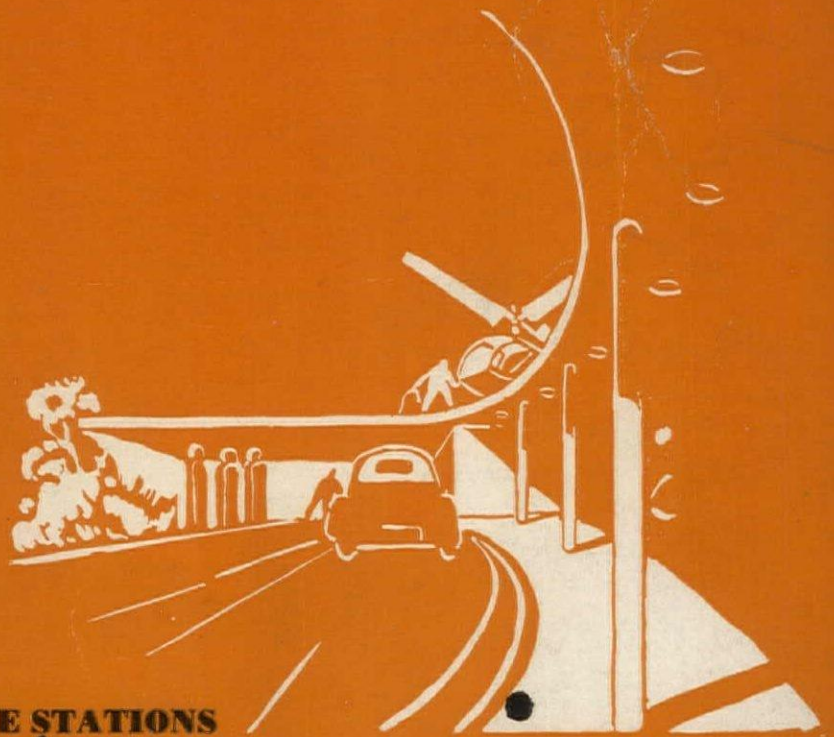


ARCHITECTURAL RECORD



FEBRUARY 1944 • SERVICE STATIONS

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Here are provable facts—facts that have caused war industry to insist upon MILLER 50 & 100 FOOT CANDLER Continuous Fluorescent Lighting Systems . . .

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OIL GOODS DIVISION
Domestic Oil Burners
and Liquid Fuel Devices

ROLLING MILL DIVISION
Phosphor Bronze and Brass
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WAR CONTRACTS DIVISION
War Materiel



What the past *tells you* about the future...



BRING PEACE
QUICKER
Boost the 4th
War Loan

The best attempts to picture the "Post-War" home are, basically, logical outgrowths of experience, of ideas and products that time has shown to be good. In a previous post-war period the "revolutionary" idea of a *one-piece, non-overflow* and *quiet* water closet became a reality when Case introduced the famous "T/N"—the outcome of experience and good ideas.

Winning immediate acceptance by the architect, engineer, builder and merchant plumber—and the homeowner—the "T/N" has become a mark of excellence in America's finest homes and public buildings, and at an average price of only \$50 to \$60. At present the "T/N" is available only for essential replacements. But our experience, and your own too, makes this a reasonable promise—that after the war the "T/N" will be better than ever. W. A. Case & Son Mfg. Co., Buffalo 3. Founded 1853.

CASE HISTORIES: 1—Serving on the Pacific Front...

✓ Oregon's famous Vanport City—second largest and newest community in the State—has Case *Vitreous China* Fixtures in its homes and public buildings.

✓ More than two thousand of the popular Case *Avon* Lavatories are being installed in one large housing project serving the war workers of California's busy Richmond and Berkeley areas.

✓ Housewives and war workers from Seattle to San Diego are having kitchen chores made easy—even pleasant—by the Case *Adair* Laundry Trays and *Aberdeen* Kitchen Sinks that have been selected for their homes.

✓ IF YOU LIVE ON THE COAST, your Case Distributor is ready to serve you, and well-equipped for the job. Look for "Case" under "Plumbing Supplies" in the Classified Directories of Los Angeles, San Francisco, Oakland, Portland, Seattle, Spokane, Tacoma. For other locations, write us.

Case

LIFETIME PLUMBING FIXTURES

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Speed IS



OURS IS A FIGHTING PLEDGE . . .

BUILDING TODAY FOR VICTORY ON A FIRM FOUNDATION OF 48 YEARS' EXPERIENCE

Approximately \$100,000,000 in construction work organized and completed in one year demands the *speed* of day and night organization work — *speed* in field direction — *speed* in handling payrolls for 20,000 workers — *speed* in closing contracts, expediting materials, and *speed* in moving men and equipment from project to project with as many as fifteen contracts under way simultaneously.

In constructing the Sampson Naval Training Station the unusual problems encountered and the speed with which seemingly insurmountable difficulties were overcome is a matter of official record.

This project was started and substantially finished in less than six months. Barrack-type structures involved \$12,000,000. Approximately \$7,000,000 was the cost of mess halls and drill halls. Proportionately large sums were involved in the construction of the hospital unit, storehouses, sewerage treatment plant,

concrete reservoir of 2,000,000 gal. capacity, laying of 12.3 miles of submarine cable, stream diversion, terminal and dock facilities. Co-ordinating these activities with the installation of water and sewerage systems, roads, walks and the largest sodding job on record — nearly 4,000,000 sq. ft. — has established definite standards of accomplishment.

Another project — Camp Kilmer, a \$36,000,000 War Department job in New Jersey — likewise was started and substantially finished in less than six months. The two projects were completely executed within twelve consecutive months.

For today's requirements and for the days ahead when the demand for civilian construction can be met increasingly, the importance of a background of outstanding prewar and war-time achievement assumes added significance.

The John A. Johnson Contracting Corporation has such a background, including the construction of complete cities and towns, waterworks, sewerage systems and the related utilities and facilities.

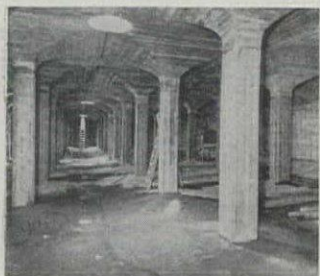
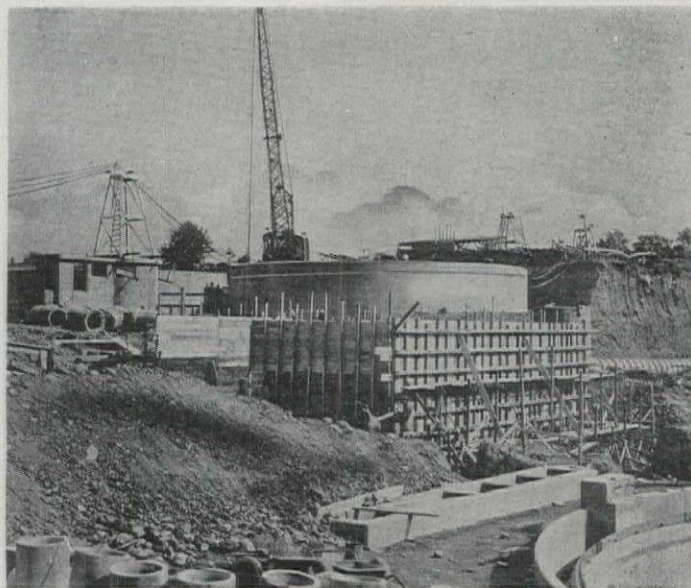
Johnson engineers are preparing to meet postwar requirements with new ideas, new methods, and new conceptions of high-speed, efficient construction.

We shall be pleased to mail literature on request.



