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NO. 4

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H. JUDD PAYNE, Vice-President in charge of Magazine Division

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TODAY'S CLUES FOR POSTWAR FLUSH VALVES

★ While no one can lay down any very definite blueprints for the plumbing that will be found in postwar buildings, some valuable clues as to trends can be discovered in buildings completed within the last year or two.

Take hospitals, for example. Several outstanding institutions have been put into service during this period. The Jefferson Hospital at Birmingham — already recognized as one of the South's finest — is one of these.

Every piece of equipment that went into the Jefferson Hospital was selected with careful forethought to the comfort and well-being of the patients to be served. Noise reduction, for example, has been aided by the selection of Watrous *Silent-Action* Flush Valves.

In this detail there is a definite clue on postwar trends . . . the flush valves to be installed in most buildings of tomorrow will be smoothly functioning water control instruments which operate *silently* — without any of the tell-tale noise that once was associated with flush valves.

In fact, if we are to judge by the Jefferson Hospital's selection of Watrous *Silent-Action* Flush Valves, more and more careful attention will be given to—

- (a) the degree of noise elimination provided by a flush valve — and the PERMANENCY of the noise elimination.
- (b) the ability of the valve to be adjusted for maximum water savings.
- (c) the valve's simplicity and economy of maintenance.

Plans for Watrous Flush Valves for the buildings of tomorrow are already under way. You may be sure these valves will match fully the many other developments in building construction which are to come.

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Sweet's Catalog File—Section 21, Catalog No. 9—covers both "V" model Watrous Flush Valves for essential wartime applications and the complete line of models and combinations for postwar planning . . . Or write for Bulletin 858-W and Catalog 448.



*The Jefferson Hospital, Birmingham, Alabama
Charles M. McCauley, Architect
The Pate Co., Plumbing Contractors*



● There are two of these utility rooms on each floor with service sinks equipped with Watrous *Silent-Action* Flush Valves. Watrous *Silent-Action* Flush Valves are also installed on fixtures in all bathrooms and washrooms.

Watrous Flush Valves

THE RECORD REPORTS

Politics to Fore • Chamber of Commerce Program • Financing Scheme for Housing • D.C. Slum Clearance • Use of Temporary Housing • Steel Trouble in Utah • Building Labor Tighter

FOR MONTHS the construction men in Washington spent their time petitioning WPB to revise L-41. The cement people, the lumber people, the general contractors and others drew up portentous documents in the style of "Strike out G 1.103 and insert new paragraph, to read . . ." and turned them over to the appropriate WPB officials who, after the proper delay indicative of giving thought to the matter, wrote back, "Your suggestion for revising G 1.103 has been carefully considered. In view of the coming invasion, etc., etc."

Bored at last with this correspondence which WPB has filed away under "Cooperation with Industry," the building people in Washington are going into other things. They are swapping notes on presidential candidates and drawing up postwar programs.

Politics to Fore

Of the Republicans, spokesmen for the building groups draw attention to remarks by Bricker on various occasions attacking Federal Housing; to his refusal, as Governor of Ohio, to take government cash and to the fact that his campaign manager, John W. Galbreath, is president of the National Association of Real Estate Boards. Dewey's statements favoring private enterprise are of the conventional variety, without clear reference to housing. In his 1940 campaign, Willkie made a major speech in favor of federal slum clearance; on the other hand, Ralph Cake, who manages his operations, once was president of the Savings & Loan League. When conversation turns to real estate, MacArthur, for all his gallant generalship, is just forgotten. In general it is felt that if a building plank is to be wangled into the Republican platform, it will be through somebody of the Bricker camp.

Uncertainty on Plans

Of the Democrats, in turn, there is, of course, always Roosevelt. Notwithstanding the \$83,000,000 PWA projects in 1933, the \$800,000,000 USHA slum clearance projects in 1937 and the unsuccessful effort in 1939 to get another \$800,000,000, his attitude is considered less than clear. Roosevelt himself rarely mentions the subject nowadays.

At the moment the only thing to go by is what the various administrators say, and they say, chiefly, that the main governmental job is to help private industry expand and that the help should be, chiefly if not exclusively, financial. That means FHA operations—to which nobody objects. Yet, in the back of everybody's head is the thought that the President, when he gets around to it in September or October, suddenly will suggest a vast program for settling veterans and their wives in "homes-of-their-own," that Wagner will introduce a bill and that that part of the campaign will be on.

Chamber of Commerce Program

The Chamber of Commerce has a program for which a "grass roots" setting is now being worked up. In Portland, Oregon, the West Coast Lumbermen's Association drew up a plan under which people save now—in War Bonds—to buy homes later. For the time being there are lectures on "Selecting the Homesite," "Architectural Design," "Plumbing" and

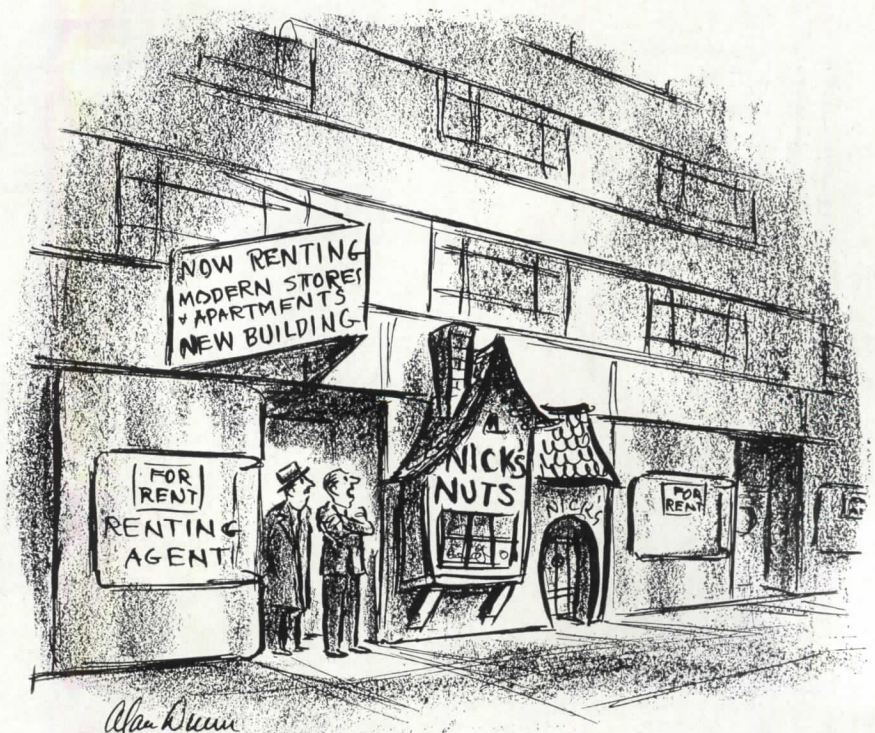
other things a home owner should know. The Chamber of Commerce is circularizing local Chambers and, thus far, has gotten a good response. Because it encourages saving, the plan has an anti-inflation angle that holds academic interest at least for some of the Treasury officials. There is little prospect, however, that the Treasury will issue special securities for the purpose; if it did, obviously, the plan would get much more advertising.

City Housing Projects

National Association of Real Estate Boards has a slum clearance financing scheme which it hopes to put through by interesting mayors and governors. The idea is to set up municipal housing projects whose bonds would have these tax features: a person buying them would be able to deduct the amount of his purchase from taxable income and the earnings from the bonds themselves would be free of federal income taxes.

Herbert U. Nelson, executive vice president of the NAREB, who drew up the plan, says that such bonds would sell at 1.3 per cent interest but some rich men go much further; they think the interest rate would be high but negative. Since the purchase price would be untaxed, much of the ultimate return of principal would be gravy. Nelson is aware of the more obvious arguments against his idea—that if such a privilege were given to

(Continued on page 10)



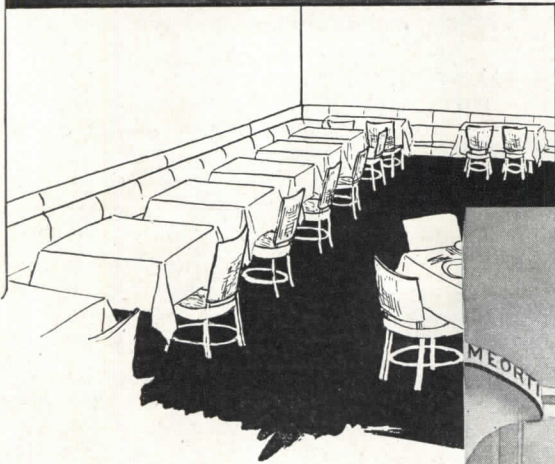
"We didn't know anything about them until they rented the place . . ."

—Drawn for the RECORD by Alan Dunn

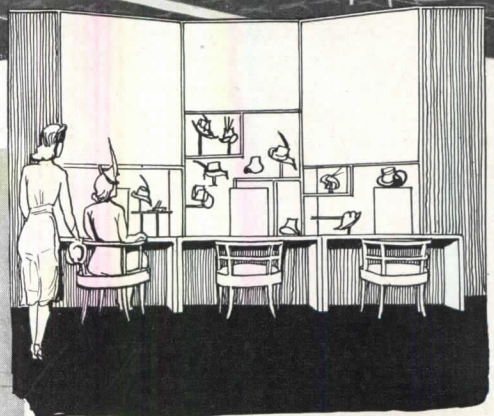
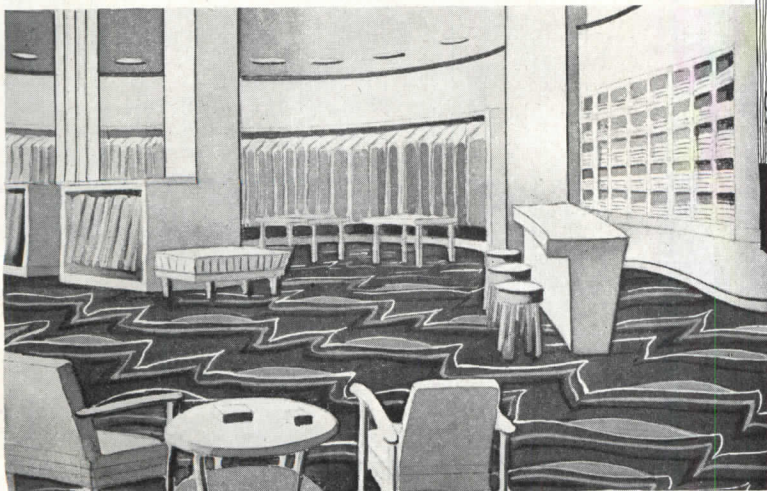
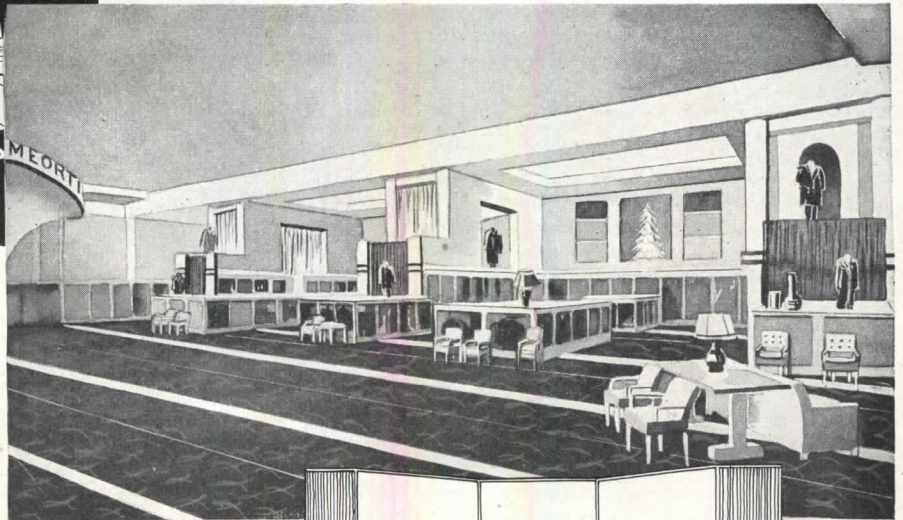
PLANNING FOR STORE



"Honesty in planning postwar store interiors implies a thorough understanding of the merchandising problems of the owners, so that goods will be placed in an environment which increases their salability and which attracts and pleases customers. I have for many years been convinced that the intelligent use and arrangement of a store's space can contribute much to a store's success. Good distribution of light, distinct colors or textures of the walls, appropriate floor cover-



"When I plan a department store I select carpet with the interest of my clients in mind, knowing that an interior must be an attractive setting for the merchandise on display. Often carpets can be used also in restaurants that are planned for the convenience of the store's customers."



"In the smaller shop carpet lends an added touch of luxury. It is part of the entire interior design. Alexander Smith Carpet makes walking less fatiguing and also decreases noises. It plays an important part in helping to create more comfortable interiors for both a store's customers and its personnel."

POSTWAR

INTERIORS by William Lescaze

ings, air conditioning—are all factors which can be made to increase the effectiveness of the display of merchandise itself.”

* * *

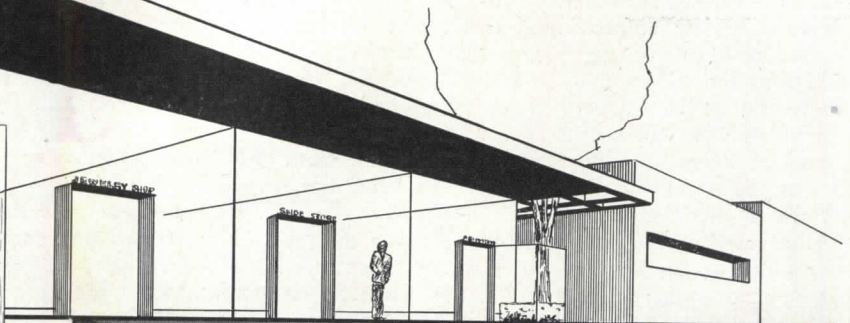
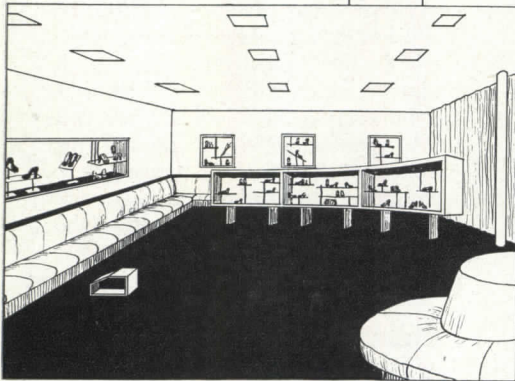
“In the face of destruction, we dare to think of construction. Thus we continue to dream of planning, order, architecture, life.” This quotation from William Lescaze’s new book, “On Being An Architect,” effectively sums up the American idea of postwar building. Mr. Lescaze is an inter-

nationally known architect and creator of some of our finest modern buildings.

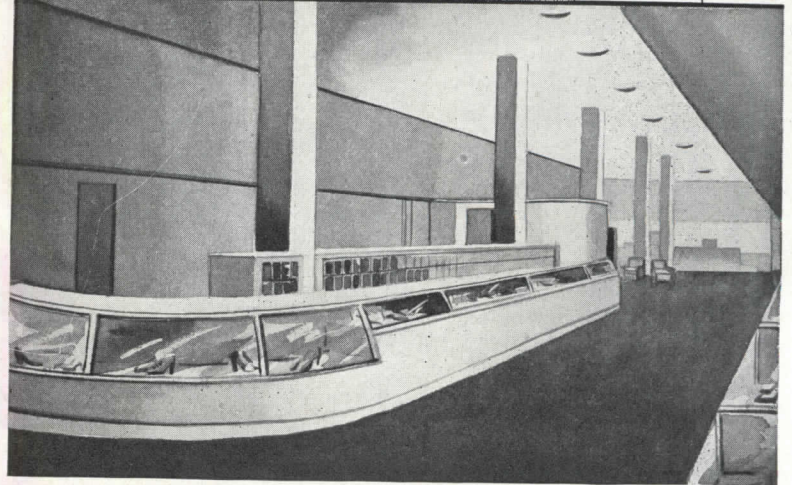
In the field of commercial architecture, the following commercial structures designed by William Lescaze testify to his sound and successful planning for business and merchandising: The Philadelphia Saving Fund Building in Philadelphia, the Columbia Broadcasting System Headquarters in Hollywood, the Longfellow Building in Washington, D. C.

Alexander Smith & Sons are largely engaged in making duck and blankets for the Armed Forces. However, we, too, like Mr. Lescaze, have dared to think of construction in the face of destruction and even now we are working on plans for immediate, large-scale postwar production.

Drawings by
J. Floyd Yewell



“Especially in treating the floor areas of the smaller retail store and chain store, practical considerations are of the utmost importance. Carpets hold up under the wear and tear to which they are subjected by thousands of people coming and going every day. The durable Alexander Smith Carpet is tough, doesn’t mind mud and dirt, and can take constant cleaning.”



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real estate, insurance companies would ask for the same thing, that the stenographers of utilities, the railroads and all others would be busy wiring their Congressmen. So the idea is being pressed through local officials.

Lanham Study Transferred

Bundles of postwar housing plans are included among the documents collected by the Lanham Committee which has just decided not to reach any conclusion. Instead, it is turning over the whole business to another committee, that of Representative Colmer, whose job is postwar planning in general. For many weeks, if not months, Colmer's group will be busy with such matters as the effect of the war on government finances, and is not likely to touch housing.

D.C. Slum Clearance

Although all of the expressed sentiment is against it, events may force a federal slum clearance campaign. A law put on the statute books a decade ago, requires that the slum tenants of Washington, D. C., clear out this summer. Senator Bilbo, Mississippi, who heads the District of Columbia Committee, just issued a statement that he wants the law enforced and that the tenants, most of them negroes, should find themselves jobs on farms or in family service. Fellow committee members were taken aback by Bilbo's sudden suggestion and Burton of Ohio commented that the summer, 1944, was a detail in a plan for federal slum clearance. Naturally, tens of thousands of negroes will not suddenly be made homeless in a city full of newspaper men. Since the issue is being forced, federal building may come in Washington and, if it does, it may be requested by other cities.

Use of Temporary Housing

National Housing Administration has a moderate accumulation of temporary war houses which are not being used, as scheduled, by war workers and into which others are being shifted. Regulations were being promulgated quietly a few months ago permitting the wives of service men and certain others to take temporarily to these shelters. Because the Services themselves have never asked for housing for Army and Navy men or families and because no other homes are available, a great many are doing so. Reports come continually to Washington of settlements being held in vacancv, the needs of local populations notwithstanding, so that promulgation of

the rules may have been quiet. Except for demountables, nothing has been torn down.

Government officials as well as spokesmen for building organizations think that substantial amounts of the privately built war housing soon will come on the market. Under the FHA war provisions, owners built these developments on thin equities. In more than one settlement, the evident idea was to get back before the end of the war whatever cash was put in, and many have succeeded in doing so. There are cases in which such developments—once kept at almost 100 per cent tenancy levels—are now rented at levels below operating break-even points. In Washington itself some of the owners are getting out.

Steel Trouble in Utah

After WPB succeeded in convincing the industry that L-41 will not be revised, it issued an order which probably will revive the agitation. Some time ago, when the job was just short of completion, it stopped construction of the Geneva Steel Plant in Utah. Large sections of Congress were furious. Senator McCarran, Nevada, quickly was named as head of a broad committee to investigate the concentration of basic industry. The theory of the Congressmen was that western steel plants were being shut down to keep postwar production centered in the East. McCarran issued a statement that he would find out if that were the case. It happened to be the case that at an industry advisory committee meeting of WPB, heads of major steel companies had urged reductions in steel output to prevent future surpluses. Whether or not that and similar expressions were evidence, they would sound like it on the Senate floor.

Then WPB suddenly and without explanation rescinded its stop order and construction is going ahead. The plant will turn out structural steel exclusively. Since there is no construction, the steel will pile up. As the contractors and building unions become more aware of the accumulation, they certainly will ask for the new material.

Such a development is made the more probable because many of the members of the building unions either are unemployed or are working at maintenance jobs for which they get much lower wages than at construction.

When the contractors, getting wind of the faster accumulation of structural steel, ask for some of it, they

may not be turned down. It all depends on the approach. If the quest is in terms of a broad amendment of L-41, requiring an about-face by WPB, the likely result will be one of meetings and correspondence. Amendments take a long time to get through the WPB machinery even when there is no opposition. If the contractors ask, more meekly, for a simple reinterpretation, they are likely in many cases to come out successfully.

That sort of thing happened with respect to a hundred and one odds and ends which, under WPB orders may not be produced, but which are turned out by virtue of looser enforcement. Since greater laxity is forecast by people who generally know, it is possible that it was decided on, as a matter of policy, by the top side.

Building Labor Tighter

Meanwhile, there is some possibility that the War Manpower Commission will backstop for WPB in holding back building jobs. To work at construction, laborers now in factories secure temporary certificates of availability, and these are getting increasingly sticky. WPB wants those who are in war plants to stay there. There have also been complaints that jobs that in fact are construction are labeled "maintenance" in order to use lower pay scales, to make costs deductible from income taxes and, perhaps, to secure materials more easily.

Lumber will get tighter until after—perhaps long after—the invasion. WPB has set up a scheme under which total lumber production is to be budgeted for specific uses. The share for building is negligible. Meanwhile OPA is allowing higher ceilings first on one and then another type of wood. Lumbermen say that with higher prices they may be able to attract more labor and so increase their production.



LUMBER CONSERVATION

FHA Recommendations

Maximum conservation of all kinds of lumber has been urged upon builders of war housing by the Federal Housing Administration.

The shortage of softwood and hardwood lumber of all kinds, FHA states, makes it imperative that everyone concerned with the erection of war housing, cooperate in the utmost possible conservation of lumber to aid the prosecution of the war program. Under procedures now in effect, control over lumber uses lies with the builder, subject only to the limits imposed by the WPB. Additional conservation meas-

(Continued on page 10)



REHABILITATION

The recovery of waste land by creating attractive, livable communities will undoubtedly become an important phase of postwar construction. Such rehabilitation will require ingenuity in planning, progressive design, and high efficiency in building methods and materials.

Stran-Steel light-gauge steel framing systems meet ideally these varied requirements. Strip steel provides a versatile medium for the expression of practical-yet-unorthodox design, and offers such important advantages as great strength, light weight, durability, and economies of time, labor, and materials.

Through current wartime assignments involving the design and fabrication of strip steel, the Stran-Steel engineering staff is acquiring specialized experience which will serve architects and builders well on their postwar projects.

*Manufacturer of the U. S. Navy's
Famous Quonset Hut*



STRAN-STEEL

DIVISION OF GREAT LAKES STEEL CORPORATION, 1130 PENOBSCOT BUILDING, DETROIT 26, MICH.

UNIT OF NATIONAL STEEL CORPORATION

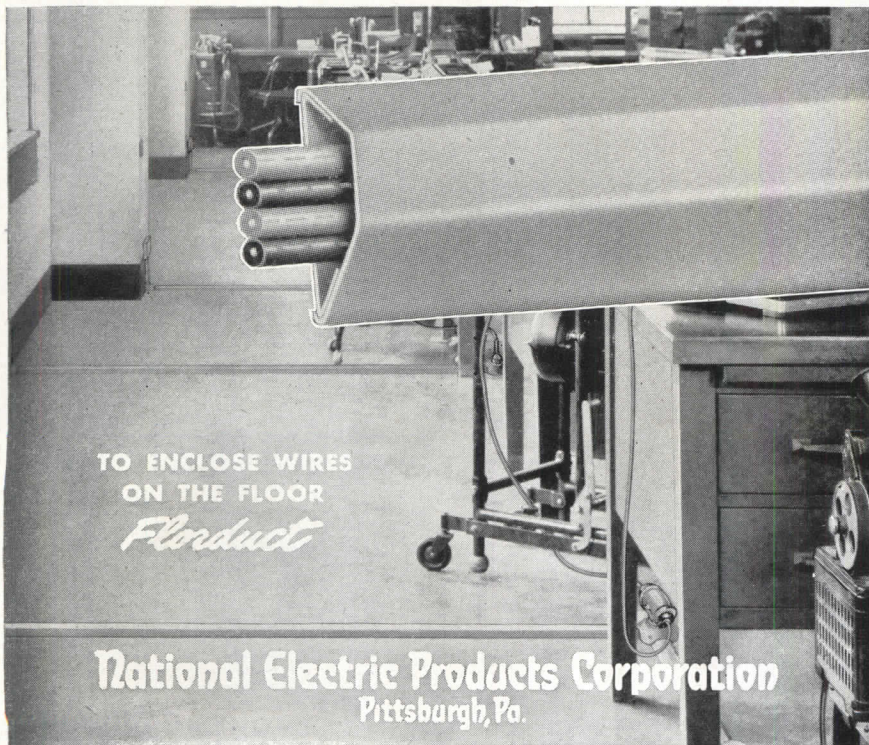
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ON THE FLOOR

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National Electric Products Corporation
Pittsburgh, Pa.

THE RECORD REPORT

(Continued from page 10)

ures, therefore, must seek the widest understanding and cooperation of the builders.

Instructions have been issued to FHA field offices to aid the builders in every possible way in their efforts to stretch the present available supply of lumber as far as possible. These instructions state that the shortage of board lumber is probably more critical than that of dimension lumber. Great economy in the use of both dimension and board lumber, it is pointed out, can be obtained through proper planning of proposed dwelling construction. Room sizes and ceiling heights should be designed to utilize framing lumber and board lumber without waste. Plans having a minimum of waste space in halls usually will result in the need for fewest partitions. More economical use of framing lumber in roofs generally is obtained when the ridge is parallel to the longer dimensions of the dwelling.

Other means of lumber conservation suggested by the FHA include:

1. Reference to the FHA's minimum construction requirements for new dwellings, revised January 21, 1943, which may suggest acceptable methods of construction which conserve lumber and other critical materials.

2. The use of concrete or masonry trench walls or interior bearing walls to eliminate the need for wood girders.

3. Steel beams and columns used instead of wood girders and posts.

4. Precast concrete joists or steel joists used in conjunction with concrete floor slabs, especially when exterior masonry walls are used. This construction provides a degree of fire resistance which is desirable in multi-family dwellings.

5. Reinforced concrete construction for columns, beams and slabs. This construction also provides fire resistance for multi-family dwellings.

6. Concrete floor slabs laid on the ground, when this construction is feasible.

7. Solid plaster (gypsum plaster on plaster-board lath) for non-bearing partitions.

8. Wood trusses for roof construction which often permit a reduction in amount of lumber required for roof framing, and allow the use of non-bearing partitions which save lumber.

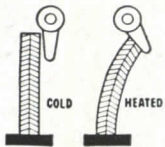
9. Shingle lath for use under wood, slate and tile shingles.

10. Gypsum or composition boards laid over wood strips used as roof sheathing under asphalt shingles.

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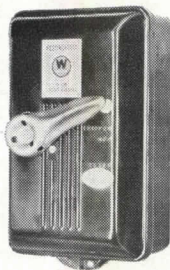
Wild arcs tamed *Quick!*



CALLING THE TRICK is the job of this Westinghouse Bi-metal Element. Two metals which react differently to heat are bonded together. Threatening overloads cause the Bi-metal to bend, tripping the interrupting mechanism and opening the circuit—before any damage is done.



TAMING THE ARC is the job of the "De-ion" arc quencher. It consists of parallel metal plates in the form of a grid. The arc is drawn into the quenching chamber . . . divided into segments . . . smothered between the plates—in the space of a half cycle.



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Westinghouse "De-ion" Circuit Breakers are built for just such hair-trigger protective action. They pass harmless overloads without interruption, but let danger threaten, and quicker than a blink of the eye—the circuit's opened . . . the arc is quenched. Burns and pits are minimized; contacts stay cleaner, last longer.

Once the disturbance is cleared, service is instantly restored by a flip of the indicating handle. No waiting—no repairs—no parts to replace.

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"DE-ION" CIRCUIT BREAKERS

REQUIRED READING

MEMORANDUM ON POSTWAR URBAN HOUSING

International Union, United Automobile, Aircraft and Agricultural Implement Workers of America (UAW-CIO), Detroit, Mich. (411 West Milwaukee), 1944. 6 1/8 by 9 in. 120 pp. 25c.

This is certainly one of the most thought-provoking analyses yet published of what housing was, is, and could or should be. It varies in content from objective thinking to caustic criticism, from realistic fact finding and constructive recommendations to sarcasm and name-calling. But it is always positive, definite and stimulating.

In the present approach to slum clearance and rehabilitation, they point out at the outset of this lengthy "memorandum," we have merely been treating symptoms without attacking causes, and "there are many problems such as farm slums, mass transportation, broad problems of employment, health, crime, property taxation and a new conception of civic organization that urgently demand our attention." A long range planning program is therefore advocated, intended to accomplish the following:

1. Promote the stability of our urban communities;
2. Create adequate urban living environment for all income levels;
3. Promote widespread physical, mental and spiritual wellbeing for all citizens, and
4. Contribute toward maintaining full employment.

To accomplish this, action is recommended in eight specific categories: Metropolitan Regional Planning; Blight Prevention; Home Building; Slum Clearance; Public Equity in Urban Land; Subsidized Housing; Disposition of War Housing; Design Control. Specific recommendations are made in each category, some of them Utopian (as indeed are many other fervently urged postwar plans), but many may be thoroughly practical. By and large no bones are picked merely for the sake of picking bones, except for the unrestrained tirades against private enterprise in the field of low-cost or subsidized housing. The memorandum descends from the plane of a comprehensive program to blame-placing and opponent-attacking, such as: "They noisily oppose the building of public housing for a large group of people they have never been able to build for and have no serious intention of building for in the postwar period. They oppose such public activity on the basis of 'unfair government com-

petition' when there is no competition whatever because they cannot make a profit in this field. . . . They try to confuse the problem by crying 'subsidized' housing while they say nothing of the fact that without government assistance, they would not now be operating and there would be little or no private house building in the postwar period."

The memorandum is of interest to both private and public housers as expressing a definite point of view, if not always indicating practical ways and means of accomplishing worthy objectives. Its usefulness would have been increased if a table of contents and an index had been included.

BUILDING REGULATIONS IN NEW YORK CITY

By Joseph D. McGoldrick, Seymour Graubard, and Raymond J. Horowitz. New York 22 (41 E. 57th St.), The Commonwealth Fund, 1944. 6 1/4 by 9 3/8 in. xv + 743 pp. \$4.50.

In 1625 the Dutch West India Company, we learn from this highly informative tome, drew up a set of rules governing locations and types of houses to be built in the colony of New Amsterdam—that town of small beginnings which has matured into the world's largest city. These first building regulations affecting New York were drawn up with little or no knowledge of conditions in the new colony and were soon abandoned and forgotten. But in 1647 three surveyors were appointed by the Governor and Council to superintend construction of buildings and fences, and in 1648 four firemasters were similarly appointed to inspect chimneys and compel householders to keep them clean. Both the surveyors and the firemasters were given power to condemn the structures under their supervision.

"The powers delegated to the municipal officials in 1647 and 1648," the authors find, "are the roots of the powers of the several departments regulating buildings in the city today. The jurisdiction of the surveyors over building plans was increased from time to time, until it included structural and engineering characteristics. Similarly, the functions of firemasters were gradually expanded to include extensive activities in fire prevention as well as fire fighting."

The whole history of the city's building regulations from 1625 to the present is summed up in two excellent introductory chapters, concluding with a discussion of the administrative conflict leading up to the 1938 Charter

and the organization of agencies under that charter. Thereafter the authors treat, chapter by chapter, such items as delegation of powers, rules and regulations, hearings, penalties, procedure for judicial review, finality of administrative determination.

Comptroller McGoldrick and his collaborators have done a thorough and scholarly job in this book. Naturally prejudiced in favor of building regulations, they present a good case for more and stricter government supervision after the war. This is a book well worth the attention of anyone interested in and concerned with building codes—and that means everyone in the entire building field.

FAMILY LIVING AS THE BASIS FOR DWELLING DESIGN

Vol. 1, Introduction to Studies of Family Living. By John Hancock Callender. New York 18 (40 W. 40th St.), John B. Pierce Foundation, 1943. 7 3/4 by 10 7/16 in. 22 pp.

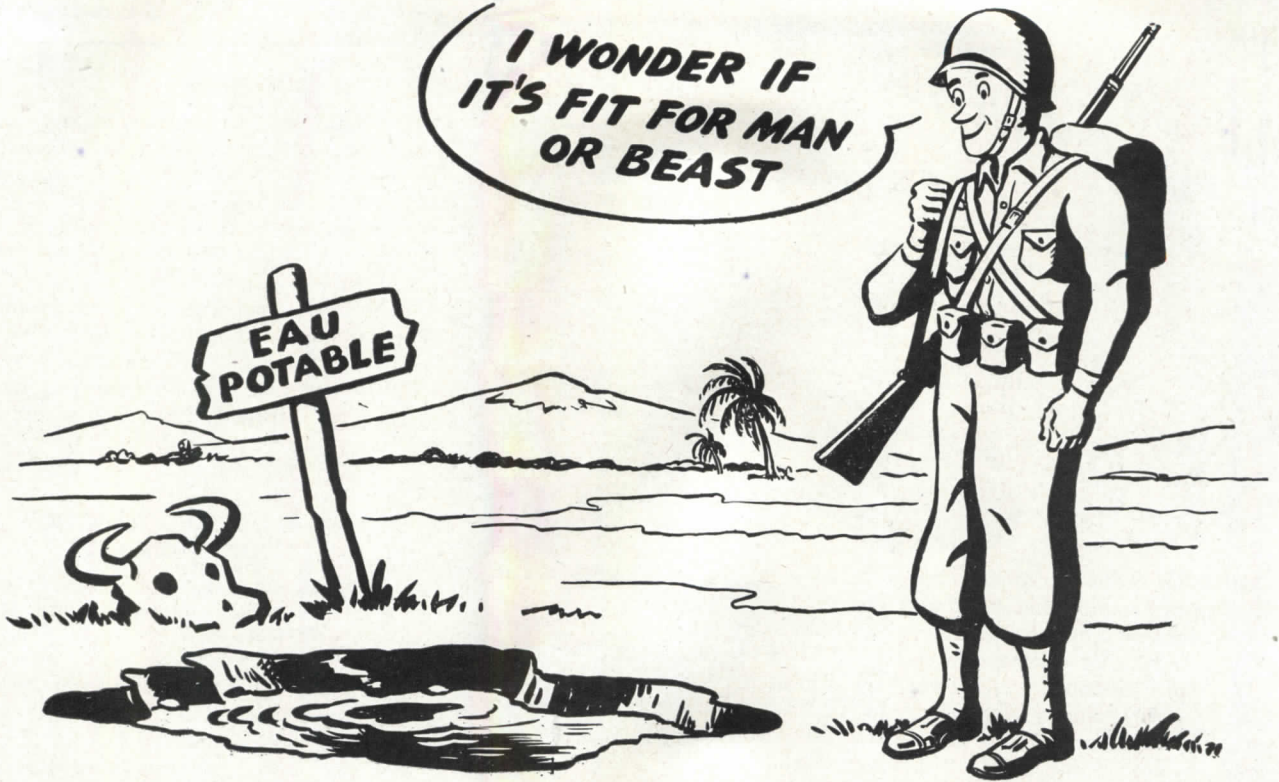
Vol. 4, Family Behavior, Attitudes and Possessions. By Milton Blum and Beatrice Candee. Same pub., 1944. 7 3/4 by 10 7/16 in. 209 pp. illus. \$3.00.

"Before the scientific housing designer can begin his work he must know exactly what families do in their homes, where they do it, and why they do it there." Thus Mr. Callender in his introductory pamphlet. A very elementary prerequisite, surely, on the face of it, for do not all families do approximately the same things in their homes in approximately the same places and at approximately the same times? The answer, of course, is that they do not, and all too often the architect designing low cost housing has but scant understanding of the living habits of those for whom he is designing.

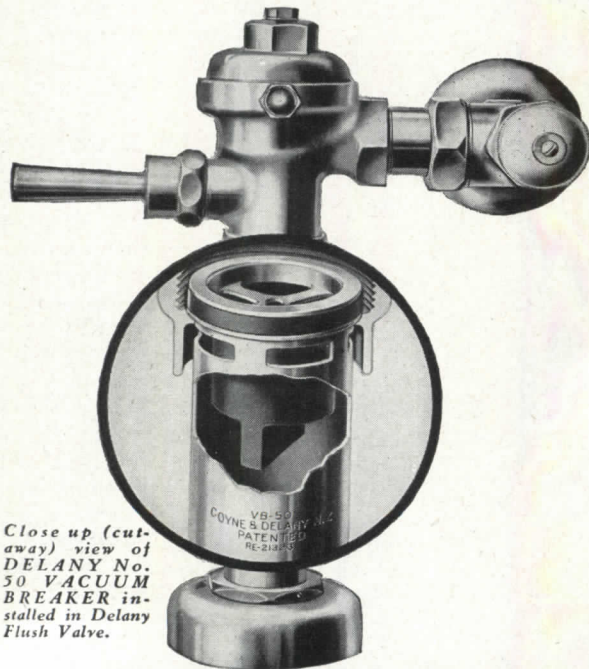
The John B. Pierce Foundation has undertaken a vast program of research to gather "factual data on which dwelling design can be based." The "Family Behavior" volume presents much of this data. With scientific thoroughness the researchers have left no stone unturned in their quest for helpful facts. They surveyed 131 families in the New York area, of whom 65 lived in a multiple-dwelling limited-dividend housing development, and the remaining 66 in a large project of one-family houses of the \$3,000-\$4,000 price class. The body of facts thus turned up makes entertaining reading, but boils down finally to the old complaint that rooms are never large enough, their inadequate size necessitating dressing in the living room, umbrella storage in the bathtub (?!) and general hodge-podging of functions all over the house. Just what bearing on house design has the number of times a person gets up during the night, and what for,

(Continued on page 28)

I WONDER IF
IT'S FIT FOR MAN
OR BEAST



THE DELANY No. 50 VACUUM BREAKER IS SELF-POLICING IN ANY MAN'S LANGUAGE



Close up (cut-away) view of DELANY No. 50 VACUUM BREAKER installed in Delany Flush Valve.

The DELANY No. 50 VACUUM BREAKER in design and functional operation eliminates any necessity for inspection to ascertain if protection against back-syphonage is constantly provided. It's self-policing on any make Flushometer, old or new.

Should a DELANY No. 50 VACUUM BREAKER become defective through stoppage, sabotage, or faulty installation, fair wear and tear, such a condition will be made known to the user by the spilling of a small amount of water through its vents each time the valve is operated. This obviates the "usual" daily inspection.

Moreover, should any fault or stoppage occur and repair be delayed, the unit is fully capable of preventing back-syphonage should a vacuum develop while in a defective condition. This is the essence of full and constant protection—and why we call the No. 50 "Self-Policing." We know of no similar device that is.

Uncle Sam polices "water conditions" to protect our boys at home and in combat. Unpalatable water definitely contributed to the defeat of the German army in Africa. Chlorination, purifying tablets, up-stream bathing; and the installation of No. 50 VACUUM BREAKERS in many thousands of projects, home and abroad, are preventing water contamination.

SINCE 1879
Coyne & Delany Co.
BROOKLYN N.Y.

WID YOU SAY
THESE PLANS HAVE YOUR OK?



TRAPPING these nerve-janglers in a ceiling of Cushiontone is a major factor in pleasing a client . . . but a minor item in cost. An estimate is likely to be a pleasant surprise. 484 deep holes in each 12" square absorb up to 75% of all noise striking the ceiling. Not even re-painting affects this high efficiency. Cushiontone is quickly installed, decorative.

NEW BOOKLET tells all. Let us send you a copy, and our revised specification sheet. Just write Armstrong Cork Company, 2404 Stevens Street, Lancaster, Pennsylvania.




I SAID: WHAT
WOULD IT COST TO
KEEP THE NOISE
DEMONS AWAY?



ARMSTRONG'S CUSHIONTONE

Made by the
Armstrong's Linoleum



makers of
and Asphalt Tile

REQUIRED READING

(Continued from page 26)

or what sort of garment, if any, one sleeps in, is not made clear. Perhaps that's just as well. But if one must have a scientific approach to house design, here is a first step toward it. The accompanying illustrations are dishearteningly frank admissions of the jammed-togetherness of the average small home. They fairly shriek "Give us more space!" A place for everything admittedly should be provided; perhaps if it were, everything would be in its place—but, with human nature what it is, most likely it would not.

THE HOUSING MARKET IN NEW YORK CITY

By Herbert S. Swan. *New York 18 (330 West 42nd St.), Reinhold Publishing Corp., 1944. 6 by 9 in. vi + 204 pp. \$2.00.*

Prepared for the Institute of Public Administration of New York City, this is a calm and complete analysis of one of the most restless housing markets in the world. Probably nowhere else do tenants move so frequently as they do in Manhattan and surrounding boroughs. Mr. Swan discusses why this is so, and what has been and can be done to overcome it.

Of the mass of facts he presents, many will be surprising to the average New Yorker. For instance: "One family out of every four in the city resides in either a one-family or a two-family house. Nearly half of the one-family homes are in Queens. Over one-half of the two-family dwellings are in Brooklyn. More than 80 per cent of the families residing in one and two-family dwellings live in Brooklyn and Queens." And, "Manhattan, unlike the other four boroughs, has apparently passed the peak of its residential development. At any rate its population in 1941 is no greater than it was in 1900. Yet during this period, its population grew until it reached 2,330,500 in 1910, since when it has declined, according to the census, to 1,889,924 in 1940." Again, "The facts show that 32.0 per cent of the residential buildings in the city were built more than 44 years ago. Although only a fourth of these old buildings are in Manhattan, they constitute 81.0 per cent of the residence buildings in the borough."

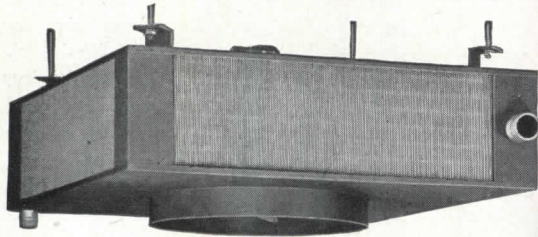
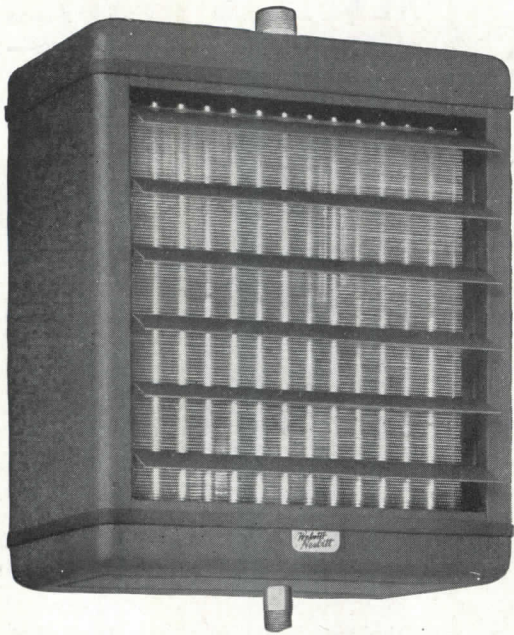
Mr. Swan has achieved an excellent overall picture of New York's real estate. A study of it should be decidedly useful in the contemplation of probable future building needs of the city, and should serve as a good pattern for similar analyses of other

(Continued on page 30)

Ready for you

When you are ready for Unit Heaters it is good to know that Webster-Nesbitt's three dependable types of industrial units are ready for you! It may be now—with priority, of course—or when you get ready for peacetime production. At all times you can expect top-quality construction; W-N performance—which means uniform, economical heating; and intelligent service.

Also ready for you: Warren Webster & Company representatives in 55 principal cities. Consult your telephone directory.



Propeller-Fan Unit Heaters

For economical heating, small to medium-size interiors.

Publication WN-123

"LITTLE GIANT"

Down Blow Unit Heaters

For heating medium to large structures, high ceilings.

Publication WN-118

"GIANT"

Blower Type Unit Heaters

For heating large interiors. Floor and Suspended models available with or without Thermadjust (by-pass) control.

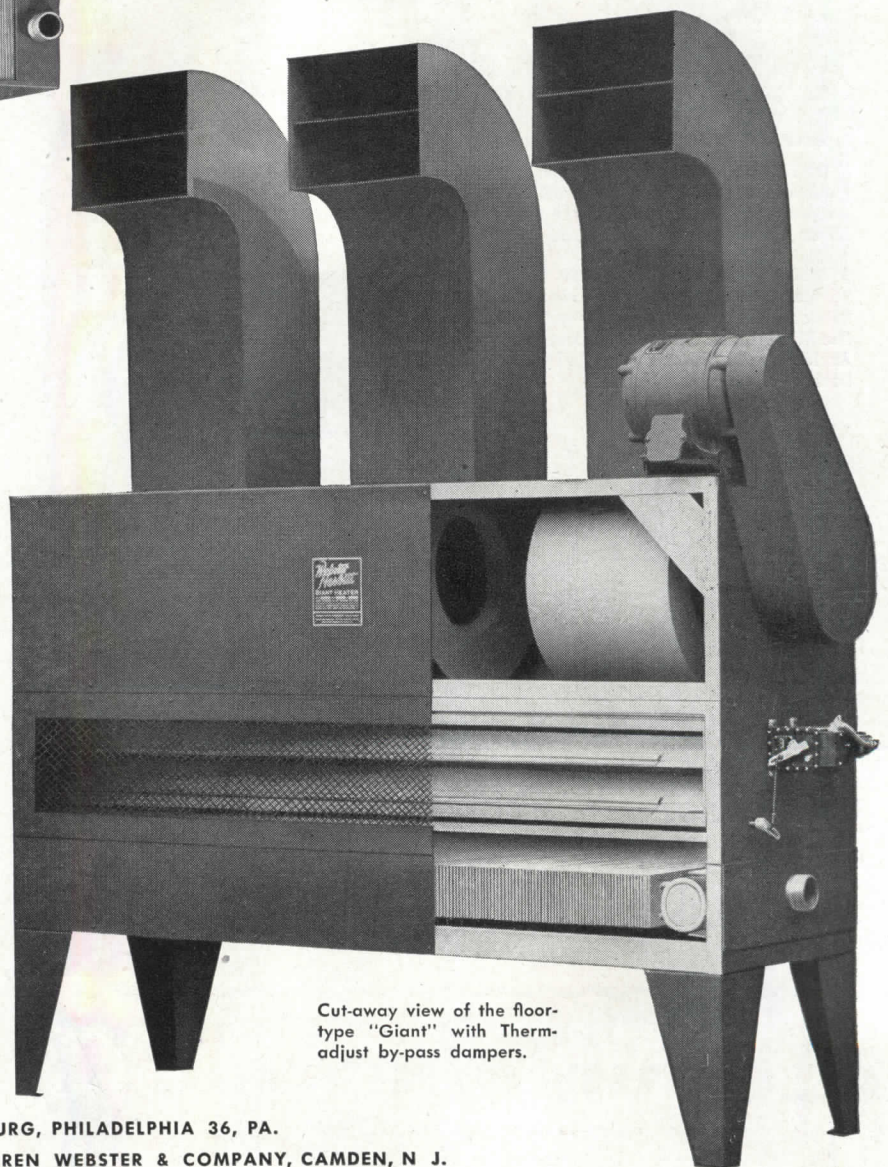
Publication WN-116

Webster Nesbitt

UNIT HEATERS

MADE BY JOHN J. NESBITT, INC., HOLMESBURG, PHILADELPHIA 36, PA.

