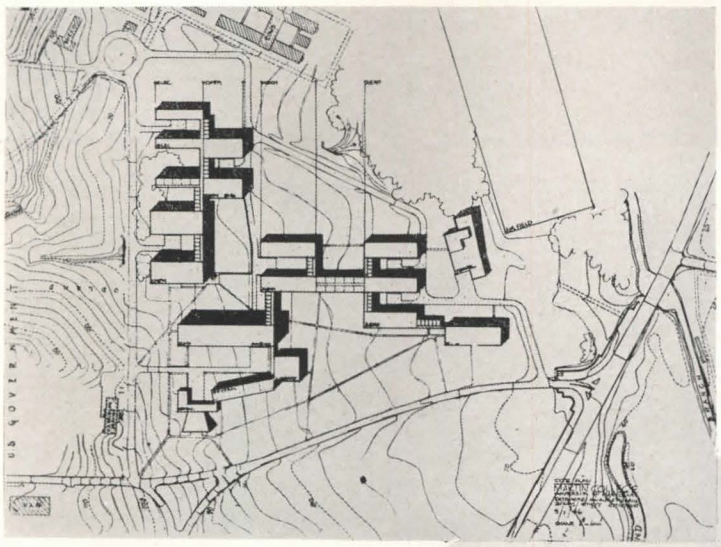
Flexibility also is heavily stressed in the planning of individual buildings. While the risk of fire around laboratories necessitated some separation of activities into wings and floors, in general the effort was to group similar activities close together in large buildings where layouts need not be frozen. Partitions are independent of structure, and can easily be moved. Service facilities — in chemistry buildings, for example — are grouped in vertical shafts lining corridor walls, and space for horizontal runs in corridor ceilings, with access panels, allows for utilities at any point in both academic and research wings.

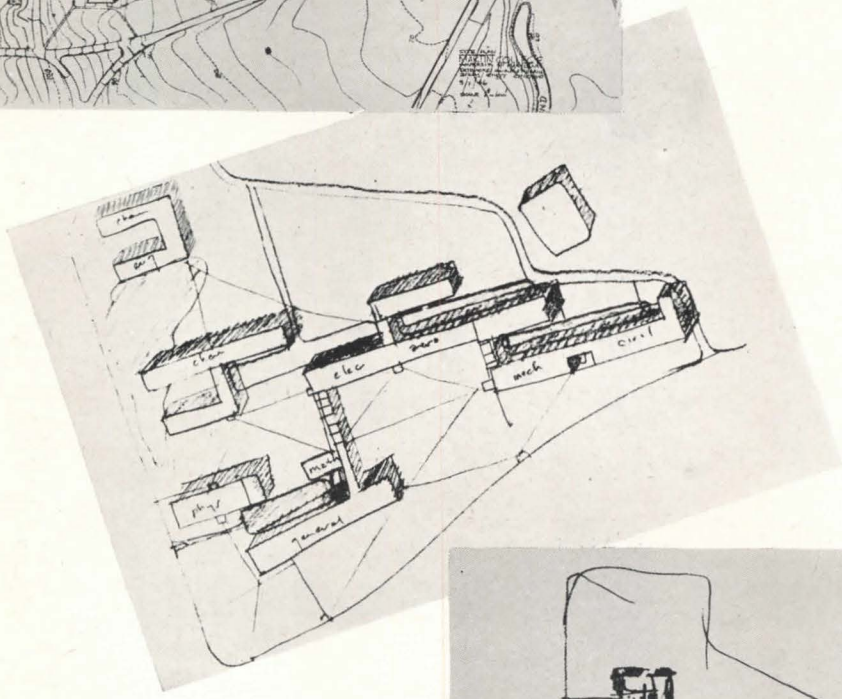
Flexibility was important, too, in construction methods and materials. The strictly engineering buildings will be of steel frame because of the long spans, and because steel offers support for various lab set-ups. Other buildings will have reinforced concrete framing. All buildings have been designed on the loft principle, with widely spaced columns, beams and slabs upon which movable partitions may be placed at will.

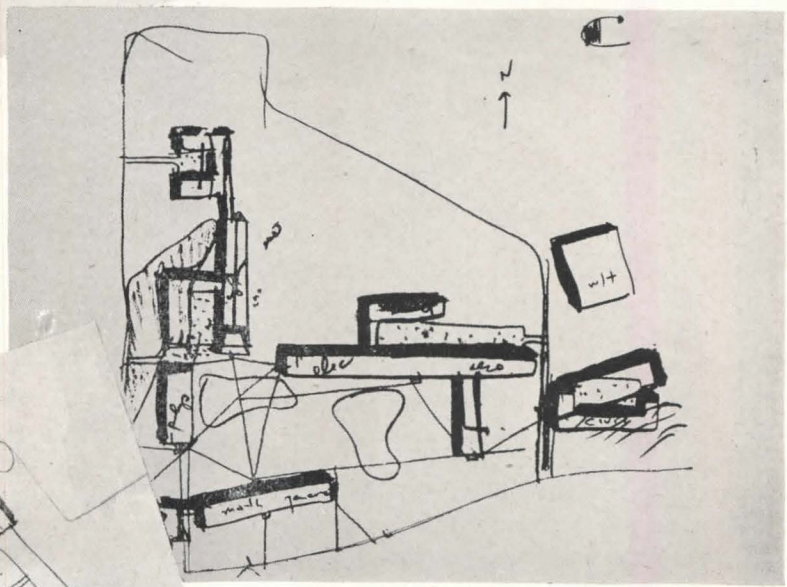
Projected metal sash will be used throughout, to provide protection from rain when ventilation is still required. Special shades will afford shade even when the windows are fully opened.

Incidentally, the consideration of sunlight also had much to do with placing of various activity areas. Undergraduate laboratories have been located facing east, since they are used principally in the afternoon. Drafting rooms are situated for north light on the upper floors, with large classrooms adjacent. Then associated staff and administration offices naturally take south locations across the corridors.

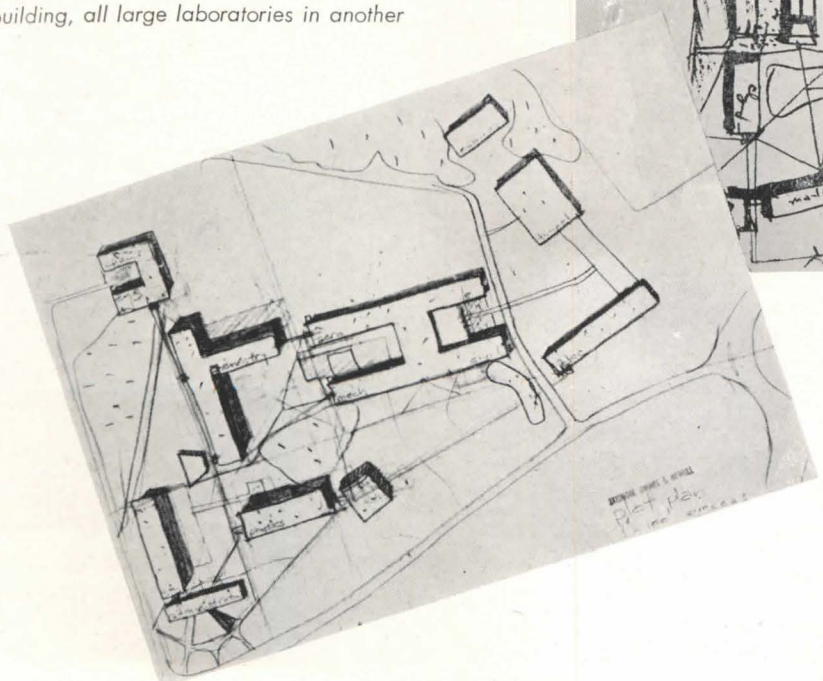
Walkways and paths between the buildings have been freely designed to connect sources of traffic so that short cuts will be unnecessary. The service road makes a loop around the principal part of the college, with service drives and parking areas serving each building. Landscaping is concentrated for strong accents.





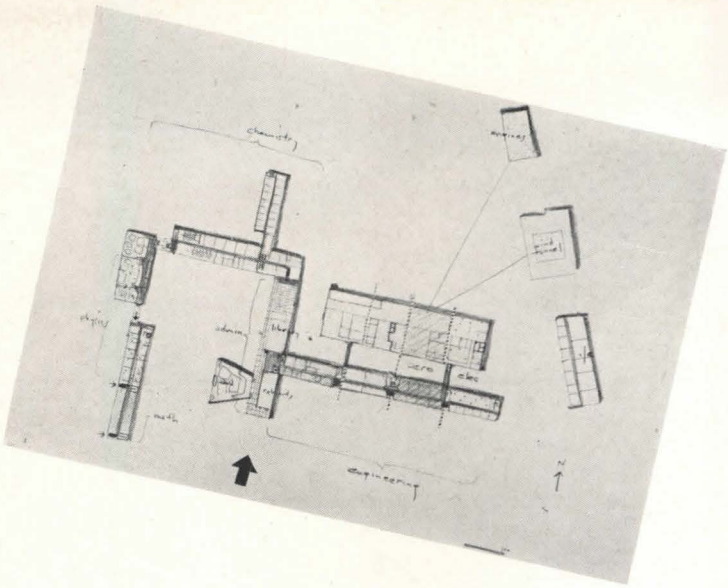


Earliest plot plan (top) shows four engineering departments in separate units. In later mutations they flowed together; offices and classrooms for all four departments in one building, all large laboratories in another

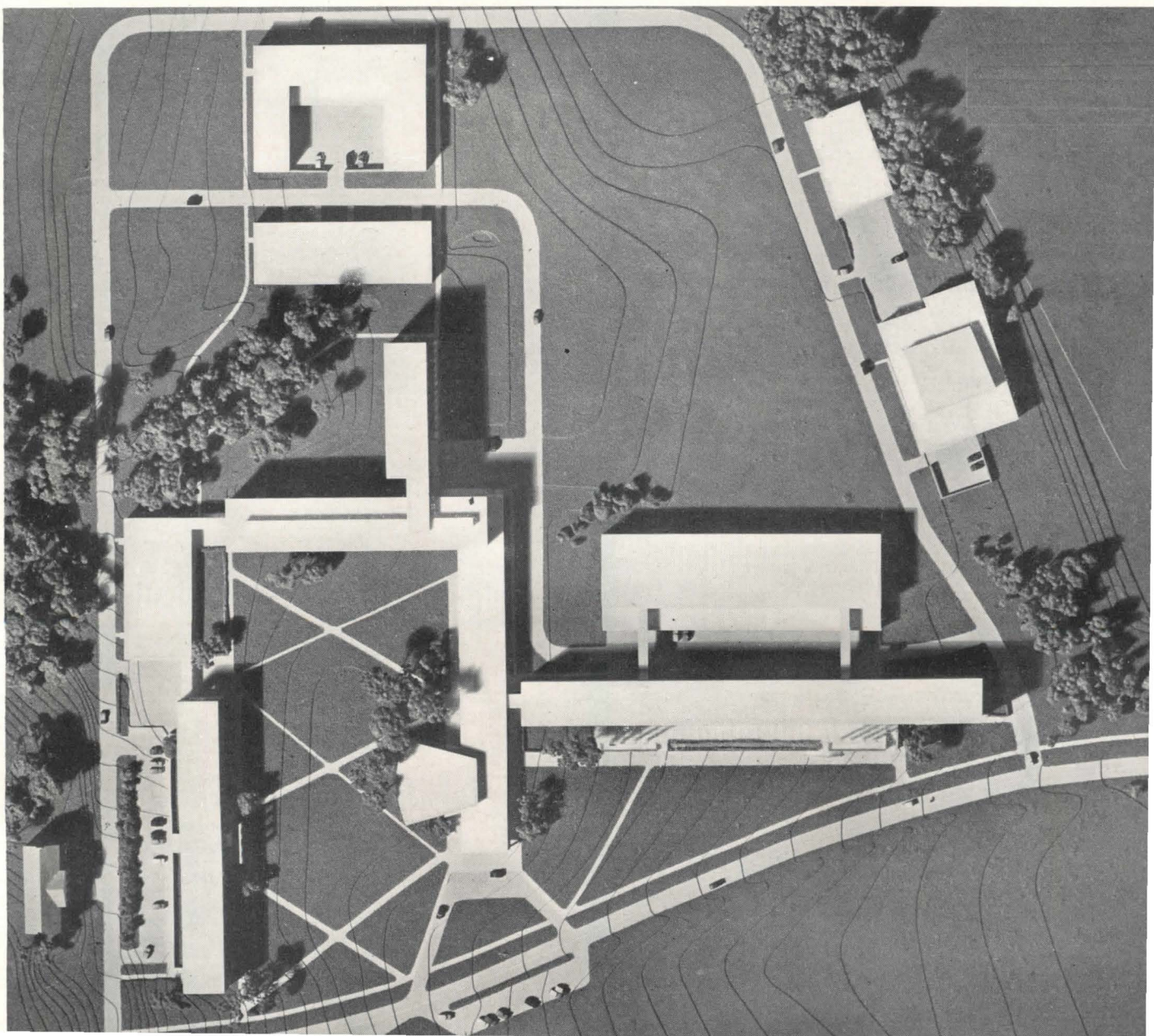


A large H-shaped building for the engineering departments kept coming up at various stages (left), four wings for four departments, with central laboratory core for all. But it did not do more than interrupt a steady progression

Site for the engineering college (shaded area above) has its principal connection with the main campus at the lower corner. Principal buildings will be seen from the highway across an open area, a drill field



One of the later sketches in the plot plan series (above) shows the engineering departments now fully integrated in the two buildings. With a little more shuffling, buildings settled down as in the model



CONSTRUCTION PROSPECT FOR 1948

By Thomas S. Holden
President, F. W. Dodge Corporation
and Clyde Shute
Assistant Vice President and Manager, Statistical and Research Division

DOMINANT factor to be considered in any appraisal of future economic trends is commodity price inflation. In construction, this is reflected in relatively high construction costs.

There was hope, in the spring of 1947, that a reasonable degree of stabilization of commodity prices and construction costs had been reached. After about three months of moderately declining commodity prices and moderate improvement in construction industry productivity, the upward trend was resumed. The period of apparently stabilizing prices and construction costs was a period of moderate slowdown in volume of contract letting. It was a slowdown for purposes of correcting, in some degree, an unbalanced market situation.

Apparently, the fact that the extent of price and construction cost declines was moderate was taken by prospective investors, builders and home owners to signify that a new level of prices and costs had been reached, below which no early and substantial declines were to be expected. This is, we believe, a proper explanation of the motivating force back of the recent upturn in volume of construction starts. However, a secondary factor of considerable importance was the removal, on July 1, of practically all remaining governmental restrictions on nonresidential construction and on rental housing.

Construction progress in 1947 has been reflected more in the attainment of approximately normal completion records, rather than in large increases of new starts. According to the estimates of the U. S. Bureau of Labor Statistics, housing completions in 1946 represented about 56 per cent of the number of starts made in that year. In the full year 1947, completions will represent 90 to 95 per cent of starts. This has resulted in completion in 1947 of nearly twice as many units as were completed in 1946.

It is of interest to note that in this, the second full year after cessation of hostilities, housing production reached 85 to 90 per cent of previous peak production, which was attained in 1925, the seventh year after the end of World War I. As a comparison, it is interesting to point out that production of passenger automobiles this year will reach 75 to 80 per cent of the previous peak.

Recent increases in construction contracts and starts have again strained available supplies of key materials and available construction manpower. The trend of commodity prices, including prices of construction materials, is still upward. Further wage increases are rather likely. The economy as a whole is straining with the effort of full production to meet backlogs of accumulated needs of practically every kind. We have practically full employment, which makes recruitment of additional manpower for the construction industry and marked improvement in construction productivity very difficult.

Most construction materials should be plentiful in 1948. For many of them competitive selling and competitive pricing will be in order. However, many key materials will continue to be in tight supply. This condition is particularly likely to prevail with respect to many fabricated metal products.

Since every upward step in prices and costs tends to price some construction projects out of the market, the prospect of further construction cost increases must be counted as a factor tending to retard large construction volume increases in 1948. The prospect of tight supply of many components of building and engineering structures also warns that conservative volume estimates are in order. In our opinion, these factors will be the determining ones with reference to 1948 volume rather than the still enormous volume of accumulated needs. The present situation combines the characteristics of expanded activity to meet expanded needs with the characteristics of an inflationary boom.

In order to appraise current inflationary trends, F. W. Dodge Corporation recently conducted a survey of leading economists of the country. One hundred replies were received from economists in industry, commercial organizations, financial institutions and universities. While there were wide variations of opinion expressed regarding the economic outlook, there seemed to be something like a general consensus. This general consensus may be briefly summarized. Commodity prices were expected by a majority to increase until sometime in the spring of 1948 and after reaching a peak to turn downward during the remainder of the year. These economists expected wholesale commodity prices to stabilize at a level approximately 70 per cent over the average for the year 1939. While there was a very wide variation as to the expected date of commodity price stabilization, the median time indicated was the spring of 1949.

A majority of the economists polled expected a business recession in 1948, but of those who expect such a recession a considerable majority characterized it as

ESTIMATED CONTRACT VOLUME—MILLIONS OF DOLLARS

37 EASTERN STATES

	* Estimate Year 1947	Estimate Year 1948	Percentage Change
Commercial buildings	780	850	+ 9
Manufacturing buildings	900	775	− 14
Educational and science buildings	400	500	+ 25
Hospital and institutional buildings	165	280	+ 70
Public buildings	70	90	+ 29
Religious buildings	110	130	+ 8
Social and recreational buildings	110	150	+ 36
Miscellaneous nonresidential buildings	90	90	0
TOTAL NONRESIDENTIAL BUILDINGS	2625	2865	+ 9
Apartment buildings, hotels and dormitories	875	1000	+ 14
One- and two-family houses	2235	2250	+ 1
Other shelter	20	20	0
TOTAL RESIDENTIAL BUILDINGS	3130	3270	+ 4
TOTAL BUILDING	5755	6135	+ 7
Public works and utilities	1770	1900	+ 7
TOTAL CONSTRUCTION	7525	8035	+ 7

** 9 Months Actual, 3 Months Estimated*

Estimated dwelling units (37 states, basis of Dodge figures)	*388,000*	*400,000*	*+3*

mild or only moderately serious. A majority expect moderate declines in industrial production and employment, and a moderate increase in dollar volume of construction contracts. We have given the economists' appraisal of the general situation and of the construction prospect considerable weight in making the accompanying estimates for 1948.

The figures in the table require little detailed explanation. An overall dollar volume increase of 7 per cent in contract volume is indicated. There is shown a 9 per cent increase in dollar volume of nonresidential building and a 4 per cent increase in residential contract volume. The indicated difference between the two is on the hypothesis that mounting costs will act somewhat more strongly as a deterrent to residential than to nonresidential building commitments. By reason of the very great need for rental housing a larger percentage increase is indicated for apartment buildings than for single-family houses. A moderate increase is also shown for heavy construction contracts. The one classification for which a moderate decline is shown, manufacturing buildings, is one which has been running very high since the war, and, we believe, not likely to continue at the same high levels; while a number of industrial programs are still to be carried out, many of them have been reduced in scope, some are being further deferred, a few have been abandoned.

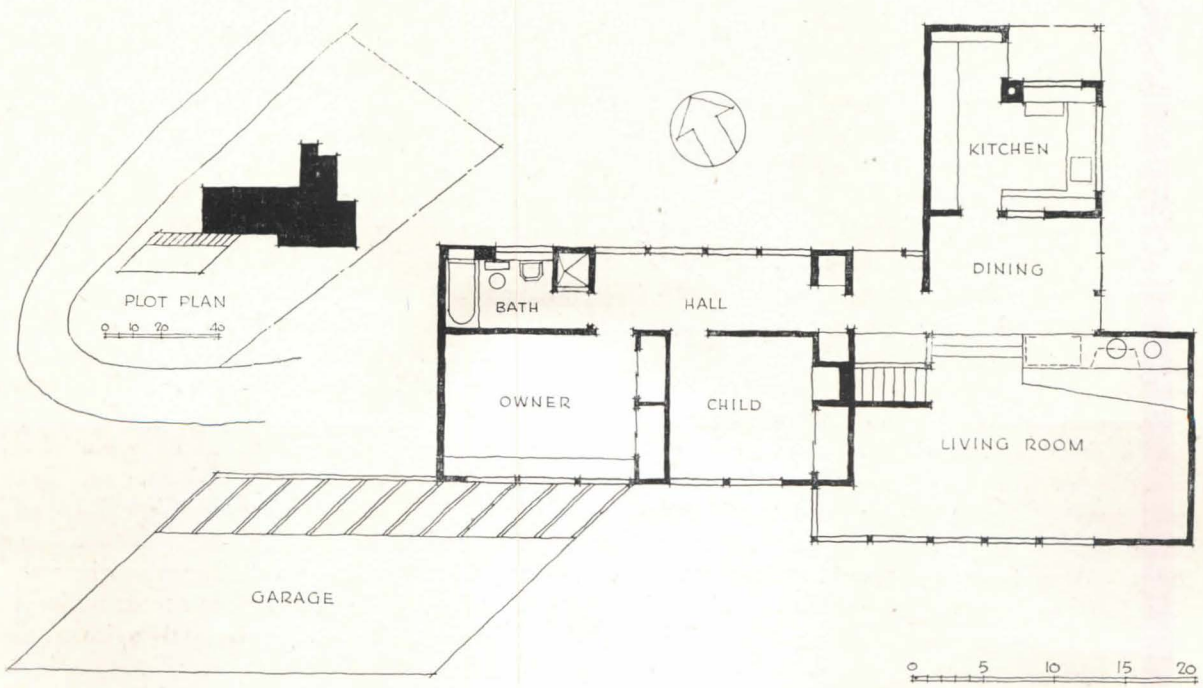
Farm building, for which there are no adequate statistics, is likely to proceed in increased volume in 1948, by reason of the enormous farm income likely to be realized.

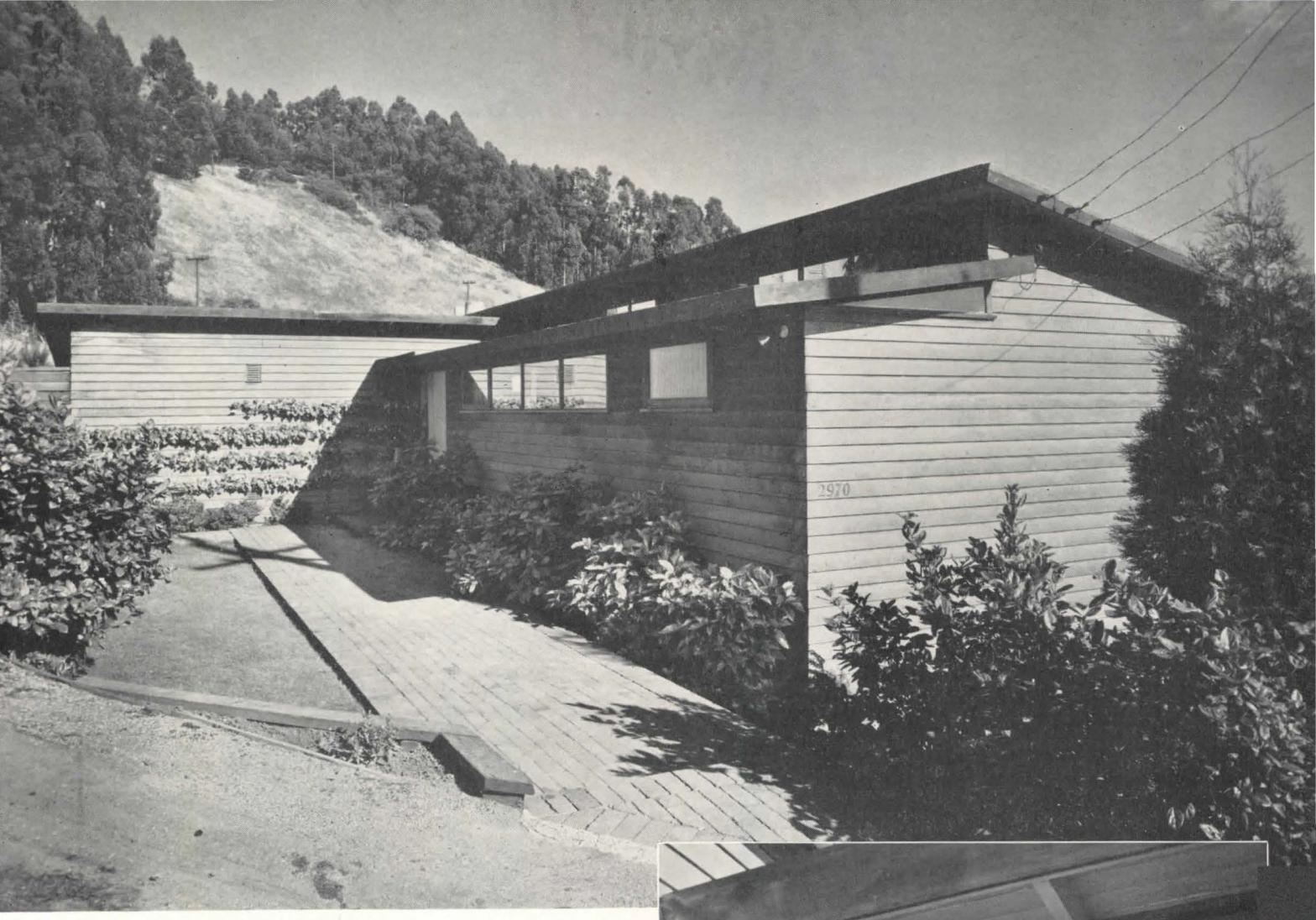
If this appraisal of the 1948 prospect is correct, there will not likely be a continuous upward trend in construction contracts throughout 1948. There may be either a slowdown in the middle part of the year with a later upturn, as in 1947, or possibly a minor decline in the latter part of the year.

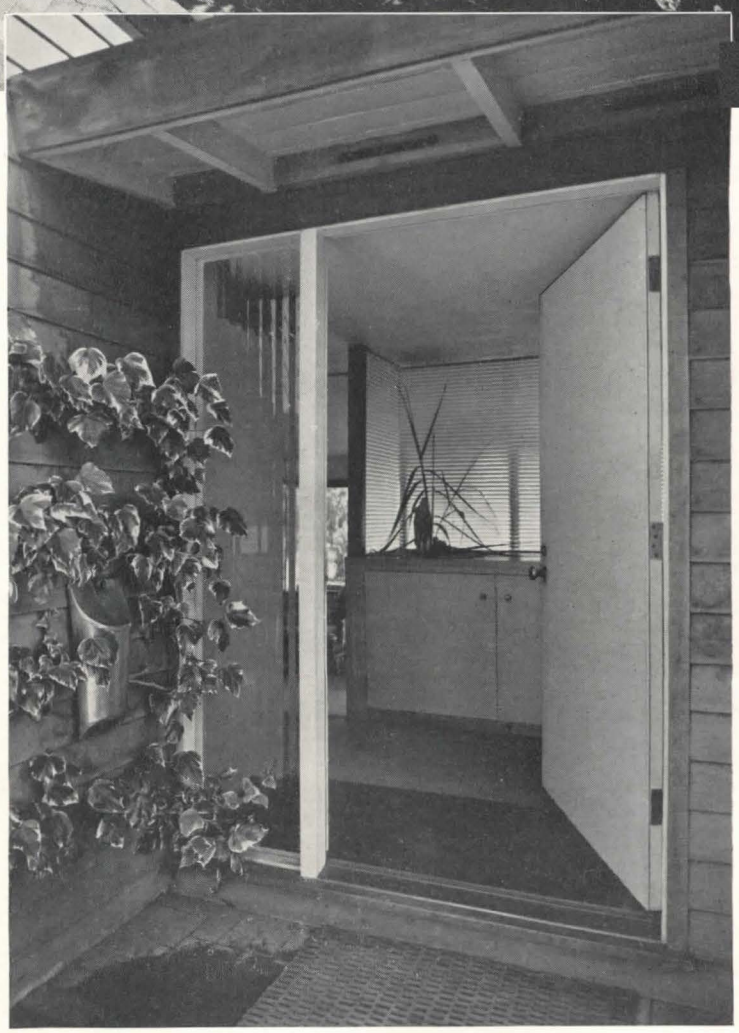
The volume indicated by these conservative advance estimates will, if realized, represent a reasonable measure of progress in catching up with deferred demands and even more progress toward a sound stabilization of construction markets. Substantially greater increases than are here indicated might well represent an inflationary boom leading to a situation that only a drastic deflation could correct.

Roger Sturtevant Photos

FREEDOM AND FRESHNESS IN COMPACT LIMITS





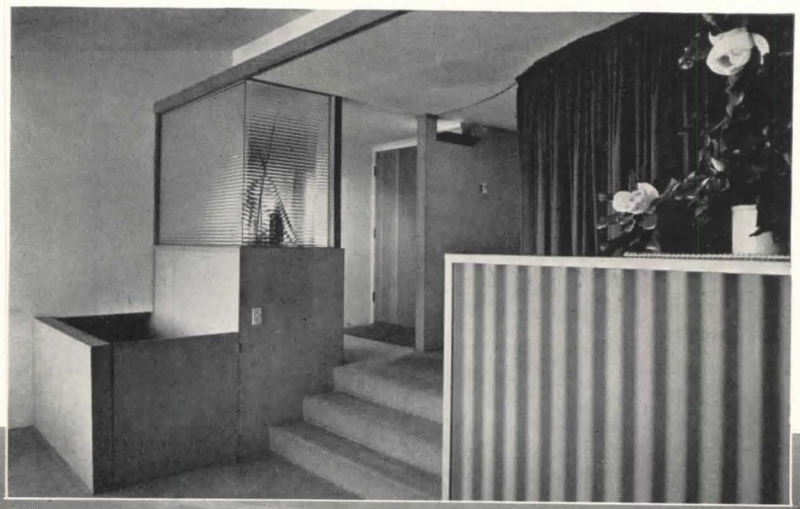


C. H. ATTHOWE HOUSE, BERKELEY, CALIF.

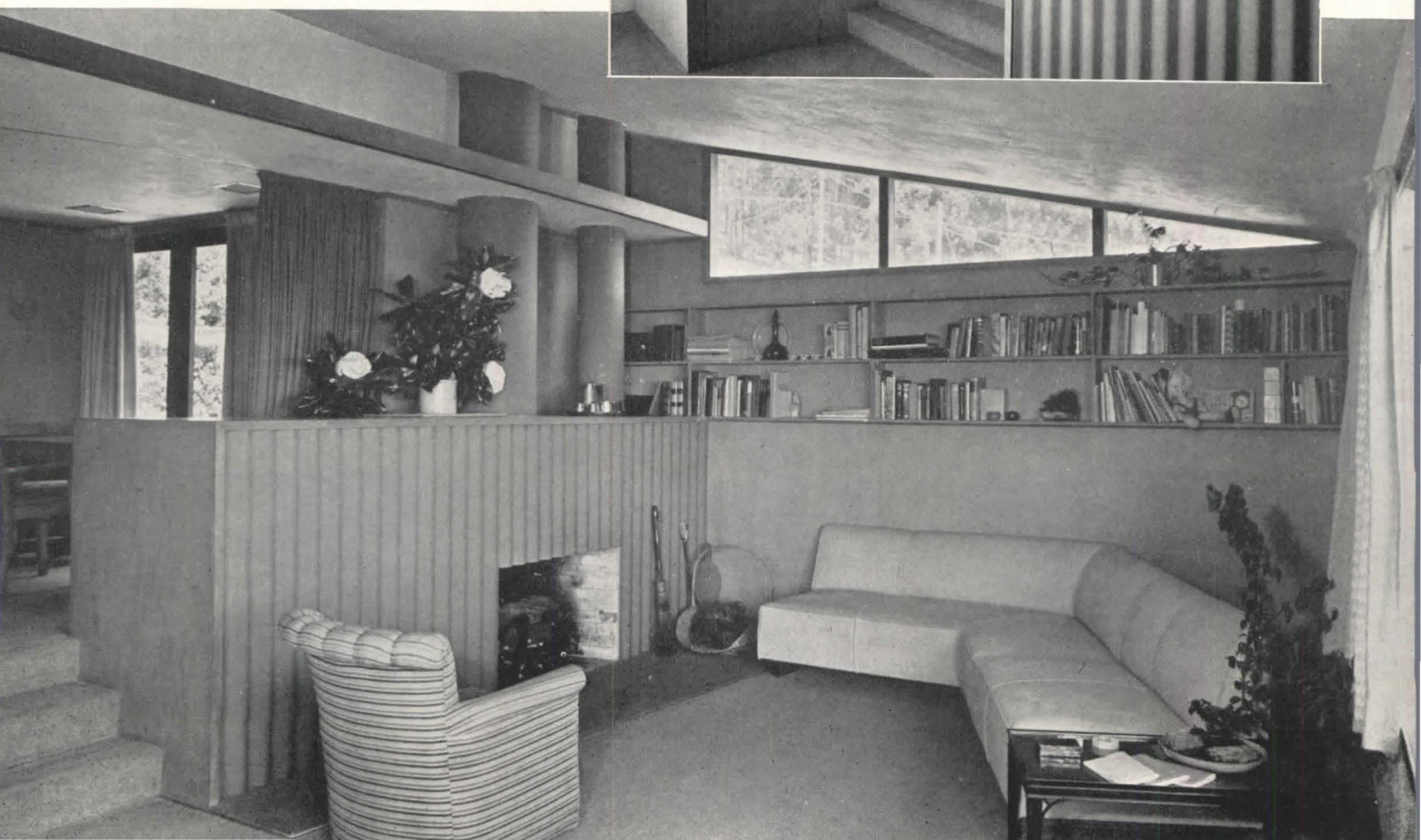
Francis Joseph McCarthy, Architect

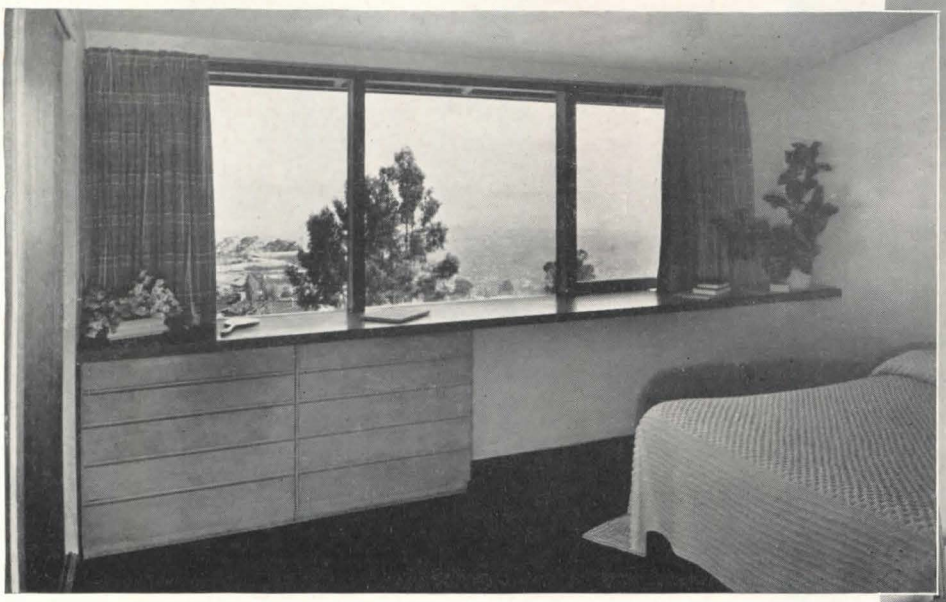
MANIFESTLY the most has been made here of principal view possibilities, but even more significant are the provisions in other quarters for freedom and relaxation in what is really a minimum plan for a young family. As much as exhilarating prospects of San Francisco Bay, the clients wanted: "facilities for informal living and relaxed entertainment, mostly of small groups; easy access to the out-of-doors; and pleasantly convenient working conditions" for a self-sufficing young wife and mother. The architect's answer is compact in plan, economic in structure, and fresh in unself-conscious modern design.