Left: A portion of 2,500-foot waterfront pier and boat-shed project at Sampson, N. Y.

Right: Sewerage disposal plant consisting of six tanks, pumping station, sludge-beds and outfall at Sampson Naval Training Station. Architect-Engineers for the Sampson project — Shreve, Lamb & Harmon.



Left: Interior of roofed-over 2,000,000 gallon reservoir at Sampson, N. Y., built entirely without reinforcing to save critical materials.

One of six 626-foot drill halls, and, on right-hand page, one of seven 5,000-man mess halls constructed as part of the \$50,000,000 Sampson Naval Training Station, the world's second largest, at Sampson, N. Y.



TYPICAL JOHNSON SPEED!

\$150,000,000

in 50 separate War-Emergency
Contracts completed in slightly
over two years is a challenging
record of speed

120-foot laminated wood arches for
626-foot drill halls at Naval Training
Station, Sampson, N. Y.

IMPORTANT WORK FOR THE UNITED STATES GOVERNMENT

General Contracts for the Navy War Dept., FWA, NHA and other agencies

Naval Training Station, Sampson, N. Y.
(\$52,000,000)
Camp Kilmer (Staging Area), Stelton, N. J.
(\$36,000,000)
Cantonments (Contracts 1 to 10) Fort Dix,
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Tilton Hospital, Fort Dix, N. J.
Cantonments (War Dept.) Ft. Hamilton, N.Y.
Cantonments (Supplementary Contracts)
Fort Dix, N. J.
Cantonments (Contract for Additions)
Camp Kilmer, N. J.
Dormitories (Farm Security Admin.)
Highspire, Pa.; Middle River, Md.;
East Hartford, Conn.; Springfield, Vt.;
Elkton, Md.; Montpelier, Vt.;
Portsmouth, Va.
Housing Projects, Barberton, Ohio

Housing Project (USHA Pa. 36,014X;
Pa. 36,015X; Pa. 36,016X;
Pa. 36,011X, Philadelphia, Pa.)
(Total Units 1960)
Calvert Housing, Hyattsville, Md.
War-workers Housing, Niagara Falls, N.Y.
Housing Projects, Hartford, Conn.;
Aberdeen, Md.; Geneva, N. Y.
Glenside Housing (Reading, H.A.),
Reading, Pa.
Civilian Housing (Bu. Y. & D.)
Sampson, N. Y.
Housing Project (Harrison H. A.)
Harrison, N. J.
Housing Project (DuPont Co.),
Pedricktown, N. J.
War-workers Housing, Manville, N. J.

Housing, Greenbelt, Md. (1000 Units)
War Housing, Elkton, Md.
Housing Project, Baltimore, Md. (1000 Units)
U. S. Army General Hospital, Utica, N. Y.
Housing (Farm Security Administration),
Massena, N. Y.
Housing, Jarboesville, Md. (5 Projects)
Defense Housing, Holly Ridge, N. C.
Navy Housing (Bu. Y. & D.) S. Charleston,
W. Va.
Defense Housing, Point Pleasant, W. Va.
Cantonments (War Dept.), Camp Upton,
Mitchell Field, N. Y.
Sewerage Disposal Plants, Fort Dix, N. J.
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(Part of G. C.)
2,000,000 Gal. Reservoir, Sampson, N. Y.
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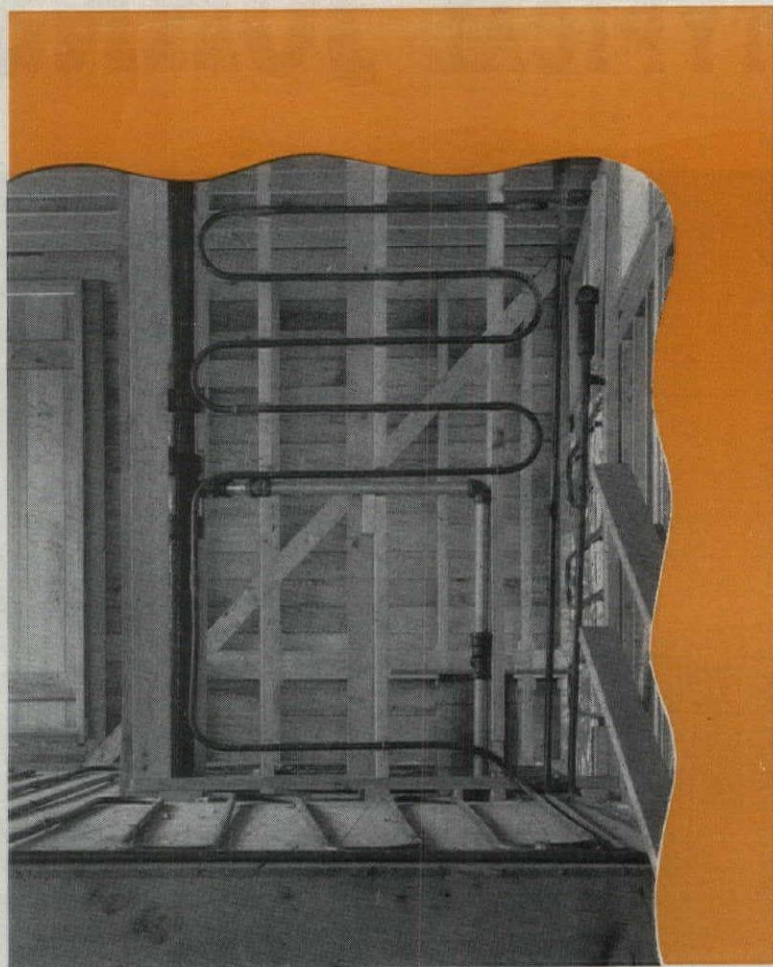
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Send for Brochure AR 61

Cold Bathrooms
went OUT...when this
BYERS
RADIANT HEATING
Installation
went IN



One problem that has for years plagued everyone in the building field both professionally and personally is the cold bathroom. By no means the least of the achievements of Byers Radiant Heating is in banning this bugaboo.

The embedded coils, by converting large areas of the room into a mild and temperate heat-source, create ideal comfort conditions without demanding precious space . . . and without introducing a safety hazard. Bathroom coils may be used satisfactorily with cement, plaster, or tile walls.

Often the regular floor or ceiling coils are adequate, but if extra warmth is desired a supplementary wall coil can be easily installed. The picture above, taken during construction, shows such a coil in the home of an enthusiastic radiant heating user. By this simple means, the temperature of the bath can be maintained at any desired point above that of adjoining rooms.

This is only one of the many advantages that have won so many

friends for radiant heating, and that recommend it to the serious attention of everyone concerned with either current or post-war home planning.

An important point to remember is that there is no necessity for experiment in design or construction. The hundreds of systems already successfully operating provide an answer to almost every problem. And the same well-charted course exists when it comes to selecting materials, for Byers Wrought Iron is a veteran in this service.

Byers Wrought Iron has unusually good forming and welding properties, which facilitates both shop and field fabrication. Its coefficient of expansion is almost identical with that of concrete and plaster, which protects against cracking of the covering material, loss of bond, or noise. Its high heat

emission can be verified by consulting an engineering handbook. And its exceptional corrosion resistance has been tried and proven over periods of many years, in radiant heating applications and in others where corrosive conditions were identical in character.

In any preliminary thinking and planning you may be doing on radiant heating, you will find our technical bulletin "Byers Wrought Iron for Radiant Heating Installations" both interesting and helpful. We will be glad to send a complimentary copy. And of course our Engineering Service Department stands ready to extend all possible assistance at any time.

A. M. Byers Company. Established 1864. Offices in Pittsburgh, Boston, New York, Philadelphia, Washington, Chicago, St. Louis, Houston, Seattle, San Francisco.