SOLD EXCLUSIVELY IN THE U. S. A. BY WARREN WEBSTER & COMPANY, CAMDEN, N. J.



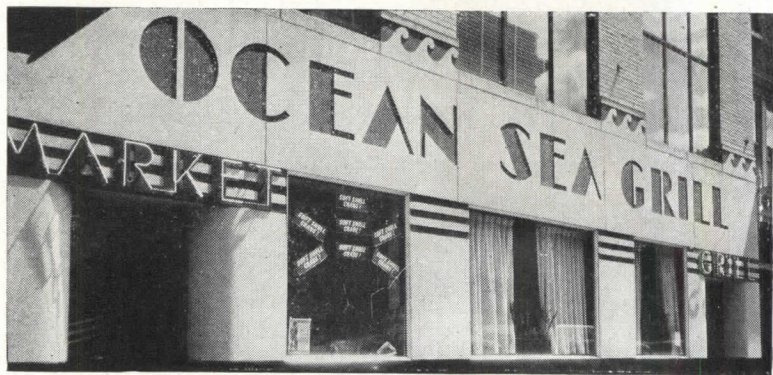
Cut-away view of the floor-type "Giant" with Thermadjust by-pass dampers.

NEW FACINGS FOR OLD BUILDINGS

with Architectural Concrete Slabs

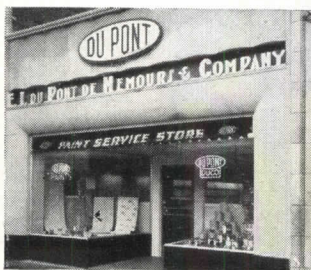
With selected aggregates exposed in a matrix of Atlas White portland cement, color and texture become a matter of choice rather than limitation when thin precast Architectural Concrete Slabs are used. Being only 2 to 2½ inches thick, slabs require little or no structural change to keep within building lines.

Slabs may be cast in sizes up to 100 sq. ft. or more, and in curves, channels and angles to fit building contours, thus minimizing joints and facilitating installation. For modernizing or for new construction these slabs permit full freedom of design in color, texture, shape and size with the strength, durability and economy of reinforced concrete.



↑ **OCEAN SEA GRILL**, Bridgeport, Conn., modernized with a facing of Architectural Concrete Slabs. Base—polished black; field—white quartz tinted to a light green; stripes, large letters and water wave—red vitreous aggregate. Architect: Herbert C. Elton, Bridgeport; slabs by the Dextone Co., New Haven.

↓ **ARCHITECTURAL CONCRETE SLABS**, precast with an attractive design carried out in colors—brick red and black on buff—give distinction to the Heidelbach Company store, Baltimore, Md. Architect: J. R. Kennedy; slabs by John J. Earley; both of Washington, D. C.



↑ **DUPONT PAINT STORE**, Greensboro, N. C., has a colorful facing of Architectural Concrete Slabs. Base—dark green; field—buff; letters—cream on medium green field; oval—red on cream. Architect: C. C. Hartman, Jr.; slabs by Arnold Stone Co.; both of Greensboro, N. C.

For full information on thin, precast Architectural Concrete Slabs made with Atlas White cement, write to Atlas White Bureau, Universal Atlas Cement Company (United States Steel Corporation Subsidiary), Chrysler Building, New York 17, New York. OFFICES: New York, Chicago, Albany, Boston, Philadelphia, Pittsburgh, Minneapolis, Duluth, Cleveland, St. Louis, Kansas City, Des Moines, Birmingham, Waco.

REQUIRED READING

(Continued from page 28)

metropolitan areas. Forty-one tables and 16 charts summarize the vast amount of statistical information included.

PERIODICAL LITERATURE

LIVERPOOL HOUSING REPORT

Extracts from the Report of Mr. L. H. Keay, the City Architect and Director of Housing, Liverpool, submitted to the City Council on February 2, 1944. The Architect and Building News, London E.C. 4 (2, Breams Bldg.), Feb. 18, 1944. pp. 128-135. illus.

Community planning and urban redevelopment has received at least as much attention in well-bombed Britain as it has in this country, and probably has progressed further because of the dire necessity of rebuilding much of almost every English city. So it is not surprising to find Liverpool following in London's footsteps and presenting a fully detailed working plan for postwar redevelopment. Nor is it surprising to find that sound British caution has suggested a 22-year period for the achievement of that plan. As Mr. Churchill said in his recent radio address, temporary dwellings and prefabricated houses will be used to fill housing needs in the interim of building, at a possible rate of some 5,000 permanent dwellings a year.

The chief emphasis in the Liverpool housing plan, like that of almost every city the world over, is on increased living space and lower population density per acre. No radical departures of any kind are suggested; rather, the best of the prewar plans are chosen as models and improved upon wherever possible. Conservatism is the keynote. Liverpool's plan should work.

ARCHITECTS, GET BUSY!

By Miles A. Colean, Architect and Engineer, San Francisco (68 Post St.), Feb. 1944. pp. 31-33.

Miles Colean has written what amounts to a pep talk for architects in this article. Recalling the dull dark days of the Great Depression, he compares its effects on the architectural profession with the blow struck by the war. The ray of hope in the present situation, according to Mr. Colean, is the growing building demand and the money that will be available for that building. Much has been said of the part that the construction industry will play in the transition from wartime to peacetime economy, and it is quite true, as Mr. Colean points out, that

(Continued on page 126)

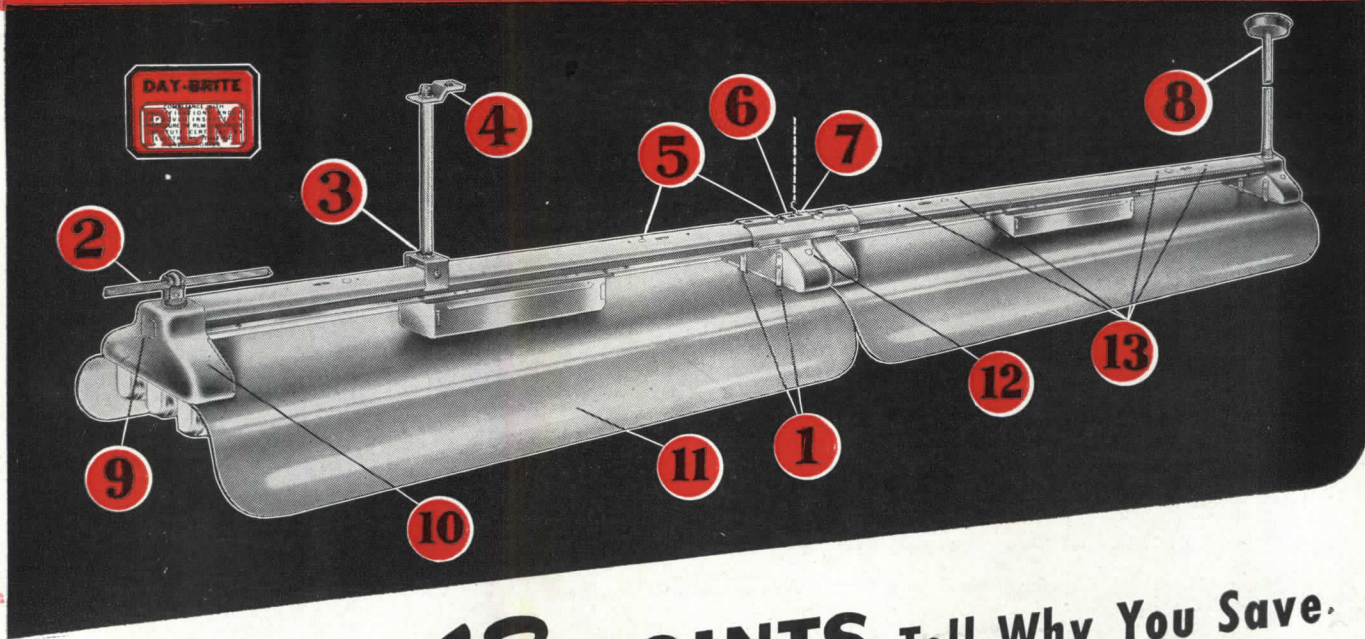
Prefabricated

ARCHITECTURAL CONCRETE SLABS

made with ATLAS WHITE CEMENT



The DAY-LINE... For Single Unit or Continuous Installations



13 POINTS Tell Why You Save. INSTALLATION and MAINTENANCE DOLLARS

1. 5-second on-and-off spring tension clips permit instant release and replacement of entire reflector.
2. $\frac{1}{2}$ " K. O. for cable clamp installation direct to fixture.
3. Slide channel clamps for rod or pipe hangers can be located at any point on channel.
4. Swivel type hanger strap is adjustable for pipe or rod alignment.
5. K. O.'s for pipe and cord.
6. Rigid one-piece coupling converts, single units to continuous fixtures.
7. Chain hanger slots in top of channel and in center of coupling.
8. Complete pipe hangers with ceiling canopy and all fittings.
9. Large tear-out in end for through feed.
10. Rigid, one-piece, die-formed end boxes welded to channel assure rigidity and proper alignment of all parts.
11. Non-metallic reflectors (RLM and U. S. Bureau of Standards approved). Reflection factor, 85% or more. Angle of cutoff, 14° .
12. K. O. for switch.
13. Screw holes for direct surface mounting. No couplings needed.

Latest of the many exclusive design features that make Day-Brite the low-maintenance fluorescent fixture is the 5-second on-and-off reflector. Slight finger pressure on 2 spring-tension clips at each end of the fixture releases the entire reflector. To replace, merely snap back into rigidly held position. Works fast—permits instant accessibility to the fixture body... Long life, continuously high illumination effectiveness is assured by Day-Brite's exclusive "Super-White" baked enamel finish—standard on all non-metallic reflectors. Another low-maintenance feature!

The Day-Line is supplied for single unit mounting or continuous runs—for 2-40 watt, 3-40 watt and 2-100 watt lamps... Consult your Day-Brite engineering representative—send for Bulletin F-69.

DAY-BRITE LIGHTING, INCORPORATED
5462 Bulwer Ave. — St. Louis 7, Missouri



The Sign of Quality
Look for this Label

Day Brite
Reg. U. S. Pat. Off.
LIGHTING FIXTURES

COMMERCIAL · INDUSTRIAL and SPECIAL DESIGNS Nationally distributed through all leading electrical supply houses

This paintable galvanized sheet belongs in your post-war plans

IN MANY architectural uses — such as roofs and roof drainage systems, exposed air ducts, metal awnings, shower cabinets, furnace casings — ARMCO Galvanized PAINTGRIP Sheets offer you decided advantages.

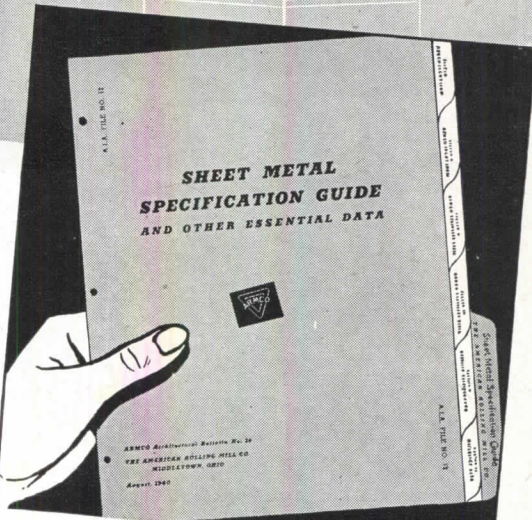
This *original* Bonderized galvanized metal requires no acid-etching or weathering. It takes and preserves paint because it has a neutral surface film that insulates the paint from the zinc. This retards drying out of the paint oils and prevents early peeling. Exposure tests show that good paint lasts several times longer on PAINTGRIP than on ordinary galvanized metal.

Your post-war clients will thank you for using ARMCO galvanized PAINTGRIP for all sheet metal work to be painted. It will save them money, keep their homes attractive, and help you keep their good-will. The American Rolling Mill Company, 891 Curtis Street, Middletown, Ohio.

EXPORT: THE ARMCO INTERNATIONAL CORPORATION



★ ★ ★
**HELP FINISH THE FIGHT—
 WITH WAR BONDS**



Write for your "GUIDE"

This 42-page portfolio gives quick information on architectural applications of PAINTGRIP and other Armco special purpose sheet metals.

It covers general specifications, cost comparisons, and advantages of ARMCO Galvanized Ingot Iron, Galvanized PAINTGRIP and ARMCO Stainless Steels.

Methods of installing galvanized metals and stainless steel are shown. Convenient reference data includes tables on standard gage weights, thermal expansion coefficients and many other helpful facts.

If you are an architect or contractor, write us on your firm letterhead and we'll send you a copy without charge. The American Rolling Mill Company, 891 Curtis Street, Middletown, Ohio.

Special Purpose Steels FOR TOMORROW'S BUILDINGS

The evolution of our language is an interesting and provocative study. Words take on new meaning as they are influenced by common use—and dictionary definitions become obsolete.

So it is with the word “plastic”. The ancient Egyptian potter, fashioning a clay urn, worked with a “plastic” material. The same was true of medieval Venetian glass-blowers—for glass is a plastic.

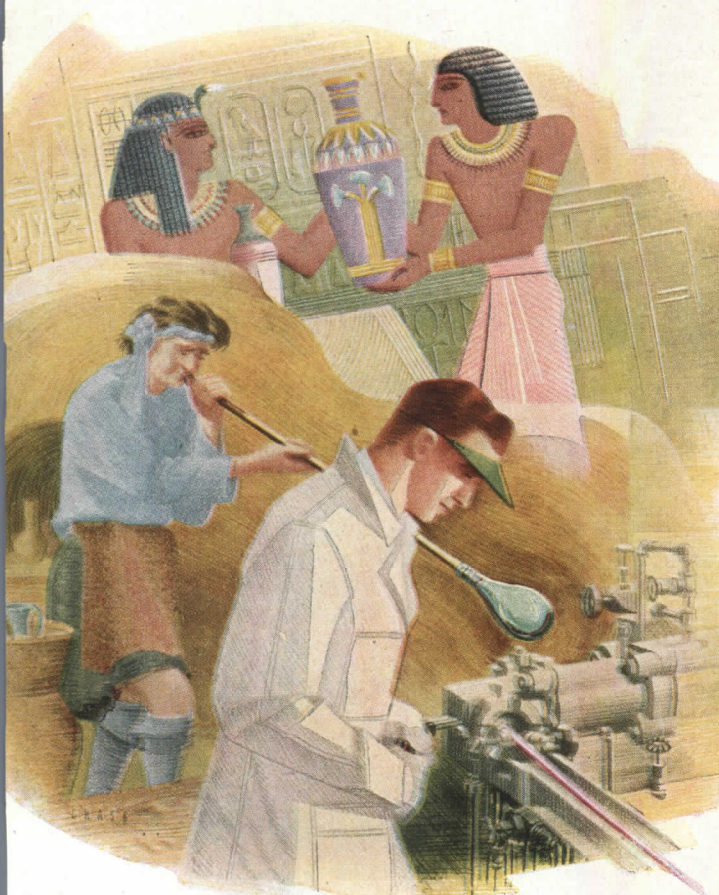
But today, through the impact of scientific and industrial development, the word “plastic” is no longer only a *descriptive* term. Rather, “plastic” is also the *name* for a family of materials—products of chemistry. They are new tools of industry, supplementing, and in many instances replacing, older, more familiar materials.

But more significant than the definition of “plastics”, to manufacturer and ultimate user, is the knowledge

that all plastics are not alike. Each type possesses individual properties. Some are especially formulated to take abuse and rough handling—others are noted for their electrical insulating characteristics—there are those designed to withstand reasonably high temperatures while others resist below-zero cold—some are flexible—others rigid—some transparent—others opaque.

Thus, plastics are serving in numerous products—from airplanes to footwear. They are providing specific properties which, in many instances, are better than found in any material previously available.

Dow, for example, produces Saran—used for pipe, tubing, woven fabrics, cordage, and many other



IS “PLASTICS” THE WORD?

products; Ethocel, for molded products and rigid packaging; Styron, for high frequency insulation, chemically-resistant closures and molded products of lightness and beauty; Saran Film, for moisture-vapor-proof packages.

Currently, all Dow plastics are serving the war effort, but their value and usefulness will definitely influence a great many products in due time.

Dow Plastics include
Styron, Saran, Saran Film, Ethocel
and Ethocel Sheeting

DOW CHEMICAL COMPANY, MIDLAND, MICHIGAN
 York Boston Philadelphia Washington Cleveland Detroit Chicago St. Louis
 Houston San Francisco Los Angeles Seattle

FOR BETTER BUILDING

OUR ELECTRICAL FUTURE

As the picture of the postwar house begins to take at least a vague shape it is increasingly apparent that it will be familiar in general outline, with improvements and additions in some essential details. One of the first of the details to come to fairly sharp focus in the picture is the electrical equipment of the house.

There is more than one reason for this first clarification. One is that electrical developments before the war were already far ahead of the average house—there were dozens of labor-saving or convenience items which had reached advanced stages of development, but which had not found really wide markets. Another reason is that the deferred market for electrical goods is definitely known to be tremendous; the desire was there before the war, and the electrical industries were the first to be cut off by material shortages. Again, it is believed that the electrical manufacturers will be among the first to get back into civilian production; materials will be available early, and little plant reconversion will be required.

Most important of all of the reasons, perhaps, is that already a concerted drive is beginning, to develop the postwar market. Electrical manufacturers will be the first out with publicity and advertising campaigns and announcements of new things. There will be some new developments—in electronics, in lighting, etc.—but there is plenty of room for improvement in the house with the familiar items. And there are infinite possibilities in new adaptations of well-known devices. The feeling in the industry is something like this: the market is there, people will have the money, let's go.

The Architect's Part

For architects two or three angles are significant. Besides the fact that house clients will presumably be demanding more and more in electrical equipment, there will be a fairly intricate assignment in the design of built-ins and storage and work spaces for the use of a multitude of gadgets, particularly in the kitchen. In lighting also there will be new design possibilities. The new circular forms of fluorescent lighting will bring new classes of fixtures, new opportunities for special effects.

Another assignment for the architect will be to insure an adequate wiring installation. And he may have to do some raising of sights in this respect. The familiar fact that electrical loads

seem to double every dozen years or so will probably not change on the down side; is more likely to go the other way. And if there is a lag, as of course there will be, in realization of the industry's plans, still the wiring diagrams might well be on the generous side, in preparation for later installation of more of the forty or so electrical things that are available for the house.

Painless Payments

As for built-ins, there is the old point that the more equipment items that can be attached to the house, the more the client can afford. The theory is that if they can be sufficiently attached, or built-in so that they can be financed as part of the house mortgage, the cost is spread over 15, 20 or even 25 years instead of the few months permissible in normal installment buying. And since the average client figures his house budget on a monthly basis rather than a cash price, he can therefore get more equipment, particularly if the item contributes operating economy or saves living costs in some other way. There is nothing really new in this theory—it is as old as the FHA long-term mortgage system—but it may have new significance in the expected era of intensive salesmanship. It will probably be stressed as one of the wrinkles available to help distribute more manufactured goods, and thus to keep our great productive plant going.

Aside from the merchandising aspects, built-ins of course will add to the usefulness and convenience of many electrical items. Indeed there may be more new developments in applications than in basic equipment.

The electrical part of the postwar house picture is sketched in by a couple of recent developments. Westinghouse announces a new booklet, "Electrical Living in 194X," which explains the need for better wiring. The better-wired house, it says, will have: (1) enough outlets for present and anticipated appliance and lighting needs; (2) enough circuits to distribute the electrical load properly; (3) enough switches for safety; (4) modern protection for all electrical circuits; and (5) wiring and wiring devices of high quality.

Plans for an average-priced postwar home described in the book include 18 individual electric circuits to make unnecessary any future expensive wiring additions, and to provide improved service from electrical appliances. Wiring diagrams and a complete floor-plan explain why each circuit is necessary, and how the electrical load should be

distributed among the various circuits.

The technical data sheet section of the book includes specifications of electrical appliances and equipment which will be available.

Another straw in the wind is new activity by the National Adequate Wiring Bureau, which is sharpening up its promotional and educational programs locally and nationally, in preparation for new and larger electrical loads in the wiring system of the house of the future.

STOKER CONTROL

A new primary stoker control, *Thermo-Pilot*, utilizing the principle of thermal action, has been tested in actual home installations through four heating seasons and is now announced as available for use.

In operation *Thermo-Pilot* is said to be positive and dependable. An electric current supplies heat energy to the bi-metal element. When sufficient heat has been stored, a circuit is closed which energizes the stoker relay and places the stoker in operation. As the bi-metal element cools, the relay is de-energized, the stoker stops and the cycle is repeated.

This hold-fire operation can be adjusted for short, medium or long operating periods at from one-half to one hour intervals to meet operating requirements. A special safety switch prevents hold-fire operations immediately after the stoker has been in operation at command of the thermostat. There is no subsequent over-shooting of room temperatures. Perfex Corp., Milwaukee, Wis.

NEW SLIDE RULE

Especially adapted for carrying in a brief case, the *Monitor Slide Rule* is small in size, light in weight and indestructible. The scales are finely graduated on white vinylite, accurately ruled, and are guaranteed to last for years.

The scales are on a disc 6 in. in diameter; length of multiplication, division scale, 13.8 in. The front side of the *Monitor* has four scales: Log, C, D, and CI or C inverted scale; the reverse side has sine and tangent scales and A and D scale for finding squares and square roots. Tavella Sales Co., 27 W. Broadway, New York 7.

AMMONIA DEVELOPING PAPER

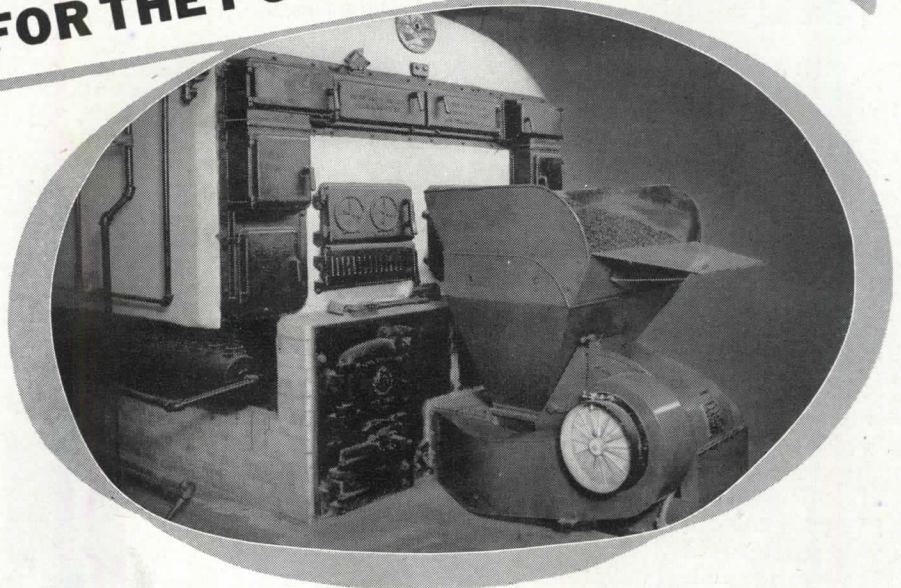
Just announced is a line of ammonia developing printing papers in blue line, maroon line, and sepia transparent sensitized tracing paper, under the brand name of Casco-Azo. John R. Cassell Co., Inc., 110 West 42nd St., New York.

(Continued on page 48)



Boiler Plant..FOR THE POST-WAR RETAIL STORE

Built immediately pre-war the W. T. Grant Co. store in Portland, Maine, is heated by a 16 section, number 60 SMITH, cast-iron, stoker fired boiler.



How 200 H. B. Smith boiler installations in W. T. Grant Co. stores are setting a standard for post-war heating

By necessity extremely conscious of overhead costs, chain store management selects equipment with the highest consideration for its eventual "cost of use." The annual fuel bills, for example, weigh far heavier than do a few extra dollars in the original cost of the heating equipment.

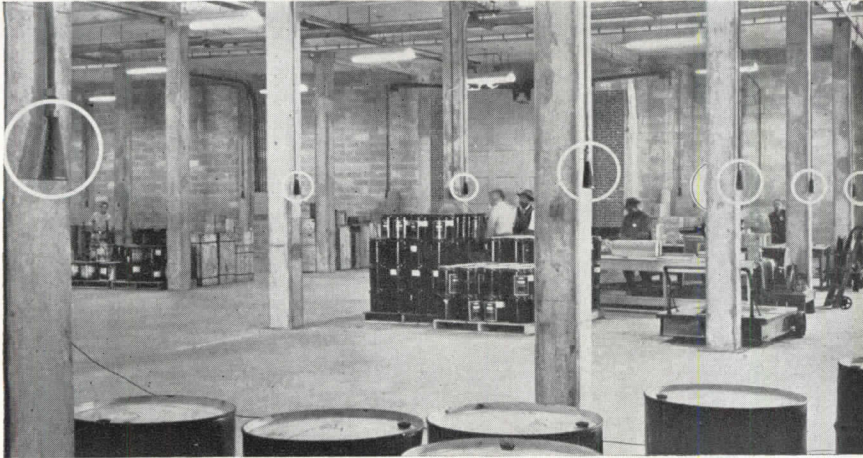
It is for this reason that the W. T. Grant Co. installed H. B. SMITH Boilers in many of its nationally known variety stores. W. T. Grant Co. now has approximately 200 stores heated by H. B. SMITH boilers. Fuel expense has been uniformly low. Maintenance costs have been negligible.

It is our prediction that the boiler plant heating the post-war chain store will closely resemble the best installations of 1941. Specifiers and installers who will be judged by the *annual expense* of boiler operation will do well to profit by W. T. Grant's experience and specify a known quantity in boiler performance . . . H. B. SMITH.

Complete engineering data and specifications of H. B. SMITH boilers available for this type of construction are filed in the Domestic Engineering Catalogue Directory and Sweet's "Engineering," or will be furnished on request.

H.B.
Smith
CAST-IRON BOILERS

THE H. B. SMITH COMPANY, INC. • WESTFIELD, MASS.
Branch Offices and Sales Representatives in Principal Cities



Carbon dioxide fire extinguishing system at Navy's Aviation Material Storehouse, Philadelphia, has discharge nozzles arranged in sprinkler fashion on each post

**FIRE FIGHTING
BY CARBON DIOXIDE**

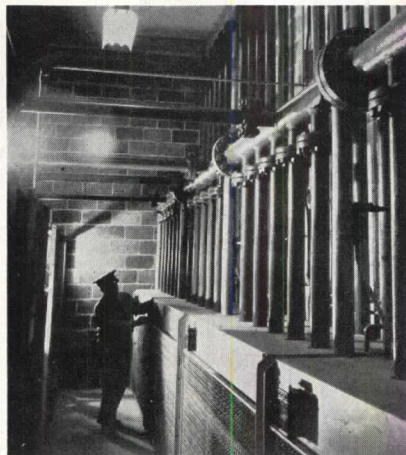
The carbon dioxide fire extinguishing system in the Aviation Material Storehouse of the Naval Storage Depot, Philadelphia, installation of which has recently been completed by Walter Kidde & Company, is said to be the largest built-in carbon dioxide system in the world, protecting in entirety a building 577 ft. by 118 ft. 8 in. by 16 ft. 8 in. The storehouse, divided into four separate spaces, is used to store paints, oils, greases, glues, dopes, lacquer and other flammable liquids.

The Kidde system is of the sprinkler type and employs carbon dioxide under high pressure—850 lb. p.s.i. at 700°F. The system consists of a battery of 280 steel cylinders, each containing 50 lb. of liquefied carbon dioxide which will expand about 450 times in volume upon release. Thus the gas is delivered through the piping and all the multiple discharge nozzles in a room simultaneously, the tremendous force of expansion of the gas upon release doing away with the necessity for a pump or any other extraneous force. The whole seven tons of gas can be discharged by means of directional valves into any one of the four spaces within approximately one minute.

The cylinders are manifolded in five frames containing 56 cylinders each, one acting as a master control frame. There are four valve frame assemblies, each including five automatically operated directional valves, which in the event of fire direct the gas to the particular space involved. Each valve frame has two plunger-type switches operated by the valves—one to close a circuit and sound an audible alarm, and the other to open another circuit, stopping the ventilating fans and closing the louvers

so that circulating air will not feed the flames.

Five supply lines lead from the valve frame assemblies to each one of the four protected spaces. These terminate in a total of 296 shielded discharge nozzles, one placed a third of the distance from floor to ceiling on each of the upright posts and others placed at various strategic spots in the storage rooms. These shielded nozzles deliver



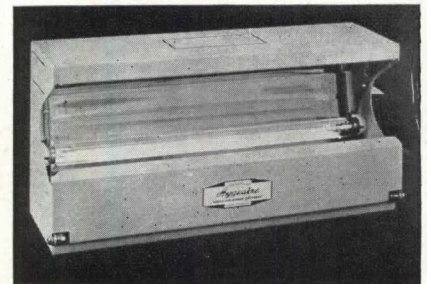
Manifold piping carries gas from routing valve frames to distributing pipes

the gas from the piping system, and are an important item in the system. They eliminate any high velocity jet effect of the discharge which might occur with unshielded nozzles, prevent objectionable turbulence and accurately control the fire-extinguishing gas, which builds up in a blanket from the floor, thereby providing the highest concentration at the base of the flames, and controlling any spill fire which may be present.

Placed about the ceilings at regular

intervals are 48 heat actuators, operating on rate-of-temperature-rise in the room. The fire-heated air rises to the ceiling, expanding the air within the actuator. A wave of pressure passes through the tubing to a release mechanism located at the directional valves. Instantly weights drop, opening the proper directional valves, ringing the alarm gong, shutting off the fans and louvers, and starting the time-delay mechanism which allows 35 seconds to elapse before seals are cut and the gas discharged so that any workers present will have an opportunity to leave the room. The warning signal sounds continuously during the 35 second interval before the gas is released.

Carbon dioxide, a chemically inert gas, does not combine with the products of combustion even in the presence of heat; it smothers fire without damage to the materials with which it comes into contact, and leaves no residue to clean up. It does not deteriorate, and causes no corrosion.



Hygeaire uses patented reflector and germicidal tube for air disinfection

**AIR CONDITIONING
Disinfection of Air**

One of the most widely discussed of recent developments is the possibility of disinfecting the air by ultra-violet rays. Already in use in the hospital field, this principle is expected to be more generally applied after the war through equipment now being manufactured.

Announced this month is one such device for air disinfection. This is the *Hygeaire System*, a combination of the G. E. Germicidal Tube and a patented reflector in the fixture designed to protect a zone across an area above eye-level. Air-borne bacteria and viruses are carried into the zone of ultra-violet rays by convected air currents and killed, giving to the protected space the germicidal effect, it is claimed, of 100 air changes per hour. Reported advantages of the new system: Low initial and operating costs, ease of installation, long life and ease of tube replacement. American Sterilizer Co., Erie, Penn., manufacturers; Graybar Electric Co. and General Electric Supply Corp., distributors.

(Continued on page 114)

Individual initiative

◆ Always coming up for discussion as the Annual Meeting of the A.I.A. nears, are many suggestions of things that should be done by the A.I.A. for the benefit of its members, the profession at large, and the public. And in some there is much virtue and value, in others there is wishful thinking and "buck-passing." It is all too easy to hope that the organization could, if it only would, convince the public of the value of the services of the members so that clients would automatically pour in to the offices. It is easy to sit back and say "let George do it."

◆ Of course there is much that the organization of the profession can and should do, things which the individual practitioner or the local group cannot do for itself. But even these essentially organizational activities require manpower, initiative and the active cooperation of individuals and local groups. They require both financial support and hours of intensive work. Better public relations, public enlightenment and education, legislative action, legal protection, research, are among the activities which demand group action.

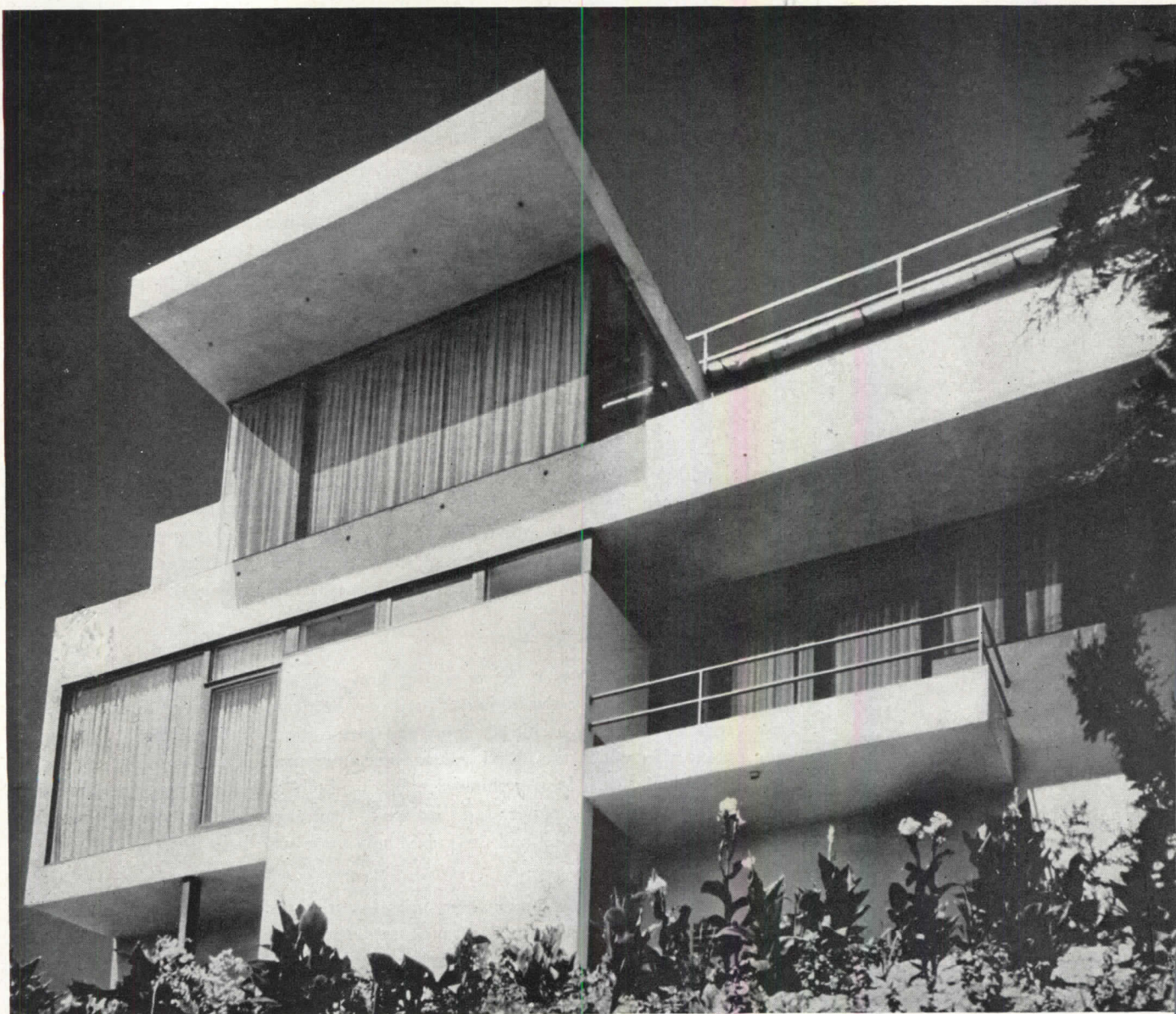
◆ Yet it is surprising how effective individuals or small local groups can be—if they have the initiative, the know-how and the energy to carry on. The cities or regions in which architects enjoy the greatest prestige, privilege, and popular esteem are those in which the individual architects are most active, capable, responsible, and public spirited. Such local architects, operating both individually and as groups do more for the profession, the public, and themselves than any Washington manifesto could possibly accomplish. Both God and the public help those who help themselves.

◆ The national organization might stimulate more such local activity by the reporting of successful local programs, enterprises, and activities so that other groups or chapters might then adapt or emulate them. Local groups build the local reputation for themselves and each and every architect is personally responsible for the reputation of the profession in his locale.

◆ If the public is to have increasing respect (and employment) for architects, it will be due to the individual initiative and competence of every practitioner. And this initiative will encompass a wider sphere of action after the war. *All design*—of community-city region—of setting, building, room, furnishing, equipment, gadget, is open to the architect who has the initiative. True, it must be backed up with the requisite ability, contacts, organization.

◆ Design will play an increasingly important part in the highly competitive postwar markets, and who is better equipped to provide good design than the architect? But it requires initiative—either his own, or his associates'. The future of the architect, the logical expansion of his design function, the increase in demand for his services depend on the individual (and his firm)—his energy, application, and demonstrated abilities.

Kenneth K. Stowall



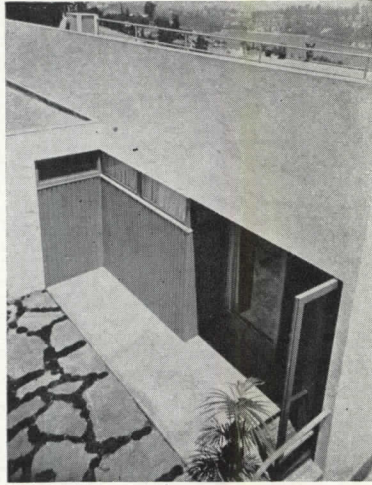
THE LOGIC OF LEVELS IN REVERSE

CLIENTS' requirements for this home made it necessary for the designer to reverse the traditional approaches to home design. The site is unusually steep and narrow, but the clients wanted plenty of outdoor living space. Seeking to capitalize on a fine view of Silver Lake and the mountains beyond, they wanted big windows and plenty of them, yet complete privacy. They wanted a house with only one bedroom, but good room for entertaining.

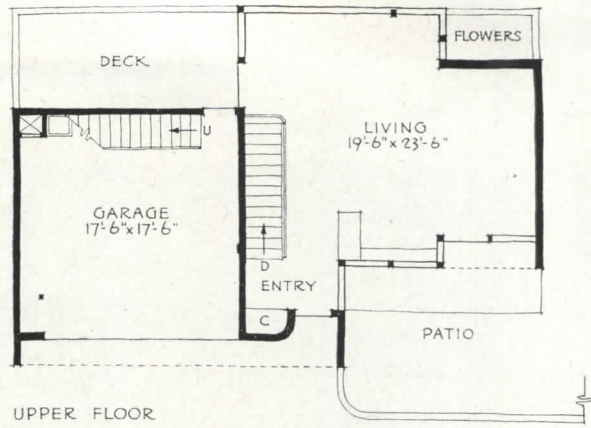
Outdoor living space was provided largely by a roof

deck, 42 ft. long, shielded by a shoulder-high wall on the street side for privacy and with a pipe railing for protection and greater visibility on the vista side. It is served by a dumbwaiter from the kitchen, two floors below. Then there's a balcony, 18 ft. long, accessible from the living room on the top floor. This, too, is served by the dumbwaiter. The living room also opens onto a small patio hidden from the street by a high wall. And on the lower floor there is another balcony, off the dining room.

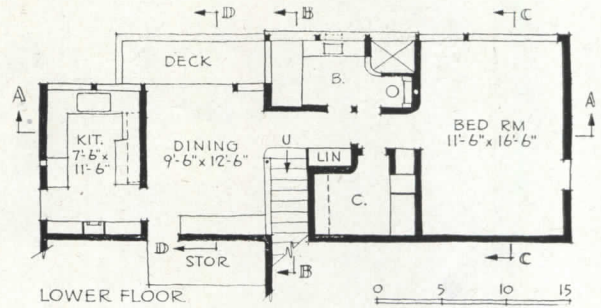
House for Mr. and Mrs. I. Becker, Los Angeles
Gregory Ain, Designer
George Agron, Associate



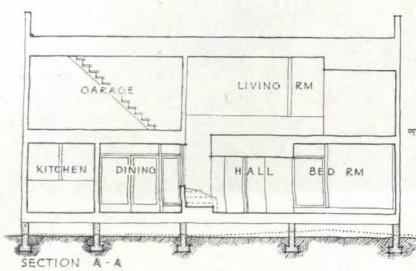
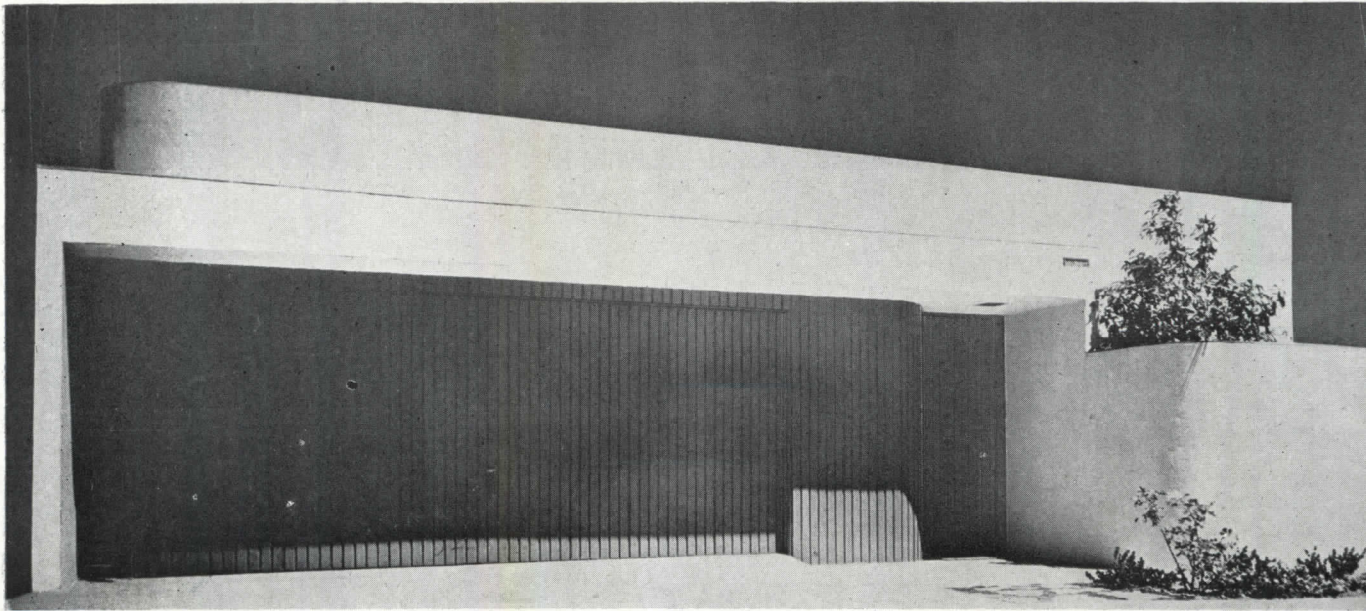
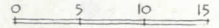
Harry Hartman photos



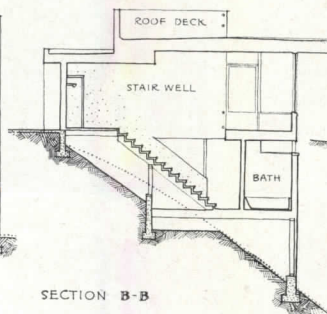
UPPER FLOOR



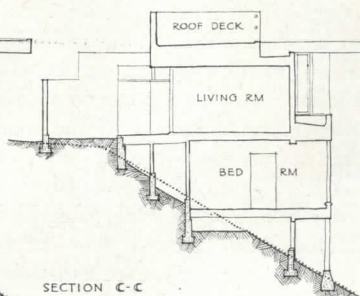
LOWER FLOOR



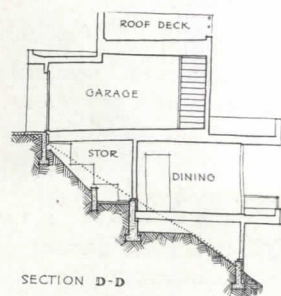
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

Almost all of the living room furniture is built in. Here the built-in couch end houses a heater. Living room interior is stained Ponderosa pine; cabinets are light gray, carpeting blue



All windows in the house are massed at the downhill side, to insure privacy and to take full advantage of the lake view

All windows are located on the view side where passers-by and neighbors cannot look in. Massing the windows in this way, too, left generous wall areas for furniture.

The site slopes downward from the street so that the entry is at the uppermost level. As the guest steps in, the first thing he sees is not the living room, but the spectacular view—both through the living room windows ahead of him and through the dining room windows, which, although on a lower level, are visible from the entry.

The living room has two ceiling levels. At the end of the room dominated by the big window, the ceiling is high, giving greater emphasis to the window, and extends out past it to form an overhang that frames the view. The ceiling is lower in the alcove-like remainder of the room to impart a more cosy and intimate atmosphere.

The house is of wood frame construction, finished in stucco. Exterior is finished in light gray with dark blue-gray trim. Interior is stained Ponderosa pine (no knots), cabinets are light gray; blue carpeting and upholstery are relieved by salmon upholstery on chairs.