Structure is wood frame, with redwood beveled siding, stained green. Roof is tar and gravel. Floors are gum plywood, with linoleum in kitchen and bath. Interior walls are sand-finish plaster, integral color.



Above: east end of garage provides toy storage for adjoining play terrace. Indoor game room opening onto this level has access from the living room above, as shown at right; such placement of stairs does not interfere with earthquake bracing. Living room (below) seems much larger than its actual size, and permits a surprising variety of activity groupings. Gable windows admit morning sun, view of hillside





Above: prevailing winds at all seasons of the year are from the main view direction, with its large windows; clerestories in the bedrooms thus provide cross ventilation under moderate conditions, and control at other times when winds may be too aggressive. Below: in accord with the owner's wishes for free communication with the out-of-doors at all possible points, generous opening to the east terrace is provided from the dining room. Kitchen windows also overlook this area where the children play during the hours of morning sun, permitting supervision from within while housework is being accomplished under agreeable conditions of light and outlook. Moreover, the terrace serves in the owners' program of "informal, relaxed entertainment," for out-of-door dining, with kitchen entrance giving convenient service access

Ben Schnall Photos

REMEDY FOR A COMMON COMMERCIAL AILMENT

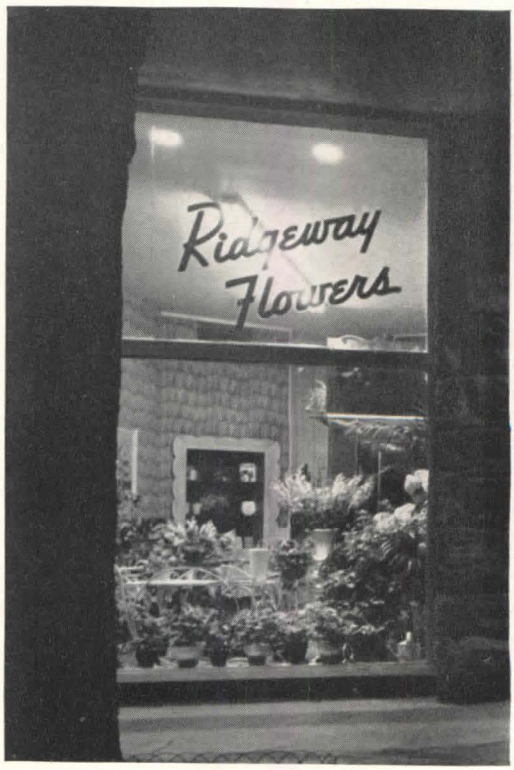
RIDGEWAY SHOPPING CENTER, STAMFORD, CONN.

Alfons Bach, Designer; Thorn & Jorge, Architects

EXASPERATION in downtown Stamford, with a bare 800 metered spaces to park the predominantly automotive shoppers of a community of 70,000, drove one citizen to serious study. At first hypothetical, Alfons Bach's conclusions regarding the best site and scheme for a relieving center seemed so logical and salutary that a corporation was formed to make them actual. From this point, it took two years of canvassing and campaigning, to modify zoning laws and resolve other conflicts of interest, before the site was secured and the way cleared for the project.

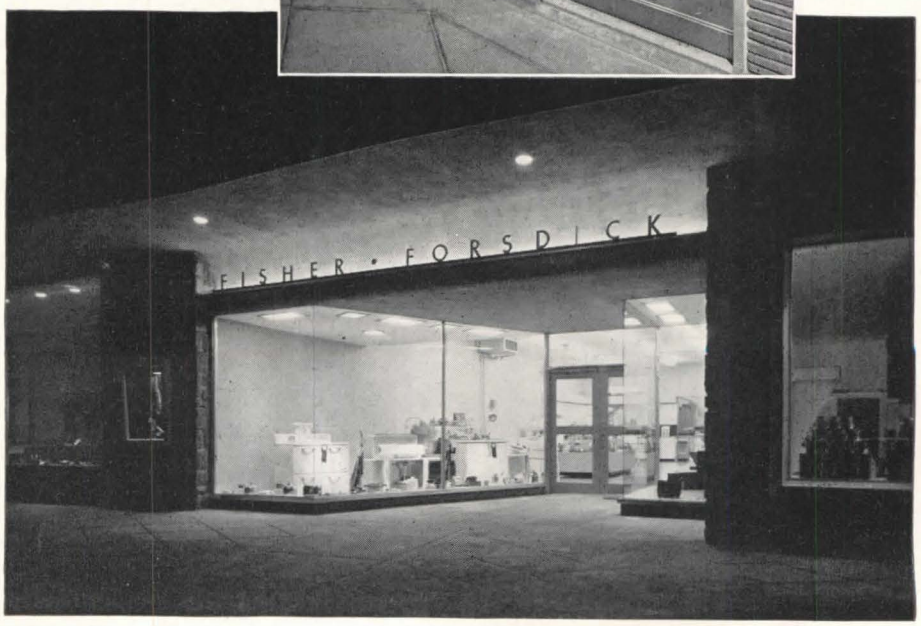
Just opened to occupancy, the first units correspond generally to the left-hand section of the original model pictured above. The center section will be a New York City department store branch, for which working drawings have been completed very much according to the model outlines. Present plans for the right-hand portion show considerable change, to provide a movie theater and other facilities differing from the original.

Most of Stamford's apartment houses are concentrated near the Center. In addition it is calculated eventually to serve a shopping radius of 20 miles, with 1410 parking spaces providing for approximately 7000 cars, at a daily turnover rate of five per space.



The front parking lot of 260 spaces is now in use with the first units of the project. Immediately behind is Ridgeway Plaza with an additional 150 spaces; beyond this is a 5½-acre tract which will eventually provide 1000 more. The designers believe in at least two square feet of parking space to one of selling

Each front is expressively styled for individuality within the unifying character of the whole; pictured at right is the jewelry and silverware store exterior. Units are separated inside by cinder-block partitions; exteriors are defined by rough stone piers and flagstone bulkheads. General construction is steel framework; reinforced concrete foundation walls and floors; roof, reinforced poured gypsum with built-up finish



Intentions from the outset were that the Ridgeway Center be a relief from frenzied congestion and blatancy. Consequently there is throughout an air of serenity and clarity, by night as well as day. Stores are restricted in their devices for identification, advertising and display, with no signs and a minimum of lettering permitted on the windows. Sufficient latitude is obvious, however, for distinctiveness and attractive exertions toward the customer on the part of each store

ARCHITECTURAL ENGINEERING

TECHNICAL NEWS AND RESEARCH

PAINTS FOR MASONRY WALLS

How durable are the various masonry paints when applied to standard masonry building materials? Scientists of the National Bureau of Standards set out to find the answer to this question by a series of exposure tests, started six years ago. Wall specimens of stone- and cinder-concrete block, lightweight-aggregate block, new and used common brick, and cast concrete slabs were painted with cement-water, resin-emulsion, oil-base, and rubber-solution paints and exposed to atmospheric conditions in Washington, D. C.

Test results * showed that well-formulated masonry paints, skillfully applied, are durable under the following conditions:

Cement-Water Paints. Portland-cement content should be not less than 65 per cent by weight. Cement-water paints are satisfactory for initial coating of new masonry with possible exception of cast concrete poured against oiled forms.

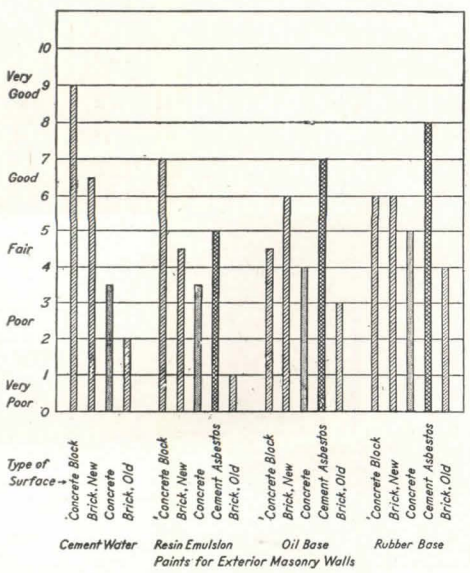
Further coatings are not necessary although for improved decorative value either an oil-base, resin-emulsion, or rubber-solution paint can be applied after the cement-water paint has been allowed to age (see table on next page, for time allowed between applications).

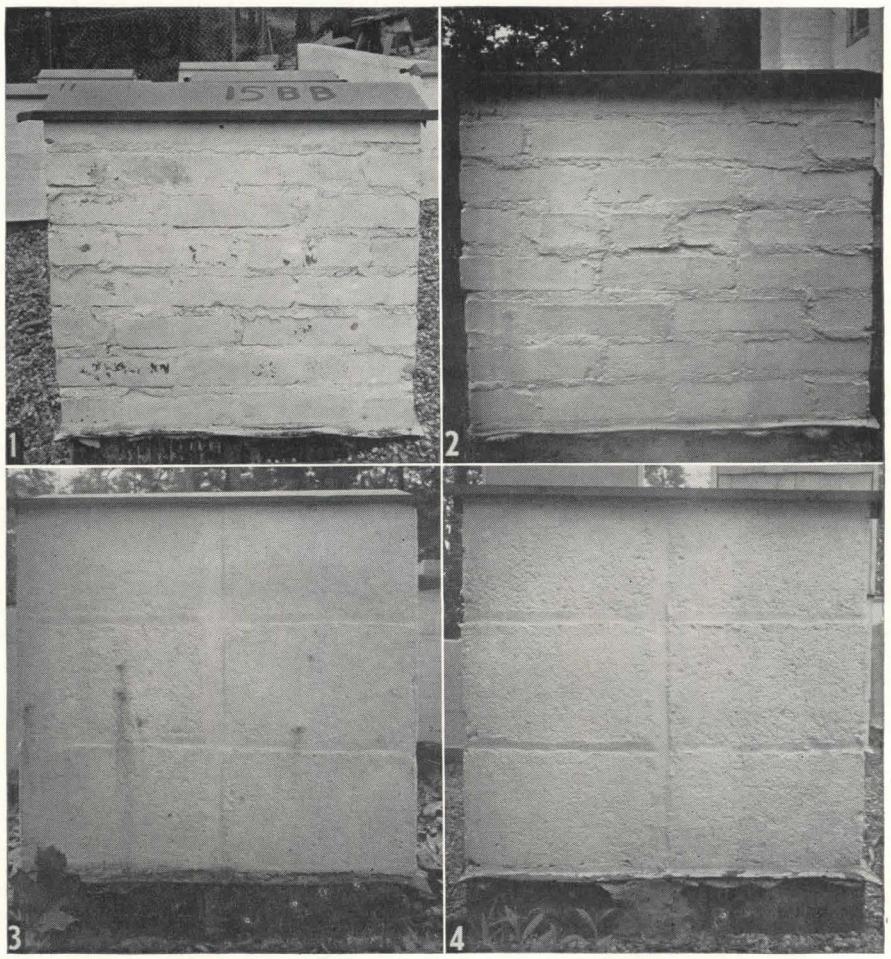
Sharp sand in the cement-water paint or a priming coat of grout improves the durability of subsequent organic coatings on open-textured walls or those with cracks or other defects.

Oil-Base Paints. On close-textured masonry or open-textured surfaces that have been moisture-proofed, oil-base paints can be used, although new surfaces of both types should not be painted for from six to twelve months. Walls must be dry and so constructed as to remain dry after painting. When applied to a wet wall or one that becomes wet through structural defects, oil-base paints will fail by scaling and flaking. Under normal conditions they weather

* To be published in "Paints for Exterior Masonry Walls," by Clara Sentel, National Bureau of Standards.

Right, several of the hundreds of test walls, showing: (1) failure of oil-base paint applied directly to new common brick; (2) same paint applied over a grout; (3) rust stains "bleeding" through two coats of cement-water paint on cinder block containing iron particles; and (4) better protection afforded same specimen by rubber-base paint applied over a grout. Below, summary of test results





by chalking, a property that makes them self-cleaning.

A grout of portland cement and sharp sand gives a good base coat on open-textured surfaces such as stone- or cinder-concrete blocks, lightweight-aggregate block, and new and used common brick with untooled joints. The grout may be applied immediately upon erection of the wall or at any time during the aging period of from six to twelve months, and should be allowed to set for at least 90 days.

A protective primer, such as rubber-solution paint, should be used as a first coat over the grout if there is a possibility that the wall is damp or contains soluble salts. One coat of oil-base paint should give a good finish, although two coats will have greater durability.

Resin-Emulsion Paints. These coatings are durable and have good decorative qualities. Open-textured surfaces and brick walls with cracks around mortar joints should be given a base coat of grout or cement-water paint containing sharp sand. Resin-emulsion paints provide good coverage and are readily applied by brush or spray to either damp or dry walls. A minimum of three weeks should elapse before painting new walls.

Synthetic-Rubber Paints. There are two types of these paints, rubber-emulsion and rubber-solution. They may be applied to either dry or slightly damp walls but not on wet surfaces because excessive moisture may prevent adequate bond.

Rubber-solution paint is similar in composition to oil paint, with rubber resin replacing the synthetic or natural resin in the vehicle. Though especially suitable for coating cement-asbestos shingles or siding, it also gives good service on other masonry surfaces. Such a paint may be brushed or sprayed on a surface to form a protective primer, under oil-base or resin-emulsion paint, or as a complete coating of two or more coats. Normally two coats give adequate coverage and good durability. On open-textured surfaces, cement-sand grout should first be applied and allowed to dry from three to six days.

Time to be allowed between applications of typical masonry paints on concrete and clay surfaces

Wall specimens	Grout		Cement water		Resin emulsion		Oil base		Rubber solution	
	1st coat Drying time	2d coat Drying time	1st coat Drying time	2d coat Drying time	1st coat Drying time	2d coat Drying time	1st coat Drying time	2d coat Drying time	1st coat Drying time	2d coat Drying time
	Days	*Days*	*Days*	*Days*	*Days*	*Days*	*Days*	*Days*	*Days*	*Days*
Stone-concrete block	1	1								
	1			1						
	30				1	1				
	90						2	2		
	3								1	1
			1	1						
			30[1]		1	1				
			90[1]				2	2		
			3[1]						1	1
Cinder-concrete block	1	1								
	1			1						
	30				1	1				
	90						2	2		
	3								1	1
			1	1						
			30		1	1				
			90				2	2		
			3						1	1
Lightweight aggregate concrete block	1	1								
	1			1						
	30				1	1				
	90						2	2		
	3								1	1
			1	1						
			30		1	1				
			90				2	2		
			3						1	1
New common brick[2]			1	1						
			30		1	1				
			90				2	2		
			3						1	1
					1	1				
							2	2		
									1	1
Cast concrete			1	1						
					1	1				
							2	2		
									1	1
Cement-asbestos shingle					1	1				
							2	2		
									1	1
Used common brick:[3]										
Sound, with tight joints									1	1
Chipped or with open joints	3								1	1

[1] *If two coats of cement-water paints are needed, second coat may be applied 24 hours after first coat*
[2] *Grout is not normally used on new common brick, but when necessary follow same procedure as for concrete block walls*
[3] *Unstained used common brick can be treated same as new common brick*

NEW EQUIPMENT FOR PLANNED LIGHTING

By C. L. Crouch* and R. W. McKinley**

*Technical Director, Illuminating Engineering Society, New York

**Editor, IES Lighting Handbook, Illuminating Engineering Society

IT is significant that the International Lighting Exposition held recently in Chicago was informally known as the "planned lighting show." The illuminating engineer is departing from primary emphasis on the lighting fixture as a medium for expressing the physics of light control. Along with the architect, he now thinks of an interior as an integrated whole — a functional environment to serve specific needs. No doubt the architect has helped greatly to bring this thinking about, and now, more than ever before, there is a blending of the interests of both groups, and the solicitation of mutual aid.

The exposition, of course, was an exhibit of lighting fixtures and equipment with which planned lighting might be achieved, as for example: complete louvered ceilings, a unique development by architects (see ARCHITECTURAL RECORD, April, 1946, p. 72). Such ceilings need no longer be custom-built since they now are a production item by the lighting manufacturers. New circular and semicircular fluorescent lamps offer a variety of pleasing commercial applications as well as an increase of comfortable lighting in the home. New designs of glass block have brought comfortable unilateral daylighting to the classroom. A variety of well-shielded low-brightness luminaires are now available to suit every need.

Current Lighting Philosophy

Illuminating engineers in the last four or five years have developed their engineering practice in harmony with the principles of how we see best, in order to make lighting truly functional.

The study of recommended brightness ratios and reflectance values would require a separate technical article. But, briefly, it has been found that the amount of light on the task is only a part of lighting; brightness of the surrounding environment completes the partnership. Light-meters testify to the availability of sufficient light for today's tasks, but both visual comfort and performance demand that special emphasis be placed upon the environment and its relationship to the work.

We see best when there is a minimum difference in brightness between the task and other parts of the environment. Better seeing is achieved in every day practice through a combination of: (1) lighter room and furniture finishes, (2) well-shielded lower brightness lighting fixtures, (3) careful daylight control.[1]

New Lighting Tools

Louverall Ceilings. Much interest has been expressed in this type of louvered overall ceiling. It presents a clean-cut appearance covering up all structural non-uniformities and mechanical equipment; and often gives the feeling of latticed daylighting. Further, depending upon the size and shape of the louvers, a decorative pattern or texture is formed overhead. The hexagonal type, stamped from matte surfaced aluminum, gives a honeycomb effect and permits slight misalignment without the apparent distortion that is obvious with straight lines. These cells can accommodate the PAR-38 spot lamps on gimbal mounting for highlighting.

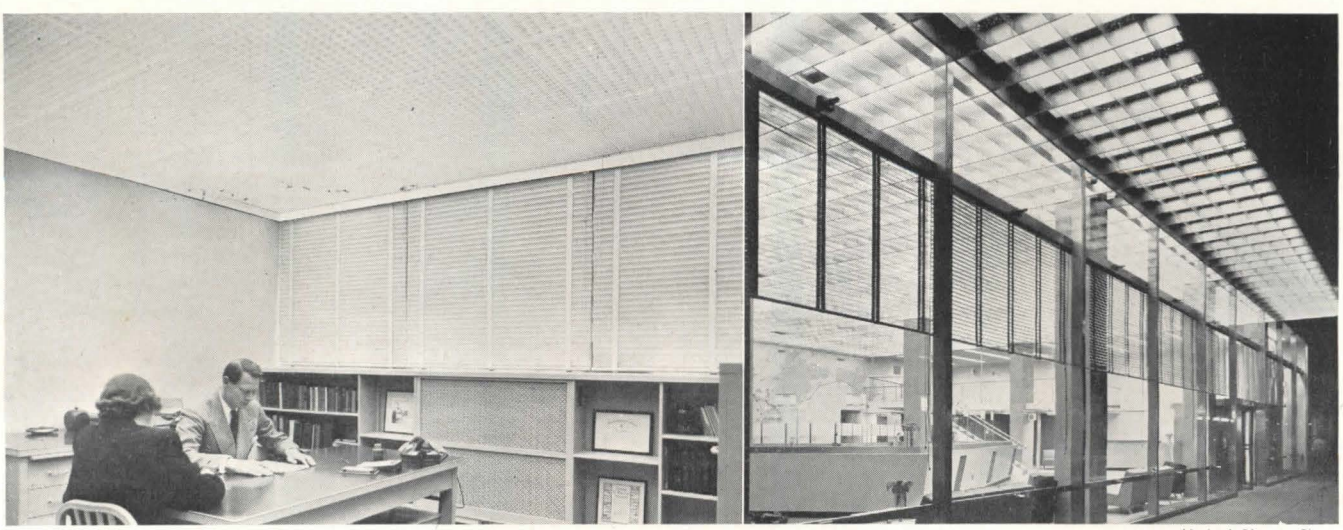
Small Vinylite plastic louvers present an attractive pattern like a woven texture. With approximately 70 per cent light transmission as well as good oblique reflection from the sides of the cells, this ceiling produces a uniquely light and airy effect.

Other louver patterns are equally advantageous and are available in light-gauge steel finished in white enamel; a type that has proved highly satisfactory for the construction of louvered lighting fixtures developed in the last few years.

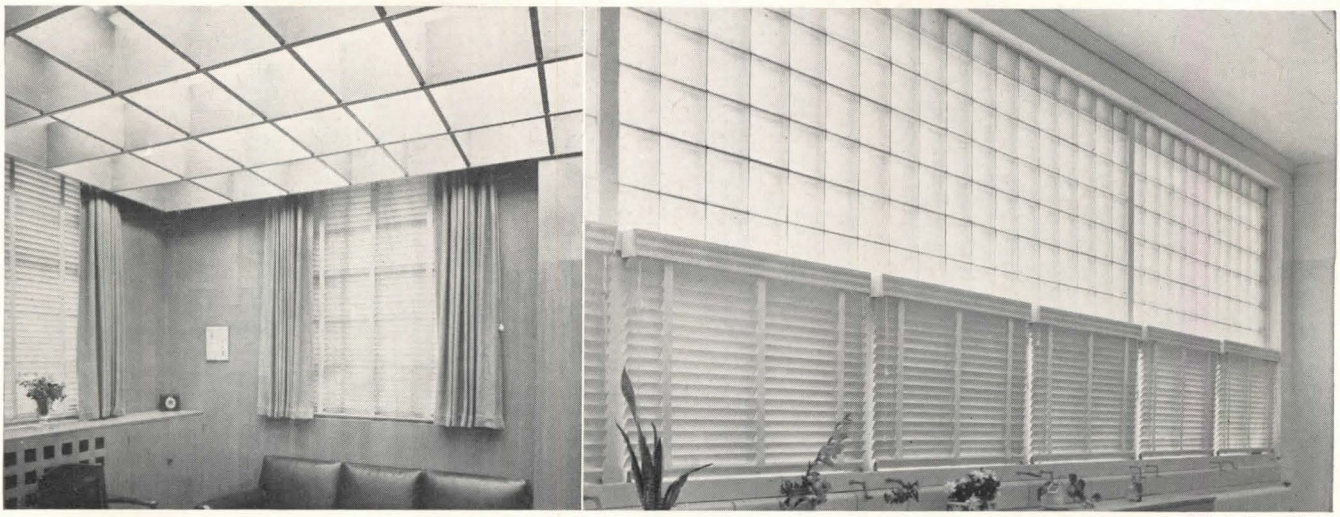
Glass Block. The interesting work of Dr. Harmon and associates in studying the effect of controlled environment on the welfare of school children in Texas (see ARCHITECTURAL RECORD, February, 1946, p. 79) has resulted in the use of a

1 "Recommended Practice of Office Lighting," "American Standard Practice for School Lighting," and "IES Lighting Handbook" (for all applications): publications of the Illuminating Engineering Society, 51 Madison Ave., New York.

Louverall ceilings furnish light shield over entire room. Left, small cells of Vinylite plastic glow with light. Right, bar aluminum louvers are used for TWA Ticket Office, Chicago: Skidmore, Owings, and Merrill, Architects and Engineers



Hedrich-Blessing Photo



R. A. Kolvoord Photo

Left, wood louvers, 12-in. deep, provide 45° shielding. Right, more even natural lighting results from glass block of special prism type which provides cutoff for sun's rays and directs light upward toward the ceiling (Rosedale School, Austin, Texas)

prism type of glass block as a medium of daylight control. Daylighting, with its relatively high intensity and great variations, presents a particularly difficult problem of fenestration, in order to control its usefulness for lighting purposes and yet keep its associated luminous areas in harmony with the rest of the environment.

CLM Portable Lamps. This year, for the first time since the war, a series of new engineering designs for portable lamps for the home have reached the market. These are successors to the prewar I.E.S. Certified Lamps. The Illuminating Engineering Society drew up "Lighting Performance Recommendations for Portable and Installed Residence Luminaires,"[2] upon which the new designs of the Certified Lamp Manufacturers are based. These lamps are designed to serve the dual purpose of well-shielded local down-lighting for the home tasks of reading, writing and recreation as well as diffused upward lighting for the room as a whole to reduce harsh contrasts of light and darkness.

The new designs feature a more efficient diffuser bowl and an upper metal reflector which not only reflects more light downward but acts as a shield to the standing observer who might glance obliquely into the top. Many of the designs incorporate a 12-in. circular fluorescent lamp wrapped around the diffuser in order for the combination to produce up to 45 foot-candles of excellent white light quality.

Circular and Semicircular Fluorescent Lamps. Besides the 12-in. circular lamp (Circline) there has been announced an 8¼-in. 22-watt size and a new 12-in. semicircular lamp (Circlarc) of 18-watt rating.

This series now provides an opportunity to depart from straight line contours and introduce interesting variations of circular, semicircular and reverse curves. It is anticipated that these lamps will find special popularity in the home where the length of the commercially popular sizes may seem too cumbersome and stiff. The 12-in. semicircular lamp may be used in pairs to form a 12-in. circle, and to advantage in locations that require easier disconnection and removal.

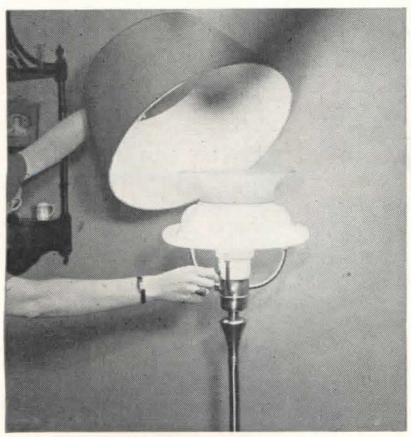
"Pin-it-up" Fluorescent Lighting. An interesting line of prefabricated lighting components are now available to be attached to walls or furniture, individually or in continuous lines, and plugged in for the lighting of coves, valances and soffits.

Fluorescent Lighting Fixtures. A great variety of attractive well-shielded low-brightness lighting fixtures are now on hand, as evidenced by the exhibits at the International Lighting Exposition. Care should be taken, however, to check the shielding and the brightness measurements in the zone from the horizontal to 45° below.

Design Competition. Taking a cue from architectural practice, and continuing the emphasis upon planned lighting, The National Electrical Manufacturers Association recognized the importance of the individual designer and creative team by keynoting the show with a lighting design competition. Over 450 entries were submitted, covering diversified lighting problems all the way from style-conscious metropolitan stores to rural school classrooms.

[2] *Illuminating Engineering, July, 1946, p. 521.*

Left, new lamp of Certified Lamp Manufacturers has shielded diffuser and a circular fluorescent lamp. Right, semicircular shape offers new freedom in fluorescent design



ALUMINUM UNIT RAILINGS

Aluminum handrails have long been a time-consuming and expensive building item when designed and built to specification. Answering the need for a packaged type of aluminum railing that can be bought ready for assembly is the *Multi-Rail aluminum unit railing*, adjustable to varying stair pitches and lengths, and spacing of balusters. Height is 31 in. The units are shipped knocked down and ready to assemble on level surfaces, or on steps with an angle of pitch between 30° and 43°. Milled cuts in the $\frac{5}{8}$ in. hollow square balusters allow them to slip into a specially designed extrusion to form a locked joint and are held in place by flat spacers. Length of the spacers can be varied, though standard spacing is 5 in. The extrusion is made in multiples of 6 in. up to 6 ft. in length. The railing assemblies come in either standard or heavy-duty types, with anodized or plain aluminum finish; furnished complete with connecting clips, flanges, and fasteners for field assembly. Guard Engineering Co., Box 5, Belleville 9, N. J.

FOLDING DOORS

Modernfold doors, formerly built only to specification, are now offered in two standard sizes for openings 2 ft. 4 in. wide by 6 ft. 8½ in. high, and 2 ft. 10½ in. wide by 6 ft. 8½ in. high. These accordion-type doors are covered with vinyl-coated fabric, white or beige in color, said to be washable and fire-resistant. New Castle Products, New Castle, Ind.

FIRE-RETARDANT ENAMEL

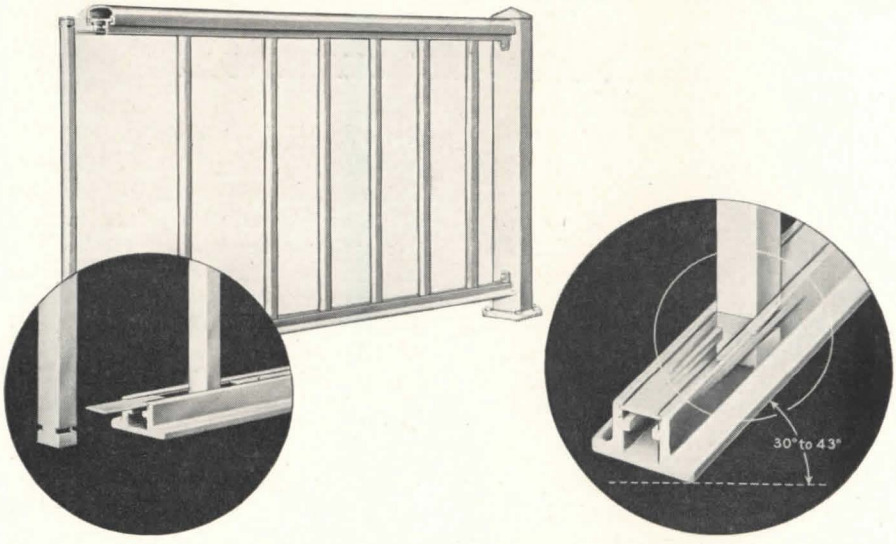
Interest in fire-retardant paints followed closely upon the disastrous hotel fires last year, in which inflammable finishes were judged a significant cause of the spread of fire. A new high-gloss paint, *Resistall*, is announced as the first enamel paint to meet Army and Navy specifications for fire-retardants. It can be used as both prime and finish coats, and reduced with any of the common thinners or tinted with regular oil colors without affecting fire-retardant properties; for application to wood, plaster, cement, metal, insulation board, and acoustical tile. Brytenu Chemical Mfg. Co., 408 Madison St., New York 2.