*Corrosion costs you more
than Wrought Iron*

BYERS
GENUINE WROUGHT IRON
TUBULAR AND HOT ROLLED PRODUCTS
ELECTRIC FURNACE ALLOY STEELS · OPEN HEARTH ALLOY STEELS
CARBON STEEL TUBULAR PRODUCTS

ARCHITECTURAL RECORD



COMBINED WITH AMERICAN ARCHITECT AND ARCHITECTURE

VOL. 95

FEBRUARY • 1944

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PERFORMANCE REPORT on a wartime flush valve

For more than a year we have been saying favorable things about our Watrous "V" Model Flush Valve. This valve was designed, of course, to save the maximum amount of critical material. At the same time, we made sure that it was strongly and durably built and that it would provide the dependable, trouble-free service for which Watrous Flush Valves are famous.

As we have pointed out, it was designed, like all Watrous Flush Valves, with a water-saver adjustment which enables the valve to be regulated to the minimum water requirements of the fixture.

The big point here, however, is not what we have said about this valve, but what the experience of architects, plumbing contractors and building management men has shown as to its performance in the field.

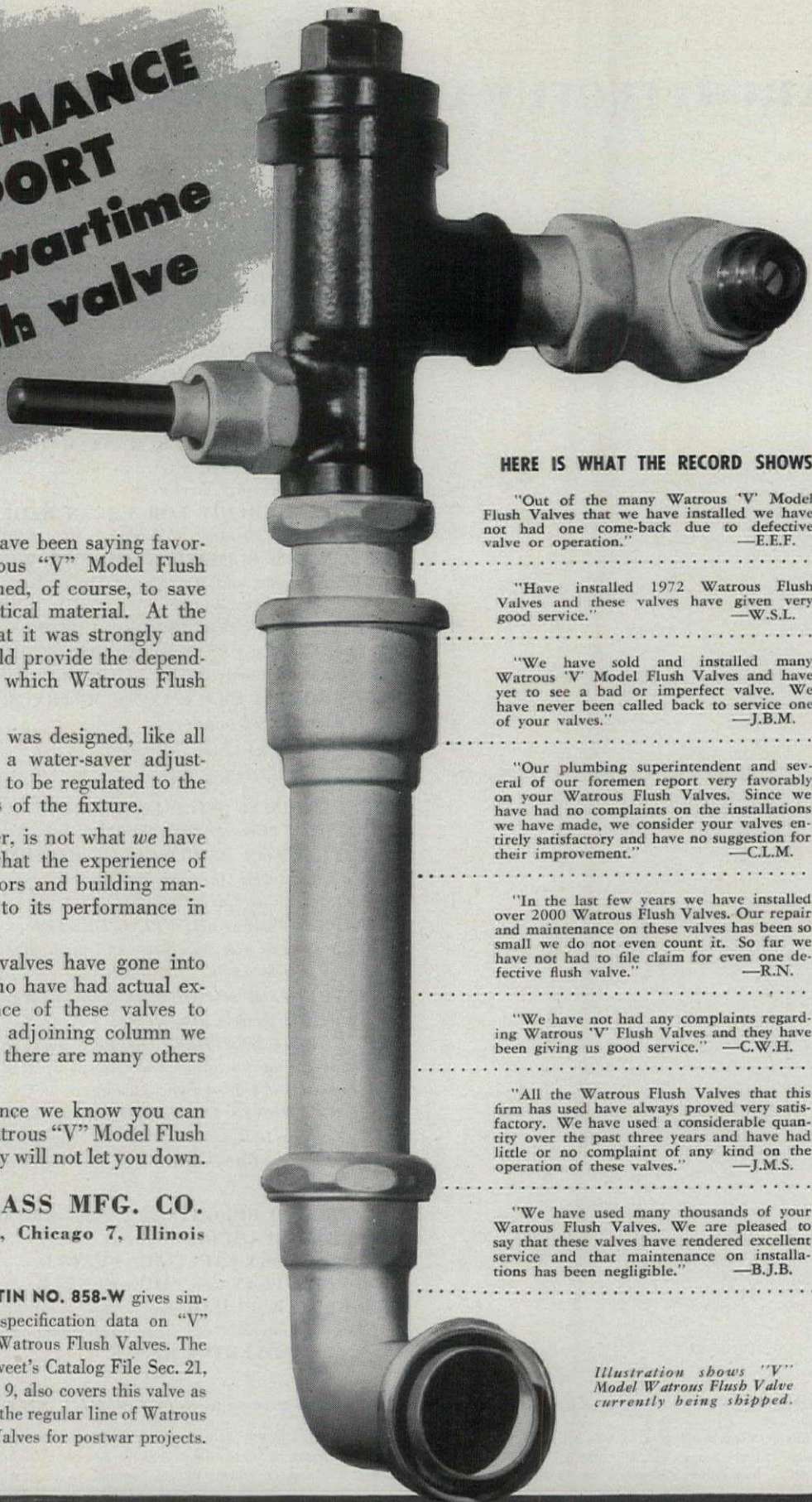
Many thousands of these valves have gone into service and we asked men who have had actual experience with the performance of these valves to report their findings. In the adjoining column we list some of these reports and there are many others—all favorable.

From this and other evidence we know you can safely recommend and use Watrous "V" Model Flush Valves with assurance that they will not let you down.

THE IMPERIAL BRASS MFG. CO.
1240 West Harrison Street, Chicago 7, Illinois



BULLETIN NO. 858-W gives simplified specification data on "V" Model Watrous Flush Valves. The 1944 Sweet's Catalog File Sec. 21, Catalog 9, also covers this valve as well as the regular line of Watrous Flush Valves for postwar projects.



HERE IS WHAT THE RECORD SHOWS

"Out of the many Watrous 'V' Model Flush Valves that we have installed we have not had one come-back due to defective valve or operation."
—E.E.F.

"Have installed 1972 Watrous Flush Valves and these valves have given very good service."
—W.S.L.

"We have sold and installed many Watrous 'V' Model Flush Valves and have yet to see a bad or imperfect valve. We have never been called back to service one of your valves."
—J.B.M.

"Our plumbing superintendent and several of our foremen report very favorably on your Watrous Flush Valves. Since we have had no complaints on the installations we have made, we consider your valves entirely satisfactory and have no suggestion for their improvement."
—C.L.M.

"In the last few years we have installed over 2000 Watrous Flush Valves. Our repair and maintenance on these valves has been so small we do not even count it. So far we have not had to file claim for even one defective flush valve."
—R.N.

"We have not had any complaints regarding Watrous 'V' Flush Valves and they have been giving us good service."
—C.W.H.

"All the Watrous Flush Valves that this firm has used have always proved very satisfactory. We have used a considerable quantity over the past three years and have had little or no complaint of any kind on the operation of these valves."
—J.M.S.

"We have used many thousands of your Watrous Flush Valves. We are pleased to say that these valves have rendered excellent service and that maintenance on installations has been negligible."
—B.J.B.

Illustration shows "V" Model Watrous Flush Valve currently being shipped.

Watrous Flush Valves

THE RECORD REPORTS

L-41 Still on the Books • Blanket Veto • Lumber Shortage Grows • Housing and Budget • Congress Raises Questions • Airport Zoning Held Up • Additional Hospitals Proposed

FOR the past three or four months events were developing slowly and intricately toward what seemed to builders the inevitable climax. The major theme was the completion of the war housing program, without which there is little building indeed. To this was the counter theme, first submerged but faintly perceptible and then gradually rising to the swell of publicity releases, that WPB had licked the materials problem and soon would lick the manpower problem. There were hints of the grand denouement as lesser production restrictions were dropped and programs to make household gadgets were drafted.