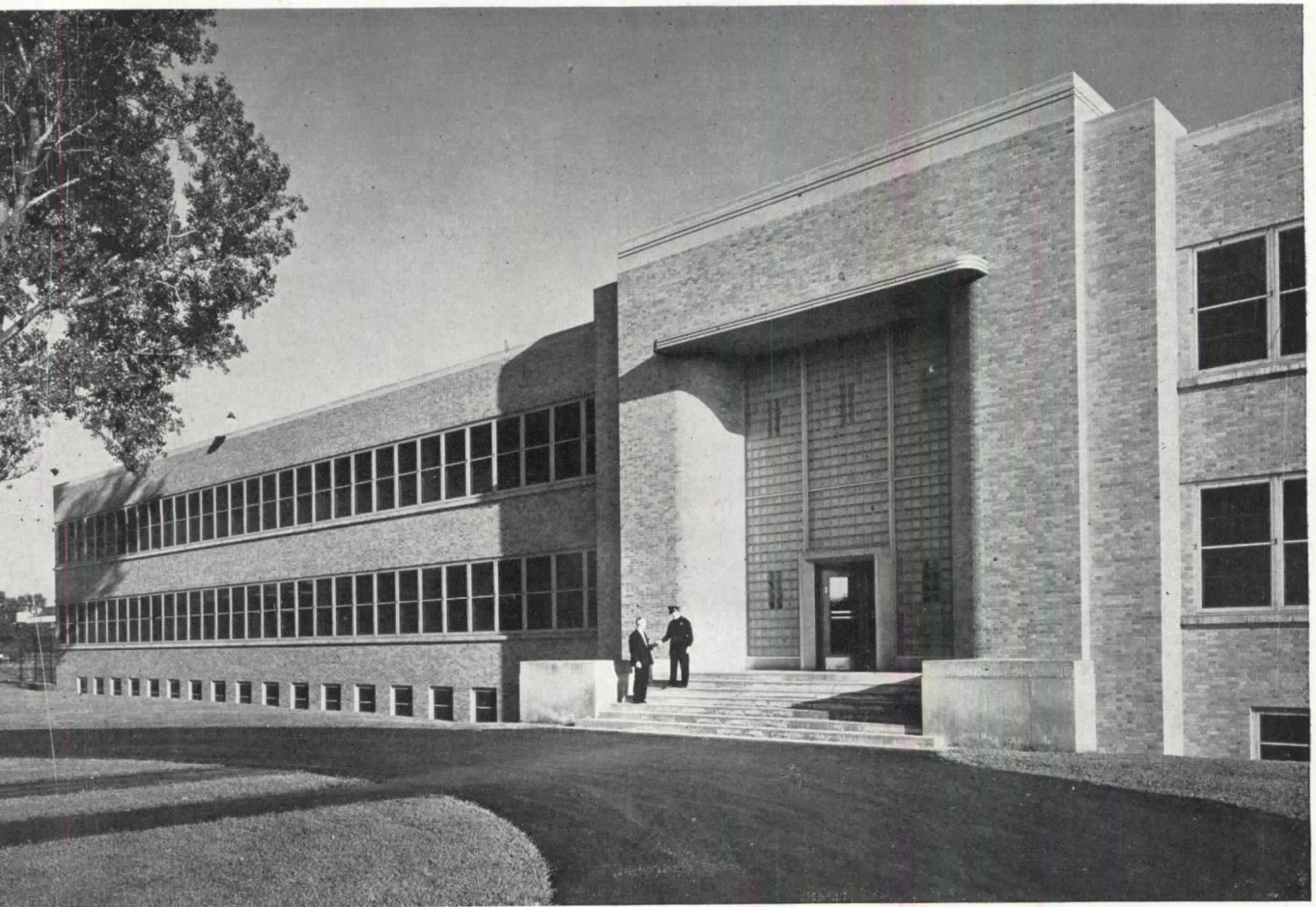


Combination radio, phonograph, record cabinet and bar in the living room. Upper portion lifts to reveal a small sink and bar. Liquor storage is in end cabinet



PERMANENT PLANT FOR TORPEDOES

*U. S. Naval Ordnance Plant, Forest Park, Ill.
For operation by The Amertorp Corporation
Albert Kahn Associated Architects & Engineers, Inc.*



DESIGNED for operation by the American Can Company under contract with the U. S. Navy, this plant is a permanent unit of the defense factory facilities of America, as contrasted with the many semi-permanent types of structures prevalent in the emergency war building program. The name "Amertorp" symbolizes both the operators and the product: "Amer" for American Can Co.; "torp" for torpedo. The plant builds torpedoes for the Navy.

The Navy wanted "a good looking layout without extravagance," functional to the utmost degree. The operating company indicated similar requirements. The result is a plant which nobody would fail to recognize as Kahn work, but which is perhaps more than usually

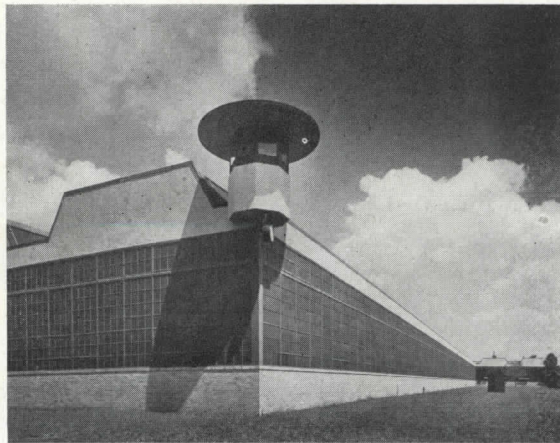
photogenic. Brick and glass have been used in mass relationship to achieve a sweeping horizontal flow suggestive of speed and precision. There are no embellishments, unless such an interpretation might be placed on the guard houses which, like ancient gargoyles, project from seven positions on the manufacturing structure.

The main factory area is roughly T shaped. With the T upside down, the left arm is where the "flasks" of the torpedo come in to be milled down. On the right hand side of the crossbar the watch-like mechanism of the torpedo is fabricated and assembled. Both halves of the torpedo flow to the center, where they are assembled and moved to final Navy test, through the main stem of the T.

The main manufacturing building is of bent beam,



Guard houses, like ancient gargoyles, project from strategic corners. Of concrete, they have bullet-proof windows



Hedrich-Blessing photos

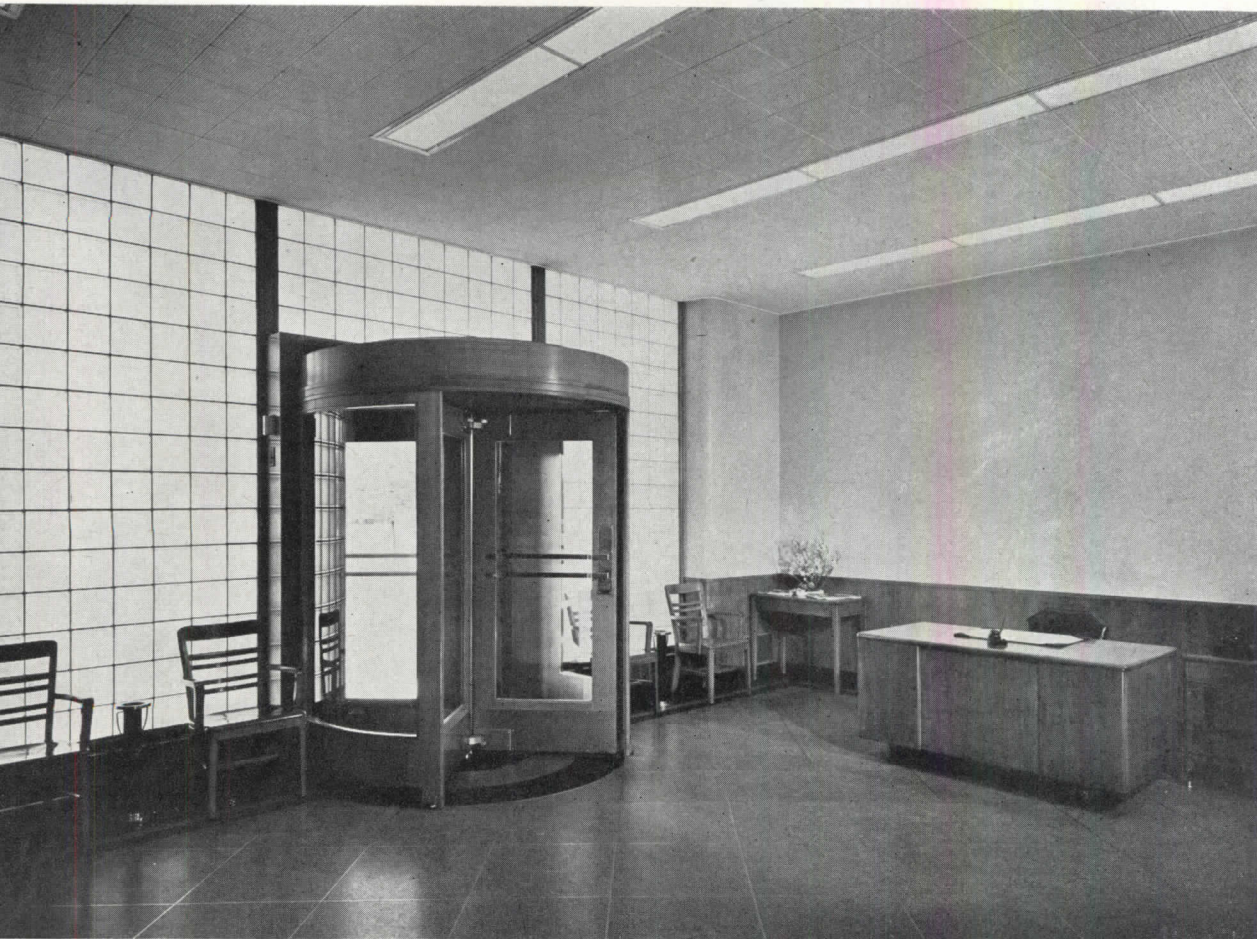
monitor type construction, with a clear height to the monitor of 27 ft. It is of structural steel framework and solid brick walls. The floor is of wood block on reinforced concrete slab. The roof is cement tile, and insulated. Original plans called for a length of 840 ft. which was increased after foundations were started.

Brick and glass are the dominant materials for another reason—the designers were striving for maximum light. Even the basement locker rooms and cafeteria are largely natural-lighted. An idea of the natural light provided by the design is afforded by the window area: continuous side wall sash, 16 ft. in height. Monitors in addition have sash to a height of 5 ft. on both sides running the full length of the building. All exterior steel sash, double hung windows, sash doors and monitor sash of the factory

portion exposed to the south, east and west, are glazed with $\frac{1}{4}$ in. rough wire heat resisting glass, blue tinted and acid etched, so as to render them glare-proof.

Employee entrances, time clocks, locker rooms, toilets, etc., kitchens, cafeteria and other service departments are located in the basement of the manufacturing building. Basement area is approximately 165 by 850 ft. Employees enter through three centrally located entrances. They pass the time clocks, locker rooms and move on into a basement traffic tunnel.

This tunnel, a much-used Kahn device, provides access via numerous stairways to production areas above, enabling employees to enter their own sections without cross traffic or congestion. The tunnel, 17 ft. wide, large enough to accommodate trucks, runs the full length of the building.



Lobby of administration building is characterized by clean, severe simplicity; with glass block front, acoustic ceiling, recessed lighting. Below, a typical corridor in office building: partitions are of cement-asbestos board

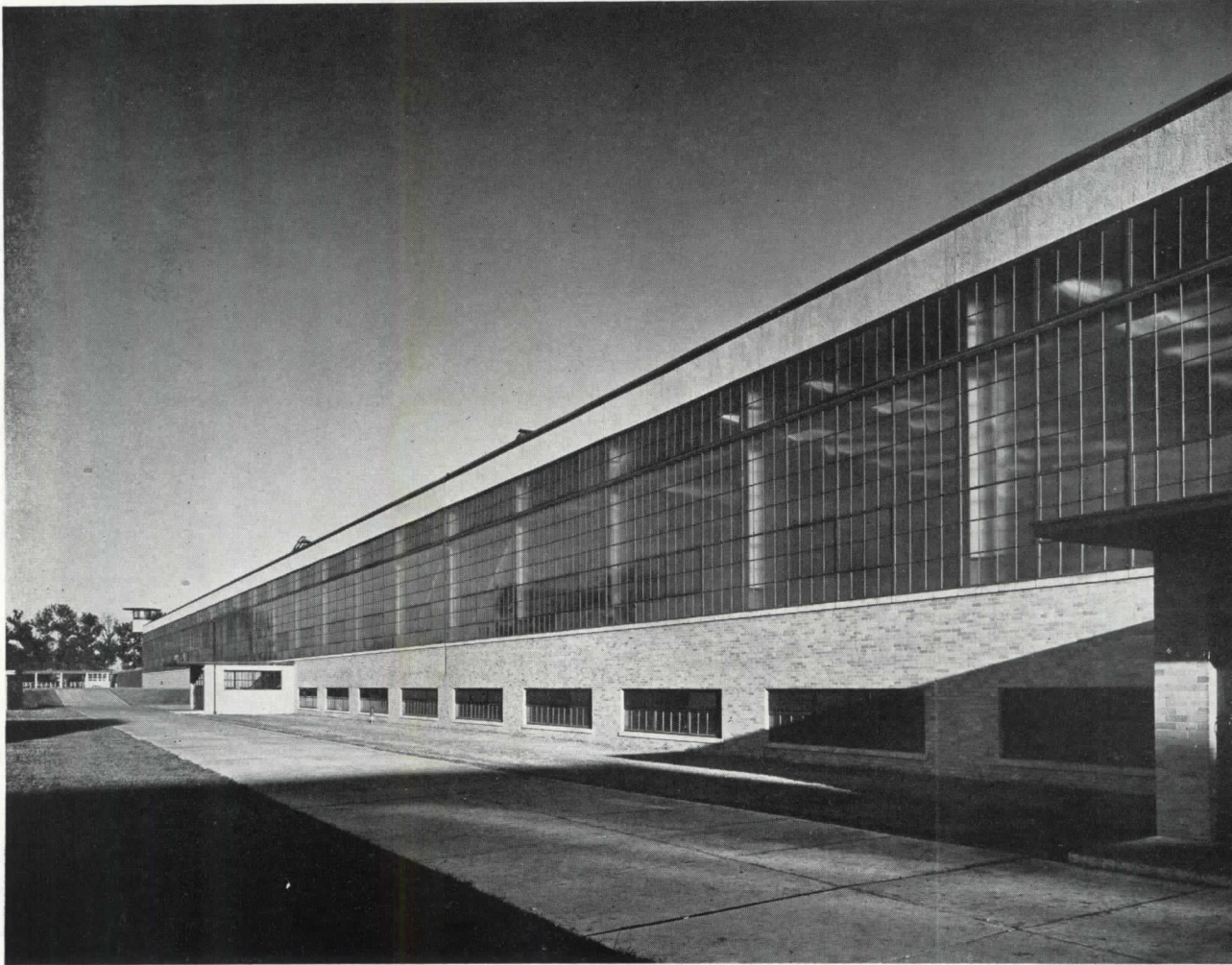
A ramp at the end provides for truck traffic to outside, and a cross tunnel connects with other buildings.

Locker facilities were originally provided for 7,000 workers, with ample provision for expansion. The cafeteria, with a seating capacity of approximately 1,350, serves both operating and executive personnel. No other dining rooms are provided.

After assembly, the torpedoes are moved to a flanking structure known as the auxiliary building, an irregular area with overall dimensions of 120 by 640 ft. This area contains shipping and receiving departments (providing for loading or unloading directly on train or truck inside the building), plating and heat treat department, electricians and other maintenance and service departments, laboratory, exploder and gyro departments, finely equipped and furnished for highly scientific research and study.



Main manufacturing building has maximum daylight, with continuous steel sash 16 ft. high. Employees' entrances lead to basement area, from which workers reach their stations via an access tunnel under main floor



Interior partitions are office type metal and glass, glazed tile and plastered walls, acoustic ceilings, hard maple and composition tile floors. Constant temperature is maintained at all times within the laboratory areas.

Adjacent to and south of the auxiliary building is the scrap and oil reclaim building area, approximately 100 by 175 ft. This building has a reinforced concrete frame with cement roof tile supported on concrete T beams.

To the north of the main manufacturing building is the office building. It is two stories and basement, of reinforced concrete and brick, T shaped, 62 by 302 ft. and 62 by 78 ft. The 62 by 78 ft. section, basement and first floor, connects to the basement and first floor of the manufacturing building. Here again continuous sash is used for first and second story lighting, and windows in the south, east and west exposures are screened for glare.

The basement houses employment and personnel offices, first aid, minor operating rooms, payroll department, training school, plant guard headquarters, fan rooms and lockers. On the first floor are general offices, purchasing, drafting rooms and production planning. Executive and accounting offices, and Navy ordnance inspection headquarters are on the second floor. Floors and roof are of reinforced concrete. Partitions are made of cement asbestos board and glass.

The requirements for the process piping systems were many and varied, since the manufacture and testing of torpedoes demands unique equipment and methods. Many tests are made with compressed air at pressures ranging from 500 to 2,800 lb. per square inch. For the final air test, special electric heaters were installed on the air lines to dry and heat the air. Through the cooperation of

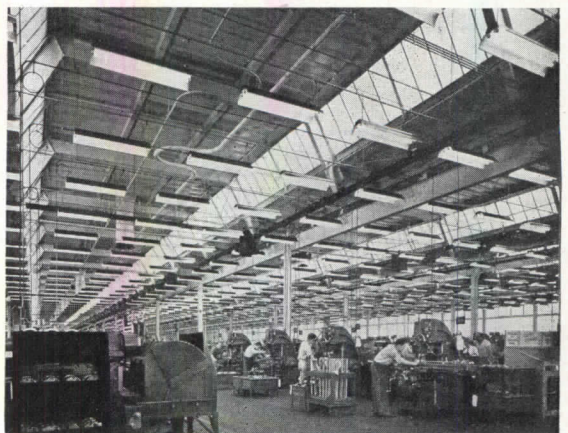


Long monitors bring daylight to interior of main manufacturing building, with thousands of fluorescent fixtures for supplementary lighting. Note steel bent beam construction, cantilevered to permit wide spacing of columns

Amertorp engineers and the architects it was possible to provide services to every machine, test bench and piece of equipment in such a manner that there was no unsightly overhead piping, and, most important of all, working space was kept clear; yet the controls for water, gas, air, oil, etc., were located within easy reach of the operator so that he could do his job to the best of his ability.

Because of the widely differing types of manufacturing operations, problems of heating and ventilation were unusual. Certain operations require a considerable amount of exhaust ventilation, which is accomplished through exhaust units in the roof. Summer and winter supply units automatically replace the volume of exhausted air and temper it to proper and comfortable working temperatures.

The main manufacturing area is heated by unit heaters



spaced in the truss area and thermostatically controlled. In this portion of the plant are 95 unit heaters with a capacity ranging from 260,000 to 450,000 Btu, 15 winter supply units of from 7,500 to 20,000 c.f.m. capacity, 60 summer supply units handling 10,000 c.f.m. each and 75 exhaust units each of 10,000 c.f.m. capacity. Three fan rooms are located in the basement. Warm air ducts extend from these fan rooms to the basement lockers and other rooms.

Steam is supplied to each fan room at high pressure,

dust particles generated by some of the manufacturing operations has required an extensive system of blow pipe work and dust collectors.

Protective measures necessary on a torpedo manufacturing enterprise are evident on close approach to the property. The site has outside dimensions of 1,300 by 2,700 ft. and is fully enclosed by a high steel mesh fence. There are other fences within this outer fence. Jutting out from every strategic corner on the development are

Health and safety hazard of fumes and dust particles required an extensive system of blow pipe work, exhaust hoods and dust collectors for such operations as welding, heat treating, chrome plating, grinding and woodworking



reduced through control stations and connected with heating coils in the supply units. Each fan room also has a duplex type condensate pump and receiver which collects condensate from the blast systems and heating system of the production floor above and other equipment around the plant supplied with steam.

Separate central warm air heating units serve the gyro and exploder department, distributing filtered and tempered air through each area.

The health and safety hazard of fumes and noxious

guard houses, six on the production buildings and a seventh on the boiler house. These were added after the project was started, and were not an integral part of the original design, although they appear to be. Each circular house has bullet-proof glass windows and a searchlight which can be played on adjacent parts of the property. Each is roughly 6 ft. in diameter and is constructed entirely of reinforced concrete, including the roof slab which extends out umbrella fashion. It was not intended that the guards should also be airplane spotters.



OFFICERS AND DIRECTORS OF THE AMERICAN INSTITUTE OF ARCHITECTS

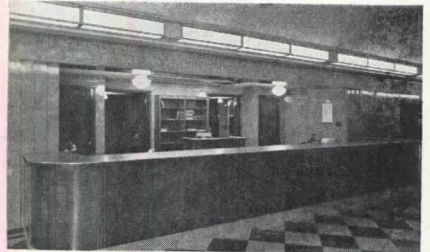
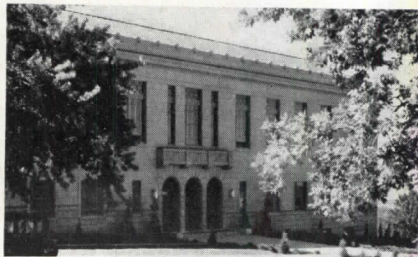
1943 • 1944

Presenting, in anticipation of the Annual Meeting, brief biographical sketches of the men who are serving officially in shaping the policy and program of the Institute. Small photographs of a few buildings or postwar projects, emanating from their offices, are also shown; identified as far as possible, on page 79.



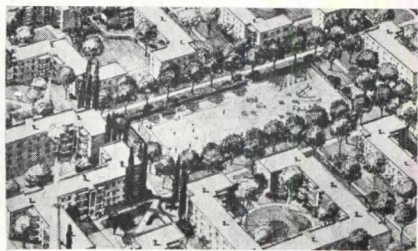
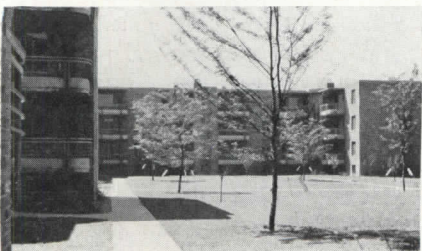
RAYMOND J. ASHTON, F.A.I.A., President

Born and raised in Salt Lake City, Utah, Raymond Ashton graduated from the University of Utah in 1909. From 1909 to 1912 he traveled and studied in Europe. Shortly after his return he worked in many well-known architectural offices in Chicago. In 1919 he became a junior partner in the firm of Rutherford and Ashton. In 1921 he began practice under his own name and in 1922 formed his present partnership with Raymond Evans. During the war Leslie S. Hodgson joined the partnership for defense work, including housing, hospitals, naval supply depot, etc. He is a former member of the Board of the A. I. A., its treasurer in 1942, and president since 1943. On his Utah farm he indulges in his favorite hobbies, "would-be" farming and cooking.



WALTER R. MacCORNACK, F.A.I.A., Vice President.

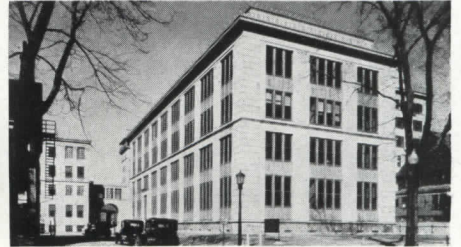
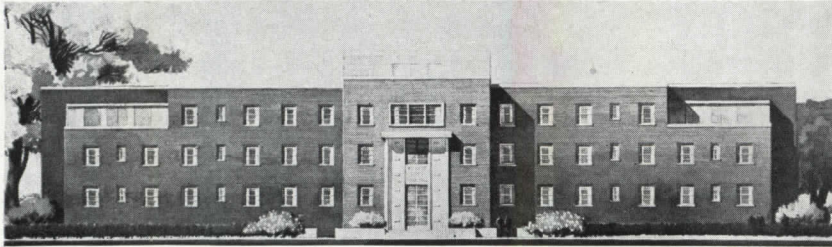
His long list of architectural accomplishments began with graduation from M.I.T., 1903, at the school which he now heads. After ten years with Guy Lowell's office in New York, he became architect for the Cleveland Board of Education, 1914-25. He then engaged in private practice until 1939. He was consulting architect for the Julius Rosenwald Fund, a member of Ohio State's Board of Building Standards, and founder of Cleveland Homes, Inc. He has been a member of important committees too numerous to mention, including the Civic Development Committee of the U. S. Chamber of Commerce, and has been president of Ohio State's Association of Architects and of the Cleveland Chapter. He is chairman of the Committee on Postwar Reconstruction.





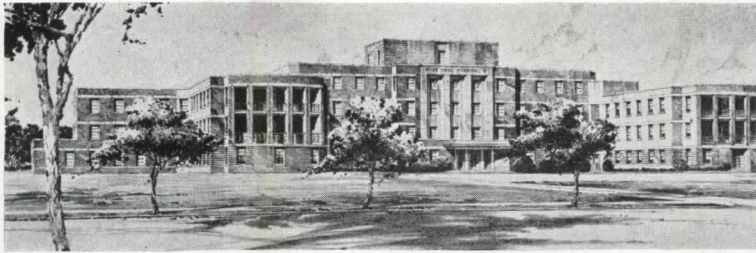
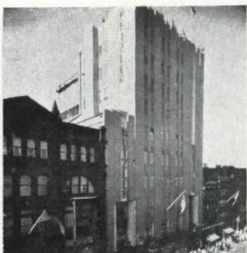
ALEXANDER C. ROBINSON, III, Secretary

Born in Sewickley, Pennsylvania, Mr. Robinson graduated from the Hills School in 1910, from Princeton University in 1914, and received his architectural degree from Columbia in 1917. During World War I he was connected with the adjutant general's office, and later started architectural work in Pittsburgh. In 1920 he began work with Abraham Garfield and, at present, is a member of the firm of Garfield, Harris, Robinson & Schafer, where he has been a partner since 1926. He has been a member of the County Planning Commission for ten years, is a past president of the Cleveland Humane Society, and is a member of the board of trustees of Western Reserve University, Cleveland School of Art, and the Music School Settlement.



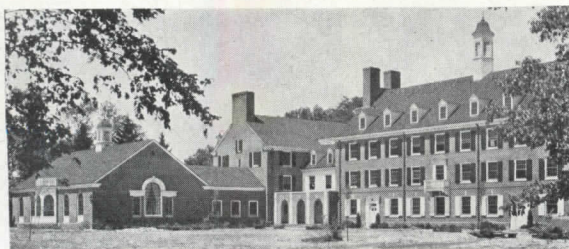
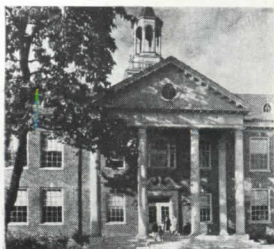
JAMES R. EDMUNDS, JR., F.A.I.A., Treasurer

On April 1, 1890, Mr. Edmunds was born in Baltimore. He received his bachelor's degree (and a gold medal in design) from the University of Pennsylvania 1908. He traveled and studied abroad in 1911, 1919, and 1923. From his early work in Baltimore, first with Wyatt & Nolting and then with his own practice, he went to Canton, China. On his return in 1920 he joined the office of Joseph Evans Sperry, became a member of that firm and its successor Crisp and Edmunds. Has served as a past president of the Baltimore Building Congress and Exchange, and was chairman of Baltimore's Housing Authority from 1937-41. He is a member and treasurer of Maryland's Board of Examiners and Registration of Architects, and a director of the Calvert Bank.



CHARLES FREDERICK CELLARIUS, Regional Director—Great Lakes District

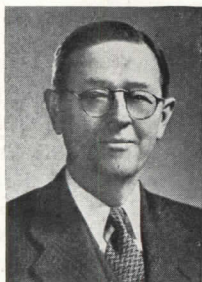
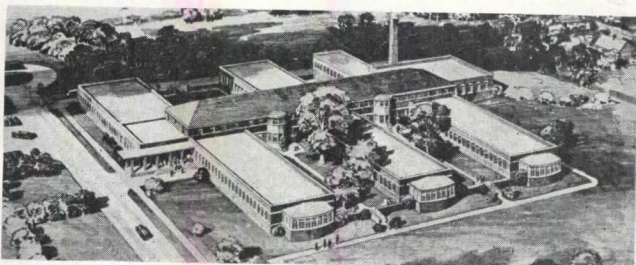
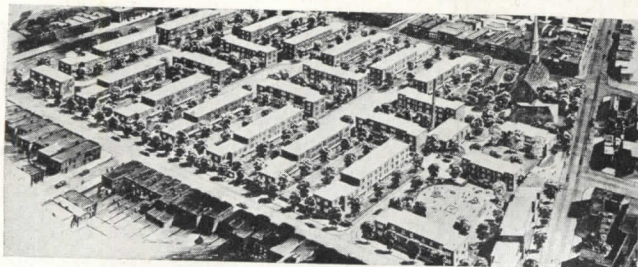
A graduate of both Yale and M.I.T., Charles Cellarius was a machine gun lieutenant in World War I and later was in charge of the army's School of Art and Architecture for the A.E.F. After working in the offices of Aymar Embury II and Harry Hake, he opened his own office in Cincinnati in 1921. He is responsible for many of the better residences of that city, and has done much in school and college work, Berea College in Kentucky and Miami University at Oxford, Ohio. He was supervising architect of the model town Mariemont, Ohio, and was associated on several of Cincinnati's recent slum clearance projects. He is past president of the Architects' Society of Ohio. When not following a yen for travel, he enjoys bridge and music.





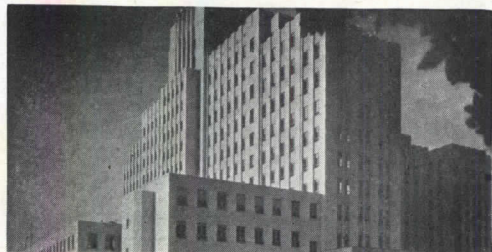
G. CORNER FENHAGEN, F.A.I.A., Regional Director—Middle Atlantic District

A native of Baltimore, Maryland, Mr. Fenhagen studied at the University of Pennsylvania, graduating with the class of 1905. The next two years were spent in Europe traveling and studying on the Alumni fellowship from the U. of P. In 1907 he was with the office of Pell & Corbett in New York until 1910. He then became assistant consulting architect for the Philippine Government at Manila, 1911-14, studying the Philippine Capitol group as located on Burham Plan for Manila. From 1914-16 he was consulting architect to the Philippine Government. On his return he became a member of the firm of Sill, Buckler & Fenhagen, changed to Buckler and Fenhagen in 1921, the present firm. He is chairman of the Maryland Board for Registration.



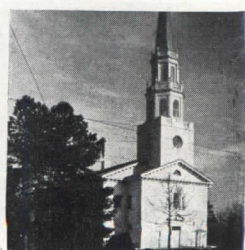
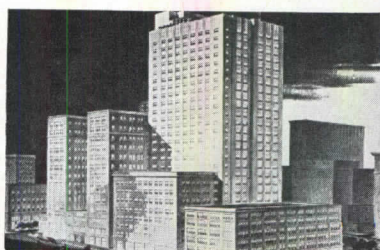
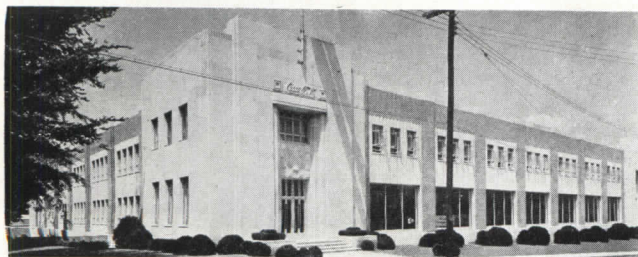
HARLAN THOMAS, F.A.I.A., Regional Director—Western Mountain District

His first seven years were spent in Des Moines, Iowa, his birthplace. Then in Fort Collins (population 500), Colorado, he grew up amid cowpunchers and lumbermen. After working as a carpenter for a few years he entered Colorado State College, graduating in 1894. He promptly married and spent a year in study and travel in Europe, "coming home broke." After practicing architecture in Denver he moved to Seattle in 1906. For the next twenty years he practiced as a member of the firm of Thomas, Grainger, and Thomas. He then became director of the School of Architecture of the University of Washington. On his trips to Europe, Alaska, and to Mexico, he spent as much time as possible at his hobby of water color sketching.



GEORGE HARWELL BOND, Regional Director—South Atlantic District

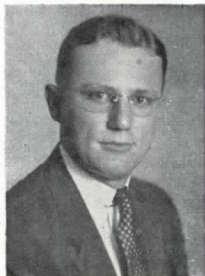
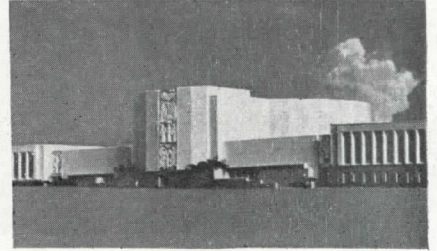
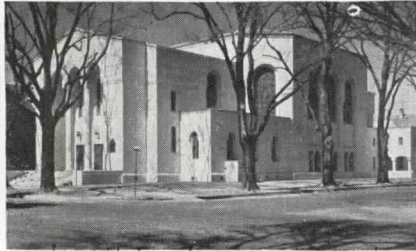
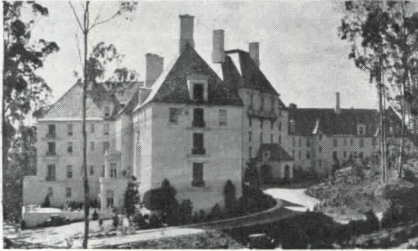
Born in Georgia, George Bond graduated from Georgia School of Technology in 1912. The following year was spent in the Atelier Paulin, Ecole des Beaux Arts, Paris. He served in the U. S. Naval Reserve Flying Corps in World War I, and returned to Atlanta. For next nine years he was executive vice president with G. Lloyd Preacher & Co., Inc. In 1928 he began practicing under his own name. He has been active in the Georgia Chapter of the A.I.A., Georgia Engineering Society, past chairman Atlanta Engineering Council, and represented the U. S. at the Pan-American Congress of Architects in Uruguay. Gunning and fishing, gun collecting, and cabinet work are his principal recreations.





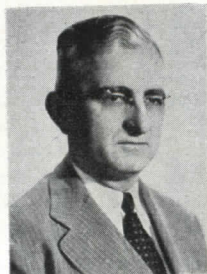
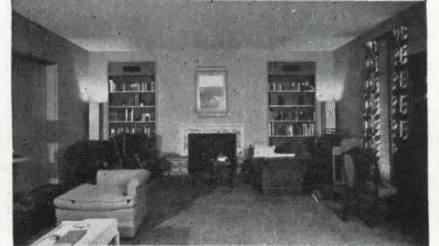
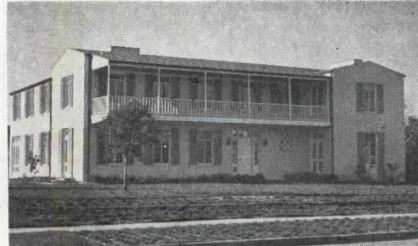
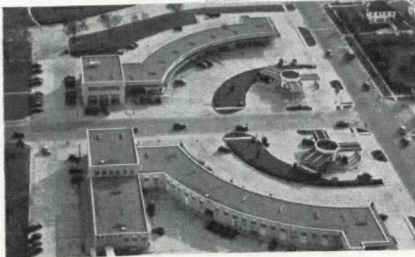
HENRY H. GUTTERSON, Director—Sierra-Nevada District

A typical, though not a native Californian, Henry H. Gutterson has practiced entirely in that state except for a year in Grosvenor Atterbury's office in New York; this was following his study at L'Ecole des Beaux Arts, Paris. His passion for freehand drawing and architecture was interspersed with productive efforts as a stevedore in San Francisco and as draftsman under D. H. Burnham and Willis Polk. He also worked with John Galen Howard. His practice has been residential, institutional, and commercial, and his interests outside of architecture have included his church work, sailing and landscape painting.



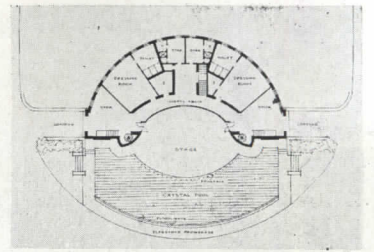
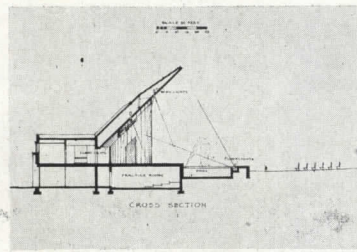
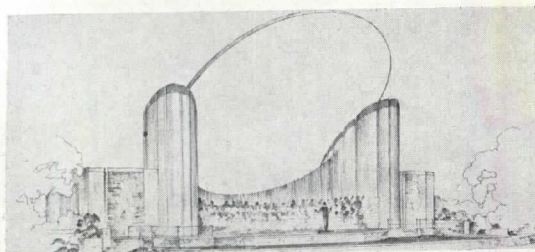
MILTON B. MCGINTY, Regional Director—Gulf States District

The first four years of Mr. McGinty's life were spent in Texas, the next sixteen in New Mexico, but he returned to Texas in 1918. He received his architectural education at Rice Institute, graduating B.A. in 1927, and B.S. in architecture in 1928. In that institute he won its first traveling fellowship, and traveling abroad spent much time in Spain and Italy. He returned to Houston where he has practiced ever since, at first with many leading offices, and from 1935 on in partnership with A. Stayton Nunn. Is a past vice-president of the Texas State Association of Architects, and past president of the South Texas Chapter. He is also a member of the faculty at Rice Institute, and a member of the City Planning Commission of Houston.



ARTHUR W. ARCHER, Regional Director—Central States District

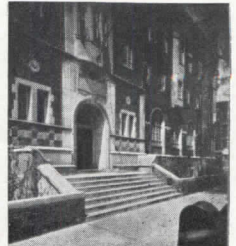
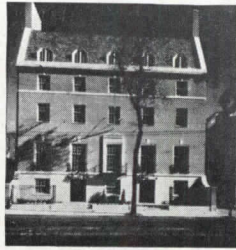
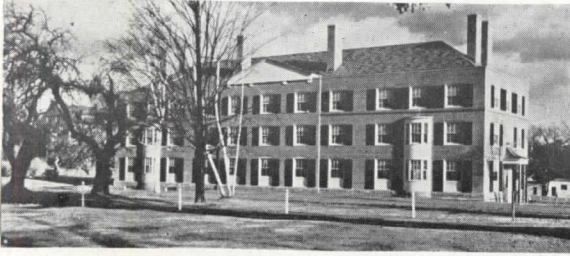
Kansas City, Missouri, was selected some twenty-five years ago by Arthur W. Archer as a promising place to hang out his shingle for "the fertile middlewest is indeed a land of opportunity for architecture." His practice has been varied and includes hospitals, factories, bakeries, laundries, etc. His most intriguing problem was in the zoological field where restraining the public was more of a factor than confining wild animals. Mr. Archer was the first chairman of the Missouri Registration Board for Architects and Engineers. He has been active in postwar projects, having completed several war-construction programs last year.





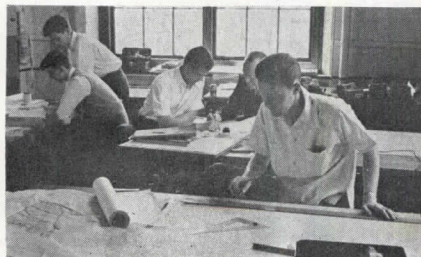
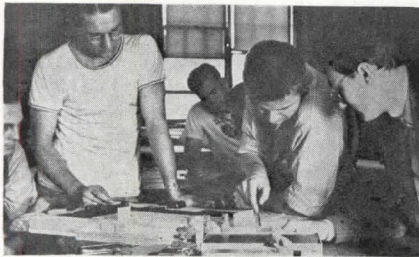
DOUGLAS WILLIAM ORR, F.A.I.A., Regional Director—New England District

Douglas William Orr lives and moves and has his being in New Haven. As a youth he studied there, receiving both his bachelor's and his master's degrees in architecture from Yale. Following his fellowship traveling in Europe, he served from 1917-19 in the Army Air Service and Signal Corps. After World War I he settled in New Haven and has practiced architecture there from 1919 to the present. Besides being chairman of Connecticut's Committee on Community Development and Housing for Postwar Planning Board, he is a bank director, and director of both the Connecticut Association for Postwar Construction and of the Connecticut Practicing Architects' Association. Boating, fishing, and golfing occupy such leisure hours as he can find.



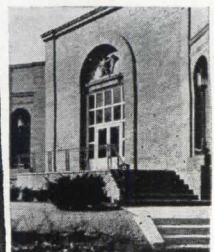
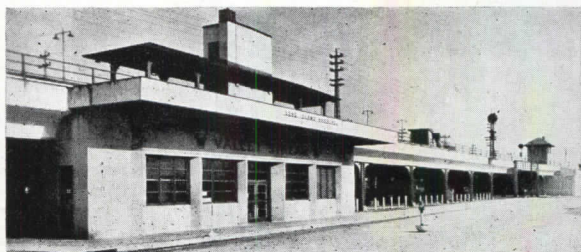
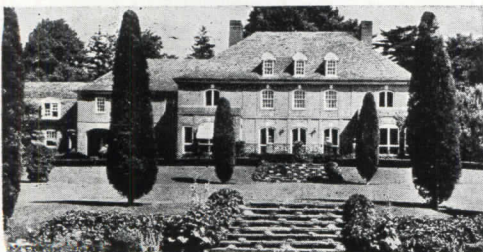
LORING HARVEY PROVINE, F.A.I.A., Regional Director—Illinois-Wisconsin District

Mr. Provine received his B.S. from the U. of Illinois in 1903, and his professional degree in 1909, after several years experience in the design and supervision of industrial plants and power stations. Since 1941 he has been Head of the Department of Architecture of the University of Illinois. He was a member of the Revision Committee of the Building Code for Seattle, Washington, and in 1943 rewrote the Recommended Code for the N.B.F.U. The first Fire College in the U. S. he organized in 1925. He is president of the Champaign County Tubercular Sanitorium, secretary of the Illinois Architects' Examining Committee, V.P. of the Association of Collegiate Schools of Architecture, and is active in the Kiwanis Club, Y.M.C.A. and the Boy Scouts.



EDGAR I. WILLIAMS, F.A.I.A., Director—New York District

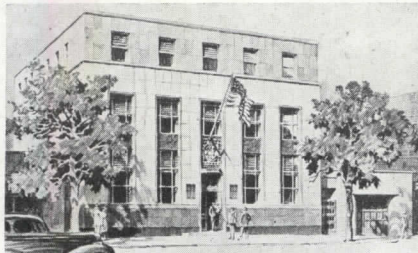
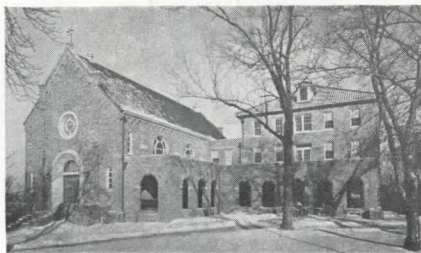
After receiving his bachelor's degree in 1908 and his master's in 1909 from Massachusetts Institute of Technology, Edgar Williams was fellow of the American Academy in Rome, 1912. In 1914 he worked with Wells Bosworth on M.I.T.'s new buildings, then served as designer in Guy Lowell's Boston office. In 1916 he took charge of design for E. P. Mellon on various types of work. In 1917 he joined the American Red Cross Commission and served in Genoa. On his return, he designed hotels and office buildings with Warren and Wetmore. In 1921 he formed the partnership of Williams and Barratt, in New York, and opened his own office in 1928, with many residential, railroad, apartment, mill, school, and other buildings to his credit.





M. W. DEL GAUDIO, State Association Director

A New Yorker by education, practice and choice, Matthew Del Gaudio studied at Cooper Union, Mechanics Institute, and Columbia University. He is also registered to practice engineering in New York state, and is registered as an architect in New Jersey, Illinois, and California as well. His practice has been varied, including some of New York's largest housing projects, churches, schools, industrial buildings, commercial buildings and residences. He has been very active with the New York Society of Architects, serving as secretary from 1929-34 and president 1935-37. From 1938 to 42 he was treasurer of the New York State Association of Architects. He served in the U. S. Army 1917-19, and again in World War II in 1942-43.



IDENTIFICATION OF BUILDINGS ILLUSTRATED ON PAGES 74-79

Raymond J. Ashton, F.A.I.A.

(Blank & Stoller photo)

Main Office, Mountain States Telephone & Telegraph Co., Salt Lake City, Utah; George Thomas Library, University of Utah, Salt Lake City, Utah; interior, George Thomas Library, University of Utah; Ashton and Evans, Architects

Walter R. MacCornack, F.A.I.A.

Cedar Central Apartments, Cleveland, Ohio—PWA; Same (PWA photo); Same (USHA photo Sekwer)

Alexander C. Robinson, III

(Ben Stranos photo)

Proposed building for Forest City Hospital Association; Institute of Pathology, Lakeside Hospital, Hanna House; Garfield, Harris, Robinson & Schafer, Architects

James R. Edmunds, Jr., F.A.I.A.

(Udel Bros. photo)

Addition to Hutzler Brothers Company Department Store, Baltimore, Maryland—James R. Edmunds, Jr., Architect; De Paul Hospital, Norfolk, Virginia—James R. Edmunds, Jr., Architect, T. David Fitz-Gibbon, Rudolph, Cooke & Van Leeuwen, Inc., Associated Architects; University of Maryland Hospital, Baltimore, Maryland—Herbert G. Crisp and James R. Edmunds, Jr., Architects

Charles F. Cellarius

(Bachrach photo)

Bond Hill School, Cincinnati, Ohio; Men's Dormitory, Miami University, Oxford, Ohio; Residence of J. H. Ralston, Cincinnati, Ohio; Charles F. Cellarius, Architect

G. Corner Fenhagen, F.A.I.A.

Housing Project, Baltimore, Maryland (J. Floyd Yewell, rendering); Buckler & Fenhagen, Architects

Harlan Thomas, F.A.I.A.

(Dolph Zubick photo)

Residence of Mr. David Whitcomb, Seattle, Washington; Harborview Hospital, Seattle, Washington; Thomas, Grainger and Thomas, Architects

George Harwell Bond

Atlanta Coca-Cola Bottling Plant, Atlanta, Georgia; Henry Grady Tower, Proposed addition to the Henry Grady Hotel, Atlanta, Georgia; Second Ponce de Leon Baptist Church, Atlanta, Georgia; George Harwell Bond, Architect

Henry H. Gutterson

Christian Science Sanatorium, Arden Wood, San Francisco, California—Henry H. Gutterson, Architect; First Church of Christ, Scientist, Sacramento, California—Henry H. Gutterson, Architect; Model of half completed Berkeley, California High School—Henry H. Gutterson, Architect, Will G. Corlett, Architect-Engineer

Milton B. McGinty

River Oaks Shopping Center, Houston, Texas; Residence, Houston, Texas; Residence, Houston, Texas (Harry L. Starnes photo); Stayton Nunn and Milton B. McGinty, Architects

Arthur Ward Archer

(Strauss Peyton photo)

Music Temple, Swope Park, Kansas

City, Missouri—Arthur Ward Archer, Architect, in collaboration with Robert G. Dunham and C. Herbert Cowell

Douglas Orr, F.A.I.A.