LIGHTING

Luminous Ceiling

A luminous overall ceiling of translucent louver sections characterizes the *Sky-Glo Ceiling System;* announced as the answer to lighting plans that call for inconspicuous high-lighting levels, with low brightness contrasts. The translucent louver sections, which provide crosswise and lengthwise shielding, are Vinylite plastic. Benjamin Electric Mfg. Co., Des Plaines, Ill.

Aluminum railing comes as a packaged item, ready to install on level surfaces or steps



Combined Lighting-Ventilation

Air discharge openings are built around the sides of *Line-O-Flow fluorescent fixtures*, for flush mounting in ceiling air ducts. In this manner lighting and ventilation are combined inconspicuously, with the least possible interruption of ceiling areas. Models can be used as either supply or return ducts; and are equipped with adjustable balancing dampers. Also manufactured are long slim outlets for air circulation only. The Barber Coleman Co., Rockford, Ill.

Adjustable Downlight

The *Dramatizer Downlight* is designed for concentrated lighting of displays, showcases, etc. Surface mounted individually or in-line with fluorescent troffers, it is adjustable in a complete circle up to 35° from the vertical axis. The lamp is a 150-watt PAR 38 incandescent, shielded by concentric louvers. Pittsburgh Reflector Co., Oliver Bldg., Pittsburgh, Pa.

Kitchen Luminaire

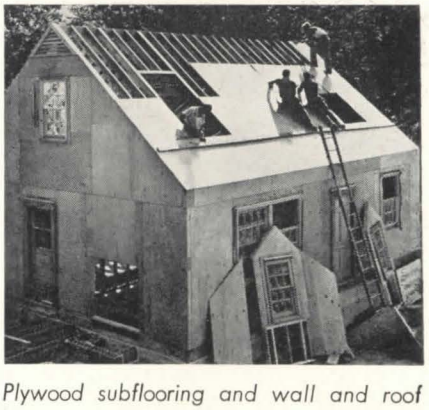
The *Circle-Plus Kitchen Luminaire* combines incandescent and fluorescent lighting. A ceramic glass bowl, containing a 100-watt bulb, is encircled by one of the new circular fluorescent lamps. The incandescent lamp lights instantly and is quickly augmented by the fluorescent. Mitchell Mfg. Co., 2525 Clybourne Ave., Chicago 14, Ill.

COVE CORNER TRIMS

A new series of aluminum corners and end stops for covered linoleum floor installations have been announced. They are available for both 4½ in. and 6 in. cove base heights, and can be used with all gauges of materials. The series include inside and outside corners, right and left end stops, a binder bar for securing the top edge of the covering, and a matching cap strip for use where linoleum extends on up to wainscot height. B & T Metals Co., Columbus 16, Ohio.

PLYWOOD HOUSES

Semi-prefabricated units of plywood for house construction now include subflooring, wall sheathing, and roof-sheathing, as developed for American Houses, Inc., by U. S. Plywood Corporation. Typical specifications call for sub-flooring of $\frac{5}{8}$-in. plywood. Flooring units are 4 ft. wide, and plant assembled in required lengths to bear on girders and sills. Header strips of $\frac{5}{16}$-in. plywood, ripped to required width, are applied to



Plywood subflooring and wall and roof sheathing speed building of semi-prefab

exterior walls between wall units and foundation. In exterior walls, ribbon strip of $\frac{5}{8}$-in. plywood is set into studs flush with the interior face. Exterior faces are covered with $\frac{5}{16}$-in. plywood sheathing. Sections are factory assembled into units approximately 8 ft. in height and 4 ft. wide. Window panels are made of ¼-in. exterior plywood. Roof sheathing is $\frac{3}{8}$-in. plywood, shipped cut to specification for field application. U. S. Plywood Corp., 55 W. 44th St., New York 18, N. Y.

(*Continued on page 144*)

MANUFACTURERS' LITERATURE

AIR DIFFUSERS

Kno-Draft Adjustable Air Diffusers (Bulletin K-20). Catalog and engineering data book giving necessary information for the selection of diffusers for scientific air distribution. Besides full catalog data on diffuser types and accessories, the general principles of controlled ventilation are discussed. W. B. Connor Engineering Corp., 114 E. 32nd St., New York 10, N. Y.

BRASS AND COPPER

Brass and Copper in Your Home. Non-technical booklet describing the part played by these metals in house construction: copper piping for radiant heating and plumbing, bronze screens, brass and bronze building hardware, copper roofing products. 20 pp., illus. Chase Brass & Copper Co., Waterbury 91, Conn.*

CONCRETE

Calcium Chloride in Concreting (Bulletin 28). Handbook describing the uses of calcium chloride in concrete mixes to accelerate rate of hardening of portland cement: how to use, examples of successful applications, technical abstracts and references, and specifications. 64 pp., illus. Calcium Chloride Assn., 1028 Connecticut Ave., N. W., Washington 6, D. C.

Handbook of Frame Constants. Engineering tables of carry-over and stiffness factors and fixed end movements for a variety of members and loading conditions. It contains 27,050 constants for 1390 members to assist in the analysis of almost any indeterminate structure. 32 pp., tables. Portland Cement Assn., 33 W. Grand Ave., Chicago 10, Ill.*

CONVECTOR RADIATORS

How to Live in June All Winter. Colorfully illustrated booklet depicting semi-recessed and free-standing convector radiators in different types of interiors; also cut-away views showing details of construction, and a table of standard convector sizes. 36 pp., illus. The Trane Co., LaCrosse, Wisc.*

ELEVATOR DOORS

Elevator Door Details. Plans and sections of elevator entrances for the following types of doors: single-swing, single sliding, two-speed sliding, center opening, freight elevator, dumbwaiter, and hatchway safety gates. 6 pp., illus. Montgomery Elevator Co., Moline, Ill.

* *Other product information in Sweet's File, 1947.*

Q-FLOOR WIRING

Q-Floor Wiring Data Manual. This comprehensive manual opens with a general description of Robertson Q-floors and General Electric fittings and accessories for utilizing them as raceways for electrical conductors. Successive sections contain detailed descriptions of the fittings, and data on layout design and installation; also, dimensional drawings, and photographs of installation steps. 83 pp., illus., in spiral binder. General Electric Co., Advertising Div., Appliance and Merchandising Dept., 1285 Boston Ave., Bridgeport 2, Conn.*

HEATING

Janitrol Heating Guides: (1) Winter Air Conditioning; (2) Gravity Warm Air Heating Systems. First of a series of guides containing a compilation of information on gas heating systems: floor plan examples, locations of registers or convectors, suggested specifications, and other details. Ten guides in all will be published, in collaboration with Professor S. Konzo, School of Heating and Ventilating Engineering, University of Illinois. 8 pp., each, illus., tabbed for filing. Surface Combustion Corp., Toledo 1, Ohio.*

What We Have Learned From 1000 Radiant Heating Installations. A review of the present extent of radiant heating installations in this country: geographical distribution, types of buildings, piping layouts, and fabricating methods. 12 pp., illus. A. M. Byers Co., Pittsburgh, Pa.

GLASS DOORS

Announcing the New Herculite Door-Frame Assembly. Dimensional drawings of the 12 available styles of door-frame assemblies designed for Herculite all-glass doors, including variable dimension tables and typical section views. 8 pp., illus. Pittsburgh Plate Glass Co., 632 Duquesne Way, Pittsburgh, Pa.*

STEEL FACTORY SASH

Hope's Lok'd Bar Steel Sash. Catalog describing steel factory sash in pivoted and commercial projected types, designed for extra strength. Includes dimensions and physical data; full-scale section drawings of frames, muntins, mullions; installation details; tables of window opening dimensions; suggested layouts for bays; photographs of installations. Hope's Windows, Inc., Jamestown, N. Y.*

LIGHTING

(1) Viz-Aid Commercial Fixtures; (2) Day-Line Industrial Fixtures; (3) Display Lighting; (4) Classroom Lighting. Catalogs of fluorescent fixtures for these various types of lighting installations; tables for figuring foot-candle intensities, suggested lighting layouts, and mounting data. 12, 12, 8, and 8 pp., illus. Day-Brite Lighting, Inc., St. Louis 7, Mo.*

Colovolt Lighting. A collection of literature in a binder describing the principles of cold cathode low-voltage fluorescent lighting: technical data sheets, fixture types, mounting data, installation instructions, a catalog of available lighting units, and views of actual installations. 32 pp., illus. General Luminescent Corp., 732 S. Federal St., Chicago 5, Ill.*

Overall Lighting by Wakefield. New catalog of lighting fixtures with emphasis upon louvered and shielded units for fluorescents. Includes lighting design data, and mounting data for rooms of different sizes and ceiling heights. 34 pp., illus. F. W. Wakefield Brass Co., Vermilion, Ohio.

STRUCTURAL ROOF DECKS

Zonolite Short Span Structural Roof Deck. Brochure describing the use of Vermiculite insulating concrete in the construction of monolithic roofs: typical installations, sample specifications, construction methods. 4 pp., illus. Universal Zonolite Insulation Co., 135 S. LaSalle St., Chicago 3, Ill.*

WOOD PRESERVATIVES

Penta Preservatives. The story of how modern chemistry and pentachlorphenol solutions are making wood last longer, by protecting it against decay, fungi, and insects. 12 pp., illus. Chapman Chemical Co., 333 N. Michigan Ave., Chicago 1, Ill.*

WHITE CEMENT

Trinity White Portland Cement. Folder describing properties of an extra-white portland cement, and its uses in concrete structural units, stucco, cement paints, terrazzo, floors, and miscellaneous. 4 pp., illus. Trinity Portland Cement Division, General Portland Cement Co., 111 W. Monroe St., Chicago.

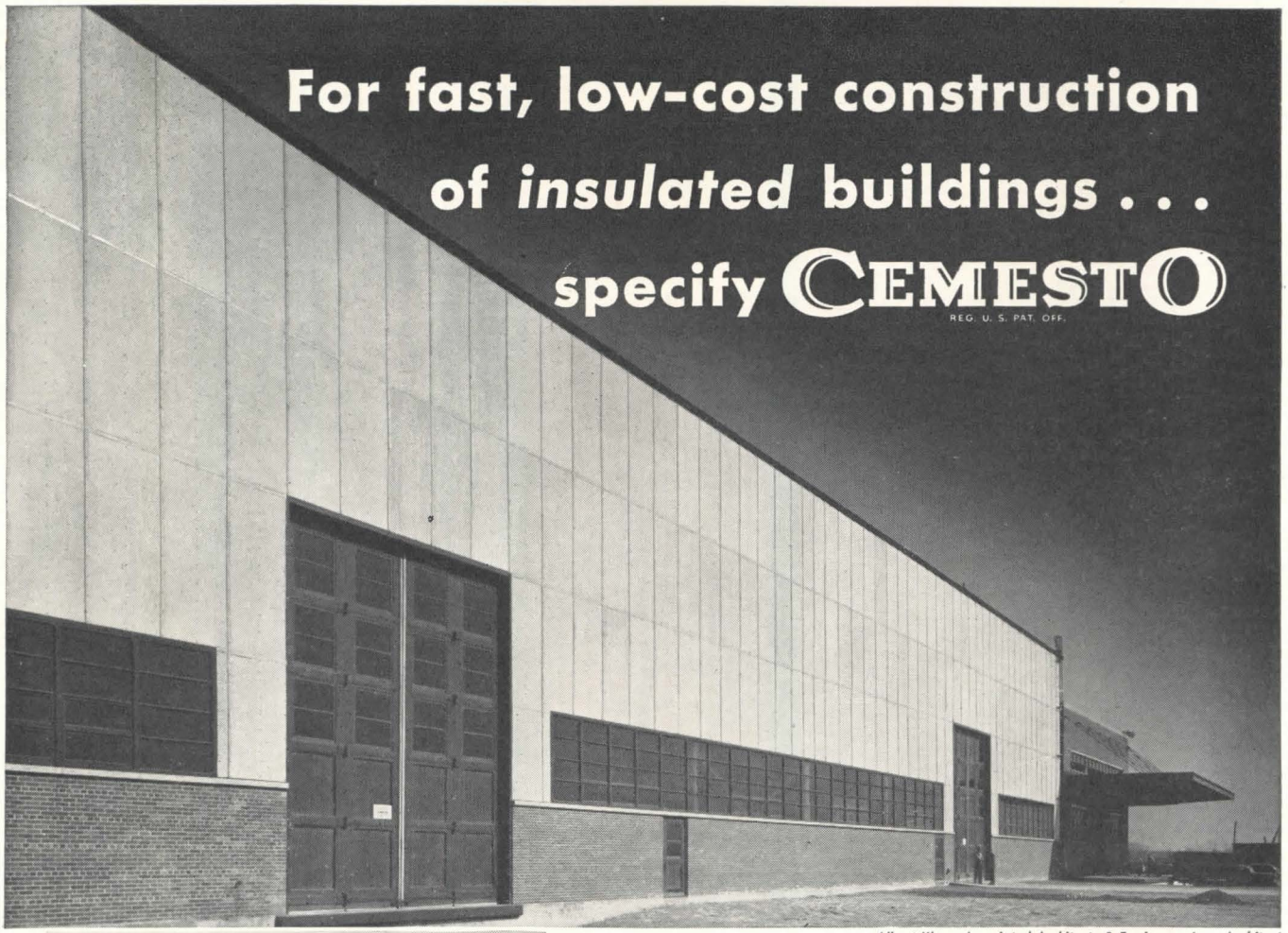
LAMINATED WOOD

(1) Engineering in Wood; (2) Timberib Rafters. Booklets describing arched structural shapes available in glued laminated wood; also, finishes and treatment, framing details, and erection methods. 4 and 16 pp., illus. Timber Structures, Inc., P. O. Box 3782, Portland, Ore.*

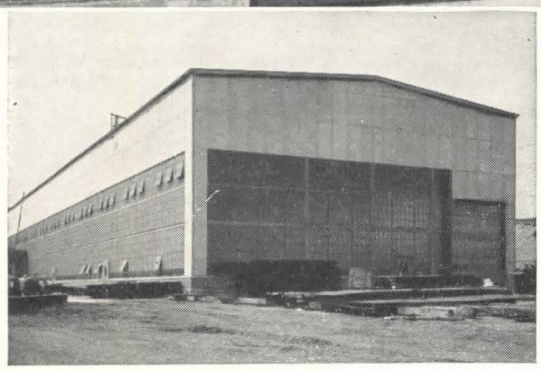
(*Continued on page 156*)

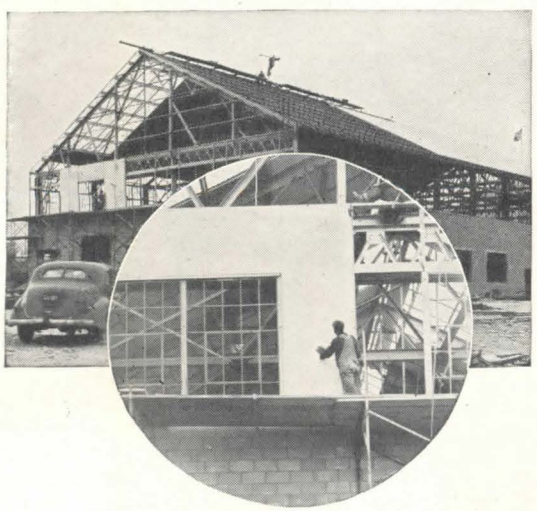
For fast, low-cost construction of *insulated* buildings . . . specify CEMESTO

REG. U. S. PAT. OFF.



Albert Khan, Associated Architects & Engineers, Inc., Architect





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

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

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

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

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

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

CEMESTO A PRODUCT OF CELOTEX

THE CELOTEX CORPORATION • CHICAGO 3, ILLINOIS

The FIVE FITZGIBBONS FACTORS IN FUEL SAVING

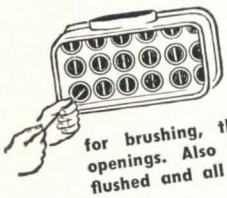
① THE COMBUSTION AREA is RIGHT in Form

Good combustion depends upon the complete mixing of air and combustible gases. In the Fitzgibbons "400 Series" complete burning is assured because the shape and size of the combustion area sets up a violent swirling flow which intimately mixes gases and air, causing burning of all combustible particles.

② POWERFUL WATER CIRCULATION for efficient heat transfer

In the Fitzgibbons "400 Series" the arrangement of water surfaces induces a surging sweep of water from the return past the sidewalls, and up around the fire tubes which break up the flow causing exceptionally rapid transfer of heat and contributing to the quick steaming for which Fitzgibbons boilers are famous.

③ IT TAKES A CLEAN BOILER TO MAINTAIN EFFICIENCY

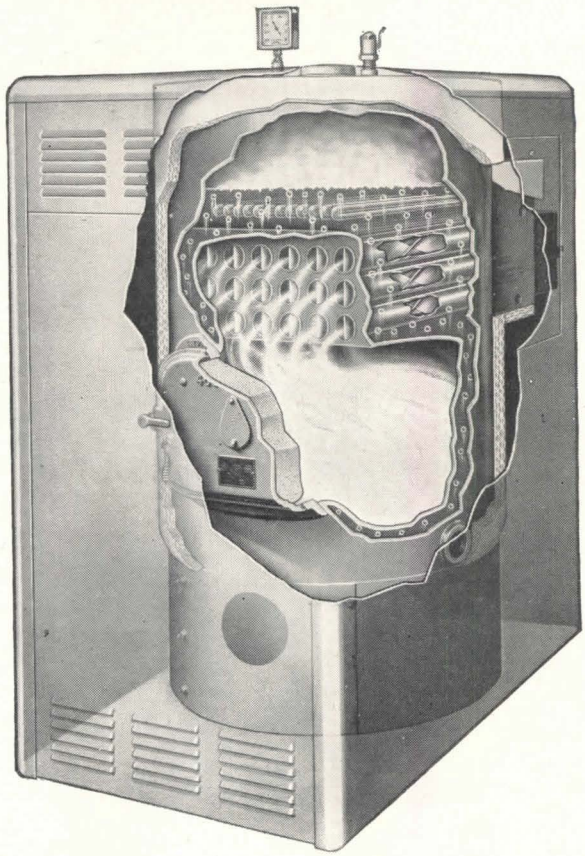


And it's exceptionally easy to clean the Fitzgibbons "400 Series". Every square inch of heating surface in the combustion chamber and fire tubes is easily reached for brushing, through the ample front and rear openings. Also the internal surfaces can be easily flushed and all silt and muck removed.

④ The TANKSAVER* SAVES TOO

Here is abundant hot water all year around —and no storage tank needed. A convenience and economy feature as well as a fuel saving feature that makes the Fitzgibbons "400 Series" a real boiler buy for any home.

*Reg. U.S. Pat. Off.



Every Fitzgibbons "400 Series" Steel Boiler is constructed in accordance with the A.S.M.E. code. Every boiler is passed by the Hartford Steam Boiler Inspection and Insurance Co. and rated in accordance with the Steel Boiler Institute. These factors together with the more than 60 years of Fitzgibbons Steel Boiler manufacturing speak for the success and quality of a Fitzgibbons "400 Series." Write for full information today.

The FITZGIBBONS "400 SERIES" ⑤ is a STEEL BOILER

—which means that it is of the same material, designed on the same principles, as the boilers of steamships, locomotives, huge power stations. In other words, it is the most economical, fastest steaming type of boiler which the boiler-making art has been able to develop. It can be shaped, formed and fabricated just as the designer wishes. And remember, the Fitzgibbons "400 Series" is made of "boiler-plate" steel of flange quality.

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Fitzgibbons Boiler Company, Inc.

101 PARK AVENUE, NEW YORK 17, N. Y.

Manufactured at: OSWEGO, N. Y. *Sales Branches in Principal Cities*

MOST ECONOMICAL IN FUEL · 1856 · THE FITZGIBBONS BOILER

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FITZGIBBONS 400 SERIES STEEL BOILER

NEIGHBORHOOD SHOPPING CENTERS

(Data from "The Community Builders Handbook," courtesy Urban Land Institute.)

THE typical neighborhood shopping center is a highly special merchandising entity. Far from being just a group of stores, it is a careful section of complementary stores, each making its own contribution to the drawing power of the group. Usually all are of the "service" type catering to a housewife in her work-a-day shopping. Its first appeal is the supermarket; its competitive advantage lies in its parking facilities.

Except for the very small center (above right), which might serve a community of 250 to 300 families, a minimum of 500 families is considered necessary to support a center of from ten to twelve shops, and 1000 to 3000 families to support a large one of from 25 to 40 shops.

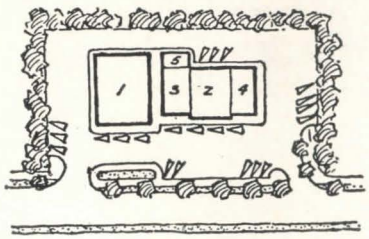
With the supermarket are grouped other stores of the basic service type: a drug store, dry cleaner, laundry agency, shoe repair shop, etc. As shopping centers grow in size, serving larger communities, other store types become practical (see plans of the larger developments).

The importance of highway approaches from other areas and transportation servicing the center should be stressed. Shopping centers often draw a sizable portion of their volume from areas outside what might be considered the normal or tributary area. This is particularly true if convenient parking is provided.

Adequate off-street parking should be an integral part of the shopping center; with good balance between front and rear parking. Best plan is to provide a moderate size parking area in front of the shops to take care of normal parking and a larger area to the sides and rear to accommodate automobiles during the peak period.

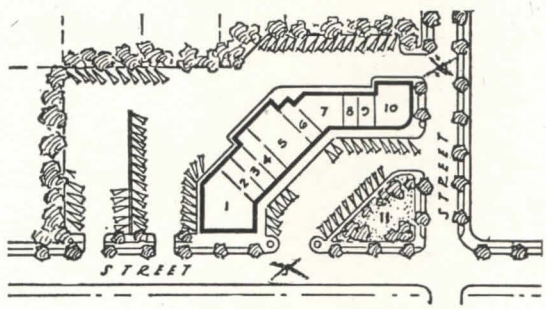
It has been found that if all parking is in front of the shops, store fronts must be an excessive distance from the street, presenting an unattractive paved area during off-peak periods. Conversely, if all parking is to the rear, the motorist is often discouraged in seeking parking space.

Under average conditions, two square feet of off-street parking space should be permanently reserved for each square foot of store area. Where the amount of pedestrian trade is expected to be relatively high because of adjacent multi-family developments or relatively low income groups, the ratio may be lowered somewhat. Where the drive-in trade will form the bulk of patronage, ratios up to three-to-one may be required for adequate parking.



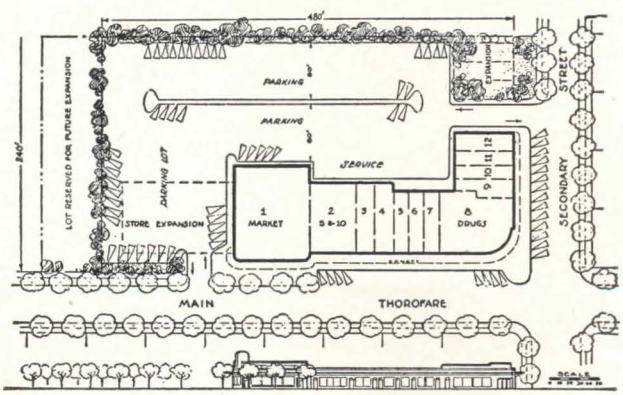
Store Group for 250 to 300 Families

(1) Grocery store, (2) drugs, (3) beauty and barber shop, (4) cleaning, laundry, and shoe repair, (5) service, heating, etc.



Store Group for 300 to 500 Families

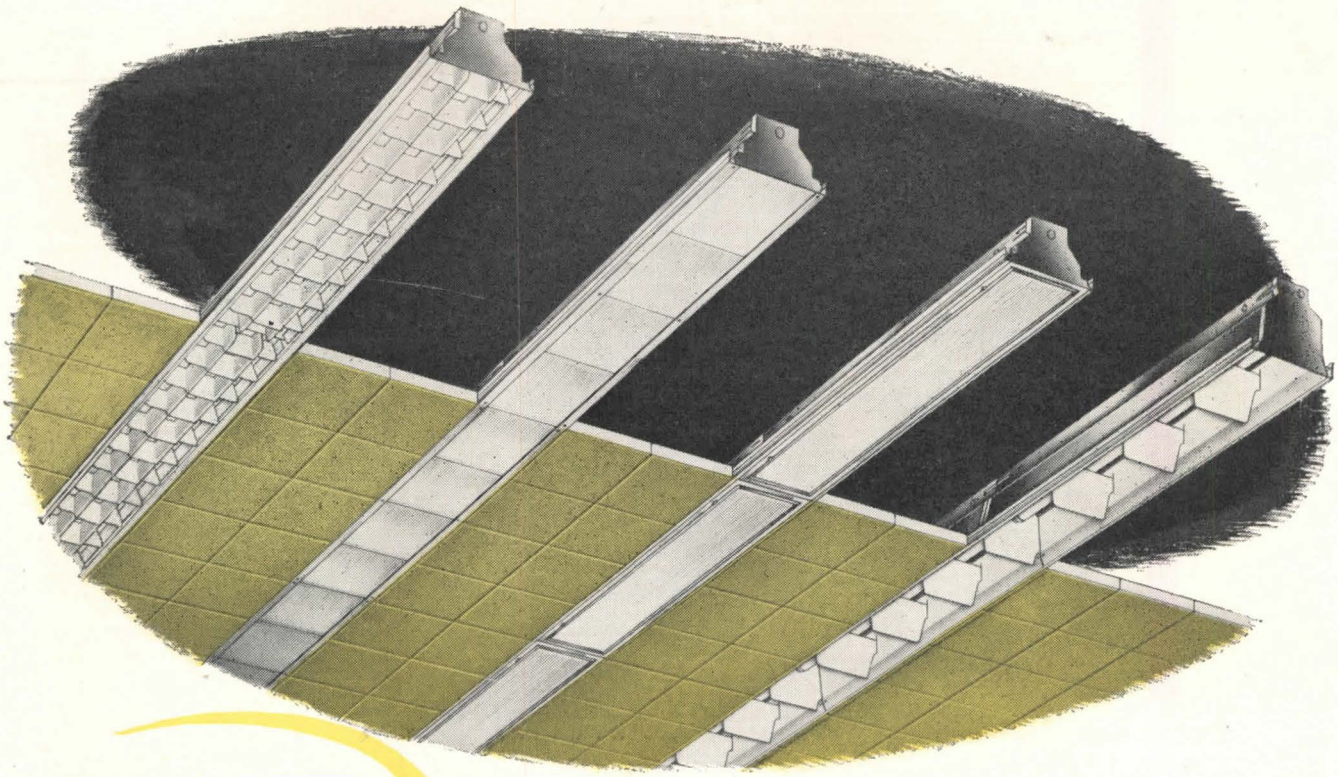
(1) market, (2) cleaner and dyer, (3) ladies wear, (4) beauty shop, (5) variety store, (6) bakery, (7) delicatessen, (8) shoe repair & laundry, (9) barber shop, (10) drugs, (11) possible gas station



Shopping Center for 500 to 700 Families

(1) market, (2) variety store, (3) delicatessen, (4) ladies wear, (5) beauty shop, (6) florist, (7) gift shop, (8) drug store, (9) cleaner, (10) radio shop, (11) shoe repair, and (12) hardware

(Continued on page 125)



LIGHT— AN ARCHITECTURAL MEDIUM

with flexible DAY-BRITE Recessed Troffers

Your ceilings come to life—aglow with functional patterns of light — when you make the lighting system an integral part of your overall plan with these optically-engineered recessed troffers.

Day-Brite offers the most complete line of troffers to give you a highly flexible and efficient system of structural lighting effects:

(1) Lateral Louvers (2) Boxco Louvers (3) Diffusing Glass Panels (4) Holophane Controlens

- **All can be used as single units or in continuous runs.**
- **All available in two mounting types: Snap-in troffers for Tee-Bar supported acoustical ceilings; flanged troffers for other acoustical and plaster ceilings.**
- **A completely new series of improved plaster frames developed exclusively by Day-Brite.**
- **Designed for 1, 2 or 3 40-watt lamps.**

May we send Bulletin 20-A with complete simple pricing information, installation details and photometric data?

IT'S EASY TO SEE WHEN IT'S

DAY-BRITE *Lighting*

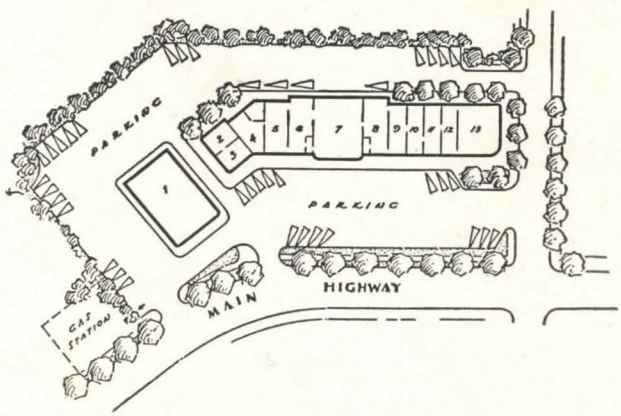
Day-Brite Lighting, Inc., 5465 Bulwer Avenue, St. Louis 7, Mo.
Nationally distributed through leading electrical supply houses.
In Canada: address all inquiries to Amalgamated Electric Corp., Ltd., Toronto 6, Ontario.

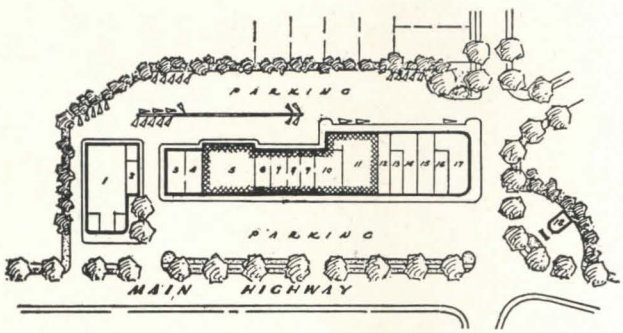
390

NEIGHBORHOOD SHOPPING CENTERS

(Continued from page 123)

(Data from "The Community Builders Handbook," courtesy Urban Land Institute.)





(Plan shows two stages of construction. The shaded portion is the initial installation.)