With war housing at an end and materials available, nothing appeared more logical than the resumption of private building. But it did not happen. L-41 remains on the books.

Blanket Veto

While scores of fabricating industries, through advisory committees in WPB, were opening the course to civilian production, other things also were happening. The Army, which at first had greeted new civilian programs with mere polite suggestions that they be delayed, began adjusting the severity of its refusals to the persistence with which the programs were urged. Finally, there was a blanket veto. It will not be removed, at the very earliest, until the needs of the invasion of Europe have been demonstrated.

Behind the Army's "No" on civilian production, WPB's top-management has set a strong back-stop. As war production was cut back during the past several months, the metals which were so critical a year ago, started to accumulate in inventory. At the industry advisory committee meetings, basic producers warned each other that growing stockpiles would wreck post-war markets. Then, Arthur H. Bunker, WPB's aluminum chief, became Vice Chairman for Metals and Minerals. He started to prune basic production to war needs, leaving little margin for civilians. Evidently, smaller, high cost producers are being cut first. Because they are so well represented in Congress, the extent of the pruning will depend, in part, on events outside WPB control.

Lumber Shortage Grows

Finally, even though metals and materials for masonry are less scarce and both labor and facilities are easier to find, the lumber shortage is real and getting worse. Both in the Pacific northwest and in the pine producing southern states, output has fallen. Southern pine interests, with the backing of WPB, assert that present output cannot easily be maintained unless price ceilings are raised. OPA has asked for the usual statement of costs which, to date, has not been submitted. With particular price increases being granted, the trend is clearly upward. The House Committee on Small Business is keeping a close watch on developments here.

Housing and U. S. Budget

The President's budget message to Congress expresses the dim outlook for housing. Because publicly financed war housing will have been substantially completed by June 30, little new money is being asked. FHA expects officially to process 50,000 applications for private houses under the war program in the 1945 fiscal year. Unofficially, there is the hope, if not the expectation, that WPB will release better materials, permitting new homes to be built and in-

sured without benefit of the wartime clause. This hope may not be disappointed. Without consideration of a break from the present trends, WPB is allowing the use of better materials even though it bars new construction programs. This is done both through the amendment of restrictions and greater readiness, on appeal, to make exceptions to the rules.

The importance of public financing for war housing is measured by the fact that out of 575,000 units completed in 1943, 380,000 were financed by the government. As the job of building them ends, NHA wonders how and when to tear them down. The law does, indeed, require that it be done within a specified period after the war, but there is always the forbidding thought that this period may be one of depression.

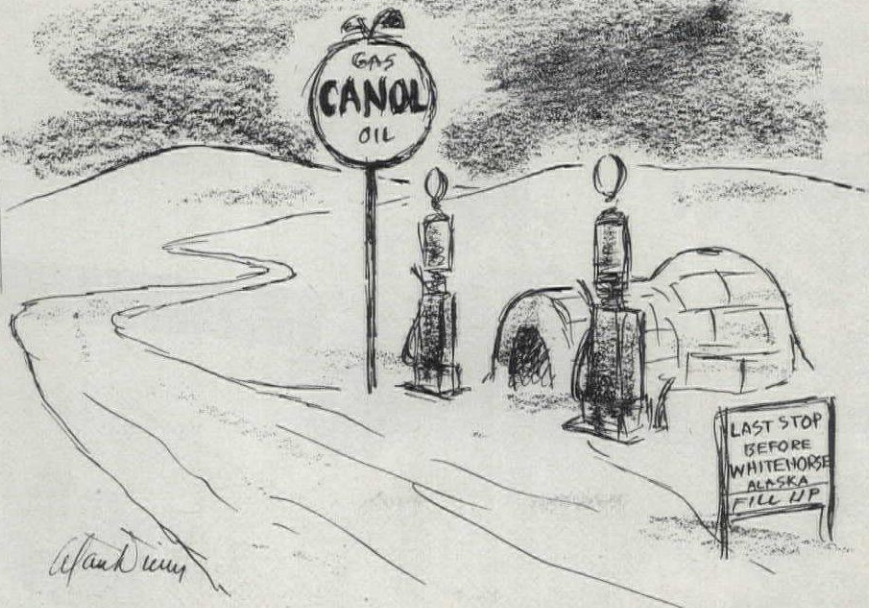
It is worth noting that the President's message to Congress on the State of the Union set forth an "economic bill of rights" for the postwar period which includes provision for housing, or, in his exact words, "the right of every family to a decent home."

WPB estimates that total 1944 construction of all types—military, industrial and war housing—will be \$3,860,000,000 or 51 per cent of the \$7,560,000,000 computed for 1943. The figures represent accruals in value laid down at the sites rather than completed jobs.


Congress Raises Questions

While the presidential budget writes off public works, so to speak, with a few perfunctory figures—a \$145,000,000 appropriation for the 1945 year compared with \$205,000,000 for the

(Continued on page 10)



Drawn for the RECORD by Alan Dunn



Small houses big in comfort

Public reaction to Revere's current national advertising, featuring the various trends in post-war housing plans, continues to excite wide interest. Some 175,000 booklet requests from individuals and communities attest this fact. In particular, people are interested in low-cost, modern-equipped, small homes.

Mr. Fritz B. Burns, President of the National Association of Builders, elects in the Revere advertisement in the January 22nd issue of the Saturday Evening Post to show what some Los Angeles builders have done in the way of building "livable houses for folks who love living". Certainly, many millions of American families will yearn to own similar houses—brought up to date—in post-war days.

Revere feels that its housing campaign benefits the whole building industry: architects, builders, contractors, realtors, manufacturers and financiers. It is sure that its emphasis on the durability and beauty of copper and copper-base alloys is sound and justified. The use of these metals makes any building more desirable to live in—and better also to rent or sell.

When "V-Building" comes, Revere will offer improved materials for protecting, preserving and perpetuating houses and other buildings in the form of roofing, flashing, pipe, tube, architectural shapes and the like in copper and its alloys.

In the meantime, Revere cordially invites post-war building planners to share its fund of technical knowledge. Our cooperation is without obligation.



Livable houses for folks with copper and brass playing their indispensable part

Today several thousand families in the Los Angeles Area live happily under more livable individual and community conditions than ever before. This is because we and other Los Angeles builders have worked out a building formula which offers "the most home for the least money."

I feel—and so do my associates—that people today and in the near future—that they like an exterior design which is preferably familiar to them. In the mass styles of American home architecture of which the "California"—illustrated above—is typical, the "revolutions", the strange and bizarre, is, I believe, disconcerting.

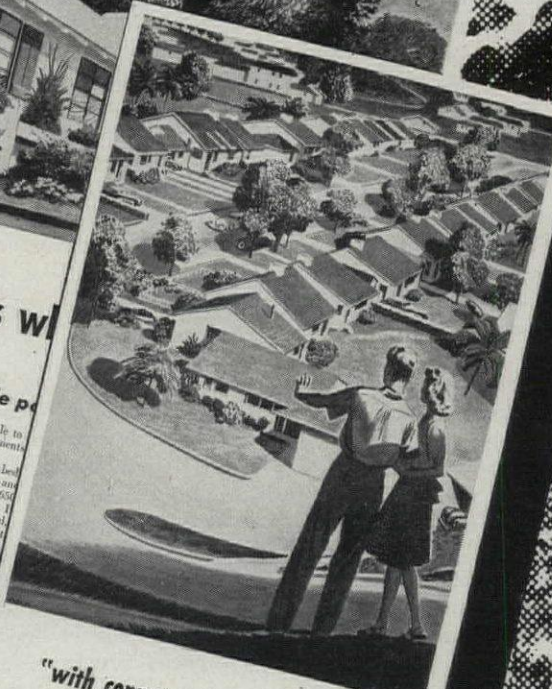


The American public also demands the heights of "stability"—that comfort which springs from solid construction and a sound functional layout, together with plenty of labor-saving household equipment. Life is too short to be lived in drudgery. Hence all homes in our various Los Angeles developments include up-to-date furnaces, bathroom fixtures in color, tile sinks, electric Boers, red cedar shingle roofs, wiring for heavy duty electrical apparatus. Throughout, copper and brass, as in all good building construction, play an indispensable part—with a larger role to us in the postwar housing developments we are now planning.