(Joseph A. Stone photo)

Residence building, Mount Holyoke, College, South Hadley, Massachusetts; Quinnipiack Club, New Haven, Connecticut; Administration Building for Southern N. E. Telephone Co., New Haven, Connecticut; Main entrance, Young Men's Christian Association, New Haven, Connecticut; Douglas Orr, Architect

L. H. Provine, F.A.I.A.

Students in architecture at work, University of Illinois, Urbana, Illinois

Edgar I. Williams, F.A.I.A.

(Conway Studios, Inc., photo)

Residence—Edgar I. Williams, Architect; Valley Stream R. R. Station, Long Island, N. Y.—Edgar I. Williams, C. B. Brill, Architects (Edgar I. Williams, Designer); U. S. Post Office, Rutherford, New Jersey—Edgar I. Williams, Architect (James Dull photo)

Matthew W. Del Gaudio

(Fordham Arcade Studio photo)

Novitiate of the Immaculate Conception, Troy, N. Y. (The Lloyd Studio photo); Proposed 85th Precinct Police Station House, Brooklyn, N. Y. for the Department of Public Works; Wililamsburg Project—M. W. Del Gaudio, Associate Architect (Joseph F. Hefele photo); Matthew W. Del Gaudio, Architect



WHO'S AFRAID OF PROSPERITY?

By Thomas S. Holden

President, F. W. Dodge Corporation

IT BECOMES increasingly clear that the American economy possesses all the essential ingredients for a highly prosperous postwar era, perhaps more prosperous than any the country has ever known. These ingredients are:

1. Enormous purchasing power widely distributed.
2. Overwhelming demands for peacetime goods and services.
3. Raw materials in abundance.
4. Most advanced technology in the world and greatest capacity to produce.
5. Seasoned and highly adaptable industrial and business management.
6. Trained manpower skilled in all the useful arts and trades.

To these six home-front assets may be added a seventh, our position of leadership and influence in world affairs, which, properly used in the future, may result in an international trade of far broader scope than we have had since World War I.

Construction Revival

The problem of early construction revival is a problem neither of lack of purchasing power nor of lack of demand. It is purely and simply a problem of orderly but speedy relaxation of restrictions on civilian construction, speedy release of raw materials for building-produce manufacture, release of manpower and allocation of transportation facilities adequate to move needed materials to construction

Portions of an address by the president of F. W. Dodge Corporation, before the Annual Convention of the State Association of Wisconsin Architects, Milwaukee, Wisconsin, February 25, 1944.

sites. This is a management problem and nothing else, although it is admittedly a highly complicated one.

It should also be obvious that artificial stimulation of public works at such a time would merely intensify competition with private construction in the material market, and would greatly increase the pressure on the price structure. The threat of inflation will be much greater in the postwar period than in wartime; unnecessary federal spending at that time would greatly complicate transition problems by increasing the inflation threat.

Preparation for Prosperity

Never have I known a time when so many competent people, in government and out, had so broad a comprehension of what our national problems will be or so strong a will to solve them satisfactorily. The Senate Special Committee on Postwar Economic Policy and Planning recommended that the reconversion policy be designed for "the preservation and strengthening of the American system of free competitive enterprise." Mr. Bernard M. Baruch, White House adviser, has delivered to the President a complete program for industrial reconversion, predicated on much the same assumptions as those of Senator George's committee. The Postwar Planning Committee of the House of Representatives has only recently been created and has scarcely started to function. But the House Committee on Public Buildings and Grounds, of which Hon. Fritz G. Lanham is chairman, has for the past several months been holding hearings on the postwar problems of the construction industry. This committee has indicated a strong sentiment in favor of private enterprise

and in favor of local initiative and responsibility for local public works.

Our problems are not the problems of depression; they are problems of preparation for prosperity. Yet we have a lot of people in this country who appear to have either a hangover from the last big depression or a vested interest (ideological or otherwise) in depression for depression's sake. Dat ole debbil prosperity is going to get 'em if they don't watch out. Whether people are genuinely fearful of the future or whether they are playing on fear as a basis for putting over particular schemes and programs, they should be told emphatically that the people of this country mean to plan, not for a new depression based upon fear of imagined calamities, but for prosperity based upon confidence, upon knowledge of our tremendous assets and upon the know-how to put the assets to work.

Many of our professional worriers have transferred their solicitude from the early postwar period to the time when deferred demands will have been fully satisfied. Then, say they, will come an awful slump, and then we will have our great big beautiful depression. Let us see whether there is any factual basis for their fears, or whether it is more realistic to plan for prosperity than to plan for a depression.

After 1924, when the deferred demands left over from World War I had been taken care of, construction activity did not decline; it increased very considerably and produced during each of the ensuing five years larger volumes than in any other peacetime years of the country's history. While that boom was marred by serious speculative excesses, it was based upon a very sound economic expansion.

"Adventure in Prosperity"

Our postwar economy will have all the ingredients of a great and sustained prosperity, and will realize that prosperity if the forces of economic expansion can be released and permitted to function without being unduly restricted by repressive government action. The capital and the consumer purchasing power are today in the hands of the people, not in the hands of the federal government.

At this point I should like to quote for you a statement by Mr. Bernard Baruch, made in his report to the President on his plan for reconversion of our economy to peacetime production. Mr. Baruch said:

"In the reconversion and readjustment will come improvements in our standards of life—better houses, better clothes, better safeguards for children, better health protection and wider educational opportunities. These bring hope for the future instead of fear; they give security instead of unrest.

"There is no need for a postwar depression. Handled with competence, our adjustment, after the war is won, should be an adventure in prosperity."

As I see it, the most important fields for Congressional action designed to stimulate construction activity at high levels to be sustained over a period of years are the fields of postwar tax policy and postwar fiscal policy.

Tax Policy

Taxes affect construction demand in a number of ways. Federal and state taxes on incomes, gifts and inheritances affect investment confidence and the volume of investment in new enterprises, including such real estate ventures as commercial buildings, housing projects and industrial developments. Real estate taxes, which are the main support of local governments, profoundly affect private

investment in every class of property and also the capacity of local governments to supply public works and community facilities essential to supplement any new private development that is going on. Consequently, the country's postwar tax problem involves the following:

1. Reduction of heavy federal war taxes as speedily as possible.
2. Provision in federal tax programs for removal of deterrents to private initiative and private investment of risk capital.
3. Provision of adequate tax sources for state and local governments, so that they can render their necessary services and construct their necessary facilities on their own initiative and responsibility.

I consider this third point of vital importance, particularly with respect to the postwar financial needs of local governments. It is no exaggeration to say that preservation of local fiscal autonomy and local initiative in those public affairs properly within the jurisdiction of local governments is just as important as preservation of private enterprise in industry and business, if the American way of life is to be maintained. This problem will not be properly solved by putting local governments on a federal dole.

Again I would like to quote an important public man, Senator Joseph C. O'Mahoney of Wyoming, a member of Senator George's postwar committee. In a sub-committee report made to the committee last October, Senator O'Mahoney said:

"This reliance upon federal expenditures in one form or another which was expressed everywhere seemed to me to give emphasis to the need of overall planning for the stimulation of individual, local and state activities so as to relieve the burden on the already overburdened federal government. The trend toward state socialism can only be retarded by the substitutions of private and local expenditure and investment in fields which are private and local."

But, there is a real problem. If we are not going to use doles, which tend to destroy local government and the authority of the 48 states to determine what kinds of local governments there will be, we will have to make local governments self-supporting and self-respecting.

The states are, generally speaking, in excellent financial shape today, relatively in a much better state of fiscal health than is the federal government. Their postwar reserves and their potential credit are ample for carrying out quite adequately over a period of years those public works programs for which state governments have primary responsibility. Local governments, too, have been saving money, and where legally authorized to do so, have built up postwar reserves. Most of them should be able to finance without outside aid a volume of public construction adequate to meet the necessary requirements of the immediate postwar period. The question is: Whether they can, without greater financial resources than they now command, continue over a long period to meet an increasing public demand for community facilities, for redevelopment of their blighted areas, and, perhaps, for new social services.

In the year 1939, 17 per cent of the total expenditures of municipalities of 100,000 population and over was covered by grants from other governmental sources. This was greater than their aggregate of capital outlays for public works, which amounted to 14 per cent of total expenditures. If the federal government continues to tax

without legal limit and without regard to the needs of government at other levels, preempting most of the lucrative tax sources, financial dependence of local governments on the federal treasury will increase, and along with it subservience of local political organizations to the administration currently in power in Washington. Furthermore, any authority to spend which is remote from the responsibility for raising the money, tends to extravagance and waste.

I heartily endorse the sentiments expressed by Hon. Fritz Lanham of Texas, chairman of the House Committee on Public Buildings and Grounds, in a speech given on the floor of the House. He said:

"It is my belief that the best and most inspiring way of fulfilling our ardent desire for a better America is to get back home governmentally. . . .

" . . . I wish to speak of those other and normal processes, even antedating the war, in which the states have been forsaking and surrendering the sovereignty rightfully theirs in our dual system of government. It took centuries for such rights of the people to be wrested from autocratic power, but without that vigilance which liberty demands they can be relinquished very rapidly.

"For example, in recent years these states and their political subdivisions have been very active in seeking governmental grants from the United States in furtherance of purely state and local affairs. We must awaken to a realization of the fact that there is no such thing as a governmental grant of this kind. The federal government has nothing to give to the people except what it takes from the people. Aside from such very definite things under constitutional authority as provision for the Army and Navy, the coinage of money, the establishment of military and post roads, and the other functions so delegated to the general government, the states by our organic law are intended to be supreme in their spheres. In the matter of these so-called governmental grants other than those under constitutional authority, from each dollar that the federal government takes from the states it retains and diverts a part of that sum for the establishment or enlargement of some administrative agency, and then it returns the remaining part to the states themselves provided they will expend it in such a way as federal agents in Washington direct. These states could keep their dollar in the first place and spend it all in accordance with their own desires and purposes. And under these circumstances there would not be so many of these expensive bureaus of the federal government performing the functions of the states. Let us get back home to the fundamental doctrine of having each member of our dual system operating effectively within its proper jurisdiction. We will have a better America when we do. . . ."

There is a growing tide of resentment against federal encroachment upon the authority of the states. Fifteen state legislatures have already passed resolutions seeking a constitutional amendment that would limit the power of the federal government in taxing incomes, gifts and inheritances. This proposed Constitutional amendment is being considered in other states at the present time.

Tax Integration

While the purpose of the proposed amendment may seem good, it is questionable whether the solution of such

a highly complicated problem is to be found within the simple formula of a flat percentage limitation. It may be that a better approach to the problem is found in Congressman John M. Coffee's proposed resolution to create by Congressional action a National Committee on Tax Integration. Such a commission's function would be to study the overlapping jurisdictions of various levels of government, both with respect to their several responsibilities for furnishing public services and facilities and with respect to adequacy of their tax sources to meet these responsibilities. Such a commission should simplify and clarify the present crazy-quilt tax pattern of this country, which now has 165,000 governmental agencies with power to spend money, contract debt and, directly or indirectly, to levy taxes. Early action by Congress on the Coffee Resolution, or on some better measure to achieve its purpose, is urgently called for.

Federal Fiscal Policy

There is another field closely related to taxation that is tremendously important to construction; very particularly to future public works programs of states and local governments. That field is postwar federal fiscal policy. In determining what postwar fiscal policy is going to be, Congress will almost certainly be obliged to make a study of the existing lending, mortgage-insuring and other fiscal agencies of the federal government, reviewing their purposes, functions, administration and relation to the long-term credit needs of our postwar economy. Such a study might reveal the need for setting up some kind of capital-credit or banking facilities for state and local governments. The two urban redevelopment bills introduced in the Senate last year (the Thomas Bill, S. 953, and the Wagner Bill, S. 1163) both proposed the authorization of federal loans to municipalities for purposes of rehabilitating blighted areas. Since these proposals did not provide a sound basis for making such loans, they are not likely to receive favorable action. However, they may have pointed out a need, even though they did not indicate a sound procedure for meeting it.

The long-term credit study, by whatever commission or committee it may be made, should not only cover the credit needs of government at all levels, but also the needs of small business and of private investment generally. It should also review the Securities and Exchange Act, to determine whether its operations have been unduly restrictive of private investment.

The postwar construction prospect is excellent, but full realization of its potentials will depend not only upon the soundness of our management of the transition to a peace economy but also upon the kinds of overall economic policies the country will adopt as long-range measures.

Construction Planning

I think that we will get prosperity by planning for exactly that, not by planning for an imagined future depression.

The prospect of prosperity should please most of us. It may be somewhat upsetting to economic planners who have come to the front as specialists in depression techniques, to well-meaning collectivists, to piecemeal collectivists, and to scheming collectivists, to all those people who are selling fear of the future, the people who are selling America short. For the rest of us, the principal thing we have to worry about is the problem of holding on to prosperity after we have put salt on its tail.

* "Get Back Home Governmentally"—Speech of Hon. Fritz G. Lanham of Texas in the House of Representatives, February 3, 1943.

The construction industry must do its part toward sustaining high levels of activity over an extended period of years. Its first concern should be to watch closely the trends of construction costs.

A well-known economist has estimated that the general price level of the postwar period will be about 70 per cent over prewar. Rents are being held down by rent-ceilings. The rent-index is now about $3\frac{1}{2}$ per cent above the 1939 average; it will surely rise when the ceilings are lifted. Construction costs are now about 27 per cent over the 1939 average. Therefore, the present relationship of rents to construction costs is not one that would encourage any investment building. When the ceilings are lifted and rents and construction costs seek their natural postwar levels, I believe that it will be very important, in terms of conditioning a sustained building demand, that costs do not rise disproportionately in relation to such rise in rents as will take place. I believe that the postwar building market that is ahead of us is likely to be much more sensitive to sharp cost increases than was the postwar market of the 1920's.

This is likely to be particularly true of the residential building market, in spite of some of the important economic changes that have taken place. I believe the early postwar demand for houses will be relatively stronger in the middle price ranges (say \$5,000 to \$25,000 without land) than in the low-cost brackets. Demand over the years will be numerically largest in the lower price ranges and every bit of further progress we can make in producing better houses for less money will contribute largely toward sustaining the housing market.

Technical and Design Progress

Architects probably do not fear prosperity; nor should they fear technical progress, either in the art of design, in construction methods, or in development of new materials.

Careful appraisal of the potentialities of new materials and new construction methods leads to the following conclusions:

1. There will be continued evolutionary progress in producing new materials (plastics, light metals, prefabricated

sub-assemblies) and in devising new time-saving construction methods.

2. New materials and methods will compete in the market with established materials and methods, which are already of very high standard and quality.

3. There will be continued emphasis on the need for producing better houses for less money.

4. Present indications point rather to gradual progress resulting from accumulated economies in materials and their use rather than to radical innovations.

While the major interest and the major research effort in the field of technical developments have been concentrated in the small house, progressive developments in materials and techniques will more than likely have applications to many types of structures. As a matter of fact, design innovations have usually appeared first in commercial structures, and have been adopted last in single-family houses.

It should be obvious that, while the postwar prospect for the construction industry is excellent, the prospect for architects is relatively better than for most other elements of the industry, in terms of anticipated improvement over their situation during the prewar decade. For the construction prospect is not only one of increased volume of activity but also one of increased demand for originality and high quality in design and in buildings. Architects should not fear technical progress. They should do more than welcome it. They should renew their lost faith in the principle that real progress in the art of building comes from progress in design, in sound utilization of new materials and techniques available, in broader adaptation of design to the up-to-the-minute needs of the society they live in, in showing that technical progress is just one of the many elements in the progress of our civilization.

The postwar economy will be an enterprise-economy, not a dole economy. Enterprise is defined in the dictionary as boldness, energy and invention. An enterprise-economy needs bold, energetic, and inventive architects just as much as it needs bold, energetic and inventive technical researchers, industrialists, business men and engineers. I firmly believe America will again be the land of opportunity.





FLEXIBLE SCHOOL WITH LATEST FACILITIES

J. W. Sexton High School, Lansing, Mich.

Warren S. Holmes Co., Architects

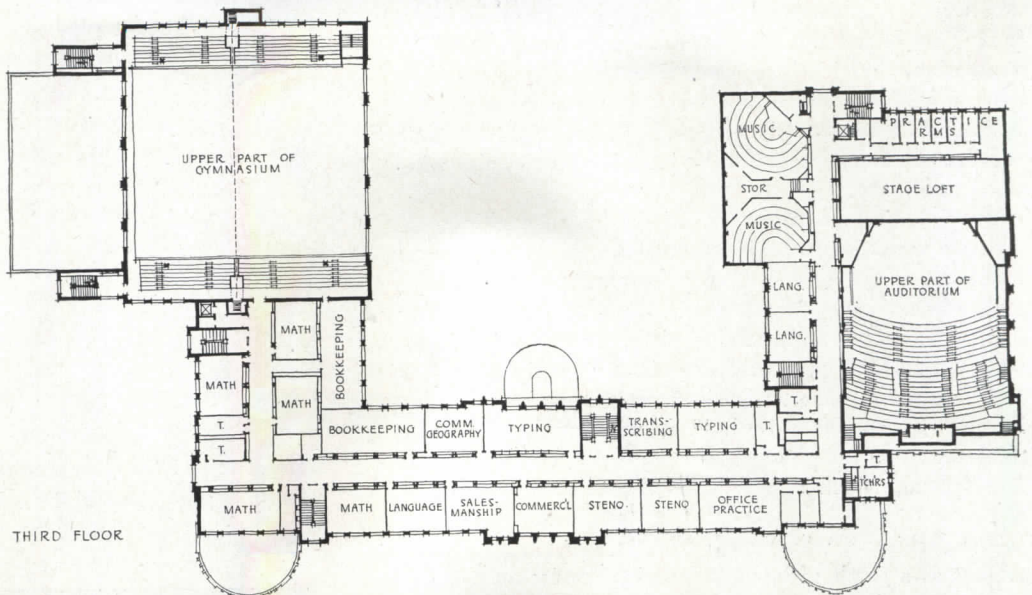
AT FIRST GLANCE this high school does not seem to offer anything radically new in exterior appearance or general plan layout. But a closer look at the facilities indicated in the plans shows that it is far ahead of the conventional large high school, and represents a complete reversal of the old study-recitation method of teaching. It was designed for modern work-experience procedures, with particular regard for the 75 per cent of pupils not interested in college entrance preparation.

Besides provision of special facilities in dozens of different categories, the planning assignment for the modern school poses two other major problems—protection against rapid obsolescence, and, of course, economy. In this case, as in many another, the expensive added equipment was

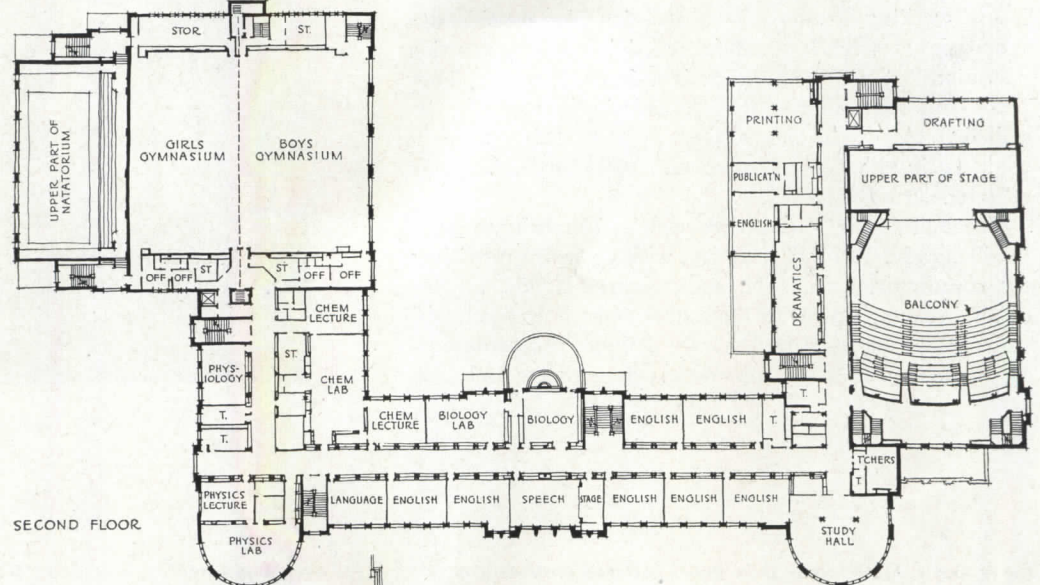
not provided for by proportional increases in the budget, but had to found largely in economical construction. Not in short-lived construction either, for such a method of dodging obsolescence was not here recognized. In other words, the school board wanted a fairly permanent building, planned and equipped to stress flexibility as the offset to obsolescence.

With this in view they gave the architects plenty of time. A full year was allowed for developing sketches, and another year for working drawings, specifications and final refinements.

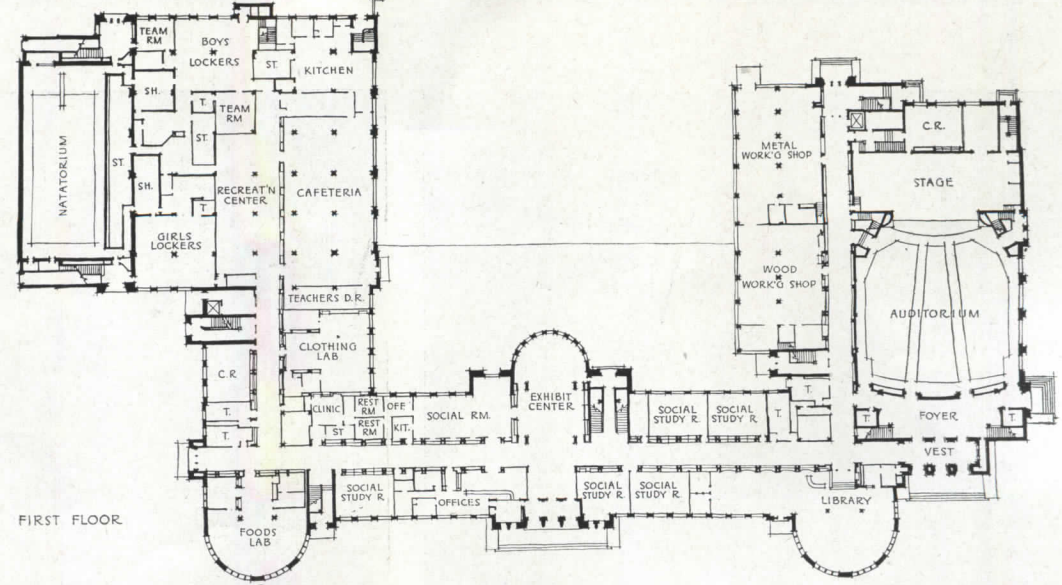
The first economy device was a unit or module system of construction, which was relied on for two contributions: (1) simplified and systematized construction; (2) maxi-



THIRD FLOOR



SECOND FLOOR



FIRST FLOOR

imum flexibility in plan, for future changes in use and purpose of the rooms. "Each unit 10 by 22 ft.," report the architects, "was designed as a complete element in itself, having its own light, both artificial and natural, heating, ventilation, electric wiring, case and cupboard spaces, and in general adapting itself to the whole in the same utilitarian manner as a sectional book case." Cases, cupboards and the like are standardized, to be interchangeable; also windows and doors.

Multiple use of rooms is helped by such things as acoustic materials, movable furniture, resilient floors, so that most of the areas are ready for almost any purpose.

Another economy was found in the elimination of basements, except as required for pipes, tunnels, machinery and storage. All pipes and conduits are run in a 4-ft. air and pipe space; none buried in floors. The air space was increased to an 8-ft. tunnel, 12 ft. wide, under the main corridor. Vertical piping is run in the H column of the unit system, which also provides the exhaust ventilating flues.

The architects, who were engineers as well, also stress savings as a result of integrated design service and an extra amount of supervision, which together permitted maximum working stresses. They mention also considerable economies as a result of careful scheduling of construction operations. Sometimes design is a factor in that. They point out, for example, that acoustical tile could be installed for less than plaster, since by careful scheduling it could be installed at any time, and without delaying any other construction trades.

The building is designed for a normal capacity of 2,000 pupils, grades 10 to 12 inclusive, with extensive provisions for community use. The auditorium, planned for use either in connection with the school or entirely separately, seats 1,800. Its stage facilities are designed for professional requirements. The gymnasiums have toilets and coat-

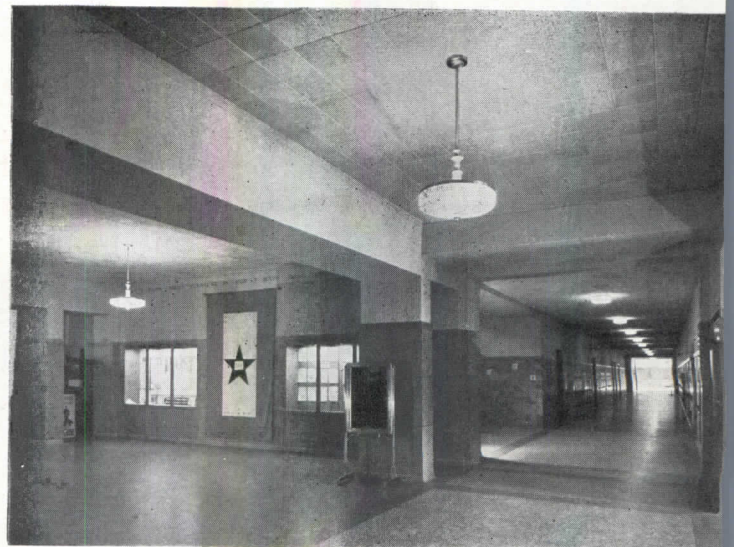
The library occupies one of the large semi-circular bays with an extension along the corridor; charging desk is at the juncture for good supervision. The semi-circular rooms have been found exceptionally good for control

Social room, first floor, furnished as lounge. It opens into the exhibit room, which has the same wainscoting



Foyer and exhibit room, main floor. Lettered mottoes are used extensively throughout the building for decoration

Foyer and corridor, first floor. Wainscot in the foyer is oak; in corridor, ceramic tile. Floors and baseboards are terrazzo





Biology classroom, second floor. Note the glazed conservatory beyond, with tile fish pool at inner wall of conservatory

A typical classroom for recitation work. An informal seating arrangement is used, for the utmost in flexibility



room facilities, separate from the locker rooms, for occasions when the gymnasium is used for parties or dances. The convenient location of the kitchen and cafeteria makes it unnecessary to serve food in the gymnasium.

Boys' and girls' gymnasiums are separated by electrically operated folding doors; they seat 3,000 when combined for tournament games. The natatorium has six lanes, 75 ft. long. Cafeteria seats 400 for meals. The serving space and kitchen are separated from the dining room by sound-proof partitions and doors; the cafeteria thus has other uses.

In general the plan places offices and classrooms in the center section, the gymnasium and allied facilities at one end, the auditorium, music rooms and shops at the other end. This scheme, of course, separates noisier activities at far ends, puts quieter ones in the center; it also segregates those parts most useful for community activities.

Many of the rooms can be cut off from the rest of the building, for community use, by rolling doors which close across the corridors. These rooms include: office, library, auditorium, shops, music department, cafeteria and kitchen, gymnasiums, locker rooms, natatorium, scouts' room, taxidermy laboratory, janitors' work room, and a section of classrooms. And each room has a separate heating and ventilating unit, to allow its use when the rest of the building is closed.

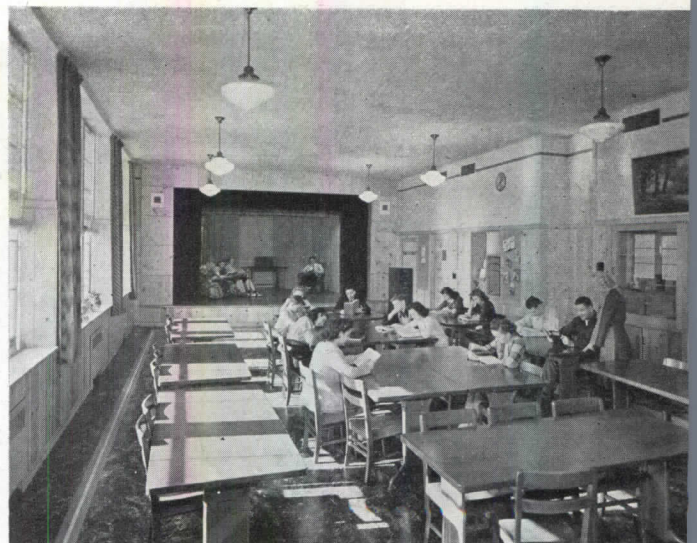
The school uses the home-room plan, with auxiliary seating in study rooms for 25 per cent of the student body, including seating in the cafeteria and library.

Classrooms use a table-and-chair seating scheme, and are equipped for student club activities: each has one or more cabinets where unfinished project materials can be stored under lock. Each room used for class purposes has a minimum of 20 linear feet of cases and cabinets, many of them specially adapted for the particular school activities—for example, showcase-lighted taxidermy cases for the biology laboratory.



The gymnasium, shown with folding doors open. Doors operate electrically, and divide room at balcony recesses

Dramatics room is a combination work room and little theater. Wainscot and proscenium arch are of pine, lineoleum floor





The foods laboratory and cooking school has the other large semi-circular bay on the first floor, with unit kitchens along the outside wall and a classroom area in the center. In this location it can serve for adult education as well as for student experience-study



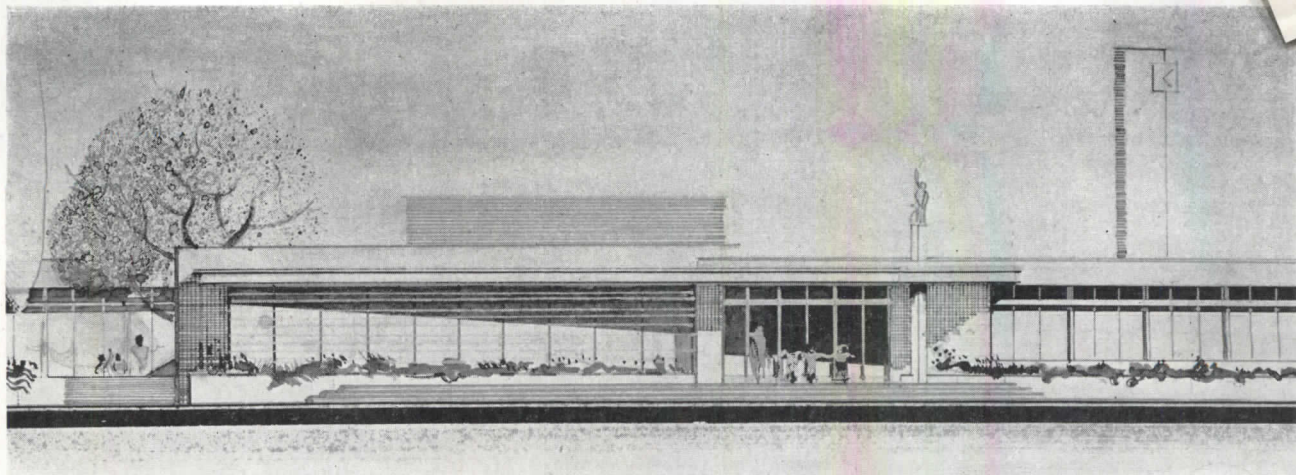
Band rehearsal room has high-coefficient acoustic ceiling. The adjoining room, for vocal work, has much less correction. Instrument storage space separates the two rooms

Printing shop has second floor corner location; note the continuous windows around type-setting tables and presses



The woodworking shop, first floor. Note the balcony for lumber storage, and the lockers for tools and projects





TWO DESIGNS FOR AN ELEMENTARY SCHOOL

—awarded the *Architectural Record* prizes by the *Beaux Arts Institute of Design* for meritorious solutions to the problem as posed by Joseph Hudnut in an unusual program written to give maximum freedom to the analytical and creative talents of the competitors.

INSTEAD of the usual rigid requirements regarding site size, orientation, location, and definite listing of rooms and their sizes, this program presented to the competitors a brief background of the purposes of the school and changes in educational method. The program listed merely the number of students and the facilities in terms of purpose to be provided. The number and kind of drawings to explain the solution were entirely at the competitor's discretion. In part, the program read as follows:

"The subject of this program is a school in an American city for two hundred boys ranging in age from 8 to 12.

"The facilities of this school, which are included of course in both enclosed and outdoor areas, should provide for:

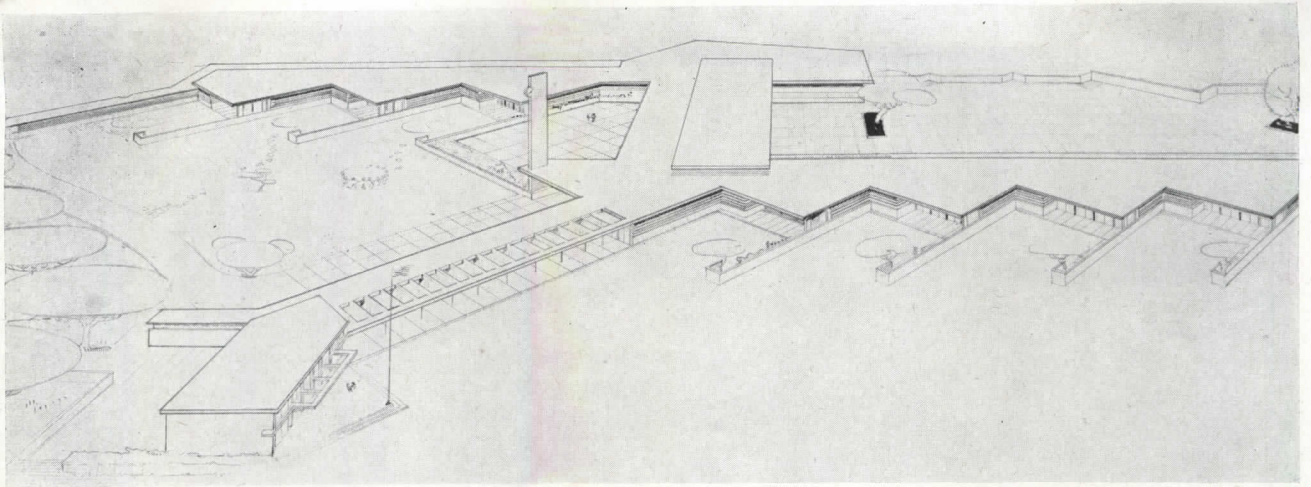
- (a) The development and maintenance of *physical activities*, including games; instruction in hygiene, nutrition, good habits and deportment; a positive stimulus for physical health.
- (b) That *core of knowledge* which is essential to a modern man living in a modern community; experience in the basic sciences, history, mathematics, social and political studies.
- (c) That *experience in making and doing* which will facilitate expression and understanding and give each student some opportunity for the development of personality; language, music, drama, painting, architecture, and the crafts.

- (d) That *experience in cooperative living* through association in the school to develop an awareness of society and of social obligations and promote the art of living together.

"Finally, the participants in this program should understand that the requirements outlined above are for a school which is experimental in nature. We shall have much to learn about education after the war: we must proceed, not by deductions from principles, but by the scientific method of trial-and-error. The participants therefore are invited to introduce new solutions for each aspect of this problem. But it should be borne in mind that as the school will be constructed from public funds, wasteful expenditure must be avoided.

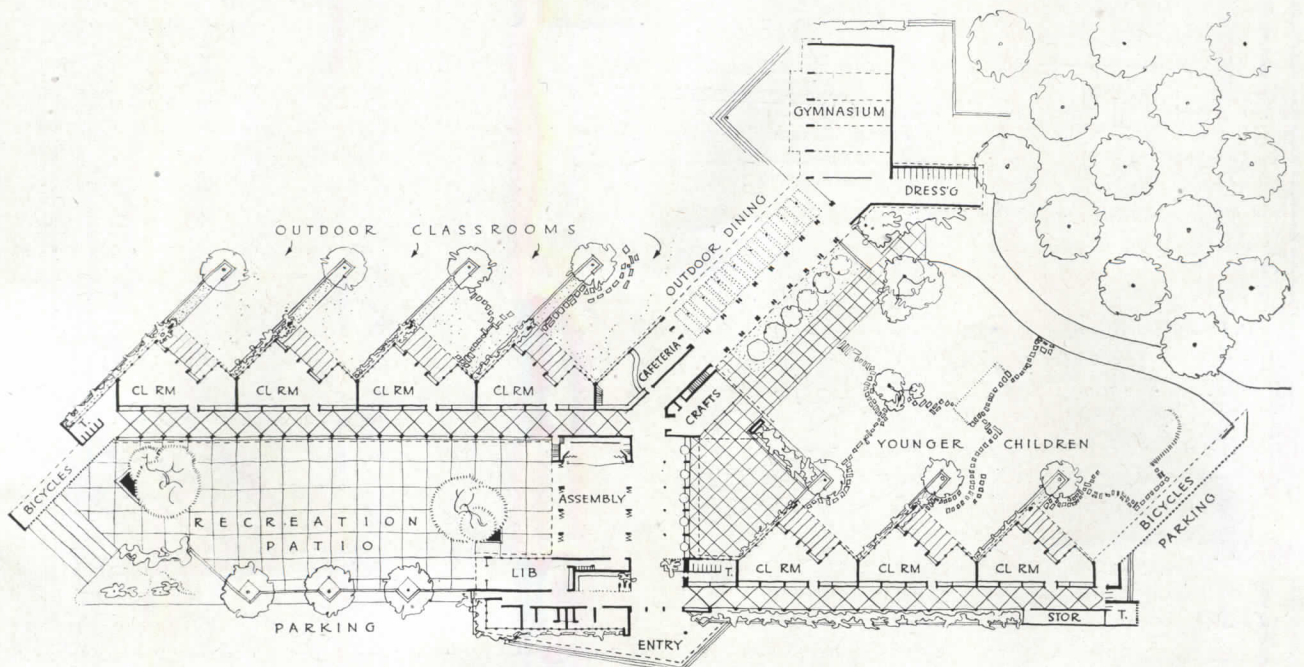
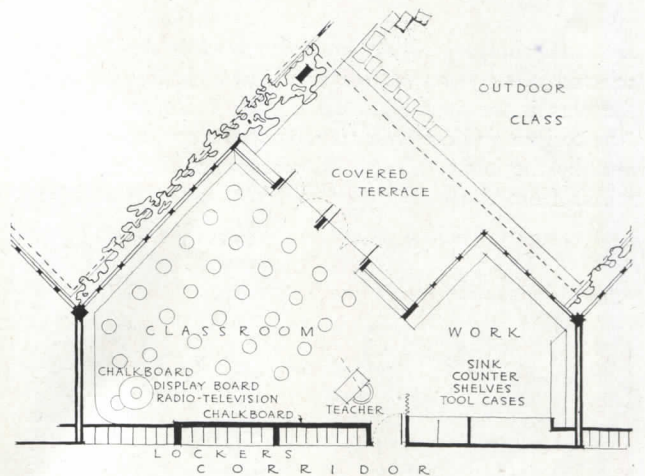
"Because of this evolving nature of the educational system, it is natural that school buildings periodically become antiquated so that they must be rebuilt. It is suggested that the life of the structure herein proposed shall be thirty years.

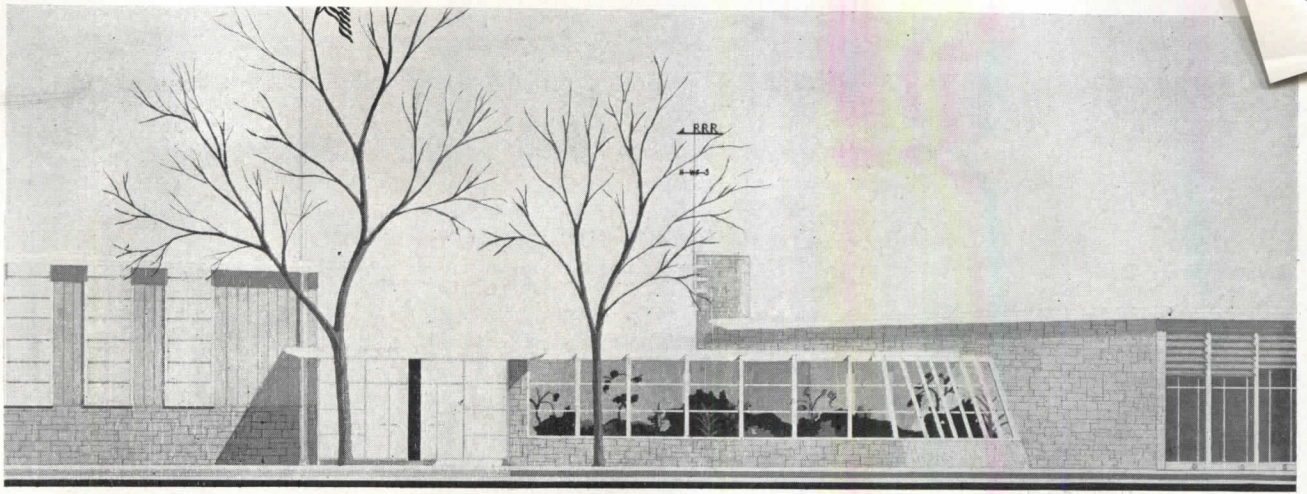
"Each participant must select a site and must determine the climatic conditions. These should be clearly indicated in the submission, in the form of notes, if necessary. Drawings should include a site plan, complete floor plans, a section, and two or more elevations. Perspectives and isometric projections are permitted. Participants are reminded that clarity, simplicity, and precision are the highest qualities in architectural presentation."



First Prize Design by I. Aroztegui, University of Illinois

THE designer selected a large plot of ground in California as the site of this school project. He provides seven classrooms of unusual shape, designed for modern and progressive education. Each classroom has its own outdoor class area. The rooms have a maximum of light and permit students to view a properly lighted blackboard. A portion of each classroom is devoted to special project work. The assembly hall is centrally located, as are the special crafts' room and the cafeteria. Outdoor dining space is provided in connection with the cafeteria and the gymnasium and dressing rooms are well separated from the study rooms to eliminate disturbing noises. The design lends itself to adult use, as the classrooms can be closed off from the assembly, library, and other services.

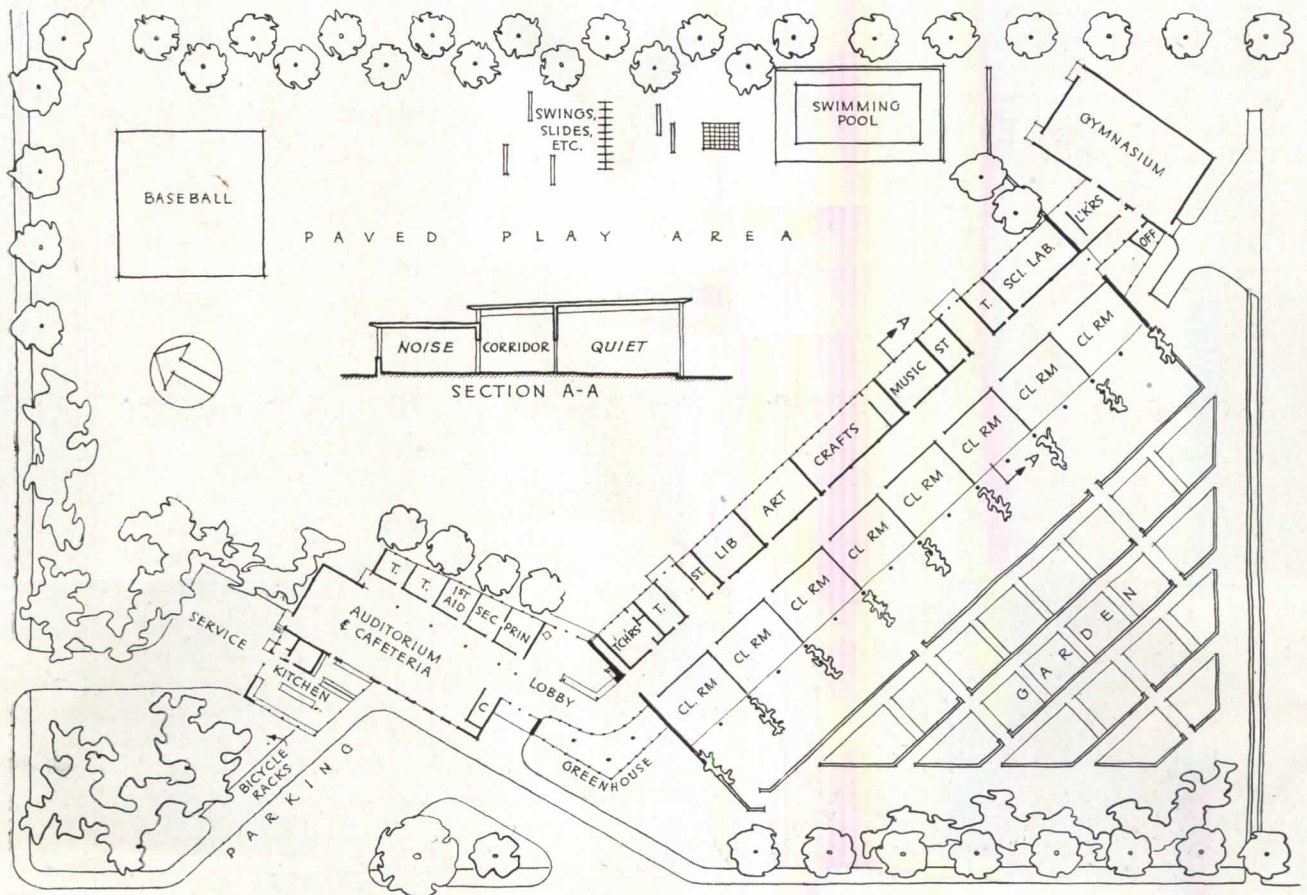




Second Prize Design by D. J. Anderson, Princeton University

A MORE compact plan was chosen by this designer who selected New Jersey as the site. An attractive feature of the plan is the greenhouse adjacent to the entrance lobby. Auditorium and cafeteria are separated from the classroom area by the lobby. The corridor separates the quiet classrooms from the more noisy rooms of crafts, music, etc.,

and the gymnasium and pool are located at the far end of the plan. Large play area and space for victory gardens are provided. Each classroom also has its outdoor study or recreational area. The classrooms are, however, of the usual rectangular shape, as special studies are conducted in special rooms across the corridor.