Shopping Center for 500 to 700 Families

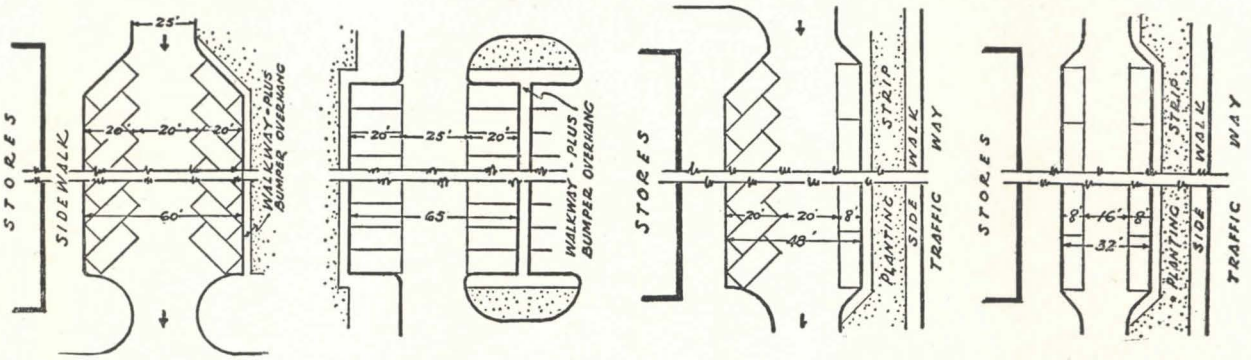
(1) market, (2) shoe repair, (3) barber shop, (4) beauty shop, (5) ladies wear, (6) grocery store, (7) variety store, (8) delicatessen, (9) bakery, (10) cleaner and laundry, (11) radio and electrical shop, (12) florist, and (13) drug store

Shopping Center for 750 to 1000 Families

(1) theater, (2) barber shop, (3) radio and electrical, (4) liquor store, (5) supermarket, (6) gift shop, (7) beauty shop, (8) ladies wear, (9) haberdashery, (10) 5 & 10, (11) drug store, (12) shoe store, (13) cleaner and laundry, (14) bakery, (15) independent grocer, (16) books, (17) restaurant, and (18) gas station

SMALL PARKING AREA LAYOUTS

(for individual stores or small parking centers without large parking areas)



A 45-Degree *B 90-Degree Right-Angle* *C In Restricted Widths* *D In Narrow Widths*

	A		B		C		D
Width of Car Stalls	8′–0″ or 9′–0″		8′–0″ or 9′–0″		8′–0″ or 9′–0″ (45-deg. stalls) 20′–0″ (parallel stalls)		20′–0″ (parallel stalls)
No. of Cars Per 100 Ft. of Curb	9	8	12	11	9	8 (45-deg. stalls) 5 (parallel stalls)	5
Curb Occupied Per Car	11′–4″	12′–9″	8′–0″	9′–0″	see A and D		20′–0″
No. of Cars Per Acre, Excluding Approaches	130	116	168	148	126	117	136

THE DIVIDING LINE BETWEEN *TRUE AND FALSE* ECONOMY...

IS NOT ALWAYS APPARENT!

Low initial cost should never be the only reason for specifying or recommending a product. True economy considers the service rendered and its replacement cost. A piping system should render efficient and long-lasting service to be a true economy for your client.

Streamline Copper Pipe and Solder Type Fittings are made from copper and bronze which have long been recognized as the most durable of metals for piping and a multitude of other purposes. There are many cases on record where copper has lasted for hundreds of years and, with the exception of a slight tarnish, remain just as serviceable as when first installed.

Streamline Copper Pipe connected with Streamline Solder Fittings cannot rust and is unaffected by vibration. Streamline affords a permanently reliable conducting system with the first cost little, if any, higher than materials that corrode and leak a few years after installation. In the plans which are on your board now, provide efficiency and long life in the piping system by writing in Streamline Copper Pipe and Solder Fittings.

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

STREAMLINE

TRADE MARK REG. U. S. PAT. OFFICE

COPPER PIPE AND FITTINGS

MUELLER BRASS CO.

PORT HURON, MICHIGAN

NEW IDEA IN WALL CONSTRUCTION saves money... saves space

YOU'LL save money and space for your clients when you *combine two* great wall systems... the Gold Bond Hollow Wall and the Gold Bond 2 inch Solid Partition.

1. The GOLD BOND TWO-INCH SOLID PARTITION with flush type metal base *saves up to 7%* of the living or working space wasted by old-type thick walls. And with no loss of sound reduction or crack resistance, this metal lath and gypsum plaster partition also means less weight and faster construction. Now, what about walls that must provide for piping and ducts?

2. That's where the GOLD BOND HOLLOW WALL SYSTEM comes in. This system employs the use of two separate units which may be spaced any distance apart to meet specifications for pipes, etc., with no ties or bridging. The illustration above shows the Two-Inch Solid Partition used in combination with the Hollow Wall system to meet all job conditions. (Wood nailing supports for the fixtures are wired to the channels.)

Combine two *good* ideas and you get a *better* idea... and at no higher cost! You'll find Gold Bond Partition Systems listed in detail in our section of Sweet's, or write for descriptive catalogs.

You'll build or remodel better with

Gold Bond

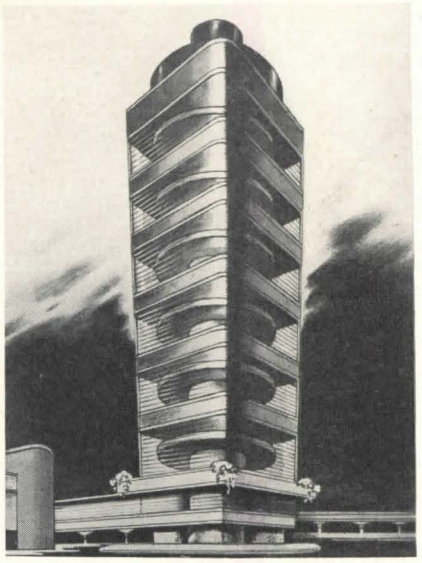
NATIONAL GYPSUM COMPANY

BUFFALO 2, NEW YORK

Over 150 Gold Bond Products including gypsum lath, plaster, lime, wallboards, gypsum sheathing, rock wool insulation, metal lath products and partition systems, wall paint and acoustical materials.

THE RECORD REPORTS

(*Continued from page 16*)



15-story Wax Research Tower designed for S. C. Johnson, Inc., by Frank Lloyd Wright, under construction at Racine

The tower is a compact stack 40 ft. square and 156 ft. high, supported by a circular masonry stem which extends 50 ft. into the ground and to which floors are connected at each of the 15 levels of the building. Walls are of tubular glass with intermediate narrow bands of masonry at the main floor levels. Alternating with the main floors are circular floors 38 ft. in diameter, contained entirely within the curtain walls. The building will be free-standing, adjacent to the present Administration Building.

Publications Offices

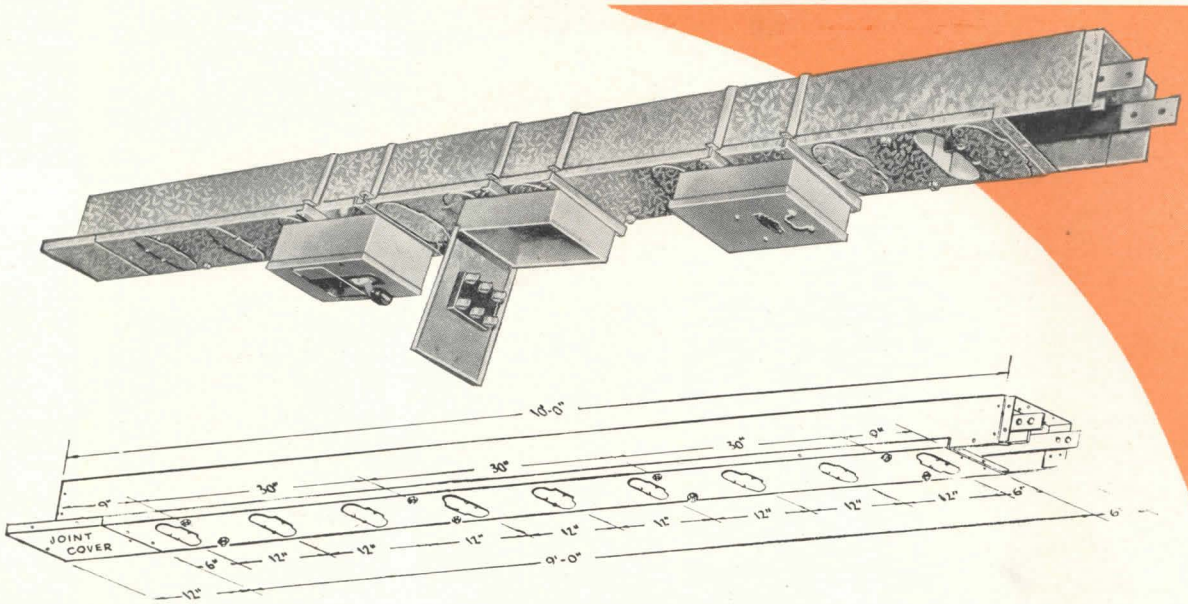
Now nearing completion on East 12th Street, New York City, is the new Fairchild Publications Building, the first six floors of which have been joined to the company's present building on East 13th Street.

Of steel and reinforced concrete construction, the building features unbroken rows of windows across the entire 100-ft. expanse of the front and on the free sides. The 12-story building has six tiled terraces, to the rear of the second, fifth, seventh, ninth and eleventh floors, and in the front on the 10th floor.

The facade is of Indiana limestone and Vermont marble; the exterior of the street floor is faced with green marble, of the upper floors with white. Entrance doors are herculite glass.

Among the features of the building are an off-the-street, 50-ft. loading platform and covered driveway to accommodate four trucks; an automatic conveyor to carry mail bags and newspapers from the mail room adjoining the press

(*Continued on page 130*)



Plugin FA BUSDUCT

Provides PLUGIN OUTLETS Every Foot of the Way

More and more industrial plants are replacing their costly, complex and outmoded electrical systems with the new, economical and flexible PLUGIN FA BUSDUCT system.

By providing convenient Plugin outlets every foot of the way, Plugin FA Busduct makes it possible to move and relocate machinery at will . . . eliminates costly temporary connections and long, expensive lead-ins . . . greatly reduces maintenance costs . . . and saves thousands of man hours normally lost each year.

You'll find this economical, flexible system of power and light distribution helps speed production by providing a Plugin outlet within convenient radius of your needs . . . always.

Available in standard 10-foot lengths in capacities from 250 to 1000 amps. for 575 volts AC or less, with multiple outlets for any of the following Plugin Units:

FA SHUTLBRAK—for quick make and break, heavy-duty operations; FA KLAMPSWITCHFUZ—splendid for disconnect service; and FA CIRCUIT BREAKER—for automatic, thermal-magnetic overload protection.

For further details, write for our new Bulletin No. 701.

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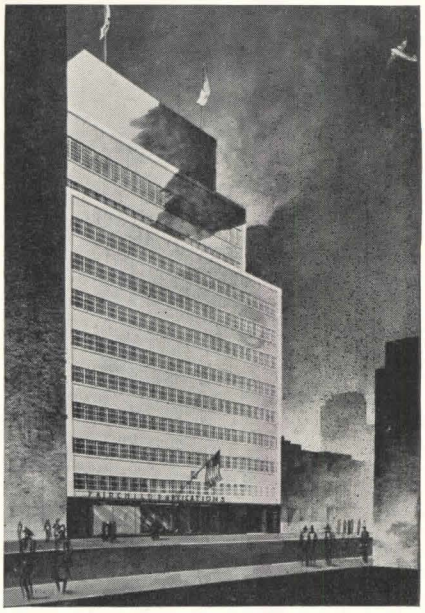
Makers of BUSDUCT • PANELBOARDS • SWITCHBOARDS • SERVICE EQUIPMENT • SAFETY SWITCHES • LOAD CENTERS • QUIKHETER

THE RECORD REPORTS

(*Continued from page 128*)



The new Fairchild Publications Building, New York, now nearing completion. Harrison, Abramovitz and Wiggins, Architects

directly to the trucks at the loading platform; and a pneumatic newsprint drop, built into the loading platform, which unloads four 70-in. rolls of newsprint per minute from the truck level to the basement. Architects for the building are Harrison, Abramovitz and Wiggins.

Assembly Hall and School

John C. Ehrlich of Geneva, N. Y., has been retained to design plans for a new assembly hall and school building for the Newark State School, Newark, N. Y. The proposed building, which will cost an estimated $628,000, is part of a contemplated $3,250,000 building program planned for the Newark School, one of five institutions operated by the State Department of Mental Hygiene for the treatment, care and training of mentally defective persons. Other construction will include four one-story infirmary buildings to be designed by deYoung and Moskowitz of New York.

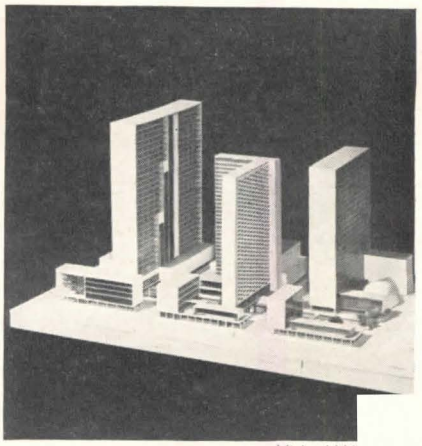
The new school section will include classrooms and kindergarten, industrial training shops, domestic science, speech correction and music rooms, and a library. Also to be provided are a gymnasium, with locker and dressing rooms, and an auditorium seating 865 on the main floor and 100 in the balcony. The auditorium will have a stage and dressing rooms and a motion picture projection room. A separate employees recreational section will have four bowling alleys, game rooms and lounge.

(*Continued on page 132*)

STUDENTS' EXHIBIT

Featured at the Architectural League of New York last month was an exhibition of representative student work from 35 architectural schools and departments in 23 states. Designed "to acquaint architects, students and city planners with the various types of professional training now offered in American schools," the exhibit will be shown throughout the country.

Each school's display not only presented a cross-section of student work but included a statement by the dean or department head outlining the objectives of the school. The displays consisted of wall panels and scale models. In addition there were two special panels: "A Short History of Architectural Education in America," by Talbot F. Hamlin, of Columbia University; and "A Critique of the Exhibition," by Thomas H. Creighton, editor of *Progressive Architecture*.



Michael Mill

Model of redevelopment plan for New York City's Avenue of the Americas, prepared by Yale University architectural students and exhibited by the Architectural League of New York. Left to right: Mexican Building, designed by Lloyd Flood; Argentine Building, by Paul Webb, Jr.; Brazilian Building, by John Caproni

One of the most interesting of the student projects was a plan to redevelop a blighted section of New York — the area along the Avenue of the Americas between 42nd Street and Central Park South. Proposed by a group of Yale University architectural students in conjunction with Edward D. Stone and the Avenue of the Americas Association, the plan was presented as a model (see photo above), representing a typical unit of the redevelopment.

According to the plan, consulates of the American nations would be located in low buildings along the avenue. Tower buildings containing offices, hotels, apartments, etc., would be the principal revenue-producing structures. A landscaped pedestrian promenade would be located parallel to and west of the avenue, would pass beneath the streets. Shops, outdoor cafes, theaters and exhibit areas would be located along the promenade, as well as entrances to the tower hotel and office building.

"IDEA HOUSE" SHOWN

Now on view at the Walker Art Center, Minneapolis, is "Idea House II," a completely equipped display dwelling designed by William Friedman and Hilde Reiss; Malcolm E. Lein, associate.

Co-sponsored by the Home Institute of the Northwestern National Bank, the house cost about $21,000 to build, is planned to provide comfortable living space for a family of four (parents and two children) within 19,000 cu. ft. Among its features: split-level planning adapted to a sloping site; solar orientation; kitchen an integral part of the living room; a children's apartment with

(*Continued on page 134*)

Welded Design Eliminates Dead Weight in 4-Story Structure

By Roy L. Brown, Partner
Brown's Machine Shop, Sedalia, Mo.

THE all-welded design of our new four-story building now under construction has eliminated structural dead weight and thus increased each floor's capacity to carry heavy machinery loads. The reduction in steel and speedier erection with arc welding have also cut construction costs.

We designed the 92 x 120′ building for our own use as an automotive machine shop. All welding was done with "Fleetweld 47" electrode.

Double pipe columns reinforced with concrete are used throughout and are reported to be superior to conventional upright floor supports. Rising from the reinforced concrete basement floor to support the first floor are columns made of 10″ steel pipe with 6″ pipe inside, both filled with concrete and welded to a 2″ bearing plate.

ALL-STEEL FLOOR

Fig. 1 shows a similar 10″ double pipe columnar support for the second floor being welded to the top flange of a 24″ I beam at the first floor level. This column contains a 4″ pipe. The columns for upper stories are 7″ pipe with 4″ pipe inserted. In Fig. 1 bar joists have been welded to the I beams. Steel deck flooring was later welded to the bar joists. During construction this floor supported a truck and hoist to raise a 40-ft. beam weighing 4 tons.

Fig. 2. Two welders weld heavy beams simultaneously to avoid distortion.

Fig. 2 shows a vertical weld being made to join a curved lintel section to a straight lintel. Two welders are simultaneously welding on each side of the joint to maintain proper alignment. This procedure was used for welding all large beams. The curved lintel was shop-fabricated and hoisted into position for welding to straight lintels 80′ and 35′ long.

Fig. 3 shows the framework for the elevator penthouse and loading dock. Here 12″ door channels were formed from ¼″ steel plate and welded to a 13″ Z-bar, and 6″ x 6″ x ⅜″ angles were welded to the Z-bar to complete the lintel over the loading dock door.

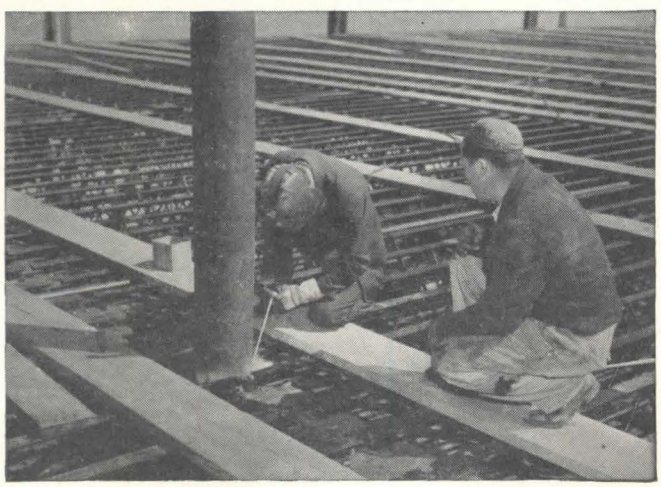


Fig. 1. Welding pipe column to first floor I beam. Column has a smaller pipe and concrete inside.

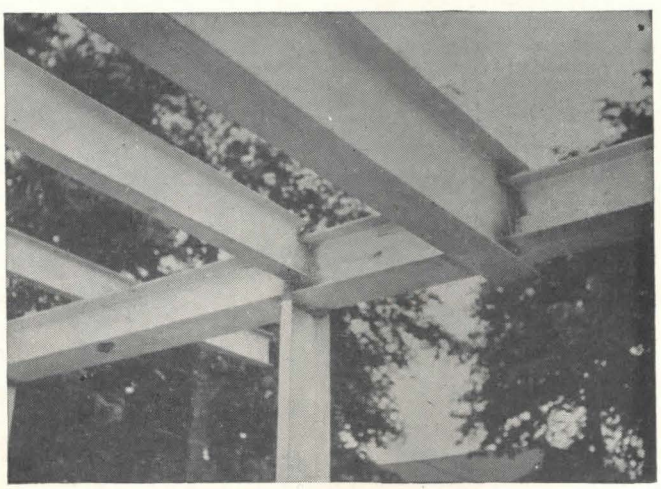


Fig. 3. Framework for loading dock contains channels, I beams, angles and Z-bar.

The above is published by LINCOLN ELECTRIC in the interests of progress. Structural Design Studies are available free to architects and engineers. Write The Lincoln Electric Company, Dept. 266, Cleveland 1, Ohio.

two sleeping and study alcoves opening from playroom; prefabricated bathroom unit; built-in prefabricated storage units throughout the house.

Exterior is 10-in. vertical redwood siding, treated with an oil preservative to protect its color. Trim is white; gutters, roof edge and pipe columns are painted aluminum. The living room has a dark green asphalt tile floor, one wall and ceiling of redwood; fireplace wall is of cement block.

This is the second Idea House built by the Walker Art Center, the first, shown in 1941, attracted 56,000 visitors. Plans and models for six others are now being exhibited. The Art Center proposes to sponsor the erection of all eight houses in a suburban area of Minneapolis, exhibit them for several months, and then sell them. Construction is tentatively planned for the spring of 1948. Meanwhile, Idea House II will remain on view at the Center.

HOME OWNERS PLAN MEETINGS

The Home Owners Foundation is planning a series of countrywide meetings "to establish a legislative program to abolish socialistic housing schemes and bureaucratic control of the nation's homes," Dr. Joseph W. Seay, Foundation director, has announced.

The Foundation, which now has 60,000 members, will seek in 1948 a membership of two million, said Dr. Seay, "in order that the 21 million home owners of the nation may have an adequate voice and play their part in forming national policies. Arthur W. Binns of Philadelphia is president of the organization.

Among the legislative proposals to be considered at the meetings are:

1. Deduction from taxable federal income of a taxpayer all principal payments on his home purchases, as well as interest payments.
2. Amendment to the Constitution which would give every home owner state tax exemption on the first $5000 of value of his home from local as well as all other taxes.
3. Doubling of present deductions permitted for wife and dependent children to the heads of families in the federal income tax.
4. Seek a ceiling on real and property tax in every state.
5. Seek legislation which will compel the federal government to pay local taxes on its properties where local government renders service to them.

LEGION STUDIES HOUSING

The American Legion intends to make the housing problem one of its major interests in the coming year, promises the Legion's National Executive Committee.

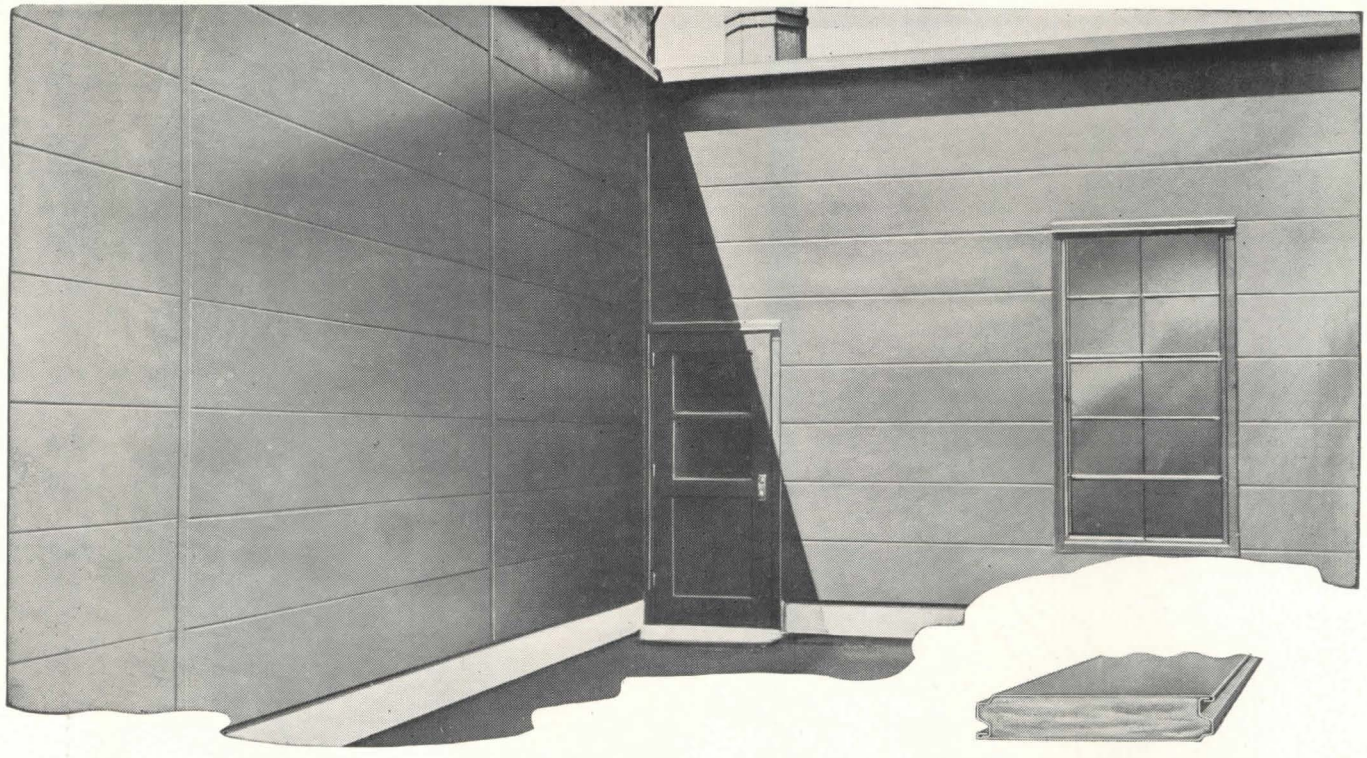
As a step in that direction, the Executive Committee at its late-October meeting passed a resolution urging Congress to make an immediate investigation to determine "whether Communists have infiltrated into administrative positions under the Federal Public Hous-

(*Continued on page 136*)

SIDNEY L. STRAUSS

The sudden death of Sidney L. Strauss, New York architect, on October 24 at the age of 47 came as a shock to his many friends. Mr. Strauss had been attending the meetings of the New York Society of Architects, of which he was convention chairman, and had seemed in good health.

A native of New York, Mr. Strauss was a practicing architect for 20 years, specializing in the design of industrial and business structures. He was a member of the American Institute of Architects and a former president of the New York Society of Architects.



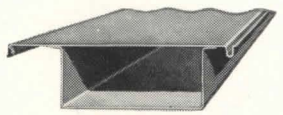
PERMANENT INSULATED WALL
at less than $1 per square foot!

It *can* be done. Where do the savings come from? From the use of steel panels that are fabricated and insulation-filled at the factory . . . from the speed and ease with which men, without special skill or special tools, build up the wall with large-area sections. Less handling. No waiting for drying. Naturally, numerous openings require additional framing and fitting costs.

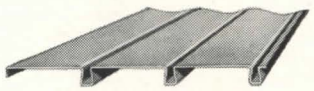
Starting right after the structural steel work, the building can quickly be enclosed with Fenestra Building Panels. Type C for insulated walls . . . Type D to get floors down fast so construction can proceed . . . Holorib Roof Deck to get under cover faster whatever the weather.

Fenestra Metal Building Panels are made by America's largest steel window producer and the originators of insulated steel roof deck. You'll find full information in Sweet's Architectural File (Section 3c-1). Or mail the coupon below. And if we can help you apply these modern metal panels to your building needs, call us.

TYPE C FOR WALLS. Composed of two metal members pressed together, with felt at each side to prevent metal-to-metal contact. Filled with insulation at the factory. Standardized in 3″ depth and 16″ width, in 18 gage painted steel or 16 B & S gage aluminum.



TYPE D FOR FLOORS. Box beam formed by welding together two steel sections. Side laps interlock to form continuous flat surface. Cover plates available for open cells to provide two flat surfaces. Standardized in 16″ width. Depth 1½″ to 9″. Gages 18 to 12.



HOLORIB ROOF DECK. Steel sheets reinforced by three integral triangular ribs on 6″ centers. Provides flat surface for mopped application of insulation and roofing. Sheet 18″ wide, in lengths as required for purlin spacing. Gages 18 and 20 are standard.

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ing Administration," and if they have to dismiss them immediately.

Preliminary announcement was made at the Executive Committee meeting of a Legion housing plan which would ask Congress for legislation to: (1) permit veterans to form non-profit corporations in groups of five or more; (2) finance housing through the sale of government-guaranteed bonds bearing a low interest rate; (3) construct or purchase housing to be sold to veterans; and (4) construct or purchase and operate housing to be rented to veterans.

MINORITY HOUSING

In order to assist all state and district directors in obtaining greater production of housing for minority groups, racial relations advisers have been appointed by the FHA and are at work throughout the country. The Racial Relations Division of the HHFA will cooperate with them.

The advisers are: Clarence R. Johnson, with headquarters in New York City, for Zone 1 (Northeastern states); Maceo Smith, with headquarters in Dallas, and Al Thompson in Atlanta, for Zone 2 (Southern states); DeHart Hubbard, Cleveland, for Zone 3 (North Central states); and Edward Rutledge, Los Angeles, for Zone 4 (Mountain and Pacific states).

These advisers are under the direction of zone commissioners and work closely with state and district directors in bringing the housing needs of all minority groups to the attention of private builders and lenders. They will also maintain contact with minority groups in their respective areas.

BUILDING CODE FOR SMALL JURISDICTIONS

A new "Uniform Building Code for Small Jurisdictions" — an abbreviated form of the basic "Uniform Building Code" — was announced by the Uniform Building Code Association at the annual meeting of the Pacific Coast Building Officials Conference late in October.

The new code is designed for jurisdictions of under 10,000 population, and to apply only to buildings not over 7500 sq. ft. in ground floor area. It requires that all other structures comply with the latest edition of the parent code.

The small code will be subject to study for a year before it is published. It will accompany the 1949 edition of the Uniform Building Code, to be released March 1, 1949.

NEW OWNER-ARCHITECT AGREEMENT FORM

A standard form of agreement between owner and architect has been announced by the Architects Legal Form Co., 4900 Euclid Bldg., Cleveland 3, Ohio. Carefully worked out for maximum clarity and brevity, it includes a number of new provisions and covers such items as the architect's extra services, his compensation and its payment, and postponement of the project or services.

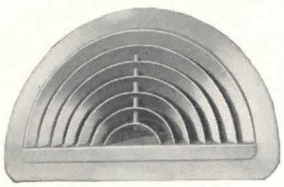
SYMPOSIA BEING HELD

The Pennsylvania Society of Architects is holding a series of professional symposia in Philadelphia, Harrisburg and Pittsburgh during the winter. The first was held last month, with Lessing W. Williams, Fred Severud and Judson F. Vodges, Jr., speaking on materials. School and educational buildings will be the topic for the second, scheduled for Philadelphia on January 3, Harrisburg on January 10, and Pittsburgh on the 17th. Speakers will be Drs. Engelhardt, Johanna Hopkins and Ward I.

(*Continued on page 138*)

_he Best Laid Plans...

will include ANEMOSTAT DRAFTLESS AIR-DIFFUSION for *successful* air-conditioning



Wall-type Anemostat

On the boards today, the ultra-modern commercial and industrial buildings of tomorrow are being designed to assure unsurpassed production. Incorporating all the newest advances in architectural design, they will add much to worker efficiency and comfort.

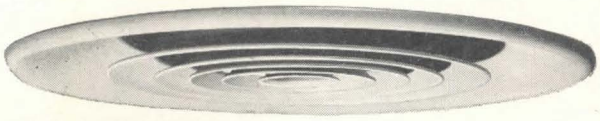
The best laid plans for newly designed commercial and industrial buildings include *successful* air-conditioning. To get it, more and more architects, engineers, and contractors are specifying Anemostat—the patented air-diffuser—which completes the air-conditioning process by providing scientifically correct distribution of the conditioned air to every part of the conditioned rooms.

The extreme changes proposed in building and structural design, the new ideas for interiors and equipment, *all* magnify the need for correctly engineered air-distribution as provided by Anemostat. Without it, the air-conditioning system is incomplete—drafts occur . . . stale air-pockets persist . . . temperature and humidity are unequalized.

The Anemostat eliminates these trouble-breeders by distributing conditioned air in pre-determined patterns, and precisely in accordance with prescribed-for-comfort air velocities. The result: *SUCCESSFUL* air-conditioning for *true* air-comfort!

Anemostat engineers are air-diffusion specialists. Backed by 25 years of experience, they can capably solve difficult air-diffusion problems. A consultation can be arranged today. There is no obligation.

Descriptive literature is available on request.



CEILING-TYPE ANEMOSTAT

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REG. U. S. PAT. OFF.
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REPRESENTATIVES IN PRINCIPAL CITIES

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AC—1092A

Miller. The last session is planned for March 6, 13 and 20 in Philadelphia, Harrisburg and Pittsburgh respectively. The subject will be office practice; speakers will include George F. Denniston and Eugene Klaber.

N. Y. ARCHITECTS MEET

Four panel discussions, addresses by leaders in the construction field, and exhibits of architects' work and of building products highlighted the annual convention of the New York State Association of Architects held in New York City October 22–24. Keynote throughout was the close tie-in between the problems of the architect and the general economy and social welfare of the public.

Speakers and their subjects included: Max Abramovitz, Deputy Director of Planning, United Nations, "The World Capitol"; Thomas S. Holden, President, F. W. Dodge Corporation, "Significant Trends in Construction"; Arthur C. Holden, F.A.I.A., "Who Decides What's to be Built?"; David S. Miller, President, Producers' Council, "Architect-Producers Relations"; Ely Jacques Kahn, "Industrial Buildings"; and Col. L. E. Dostert, U.N., and Clyde Fitch of the International Business Machines Corp., "Simultaneous Interpretation."

Other speakers were Kenneth K. Stowell, Editor-in-Chief, ARCHITECTURAL RECORD; Edward A. Salmon, Chairman, New York City Planning Commission; Roger Allen of Detroit, who served as toastmaster at the annual banquet; and Douglas William Orr, President, A.I.A.

Chairmen of the panel discussions were: Schools, Reginald E. Marsh; Hospitals, Aaron N. Kiff; City Planning, George Bain Cummings; and Housing. C. Storrs Barrow.