The purchase price for the two bed designs have ranged from \$2,990 and three bedroom designs go up to \$5,650 and attached garages are included. Further landscape plantings are included. Three basic floor plans are offered, out on advanced lines with complete utility and individual color preference. Each community is planned with complete utility and ease.

Send to Revere for the free, descriptive, illustrated booklet which tells in complete detail the reasons for thousands of folks who love living. You may also some of our ideas on Post-War Housing and interesting.

Fritz B. B. Marlow does not build homes or expect to do so in the future. But it knows full well that after the war creative builders, like Mr. Burns, will offer it house values than ever before. Revere also knows its indispensable role that copper and various other



"with copper and brass playing their indispensable part"

In developing several important defense housing communities in the Los Angeles area, Mr. Fritz Burns and his associates, Mr. Fred Marlow and Mr. J. Paul Campbell, made free use of copper and brass, while these products were still available, and beautiful. And, as Mr. Burns explains on the opposite page, it is planned to make even more extensive use of copper and copper alloy products in future post-war building.

proofing. Unsurpassed for non-rusting hot and cold water lines; heating and air conditioning lines; storage tanks; thresholds, window frames and the like. Revere copper, brass or bronze accessories add beauty inside and outside the building.

Copper gives longer life to any edifice anywhere, any time, because it protects, preserves, perpetuates.

Revere Products are Standard Everywhere

Revere copper and copper-base alloy products have long been standard in both new building and remodeling. They're specified for roofing, flashing, gutters, downspouts, weather stripping, terminals.

When Peace comes, Revere products will again be available for both home and community building through leading distributors throughout the country, who will be able to supply your builder and contractor. It's common sense and economy to begin planning TODAY for the building needs of TOMORROW.

BUY MORE WAR BONDS TODAY!

REVERE
COPPER AND BRASS INCORPORATED
Founded by Paul Revere in 1801
Executive Offices: 230 Park Ave., New York 17, N. Y.

This advertisement appears in Saturday Evening Post, January 22, 1944

current period—the whole question is unsettled. It is mentioned in Congress occasionally as something that must be thought about some time and Representative Lanham is holding extended hearings which few people attend. Discussions are in the academic tone of high economic policy. Yet, those agency trade association economists who like to be several months ahead of the age they live in are building up campaigns.

There is, however, no lack of bills for postwar works programs. Most of them create committees to investigate something or other; others set up agencies to draft plans and still others propose specific jobs. Among these is that of Senator Thomas of Utah to organize an Urban Redevelopment Agency to lend money to municipalities for development, that of Representative Robinson of Utah for Federal-State highway development, that of Senator Wagner of New York under which NHA would advance cash to cities for improvements, that of Senator Stewart of Tennessee for rural road development.

Proponents of works construction are assembling figures to prove that the postwar era will be one, not of inflation or even mild prosperity, but severe deflation. Therefore, they infer, public works will be needed. There are few suggestions of federally-financed public works; it is urged instead that the government start now to encourage such construction by local communities. The U. S. Chamber of Commerce proposes that federal taxes be reduced in order that greater revenues be available for state programs. FHA wants the federal government to lend local communities enough money to draw up construction plans. The Commerce Department and the Committee for Economic Development, on the assumption of great postwar prosperity, are mapping prospects for particular industries. Naturally, those of the builders are excellent.

Airport Zoning Held up

The Lea bill, which would give airports power to zone surrounding areas, has been in suspense for more than a month in the House Rules Committee. Proponents say darkly that "somebody," presumably representing the railroads who are fighting the bill, is holding it up. The Aeronautical Chamber of Commerce is trying to get its own industry into complete agreement; when and if it succeeds, it will propose an amendment to the House Interstate Commerce Committee.

Various bits of building as well as other equipment is slowly coming out of Army and Navy stocks. According to recent testimony before the House Small Business Committee it is being bought up by speculators who are warehousing it. Accordingly, the Treasury, which now is charged with selling the surpluses, is under attack and the RFC, which wants the job, is being promoted as an agency which knows how to identify speculators.

Hospital Proposal

New Congressional legislation introduced in January included a bill (H.R. 3935) by Mrs. Rogers of Massachusetts, which would authorize an appropriation of \$500,000,000 for additional hospital facilities for the Veterans' Administration. The President would be empowered to use government architects and to employ non-governmental agencies. The bill is now pending before the House Committee on World War Veterans Legislation.

Iron Bathtubs

Among odd bits of housing equipment scheduled by WPB are 50,000 cast iron bathtubs for installation in war projects. As it has done for every other kind of civilian production, WPB divided the manufacturing job among prewar concerns. WPB lawyers are not sure that such division of jobs is quite legal but the administrators are sure that there will be fewer squawks if new people are kept out than if they come in. Old line concerns have inveighed against the thought of opening production to new competitors while they themselves are tied down to war jobs. Copying Sir Isaac Newton's description of motion, administration naturally follows the course of least resistance. While the producers get along well enough with WPB in the setting up of quotas, they are at odds with OPA on prices at which to turn out their goods.

Here are some odds and ends: WPB is reducing paper work in application for plumbing supplies but not making additional supplies officially available. There will be similar changes for other materials.

The question of whether control over material lies within WPB powers now that the materials and facilities are available has been raised by members of the legal staff. For instance: one thought is that a manufacturer may fabricate material which, though frozen, no longer is scarce.

NHA NOTES

Payments in Lieu of Taxes

New policies authorizing increased payments in lieu of taxes on locally-owned war housing projects and expediting payments to local taxing bodies on federally-owned war projects have been announced by Commissioner Herbert Emmerich of the Federal Public Housing Authority.

Under the new policies, municipalities and other taxing bodies will not only derive greater revenue from locally-owned war housing projects financed with public funds, but will also receive payments directly from local housing authorities instead of from the federal government on federally-owned war projects under their management.

Payments in lieu of taxes for federally-owned war housing projects approximate full taxes. Appropriate deductions are made for federal or local housing authority expenditures for streets, utilities or other public services for projects which local municipalities ordinarily provided but could not or did not provide. This system for payments in lieu of taxes became effective on January 21, 1942, pursuant to provisions of the Lanham Act.

Repair and Maintenance

Urgently Needed

Home repair and maintenance will be among the most pressing needs of America in the first postwar year, and should be a major factor in easing the country's transition from war to peace economy, Abner H. Ferguson, Commissioner of the FHA predicts.


The building industry can turn to home repair and modernization work within a very short period after war limitations on critical materials have been lifted. On this fact, he said, is based the estimate of the FHA field offices that approximately \$3,000,000,000 of such work will be done in the first 12 months after war limitations are lifted.

War Housing Report

With nearly 3,400,000 housing units thus far provided for essential war workers, the war housing problem has been mastered in the majority of the nation's crowded war industry centers, John B. Blandford, Jr., Administrator of the National Housing Agency has reported.

More than 7,500,000 persons, including members of war workers' families, are now occupying quarters mobilized under the war housing program since the early summer of 1940 through new construction, conversion of existing buildings, and intensified use of the

(Continued on page 12)



OUR EXPLORATIONS IN THE STRATOSPHERE

...What Have They To Do With Air Conditioning?