Right: Henry J. Kaiser, Industrialist; Dorothy Rosenman, Chairman, National Committee on Housing, Inc.; John B. Blandford, Jr., Administrator, National Housing Agency



QUOTES ON HOUSING

At one Housing Conference at least, all interested parties had the opportunity of stating their ideas and opinions about housing's many problems—economic, social, financial, political and technical. Some areas of agreement were explored, many differences on ways-and-means expressed, when the authorities met in Chicago March 8, 9, and 10th under the aegis of the National Committee on Housing, Inc. . . . These quotations, ruthlessly cut from their context, are indicative of trends in current thinking of special interest to the architect, engineer, and community planner.

Facing the Future

"At the end of the war we will again be faced by the fact that our cities are ill equipped to shelter a large percentage of their population and to provide the rudiments of a successful organism for living. . . . It is essential that we now appraise the methods of attaining full production. . . . In an endeavor to head off chaotic development of new subdivisions, we are now preparing a set of general principles of planning a satisfactory community of small homes. Many people feel that the new subdivision has an urgency for attention that exceeds the urgency for urban redevelopment plans because undeveloped land at the peripheries of our cities is immediately available and will be the first to be used when normal construction is resumed."

Mrs. Dorothy Rosenman,
Chairman, National Committee on Housing, Inc.

New Postwar Homes

"As to men, skill and materials, there is no problem. The old standbys: stone, concrete, steel and wood, lime and plaster, are quite apt to survive all of the innovations. Nevertheless, new adaptations of metals, plastics and other synthetic substitutes are sure to be employed, and provide improvements which defy imagination. As to the methods of construction, many modern homes will be built with stone, brick, and timber, after the established practices of the building trades. Unquestionably, some houses will be prefabricated and delivered to the building lot ready for assembly; also portable dwellings, easily set up and dismantled, will be available for pioneers and transients seeking new opportunities. . . . Careless talk of unrealizable fancies could easily upset the normal cycle of post-war building, by persuading thousands of people to 'wait until the new gadgets are ready.' . . . One thing more about frankness in advertising: it should tell the whole story. Many people in their eagerness to have new homes seem to forget that the cost of the dwelling does not

include the cost of land and utilities; nor does it include taxes and upkeep. Perhaps if we hammered such points home, we could save a lot of foreclosures, in which everyone loses."

Henry J. Kaiser

"Hardly any localities have perfected any comprehensive method for determining their whole housing need, through the democratic participation of all interested groups. The perfecting of this method, is perhaps the first big post-war housing preparation task of American communities. . . . The intelligent course for private housers and public housers is not to attempt to kill each other off, but rather to work together. . . . A balanced program, with public assistance supplementing private enterprise to meet the whole need, will in the long run benefit private enterprise. . . . *Housing is mainly a local responsibility.* In peacetime, housing should be planned, built, owned and managed by individuals, by private enterprise, by voluntary groups, or by local housing authorities. The federal government should constantly seek to reduce its ownership or operation of housing. It should not assume responsibility for local planning."

John B. Blandford, Jr.,
Administrator, National Housing Agency

Government Aid to Housing

"Aid should be given to the federal government first, through means of an exhaustive program of research. . . . One financing method now under consideration features the issuance of guaranteed government interest municipal bonds having the credit of the federal government behind them similar to those used by FHA. The sole purpose of these bonds would be to make possible the assembly of land. It is estimated these bonds would sell for two per cent on the open market which, I believe, might be one way to help cover the differential between land cost and its use value for rebuilding purposes. . . .

The tax incentive proposal of the U.L.I. and the N.A.R.E.B. is justified by history. In the early days the land was taxed by local governments which provided eighty-five per cent of the supporting funds for governmental expenditures. Then in 1913 the federal government needed more funds and so developed an income tax which lumped the burden again on real estate. . . ."

Hugh Potter,

President of the Urban Land Institute

Local Control . . . Tax-free Bonds

"The whole program of urban replanning and redevelopment should be returned to the cities themselves where it belongs. . . . It is no wonder that the legislatures of 15 important states have recently adopted a Resolution asking for a Constitutional amendment which would limit the taxing powers of the federal government on incomes to a maximum of 25 per cent. . . . Buying up of slums or blighted areas creates a financial problem of the first order because such areas will cost, with their old buildings, several times what they are worth for a new use. . . . In order to bring about the exceedingly low interest rate which is necessary to write off excess values, it is suggested that the federal government remit all federal taxes upon the portion of current income of persons or corporations which is used in the purchase of such ["tax incentive"] bonds. . . . The leasehold values and the building in the redevelopment areas should pay normal taxes based on tax policies now in existence."

Herbert U. Nelson,

Executive Vice President, National Association of Real Estate Boards

"Twenty-cent Dollars"

"The so-called tax incentive is no more nor less than tax exemption and, as applied, is a direct subsidy. . . . It is stated that it will operate extensively in the upper income brackets. Wherever it would operate, it would mean that the other taxpayers, including those who invest in postwar industries, or, in fact, in any form of development except that in an area redeveloped under this particular scheme, would have to carry the extra load. The income of the owner of every home not built in a redeveloped area would have to pay more taxes to subsidize the redevelopment. . . . The fact is that an investor in the 80 per cent income tax bracket (one who would use the 20c dollars we heard about) would be getting an 80 per cent capital grant. His return of 1½ per cent would amount to 7¾ per cent interest (interest only) on the 20 per cent of his own money that he had invested. That's a rather good return—also tax exempt—especially compared with the 1.2862 per cent rate at which the last New York State fifty year housing bonds were sold. The story just begins here, however, because income invested in the redevelopment itself would be tax exempt, and income from the redevelopment would also be tax exempt. Again, in the 80 per cent income tax bracket, that's another 80 per cent capital grant. The proposed maximum allowable interest of 3 per cent would be a return of 15 per cent on the investor's own funds."

Hugh R. Pomeroy,

Executive Director, National Association of Housing Officials

Money from Whom to Whom?

"At last, most experts are coming to agree that if the housing program is to achieve its necessary size, some

money has to be given (and I mean donated) to *some one* if decent houses—new or second-hand—are to be provided for all income groups. It is an indubitable fact that a large number of families cannot pay for their shelter a sum sufficient to enable an owner of a house to pay off its costs, and at the same time maintain it in decent and sanitary condition at a profit to himself. The suggestions as to *who* shall give the money to *whom* are manifold. . . . All methods can, and must, be analyzed and appraised in terms of the equal distribution of benefits to the three equal beneficiaries of a housing program—the building industry, the persons housed, and the city."

Miss Elizabeth Wood,

Executive Secretary, Chicago Housing Authority

Housing by Private Enterprise

"It must be said that the overwhelming part of such a national housing program must and can be done by private enterprise for private enterprise. . . . The group of families in which public housers are interested, and for which they believe public enterprise should provide houses, are those families that are known generally as the 'lowest income group.' . . . Public housers . . . are not so naive as to expect a private investor or a private builder to produce decent, safe, and sanitary houses out of the goodness of their hearts, foregoing all profit."

Dr. B. J. Hovde,

Administrator, Housing Authority of the City of Pittsburgh

Insurance and Sound Financing

"It is commonly supposed that FHA insurance eliminates the risk involved in a mortgage loan. . . . One of the fundamental tests of the soundness of any home financing program is whether it facilitates the payment of indebtedness. To be sound it must promote the liquidation, not the perpetuation, of debt. . . . To attain debt-free home ownership is a worthy motive. But it is not easy; and it is an error closely akin to crime to minimize the difficulty. The undue extension of the term of the mortgage may serve to contribute to the delusion that home ownership is easy to attain. It can be demonstrated that little is to be gained by the borrower and much is to be hazarded, by the extension of the term beyond 20 or 25 years. For every penny saved in monthly payments by such an extension, the borrower obligates himself to pay tens of dollars in interest charges. . . . The smaller the margin of equity the more likely it is to be erased by market fluctuations."

Ernest M. Fisher,

Deputy Manager, American Bankers Association

Principles for Housing Programs

"The UAW-CIO has long felt that the three following principles are basic in the consideration and development of any economically and socially sound national postwar housing program.

1. Public aid be given private enterprise to meet the nation's housing needs and to provide full employment. . . . (a) Substantial reduction in the home building mortgage interest rates. . . . (b) Longer periods of mortgage amortization for housing developed in planned com-

(Continued on page 120)

- A VARIETY STORE Ketchum, Gina & Sharp, Architects
A DRUG STORE J. Gordon Carr, Architect
A SUPERMARKET Allen G. Siple, Architect
MATERIALS AND EQUIPMENT FOR STORES by George Schwartz
FOR DEPARTMENTALIZED MERCHANDIZING Robert A. Fash, Architect
MATERIAL HANDLING IN A SUPERMARKET by Egmont Arens



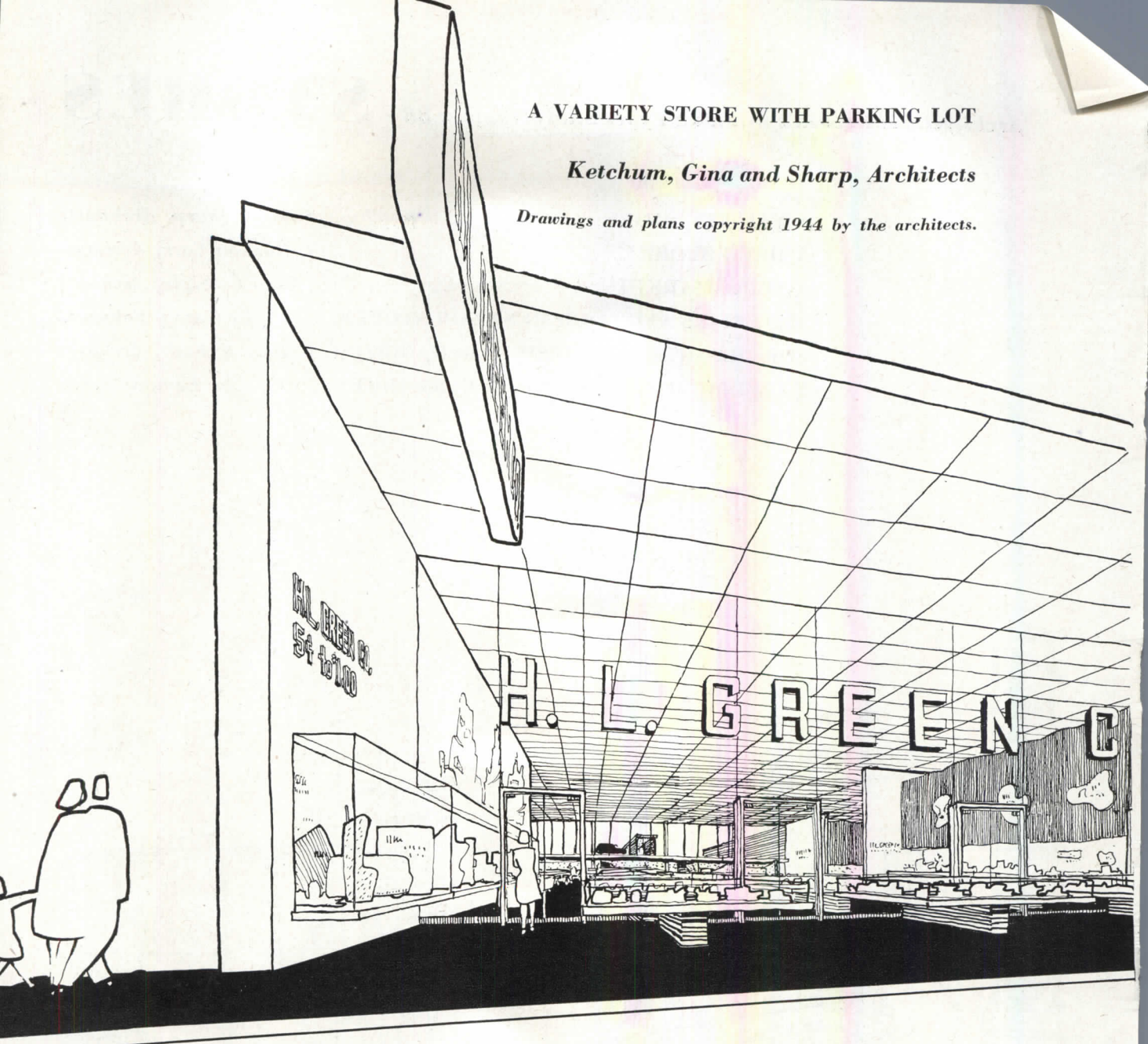
IT IS ALREADY CLEAR that stores will be first at the mark for the postwar building race, and that a remarkably high percentage of stores is anxiously awaiting the signal to start either improvements or new buildings. In fact, there have been reports that store modernization is already jumping the gun. With timeliness of store planning in mind, ARCHITECTURAL RECORD has collaborated with *Chain Store Age* to produce this Building Types Study (fourth in the RECORD's collaborative series).

Since the urge for practical plans is immediate, the two editorial staffs agreed to work in the realm of hard-headed merchandizing ideas. Chain stores live, or die, in the world of mass sales and close competition. If it doesn't permit the architect the pleasant vistas of the specialty salons, this field does give him the satisfaction of solid results, quickly measurable. So here three experienced architects have collaborated with chain store organizations on three specific locations. The store executives established the boundaries and the architects brought their imaginations to bear on the age-old problems of easing the customer into the store and teasing the dollars into the till. Their resulting designs appear this month in both magazines, so that architects and clients alike can judge the potentials.

A VARIETY STORE WITH PARKING LOT

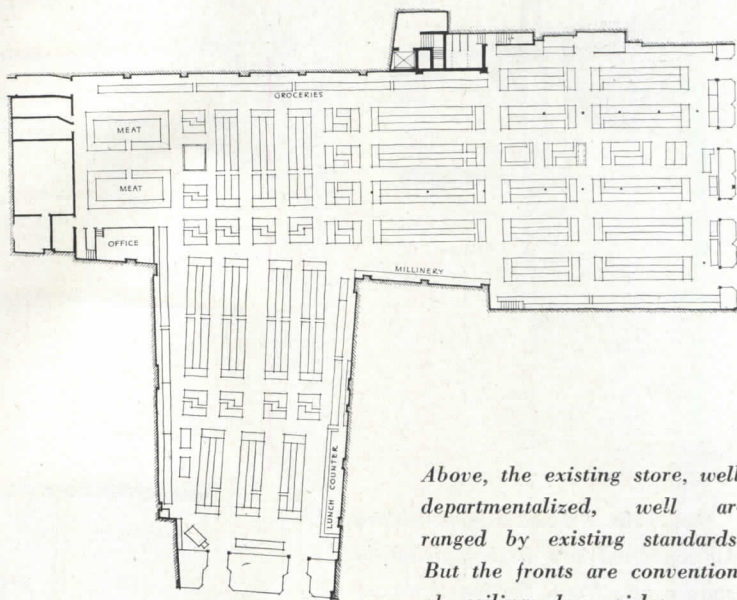
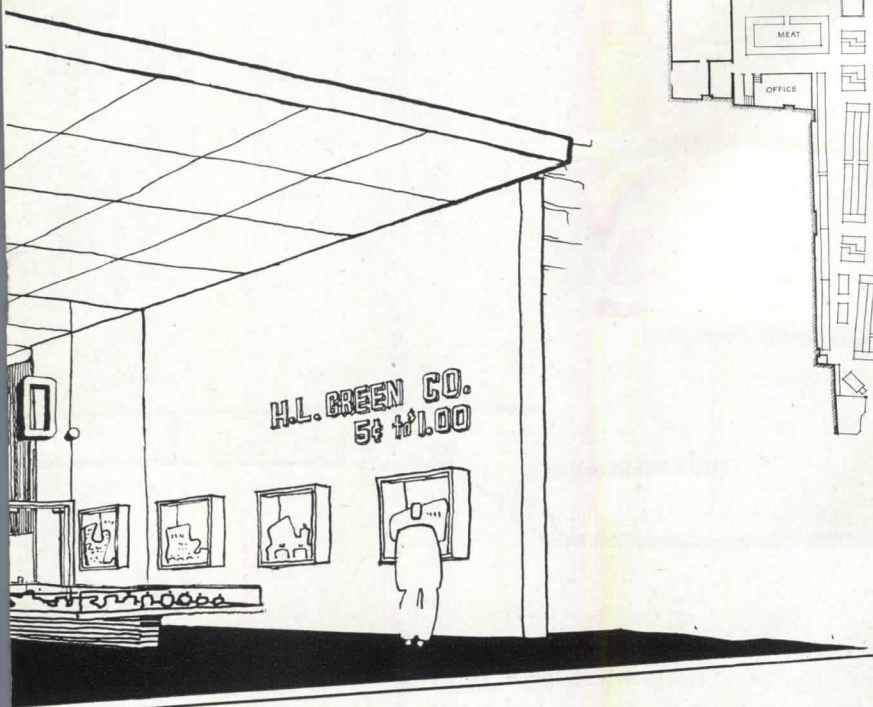
Ketchum, Gina and Sharp, Architects

Drawings and plans copyright 1944 by the architects.

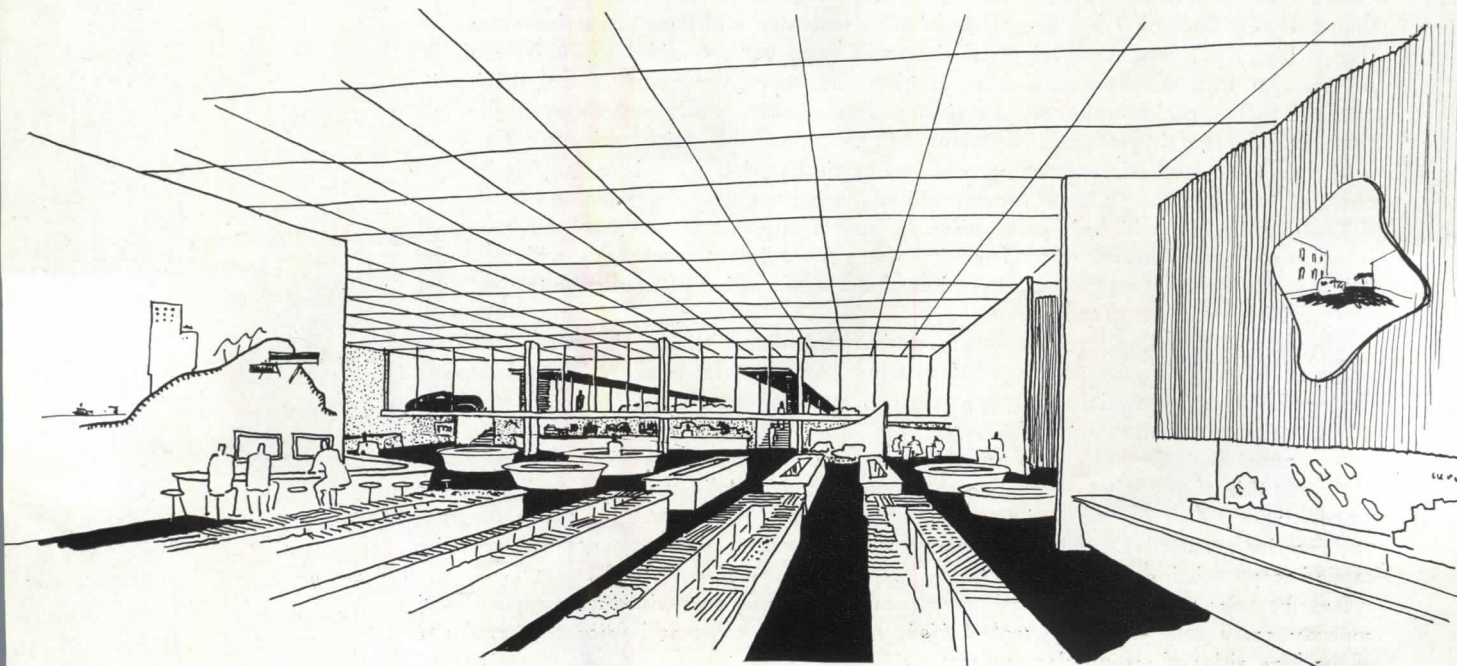


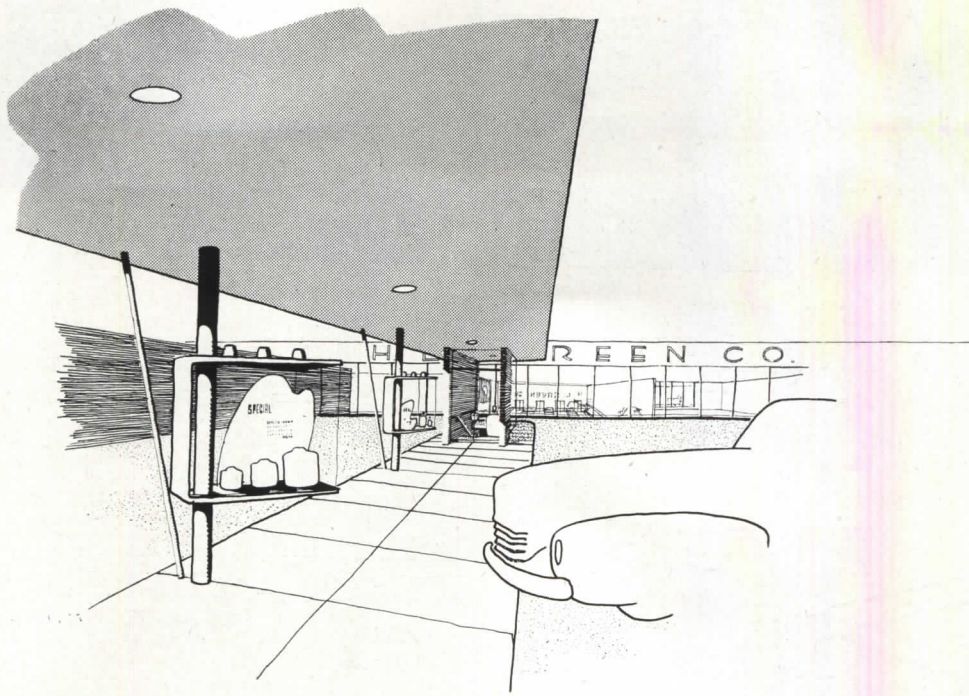
FOR EASY ACCESS AND FREE CIRCULATION

THIS modernization is an actual proposal for the existing store shown across the page. This is a large L-shaped structure with entrances from two streets, an alley alongside, and parking lot to the rear. What the architects have done for parking and access is outstanding, and is shown on succeeding pages. Illustrated here is the inviting open-face entrance and streamlined interior. The passerby, his attention arrested by the wall displays, steps aside, views the goods on the counters in the generous arcade with a mind free of traffic hazard. The all-glass front of the store is set well back out of the sun where it produces a minimum of reflections, interposing virtually no visual barrier between "inside" and "outside." The arcade display counters pick up the rhythm of the inside counters. Approaching the rear of the arcade counter, the window-shopper intercepts the beam of an electric-eye door, which opens obligingly and in summer emits cool air. Entry is made so easy, casual, unobstructed, that the customer is scarcely aware at what point she has left the sidewalk. Note (sketch across-page) that there is further interest at the end of every vista inside the store, and that the all-important lunch counter is at an intersection deep inside but visible from every entrance.

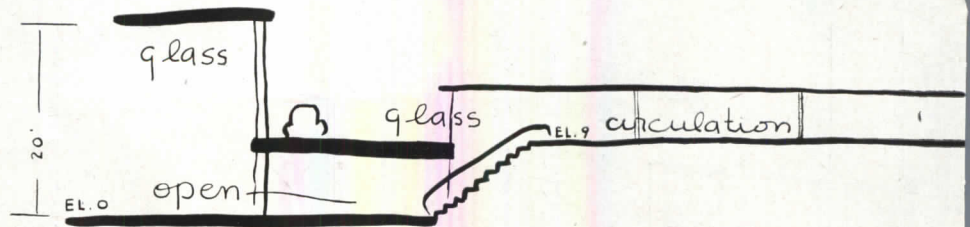


Above, the existing store, well departmentalized, well arranged by existing standards. But the fronts are conventional, ceilings low, aisles apparently endless. Parking lot to the rear is full of uncaptialized possibilities as another front





Above, covered walks from parking lot converted into display, giving the store a new front. Section shows car coming in over store extension. Stairs carry pedestrian traffic underneath, with complete separation



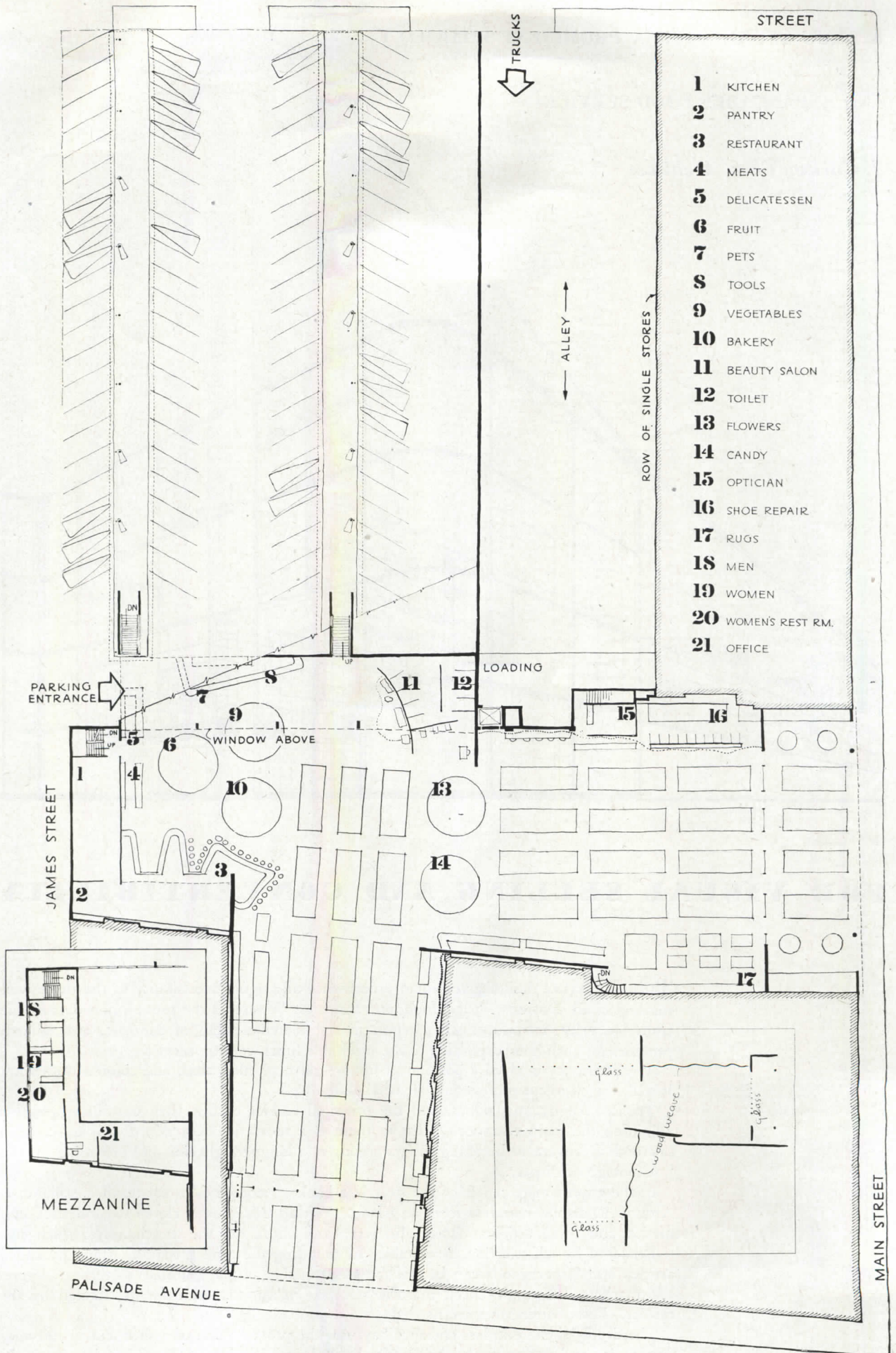
SINGLE OWNERSHIP of the entire plot shown in plan across-page makes possible the exemplary handling of the proposed parking lot. The lot is reached both from James Street (to the left) and from the rear. Rising contours carry the present parking-lot level an awkward 5 ft. above the store floor. Grading could be used, along with excavation for a store extension, to raise the future parking lot to a uniform level higher than the store floor by 9 ft. The proposed store extension will then be carried out *under* the parking lot. The roof height of the main store will be raised to 20 ft., and the present rear wall will be treated as an all-glass clerestory. Occupants of cars driving in over the roof of the extension will be given a dramatic view down into the store through this glass. More important, pedestrians will go down the stairs and enter the store *underneath* the level of approaching cars (see vertical section); nowhere do they have to cross in front of a car. One of the covered pedestrian walks is illustrated above.

The parking lot will have extra value because a city bus station has been proposed in a situation catty-corner across from it. Also, the adjacent truck alley will serve the loading platforms not only of this store but of the whole string of smaller stores on Main Street which share the property.

The new 20-ft. ceiling level involves no undue expenditure because the owner would be prepared to demolish the non-fireproof structure down to the brick walls, and support the new roof on lightweight clear-span trusses carrying no superstructure and requiring no cumbersome columns.

No tunnel-like effect greets the customer, as occurs in the conventional variety store. Only one side of any wing or area has the appearance of a solid structural wall. In other words, there are never two similar wall surfaces parallel to one another. (See diagram and interior perspective). Clever screening of "woodweave" forms a wavy surface easily carried across existing piers.

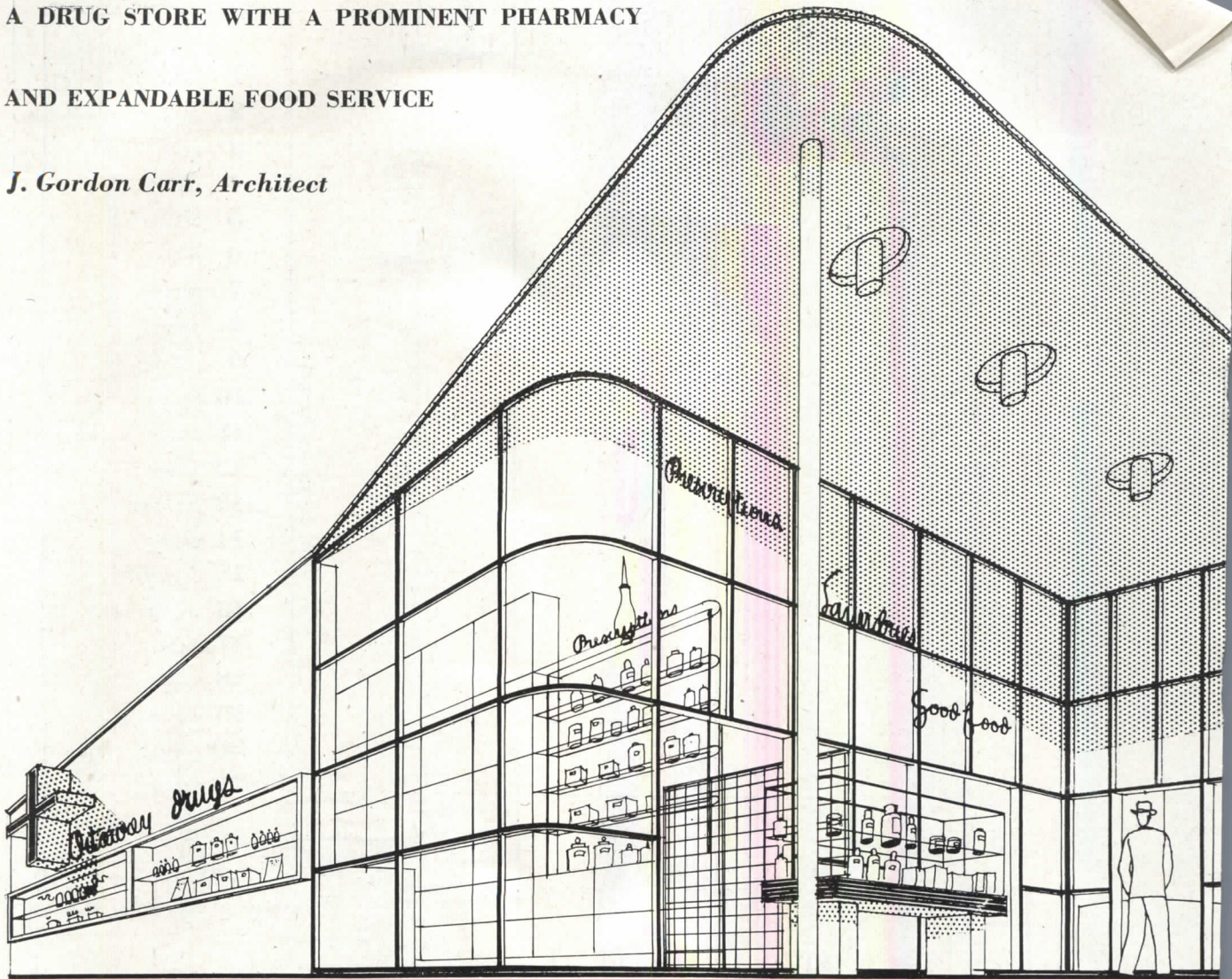
Impulse sales counters are placed conveniently for people on their way to cars. These counters carry colorful goods *stacked high*, relieving in color and form the regularity of the long aisles of rectangular counters.



A DRUG STORE WITH A PROMINENT PHARMACY

AND EXPANDABLE FOOD SERVICE

J. Gordon Carr, Architect



FOR VISUAL SELLING AND CONVERTIBILITY

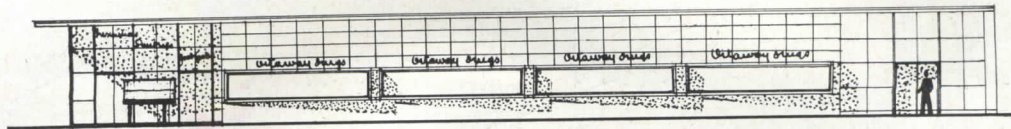
THIS DRUG STORE design gives equal prominence and equal accessibility to the three well-marked main divisions: drugs, food, and sundries. It rescues the prescription department from obscurity, introduces self-selection in the merchandising of sundries, and smartly provides for rush-hour expansion of the profitable lunch counter service.

The pharmacy is given a position of honor; glass, stainless steel, and colored tile endow it with the clean-cut professional air of a laboratory.

Tobacco, candy, magazines, and the principal cashier occupy their customary position adjoining the main entrance. Next to them is a series of counters and display cases in sawtooth arrangement breaking the monotony of a long straight line and providing greater line-footage of display.

In the approximate center of the store is a bank of storage cases for small merchandise. Around it, display counters form an island. Within this square, clerks sell toiletries, cosmetics, and small articles. They also wrap and check out the merchandise which customers find by self-selection, from tables surrounding the central island. Many packaged articles and larger goods can be stacked in accessible displays similar to those in serve-self markets. A single check may be stamped in various departments, totaled by the cashier. Fewer attendants are needed.

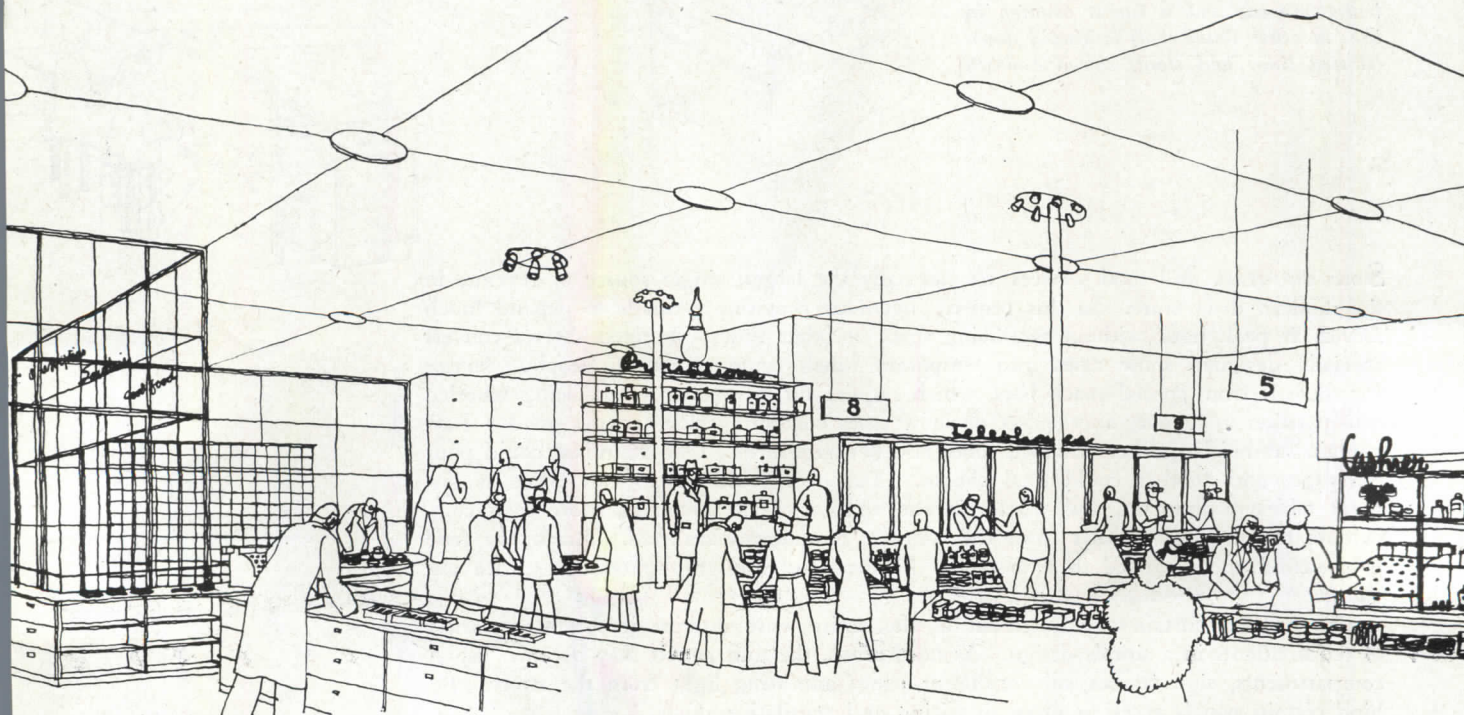
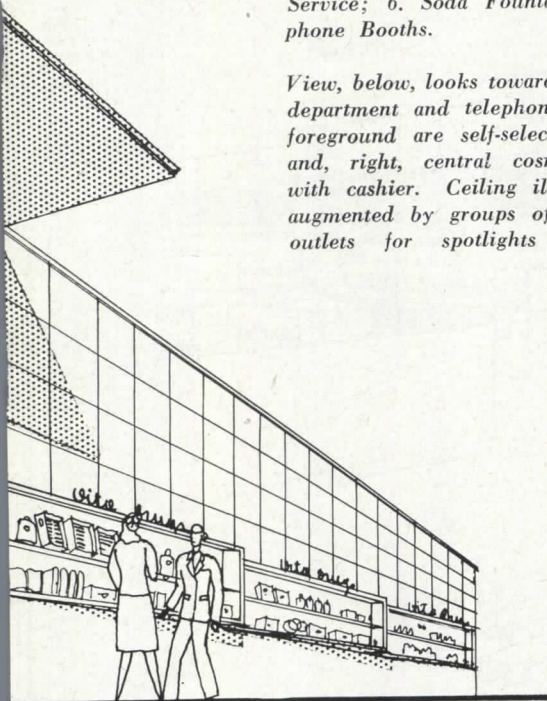
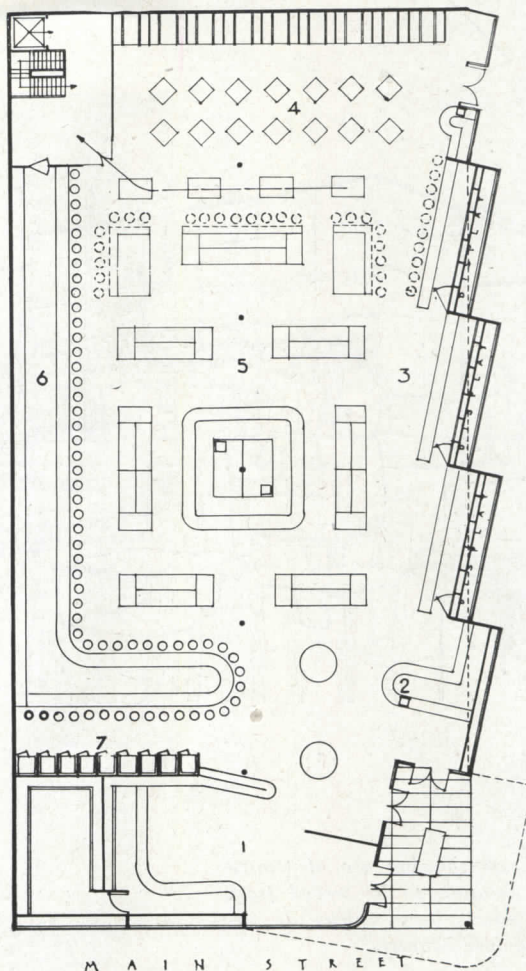
The deeply sheltered glass entrance bay uses the proved value of a short-cut in drawing customers, and converts the brilliantly lighted interior into a huge display in itself.



Left: All-glass entrance bay makes a show window of the entire brilliantly-lighted interior; pharmacy display gives professional air; sautooth windows are turned toward main street

Plan, right: 1. Drugs; 2. Tobacco and candy; 3. General; 4. Tea Room; 5. Self-Service; 6. Soda Fountain; 7. Telephone Booths.

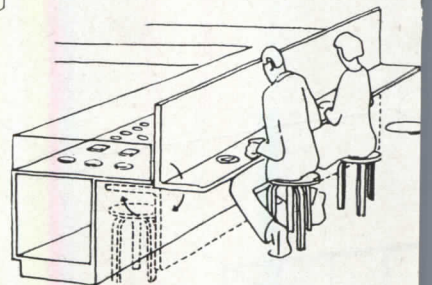
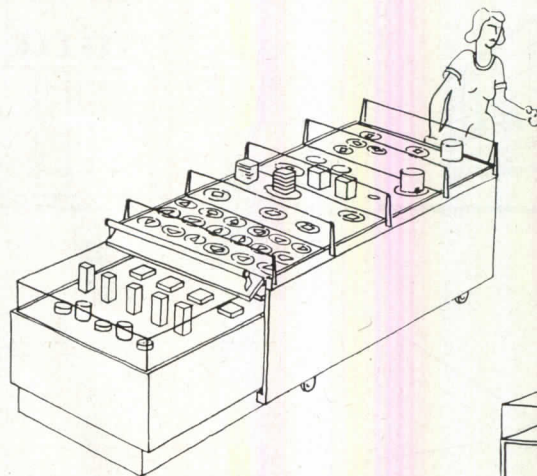
View, below, looks toward prescription department and telephone booths; in foreground are self-selection counters and, right, central cosmetics island with cashier. Ceiling illumination is augmented by groups of convenience outlets for spotlights and floods





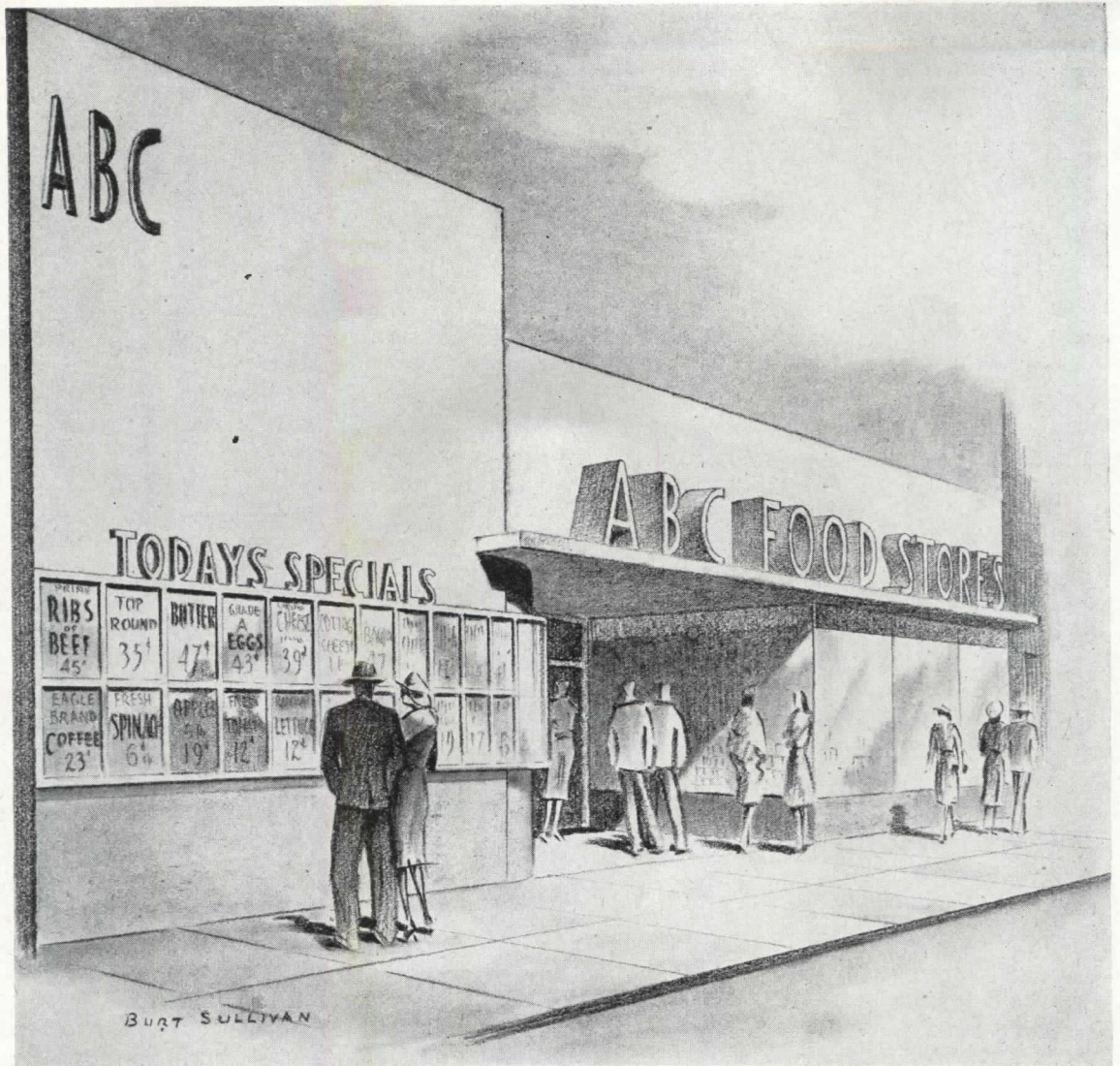
Above, interior showing use of temporary lunch counter, to be served from wheeled-in snack bars which are designed to fit over counters

Detail drawings at right show snack bar being moved, and a lunch counter in use; at other times shelf is hinged down (dotted line) and stools stored beneath



SODA FOUNTAIN and food services are normally the largest single source of revenue in the modern drug store. In this project, ingenious provision is made to expand lunch service at peak hour without sacrificing space at other times. Hinged shelves convert specially designed show cases into temporary lunch counters for 36 people. Service for these is from special snack bars, which require no extra floor space, being wheeled into position to fit over another set of show cases containing slow-moving goods. Bars contain sandwiches, other wrapped food, and beverage urns. One attendant could pour beverages and another could total checks. Turnover could be at least twice as fast as at tables or fountain, and would, in the opinion of the architect, more than compensate for any loss of sales from the counters temporarily diverted. Snack bar food is prepared and arranged in a basement kitchen, and brought up on the service elevators.