In honor of Sidney L. Strauss, A.I.A., New York architect and chairman of the convention, who died suddenly following the opening day's sessions, the convention was adjourned at the luncheon meeting on October 24.

COMPETITION ANNOUNCED

An international competition for the design of low-cost furniture has been announced by the Museum of Modern Art and Museum Design Project, Inc., a non-profit organization set up by representatives of the trade. Open to individual designers of all countries and to selected research teams consisting of technological laboratories working in collaboration with outstanding designers, the competition offers prizes and grants totaling $50,000. For further information and a copy of the program, address Museum Design Project, Inc., 11 W. 53rd St., New York 19, N. Y.

AT THE COLLEGES

Department Reorganized

The Department of Architecture at Yale University has been reorganized as the first project of the newly created Division of the Arts at the University, Professor Charles Sawyer, Division director, has announced. Harold D. Hauf, Professor of Architectural Engineering, will serve as chairman of the Department, and Edward D. Stone of New York City will be Senior Critic in Architectural Design.

Supplementing the usual series of Visiting Critics will be a number of Visiting Critics in residence, each of whom will spend five weeks at Yale.

Appointments

Olindo Grossi, Chairman, Department of Architecture, Pratt Institute, has announced the appointment of three architects to the Pratt teaching staff: Huson Jackson, member of the firm of Jackson and Callender, Architects, and

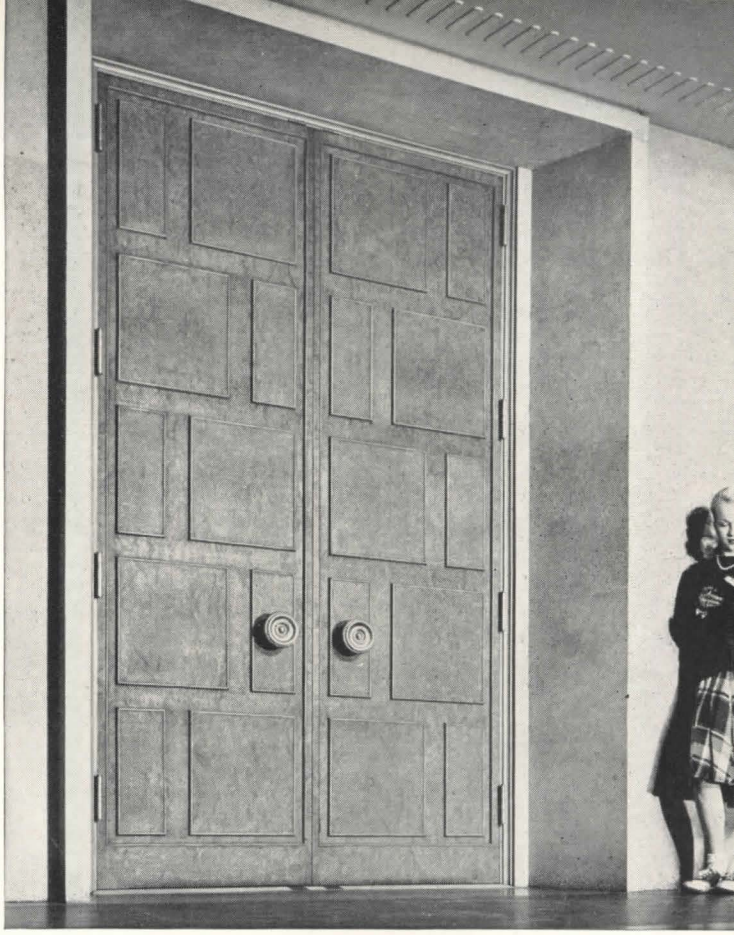
(*Continued on page 140*)

3 good reasons for—

none *against*—

using an Overhead Concealed Door Closer rather than the Floor Type

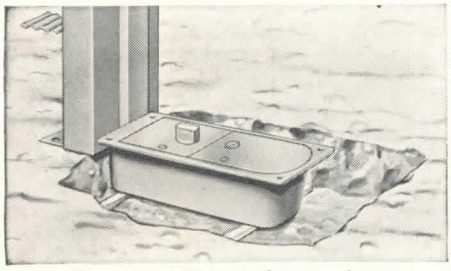
(We are positively NOT prejudiced in this matter. LCN's three types of Floor Closers deliver superior service, for their kind, but we recommend them only where Overhead Closers cannot be specified.)



LCN Overhead Concealed Closers on these fine doors; Holabird & Root, Archit

1 THE INSTALLED COST IS LESS

With job costs what they are today the architect must consider installation expense, as well as purchase price, in connection with any mechanical equipment.

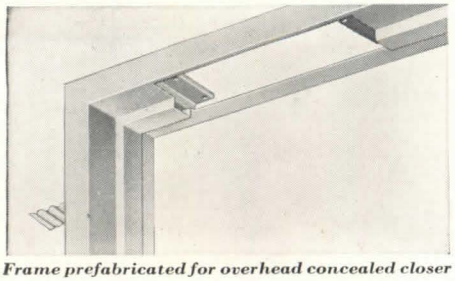


Floor type closer set for grouting

The cost of installing a floor type door closer is a great deal more than that of an overhead concealed closer. A recess must be prepared in the floor, by setting a form while the floor is poured or by chipping out the concrete after the rough floor is in. Beams and conduits often make locating the closer difficult.

If a threshold is used it must be of the box type or one specially cut and drilled to take the closer, both expensive.

In contrast, the overhead closer is simply secured into openings blanked out of a metal frame and door at the factory, or easily cut into a wood frame and door.



Frame prefabricated for overhead concealed closer

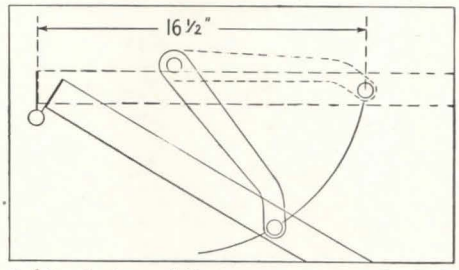
2 IT IS MORE EFFICIENT

An overhead door closer is basically more efficient because it can be located farther out from the hinge edge of the door than is practical with a floor closer. This gives much greater leverage, a better, smoother performance, and less strain on the closer, door and frame.

It is also simpler to service and regulate the overhead closer, as all adjustments are easy to reach without removing anything.

3 MAINTENANCE IS FAR LESS

Under equal conditions an overhead closer will outlast a floor type closer of similar basic design for two reasons: (1) it is subject to less mechanical strain in service; (2) located up over the door, it avoids the abuses of floor dirt, scrub water, etc. which always foul floor type closers and shorten their lives. This is doubly true where doors are exposed to the weather.



Overhead closer delivers power more effectively

We make both types

We cite these comparisons without prejudice, since the LCN line includes three types of floor closers which do their job as well as any such closers made. Many thousands are in constant use. But we know that the overhead closer works better, for a longer period, with far less attention and at lower cost, than the floor type. LCN catalog 11-a with full explanation gladly sent at your request; no obligation. Address LCN, 466 W. Superior St., Chicago 10, Ill.

LCN

Overhead and Floor Type Concealed *and* Surface Type Door Closers

a graduate of the University of Chicago and Harvard University, *Design Critic;* Arthur Malsin, member of the firm of Sanders & Malsin, Architects, and graduate of Yale and Harvard Universities, *Design Critic;* and Ronald Allwork, architect and graduate of Columbia University, *Instructor in Construction.*

Morley Jeffers Williams has been appointed Professor of Landscape Architecture at North Carolina State College of Agriculture and Engineering of the University of North Carolina.

Eugene Sternberg, Czechoslovakian architect and town planner, has been appointed Associate Professor of Architectural Design at the Denver University School of Architecture. Professor Sternberg, formerly on the staff of the Department of City and Regional Planning at Cornell University, was senior assistant architect to Sir Patrick Abercombie, British town planner who prepared the new County of London Plan.

Other appointments to the Denver University staff include: G. Howard Miller, a naval architect during the war, *Instructor of Architectural Drawings;* Donald W. Decker, formerly with the Ziff-Davis Publishing Co., *Instructor in Building Construction;* and Garwood Andreson, *Associate Professor of Building Construction and Contracting* in charge of building methods and material research. Mr. Miller was appointed to the School of Architecture, Messrs. Andreson and Decker to the Department of Building Construction.

Gothic Discovery

Previous theories concerning the development of Gothic architecture must be reevaluated, reports Prof. Sumner McK. Crosby, chairman of the Department of the History of Art at Yale University, as the result of last summer's excavations under his leadership at the Church of St. Denis just north of Paris.

In reporting on the results of his work at St. Denis, Prof. Crosby said that the excavations show that this church is the prototype for the Cathedral of Notre Dame in Paris. A large portal opening to the south into the cloisters, he reported, "is in direct alignment with the piers of the nave, and does not, as was previously supposed, coincide with the architecture of the present church, which would have meant a transept with large projecting arms." This refutes the common belief that such early cathedrals as Laon followed the example established at St. Denis, Prof. Crosby added, and calls for a new interpretation of the first evolution of Gothic principles.

A stone bas-relief discovered in the course of the excavations, Prof. Crosby also reported, has established that the formula for early Gothic sculpture, developed at Chartres Cathedral, was evolved at St. Denis.

OFFICE NOTES

Offices Opened, Reopened

John Carroll Dunn, A.I.A., has opened an office at 717 Washington Pl., Baltimore, Md.

Robert A. Little, Architect, has opened an office at 1303 Prospect Ave., Cleveland 15, Ohio.

Donald C. F. Miller, Architect and Engineer, has opened offices at Hametown-Richfield Rd., R.D. No. 1, Box 350, Barberton, Ohio.

New Design Inc., a center for the display and sale of contemporary furniture and accessories, has opened at 33 E. 75th St., New York 21. Director of the center is Dorothy Q. Noyes.

New Addresses

The following new addresses have been announced:

Paul H. Ayer, Architect, 327 Moronet Bldg., Bakersfield, Calif.

(*Continued on page 142*)

LARGEST POST-WAR STORE IN DIXIE HAS Q-FLOORS

Because they reduce to a small fraction the unpredictable conditions prevalent in today's construction.

Because they speed up building time 20 to 30%.

Because they save a tremendous amount of drafting room time.

Because they provide dry, clean, quiet, incombustible, weight-saving construction.

And this is why the largest post-war office buildings in the South, in New England and in Canada are also using Q-Floors.

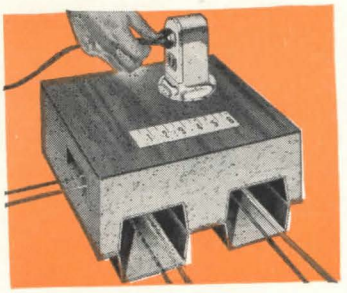
The over-all electrical availability of Q-Floor enables you to locate partitions and electrical outlets after the building is occupied. Think of this in terms of drafting room expense saved! The steel cells of Q-Floor are crossed over by headers which carry the wiring for telephone, power, signals and every other electrical device. An electrician merely drills a small hole—on any six-inch area of the exposed floor—to establish an electrical outlet. The whole job takes only minutes, leaves no trenches or muss.

You can see Q-Floor fittings at any General Electric construction materials distributor's. Write for detailed information for your file.

H. H. ROBERTSON COMPANY

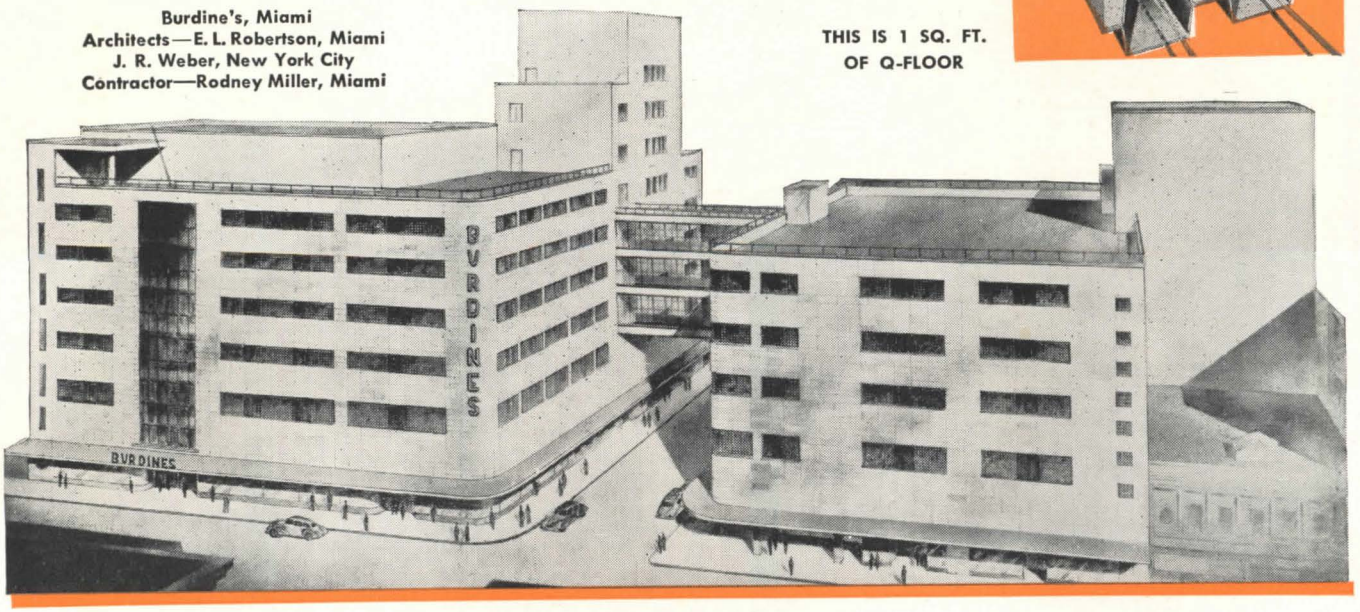
2404 Farmers Bank Building
Pittsburgh 22, Pennsylvania

Offices in 50 Principal Cities
World-Wide Building Service



THIS IS 1 SQ. FT. OF Q-FLOOR

Burdine's, Miami
Architects—E. L. Robertson, Miami
J. R. Weber, New York City
Contractor—Rodney Miller, Miami



Eugene Back, Architect, 677 Fifth Ave., New York 22, N. Y.

Ralph E. Crook, Architect, Suite 227, Lancaster National Bank Bldg., 126 W. Main St., Lancaster, Ohio.

Raymond Harry Ervin, Architect, 616 Patterson Bldg., Denver 2, Colo.

John T. Fairhurst (Fairhurst Unitfold Partition), 45 W. 45th St., New York, N. Y.

Faulkner, Kingsbury & Stenhouse, Architects, Ben H. Dyer, Associate, 1200 18th St., N. W., Washington 6, D. C.

Chas. T. Main, Inc., Civil Engineers (Boston offices), 80 Federal St., Boston 10, Mass.

Maul & Lentz, Architects and Engineers, 1222 Michigan Bldg., Detroit 26, Mich.

G. Mianulli, Consulting Engineer, 44 Court St., Brooklyn, N. Y.

Stanley C. Podd, Architect, 391 Delaware Ave., Buffalo 2, N. Y.

Walter H. Sobel, J. Stewart Stein, Architects-Engineers, 737 N. Michigan Ave., Chicago 11, Ill.

White and Griffin, Architect-Engineer-Associates, 126 John R, Detroit 26, Mich.

Firm Changes

Howard P. Beach, Jr., former Chief of Buildings Division, Civil Aeronautics Administration, has joined the staff of Airways Engineering Consultants, Inc., 1212 18th St., N. W., Washington, D. C.

Donald G. Fudge, Architect, and Alpheus F. Underhill, Engineer, have announced their association as Fudge & Underhill, Architects and Engineers, with offices at 103 E. Woodlawn Ave., Elmira, N. Y.

Albert D. Levy, Architect, has announced the organization of Pennurban Housing Corp. with offices at 125 E. 23rd St., New York 10, N. Y. The firm will engage primarily in the planning, construction and management of investment housing, with particular emphasis on the use of the prefabricated house. Associated with Mr. Levy are Philip E. Bennett and Willard L. Bleyer; all three formerly were connected with the Public Housing Administration.

Frederic W. Mellor, Architect and Engineer, has joined The Foundation Co., Engineers and Builders, 57 William St., New York City. Mr. Mellor, who before the war had his own architectural firm in New York, resigned recently as general sales manager of the H. K. Ferguson Co., industrial engineers and builders, of Cleveland.

Stanley A. Moe, A.I.A., and Norman K. Fugelso have announced the formation of a partnership under the firm name of Moe and Fugelso, Architects, with offices at 4040 Wilshire Blvd., Los Angeles 5, Calif.

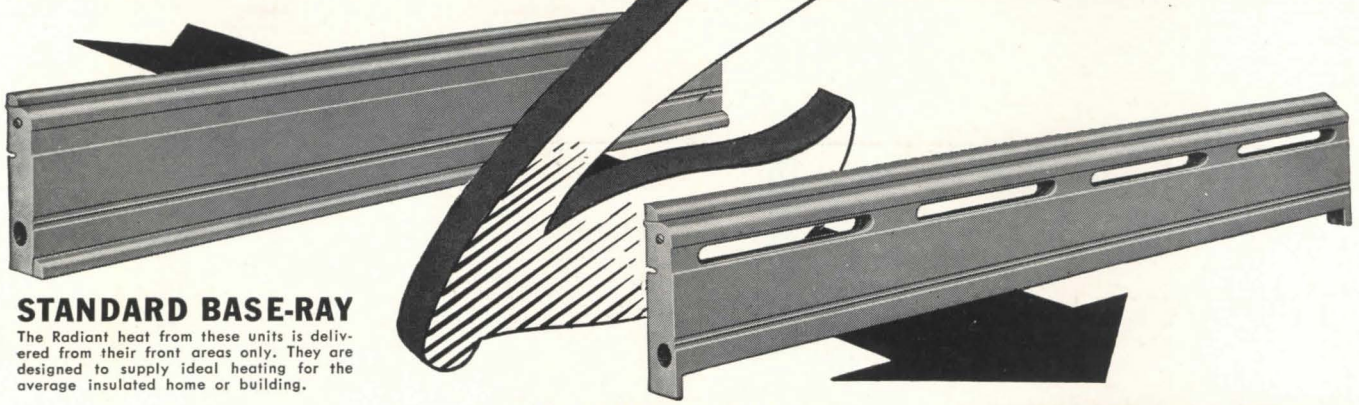
S. Y. Saito, Architect, and Thomas H. Flinn have opened an office for the practice of architecture under the firm name of Flinn & Saito, with offices at 513 Lafayette Bldg., Waterloo, Iowa.

APPOINTMENTS

Joseph Blumenkranz, A.I.A., of New York, has been appointed by the War Department, Corps of Engineers, Hospital Consultant in connection with the design of the hospitals under the nationwide $770 million construction program for the Veterans Administration. Mr. Blumenkranz, a member of the American Hospital Association and the Engineering Society of Puerto Rico, was formerly architect and hospital consultant for the government of Puerto Rico and senior architect of hospitals with the city of New York.

Charles M. Mortensen of Los Angeles has been appointed Executive Secretary of the Producers' Council.

BURNHAM'S 2 TYPES OF BASE-RAY RADIANT BASEBOARDS



STANDARD BASE-RAY
The Radiant heat from these units is delivered from their front areas only. They are designed to supply ideal heating for the average insulated home or building.

HY-POWER BASE-RAY
For use where heat losses are greater or baseboard space is limited. Fin-back design of these units provides approximately 60% more heat.

BURNHAM BASE-RAY RADIANT BASEBOARD

...the practical approach to Radiant Panel Heating

Burnham BASE-RAY* Radiant Baseboards are the ideal approach to Radiant Panel Heating. While some forms of radiant heating installations are primarily applicable to new construction, BASE-RAY is easily installed in old buildings as well as in new. No change from orthodox construction is required in either case—no complicated engineering.

BASE-RAY is extremely flexible in application—with it you can solve practically any heating problem. It's efficient. And the radiant heat it delivers is second to none for winter comfort and general desirability.

When radiant heating is under discussion think first of BASE-RAY—*first* in the field with Radiant Baseboards—*first* in experience and know-how.

BASE-RAY OFFERS THESE ADVANTAGES

NO STRUCTURAL CHANGES No change from orthodox framing and finishing is required for BASE-RAY installations in new or alteration jobs.

EASY INSTALLATION No more difficult to install than conventional radiator systems. Standard practice is used in determining boiler and pipe sizes.

EVEN HEAT DISTRIBUTION BASE-RAY maintains a floor-to-ceiling temperature differential of less than 3° even in zero weather. Ankle-height units deliver heat where most needed.

FLEXIBILITY IN CHOICE OF SYSTEM BASE-RAY may be used with any type hot-water, two pipe steam or vapor system.

ACCESSIBILITY Heating units, piping and valves are all immediately accessible — an important feature that is not found in many other Radiant Heating Systems.

*Reg. U.S. Pat. Off.

Mail coupon below for booklet giving complete information on BASE-RAY radiant baseboards. It gives ratings and installation data which will bring you up to date on this new and simple form of RADIANT heating.

See our exhibit at
INTERNATIONAL HEATING & VENTILATING EXPOSITION
NEW YORK, FEBRUARY 2-6, 1948

Burnham Corporation

BOILERS and RADIATORS

IRVINGTON, N. Y., Dept. AR127

I·B·R INSTITUTE OF BOILER AND RADIATOR MANUFACTURERS MEMBER

Burnham RADIANT WARMTH SINCE 1873

Burnham Corporation Dept. AR127
Irvington, New York
Please send me copy of "Ratings and Installation Guide on BASE-RAY Radiant Baseboards."
Name.....
Address.....
City.....State.....

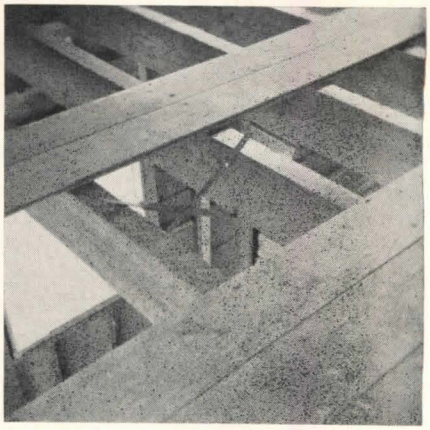
(*Continued from page 119*)

FLUID-DRIVE ELEVATORS

The automotive principles of fluid drive are applied to elevator service by means of the new *Gyrol elevator machinery*. The following advantages are claimed: less powerful motor requirements since motor starts under no load; simple elevator controls, one switch for upward travel and another for downward travel; and space savings due to the small size of the machinery. Entire unit, including motor, weighs 1600 lb.; rating is 1500 lb. and 125 ft. per min.; motor is 7½ hp., single speed, 1200 rpm. Warsaw Elevator Co., Warsaw, N. Y.

CROSS BRIDGING

Met-Cro steel cross bridging, designed to take the place of standard wood bridging between wood joists, consists of two flat steel strips joined at the center so that they open like scissors to fit between the joists. Ends of the strips are twisted into a half turn and have nail openings for fastening to the top and bottom surfaces of the joist. They are said to equal or exceed the strength of wood bridging and offer other advantages of fire-resistance, easier fastening without danger of splitting, flexibility to adjust for off-center joists, and elimination of dust-catching surfaces of wood bridging. Sizes are No. 101 for 2-by-8, 3-by-8 and 2-by-10 joists on 16 in. centers; and No. 102 for 2-by-8 and 3-by-8 joists on 12 in. centers. The steel bridging carries the approval of the Board of Standards and Appeals, New York City. Met-Cro Specialties Co., 87–31 78th St., Woodhaven 21, L. I., N. Y.



Steel cross bridging adjusts easily, replaces wood bridging between joists

ESCALATOR

A small Escalator has been developed especially for installations that require a rise of not more than 23 ft. (vertical distance from floor to floor, not at angle of travel which is 30 degrees). Earlier types have been constructed for rises up to 60 ft., so the new model makes possible lighter weight structural and mechanical members and operating economies. Width is 32 in. between handrails, scaled to provide just enough room on one step for an adult and child or an adult carrying large bundles. Operating machinery is built within the unit, eliminating the need for a separate machine room. Otis Elevator Company, 260 11th Ave., New York, N. Y.

PLASTIC DOOR PLATES

Door stops and "push" and "pull" plates for doors are molded of Tenite plastic in bronze and silver metallic shades and several plain colors. The letters on the door plates are inscribed against a ribbed background. Door stops are hollow, with one end plugged with a rubber bumper. Tenite plastic is said to be tarnishproof and easily cleaned with a damp cloth. Macklanburg-Duncan Co., Oklahoma City, Okla.

(*Continued on page 146*)

(*Continued from page 144*)

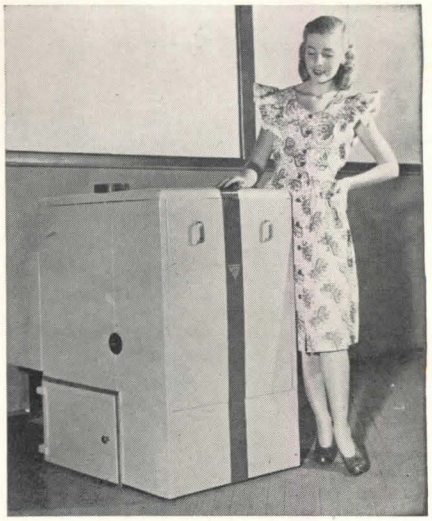
HEATING

Gravity Oil Furnace

Announced as particularly suitable for small houses having 50,000 to 65,000 Btu hourly losses, the *GAV-O Gravity Oil Furnace* is equipped with a mechanical-draft vaporizing-type oil burner with built-in oil-air control. Operation is said to be unusually silent. If desired, the unit can be converted to the use of gas. The housing, fabricated from heavy-gauge enameled steel, measures approximately 25 in. wide, 52 in. high, and 28 in. long. United States Radiator Corp., Detroit, Mich.

Anthratube

Coal savings of 15 to 38 per cent are said to be possible with *Anthratube boiler-burner units*, either bin-fed or hopper-fed, according to an announcement of the Anthracite Institute. The bin-feed unit measures only 24 by 31 by 42 in., and has a capacity of 400 ft. of steam or 600 ft. of hot water. The hopper model measures 27 by 47 by 37 in., and has a storage capacity of 250 lb. of coal, about three days' requirement. Automatic ash disposal, under an induced draft, is said to eliminate the seepage of ash dust into the basement. Manufacturers of the bin-feed unit are Axeman-Anderson Associates, Williamsport, Penn.; and the American Boiler Works, Erie, Penn., whose distributor is the Kenwill Corp., Cleveland; the hopper model is manufactured by the D. L. & W. Coal Co., 120 Broadway, New York, N. Y.



Compact coal furnace features automatic feed and automatic ash disposal

Panel Heating Control

Just announced is a new indoor-outdoor control for radiant-panel hot water systems. The control is said to be especially suited for providing the close control needed for the mass of heating area and exacting low operating temperatures inherent in panel heating. There are two adjustments: one establishes the desired water temperature, the other varies the water temperature in accordance with outside temperatures, balancing the heat loss from the building. Greater or lesser room temperatures than the normal 75° can be obtained by turning a selector dial. A similar type of control is available for radiator and convector systems. White-Rodgers Electric Co., 1209 Cass Ave., St. Louis, Mo.

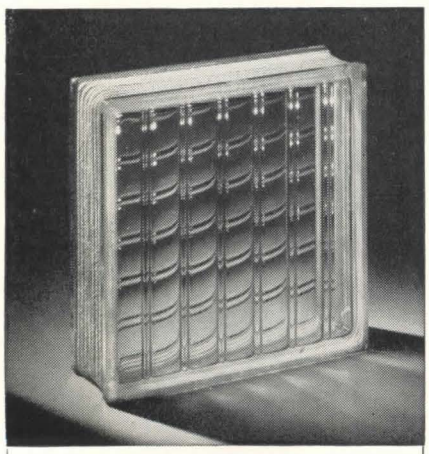
Automatic Heat Control

The *Fuel Watchman* is an automatic heat control that regulates boiler operation in apartment houses according to the time of day, outside temperature, and effect of solar radiation. Timing and temperature controls are adjusted to owner requirements, and, once set, are said to maintain building temperatures within two degrees of the desired tem-

(*Continued on page 148*)

Bright, modern living room shows how Insulux Glass Block brings daylight far into living room; relieves corner darkness. Occasional washing is only maintenance required by Insulux.

Curved panels of Insulux Glass Block bring daylight with privacy to tenants of eight-story apartment building. Architect: Berla & Abel, Washington, D. C.



OWENS-ILLINOIS

INSULUX

GLASS BLOCK

Insulux is made in three sizes—many attractive and functional patterns. Investigate this modern material that has solved many complex architectural problems.

Here's enlightened living for city dwellers!

NO NEED for apartment houses to be dark and dreary places . . . let Insulux Glass Block light the way!

Versatile Insulux combines a gracefulness of design in modern buildings with the functional ability to insulate against summer heat and winter cold.

Insulux permits new flexibility and originality in architectural planning and execution. It's ideal for bringing light deeper into rooms; for spreading daylight over wider interior areas. Wherever daylight with privacy is desired—there's a place for Insulux!

Widely used by many outstanding architects for residences, apartments and commercial establishments, Insulux Glass Block is installed in a manner similar to brick. Once in place, panels are permanent, require no painting, won't rot, rust or corrode.

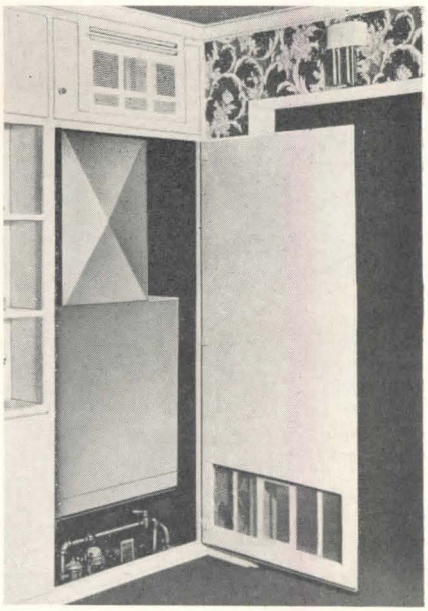
For complete technical data, specifications and installation details, see the "Glass" section of Sweet's Architectural Catalog, or write Dept. D-12, Owens-Illinois Glass Company, Insulux Products Division, Toledo 1, Ohio.

(*Continued from page 146*)

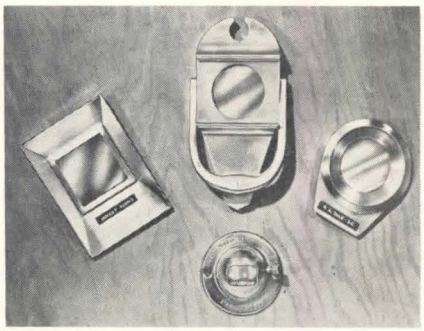
perature, 24 hours a day. The heat control consists of three units: a roof control, pre-set at the factory, which records solar radiation; an outside control, mounted on the north side of the building, to record actual outdoor temperature, and a main control panel with a time-clock control that can be set to operate the boiler only at certain hours depending upon the outdoor temperature and solar effect. Fuel Watchman Co., 77–29 138th St., Flushing, N. Y.

Closet-Size Heater

A new gas heater, known as the *Royal Jet-Flow*, is designed to fit compactly into a closet-size area and heat a small house, or larger buildings by means of multiple installations. Without using blowers or fans, the heater forces out warm air at a velocity of approximately 250 ft. per minute from registers just below ceiling level. Cold air is drawn in through a register at floor level, heated as it passes over the fire box, then compressed as it rises into a cone-shaped duct leading to the outlet registers. The Jet-Flow Heater is designed to burn natural, manufactured or L. P. gas; and comes in three sizes, with ratings of 25,000, 38,000, and 55,000 Btu's. Royal Heaters, Inc., Dept. AR, 1024 Westminster Ave., Alhambra, Calif.



Furnace in closet heats entire house



"Peep holes" have transparent mirrors

"MAGIC MIRROR"

Transparent mirrors are now being incorporated in door "peep hole" devices to permit the person on the inside to view a caller without being seen. From the outside only the reflective surface is visible. Known as *Magic Mirror Door Detectives*, these windows can be installed in a wood or metal door of any thickness. Magic Mirror Associates, Inc., 687 Third Ave., New York 17, N. Y.