SIMPLY THIS — better air conditioning will result from what Worthington has learned in many wartime jobs, such as creating stratospheric conditions for testing engines which are to power high-level bombers — guns, carburetors, magnetos and many other items of airplane equipment. Tomorrow's comforts will reflect today's wartime achievements.

It's only natural for Worthington to be a leader in air conditioning improvements. Worthington has specialized for many years in the design and manufacture of most of

the types of equipment used in air-conditioning systems. Besides, Worthington has been a specialist in refrigeration machinery for more than 50 years.

Air conditioning of the future will see many improvements. Far-sighted architects, consulting engineers, distributors and proprietors are already discussing post-war air conditioning, today, with Worthington. There are district offices and representatives in principal cities — Worthington Pump and Machinery Corporation, Harrison, New Jersey.

Power Plant Equipment
Turbines & Turbo-Generator Sets
Diesel & Gas Engines
Pumps & Compressors
Air Conditioning & Refrigerating Equipment
Construction & Mining Machinery
Power Transmission Equipment
Liquid Meters



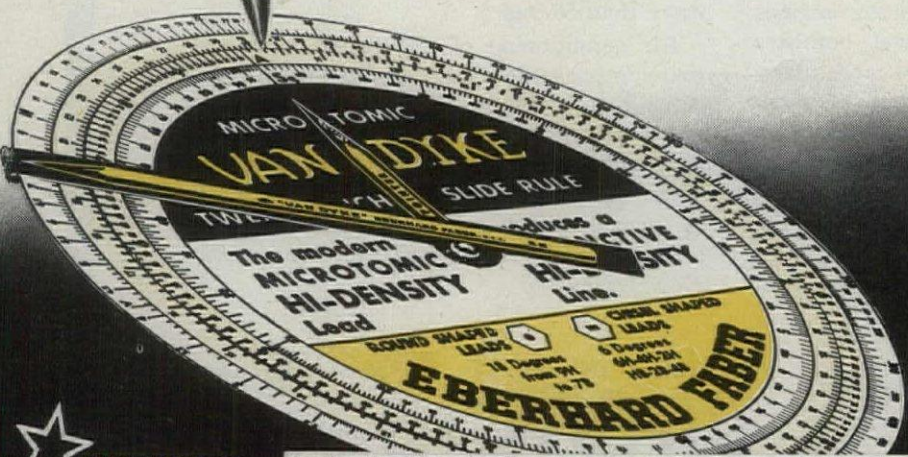
AR 4-2

HI-DENSITY

MICROTOMIC VAN DYKE DRAWING PENCIL

sponsors a **20" SLIDE RULE**

Immediately Available — at next to no cost. A circular duplication of a full 20 inch Mannheim slide rule... Precision graduated, and printed on sturdy cardboard. Continuous reading due to circular design... as timely a boon to designers as the blue-printability of tracings made with a Hi-Density Van Dyke pencil!



★ **IMMEDIATE DELIVERY**
without priority
25¢
POSTPAID

EBERHARD FABER PENCIL COMPANY
37 Greenpoint Ave., Brooklyn 22, N. Y.

Here is my 25¢ . . . please mail Slide Rule at once, to

Name _____

Street & No. _____

City & State _____

THE RECORD REPORTS

(Continued from page 10)

prewar housing supply in war industry areas, Mr. Blandford said.

He emphasized that acute needs for additional war housing will continue during 1944 in those areas where new war plants are being brought into production or where existing plants must step up their employment to reach peak output. Elsewhere, however, the war housing already provided has generally caught up with the needs of in-migrant war workers, he declared.

NEGOTIATED CONTRACTS

A bill calling for the establishment of a new method of awarding government construction contracts has been introduced in Congress by Representative Thad F. Wasiclewski of Wisconsin.

The new bill, H.R. 4010, is designed "to replace the present cost-plus and other systems of contracting for public construction by a system of negotiated lump-sum contracts."

The proposed legislation, "The Negotiated Contract Plan," evolved by Frederic W. Lord, founder of the Lord Electric Company of New York, has been endorsed by prominent architects, engineers, builders, bankers, labor leaders and public officials.

CONFERENCE ON HOUSING PLANNED

Leaders in all fields of housing, including research, planning, construction, finance, will participate in a National Conference on Postwar Housing to be held March 8, 9, and 10 at the Drake Hotel, Chicago. The conference is being sponsored by the National Committee on Housing, Inc., of which Mrs. Samuel I. Rosenman of New York is chairman.

The first day of the conference will be devoted to a discussion of methods of postwar redevelopment of cities; the second day, to discussion of the role of government in the field of housing; and the third day, to a discussion of new home building materials, techniques, costs and financing. Discussions will be conducted by leaders in the various fields of housing.

In addition to the three all-day specialized program, there will be a luncheon on March 9 at which John B. Blandford, Jr., Administrator of the National Housing Agency will speak, and a dinner meeting that evening at which the speaker will be Beardsley Ruml, Chairman of the Federal Reserve Bank of New York and Treasurer of R. H. Macy & Co., and Henry J. Kaiser, industrialist.

(Continued on page 14)



This door is always open . . .

YES, the door to the Westinghouse Better Homes Department is *always open* to assist the building profession in the planning of postwar housing.

The Better Homes Advisory Staff is ready and eager to give authoritative technical advice on the *proper applications of electricity* in 194X homes.

SIX-POINT ADVISORY SERVICE

The Better Homes Department offers a *Six-Point Advisory Service* on the following subjects:

1. Selection of correct types of electrical equipment for various classes of postwar homes.
2. Location and arrangement of fixed equipment, for conserving space and attaining maximum efficiency in arrangement of work cycles.
3. Accurate dimensions and clearances of equipment to insure proper installation and efficient operation.
4. Access for servicing of equipment—so necessary for periodic inspection and repair.
5. Location of lighting outlets and controls, for greater enjoyment, comfort, and safety in the home.
6. Utility service connections—including location and size of electric wiring, water supply, and drainage.

Westinghouse Better Homes Department welcomes the opportunity of giving constructive assistance to those interested in postwar housing.

If you have any problems relating to the selection, installation, and use of home electrical equipment, write: Better Homes Department, Westinghouse Electric & Manufacturing Company, Pittsburgh 30, Pennsylvania.

"ELECTRICAL LIVING IN 194X"

The Better Homes Department is preparing a new and unusual book—"Electrical Living in 194X"—which explains the urgent need for *better wiring for better living* in postwar homes.

This new book will be very helpful to the building profession and allied interests . . . in explaining to prospective home owners the importance of better wiring in their 194X homes.

"Electrical Living in 194X" will be made available to architects, engineers, contractors, builders, public utilities, housing authorities, electrical inspectors, building management, and investment institutions.

Watch for further announcements regarding this colorful, easy-to-understand, 64 page book!

Tune in John Charles Thomas,
NBC, Sundays, 2:30 p.m., E.W.T.

Westinghouse
Plants in 25 Cities Offices Everywhere

THE RECORD REPORTS

(Continued from page 12)

Individuals and organizations interested in all phases of housing will be invited to participate in the Conference. Program details will be announced shortly.

WPB DECENTRALIZES BUILDING PROJECTS

Regional offices of the War Production Board are now authorized to process construction applications, with certain exceptions, if the cost of the project is less than \$25,000, the WPB Facilities Bureau announced on December 31. The action is intended to provide speedier service to industry in the handling of applications concerning small-scale construction projects.

The effect of the new procedure is that an applicant desiring to begin a construction project costing less than \$25,000 need no longer apply to Washington to obtain a construction authorization and supplies of priority-restricted materials. Instead, the applicant can get direct action on his project, without reference to Washington, simply by applying to the nearest WPB Regional Office or to a designated District Office.