The paneled curtain-wall treatment of the entire store interior integrates a variety of requirements in a simple design. As need arises, the unit panels may become display compartments, sign frames, or translucent panes admitting light from the street. Behind certain panels access is given to wiring and ventilation ducts.



A SUPERMARKET WITH TRAFFIC SEPARATION

Allen G. Siple, Architect

FOR CUSTOMER ATTRACTION AND CONTROL

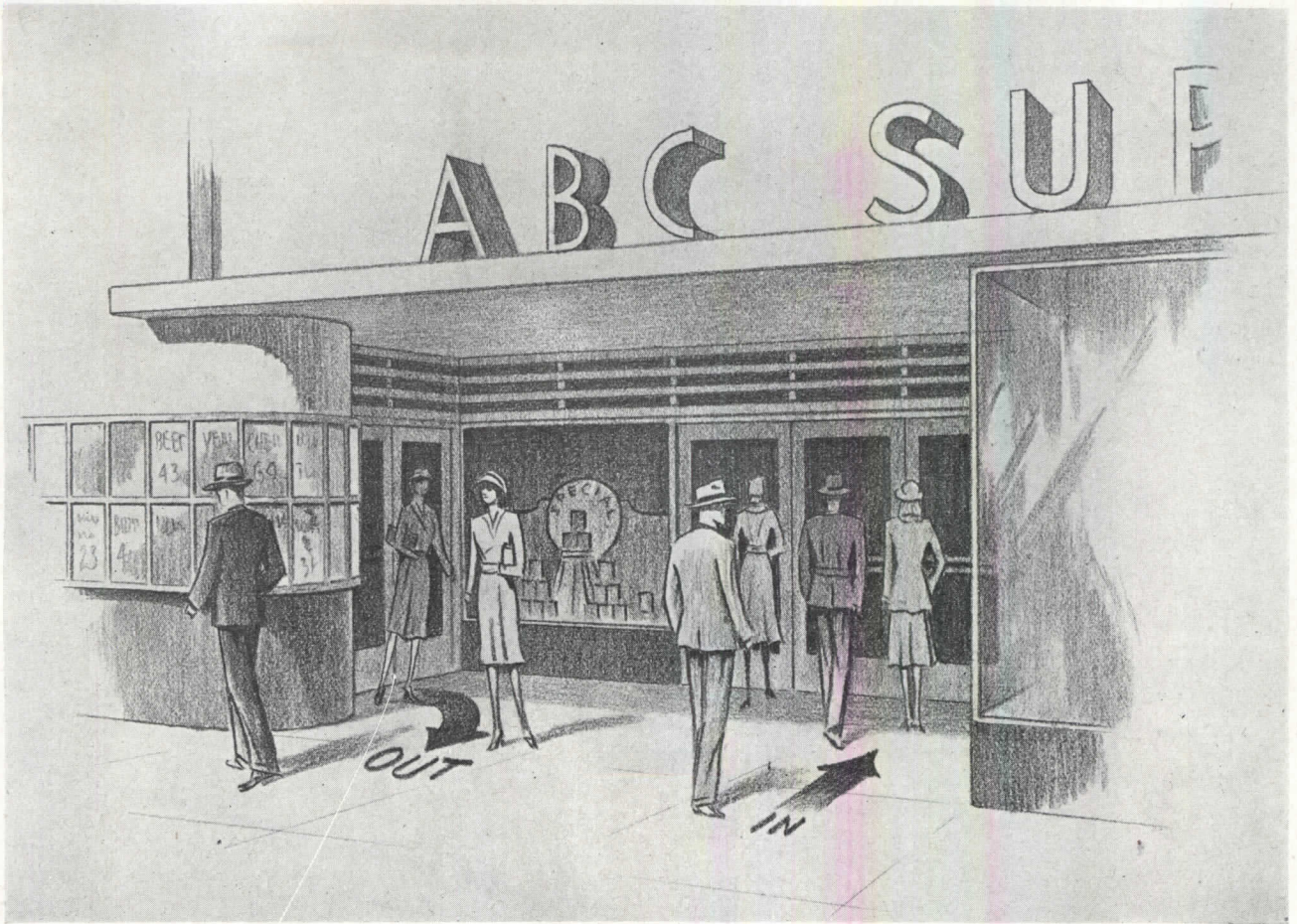


This store, graciously lent as "guinea pig," is already better than average in design

CIRCULATION is the most pressing problem of the average supermarket, declares the architect, especially at the entrance where most markets put their worst foot forward. By devoting the prize space directly behind the vestibule to bottle-necked check-out counters, they often lose their best potential selling area to the function which is visually the least attractive and psychologically discouraging to trade. Though better than average, the supermarket graciously lent as "guinea pig" shares this all too common drawback.

In the proposed remodeling, entrances open directly upon a special selling area suited to colorful display or to factory demonstrations. Entrances and exits are well separated. Check-out stands are hidden from the street by a solid wall with sliding backs for a narrow window on which broadsides are grouped instead of blocking the view into the store at the large show window. In the large window itself there is at most a low-backed display of a few specialty items, since the greatest attraction is an open view into a well-lighted interior.

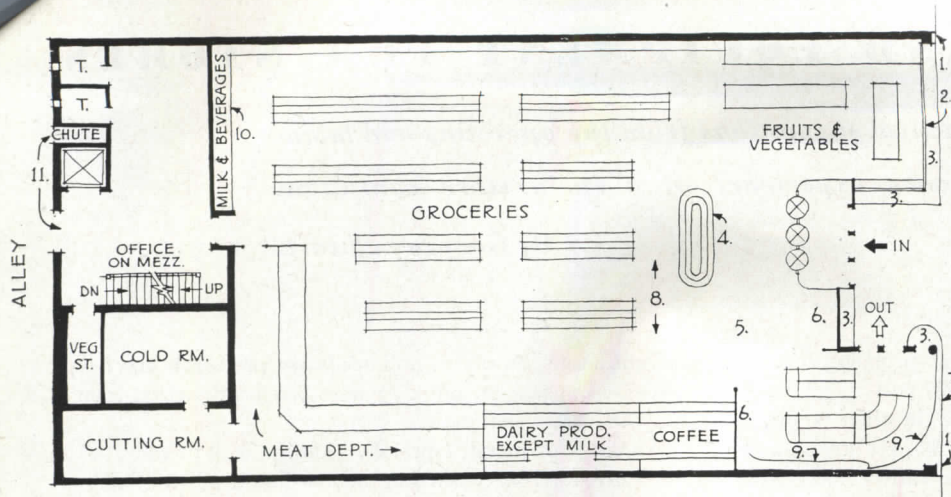
Below: Entrance showing the clear separation of incoming and outgoing customers. Check-out counter congestion is hidden behind wall at left. Fewer exit doors are needed, because exit volume is steady in flow



Right: Bottlenecks can be caused by narrow space directly in front of check-out counters. Also, inadequate provision for pushcart storage results in their clogging the aisles (note the pushcart to the left.) No space for line-ups of customers during rush hours, when they block front



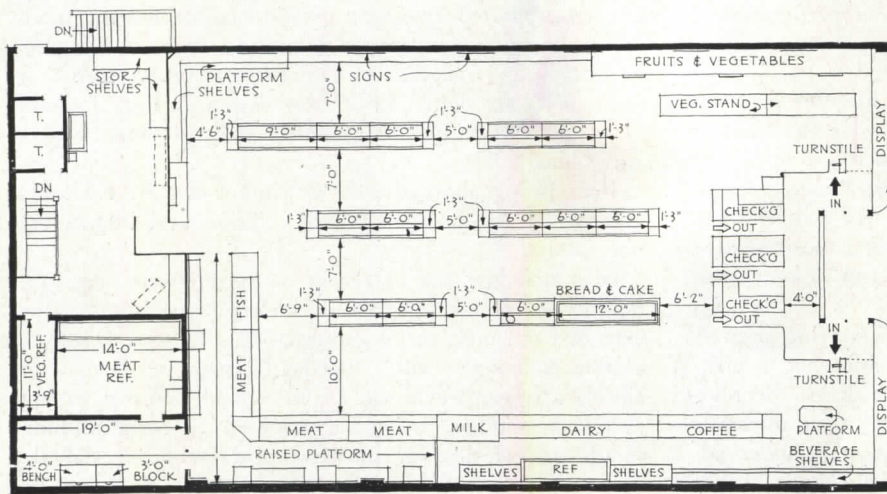
PUSHCARTS introduce a difficulty into supermarket circulation. Since the atmosphere of the store must be friendly and not too severely regimented, it is impossible to organize these flow lines of incoming and outgoing traffic and pushcarts in an ideal manner. The customer must feel free to cross at will. Yet the proposed plan removes a maximum of interference. At the outer lane, pushcarts are returned along the wall; from other lanes they are returned to the battery near the entrance. It is assumed that a boy or two will be assigned to keeping pushcarts in order. Incidentally, the new plan provides more entrance doors; fewer exit doors are needed in the ratio of 2 to 3 or even 2 to 4, because the effect of check-out counters is to *meter* outgoing traffic to an even spacing. Backroom rearrangement is worth noting; a new elevator permits dollies to be arranged in the basement and brought up loaded.



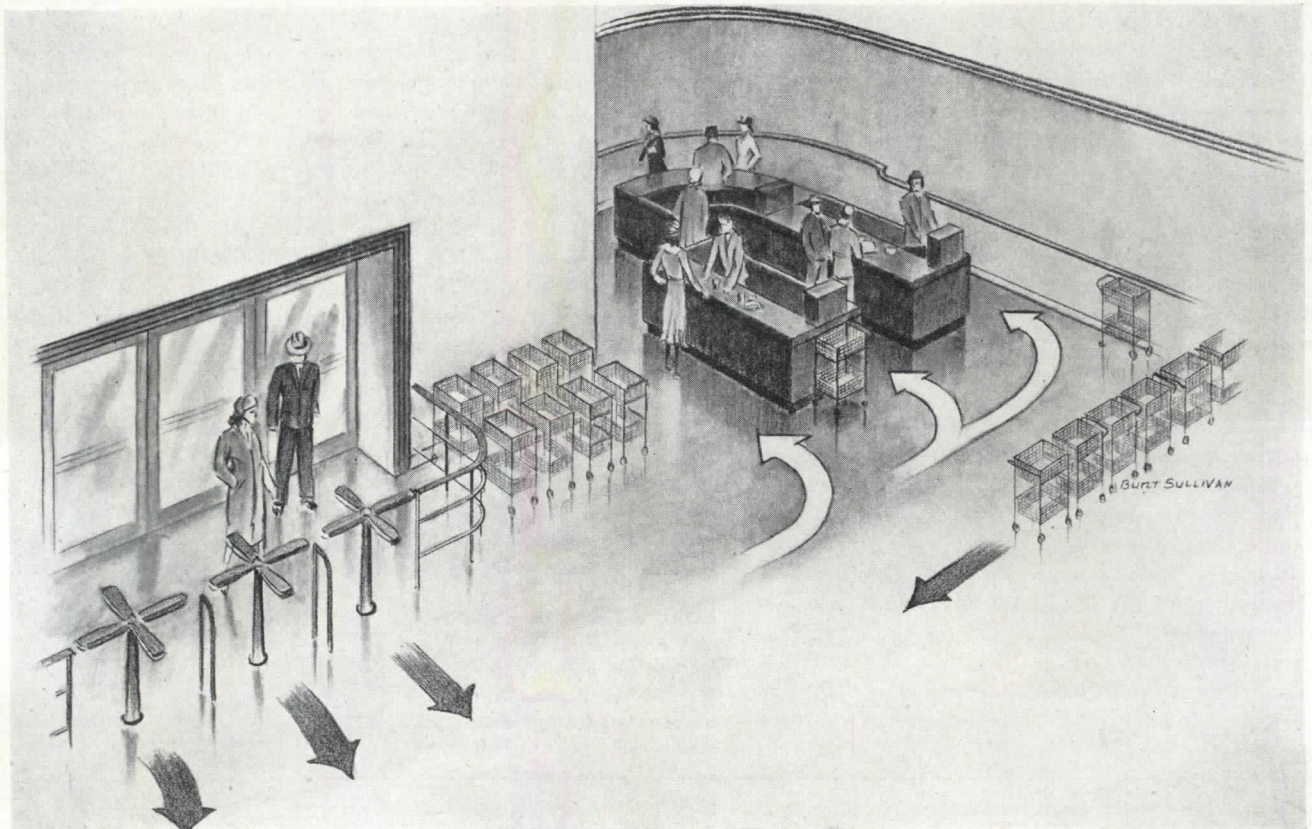
Left, above, proposed remodeling plan; below it, the existing plan.

Points in remodeling:

1. Carry glass across columns with minimum construction at property lines
2. Low display back or none
3. Low display
4. Special stand to display new ideas or slow-moving merchandise
5. Space for line-ups (Saturday night)
6. Space for empty pushcarts
7. Glass wall for broadsides, sliding panels at back
8. Space here permits cross-over from vegetable department to meat department clear of people waiting in line, and of incoming traffic
9. Rail
10. Placed at rear to increase traffic through grocery department
11. All deliveries here



Below, sketch showing separation of incoming and outgoing traffic



MATERIALS AND EQUIPMENT FOR STORES

Practical suggestions from the operating and maintenance experience of a chain store consultant

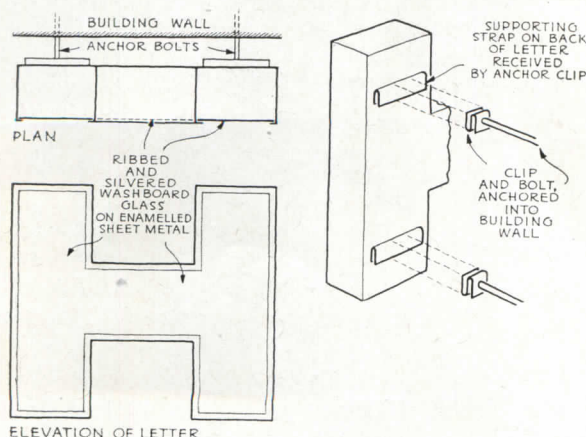
By George Schwartz

IN considering the postwar problem as primarily one of remodeling, we may assume sound walls and a tight roof. Attention will therefore be paid only to the chief points of possible change or necessary alteration. Variety store standards are emphasized, in part because variety stores, accustomed to long leases and a share of the gross to the landlord, insist on better construction and performance.

Store Fronts

Double plate glass with a dehydrated interior $\frac{1}{4}$ -in. air space hermetically sealed has been in use for about seven years and will no doubt be priced within reach of all better stores upon the lifting of war restrictions. Large sheets are available in Canada now and will be eventually in the United States. More important than the insulative effect is the protection afforded against troublesome window condensation.

Bulkheads of variety and other stores serving a mass market get heavy wear from a mixed public, not to mention baby-carriages and bicycles. This explains the preference of chains such as H. L. Green Co. for materials such as granite. Polished granite looks well under adverse conditions, requires no further maintenance, and is extremely tough and durable. If marble is used for its pattern or color, the richer the figure the more care must be used in waxing for maintenance. (A rich marble figure, on the other hand, presents very low maintenance cost as facing or topping of a lunch counter or for other interior use.) Other facings are limestone, metals such as bronze or brass, aluminized aluminum, stainless steel, painted or enameled sheet metal, ceramic sheets or tile, opaque glass or glass block. Where all-glass fronts are used (as for example in the store shown on page 96—Ed.) the bulkhead is not really eliminated—it is merely transferred to a new position. Its function is performed by the heavy bases for display counters standing in the porch or arcade. These counters break the momentum of pedestrian traffic and thus protect the glass front.



At left, detail of sign using washboard glass, silvered, to reflect light from the street

Right, a time-saving special recessed channel to be set in floor before concrete is poured, and serving to prealign door-buck and floor check, besides permitting easy access

(Patent applied for)

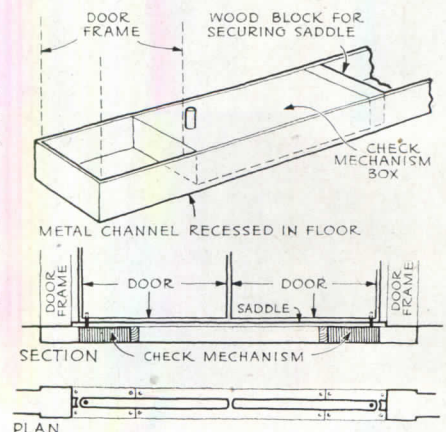
Ventilating louvers in bulkheads are preferable to cheap grilles. Louvers do not clog, and can be designed integrally in many materials.

Awnings of metal, especially aluminum, will come into more extended use. Awning hoods should be checked for adequate projection. Many existing hoods, designed for bracket-supported awnings, are too shallow for the more recent lateral-arm supported type, and there is disagreeable staining. Another precaution is to make sure that screw holes are slotted, before installation, in the hood and fascia. Otherwise uneven expansion may produce an ugly wavy line.

Wall facing above the show window can be the same material as the bulkhead; here collision and impact are not factors.

In remodeling the vestibule, city ordinances may well be checked to see whether the vestibule paving may be extended out onto the sidewalk, with a pattern to attract customers into the store. Portland cement terrazzo with alundum aggregate is the recommended non-slip paving material; another acceptable material is carborundum-faced ceramic tile. If pitch is considerable, special abrasive strips are used. In some localities, fans are required in the vestibule ceilings, mainly to discourage flies. (Strange to say, according to authoritative opinion, the fly is discouraged not by the blast of air but by the flicker of the shadow.)

Doors get much abuse from baby carriages, packages, children. Despite progress in shatter-proof glass, it still seems safer to use a frame; our own practice is to use a $1\frac{1}{4}$ -in. stainless steel stile. Doors are usually a standard 2 ft. 6 in. by 7 ft. and preferably double-acting. We use well tested makes of double-acting hinges and, because of the double action, floor checks rather than overhead checks—of the kind that acts as brake and closing mechanism. (See floor mounting detail.) Although the whole door must be dis-assembled for repair of the floor check, our experience has warranted their continued use. Chain



stores generally make an arrangement whereby replacements are bought at a predetermined cost per unit and installed complete, in the same way in which Ford replacement parts are installed in cars.

Floors

Mass traffic demands the sturdiest kind of floor. Minimum dust is a highly important consideration, and mitigates against natural fibrous materials unless they are given special protection. Silence is not important; in fact sales thrive at a fairly high level of sound suggesting a busy place. *Cement terrazzo* is a greatly favored flooring material where there is a concrete base. An extremely common oversight is failure to isolate the finish floor from the sub-floor (by means of a layer of dry sand) where support is by means of steel beams. The floor cracks along the steel lines, due to different rates of heat expansion. Blocks should not be larger than 3 by 3 ft. Sealing should be done carefully and frequently, since dirt adheres to the pores of the cement, not the chips.

Magnesite compound floors cost more than terrazzo but can be laid over wood, and business need not be interrupted. *Marble* floors have been used in many locations, are easily laid, replaced and maintained. *Linoleum* floors conform to the base over which they are applied. Therefore, where floor surfaces are worn, 1/2-in. thick plywood is now frequently laid over the floor as a base. Linoleum must be kept properly waxed for protection and appearance. *Asphalt tile* is one of the easiest materials to apply because of its availability, and can be laid over any firm surface, wood or concrete. Like linoleum it requires a smooth base. The temperature of the material and the premises is very important in getting a good job. Square tile with unbroken corners are to be watched for.

Sales floors are designed, subject to local regulations, to a strength of approximately 75 to 100 lb. per sq. ft. Stock room floors are generally 100 lb. per sq. ft. subject only to a condition of limited floor space. It is important to *lay out bins at right angles to the floor joints*.

Interior Finish

The designer simply cannot deviate widely at his own pleasure from local custom and tastes if he wishes to have the store succeed in mass selling. Finishes and colors must have something of the familiar about them. It is no longer necessary, however, to rely on plaster finishes alone. New devices such as *flexible screens* and *structural bends of rigid wall board* simplify the furring problem. *Washable wall boards* are useful in special areas, above wainscot height. Where moisture is a real problem, as in lunch-counter areas or meat departments, wainscots of more expensive ceramic materials are cheapest in the long run because fully waterproof.

LIGHTING

Mass sales are the bread of life to the stores under consideration. Nothing may be permitted to interfere with ample light directed on the mass display of goods. The tricky effects customary in specialty stores must be subjected to the question: Are they really easy for *any* manager to maintain? And do they really conform to the buying psychology of the mass public?

In designing for mass sales, unconscious or subconscious interferences must be carefully eliminated. To take

an extreme example, any part of a bare 500-watt bulb catching the eye as part of a "decorative treatment" has a brightness level of over 3,000,000 foot-lamberts. Its brightness contrast in relation to the room as a whole is likely to be of the order of 100,000 to 1. In this room the goods on the table may be of a brightness of only 1/2 foot-lambert and have a contrast range of only 10 to 1. What possible chance have they to compete effectively for attention against even a fragment of such powerful light? Yet the



An effective remodeled store front in Salt Lake City done in simple materials by Lowell Parrish, architect.

extreme power of light over the eye makes light the most important single sales aid where it is used properly, calling attention not to itself but to the goods.

In a variety store, the goods are almost all on tables, not in show cases. This suggests a *general diffusion of down-light* as the economical answer. The desired intensity, as reported by progressive executives, is approximately 40 fc. at table level throughout the entire store at starting. At the desirable ceiling height of approximately 16 ft., wattages run 3 to 5 per sq. ft. Special local lighting is required at lunch counters, jewelry displays, meat departments and the like.

A *high intensity of overall lighting*, converting the store into a "bowl of light," has been used effectively to overcome handicaps, such as competitive location on the wrong side of the street. The new open-face treatments gain mightily by high-intensity diffused lighting, which serves the double purpose of attracting customers and aiding them in selecting goods.

Color is important in chain store lighting. Purchases are viewed again at home, and too great a discrepancy between store lighting and home lighting will result in dissatisfaction and costly exchanges. (Common sense will divide goods into different classes in this respect: e.g. an appetizing color, even though unnatural, will not boomerang in the sale of food.) Fluorescent and filament systems of lighting may be combined for color mixture, and there is an added safety factor in case of failure of one system.

The heat output of the lighting system is increasingly important in view of the rapid spread of air conditioning. No matter what system is used, the added tonnage of re-

frigeration required to offset heat generated by the lighting is equal to 28.5 per cent of the lighting kilowatts per hour.

Easy maintenance is more important to mass-selling stores than to specialty stores. Some large variety stores go so far as to provide an access gallery above the ceiling where possible to eliminate the risk, trouble and inter-



Drug store lighting by means of fluorescent fixtures with translucent louvers transverse to the long axis

ference of using ladders. The best of the safety ladders are equipped with a platform, a rack for bulbs and parts, and a vacuum cleaner. "Less dust per lumen" justifies the higher initial expense of pre-sealed or recessed and tightly enclosed reflectors, and encourages the use of fewer, more powerful stations, where more wattage can be reached at a single sweep of the arm.

Supermarket lighting in many cases is the type of chain store illumination that can stand the largest overall increase in brightness and more specialized attention. Goods are predominantly stacked on shelves, and if aisle positions were really permanently fixed as they should be, downlight directed by reflectors or prisms at an angle would be most efficient. Since aisles in practice are frequently changed, practical solutions are confined to those direct-indirect systems that secure the best general diffusion. At the store perimeter, showcase reflector boxes or individual reflectors on arms at cornice height are useful aids. In drug store lighting, a somewhat higher general level is desirable, perhaps 50 or 55 fc., in view of the higher unit value of the goods; and showcase or display lighting principles come into play.

AIR CONDITIONING

In no field is prediction more premature than in the field of air conditioning. Rumors are abundant of vest-pocket systems and revolutionary developments. It is safer, meanwhile, to assume that the general planning requirements will remain close to those prevailing in recent years.

Zoning is highly important in stores, with the wide variation that may obtain in interior conditions even in a small interior, as, for example, between the rear of the store and an entrance facing north. Unit systems provide a simple, flexible way of zoning, where convenient floor space is

available to install them. Central systems are at their best in large installations where they are also likely to be maintained by more experienced and specialized personnel. Where there are several floors in the store, some architects prefer a separate central system for each. Compressors may be located on any floor, and it becomes important that the compressor selected have a minimum of vibration. Where well water is not available, evaporative condensers are virtually indispensable.

War techniques in obtaining statistical data by photography may yield far more accurate and more representative population counts in stores than are now commanded by even large chains as a basis for their calculations. In any case, density in a variety store, drug store or supermarket is far higher than in the average large store. A study in *ARCHITECTURAL RECORD* for March, 1941, assumes one occupant in every 200 sq. ft. of a general store of 10,000 sq. ft. By contrast, one leading variety-store architect suggests 1 customer per 10 sq. ft. of aisle space as peak load; we prefer an overall figure of 1 occupant per 25 sq. ft. of total space on the main floor, 1 per 35 sq. ft. in the basement as peak load. The latter figures, in the light of experience in many stores, are conservative; but it is safer to assume a lower density, because there is less complaint when summer cooling leaves the air slightly too warm than when the air is too cool. Fresh air is then provided at the estimated rate of 10 cfm. per person, and a slight excess pressure is maintained.

In practice, a certain reserve capacity is allowed for in the installation. If the estimate calls for 65 tons of refrigerative effect, a 75-ton installation may be made, but with a smaller evaporative condenser. Later, the capacity may be increased by (a) increasing the evaporative condenser capacity; (b) speeding the compressor motor by increasing pulley diameter; (c) reducing the proportion of fresh air in the system; (d) installing fluorescent lights to reduce the load; (e) introducing unit conditioners at points of heavy load; (f) exhausting heat-producing units such as coffee urns or toasters that may have escaped previous scrutiny.

Air conditioning equipment sometimes affects building structure. Upper floors must be reinforced and isolators introduced to minimize vibration. A common error is to forget the weight of the water in the evaporative condenser. Where a cooling tower is used, it requires considerable structural support.

One of the last things thought of by the inexperienced designer is accessibility. On one chain store we went so far as to set an overhead garage door in the exterior wall at the third floor, and an outrigger for easy handling of anticipated new equipment. It was cheaper than knocking out the wall and rebuilding it (removable wall panels might have been cheaper still).

Access doors to ducts must be frequent enough to permit complete cleaning, and the architect must supervise closely to observe that ASHVE standards are followed as to gauge, weight, and shape, and most especially as to sudden changes of direction. Dual filter banks are highly advisable so that replacements can be made without interrupting service.

An excellent trend is the development of weatherproof prefabricated insulated ducts. As a practical matter, ducts need protection where they pass merchandise handling points; it is wise to prevent the stock boy from helping himself to some air conditioning with an ice pick.

FOR DEPARTMENTALIZED MERCHANDIZING

by rearrangement of the interior

Robert A. Fash, Architect

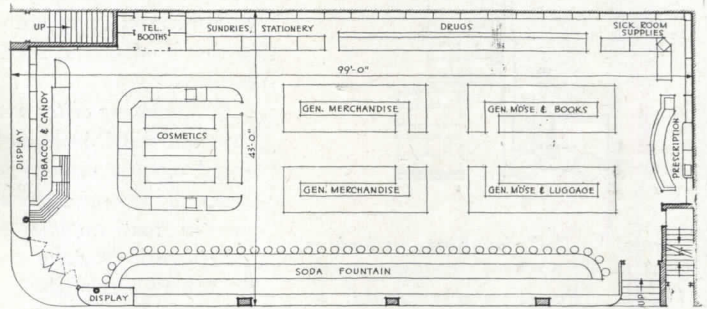


Rendering by Hugh Ferriss

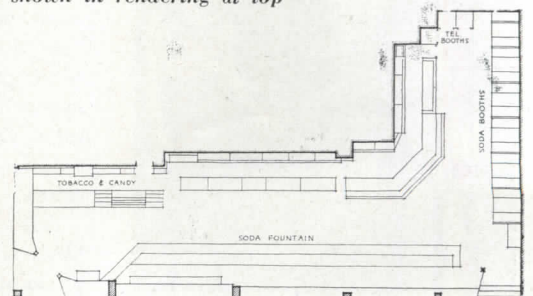
ALL READY to go, as soon as materials are available, this project reflects the latest thinking of a large chain. The plan was selected from among a large number of studies.

Departmentalization has been advanced beyond prewar standards, in line with a growing desire for close check-up of sales by departments. Although the soda fountain and food revenue is very important to drug stores, the plan deliberately avoids the complication of table service.

Part of the vastly extended window display has been converted to interior use by placing the soda fountain along an exterior wall. The bulkhead is raised to 4 ft., hiding food-handling facilities of the fountain while revealing the busy scene.



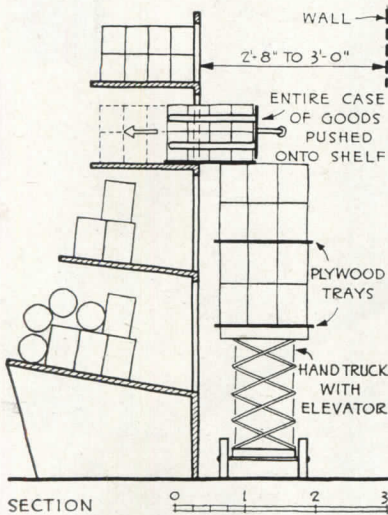
Above, plan for remodeling and enlargement; below, existing plan; at left, the amorphous group of present-day stores to be combined as shown in rendering at top



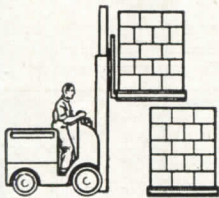
MATERIAL HANDLING IN SUPERMARKETS

A problem that demands Correlated Design for a solution

By Egmont Arens, Industrial Designer



Above, proposed supershelfing, designed by the author for rear loading from a hand truck with elevator mechanism. Goods are loaded in stock room, carton by carton, brought in on truck, raised by elevator, pushed on shelf by three-sided pushing frame. No interference with customers; greater efficiency



Above, "pallet" handling method as used by U. S. Navy (Courtesy Exide Topics). Power trucks could be adapted to operations in the largest supermarkets. Below: Power units already in use in warehousing food and beverages (Courtesy Automatic Transportation Co.)



IN THE OPERATION of supermarkets one of the most difficult problems lies in getting the stock onto the floor and onto shelves. It affects both planning and fixture design. These stores seek to move a great bulk of merchandise at maximum speed of turnover with a minimum of handling expense and a small unit margin of profit. Self-service has been a wonderful expediter of goods out of the store; but restocking is still done largely by a process of sweating and grunting and pushing customers around. The basic anomaly is that vast quantities of goods are handled piece by piece. Any improvement must involve an analysis of (a) packages and cartons for packing, (b) fixtures and aisles for loading, (c) trucks or dollies for transporting, and (d) building arrangement for expediting. Decisions must be based, of course, on operating patterns and on relative labor costs, equipment costs, and land costs.

Package design has already been adapted to mass display and it is only another step to design it for mass handling. In displays, the individual container is no longer shaped, labeled, or colored as an individual unit but as a functional part of the stack, pile, or row. Millions have been spent on the change.

Carton design is the next step. Far-seeing packers are already learning to pack in cartons which can be unloaded onto the shelves *en masse*—without handling each package. Stock clerks will not remove the goods from the carton but will remove the carton from the goods in place.

Display fixtures have to be reconsidered as units fitted to loading carton-by-carton instead of piece-by-piece.

Ideally such loading should be done from the rear of the shelf, so that in rush hour the clerks will no longer have to elbow their way through a jam of customers. The clerk brings the merchandise to the back of the display in a truck without interfering with the customers' buggies. He pushes the remaining stock to the front of the shelf and puts the new stock in the rear, insuring ever-fresh goods.

Rear loading aisles will of course increase the total aisle area of the store by perhaps one-third, bringing land and construction costs into the problem, to be balanced against savings in labor, greater speed and efficiency in stocking, fewer losses of sales, and less annoyance to customers. Rear aisles can obviously not be used in small stores or on expensive land.

Lift-truck or dolly design is already adequate to handle vast improvements in the other parts of the process. No matter what scheme is to be used, good operation requires *assembling goods in the stock room*. Contents of an entire carton, opened from the bottom, may be dumped on a flat tray in a single move. (No handling of individual packages.) Trays full of merchandise are then stacked atop one another on a loading platform or "pallet" and picked up by a small truck. If the truck has an elevator attachment, when the truck arrives at the shelf the platform is lifted until the proper tray is at shelf level, and then the whole stack is slid off the tray onto the shelf with a three-sided pushing frame (see diagram). Similarly, middle-of-the-floor displays are stacked in the stock room, picked up by lift truck, and deposited intact in place.

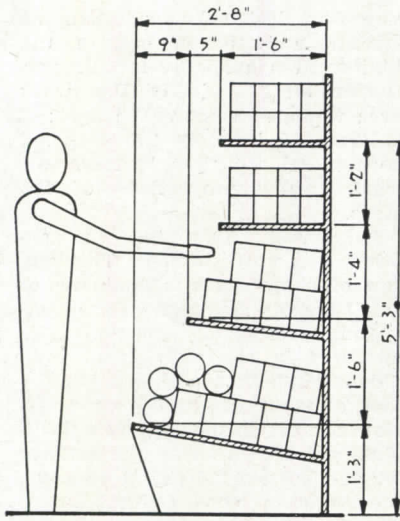
In the long run, storage-battery operated lift trucks and elevator trucks may be adapted by manufacturers to the market operation. Such trucks are already in extensive use in food warehouses. At present the minimum load provided for is about 1,000 lbs. and the cost is well upward of a thousand dollars. Smaller, redesigned trucks might justify the investment by continuous operation in large stores.

Self-service made a vast change in supermarket building design, and the most likely source of decisive post-war changes is to be found in stream-lined methods of doing the necessary re-stocking within the store itself.

SUPERMARKET FIXTURES

Egmont Arens, Industrial Designer

ARCHITECTURAL RECORD
TIME-SAVER STANDARDS
APRIL 1944

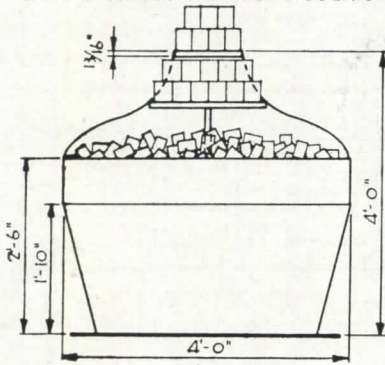


SECTION SCALE $\frac{3}{8}'' = 1'-0''$

SUPER-SHELVING

NOTE - SHELVES MAY BE $\frac{13}{16}''$ BOARDS.

NOTE - PLAN MAY BE SEMI-CIRCULAR OR RECTANGULAR.



ELEVATION SCALE - $\frac{3}{8}'' = 1'-0''$
TUMBLE DISPLAY

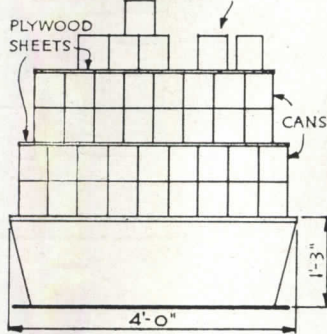
Good vision arc (drawing at left) demands that top shelf be not over 5 ft. 3 in. high, permitting an angle of view not more than 15° above the horizontal. Easy-to-reach zone starts at about 15 in. above the floor, the minimum height for the bottom shelf. Face of cans or packages should be as nearly at right angles to eye as practical. Cans for bottom shelves are now designed to be legible lying on their side.

Length of "super island" units varies, 9 ft. being the longest in common use. Distance between shelf supports varies about a norm of 2 ft. 6 in. Supports should be set back to permit an appearance of uninterrupted merchandise.

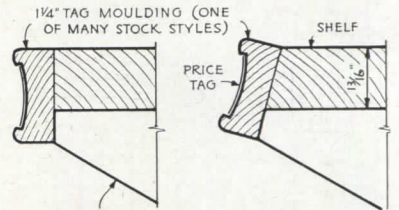
Wheels under vegetable or fruit bin are this author's innovation.

NOTE - PLAN MAY BE SEMI-CIRCULAR OR RECTANGULAR.

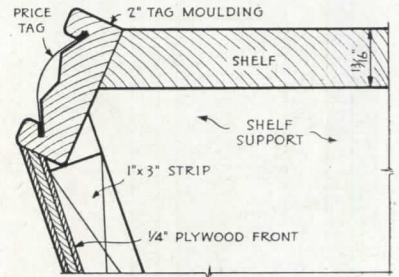
CUSTOMERS ARE NOT APT TO DISTURB A SYMMETRICAL DISPLAY, SO GOODS ARE PLACED AT RANDOM



ELEVATION SCALE - $\frac{3}{8}'' = 1'-0''$
END DISPLAY

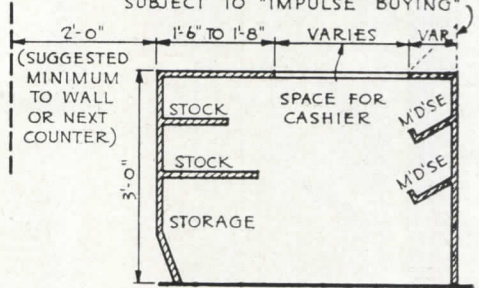


SHELF SUPPORTS - SHOULD BE CUT BACK FAR ENOUGH TO ALLOW UNBROKEN DISPLAY OF GOODS.
UPPER SHELF LOWER SHELF

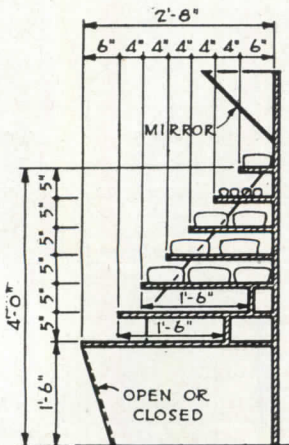


BOTTOM SHELF - ENCLOSED BASE
DETAILS - PRICE TAG MOULDINGS

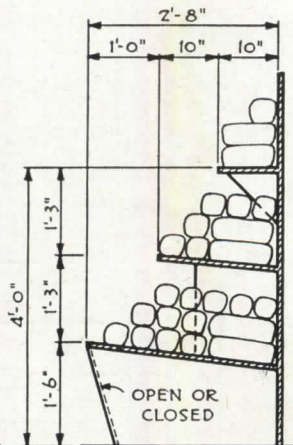
NOTE - DOTTED LINE INDICATES IMPORTANT AREA FOR SMALL ARTICLES OR FOR MERCHANDISE SUBJECT TO "IMPULSE BUYING"



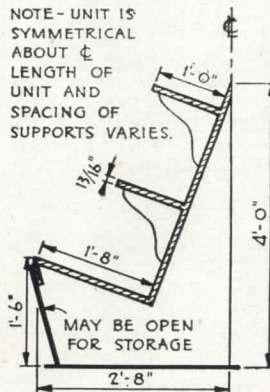
SECTION SCALE - $\frac{3}{8}'' = 1'-0''$
CHECK-OUT COUNTER



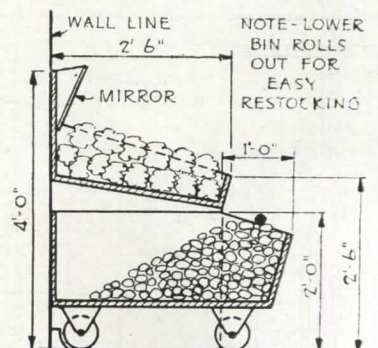
SECTION SCALE - $\frac{3}{8}'' = 1'-0''$
CAKE SHELVES
NOTE - SHELVES MAY BE $\frac{1}{2}''$ THICK PLYWOOD



SECTION SCALE - $\frac{3}{8}'' = 1'-0''$
BREAD SHELVES
NOTE - SHELVES MAY BE $\frac{1}{2}''$ THICK PLYWOOD



HALF-SECTION SCALE $\frac{3}{8}'' = 1'-0''$
SUPER-ISLAND



SECTION SCALE - $\frac{3}{8}'' = 1'-0''$
FRUIT & VEGETABLE BINS

DRUG STORE DETAILS: PHARMACY

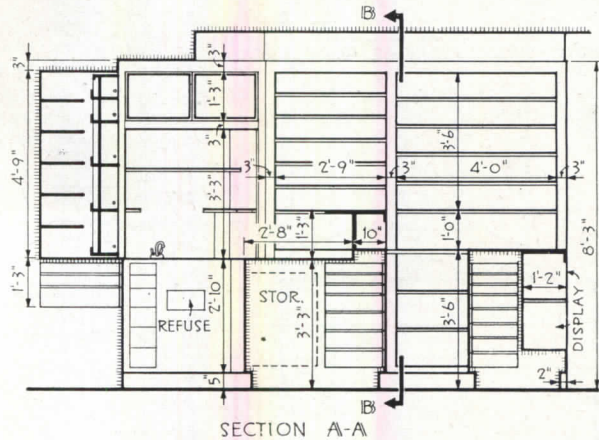
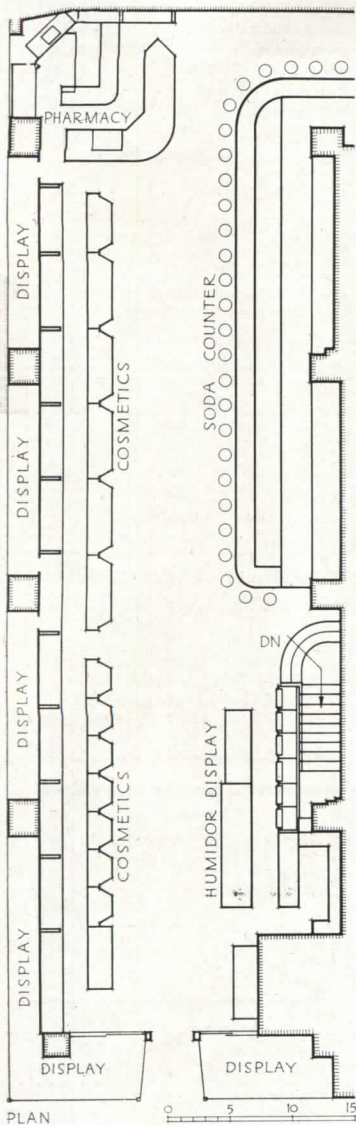
Harry P. Jaenike, Architect

The diagrammatic floor plan best illustrates the merit of this scheme for the pharmacist's department in the Fifth Avenue store of the Pennsylvania Drug Co., in New York City. The particular point is the supervision of the store. In the typical drug store the pharmacist is the most responsible employee except for the manager; if, indeed, the pharmacist isn't also manager. The pharmacist, standing behind his low display case, has a clear view along both sides of the L-shaped store. He can retire into his cubicle just behind to mix the prescriptions and still be within a step or two of his observation post, or of his counter in case a customer calls.

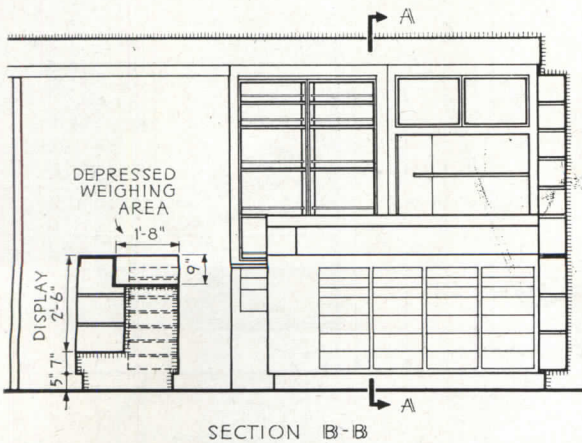
The shelving shown in the sec-

tions is designed for maximum storage and convenience in the limited area available in this particular store. Ideally the work area would be somewhat larger; it is cramped here by the diagonal corner, and, of course, by the somewhat narrow proportions of the store.

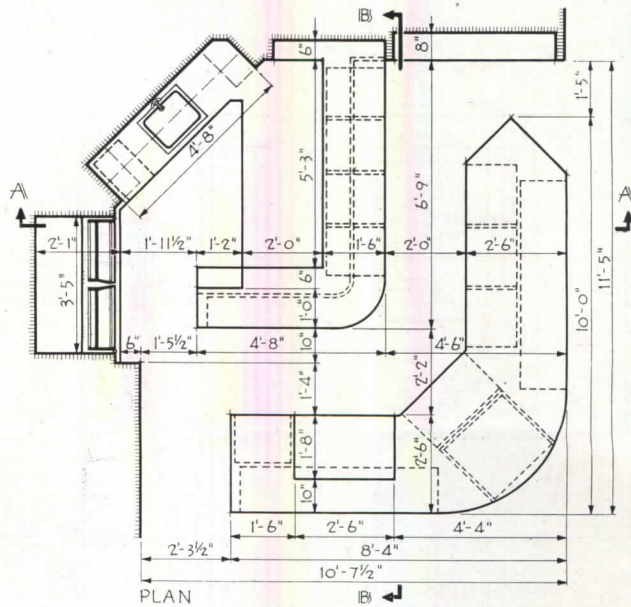
Incidentally, this store has another idea worth noting. The long row of show cases is made up of small display counters. Thus merchandise, especially cosmetics, is arranged in relatively small individual displays, avoiding the junky look of many drug store counters. Note the cases, shown here only in plan, are of two sizes; the smaller for particularly individual displays, the larger for more general lines.