PLASTIC SCREEN

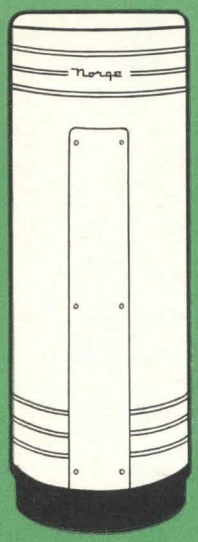
Strength and elasticity are featured in the *Velon insect screen*, which reportedly will absorb impacts and spring back into shape without damage. It also is said to resist rust and to require no painting, since the color is an integral part of the plastic. Firestone Industrial Products Co., Akron, Ohio.

(*Continued on page 150*)

GOOD EQUIPMENT... GOOD COMPANY

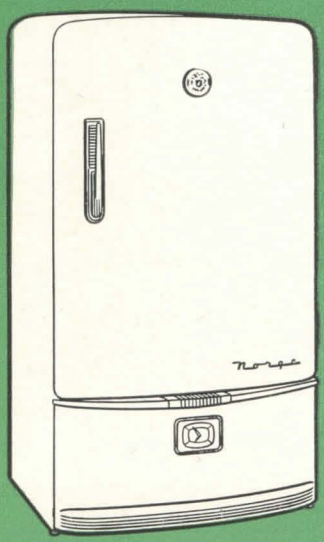
In suggesting or recommending Norge major appliances, you are keeping your client in "good company"... his home will further reflect his good judgment, and yours. Norge Division, Borg-Warner Corporation, Detroit 26, Michigan. In Canada: Addison Industries, Ltd., Toronto, Ontario.

GAS RANGES



ELECTRIC WATER HEATERS

ELECTRIC RANGES

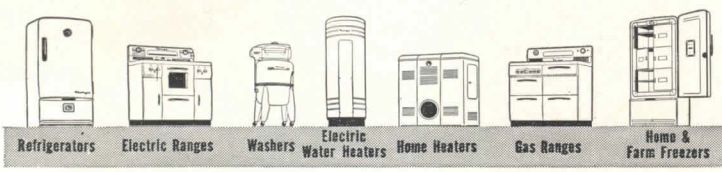


REFRIGERATORS

Products of BORG-WARNER

ENGINEERING B-W PRODUCTION

Norge products, distributed worldwide, are typical examples of the values made possible by the American system of free enterprise.



SEE NORGE BEFORE YOU BUY

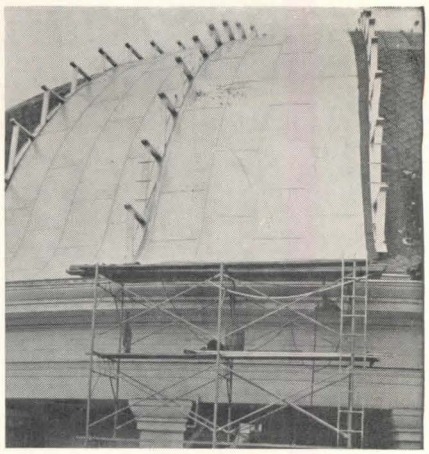
(Continued from page 148)

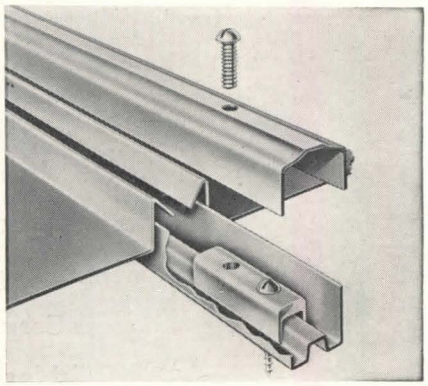
SEATLESS VALVE

Valve seat, washer, and all wearing parts are said to be eliminated in the *20th Century Seatless Valve* for plumbing installations. Two wear-resistant synthetic rubber collars engage the polished stem: the upper collar prevents leakage into the activating thread, while the lower collar acts as the seal for closing the valve. Announced advantages are absence of leakage, easier opening and closing, and quiet operation without hammer or chatter. 20th Century Valve Sales Division, Power-Pak Products, Inc., Buffalo 2, N. Y.

ALUMINUM ROOFING

A batten-type system of aluminum roof construction was used in the extensive reroofing of the Mormon Tabernacle in Salt Lake City. Replacing an earlier roof of ornamental pressed metal shingles, the new roof of aluminum alloy sheet and extrusions is expected to prolong the life of the roof and reduce the load stress of the old wood framing, erected in the 1860's. After the old roofing had been stripped away to the bare wood sheathing, the sheathing was covered with 30 lb. tarred felt, attached with aluminum nails. The pre-formed aluminum panels were then applied, interlocking at top and bottom and fastened at the sides by aluminum battens. Overly Mfg. Co., Greensburg, Pa.





(Above) Aluminum roofing being applied to Mormon Tabernacle, Salt Lake City. (Below) Batten-type roof sections

METAL LATH

The Metal Lath Manufacturers Association, Cleveland, Ohio, requests that architects specify 1½-in. No. 11 gauge roofer's nails for attaching metal lath to horizontal wood supports. The Association formerly recommended 6-penny nails, driven in and bent over, but now believes that a nail which is driven home provides needed holding power.

ALUMINUM SHEET

Reynolds *Utility Sheet aluminum* is now available as roller-leveled flat sheets in widths of 30, 32, 36, and 48 in.; lengths of 96, 120, and 144 in.; and as coiled sheet in widths of 24, 30, 32, 36, and 48 in. Both forms can be had in thicknesses of 0.018 in., 0.020, 0.025, 0.032, 0.040, 0.051, and 0.064 in. The

(Continued on page 152)

"PETRO SINCE 1923 —and no regrets!"

S. V. Becker, New York architect and member of the American Institute of Architects, has specialized in apartment house and housing development planning. More than 300 such structures have been built in the New York area from his designs. Now under construction are Gregory House in Forest Hills and a $3,000,000 housing development for 410 families on Yellowstone Boulevard, Queens.

Mr. Becker says:

"I have specified Petro equipment since 1923. I have never had occasion to regret it.

"Petro equipment is well-designed, competitive in price, easy and inexpensive to maintain. My experience proves Petro to be reliable."

When it's Petro an architect specifies, he *knows* he will have no regrets. For Petro lives up to its reputation . . . *always.* High heating efficiency, low operating costs — these assure the complete client satisfaction that strengthens the architect's own professional standing. Experience confirms this, again and again.

This confidence explains why Mr. Becker and so many other architects have specified Petro Oil Burning Equipment for many years. They appreciate Petro's high standards — reflected in the performance-proved Petro design, in Petro's sound engineering and skilled workmanship, in the fine quality of Petro materials. And they recognize that such standards make Petro the leader in dependable, economical oil burning systems.

You, too, will agree with Mr. Becker that confidence in Petro performance is always well-founded, well-rewarded.

INDUSTRIAL MODELS: No. 5 or No. 6 fuel oil; manual, semi-automatic or automatic operation; 8 sizes to 450 bhp. Thermal Viscosity preheating.

DOMESTIC MODELS: No. 3 or lighter oils; conversion and combination-unit types, 7 sizes. Patented "Tubular Atomization."

FULL DATA on Petro Industrial Burners are in catalog files of Sweet's and Domestic Engineering. Details on Petro Domestic Burners available in separate catalog. Copy of either sent gladly on request.

PETRO
REG. U. S. PAT. OFF.

cuts steam costs

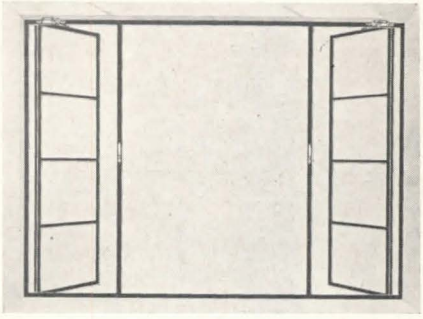
PETROLEUM HEAT AND POWER CO. • *Makers of Good Oil Burning Equipment Since 1903* • Stamford, Connecticut

ARCHITECTURAL ENGINEERING

TECHNICAL NEWS AND RESEARCH

(*Continued from page 150*)

sheet will take a Pittsburgh lock seam, and reportedly can be bent, formed, welded, and otherwise fabricated. Suggested uses include ductwork, flashing, valley material, ridge rolls, and starter strips. Reynolds Metals Co., 2500 S. Third St., Louisville, Ky.



Picture window, flanked by casements, has slim steel frame and muntins

STEEL PICTURE WINDOW

The standard *Fenestra steel picture window* features a large fixed-light sash, glazed with a single pane of plate glass, and flanked by smaller ventilating casements. Steel frames and muntins are narrow to permit large glass areas. The vents are opened and closed by the Roto-Adjuster, a fingertip control that is said to require no tugging or prying. Locking handle provides a weathertight fit. Detroit Steel Products Co., 3113 Griffin St., Detroit 11, Mich.

NON-FREEZING HYDRANT

As protection from freezing, the shut-off valve of a new outside wall hydrant is located inside the basement wall. A rod from the hand control extends through the center of the pipe and connects to the shut-off valve inside. Valve body and head are made of brass and the outlet is threaded for ¾-in. hose connection. The James Knights Co., Sandwich, Ill.

HOUSE INTERCOM

Two-way conversations between various parts of the house are possible with the *Telephone intercommunication system*. The system works electronically, and consists of a master station to originate calls and as many as three answering stations located in other rooms of the house. Webster Electric Co., Racine, Wisc.

WALL TILE

Aluminum

Hastings Aluminum Tile for kitchens and bathrooms can be applied over any dry surface with mastic cement as a base. Colors are baked on, and reported

(*Continued on page 154*)

Royal Hawaiian Hotel, Waikiki Beach, Honolulu, T. H.

The Royal Hawaiian Hotel, on Waikiki Beach, combines superb hospitality with a romantic setting on one of the world's most beautiful beaches.

In keeping with the spirit of the noted hostelry is a new Western Electric sound system, the "secret" of which is the use of wide range, high quality 728B 12″ loudspeakers.

Forty-four 728B speakers, operated at low volume, supply the main dining room, the main lounge and the "surf bar." Three additional 728B speakers, operated at a much higher level, furnish music for outdoor dancing. The speakers are divided into six groups, arranged so three different programs may be presented in separate areas at the same time.

A microphone pickup from the outdoor bandstand, a radio receiver, two automatic record players and a local wired music service provide a choice of four program sources.

To learn how you can have a high quality, *low level* sound system tailored to fit your needs, contact the nearest representative of the Graybar Electric Company, distributors of Western Electric sound systems, or write to Graybar, 420 Lexington Avenue, New York 17, N. Y.

Western Electric

Distributed by Graybar

OFFICES IN 92 PRINCIPAL CITIES

Western Electric

— QUALITY COUNTS —

(*Continued from page 152*)

to be proof against chipping and cracking. Size of the tiles, available in 12 different colors, is 5 in. by 5 in. Also available are trim tiles, base tiles, and wall plates for electrical outlets. Metal Tile Products Co., Hastings, Mich.

Plastic

A new plastic wall tile is self-aligning, with a tongue-and-groove joint and a center notch which fits a "dot" lock in the adjacent tile. This lock secures each tile in vertical or horizontal alignment; and the lap joint forms a complete plastic surface even under the tile joints, keeping the mastic from forcing through. The tile is available in a choice of colors, plain or marbleized. Pittsburgh Tile Co., Terminal Bldg., Pittsburgh 19, Pa.

DRAFTING AIDS

Template cutouts for the use of draftsmen include two new items: the No. 50 template with commonly used symbols, such as the circle, hex, delta, and square; and the No. 401 Ellipse Set Folio, containing four plastic sheets with a projection range of 20, 30, 45, and 60 degrees. Ellipse sizes are $\frac{3}{8}$ in. to $2\frac{3}{4}$ in., major axes. Rapidesign, Inc., Dept. AR, P. O. Box 592, Glendale, Calif.

AIR EXHAUST

A commercial exhaust, constructed of cast aluminum, is designed for mounting on the outside wall with its louvered inlet extending through the wall and connecting directly to the duct system. The present model is rated at 980 CFM and powered by a $\frac{1}{4}$ hp motor; motor is mounted outside the wind stream. Jenn Air Products Co., 325 Bankers Trust Bldg., Indianapolis, Ind.

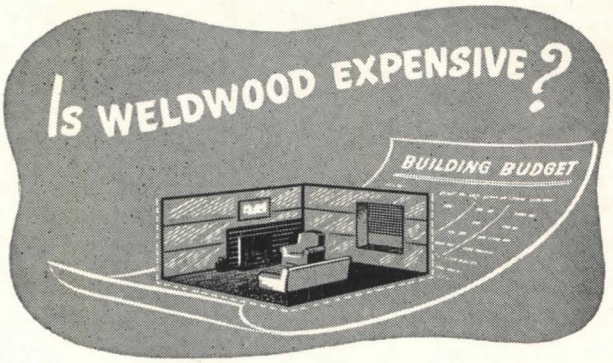
CONDUIT CLAMP

A new conduit clamp snaps onto the conduit and stays in place while the clamp holder is fastened to wall or ceiling. It is constructed of steel with dual reinforcing ribs for greater strength. The size in production fits $\frac{1}{2}$-in. EMT or thin-wall pipe conduit, or $\frac{3}{8}$-in. standard pipe. Industrial Devices, Inc., 22 State Rd., Edgewater, N. J.

NIGHT LATCH

The *Free Hand Night Latch*, No. 3A6, is a newly developed door latch that can be opened with one hand. A quarter turn of the key opens the latch, and the bolt stays back, freeing the hand to operate the regular knob or front door handle. Afterwards, a turn of the key back to the original position closes the latch bolt. P. & F. Corbin Div., The American Hardware Corp., New Britain, Conn.

MANY OF YOUR CLIENTS CAN ANSWER THESE QUESTIONS...CAN YOU?



No. We'll readily admit a Weldwood-paneled room looks like a million. But when maintenance expense over the years is considered, a room paneled in Weldwood compares favorably in cost with ordinary plaster, paint and paper...both for new construction and remodeling.

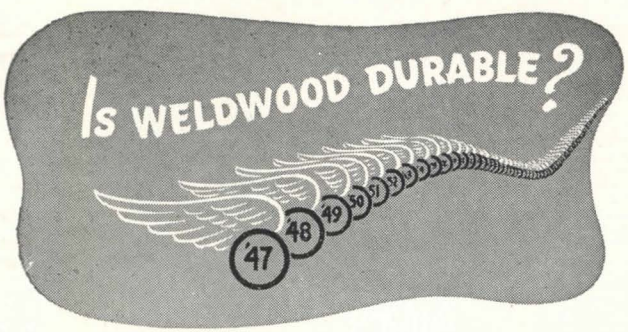
Fact is, you can do a 12 x 18 room in Birch Weldwood for less than $300**... materials *and* installation. Stop and think how little that adds to monthly FHA payments, with a home improvement loan.

Many of your clients know this!

Yes, indeed. Choose your style, then choose Weldwood for the interior. There's a wood for every mood. You'll find exactly what's needed for traditional effects; also beautiful woods for sleek, modern twentieth-century surroundings. Use Weldwood in several rooms, or just one. Do all four walls, even one wall, or simply the dado.

And you can work many clever, "built-in" miracles with Weldwood, for it provides structural strength as well as decorative beauty.

Many of your clients know this!

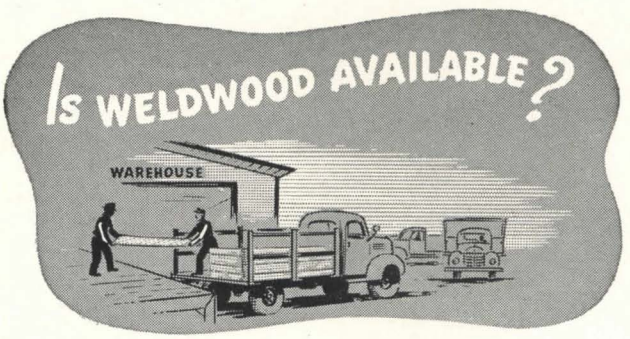


It is. Weldwood Plywood Panels are guaranteed for the life of the building in which they're installed.

And they'll remain luxuriously beautiful with a minimum of maintenance. No recurrent expense for papering and painting.

Durability like this makes Weldwood a good investment. Either in a new home or for remodeling, it adds a *permanent* value.

Many of your clients know this!



Yes, right now. Most grades and varieties of Weldwood . . . especially the decorative hardwoods . . . can be obtained immediately in the most popular sizes and thicknesses.

Fine domestic woods such as birch, oak, walnut, knotty pine and vertical grain cedar. Rich imported woods like de oro, mahogany, primavera. There's a wood to fit every taste and every pocketbook in the Weldwood line.

Many of your clients know this, too!

Why do your clients know these things? Because, in recent years, we've maintained a steady advertising program to tell them. We've hammered home the advantages of Weldwood in ad after ad.

Beauty. Durability. Versatility. Ease of installation. And *Economy.*

Has our effort had any effect? Well, a recent independent survey indicates that 1 out of every 3 home-minded Americans wants wood-paneling in at least one room.

And Weldwood gives it to them at a price they can afford to pay.

Take advantage of this acceptance. You'll find a warm reception for plans that include Weldwood Walls. We'll be glad to send complete data.

**Prices may vary slightly in different sections of the country, due to local conditions.

Weldwood* Hardwood Plywood
Douglas Fir Weldwood
Mengel Flush Doors
Douglas Fir Doors
Overhead Garage Doors
Molded Plywood
Armorply* (metal-faced plywood)
Tekwood* (paper-faced plywood)
Flexmetl
Weldwood Glue* and other adhesives
Weldtex* (striated plywood)
Decorative Micarta*
Flexwood*
Flexglass*
Firzite*
*Reg. U.S. Pat. Off.

WELDWOOD Plywood

Weldwood Plywood and Mengel Flush Doors are products of

UNITED STATES PLYWOOD CORPORATION
New York 18, N.Y.

THE MENGEL COMPANY
Louisville 1, Ky.

Distributing units in Baltimore, Boston, Brooklyn, Chicago, Cincinnati, Cleveland, Detroit, Fresno, High Point, Los Angeles, Milwaukee, Newark, New York, Oakland, Philadelphia, Pittsburgh, Rochester, San Francisco, Seattle. Also U.S.-Mengel Plywoods, Inc., distributing units in Atlanta, Dallas, Jacksonville, Louisville, New Orleans, Houston, St. Louis. *In Canada:* United States Plywood of Canada, Limited, Toronto. *Send inquiries to nearest point.*

Weldwood

Weldwood Plywood is made in both Interior and Exterior types, the former bonded with extended urea resins and other approved bonding agents; the latter with phenol formaldehyde synthetic resin.

ARCHITECTURAL ENGINEERING

TECHNICAL NEWS AND RESEARCH

(*Continued from page 120*)

INTERCOM

(1) How to Solve Communication Problems; (2) Sound—A Modern Control System. Brochures describing intercommunication systems for offices and industrial plants, in the interests of department coordination and relief of switchboard congestion. Also described are voice-paging and industrial music systems. 8 pp., each, illus. Executone, Inc., 415 Lexington Ave., New York 17, N. Y.*

LAUNDRY EQUIPMENT

Prosperity Laundry Equipment. Catalog of equipment units for hospitals, institutions, and commercial laundries. Includes plan of typical laundry room layout for 250-bed hospital. 8 pp., illus. The Prosperity Co., Syracuse 1, N. Y.

WATERPROOFING

Fight Water. Waterproofing methods and products used to solve problems in concrete and masonry construction; specifications for new construction, and maintenance and repair methods, involving concrete densifiers, coatings, joint sealers, and caulking compounds. 4 pp., illus. Sika Chemical Corp., 35–49 Gregory Ave., Passaic, N. J.

KITCHEN PLANNING

Kitchen Hints by Kitchen Maid. A collection of sample plans of kitchens, showing various arrangements of service cabinets. Includes scale drawings of individual wall units, base units, sink fronts, and utility units. 16 pp., illus. The Kitchen Maid Corp., Andrews, Ind.

INDUSTRIAL WASHROOMS

Washfountain Equipment (Catalog 4701). Booklet describing a complete line of washfountains, multi-stall showers, and drinking fountains for factories, schools, and institutions. Specification data and suggestions for washroom planning. Bradley Washfountain Co., Milwaukee, Wisc.

PUMPS

Automatic Self-Priming Pump. Brochure giving operating details of a pump with a new type of automatic spring valve, for faster transition from priming or vacuum pumping to straight centrifugal action: design and operating details, list of applications. 8 pp., illus. Allis-Chalmers Mfg. Co., Milwaukee 1, Wisc.

ELEVATOR PLANNING

Vertical Transportation Engineering and Planning Service (Bulletin B-677). Describes free Otis consulta-

(*Continued on page 158*)

ARCHITECTURAL ENGINEERING
TECHNICAL NEWS AND RESEARCH

(Continued from page 156)

tion service to help architects and engineers with the planning of passenger and freight elevators, Escalators, and dumbwaiters. 12 pp., illus. Otis Elevator Co., 260 11th Ave., New York.

ELECTRICAL FITTINGS

Gedney Fittings (Bulletin 48). Catalog of a complete line of electrical fittings: conduit fittings, EMT fittings, box connectors, entrance fittings, cable fittings, ground fittings, connectors for nonmetallic sheathed cable, straps and clamp backs, conduit bodies, and EMT bodies. Gedney Electric Co., RKO Bldg., Radio City, New York 20, N. Y.

FLOORS

Floor Facts. General information about terrazzo, asphalt tile, linoleum, rubber, concrete, and wood floors: specifications for their protection and maintenance. Vestal, Inc., 4963 Manchester St., St. Louis 10, Mo.

LITERATURE REQUESTED

The following individuals and firms request manufacturers' literature:

Paul H. Ayer, Architect, 327 Moronet Bldg., Bakersfield, Calif.

Ralph E. Crook, Architect, Suite 227, Lancaster National Bank Bldg., 126 W. Main St., Lancaster, Ohio.

Flinn and Saito, Architects, 513 Lafayette Bldg., Waterloo, Iowa.

Howard H. Halperin, Student, 3522 W. Ogden Ave., Chicago 23, Ill.

Arthur P. Herrman, Executive Officer, School of Architecture, University of Washington, Seattle, Wash.

David J. Lakomecz, Architectural Designer Draftsman, 1649 Lake Ave., Whiting, Ind.

Robert A. Little, Architect, 1303 Prospect Ave., Cleveland 15, Ohio.

G. Mianulli, Consulting Engineer, 44 Court St., Brooklyn, N. Y.

Donald C. F. Miller, Architect and Engineer, Hametown-Richfield Rd., R. D. No. 1, Box 350, Barberton, Ohio.

Moe and Fugelso, Architects, 4040 Wilshire Blvd., Los Angeles 5, Calif.

Stanley C. Podd, Architect, 391 Delaware Ave., Buffalo 2, N. Y.

Gordon H. Ream, Student, 77 Beaconsfield Rd., Leicester, England.

A. Rorke Vanston, Architect, Hospital Division, Architectural and Engineering Section, State Board of Health, Columbia, S. C.

Seiichi Washizuka, Architect, 16 1-Chome Shinbashi, Minatoku, Tokyo, Japan.

William and Sylvia Wilde, Design Consultants and Architect, 415 East Fifth St., Tucson, Ariz.

Radiant heat rates first with me

Convection heat rates first with me

Modine Convector Radiation gives you BOTH of these great heating principles blended into one!

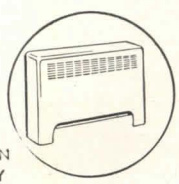
1 YOU GET RADIANT HEATING

See those arrows coming from the Modine Convector Panel below the window? That's *radiant heating* — mild, radiant heat in just enough quantity to offset heat loss from window areas. But that's not all . . .

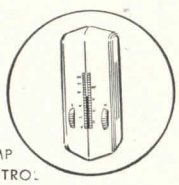
2 YOU GET CONVECTION HEATING

These arrows indicate *convection heating!* Hot water or steam passes through copper heating unit which draws cooler, floorline air into bottom of convector where it's warmed, rises and then passes out through grille.

Result: Dependable new hot water and steam heating comfort for moderate cost homes, apartments, commercial and institutional buildings . . . distinctive room charm and cleanliness without unsightly radiators! Modine Convector Radiation gives you a modern, blended heating system for modern living — a heating system that provides individual room control — that responds almost instantly to sensitive automatic controls — that gives you gentle air circulation without the use of moving parts that wear out—that costs less than any other form of radiation. If you're planning to build or modernize, think of Modine Convector Radiation . . . look for Modine's representative in the "Where-to-Buy-it" section of your phone book . . . or send for new, free Convector Booklet! MODINE MANUFACTURING CO., 1510 Dekoven Ave., Racine, Wis.

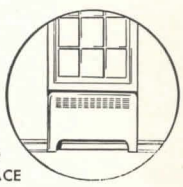


MODERN BEAUTY



CLOSE TEMP ERATURE CONTRO

EASY TO INSTALL



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PRICED FOR TODAY'S HOMES AND APARTMENTS

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CONVECTOR RADIATION

The Modern "proved by use" heating method

REQUIRED READING

(*Continued from page 30*)

ment Station. Photos and diagrams are numerous, and all recommended steps are itemized for quick reference.

SEPTIC TANKS

Septic-Tank Systems (Circular Series Index No. G5.5). Urbana, Ill. (Mumford House), Small Homes Council, University of Illinois, 1947. By E. W. Lehmann. 8½ by 11 in. illus. 6 pp. Gratis.

This is the 18th of the University of Illinois Small Homes Council's non-technical circulars for home owners. It explains the essential parts of the septic-tank system, how the system operates, its construction and installation, and its maintenance. Construction details are given in a large chart, and a table of capacity and dimensions for rectangular tanks is included.

VAPOR TRANSMISSION

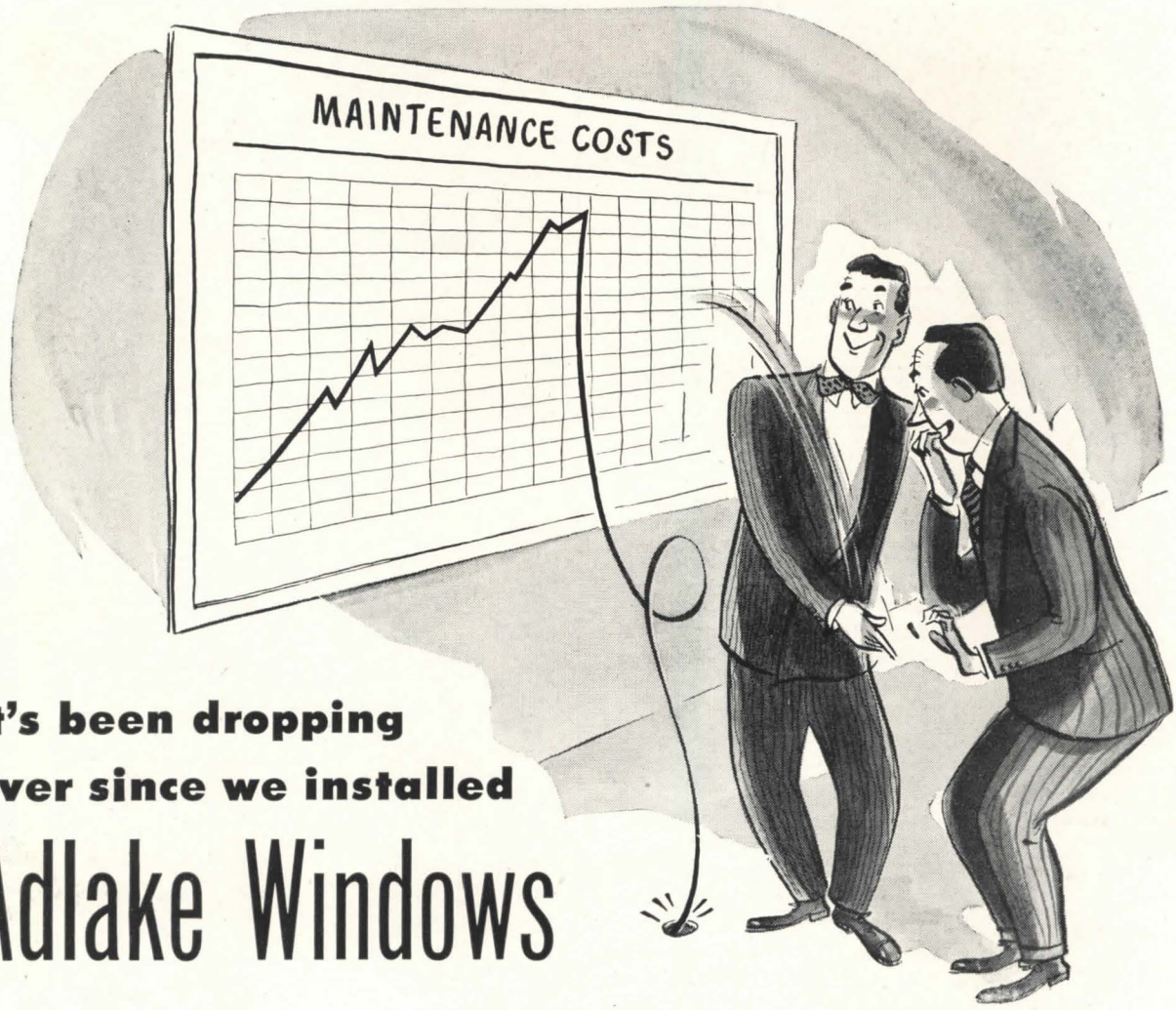
Moisture and Temperature Control in Buildings Utilizing Structural Insulating Board. By Frank B. Rowley, Millard H. LaJoy, and Einar T. Erickson. (Bulletin No. 26.) Minneapolis 14, Minn., Engineering Experiment Station, Institute of Technology, University of Minnesota, 1947. 6 by 9 in. 38 pp. illus. 50 cents.

This bulletin is a continuation of previous studies on the vapor transmission of structural insulating boards, sponsored cooperatively by the University of Minnesota and the Insulation Board Institute. It includes descriptions and illustrations of the test apparatus, test methods, and complete test results, together with the conclusions reached. Interior and exterior surface finishes of specific vapor permeability rates are recommended with respect to effectively reducing moisture condensation in residential structures. Attic ventilating requirements, and conclusions reached from attic air temperature study are also included.

AIR STERILIZATION

The Disinfection of Air. Report of the Committee on Air Sterilization and Conditioning of the Council on Hospital Planning and Plant Operation, American Hospital Assn., Chicago 10, Ill. (18 E. Division St.), American Hospital Assn., 1947. 5½ by 8½ in. 22 pp. 25 cents.

Various methods of guarding against airborne infection in hospitals are discussed in this report, including chemical disinfection, dust suppression, ultraviolet radiation and removal of infected air by active ventilation. Efficacy and comparative costs of the various methods are studied and conclusions of interest to anyone connected with operation of the hospital plant are presented.



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Adlake Windows

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

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

TRULY the amazing Adlake Window fulfills your every architectural requirement! Complete information and data will be mailed you on request. Drop us a postcard today . . . there's no obligation, naturally. Address: The Adams & Westlake Company, 1102 N. Michigan, Elkhart, Ind.

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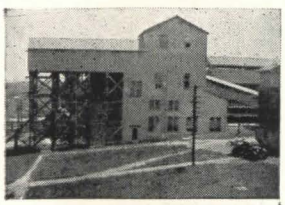
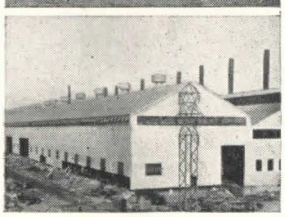
TIME

PROVES

Galvanized (ZINC-COATED) Sheets Stay Stronger Longer





34 YEARS . . . Erected in 1913, and covered with heavy gauge galvanized sheets, this Tennessee concentrating plant of the A/Z Company, pictured at left, is still in excellent condition after more than three decades of service. Painted with Gray Metallic Zinc Paint in 1932.

50 YEARS . . . The galvanized metal roof on this old Missouri farm building has outlasted the building itself, and is still in good condition after half a century of service. Industry and the farm have long depended on galvanizing to protect iron and steel against costly rust. Builders know that as long as iron or steel is zinc covered, it *cannot rust.*

In building for the future, look to the past for proof of a building material's strength . . . durability . . . service. With *galvanized* (zinc-coated) roofing and siding you get the strength of steel . . . the rust protection of Zinc. So for low-cost, long-time service choose the building material that's proved by TIME itself . . . galvanized sheets. Send coupon for information about Zinc and how it helps keep buildings and equipment *stronger longer.*

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This "Seal of Quality" is your guide to economy in buying galvanized sheets. Sheets bearing it carry at least 2 oz. Zinc per sq. ft.