TORONTO'S PLANNING EXHIBITION

In an exhibition of drawings, models and photographs, the City Planning Board of Toronto, Canada, last month, in cooperation with the Art Gallery of Toronto, presented its proposals for re-planning the city.

The exhibition was divided into three main phases: (1) the history of Toronto from the earliest time up to the present, subdivided into five comparative sections each with four headings—housing, recreation, industry and transportation; (2) a complete analysis of present conditions; (3) the future plan, taking in questions of low rent housing, redevelopment of decayed areas, the use of the ravines for parks and playgrounds, rapid transit, subways and postwar employment.

NEW YORK LOOKS AHEAD

The New York State Postwar Public Works Planning Commission at a recent meeting approved applications from 16 communities involving 54 projects.

The estimated construction cost of these projects is \$12,132,425 and the state's share of the cost of the plans, comprising one-half of the total planning cost, is \$163,053. These allocations are in addition to those made at the previous meetings. The projects

(Continued on page 104)



HOW MUCH
DOES QUIET COST?
LESS THAN
YOU THINK!


JUST HOW MUCH would a client pay to have the nerve-jangling noise demons banished from his office once and for all . . . to be rid of the harassing clatter of business machines and the buzzing of voices? What would it be worth to him to surround himself with the quiet atmosphere that aids concentration and efficiency? Whatever he'd be willing to pay, it's probably more than a ceiling of Armstrong's Cushiontone will cost. Why not let a Cushiontone contractor prove it with an estimate?

Cushiontone's deep holes—484 in each 12" x 12" unit—give it a noise-quieting factor as high as 0.75. This high efficiency is permanent, unaffected even by repainting with ordinary materials and methods. Cushiontone is an excellent light reflector, too. And it's quickly installed.

NEW BOOKLET gives facts and illustrations. (Also see SWEET'S.) For your copy please write Armstrong Cork Company, Building Materials Division, 2402 Stevens Street, Lancaster, Pennsylvania.



ARMSTRONG'S CUSHIONTONE

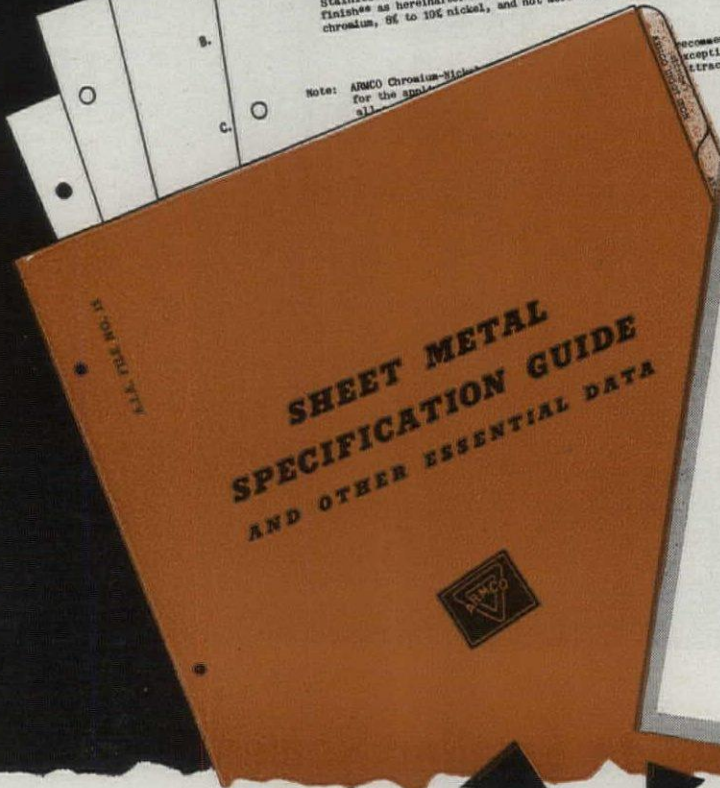
Made by the  makers of
Armstrong's Linoleum and Asphalt Tile

ARMCO STAINLESS STEEL FOR GENERAL PURPOSES
GENERAL SPECIFICATIONS

Stainless Steel is ideally suited to many architectural applications such as moulding, tris, counter tops, sinks, doors, door bucks, door pulls, switch plates, arquesises, spandrels, mullions, kick and push plates.

- A. All Stainless Steel sheet metal work, except roof and roof drainage items, indicated on drawings or later noted in these specifications, shall be of specified U. S. standard gage ARMCO Chromium-Nickel Stainless Steel (Type 302), using the proper finishes as hereinafter noted. The metal shall contain 18% to 20% chromium, 8% to 10% nickel, and not more than 0.12% carbon.
- B. All Stainless Steel sheet metal work, except roof and roof drainage items, indicated on drawings or later noted in these specifications, shall be of specified U. S. standard gage ARMCO Chromium-Nickel Stainless Steel (Type 302) or approved equal, using the proper finishes as hereinafter noted. The metal shall contain 18% to 20% chromium, 8% to 10% nickel, and not more than 0.12% carbon.

Note: ARMCO Chromium-Nickel
for the application
all



Practical data
on Stainless
Steel for your
post-war
projects

...WRITE FOR YOUR GUIDE

- Here is information you'll want to have at your finger-tips. The sections on ARMCO Stainless Steel in the "Sheet Metal Specification Guide" give general specifications, cost comparisons, and outline the advantages of this rustless metal for various architectural purposes.

- The characteristics of ARMCO Stainless make it an ideal material for many post-war applications. It has high resistance to corrosion and abrasion. It cannot be stained by most food or fruit acids. It is considerably more ductile than mild steel—and can be readily welded,

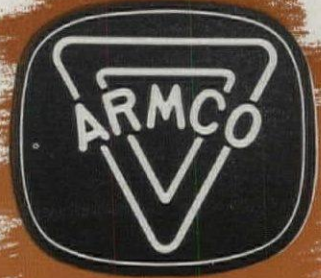
soldered, riveted, punched, spun, formed and drawn. A choice of several different finishes enables you to achieve almost any surface property or effect.

- Stainless Steel is one of the many flat-rolled sheets in which ARMCO specializes. For more than 40 years ARMCO has been developing special purpose sheet metals for architectural and other uses. The "Sheet Metal Guide" provides quick information on these versatile metals. If you are an architect or contractor, or have building interests, write us on your firm letterhead and we'll

send you a copy without charge. The American Rolling Mill Company, 671 Curtis St., Middletown, Ohio.

EXPORT: THE ARMCO INTERNATIONAL CORPORATION

HELP FINISH THE FIGHT - WITH WAR BONDS



SPECIAL PURPOSE STEELS FOR TOMORROW'S BUILDINGS



From the House on the Hill to Smaller Homes Post War

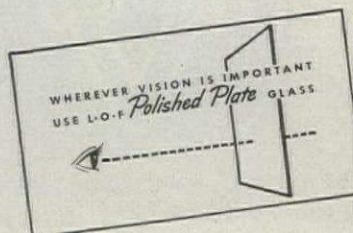
DAYLIGHT ENGINEERING WITH GLASS

Many of the living features of the more expensive homes today will be enjoyed in tomorrow's smaller homes.

Daylight Engineering can and will be one of these features. The larger windows that brighten rooms and make them more spacious in appearance . . . the attractive picture windows and corner windows that make interiors so much more decorative and livable . . . glass partitions and mirrors that help do away with dark corners and hallways . . . these are features of *Daylight*

Engineering that prospective home builders definitely want. And they are features that builders of new homes will find it within their practical means to enjoy.

For postwar homes there will be a new Libbey-Owens-Ford Glass for windows, as well as high quality plate glass for mirrors, structural glass for wainscoting and work surfaces, and Blue Ridge Glass for partitions and many decorative uses. Libbey-Owens-Ford Glass Company, 1024 Nicholas Building, Toledo 3, Ohio.