SECTION A-A



SECTION B-B



PLAN

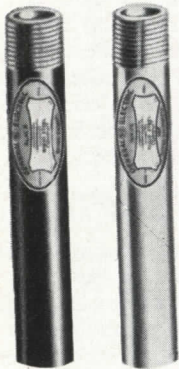
DETAILS - PHARMACY
 EXCEPT WHERE NOTED ALL SHELVES AND DRAWERS ARE FOR STOCK DRUGS

G-E Wiring Material News

For Utmost Wiring Protection

Specify

G-E Rigid Conduit



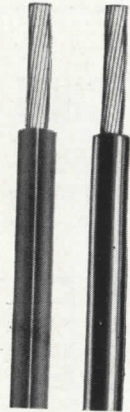
Two G-E rigid conduits are available to protect wiring systems. Both have high quality. *G-E White rigid conduit* is hot-dipped galvanized. This provides a heavier coating of zinc than could be applied in any other way. *G-E Black rigid conduit* is coated with tough corrosion-resistant, asphaltic-base enamel.

G.E. Now Offers A Complete

FLAMENOL*

Thermo-plastic Building Wire Line

This small diameter, thermo-plastic insulated building wire can be used for complete wiring installations—Type SN Flamenol Wire in dry locations, Type SNW Flamenol Wire in wet locations. Both types have long life. Type SNW Flamenol Wire has all of the well known desirable features of Type SN Flamenol Wire and in addition its insulation has low moisture absorption. Both are approved by the Underwriters Laboratories.

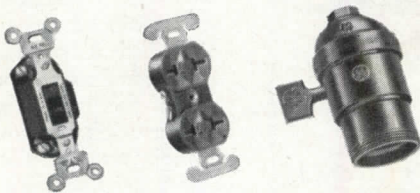


*Reg. U.S. Pat. Off.

Specify

G-E WIRING DEVICES

For Wiring Systems Everywhere



Wiring devices needed for electrical systems in every type of building are included in the G-E line—lampholders, convenient outlets, switches, connectors, fuses, fluorescent accessories, etc. All of these devices are carefully made of high quality materials and can be depended upon to give good service.

Mail This Coupon

Send the coupon for further information on G-E products described on this page:

General Electric Co.
Section CDW-448-44, Appliance
and Merchandise Dept.
Bridgeport, Conn.
Sirs: Please send me information on:

G-E Rigid Conduit
 Flamenol Building Wire
 G-E Wiring Devices

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

HEAR the General Electric radio programs:
The G-E "All Girl Orchestra" Sunday 10
P.M. EWT, NBC. "The World Today"
news every weekday 6:45 P.M. EWT, CBS.

BUY WAR BONDS

GENERAL  ELECTRIC

Self-Powered Ventilator

A portable self-powered ventilator primarily designed for use in cooling the interior of aircraft during repair work in hot climates, and already found to have other important applications, is expected by its manufacturers to attract many civilian uses after the war.

The unit consists of a pressure-type fan, driven by a small gasoline engine or electric motor connected to a collapsible canvas duct through which the

air is propelled to the area to be ventilated. Air delivery at 3400 R.P.M. is 4500 C.F.M. without duct assembly attached, and 4000 C.F.M. with duct assembly attached. The whole unit, mounted on wheels, is only 24 3/8 in. high, and weighs 87 lb. The Herman Nelson Corp., Moline, Ill.

"Thinking" Valve

A patent has been issued to Dr. Willis H. Carrier, chairman of the Board of Carrier Corp., Syracuse, N.

Y., for a "thinking" valve said to anticipate the requirements of any room by admitting to an air conditioning unit cold or hot fluids in exactly the desired amounts automatically, with no need for change in setting throughout the year. Once it is adjusted to give desired comfort during summer and winter seasons, the valve is said to assure proper compensation for changes in weather conditions or for variations in requirements of the air conditioning system arising from the number of people in the room.

An interesting feature of this valve is that the same control apparatus is adapted to admit cold or refrigerated liquid in one flow circuit under conditions requiring cooling, and will admit warm or heated liquid in another flow circuit under conditions requiring heating, both circuits feeding to any desired air conditioning or industrial processing units.

Unit Heats While It Cools

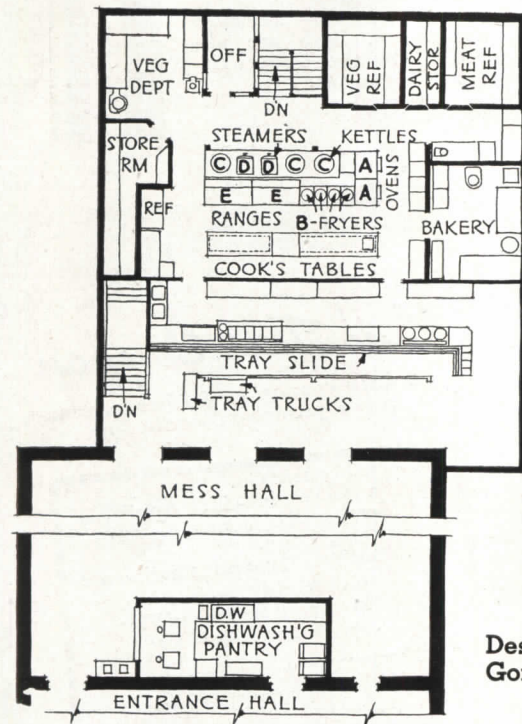
Air conditioning which heats while it cools now protects sensitive radio equipment in American battle areas and may point the way to a new type of controlled indoor weather in peacetime, refrigeration engineers of the York Corp. laboratories report.

The system, which blends both heat and cold together, makes practical a constant and accurately balanced ratio of temperature and humidity. By reheating the air slightly after it has been chilled sufficiently to remove all unwanted moisture, the small self-contained unit is able to maintain a constant humidity of 50 per cent in the conditioned space regardless of the surrounding atmospheric conditions. It prevents temperature from falling too low by putting back automatically into the conditioned space some of the heat units which it has taken from the air.

The condenser reheat unit taps off some of the hot refrigerant gases after they have left the compressor and are on their way to discharge their load of heat units through a condenser. Instead of flowing directly to the condenser, the hot gases are passed through another coil which heats the air as it leaves the cooling mechanism. Automatic controls regulate the whole operation, turning on and shutting off the reheating coil to maintain a fixed ratio of temperature and humidity in the conditioned space.

KITCHEN PLAN NO. 10—Tenth of a series of successful mass-feeding kitchen plans.

This kitchen in a New England university was installed to handle a naval student mess of 700.



KEEP FOR HANDY REFERENCE!

COOKING EQUIPMENT USED:

- (a) 2 No. 144 BLODGETT COAL-FIRED OVENS
- (b) 4 Fryers
- (c) 3 Stock Kettles
- (d) 2 Steamers
- (e) 2 Ranges

Designed by Morris Gordon and Son, Inc.

THE TWO No. 144 BLODGETT OVENS in this installation are five-shelf ovens, with a total of 70 sq. ft. of shelf area. They do double duty as roasters and bakers—an ideal arrangement where space is limited. For details and specifications of Blodgett Ovens, consult your equipment house or write



The G. S. BLODGETT CO., Inc.

53 Maple Street

Burlington, Vermont

Reprints of this series now available to architects on request.

PLASTIC PREVIEWS

Resin Plasticizer

Announcement has been made of a new resin plasticizer, *Paraplex G-25*, said to possess high resistance to oils, gasoline and heat, and to show promise in polyvinyl chloride cable compounds

(Continued on page 116)



THE NAVY BUILDS WITH WOOD

Since Pearl Harbor, the U. S. Navy has used over 2,000,000 feet of lumber and timber as a structural material at home and overseas bases.

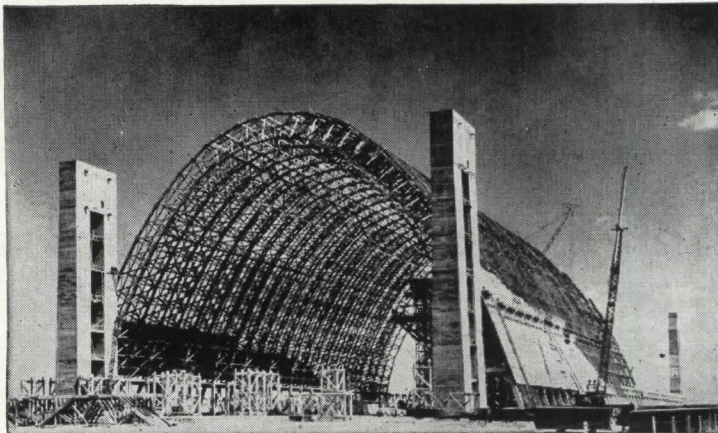
This spectacular use of lumber and the Navy's wide application of the Teco System of Timber Construction have advanced the science of timber engineering. You, too, may have the advantages of timber construction. . . . strength, economy and permanence now and in peacetime.

Here is sound engineering advice
Design in timber Specify Teco Connectors Employ a Teco Timber Fabricator.

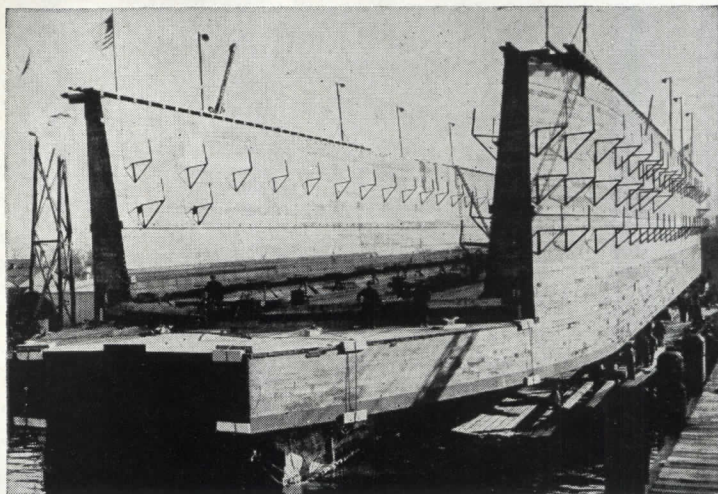
TIMBER ENGINEERING COMPANY
 Washington Chicago Minneapolis
 Portland New Orleans



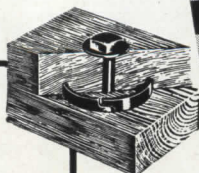
Timber Hangars for the Navy's war planes.



Blimp Dock. The world's largest clear span timber structure recently completed by the Navy. 1000 feet long, 153 feet high, clear spanning 237 feet.

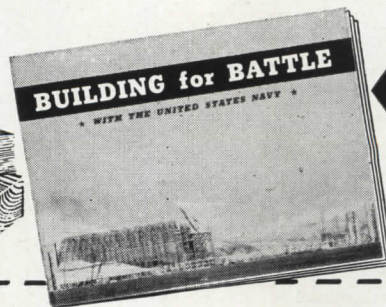


Floating Drydock. Timber connected structure for vessel repair at sea.



Specify
TECO
CONNECTORS AND TOOLS

ENDORSED BY LEADING LUMBER
 MANUFACTURERS AND FABRICATORS.



**FREE
 PICTORIAL
 BOOK**

The story in pictures of the Navy's spectacular use of lumber and timber 'round the world.

Timber Engineering Company
 1319 18th St., N.W.
 Washington 6, D. C.

Please send me by return mail a Free copy of "BUILDING for BATTLE—With the United States Navy"

Name.....

Firm Name.....

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

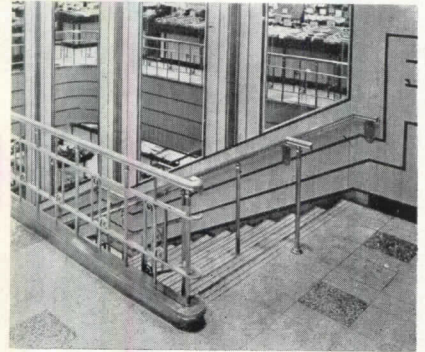
FOR BETTER BUILDING (Continued from page 114)

and cable lacquers, wire enamels, vinyl resin fabric coatings, hot-melt compositions, and aircraft gaskets and caulking and sealing compounds.

Developed by the Resinous Products and Chemical Co., this synthetic resin is a saturated polyester, thermoplastic and chemically stable; it can be used for all polyvinyl chloride resins and elastomers of the acrylonitrile butadiene type. It is supplied as a soft, tacky, viscous liquid which pours slowly at room temperature.

Because of its resistance to hot oil and good low temperature flexibility, Paraplex G-25 has proven unique as a plasticizer for Buna N type stocks (synthetic rubber), its developers claim, and it is also now going into nitrocellulose lacquers where permanence and non-migration of the plasticizer is important. Although tests have not been completed in this field, the company reports, its physical properties indicate that eventually it may be used in many types of resistant coatings

which must come in contact with foods, such as can linings and hot-melt or lacquer type coatings for frozen food wrappers.



Formica film shows use of Realwood in stairwell at Fifth Avenue Woolworth's

MAINTAINING HEALTH STANDARDS IN THE NATION'S SCHOOLS

Spencer Vacuum is the accepted standard for cleaning modern schools. It picks up more of the dirt and dust, works faster and costs less in the long run. Easily operated by men or women — without previous experience, Spencer Vacuum is helping to maintain pre-war standards of cleanliness in more than 2500 schools.

POST-WAR PLANS
will include Spencer Vacuum Cleaning because it protects health, equipment, decorations, saves on cost of sweeping compounds, floor oil and wax, and because it cleans everything from the auditorium to chalk trays, boiler tubes, and air filters. Ask for the Spencer School Bulletin.



246A

SPENCER VACUUM
HARTFORD

CLEANING

THE SPENCER TURBINE COMPANY, HARTFORD, CONN.

Plastics Film Shown

"The Formica Story," a 45-minute sound film in color, chronicling the history of the laminated plastics industry, had its premiere showing at the Waldorf-Astoria, New York, on February 25.

Produced for The Formica Insulation Co., Cincinnati, the film required over six months to make. It tells in detail how laminates are made and used, and what useful qualities they possess to adapt them to future applications, and illustrates the decorative qualities with views of various buildings throughout the country.

Plastic Window Screens

At least three fabricators, already experienced in its manufacture, will bid for the postwar civilian market of the plastic window screen woven from the Dow Chemical Company's *Saran*, the company reports. These are: National Plastic Products Co., fabricating the screen under the name *Saran*; Firestone Industrial Products Co., under the name of *Velon*; and Pierce Plastics, under the name *Permalon*. The entire production of *Saran* screen is at present being taken for military use.

Indication of Price Trend

A reduction of three cents per pound in base price of polystyrene molding powders, announced by The Dow Chemical Company as effective March 10, indicates a possible downward price trend in plastic materials for the postwar period.

Production of monomeric styrene, chemical antecedent of the plastic, polystyrene, has increased greatly since this country's entry into the war, Dow reports, because of its part in the formulation of Buna S synthetic rubber.

(Continued on page 118)

Making a sales force of store fronts



YOU can combine customer appeal and functional design in store fronts when your plans include the use of clean, smooth, colorful, porcelain enameled sheets.

Inside the store too—for shelving, trim, racks, show cases, display fixtures, counters and working surfaces—the use of this easily cleaned, durable material effects worthwhile savings in labor costs and in reduced damage to destructible goods.

The enduring beauty of the porce-

lain enameled finish depends upon selection of the right metal base. For this purpose—by a special process—U·S·S VITRENAMEL sheets are produced.

These sheets are light and strong, can be drawn, stamped and formed, are also sufficiently rigid to use for flat areas. Their treated surface enables the frit to establish a firm bond when fired. The uniformly high quality of U·S·S VITRENAMEL Sheets is assured by rigid control of each

special process in their production.

You can safely recommend U·S·S VITRENAMEL based enameled panels to your clients when they want to build “sales appeal” into their stores, inside and out.

For general information, consult our “Architectural Sheets” section in Sweet’s Catalog. Upon request, our technical staff will be glad to discuss your individual problems with you in full detail.

Write us today, their service is free.

U·S·S VITRENAMEL SHEETS

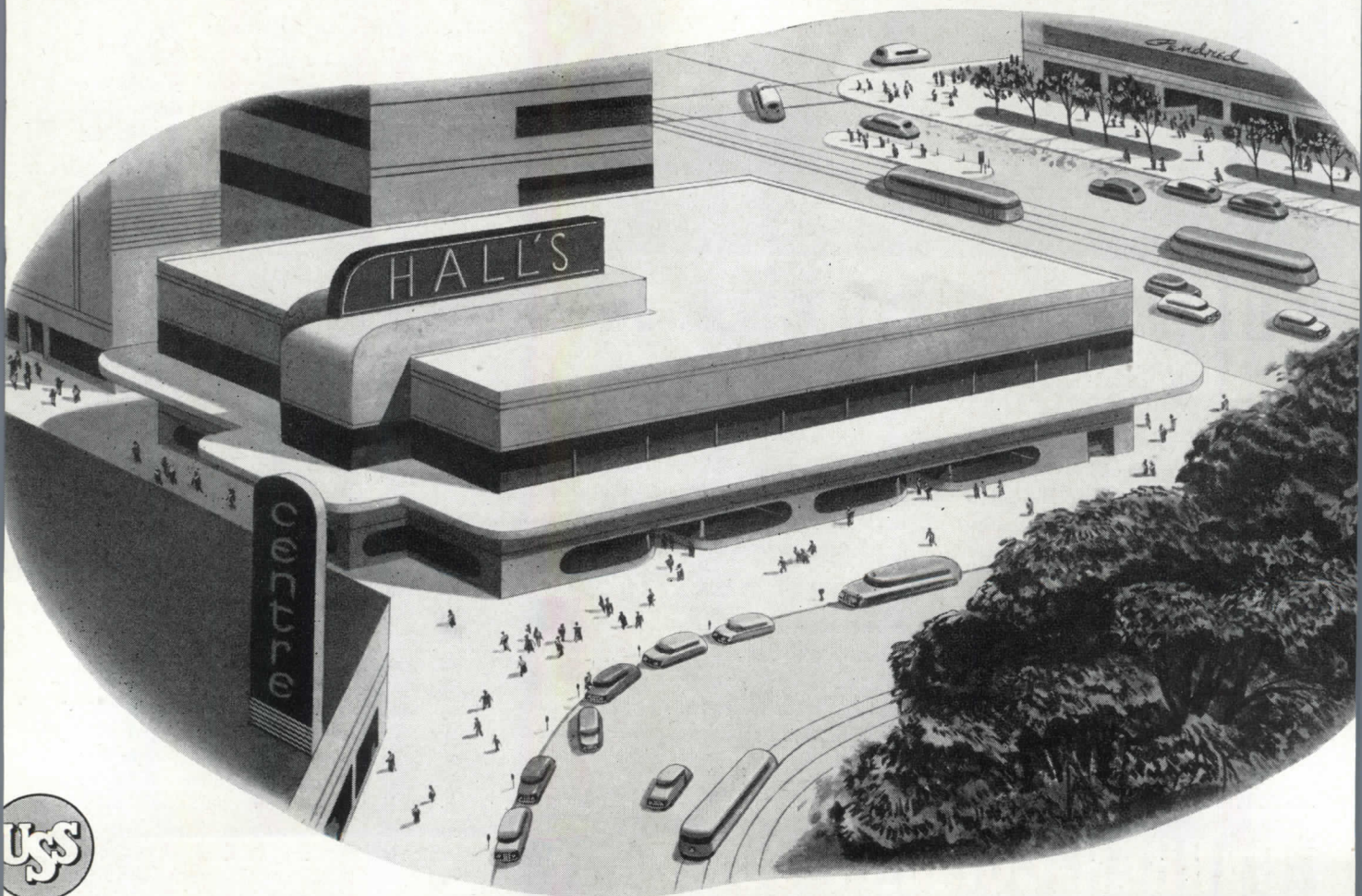
CARNEGIE-ILLINOIS STEEL CORPORATION

Pittsburgh and Chicago

Columbia Steel Company, San Francisco,

Pacific Coast Distributors

United States Steel Export Company, New York



UNITED STATES STEEL

Another New Plastic

Another new material is added to plastics roster in *Polyethylene*, developed by E. I. du Pont de Nemours & Co., Inc. The material can be manufactured in a number of ways, made flexible or rigid, has outstanding moisture resistance, electrical properties, toughness, workability. At present entirely absorbed by war applications as electrical insulation, tubes, containers.

LIGHTING HIGHLIGHTS Black Light

The development of a plastic filter transmitting invisible ultra-violet rays—black light—from a visible white light fluorescent lamp and filtering out of the visible light, has been announced. The filter was developed by J. M. Gordon, fluorescent plastics consultant and research engineer, Lion Mfg. Co., Chicago.

A better door for barns...



The Barcol OVERDOOR

has what the farmer wants

He wants a door that will operate easily, that will close tightly to keep out drafts, and that he doesn't have to be fixing all the time. The Barcol OVERdoor will give him an easy-handling, out-of-the-way, tight-closing overhead door with many years of dependable service and minimum maintenance.

FOR REMODELING or NEW CONSTRUCTION

The stock entrance door shown above is a new door on an old barn on a successful dairy farm, and the owner is mighty well pleased with it. Maybe you never thought of putting a "garage door" on a barn, but it works! What's good for protecting cars is even better for cattle. Try it the next time you have a chance!



FACTORY-TRAINED SALES and SERVICE REPRESENTATIVES IN PRINCIPAL CITIES

BARBER-COLMAN COMPANY

102 MILL ST.

• ROCKFORD, ILL.

Black light, already in use to light instrument dials in airplane cockpits, has heretofore required mercury vapor or carbon arc lamps and transformers. Innumerable postwar uses are predicted.

Instant-Starting Lamps

An instant-starting 40-watt white Mazda fluorescent lamp just announced is said to have the same rated life when operated with instant starting ballasts as that of the present 50-watt lamp which is started by means of the conventional switch, and "pre-heating."

Limited quantities of the new lamp will be made available for shipment on and after May 1, for war production installations equipped with instant starting ballasts. General Electric Lamp Dept., Nela Park, Cleveland, Ohio.

To meet popular demands for this type of lamp, the Westinghouse Lamp Division at Bloomfield, N. J., also has announced plans to manufacture an instant-starting 40-watt fluorescent lamp having the same rated life as the standard type of fluorescent lamp using conventional ballasts and starters. The new lamp will eliminate the need for starters and will operate on a special type of instant-starting ballast. Limited quantities available after May 1.

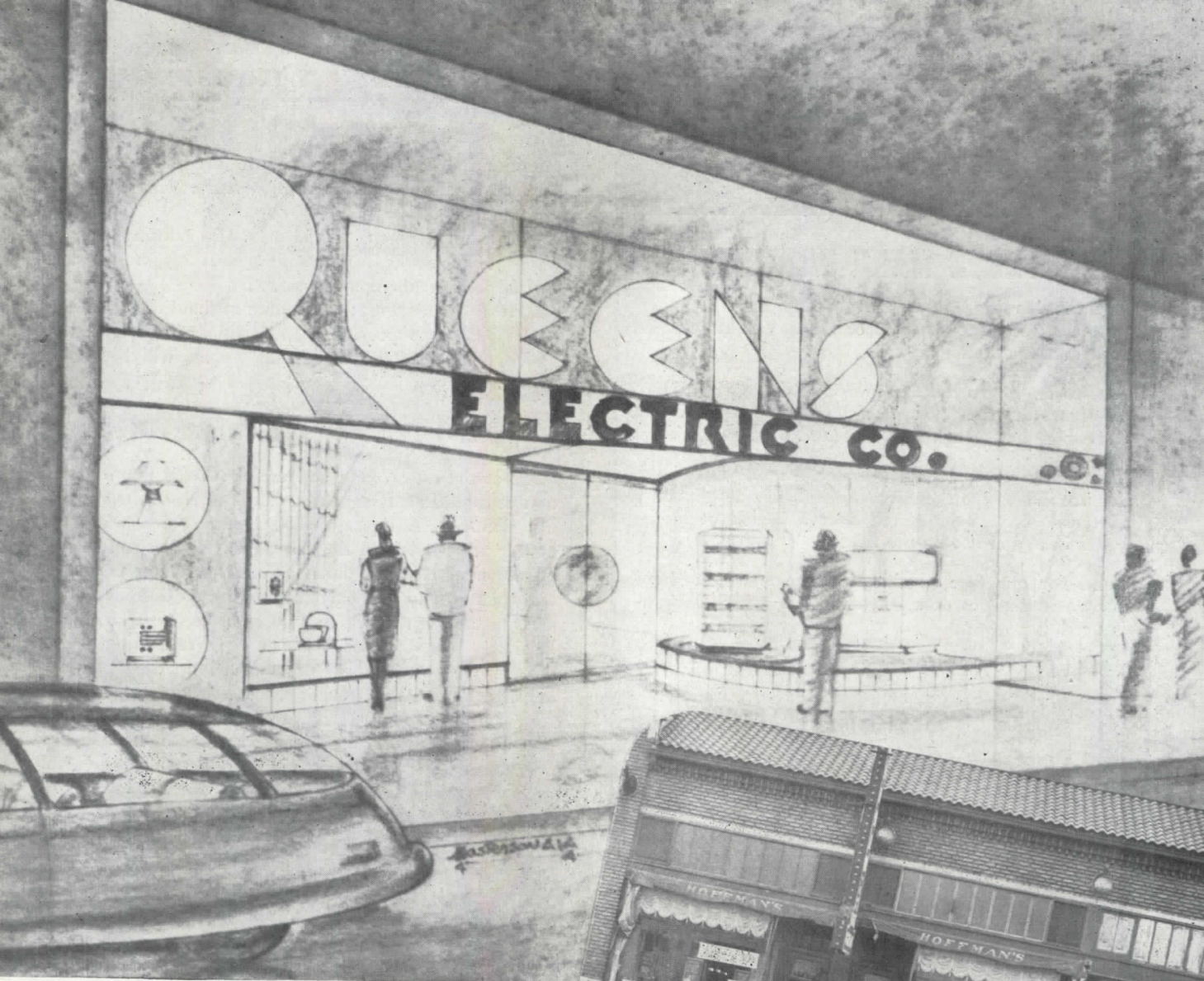
Cold Cathode Fluorescent

A new cold cathode fluorescent industrial lighting unit called *Kold-Volt* now makes cold cathode lighting available in a "standard package" unit for general industry use.

Among the advantages claimed for Kold-Volt are: (1) starters are eliminated; (2) starting is instantaneous; (3) average lamp life expectancy is 10,000 hours, or the equal of three years of service in an average installation where fixtures burn 8-10 hours per day, with an unconditional guarantee of a solid year of burning without replacement; (4) the 8-ft. length of the Kold-Volt means fewer fixtures to install. Mitchell Mfg. Co., 2525 N. Clybourn Ave., Chicago 14.

Exposed Fluorescent

Developed to conform with WPB weight limitations, a new exposed lamp type fluorescent luminaire called *Lightronics* has a full top-housing which totally encloses and protects all accessories and wiring. It is equipped with a Masonite reflector, finished "300° White" which reflects over 75 per cent of the light to the working plane, and provides some upward illumination for softly lighted ceiling. Available with conventional ballast and starter-switches, or with the Quick-Liter ballast which use no starter switches. The Edwin F. Guth Co., 2615 Washington Ave., St. Louis 3, Mo.



tomorrow

PLASTICS

STORE APPLICATIONS

The General Electric Company offers to architects, designers and engineers the service of experienced technical advice and information on the use of plastic materials. In the following list are some of the places in tomorrow's store where G-E plastic materials can be used. Kindly write Section C-287 for information on your plastic problems.

Hear the General Electric radio programs: "The G-E All-girl Orchestra" Sunday 10 P.M. EWT, NBC. "The World Today" news every weekday 6:45 P.M. EWT, CBS.

BUY WAR BONDS

GENERAL  ELECTRIC

PD-287

today

WALLS AND TRIM

Interior wall panels and surfaces
Wainscots Door surfaces
Trim: window, door Covens
Mouldings Corners
Baseboards

STORE FIXTURES AND FURNITURE

Working and decorative surfaces for show cases and counters
Cabinet fronts and partitions
Mouldings, trim and reflectors for show cases
Shelf surfaces Drawer fronts
Special display fixtures—counter, window, etc.
Knobs, handles, pulls

HARDWARE

Doorknobs Toilet seats
Handles Kick plates
Escutcheons Push plates

ELECTRICAL

Light reflectors Light globes
Switch plates Wire insulation
Luminous or phosphorescent spots (drops, buttons, edges, etc.)

SERVICE

Food trays for cafeteria and table service
Working surfaces for fountain, restaurant and cafeteria fixtures
Dining service (dishes, cups glasses)
Food containers

FIFTY YEARS IN THE PLASTICS INDUSTRY

Abesto

ARCHITECTS MAKE PATTERNS...

But the leading architects of today are following patterns, too—the patterns of Abesto Cold Process roof construction.

Abesto engineers have prepared basic roof patterns with careful attention to the details which make the difference between a fine roof and an average one.

They have worked with a material made especially for use in such roof construction. Their designs and materials have been tested over a period of many years in actual use on the field.

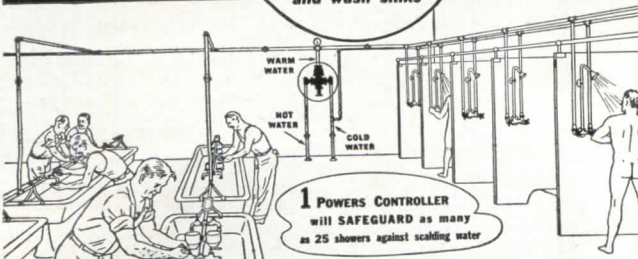
Send for our free specification sheets which show the various types of construction for which Abesto is used.



ABESTO MANUFACTURING CO.

Michigan City, Indiana, U. S. A.

For Low Cost Insurance



Use Powers thermostatic water mixing valves for Group Showers, Wash Sinks, Hot Water Line Control and Industrial Processes. Capacities up to 2,650 g.p.m. Write for Circular 3017. THE POWERS REGULATOR COMPANY, 2752 Greenview Avenue, CHICAGO—Offices in 47 Cities. 52

POWERS WATER TEMPERATURE CONTROL

QUOTES ON HOUSING

(Continued from page 94)

munities in accordance with above program. . . . (c) Public assistance in the acquisition and assembly of suitable land. . . .

2. The Government should . . . use housing as part of a public works insurance program against possible critical postwar unemployment. . . .

3. It is imperative that minimum housing standards be established to provide decent living conditions below which no groups, no matter how poor, will be forced to live."

R. J. Thomas,

President, International Union UAW-CIO

Costs of a House

"One of the most recent and useful surveys in the direction of careful analysis of costs is the work of the Producers' Council. A typical \$5,000 prewar house was thoroughly reviewed from the cost angle. It was found that all the materials laid down on the manufacturers' shipping platform totaled only \$1,150. Detailed study of the labor at the site showed an expense of \$1,450, a combined labor and material cost of \$2,600. The remaining \$2,400 was in the cost of distribution, such as freight, warehousing, wholesaling, retailing, taxes, insurance, architect fees, contractor profit, etc. . . . It must be remembered that housing requirements are predicated on living habits or patterns of human behavior and that our individual needs are at all times subservient to such habits, not to imaginary standards of would-be idealists."

Carl F. Boester,

Purdue Research Foundation

Predetermined House Costs

"There has been a logical need for something which would—and here I would like to use the word "positivize"—costs. Costs so estimated in advance that the contractor and the banker and the home owner could proceed with as much confidence in connection with the financial side of the operation as exists in other industries. . . . A prefabricator not only manufactures a panel which the architect can use in designing, and the contractor in building, but every single cost factor in connection with that panel is known in advance. The cost of the labor and material to make it, the cost of loading it and transporting it, the cost of placing it in the house and the cost of finishing it. The result is that a contractor operating in conjunction with a prefabricator can be certain that his estimate will be met, and this is good news for bankers, realtors and prospective home owners."

John C. Taylor, Jr.,

President, American Houses, Inc.

Plastics in Building

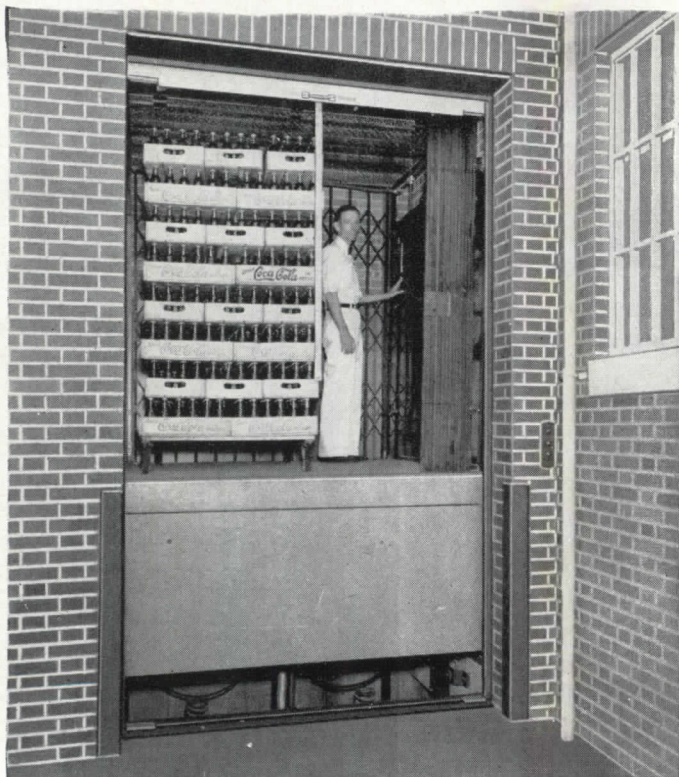
". . . The traditional house [in England] weighs about 125 tons and a postwar house of equal cube and livability incorporating plastic bonded plywoods could be built to weigh only 40 tons. . . . I believe that our line of development will follow more extensively along the lines of the use of plastics in hardware, light fixtures, electrical articles, strip moldings for decorative applications and kick plates, weather stripping, venetian blinds, plumbing fixtures and accessories, resin adhesives for the

(Continued on page 122)



Leave off the Penthouses!

for more modern structures at lower cost



The Wichita Coca-Cola Bottling Company, Wichita Falls, Texas, uses this 3,000 lb. Rotary Oilraulic Elevator to handle freight between two floors. In addition, the car can be run several feet above floor level to effect direct loading into trucks. Note safety Skirt Guard—(above floor for picture only).

Rotary
MEMPHIS

OILDRAULIC ELEVATORS

Streamlined Buildings Made Possible By Specifying Oilraulic Elevators

Rotary Oilraulic Elevators conserve materials and cost less because the penthouse and its necessary load-bearing supporting columns are completely eliminated. Loads are "pushed up"—not "pulled up." This simplification, plus deletion of counter-weights, their guides and other complicated mechanisms, facilitates project completion on schedule.

These rugged, simpler elevators carry heavy loads with safety and ease, operate with extreme smoothness, afford more accurate landing stops and have actually set a national trend in elevator design. Owners find, too, that maintenance costs with Rotary equipment are negligible.

ROTARY LIFT COMPANY,
1023 Kentucky St., Memphis 2, Tenn.

Please send me the free booklet RE-301 containing complete Architect's layout and specification data on Rotary Elevators (A.I.A. File 33).

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

manufacture of plywood . . . resin impregnated papers for surfaces of resin bonded plywood which, in turn, will be used for the manufacture of stall showers, cabinets, and even for outside panels. I expect a substantial increase in the use of coated fabrics for upholstery, shower curtains, drapes, table cloths and wall coverings." (Quoting plastics manufacturers.)

Elmer C. Maywold,
Plastics Consultant

Material for Engineered Homes

"There is no basic difference in the finished house between most so-called 'prefabricated houses' and so-called contractor built houses. Such differences as exist are primarily in the place and method of assembling the materials which are frequently identical. . . . By evolutionary methods you could keep on breeding horses till the cows come home; you might get faster and

faster transportation by horse and buggy, but you would never get an automobile. This is the difference between the current 'prefab' house and the scientifically engineered home of the future. . . . A processed wall might consist of a 4 inch thick piece of Cellular Glass which has an exterior face of metal, ordinary steel with a non-corrosive facing of plastic or stainless steel; or enameled steel, copper, or aluminum. The interior face of this sample has a thin sheet of Compreg wood (resin impregnated plywood highly compressed) although metal or other materials might be used. If used merely as a curtain wall, it would weigh 7 or 8 lb. per sq. ft, as against 130 and up for a brick wall. It should reduce wall costs by not less than 50 per cent and at the same time improve the quality of the building by eliminating leaking walls and improving thermal conditions."

Robert L. Davison,
John B. Pierce Foundation

Beauty



— BEHIND EVERY COUNTER

"Beauty behind every counter"—attractive Marlite walls to "set off" your merchandise to best advantage—not only will help you hold present customers, but bring in new ones in the stiffer competition of Tomorrow. For modern wall and counter surfaces of plastic-finished Marlite do win customer approval, ease shopping strain, inspire longer shopping periods and improve employee efficiency.

What stronger proof of Marlite attractiveness, dependability and utility than (1) its wide use in many of the leading chain stores (names on request) all over the country, and (2) the whole-hearted approval Marlite has been winning from store managements for years?

Colorful Marlite has joined the Colors. Yes, Marlite has gone to War, but sufficient stocks for imperative needs are available to those with suitable priorities.

Whether you need it today, or are thinking about tomorrow, right NOW is the time to investigate these practical, moderate priced wall surfaces. Marsh Engineers are ready to assist on all problems of wall, ceiling, or counter surfacing . . . ready to help you plan today for tomorrow's needs. Write for a full-color catalog!

FREE and READY

. . . complete information regarding high-heat-bake plastic-finished Marlite! Full-color catalog illustrates easy installation and typical Marlite sales-stimulating commercial interiors. Your FREE copy is ready now. Write today!



Marlite PLASTIC-FINISHED WALL PANELS

MARSH WALL PRODUCTS, INC.

45 MAIN STREET — DOVER, OHIO

Unions and Change

"Frequently unions have been accused of halting or obstructing technological change. The I.B.E.W. has never halted or obstructed technological change. It has had a policy of cooperating in change for more than a quarter of a century. But the electrical workers, along with other unions, believe that technological change should not be ushered in as a whim of the moment—willy-nilly, without discussion, conference and agreement with the union."

M. H. Hedges,
Director of Research, International Brotherhood of Electrical Workers

Site Prefabrication

"The challenge to builders is not so much to provide added luxury, but to find ways and means of producing the acceptable minimum home at the lowest possible cost. . . . Thus, site fabrication, if in sufficient volume to permit of specialized crews, creates a factory-like efficiency. Lumber and bulk raw materials can be more economically shipped and handled than when assembled into finished units."

David D. Bohannon,
San Francisco, Cal.

"Living Packages"

"The public accepts new items, new things, major changes, slowly. Proper mind conditioning of the public to new commodities — new techniques — changes with which they are not familiar, through carefully planned educational programs, is a 'must' to the goal of public acceptance—the true

(Continued on page 124)



**FREE booklet
for you!**

**ALL THE FACTS YOU WANT ABOUT PC FOAMGLAS, THE
PERMANENT INSULATION THAT IS 9 PARTS AIR, 1 PART GLASS**

COMplete engineering data, twelve pages of charts, tables, graphs, illustrative photos and explanatory text—all these have been gathered, for your convenience, into our new brochure. In it you will find information that is invaluable to every architect who is concerned

with insulating procedure in industrial plants.

The brochure includes a full exposition of the characteristics of PC Foamglas, especially its unique abilities as an insulating material for roofs. These same qualities make PC Foamglas the ideal insulation for

walls, floors, ceilings, partitions, insulated shields and screens.

Before you plan roof insulation, get all the necessary data on PC Foamglas in this new free booklet. It will help you to give your clients greater satisfaction for less money. Just fill in and mail the coupon.

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Please send along my free copy of your new booklet on PC Foamglas Insulation.

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measure of success. . . . Industry must develop a series of living packages for the various economic and social levels that can be merchandized at a fair profit and at a price within the means of each major income bracket. . . . It is this 'Living Package' that will be a real competitor for a fair share of the consumer dollar."

Irving W. Clark,
Westinghouse Electric and
Manufacturing Company, Pittsburgh

Fiscal Policy and Employment

"All special interests find a meeting ground in housing; and so, while all will agree that housing is almost as fundamental to our well being as the home itself, all are busily engaged in tearing the subject apart in order to make some fraction of it serve a more particular and personal special interest. . . . I know that a constructive fiscal policy is indispensable if we are to

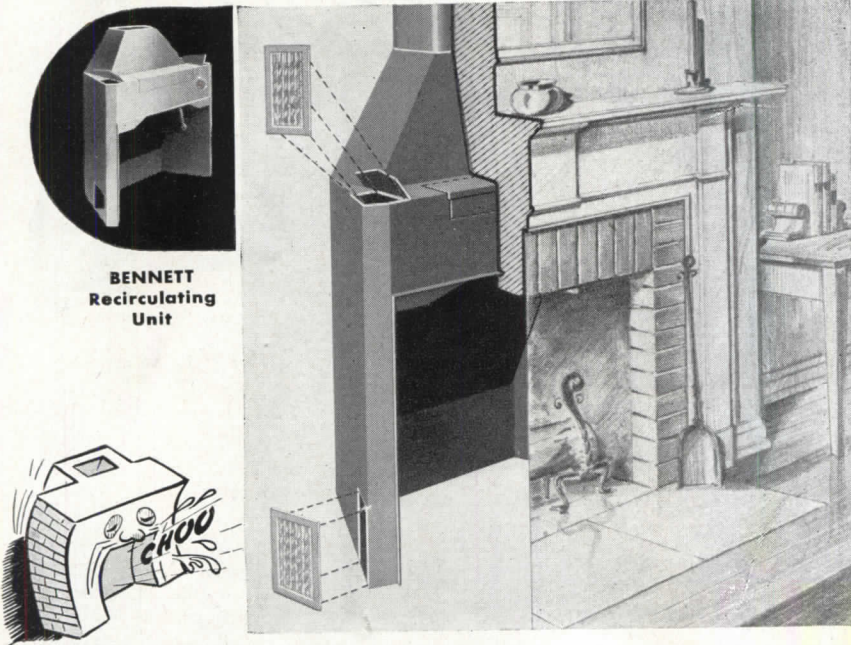
house the people. . . . The traditional recurrent idleness of men and equipment in the construction industry has forced, for sheer survival, the adoption of practices which all deplore. These practices . . . are a serious obstacle to the use of the construction industry as a publicly-supported agency for employment."

Beardsley Ruml,
Chairman Federal Reserve
Bank of New York

The Role of the State

"The role of the state in urban redevelopment may be summarized as follows: 1. To educate municipalities as to the need for adopting a master plan. . . . 2. To educate municipalities as to the importance of planned and orderly decentralization. . . . One of the dangers of large scale redevelopment is the possible social and economic stratification that may take place as a result of undertaking housing projects, for any income group whatsoever, on too large a scale. . . . 3. To educate municipalities as to the need for modernizing and enforcing demolition ordinances, building codes, zoning ordinances; also measures for strict subdivision control and for the speedy and economical foreclosure of tax delinquent property. . . . The least we can do is to try to prevent the spread of existing blighted areas or the creation of new ones—otherwise we'll never catch up with the problem. . . . Condemnation procedures must be revised to reduce delay, expense and the opportunity for obtaining excessive awards. . . . 5. To enact legislation along the lines of the best of the various types of Urban Redevelopment Corporation Laws which have been passed in six or seven states in the last three years, to induce private capital to play the major part in redeveloping substandard areas, on an investment and not a speculative basis. . . . To study the possibility of establishing state banks to lend funds to municipalities on a long term basis at a low rate of interest, for the purpose of financing land acquisition. . . . 7. To contribute to the cost of planning, but not to execute, urban redevelopment programs undertaken by municipalities. . . . 8. To study the desirability of state aid in financing public housing as an integral part of urban redevelopment programs. . . . 9. To work with municipalities in straightening out state and municipal tax relationships and policies. . . . 10. To assist cities, counties, towns and villages to work out the legal, financial and administrative problems involved in making and carrying out plans on a regional basis.

Ira S. Robbins,
Acting Commissioner of Housing
of New York State

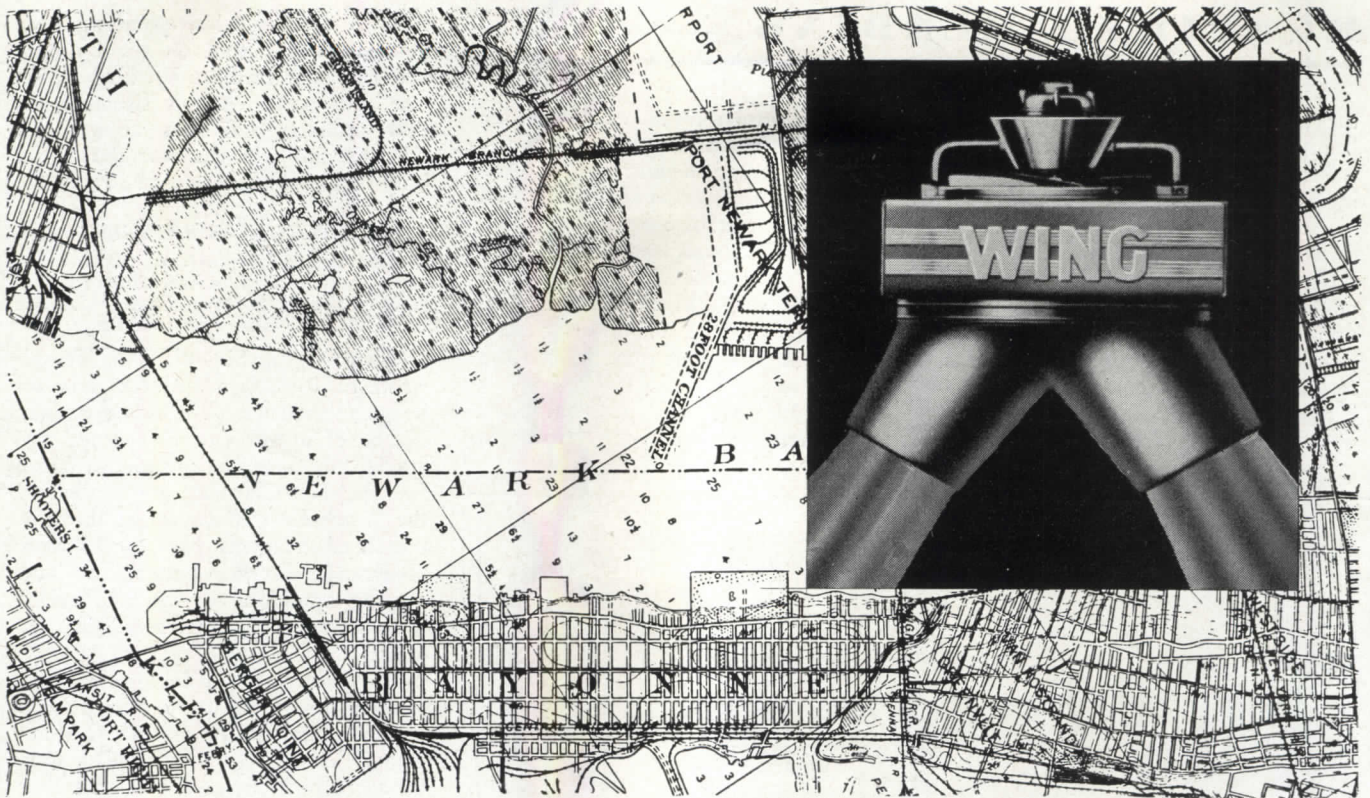


A Healthy Fireplace SHOULD Catch Cold!