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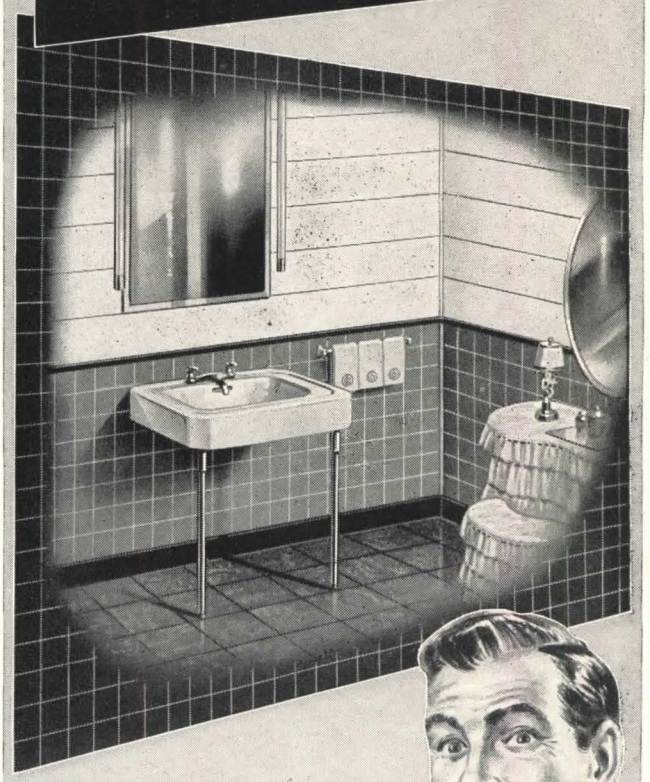
PRESTILE

"Its Plastic Beauty is Baked In"



Eleven Million PresTile "Salesmen"!

TO MILLIONS of homes all over America — 11,674,703, to be exact — PresTile brings its message of beautiful, practical walls, quickly and inexpensively set up.

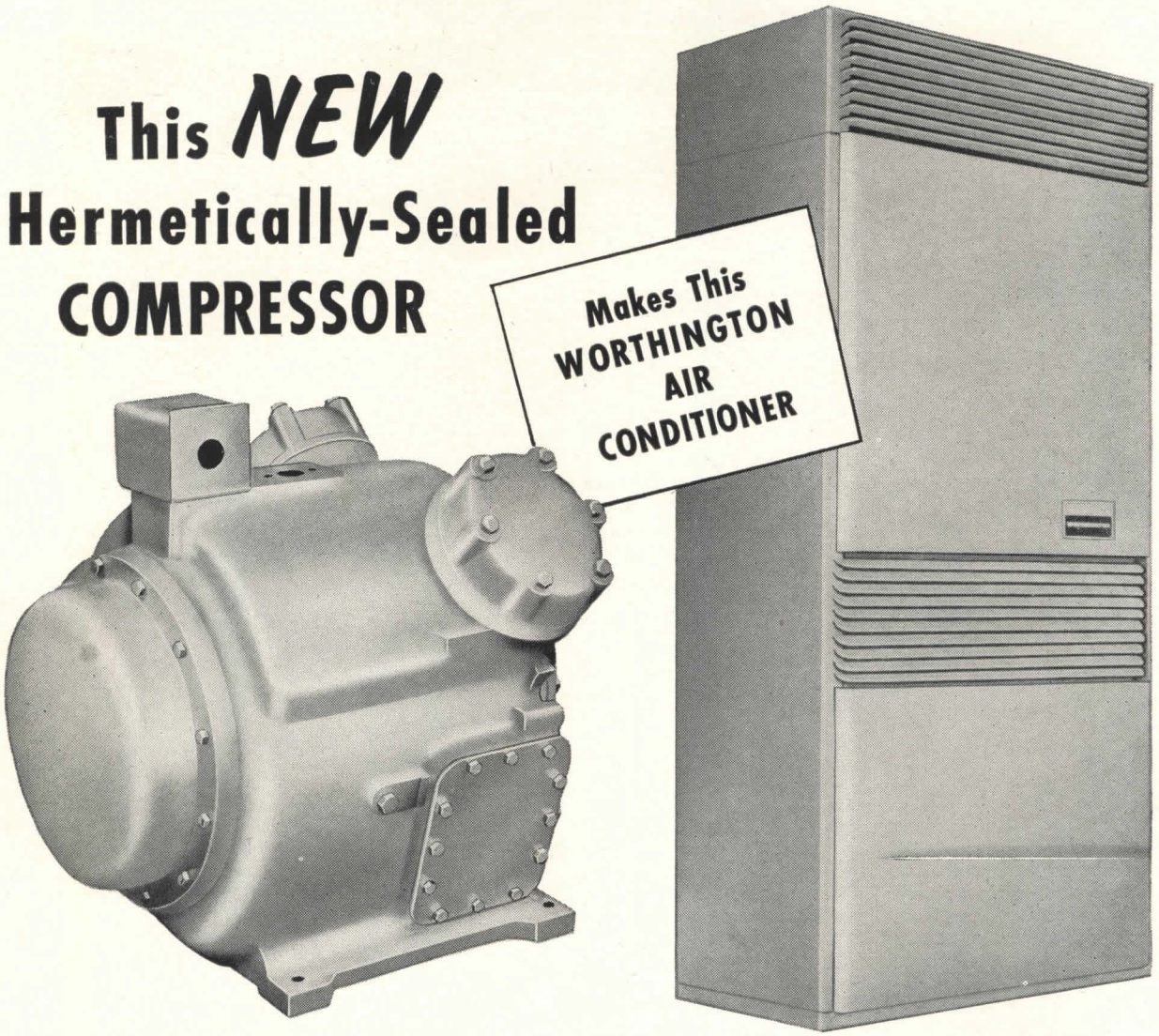
PresTile advertising appears in Better Homes & Gardens, American Home, House & Garden and Small Homes Guide. All of it is designed to make prospective home builders and remodelers familiar with PresTile advantages.

This means ready acceptance when you specify this tileboard of recognized quality!

PRODUCTION INCREASED! *Additional quantities of genuine Prestile are now available. Specify Prestile! Write for literature.*

Prestile Manufacturing Company
2860 Lincoln Avenue • Chicago 13, Illinois

This *NEW* Hermetically-Sealed COMPRESSOR



the Outstanding SELF-CONTAINED Unit

It's the most modern of its kind—completely new, designed throughout for quiet, vibrationless operation and field serviceability.

Motor and compressor are combined in one piece of equipment (eliminating belts, pulleys, fly wheels and couplings) and hermetically sealed against dirt and moisture. There are no shaft seals, and it is never necessary to oil the motor or make adjustments. When necessary, the equipment is readily accessible for servicing in the field.

Other features: dynamically balanced crankshaft, crankcase with removable cover, positive displacement gear-type oil pump, large oil filters in the lubricating oil line, pistons equipped with four piston rings, removable cylinder liners, Worthington Feather* Valves, refrigerant-cooled cylinder walls and refrigerant-cooled motor.

Models are available now in 3-ton and 5-ton sizes.

Get ahead with Worthington's Self-Contained Air Conditioner—the air conditioner with *all* the new features, that's going out front in 1948. *Worthington Pump and Machinery Corporation, Harrison, N. J. Specialists in air conditioning and refrigeration for more than 50 years.*

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AIR CONDITIONING AND REFRIGERATION

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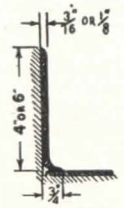
YOUR CHOICE OF THESE *2 Finest* RUBBER TILES

There's always the *best* floor for the purpose. After carefully considering the needs and special requirements of each flooring job, more and more reputable builders and architects are specifying time-proven *Wright Rubber Tile* . . . either *Wrightflor* or *Wrightex*. Whichever you choose, your customers will enjoy *three* important advantages . . . many years of longer wear, low maintenance costs, and everlasting beauty. As close to being lifetime floors as yet devised, both tiles withstand the heaviest continual traffic because of their superior construction developed by *Wright* specialists during the past 25 years.

Wrightflor . . . Many installations call for easy-to-clean *Wrightflor*. Its harder, non-porous surface resists the action of grease, stains and dirt . . . even the lightest cleaning renews its beauty. Maintenance costs are reduced drastically with *Wrightflor*.

Wrightex . . . Where quietness is the principal requirement of a floor, *Wrightex* is best. Its softer, more resilient surface hushes sounds, while resisting signs of scuffs and wear. Write for color charts and specifications of *Wrightflor* and *Wrightex* today.



WRIGHT-ON-TOP COMPRESSION BASE

This flexible rubber base, *Wright-on-Top*, attractively and practically joins your *Wright* flooring to the wall. Easy to install . . . it is set *on top* the flooring, thereby eliminating border scribing. Hugs the floor despite shrinkage or uneven surfaces.

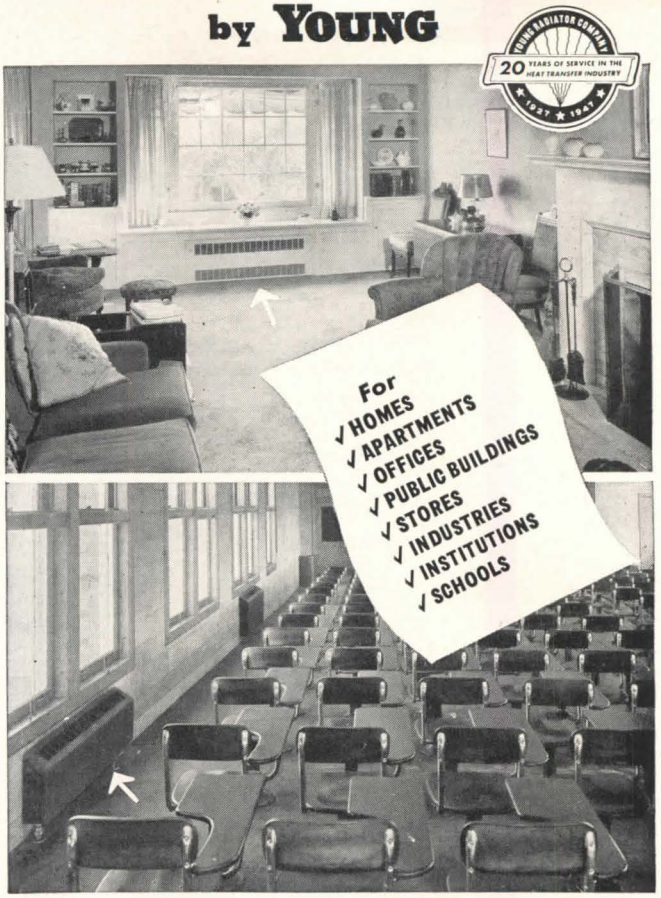
TAYLOR MANUFACTURING COMPANY

Wright Rubber Products Division

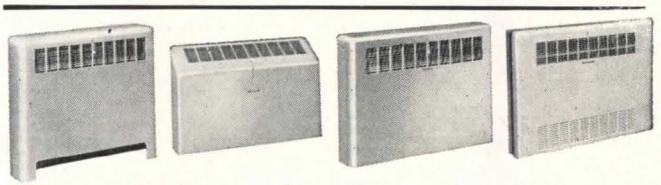
3074 W. Meinecke Ave., Milwaukee, Wisconsin

WRIGHT RUBBER TILE
Flooring of Distinction

For Every Application "STREAMAIRE" CONVECTORS by YOUNG



• An increasing number of architects and contractors are specifying "Streamaire" Convectors because they give extras that spell heating satisfaction. "Streamaire" Units are highly efficient and truly economical. They respond instantly to modern thermostatic controls . . . are engineered to circulate warm air by controlled convection, to level off temperature peaks by natural radiation. "Streamaire" Convectors are easy to specify, easy to install because they're standardized in four types, packaged individually to prevent damage. To aid identification, cartons are marked with model number and size. "Streamaire" Cabinets enhance the beauty of modern interiors. Fronts are removable for cleaning. Write today.



Free Standing, Type C, no wall recesses required.

Wall Hung, Type WS, sloping top, no blocking of air.

Wall Hung, Type W, easy to clean, one-piece panel.

Partially Recessed, Type S, easy to install in recesses.

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Gas, gasoline, Diesel engine cooling, radiators • Jacket water coolers • Heat exchangers • Intercoolers • Condensers • Evaporating coolers • Oil coolers • Gas coolers • Atmospheric cooling and condensing units • Supercharger intercoolers • Aircraft heat transfer equipment

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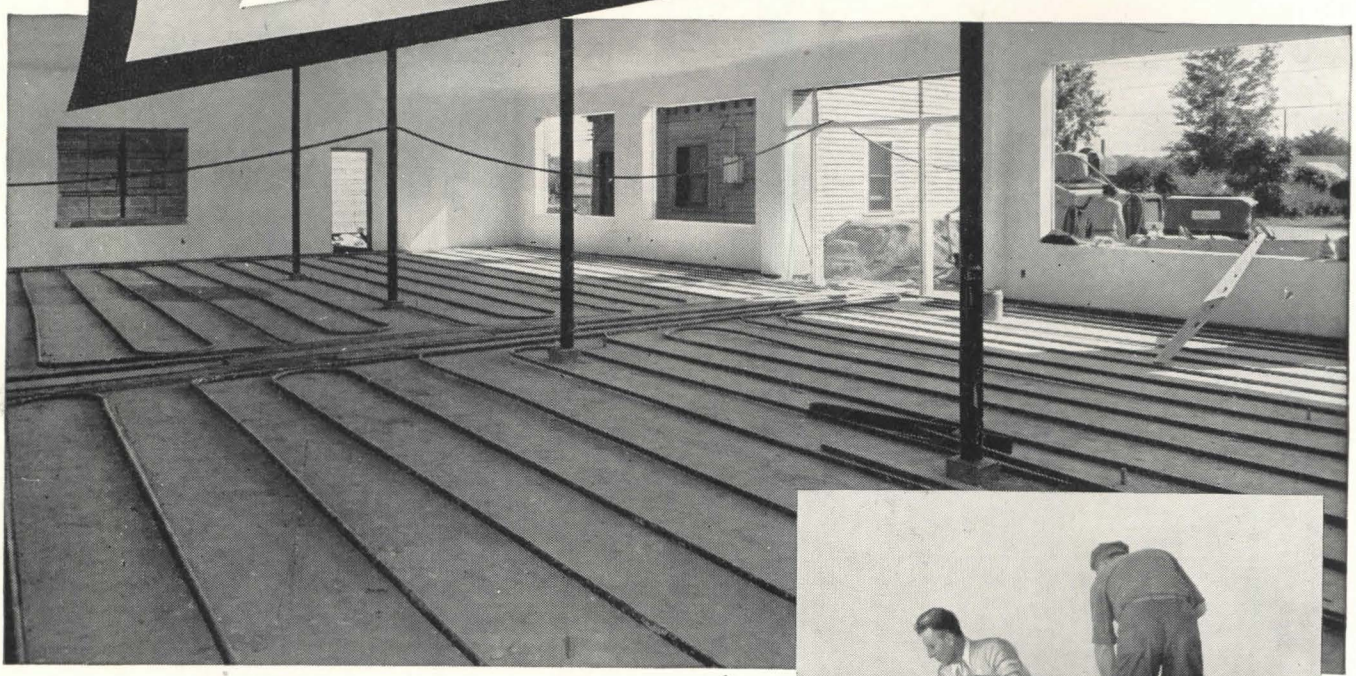
Convectors • Unit Heaters • Heating coils • Cooling coils • Evaporators • Air conditioning units •

ZONOLITE* INSULATING CONCRETE IDEAL FOR GRADE LEVEL AND RADIANT-HEAT FLOORS



Radiant Heating Coils resting on Zonolite Insulating Concrete

Another new development for builders—FLOORS THAT INSULATE! By using Zonolite Insulating Concrete for grade level floors in commercial structures or homes, cold and dampness can be eliminated. Heat loss into ground will be avoided.

Zonolite Insulating Concrete floors are made by mixing a specially graded Zonolite brand of vermiculite with Portland cement. This insulating concrete can be placed directly on the ground (vapor seal often placed on ground first) forming a fireproof, rot proof, termite proof, vermin proof floor base.

When radiant heating is specified, these floors are particularly desirable as a base for the coils or ducts. After laying the coils on this highly efficient and permanent base, they should then be covered with ordinary concrete. Heat waste into the ground is greatly reduced and enables the room to heat faster.

Whenever a floor is constructed on grade level, regardless of whether or not it has radiant heat, Zonolite Insulating Concrete should be specified. Because of the low heat capacity of Zonolite Insulating Concrete, condensation on the floor surface on warm, humid summer days is avoided.

Covering coils with a topping of ordinary concrete

ZONOLITE CONCRETE FLOORS REDUCE DEAD LOAD IN HIGH BUILDINGS

Zonolite Insulating Concrete, when used as a fill over steel pan floors, reduces dead load. When used in this way, the fireproofness of the building is greatly increased as Zonolite is one of the most fireproof materials known. Zonolite Concrete aggregate weighs as little as six pounds per cubic foot.

Send now for complete information about Zonolite Concrete Floors.

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TRADE MARK REG. U. S. PAT. OFF.
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VERMICULITE INSULATION

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Dept. AR127, 135 S. La Salle St. Chicago 3, Ill.

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Address.....

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Please check: ☐ Architect ☐ Engineer ☐ Draftsman ☐ Contractor

**Zonolite is the registered trade mark of Universal Zonolite Insulation Co.*

A survey taken among workers in 400 manufacturing plants showed that good washrooms are one of the four most important factors in good working conditions.

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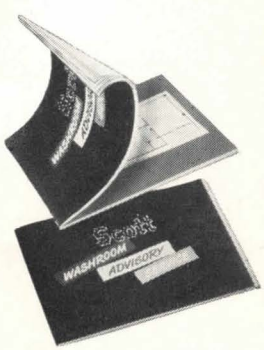

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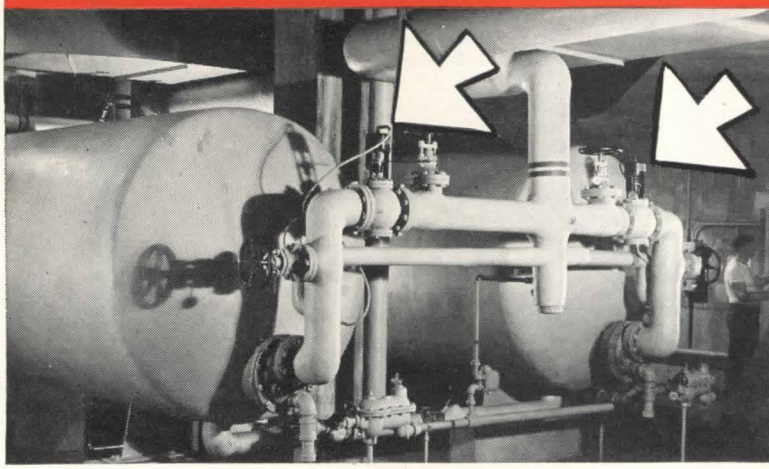

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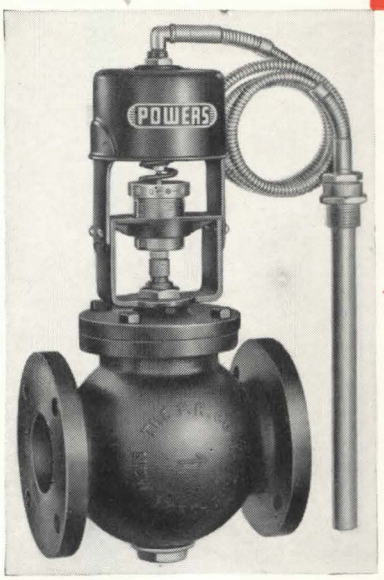

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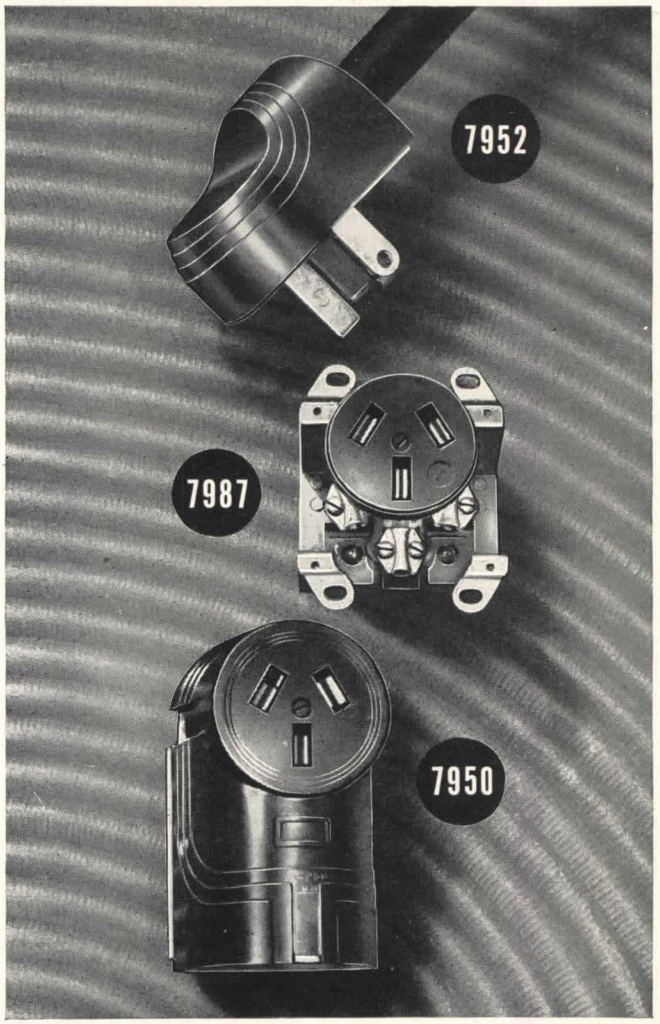

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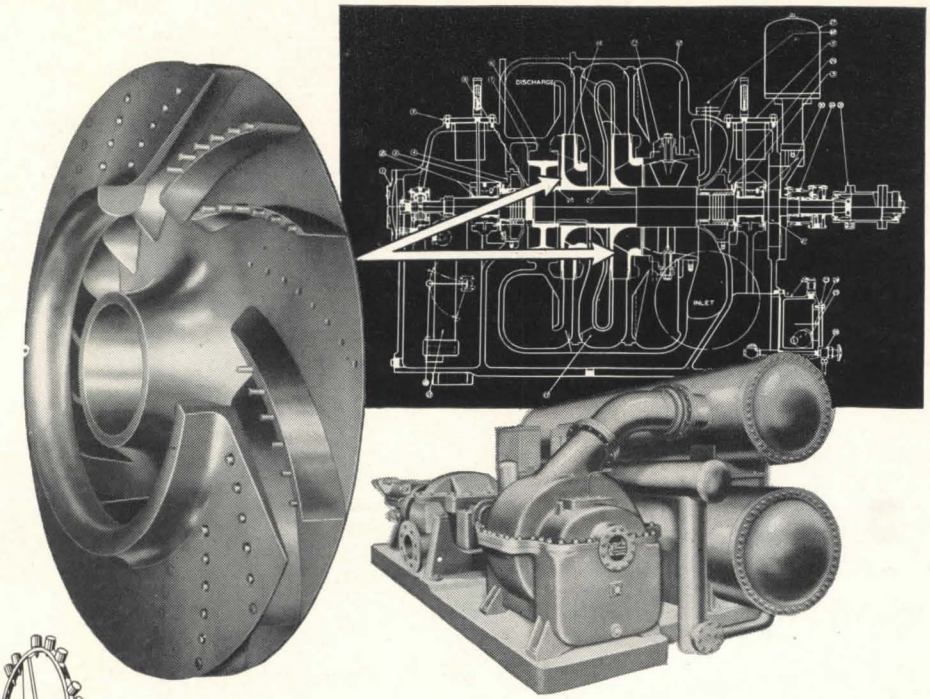

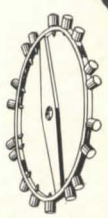

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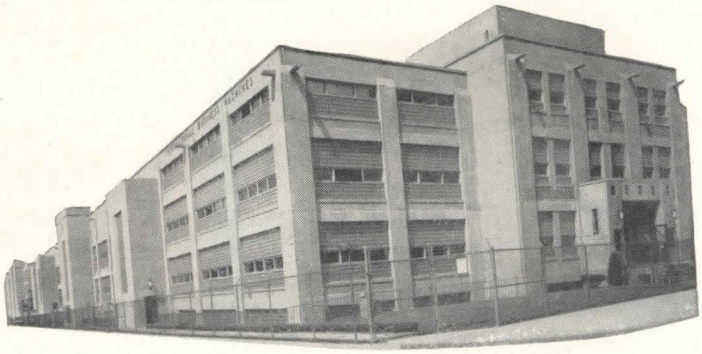

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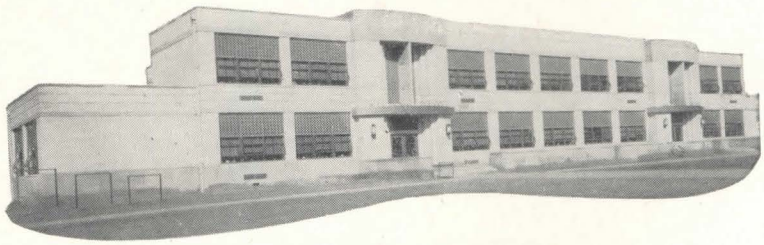

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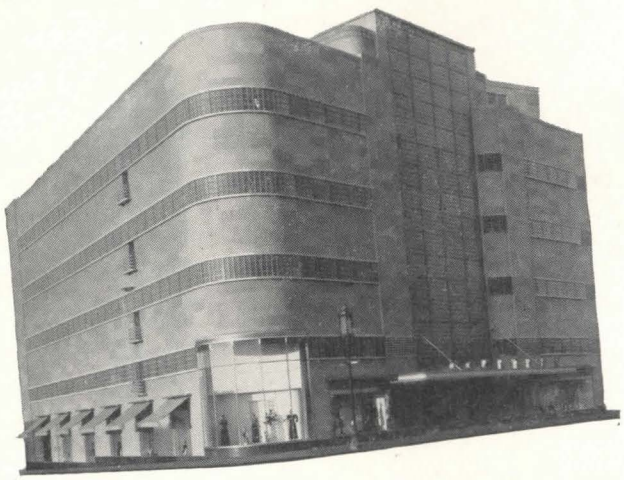

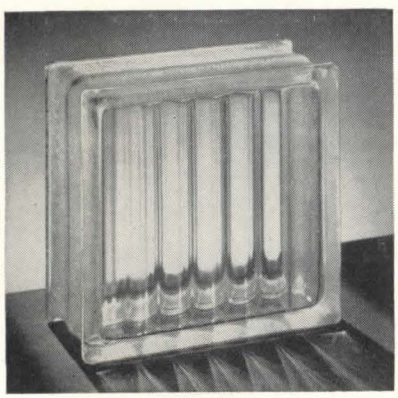

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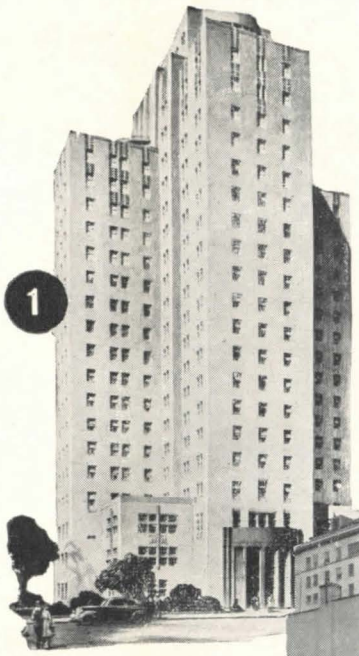

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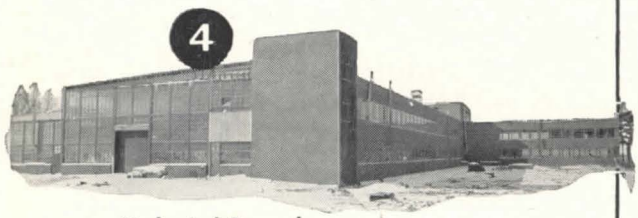

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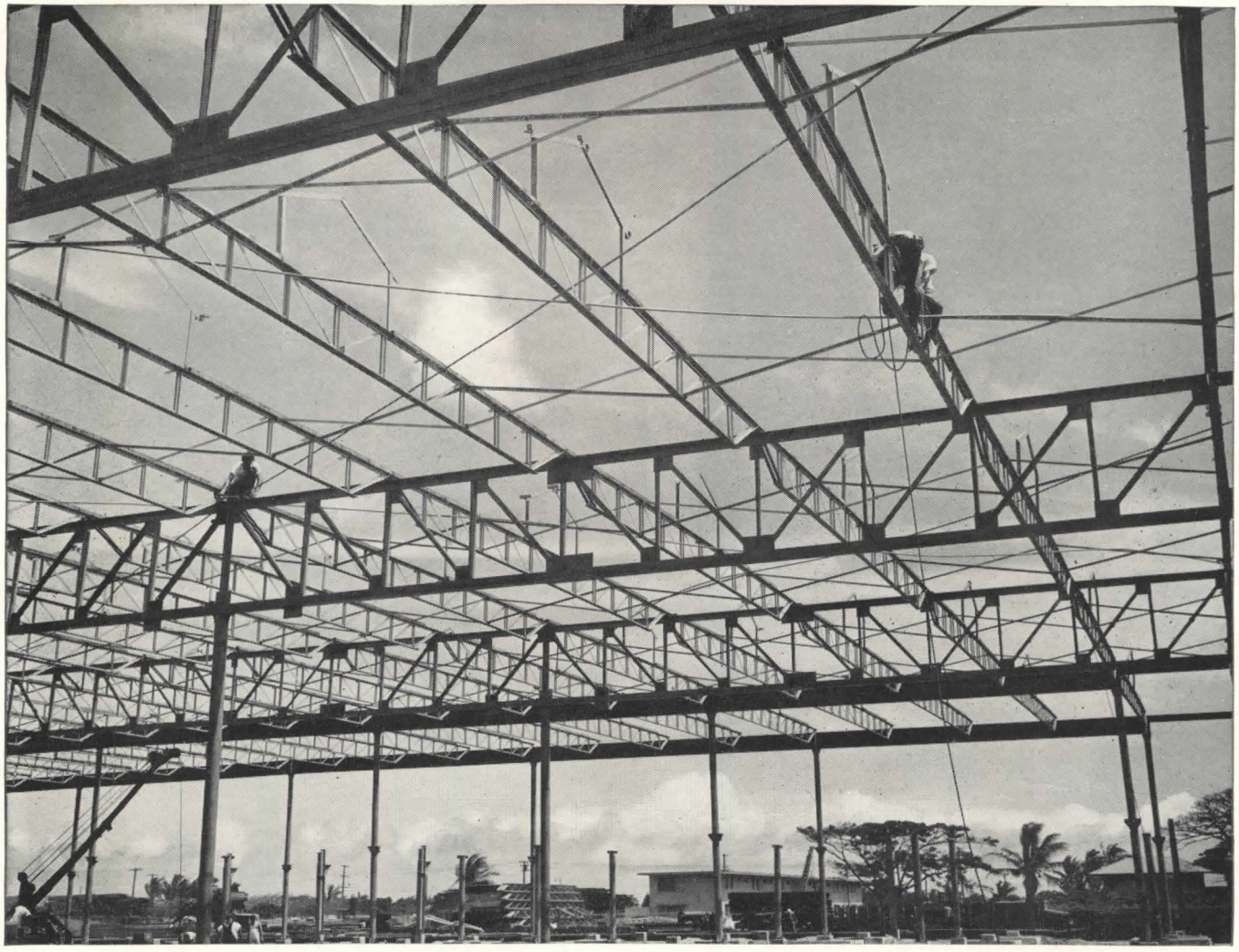

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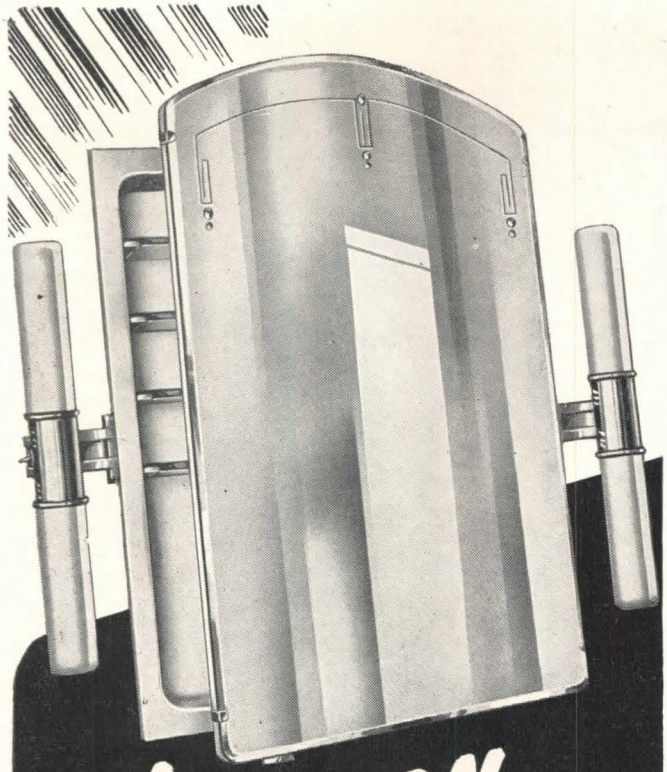

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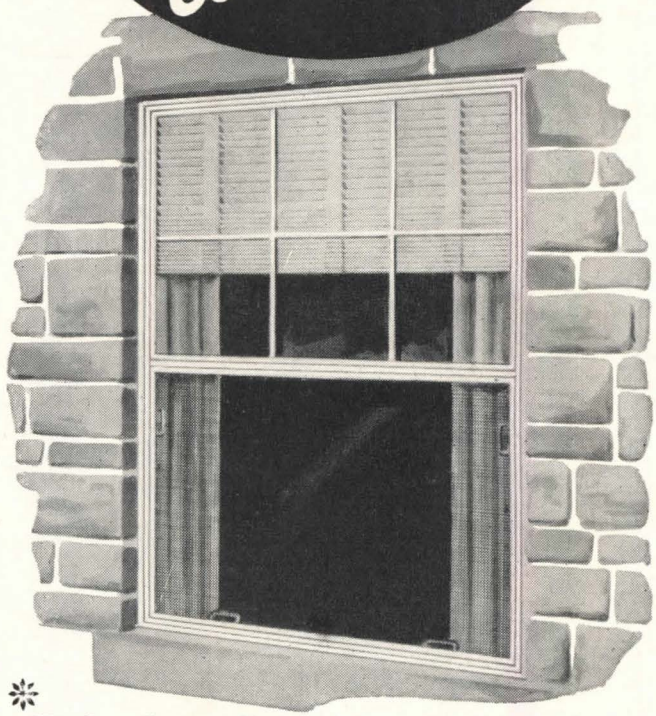

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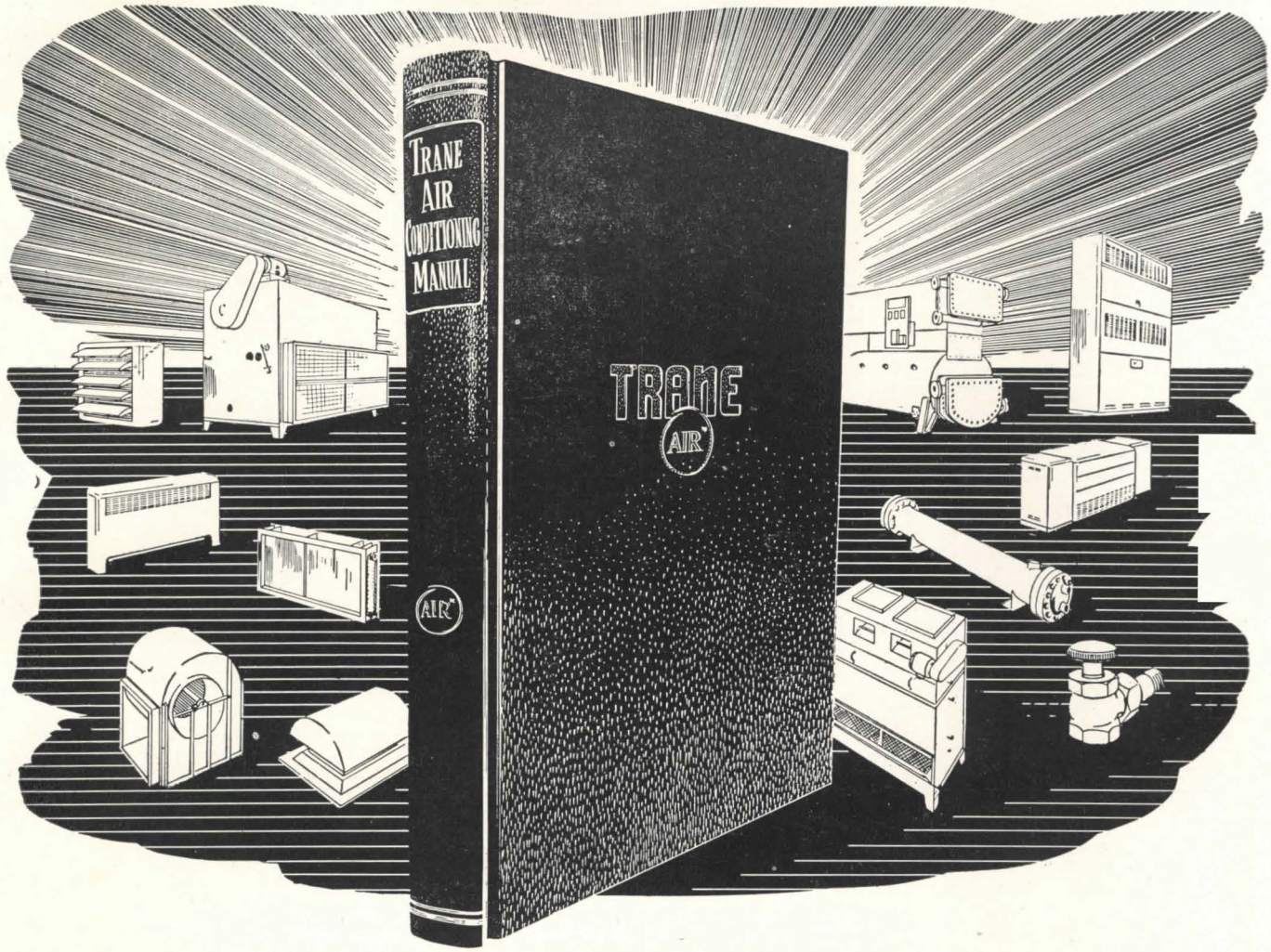

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The "bible" of the air conditioning industry is a 376-page book, entirely devoid of commercialism. In it are clearly explained the terms, workings, and applications of all phases of air conditioning. So helpful and complete is this book—written by Trane Engineers at Trane expense—that it has worldwide use as a standard reference by architects, engineers, and contractors, and also as a text by students of air conditioning.

The same men whose experience made the Trane Air Conditioning Manual possible produce *Engineered Air Conditioning*. It is these men who engineer and build the most complete line of products for air conditioning and heating in the industry—products that are designed and built together for use together, and that reflect the high standards of Trane product engineering.

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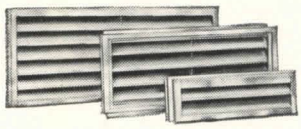

calls for a strong, rigid, corrosion-resisting material. And you can actually save money...as much as ten per cent...by using Monel*

Exposed to the elements on both sides, louvers seldom dry out . . . always have moisture in their crevices.

That's why louver design demands the use of corrosion-resisting material.

But most corrosion-resisting materials are too weak and lack rigidity. Only by using extra heavy gauges can louvers be made strong enough and stiff enough to prevent sagging and distortion.

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Now look at Monel! It's the natural answer to the problem. It resists corrosion without any "extra" protective coating. It provides twice the rigidity of commonly used materials and twice the strength.

Yet, you can use this superior metal and actually save money at the same time...because its strength and rigidity permit the use of *thinner* gauges.

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But the best way to see how Monel can solve your practical design problems is to examine a sample and try it out yourself. The coupon will bring it to you by return mail. *Reg. U. S. Pat. Off.

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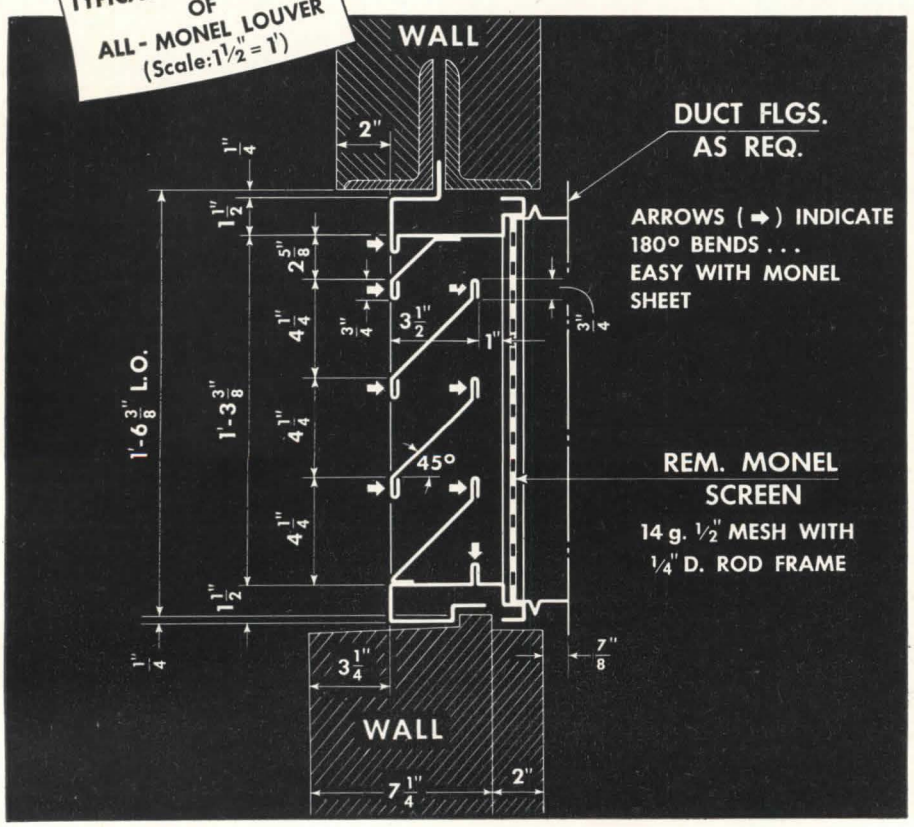

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She's the healthiest child in the world—this regular American kid. Pipe had much to do with making her strong, straight and sturdy, and in keeping her so.

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STEEL PIPE MAKES IT POSSIBLE!

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

ALASKA

92°F above 34°F below

...Seaporcel

This is no weather report . . . simply a reference to fact. Alaska weather is one of daily extremes. In January the thermometer will range from 56°F. above to 34°F. below . . . and in July it may vary from a high of 92°F. to a low of 34°F. below zero.

Exposed building materials must resist the injurious effects of such erratic weather, so Anchorage, Alaska, for the first time is going to have SEAPORCEL Architectural Porcelain Enamel. The convincing reason is that it will withstand the rigors of 58 inches of snow . . . or sudden chilling rains, concurrent with 92°F. above zero. Very few other finishes, if any, can surmount these rapid changes in temperature.

The architect's rendering depicted here illustrates a building 150 ft. long by 30 ft. high. The entire exterior facing and raised letters are SEAPORCEL Porcelain Enamel in semi-matte white and rich red finish. Lighting is provided by neon tubing ingeniously silhouetting the letters against the facia panels.

Owners: Northern Commercial Company, Anchorage, Alaska
Architects: Bain, Overturf, Turner & Associates, Seattle, Wash.
Gen. Contractor: C. W. Hufeisen, Anchorage, Alaska

Sparkling ceramic fused to steel at 1550°F., SEAPORCEL can be fabricated to *any* shape, form, section . . . finished in any shade or color and in many interesting textures.

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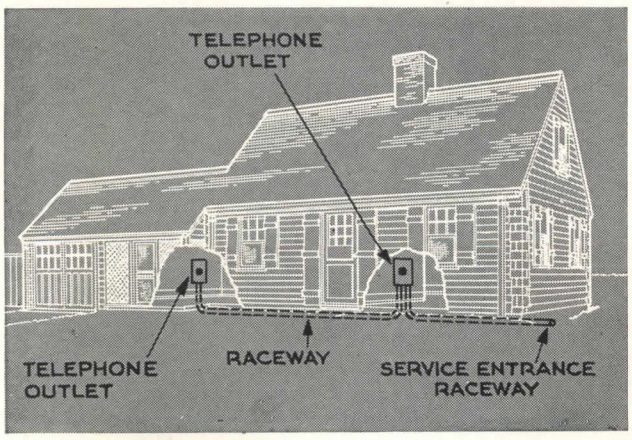


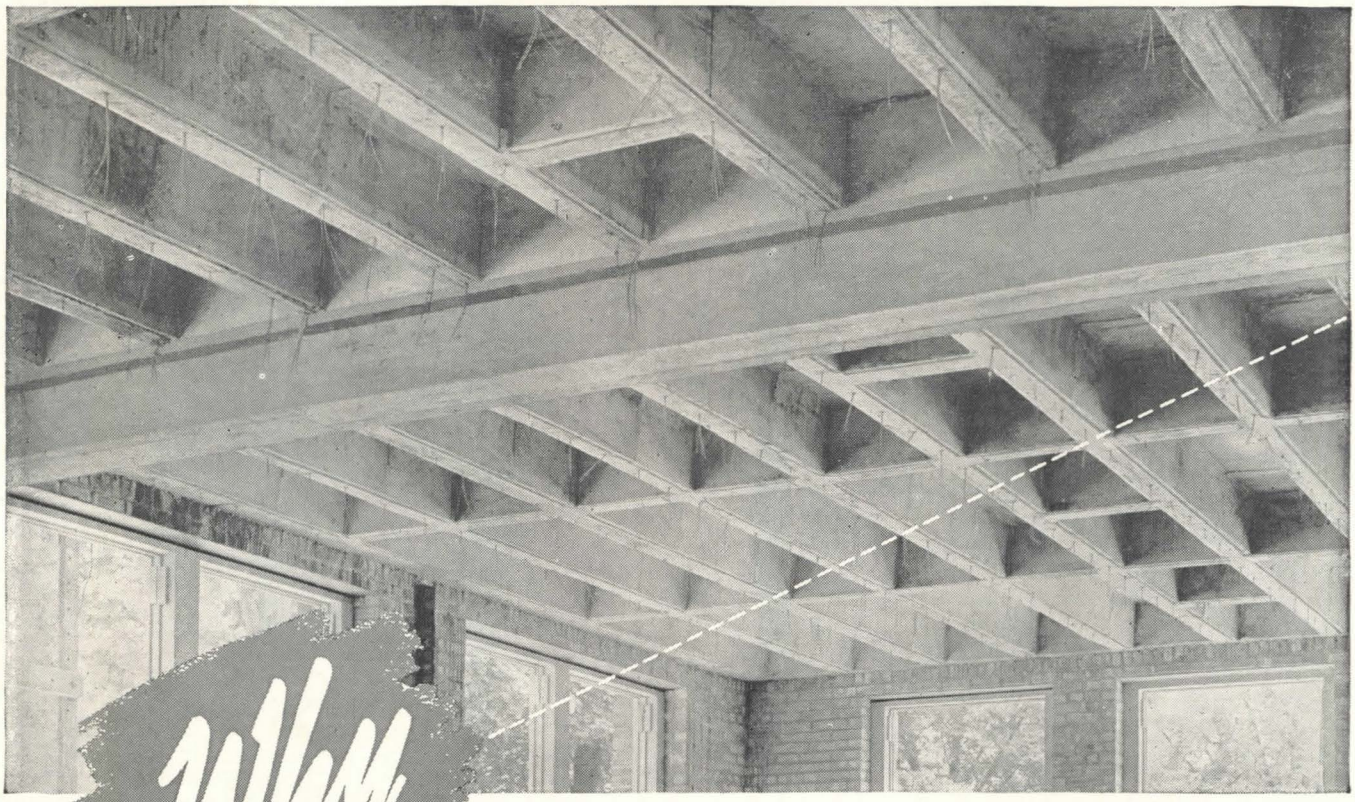
Little homes can be just as livable as big ones—if the same attention to detail goes into their plans. Among modern conveniences, a raceway for telephone wires gives a lot of value at little extra cost.

A few sections of pipe or electrical tubing, installed by the builder while the house is under construction, carry telephone wires into the house and within interior walls to pre-planned outlets.

In homes with finished basements, a telephone raceway avoids exposed wires in the basement as well as on the main floor. It also assures the convenience of built-in telephone outlets for the owner.

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

BELL TELEPHONE SYSTEM



Why Concrete Joist Construction?

Because Today's Costs are NOT Out of Line . . .
Because, strength and durability considered, concrete joist construction is the most economical way to build . . .

In these days of high costs, economy in building is important, provided strength and durability are not sacrificed. Here is where concrete joist construction comes in—since it provides rigid, strong, sound-proof buildings which are fire resistive, yet construction cost is lower. That is because the amount of concrete and, consequently, the dead load, are kept to a minimum for any span or live load. The concrete joist and monolithic top slab are formed with cores of removable Meyer steelforms, supported on skeleton centering. Once the concrete has set, the forms are removed and re-used from floor to floor and from job to job. Therefore, a nominal rental charge can be made for each use. Construction is speeded up.

WHY SPECIFY CECO?

Ceco originated the removable steelform method of concrete joist construction. The company is first in the field—actually providing more services than all competitors combined. So, when concrete joist construction fits your need, call on Ceco, the leader over all. Thirty-five years of experience in the field, on the job, have given Ceco a sure grasp of all concrete joist construction problems. This fund of knowledge is yours to command, in 23 strategically located offices from coast to coast.

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In construction products **CECO ENGINEERING** *makes the big difference*

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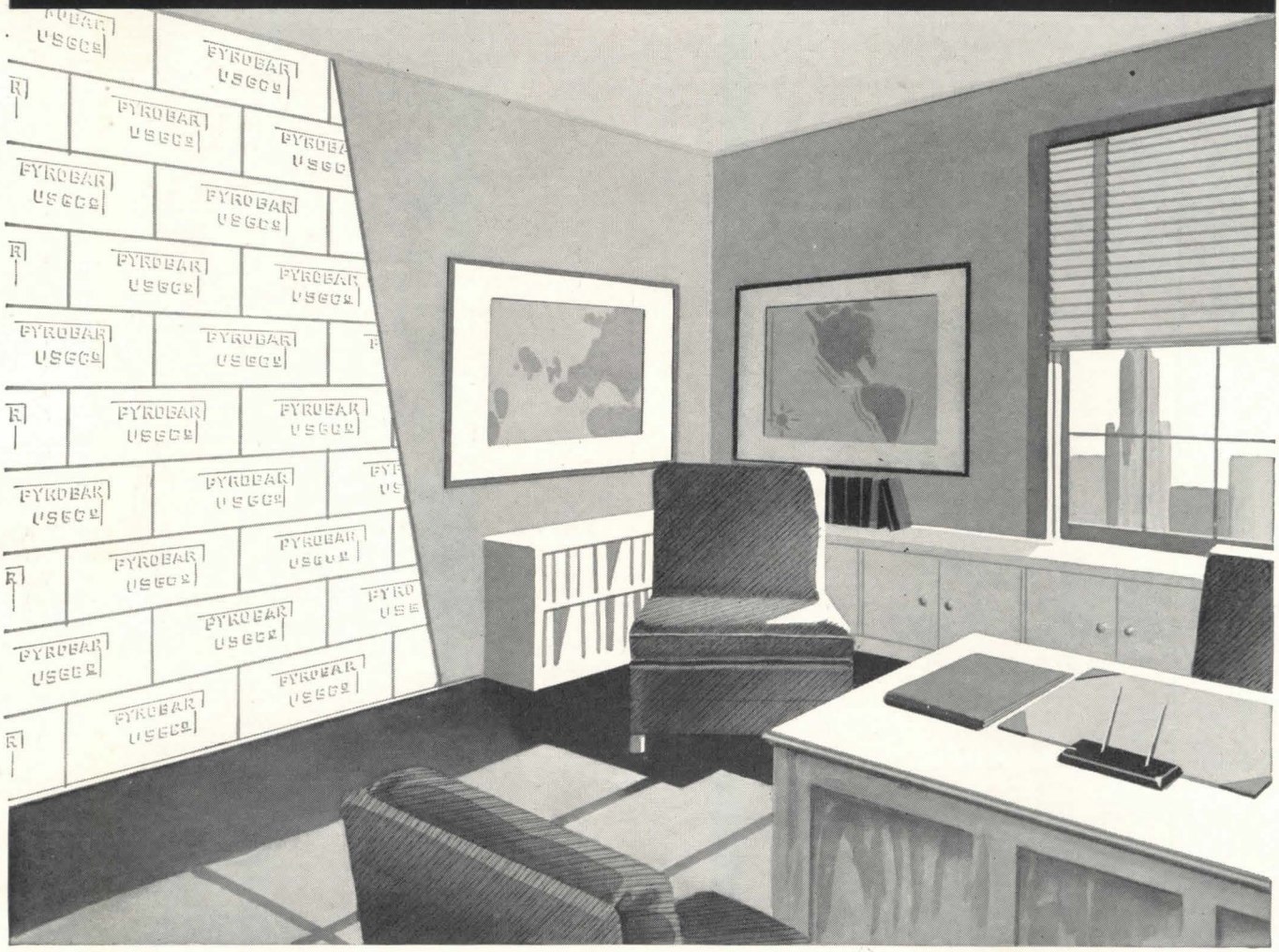
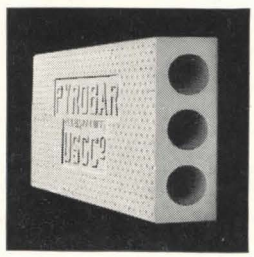


PYROBAR* Gypsum Partition Tile

Backing up more and more modern walls



And what is the reason for this increasing use of PYROBAR for non-load bearing partitions?

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- ✓ ***IT CAN PROVIDE VENTILATION AIR TO FIT THE REQUIREMENTS OF EACH SPACE.***
- ✓ ***IT IS EASILY COORDINATED WITH YOUR BUILDING DESIGN.***

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Individual rooms can be cooled or heated to individual taste . . . at the turn of a switch, or by thermostatic control. Fresh air can be introduced directly through room units, or by hall ducts, or by a central plant system . . . depending on your preference and needs.

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GENERAL ELECTRIC

Better Air Conditioning

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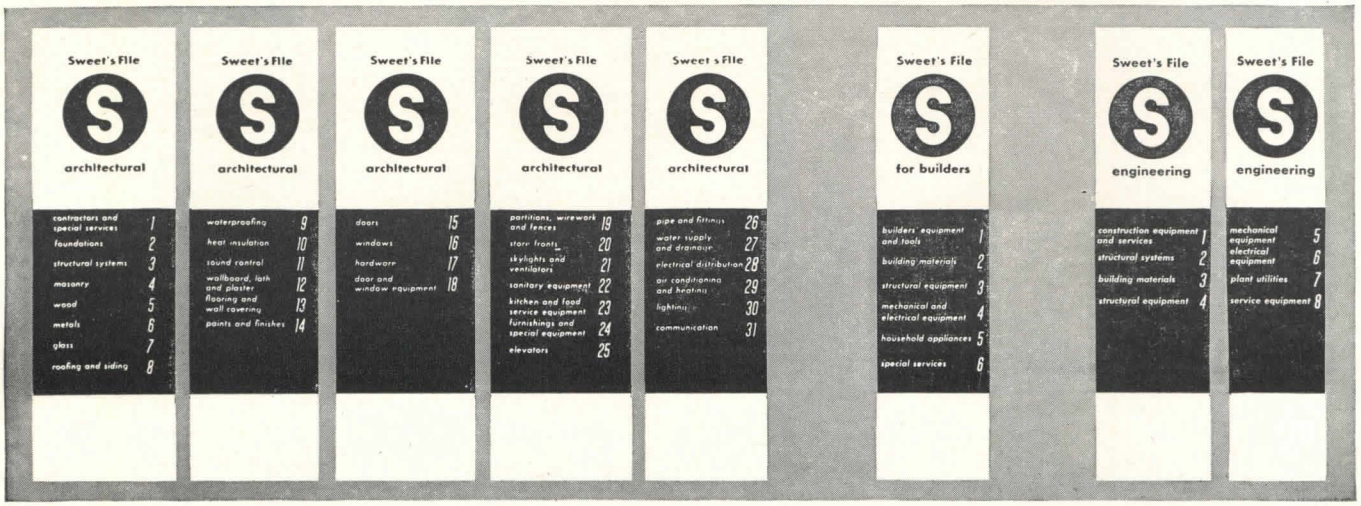

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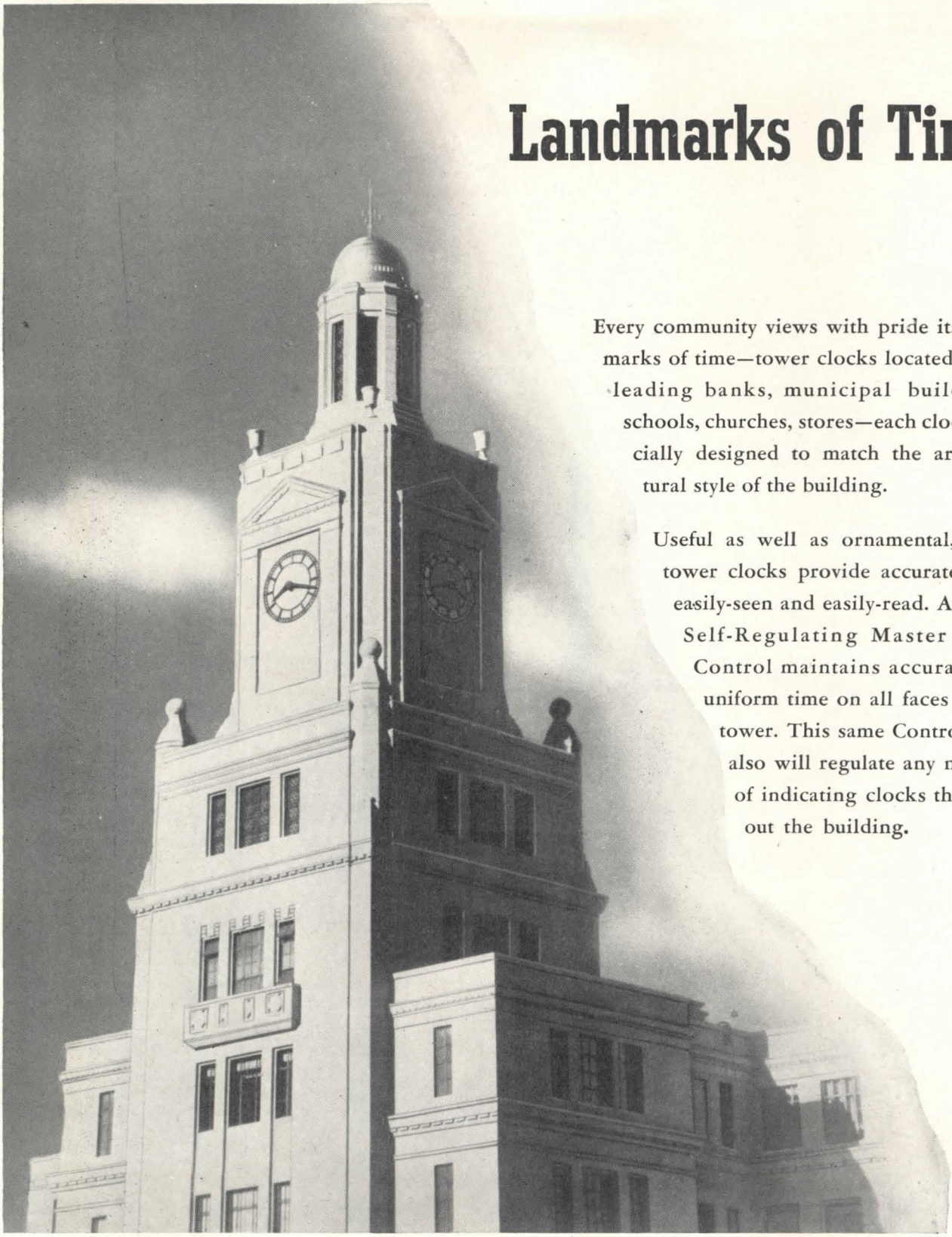

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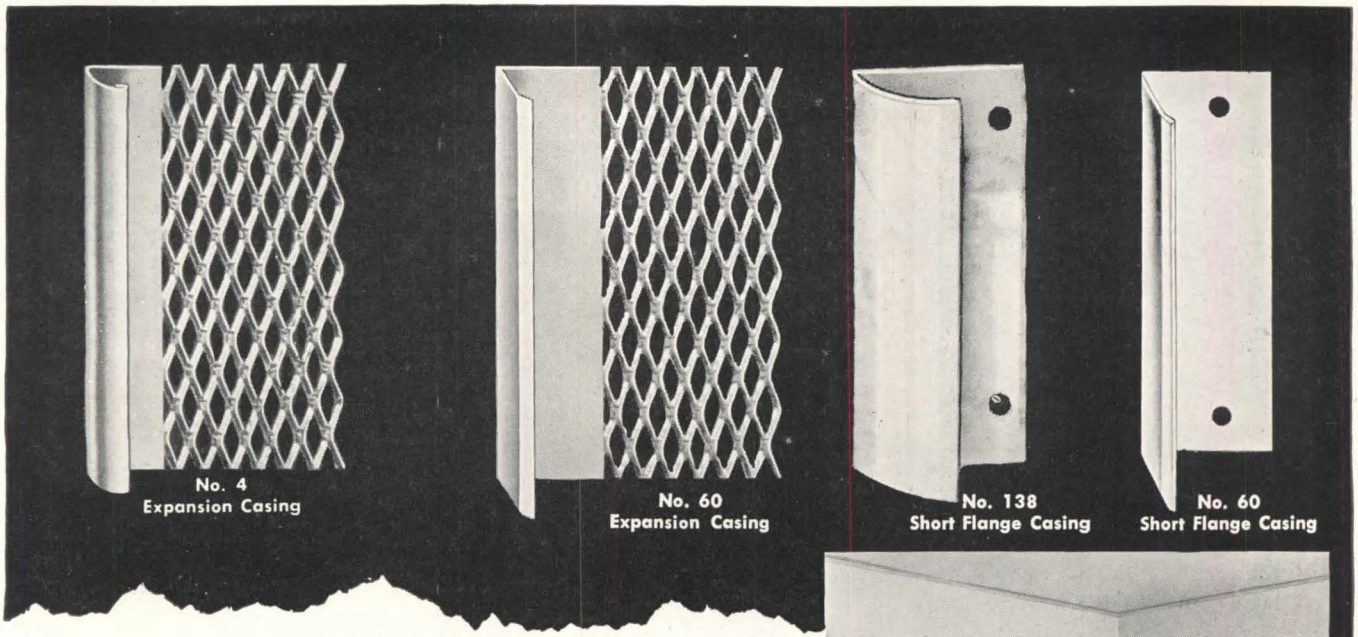

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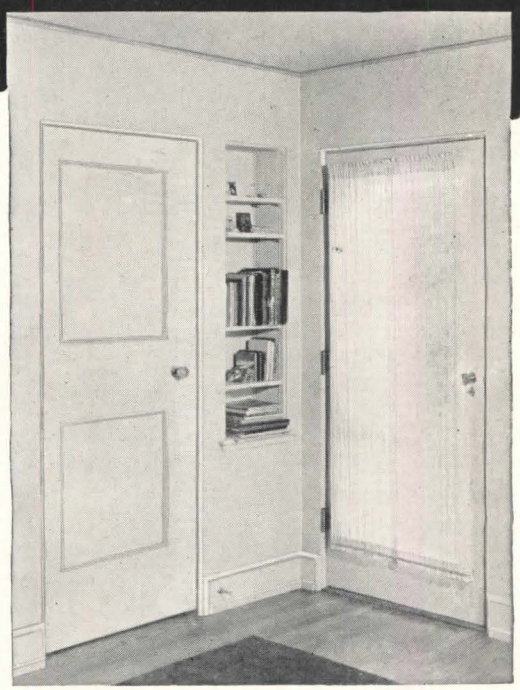

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BTS—Building Types Study • TSS—Time-Saver Standards • AE—Architectural Engineering section

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