Yes, the Bennett Recirculating Unit catches cold and heats it into comfort. As you know, a fireplace exhausts air from the building. Replacement air comes in cold and forms a chilling current across the floors of the whole house.

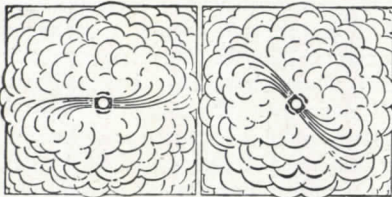
In a Bennett recirculating fireplace, see what happens. The unit draws the cold air off the floor into heating chambers . . . warms it and returns it evenly throughout the room at comfortable temperature.

Recirculating Unit is *not* for tight buildings. In these, only the Bennett Fresh Air Unit will do the job. (Ask us why.) Both units are complete with damper, smoke shelf, combustion and heating chambers. Both are guaranteed **NOT TO SMOKE**. At the GO signal, Bennett Fireplace Units, Flex-screens and construction supplies will be released. Meanwhile, please refer to our 8-page catalog in Sweet's Architectural File. The Bennett Company of Norwich, N. Y., Fireplace Division, 444 Maple Street.



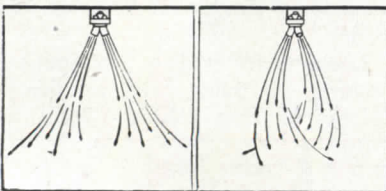
"HEATING NEWARK BAY"

TOP VIEW



SWEEPING AIR FLOW

ELEVATION



AIR BLANKET

That's the phrase the Northern Air Conditioning Corporation of Newark, N. J., used to describe an installation of Wing Revolving Unit Heaters they made recently.

The problem put up to them was that of providing a working temperature of 55° in a boat shed the "floor" of which was largely the surface of Newark Bay. Because of the heat absorbing qualities of this unusual "floor" it was decided to lay a protecting blanket of warm air over the working area, much as the Navy lays a smoke screen over the water to protect naval operations from prying eyes.

The largest size Wing Revolving Unit Heater was installed and is now in successful operation, laying a continuous blanket of warmed air above the entire working area, with minimum temperature differential and

controlled air flow at a level of 5 feet above tidal water.

This is a remarkable example of the way in which *controlled* heating can be maintained by means of the *Revolving Unit Heater*. The wind around this installation is seldom below 20 miles per hour and the mercury shrinks well to the zero mark, yet the continuous blanket of warm air from the revolving discharges of the Wing heater keeps the working area at a comfortable temperature. It is obvious that no other form of heating could accomplish these results.

You may not have a heating problem as unique as "heating Newark Bay" but it will pay you to investigate Wing Revolving Unit Heaters.

L. J. Wing Mfg. Co.

154 West 14th Street, New York 11, N. Y.
Factories: Newark, N. J., Montreal, Canada

 TURBINE BLOWERS	 MOTOR DRIVEN BLOWERS	 DRAFT INDUCERS	 WING	 REVOLVING UNIT HEATERS	 UTILITY HEATERS	 FLOODLIGHT HEATERS
 STEAM TURBINES	 FOG ELIMINATORS	 PROCESS HEATERS		 VENTILATING FANS	 EXHAUSTERS	 SHIP VENTILATORS

the architects are "at the very spear-head of a successful transition period." Yes, but—and Mr. Colean's warning has in it the somber ring of truth—the architect must *get busy* right away so that he will have his plans ready. "Lack of plans made it impossible in the early thirties to get a useful economical public works program promptly inaugurated, with the result that a hastily improvised PWA became necessary," Mr. Colean points out. "Lack of plans tomorrow may

lead to a similar result. . . Plans are the hard stuff of working drawings and engineering details. They presuppose the acquisition of definite sites. They imply careful cost estimates, evidence of economic soundness, and financial arrangements. Such preparatory work will take months of work before the construction industry, easily convertible though it may be, can dip a shovel or lay a brick."

Ergo, Mr. Architect, get your plans on paper, persuade your clients to

stop dreaming and start planning, keep yourself well posted on the building needs of your community, keep up on the labor and materials situation, on new products and new applications. All this and win the war too? Get busy indeed, Mr. Architect!

EXTERIOR FURNISHING

Or Sharawaggi: the Art of Making Urban Landscape. The Architectural Review, Cheam, Surrey, Eng. (45, The Avenue), Jan. 1944. pp. 2-3. illus.

"Sharawaggi, Sir William Temple wrote in 1685, is a Chinese term for irregular gardening. . . Being regular, the belief in rules to be learned and applied, the belief in symmetry, stands for the Neo-Classical, the Palladian, the Academic outlook, right down to the Royal Academy plan for London: Sharawaggi for that Picturesque landscaping tradition to which England owes its most personal aesthetic character."

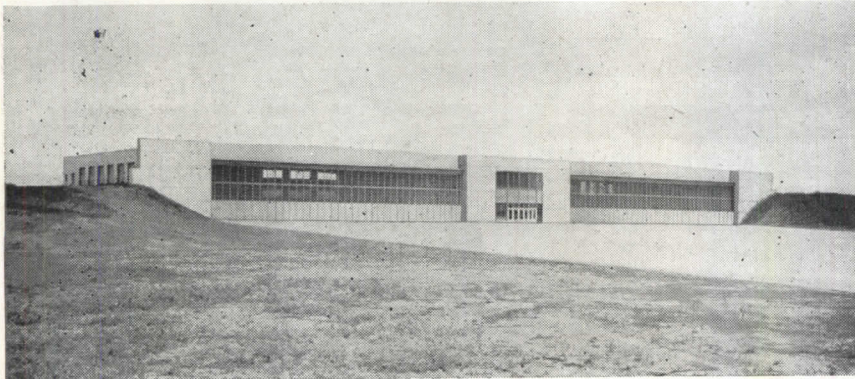
The Editor of *The Architectural Review* has given us in this article a strong argument for an urban Sharawaggi that will give to English cities the same picturesque charm that characterizes the English countryside (which, he points out, was not accidental but was carefully created by the picture-making Britishers of old).

"Here lies for the urban planner the great romantic opportunity," he said—and we are inclined to agree with him. The picturesque ever has been more romantic than the geometrically precise; and while clean lines have a beauty all their own, there is an irresistible charm to the unexpected and the slightly mad. Sharawaggi taken in small doses and under the supervision of an artist and Master of the Irregular might well make for added interest in the over-symmetrical modern city.

THE DESIGN OF FLATS

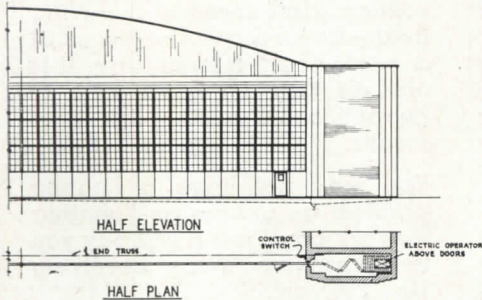
By Walter Segal. Architectural Design and Construction, London, W.C. 1 (26 Bloomsbury Way), Feb. 1944. pp. 37-40. illus.

Looking forward to an inevitable housing of many city dwellers in "blocks of flats," Walter Segal here considers how these flats can be made into real homes for the families that occupy them. His ideas tally pretty closely with our own American notions on the subject: more fresh air and sunlight, for example, more privacy, and a terrace for each apartment. "Bed and living rooms should be to some extent interchangeable; their ultimate use should be left to the tenant," Mr. Segal suggests. Types of access, orientation, "pram" space, refuse removal, are all familiar problems in this country as well as in England; Mr. Segal's discussion of them is brief and much to the point.



Hangar Doors As Smooth in Operation and as Streamlined as a Flying Fortress

Your expertly designed hangar plans bring into the construction picture every modern and tested improvement for efficient operation. You, therefore, will appreciate the engineering service offered by HORN in the selection of fully automatic hangar doors that will uphold your enviable reputation as an architect who builds quality into his plans.



Architects:

Write for your copy of "Postwar Planning for Schools".

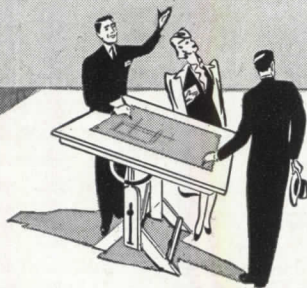
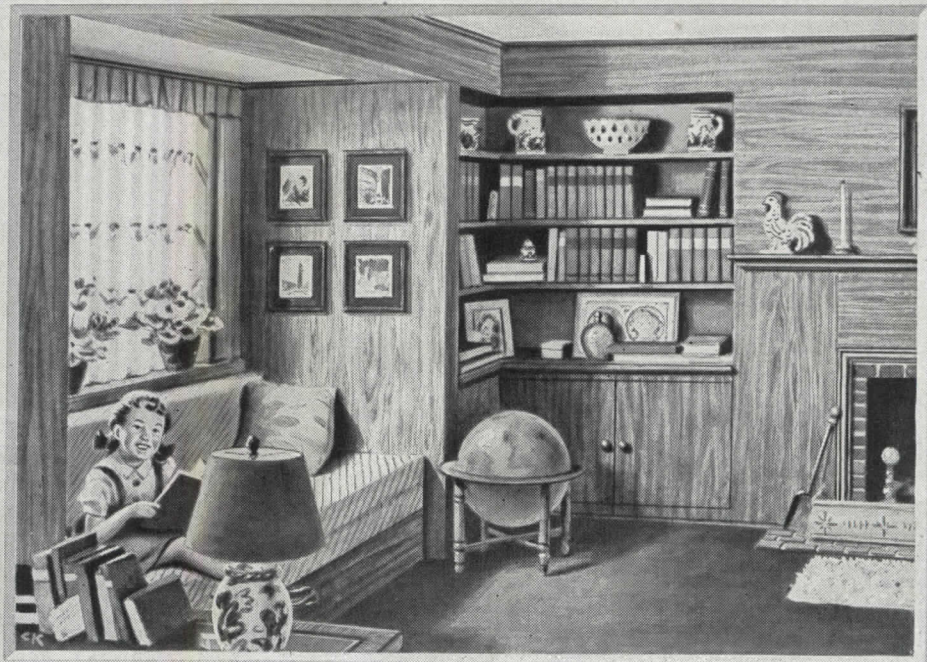
No obligation, of course.

The list of HORN Hangar Door Installations reads like "Who's Who" in Flying Fields of America



Horn Manufacturing Company
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Nationally Advertised! In full-color pages in American Home, Better Homes and Gardens, House Beautiful.



"What? Wood-paneled walls for Low Cost Homes?"

Yes! . . . and at "installed costs" that are putting these beautiful Weldwood walls of luxury onto the drafting boards of leading low-cost dwelling enthusiasts from coast to coast.

Genuine walnut paneling . . . lovely African mahogany . . . Idaho knotty pine . . . oak . . . figured gum . . . and other fine hardwoods . . . at little more overall cost than ordinary plastering!

Even the most cost-conscious client will find Weldwood Plywood Paneling practical for the house of his dreams.

These gorgeously-grained, 4' x 8' x 1/4" panels (factory-finished if you like) will provide supremely beautiful, structurally sound walls that are crack-proof . . . and guaranteed for the life of the building.

They provide the definite advantages of dri-wall construction:

No intricate installation; they go right on furring strips attached to studding . . .

No plaster damp to cause cracks and warping . . .

No 3 to 6 weeks' delay while tons of "plaster-water" dry from the walls . . .

No waste of materials.

And for those walls and ceilings that are to be covered with paper or paint, sturdy, inexpensive Weldwood Utility Panels with their extra-heavy gum faces will provide an ideal under-surface.

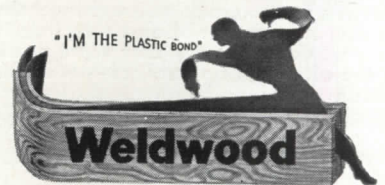
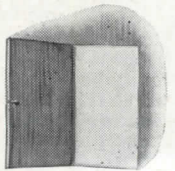
Forever smooth, they do not develop rough grain-lines to show through costly wall paper or paint. A quarter-inch in

thickness, they will be available in convenient 6' x 4', 7' x 4' and 8' x 4' size panels. (Grain runs short way.)

Write for complete information on Weldwood Plywood and Weldwood Products today.

The Mengel Hollow-Grid Flush Door

. . . finger-tip control yet warp-proof, crack-proof!



Plastics and Wood Welded for Good

Waterproof Weldwood, so marked, is bonded with phenol formaldehyde synthetic resin. Other types of water-resistant Weldwood are manufactured with extended urea resins and other approved bonding agents. Back of these Weldwood Products are unmatched facilities and experience in Plywood production and fabrication. Available also are the services of qualified engineers, chemists and wood technologists.

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Distributing units in BOSTON, BROOKLYN, CHICAGO, CINCINNATI, CLEVELAND, DETROIT, HIGH POINT, LOS ANGELES, LOUISVILLE, NEWARK, NEW YORK, OAKLAND, PHILADELPHIA, ROCHESTER, SAN FRANCISCO, SEATTLE . . . SEND INQUIRIES TO NEAREST POINT

Integrated Distribution

A proposed plan to establish an integrated control over the distribution of lumber has been presented to eight lumber industry advisory committees and was well received, WPB reports.

The general purpose of the plan is to balance demand and supply. One of the chief difficulties in achieving this balance up to the present time has been the lack of accurate overall information on demand. Existing lumber

orders control some, but not all species, and in some instances part, but not all production of a particular species.

Preliminary estimates of requirements for 1944 are 35,500,000,000 board feet. Production, which is limited by manpower and equipment shortages, will probably not exceed 31,000,000,000 board feet. The gap between consumption and production cannot be filled by withdrawals from

stocks since those are already dangerously low.

Chief provisions of the plan:

All consumers of lumber with the exception of those using less than 50,000 board feet per quarter will file quarterly summaries of requirements. These in aggregate will show the demand for lumber per quarter broken down according to use.

Purchase orders will be subject to WPB authorization, with some exceptions. Authorization will be given for specific quantities and species in accordance with known supply and relative essentiality of use.

Lumber for civilian construction applications are approved under Order L-41. Building repair lumber will be subject to present controls.

Forecast for Private Builders

With about 150,000 new privately-financed dwelling units called for this year by the war housing program of the NHA, private builders have about as big a war housing job as last year when 158,000 privately-financed war units were started, FHA Commissioner Abner H. Ferguson reports.

This year's war housing job, he said, will be highly concentrated in a relatively small number of vital war areas where employment is still expanding. About 65 per cent of all privately-financed housing will be started in 20 localities according to present indications. In more than 800 other localities private war housing quotas have been met or soon will be.

On January 1, 115,000 units remained to be started under existing quotas. Although the war production situation may cause considerable change in the war housing picture, current estimates by NHA indicate that private quotas will be established for 30,000 to 35,000 more units during the next few months. This increase plus the unused quota on January 1 means a housing job close to 150,000 privately financed units.

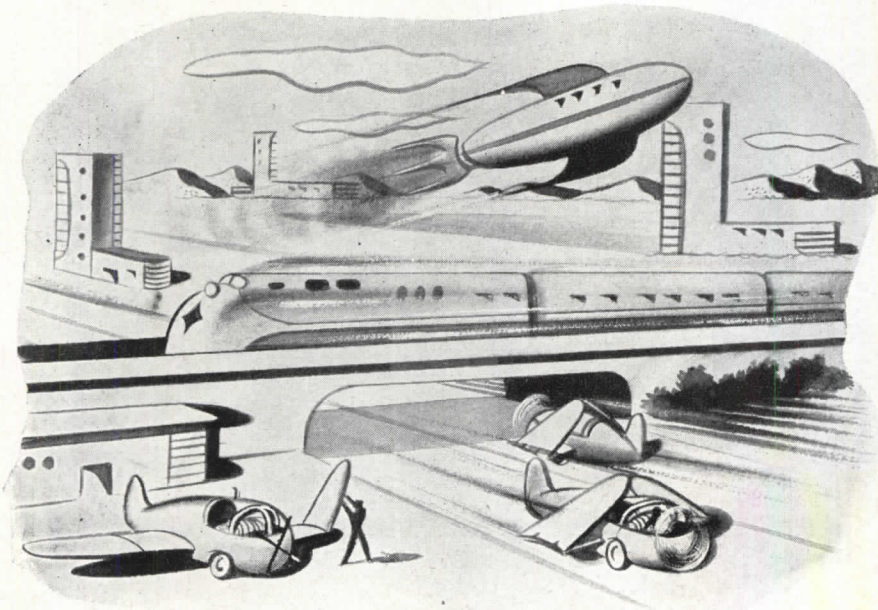
WPB AND L-41

The War Production Board last month announced a minor revision of Order L-41, the overall order limiting construction, to make it conform with other recently amended WPB orders also concerned with construction. Only two substantive changes were made:

1. On airport construction the limit allowed without getting WPB permission for any job begun in the same year is placed at \$1,000 as against the limit of \$200 which formerly held.

2. The exception previously given to the installation of plumbing and heating equipment rated on WPB

(Continued on page 130)



...of shoes and ships and sealing wax

Some of the current crop of postwar predictions are truly fantastic. Planes with collapsible wings riding the road like automobiles — trans-oceanic rocket delivery service whisking Madam's gowns from Paris to New York in 20 minutes — gyro-stabilized super-streamlined trains roaring across country at 300 miles an hour...perhaps.

But, taking first things first...tomorrow's immediate problems will be solved by practical men thinking practical thoughts — today. Tomorrow's progress will reflect the sound application of lessons learned by a review of past accomplishments.

Take Sedgwick elevators and dumb waiters, for example. Before the war they moved men, material and merchandise up and down. Today they serve as airplane elevators on carriers — as ammunition hoists, galley dumb waiters and special between-deck elevators. Tomorrow

Sedgwick elevators and dumb waiters will do the same job they did before the war. But to improvements in design and construction will be added the results of today's experience — invaluable refinements in exact leveling, smooth braking, positive limiting of travel.

These are but a few of the advantages Sedgwick equipment will offer postwar planners — sound developments of research, planning and building.

So if you're planning today for tomorrow — if you're looking for better equipment to move men, merchandise and material up and down — chances are we can help.

Our engineers will be happy to work out the solution to whatever vertical transportation you might have, and show you how Sedgwick improved elevators and dumb waiters provide safer, surer, more economical operation.

"MEN WHO KNOW ARE SOLD ON SEDGWICK"

Sedgwick MACHINE WORKS, Inc.

142 WEST 15th STREET NEW YORK 11, N. Y.

Since 1893 designers and manufacturers of specialized lifting equipment

ELEVATORS • ROTO LIFTS • HOISTS • DUMB WAITERS

NOW READY

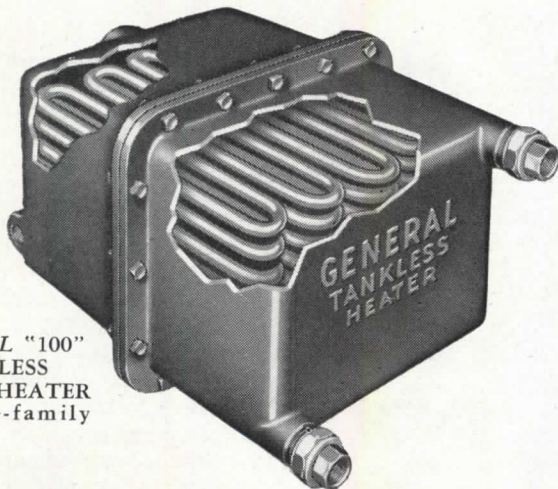
For Homes of Tomorrow!

...“Unlimited” hot water
from your house-heating boilers

A continuous flow of hot water, without the bother and expense of installing storage tanks! Freshly heated water from seamless copper tubing . . . without rust, without sediment, without waiting! That's the promise you can give clients when you specify the new GENERAL Tankless Heater!

Compact, self-contained . . . GENERAL Tankless Heaters hook up directly with any type of automatically-fired boiler. Complete installations offer substantial savings over storage-tank hot water systems. Require less space and piping too, yet they supply 3 1/2 to 35 gallons of hot water per minute!

To give your “homes of tomorrow” the appeal of “hot water unlimited”, order GENERAL Tankless Heaters. Write for Catalog No. 15, containing details of these and other efficient domestic and industrial hot water heaters by: General Fittings Co., Dept. C, 123 Georgia Avenue, Providence 5, R. I.



GENERAL "100"
TANKLESS
WATER HEATER
for one-family
houses

GENERAL

TANKLESS WATER HEATERS

- Also Tank-Type Water Heaters • Thermostatic Mixing Valves
- Water-hammer Silencers • Coil-heated Tanks
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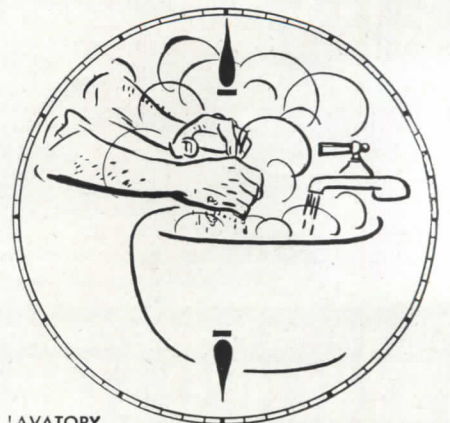
BATHROOM



KITCHEN



LAUNDRY



LAVATORY

form 2631 (formerly PD-851) is revoked. Hereafter WPB permission under Order L-41 will be necessary on all plumbing and heating installations where the cost of the construction including the cost of the equipment is in excess of the L-41 cost limits. Applications for this type of construction must be made on WPB form 2869.

Other revisions merely clarify or reflect recent changes in procedures.

INVITATION TO PLAN

The Boston Society of Architects has come up with an idea that ought to prove well worth while. This is "The Boston Contest," intended "to develop citizen interest and citizen participation in a forward looking and practical master program designed to promote the sound growth and prosperity of the Metropolitan Area." The program should be submitted in the form

of a report not exceeding 15,000 words, in accordance with a set outline. If desired it may be illustrated by not more than 10 diagrams or plans.

At the Society's request the contest is being conducted by Boston University. The prizes offered are: first, \$5,000; second, \$2,000; ten honorable mentions for specific meritorious suggestions, \$100 each. Intention to enter the contest must be filed not later than April 15, and reports must be submitted on or before June 19, 1944.

Prizes will be awarded by a panel of judges: Charles Francis Adams, president, Greater Boston United War Fund; Harold S. Bottenheim, editor, *The American City*; William Roger Greeley, chairman of the contest; Joseph Hudnut, Harvard University; Daniel L. Marsh, president, Boston University; Lewis Mumford, author, *THE CULTURE OF CITIES*, etc.; Henry J. Nichols, president, Boston Chamber of Commerce.

The contest is open to any interested individual or group. For further information and application blanks, address The Boston Contest, c/o Boston University, 688 Boylston St., Boston 16.

PRIVATE PRACTICE UPHELD

A letter from the New York firm of Eidlitz, French and Sullivan reports the satisfactory outcome of the controversy between the private architect and engineer and civil service groups trying to oust them from public works planning (see "Private Practice Challenged," *ARCHITECTURAL RECORD*, Jan., 1944, pp. 110, 112, 114). The letter follows:

"The litigation fostered by two unionized groups of civil service architects and engineers seeking to restrain the City of New York from entering into contracts with private architects and engineers for the design and plan of municipal work has been finally defeated once and for all in the Court of Appeals at Albany, N. Y.

"Both cases were before the Court at the same time. The Hardecker case involved the right of the Board of Education to employ private architects for the design and plan of school buildings in special cases, and the Court found that the projected postwar program was such a special case as warranted the Board of Estimate and the Board of Education hiring private architects for such designing and planning.

"The second case, Civil Service Technical Guild - against LaGuardia, was much broader in scope and would have had a far greater effect upon private architects generally had it been decided in favor of the unions. It would have forever barred architects and engineers in private practice from entering into and performing contracts with the

(Continued on page 132)

This New
CATALOG
WILL HELP
YOU MAKE
POWER
RECOMMEN-
DATIONS

SYNCHRO-START
AUTOMATIC
CONTROLS
SINCE 1932

WRITE FOR YOUR COPY TODAY!

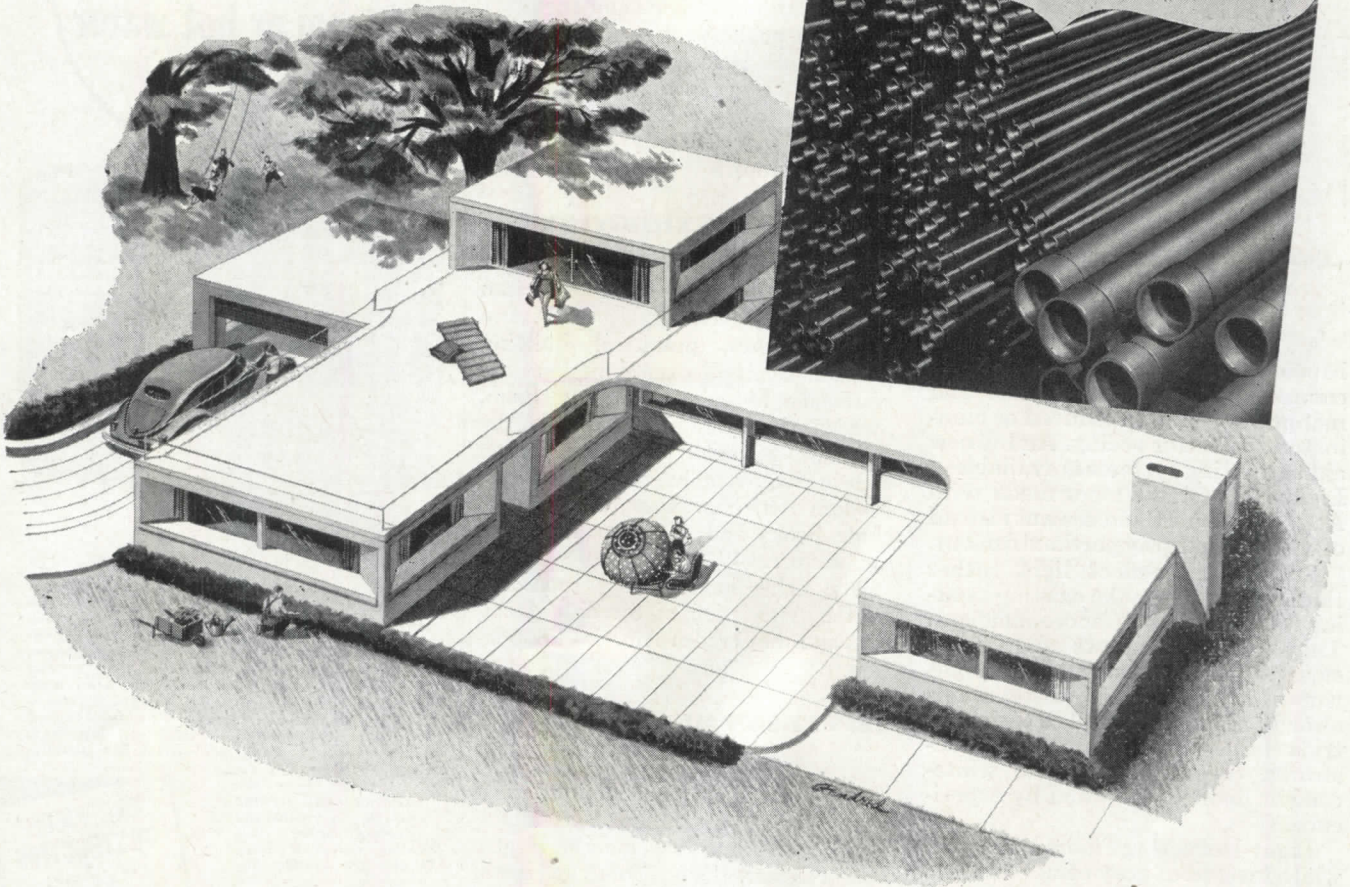
SYNCHRO-START has been successfully Starting, Stopping, Controlling and Protecting Engines for 12 years.

Synchro-Start Products, 221 E. Cullerton St., Chicago 16, Ill. Telephone VICTory 1435

SYNCHRO-START Automatic Engine **CONTROLS**

Styles change...

but
NATIONAL PIPE
is still the practical
building pipe



MODERN HOUSES planned for our postwar world may be very different in appearance from the house of fifty years ago, and of today, but despite style changes, and many innovations and improvements in building, no other tubular material has yet appeared for general use in plumbing and heating systems which can compare with steel pipe in service per dollar of cost. That is why steel pipe is a standard choice of architects and builders who want to

give a client the most for his money.

Millions of tons of the steel pipe now in service in all sections of the country are produced by NATIONAL Tube, the world's largest manufacturer of tubular products. In prewar construction, NATIONAL Pipe was the leader because of its wide adaptability. Likewise, the war effort at present is taking a large part of our production because the qualities of NATIONAL Pipe make it adaptable to a tremendous variety of uses.

In the important construction days to come, NATIONAL Pipe, because of its high standard of quality, will again lead, as it is the practical pipe for general use. Because it is strong, clean, ductile, easily threaded and long-lasting, it will continue to be the first choice of architects and engineers for plumbing and heating lines in apartments, hotels, schools, office buildings and homes, in central heating, individual radiant or panel heating systems.



NATIONAL TUBE COMPANY

PITTSBURGH, PA.

Columbia Steel Company, San Francisco, Pacific Coast Distributors • United States Steel Export Company, New York



UNITED STATES STEEL

FLOORS that help REDUCE WASTE

**Light-Reflecting Floors made with Atlas
White cement help employees
do better work**

Much waste due to accidents—errors—spoilage—loss of time and manpower—can be reduced or eliminated by better seeing. And a new aid to lighting systems is available—Light-Reflecting Floors made with Atlas White portland cement instead of with normal gray portland cement.

Such floors reflect light rather than absorb it—make existing lighting systems much more efficient. They reduce shadows and, being close to work areas, put more light where it is needed. Installations already made in several of the country's largest plants have demonstrated the value of these white-cement floors by test and by experience.

Light-Reflecting Floors made with white instead of gray cement fit into modernization and conversion programs as well as new structures. An interesting book, "Light From Floors," tells the entire story of development, testing, use and cost. For your copy, write to Atlas White Bureau, Universal Atlas Cement Company (United States Steel Corporation Subsidiary), Chrysler Building, New York 17, New York.

HOW ABOUT MAINTENANCE?

Experience shows white-cement floors are easy to clean, easy to keep clean, and retain their reflection advantage. Maintenance is simple—frequent sweeping, occasional damp mopping, periodic scrubbing.

AR-F-26

**ATLAS
WHITE CEMENT**
For Light-Reflecting Floors



THE RECORD REPORTS

(Continued from page 130)

City of New York for architectural and engineering services. The effect of this would be to compel the city to keep a tremendous force of architects and engineers on their civil service payrolls. Another far greater result would be to practically impose upon every city, county, village, town and school district the obligation of maintaining civil service staffs of architects and engineers to do the public work as the occasion arose. Since most of the smaller communities do not maintain such civil service staffs the effect on architects and engineers generally would have been disastrous.

STOCKHOLM EXHIBITION

An exhibition of photographs, plans and drawings of modern American architecture, including public and private houses, municipal building projects, etc., will open June 2 at the National Museum in Stockholm, Sweden, and continue through the summer. Material for the exhibition is being collected by the Museum of Modern Art, New York, and will include books and films on American architecture.

The exhibition is being sponsored by the Association of Swedish Architects and the Sweden America Foundation.

JEFFERSON MEMORIAL WINS AWARD

At the biennial presentation of architectural awards by the Washington Board of Trade last month, Eggers and Higgins, New York architects, were awarded a certificate of merit for excellence of design of the Jefferson Memorial in Washington, which was dedicated last April by President Roosevelt on the 200th anniversary of Jefferson's birth. The certificate was presented to Otto R. Eggers at a ceremony at the Mayflower Hotel, Washington. The presentation was made by Col. Charles W. Kutz, Engineer Commissioner of the District of Columbia.

SCHOOL NOTES

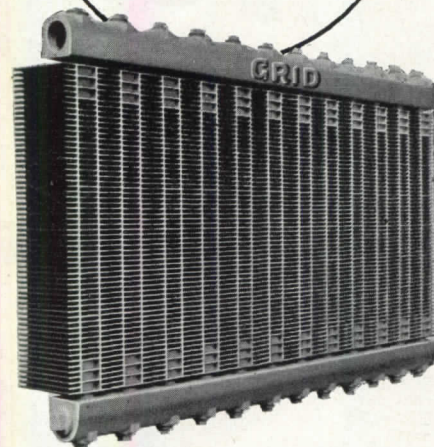
B.U. Holds Institute

An Institute on Postwar Problems—a "conference on planning to meet human needs in the after-war period"—was held at Boston University, Boston, Mass., March 11-13. Of particular interest to architects was the afternoon session of the last day: "Planning the American City for the

(Continued on page 134)

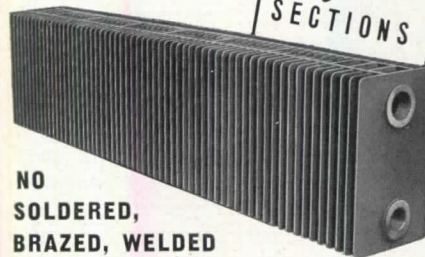
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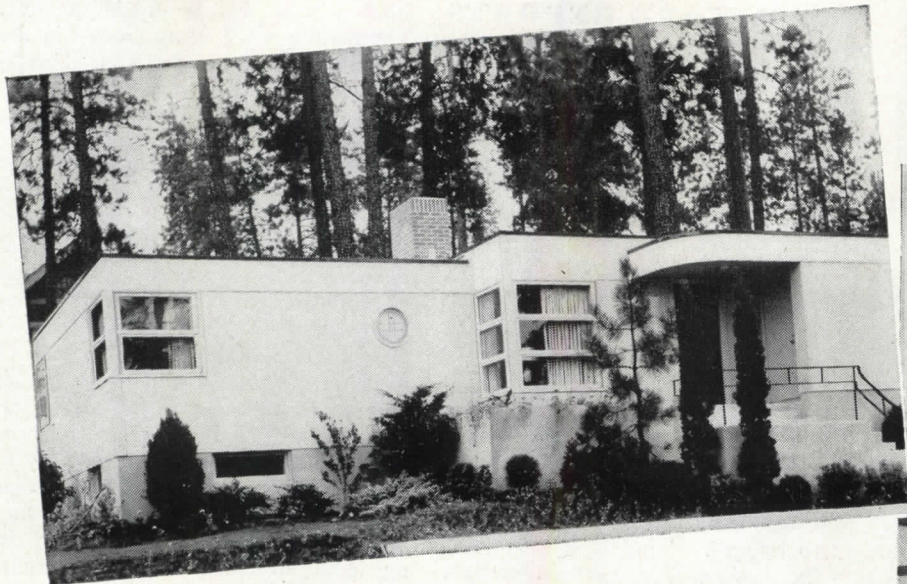
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1/4" Plywall ceiling

Insulation

3/8" Plywall

Asphalt paint vapor barrier

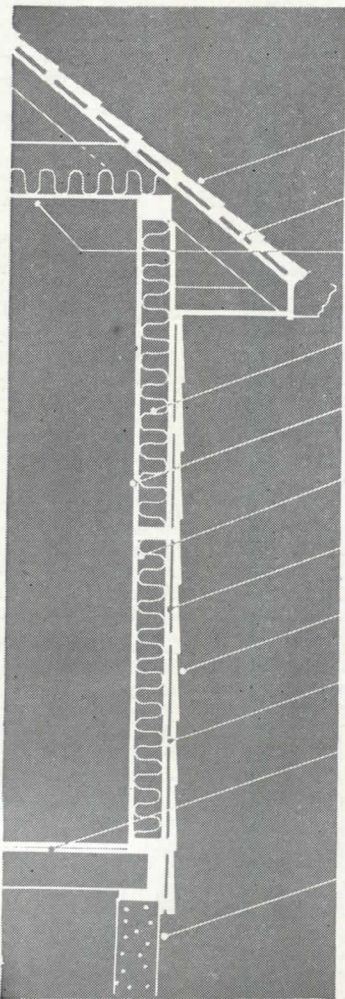
5/16" Plyscord sheathing

EXT-DFPA exterior finish

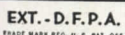
Furring strip

1/2" Plyscord sub-floor

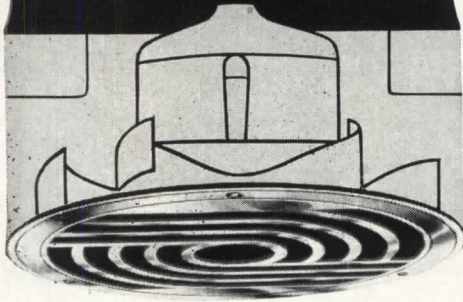
Concrete formed with 1/2" Plyscord, which is then used for sub-floor.



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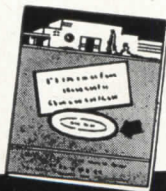
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THE RECORD REPORTS

(Continued from page 132)

Postwar World." Speakers at this session were the Hon. Murray Season-good, former mayor of Cincinnati, Dr. Morris B. Lambie, Harvard University Littauer Center, Mr. Harold S. Buttenheim, editor, *The American City*, and Dr. Warren S. Thompson, Scripps Foundation for Popular Research.

Albers to Return to Lowthorpe

Josef Albers, of the faculty of Black Mountain College and formerly of the Bauhaus, will return to Lowthorpe School, Groton, Mass., to conduct a four-week summer course from June 19 to July 14.

The course will be devoted to design, color and freehand drawing and is organized primarily for students who anticipate specialized training in design or planning and for teachers of art and design in schools and colleges.

For further information address John A. Parker, Director, Lowthorpe School, Groton, Mass.

New Dean Appointed

Appointment of Turpin C. Bannister as Dean of the School of Architecture and Allied Arts, Alabama Polytechnic Institute, has been announced. Mr. Bannister succeeds the late Frederic Child Biggin, dean of the School from 1916 to his death last October. He is a graduate of the Columbia University School of Architecture, member of the American Institute of Architects, a director and past-president of the American Society of Architectural Historians and editor of the Society's Journal. In 1932 he joined the architectural faculty at Rensselaer Polytechnic Institute, Troy, N. Y.

Wiener Goes to Rio

Paul Lester Wiener, currently engaged in developing a project under the New School for Social Research, New York, for a new system of demountable shelter for relief and rehabilitation, is now in Rio de Janeiro, giving a course at the University of Brazil on the utilization of Brazil's natural resources in terms of modern building technology.

The original grant of \$50,000 made to the New School for Mr. Wiener's project has recently been raised to \$100,000, Dr. Alvin Johnson of the School has announced. The design work has been concluded and the project is now working on full-sized buildings showing five or six different techniques in the use of materials, including steel and aluminum. Demon-

stration tests will be made in June. The buildings are being erected in the suburbs of New York. J. L. Sert is in charge of the work during Mr. Wiener's absence.

SCHOLARSHIPS ANNOUNCED

University of Illinois

The University of Illinois has announced the 13th annual consideration of candidates for the Kate Neal Kinley Memorial Fellowship. Established in 1931, the Fellowship yields the sum of \$1,000, to be used toward the expenses of a year's advanced study. It is open to graduates of the College of Fine and Applied Arts of the University of Illinois and to graduates of similar institutions of equal academic standing whose major studies have been in music, art or architecture. Applicants should not exceed 24 years of age on June 1, 1944.

The Fellowship will be awarded on the basis of unusual promise in the chosen field, substantiated by examples of the candidate's work or by the filing of a statement outlining preparation, accomplishments and proposed work in his field if the study proposed

(Continued on page 136)

OPPORTUNITIES AVAILABLE

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These positions will be of interest only to hard working, imaginative men.

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ARCHITECTURAL ENGINEERS

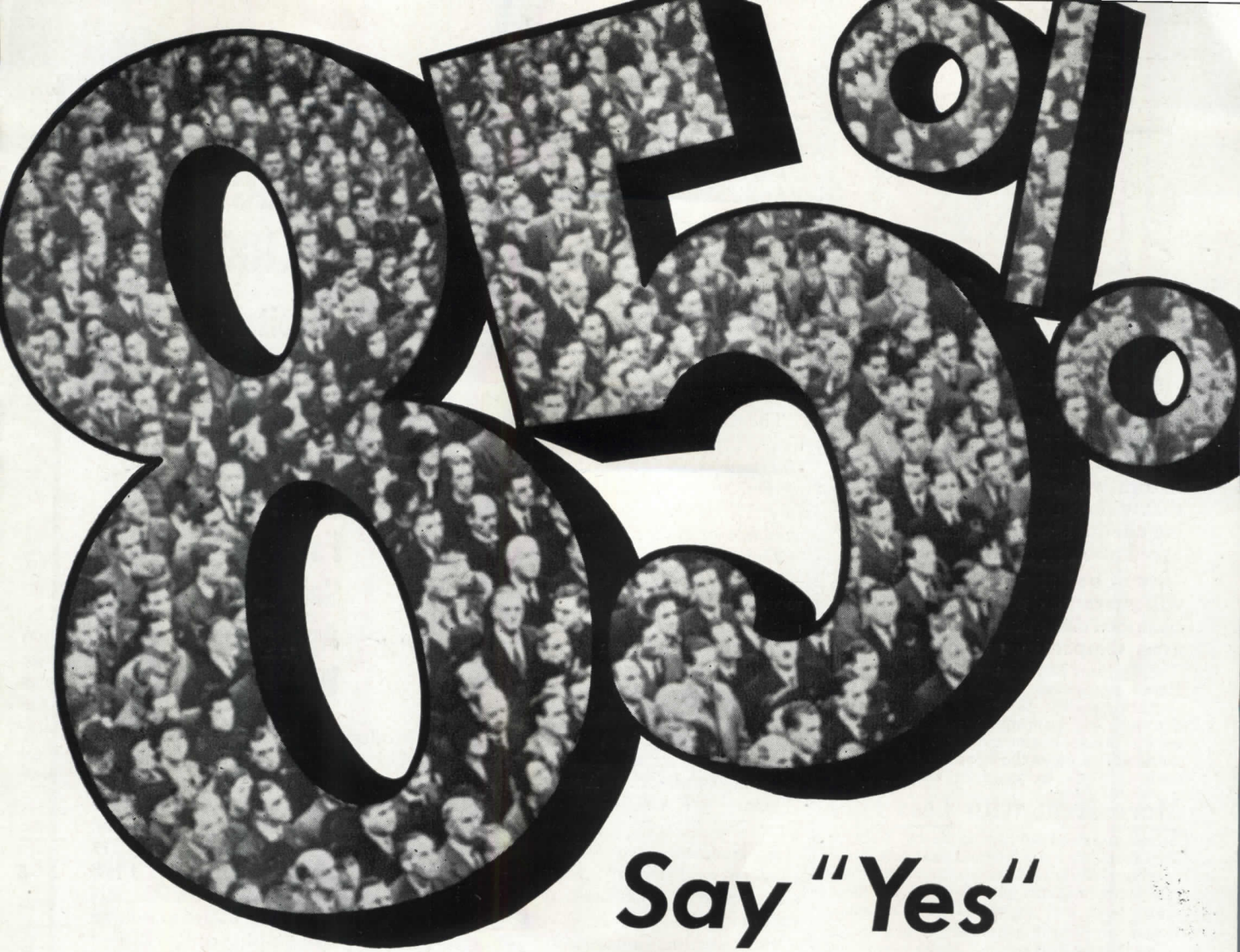
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(Continued from page 134)

is not creative in character.

Applications should reach the Committee not later than May 1, 1944. Requests for application blanks and instructions should be addressed to Dean Rexford Newcomb, College of Fine and Applied Arts, Room 110, Architecture Bldg., University of Illinois, Urbana, Ill.

Syracuse University

The College of Fine Arts, Syracuse University, has announced one \$400 and four \$200 scholarships in architecture, to be granted by competition July 15, 1944. The scholarships are available to entering students.

The competition will be in two fields—drawing and preparatory school record. Each contestant must submit not later than July 6 a portfolio containing not more than 20 examples of his work in free-hand and mechanical drawing. Contestants must also have met all entrance requirements of the College of Fine Arts, and must have been accepted as regular students without condition. Applications for entrance will not be considered after June 25.

Scholarships granted in architecture may be held for five years, provided the required scholastic average is maintained.

For further information address Dean H. L. Butler, College of Fine Arts, Syracuse, N. Y.

University of Pennsylvania

The School of Fine Arts of the University of Pennsylvania will offer for the fall and spring terms of 1944-45 two Theophilus Parsons Chandler Fellowships in architecture. These fellowships provide \$1,000 each. They are established to provide graduate study with a major in Design for graduates of approved schools of architecture who have shown outstanding capacity and promise, and lead to the degree of Master of Architecture.

Also available to graduate students for the fall and spring terms of 1944-45 will be the \$1,000 Joseph V. Horn Fellowship in Architecture.

The Albert Kahn Scholarship in Industrial Architecture, providing \$250 toward the undergraduate tuition, will be offered to an undergraduate student who has completed four years of a five year course or who is a graduate of a four year course in architecture.

All applications should be received not later than June 15, 1944. For further details address George S. Koyl, Dean, The School of Fine Arts, University of Pennsylvania, Philadelphia.



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