LIBBEY • OWENS • FORD

A GREAT NAME IN *Glass*

The promise of plastics, in the after-war years, holds so much for manufacturers and consumers alike that perhaps we should learn a little more about the nature of these new materials.

Of prime significance, chemically made plastics are unlike any structural material we have had to work with in the past.

Plastics are the product of chemistry. They are one of the outstanding examples of the chemist's ability to produce—out of coal, petroleum, air, salt, and other basic elements—totally new substances.

Important to an understanding of plastics is that they differ widely in their property characteristics.

For example, some plastics are extremely tough and withstand rough usage. This is true of Ethocel

—one of the Dow plastics. Other types are pliable. Some have almost optical qualities in their clarity. Others possess excellent electrical insulating value. Some withstand heat and others extreme cold.

Among Dow plastics possessing some of these properties to a high degree is Styron—a plastic especially valuable as an electrical insulator and having many other uses where lustrous beauty or resistance to acids and alkalis are factors of importance. Saran, on the other hand, is notable for its tensile strength and flexibility, which make it widely used for such products as tubing, woven fabrics and rope. Ethocel, in a special formula, is especially strong and tough at extremely low temperatures.



JUST WHAT ARE "PLASTICS"?

The important point to remember is that the science of plastics is progressing rapidly. Already there exist many specialized plastics for specific applications. As our knowledge of both plastic compositions and the techniques for handling them increases, these new materials will undoubtedly become even more widely used than is now planned.

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

DOW
CHEMICALS PLASTICS MAGNESIUM
INDISPENSABLE TO INDUSTRY AND VICTORY

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

Secret weapon for post-war sales

Not so secret, either, but a potent force for service and satisfaction to the post-war buyers of Fitzgibbons steel boilers and air conditioners. It's all in the way Fitzgibbons met a war-time difficulty common to most manufacturers and made of it a valuable future sales factor.

You know how it was just after Pearl Harbor—sales personnel everywhere became pretty superfluous through no fault of their own. Fitzgibbons representatives were no exception—could have sold plenty of boilers, but we couldn't build them and make tanks too. So . . .

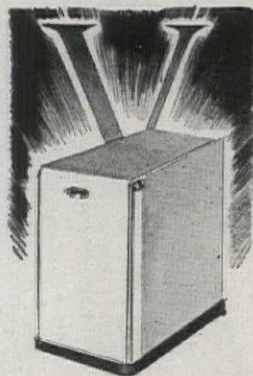
Instead of permitting its valuable, hand-picked sales organization to break up, Fitzgibbons set up a skeleton engineering force, for local maintenance service principally, then brought the key sales people right into the Fitzgibbons production end at the plant. Not just in any stop-gap job, but in positions vitally important to the Fitzgibbons production of fighting equipment as well as of steel boilers for Uncle Sam. One of these men is General Plant Manager. Another is his Assistant. Another is Personnel Manager. Still another, Superintendent of Navy Fabricating Division. Others are Chief Field Expediter, Navy Inspector, Traffic Manager, etc., etc., all down the

line, where the driving personalities of these former top-notch, line-bucking sales representatives are given full play in getting things done, getting fighting equipment on the firing line, getting the war victoriously over.

It has worked beautifully. Last October Fitzgibbons was awarded the Army-Navy "E". But that isn't all of the story—

When the war is over, many of these able men will go back to sales representation, armed with new, sound experience in Fitzgibbons production methods, Fitzgibbons engineering, Fitzgibbons traditions in excellence of workmanship, as developed through fifty-eight continuous years of steel boiler building.

Will this experience, when applied in sales representation, be valuable to purchasers of Fitzgibbons steel boilers and conditioners? Most assuredly it will—highly valuable. These men will bring intimate knowledge to their contacts. It will be almost as good as bringing a Fitzgibbons prospect to the plant, showing him how carefully Fitzgibbons products are built, and how they perform under test. There is no finer way to serve Fitzgibbons prospective and established customers—and no finer group of men to render this service.



BUY
U. S. WAR BONDS
and STAMPS



The Army-Navy "E" flag, emblem of production excellence, flies proudly over the Fitzgibbons plant.

FITZGIBBONS BOILER COMPANY, INC. • 101 PARK AVE., NEW YORK 17, N. Y.
Works: Oswego, N. Y. • Branches in Principal Cities

FITZGIBBONS

STEEL HEATING BOILERS SINCE 1886



WING DUCTS made by FRINK help give them speed!

One American-built fighter plane has proved especially effective against the Nazis in Russia. It is deadly efficient at surprising and strafing enemy troops from house-top heights. "Shaving," our Russian allies call it. They call the plane "Little Shaver."

"Little Shaver" owes much of its effectiveness to its speed. Its speed depends in part on its cooling system. And that's where Frink comes in. Frink makes the aluminum ducts that rush cold air from the leading edge of the wings back to the engine. Without this cooling draft of air the engine would quickly over-heat and stall.

The Frink Corporation has specialized in precision manufacturing and engineering for 86 years. During that time the name Frink has become synonymous with quality and skill in the lighting industry.

A pioneer in Fluorescent illumination as well

as Incandescent lighting, The Frink Corporation developed LINOLITE, the famous "engineered for vision" Fluorescent equipment now giving such efficient and profitable service in many of America's foremost factories, stores and banks.

Today Frink is heavily engaged in producing war equipment. Tomorrow Frink will resume engineering and manufacturing the high-quality lighting equipment that has gained such an enviable reputation in the industry.

LIGHTING SINCE 1857



Subsidiaries: Sterling Bronze Company, Inc.
Barkon-Frink Tube Lighting Corporation

★ ★ ★ All Frink employees invest at least 10% of their earnings in War Bonds. ★ ★ ★

WE ARE PROUD OF THAT RECORD. LET'S ALL BUY WAR BONDS!

AEROFIN

Heat Exchange Surface

ALL STEEL COILS

CONSTRUCTION

● **TUBES**—Heavy .049" wall thickness low carbon steel-seam welded tubes—offset to expand or contract under all temperature changes. Protected with a coating of solder over the exterior surface.

● **FINS**—are of low carbon steel spirally wound around the tubes in such a manner as to secure the maximum contact between prime and extended surfaces. Fins are protected with a coating of solder which also forms a *permanent metallic* bond between fin and tube. No falling off of transfer with usage due to loosening of the bond between fin and tube. Different spacing of the fins on the tubes makes available varying temperature ranges and thus permits accurate selections to meet the requirements of the engineer.

● **HEADERS**—of large diameter pipe insure adequate steam supply. All connections are male pipe thread.

● **TUBE JOINTS**—are made between tubes and headers by brazing.

● **ORIFICES**—in the inlet end of each tube insure equal distribution of steam through all tubes.

● **CASINGS**—are of heavy gauge steel and have the same standardized dimensions as copper Aerofin Flexitube coils.

● **TYPES OF SURFACE**—steel Flexitube heating coils are available in three fin spacings and in one or two rows of tubes in depth, allowing a wide range of selection to meet temperature rise requirements.

Write for complete technical literature on your specific problem.

AEROFIN CORPORATION

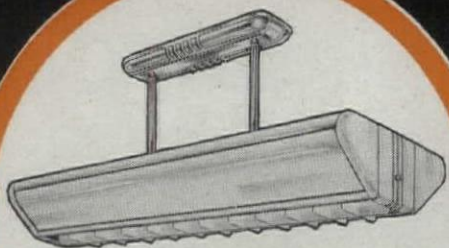
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AEROFIN
is sold only by
Manufacturers
of Nationally
Advertised
Fan System
Apparatus.

List upon Request

FOR WORK AREAS

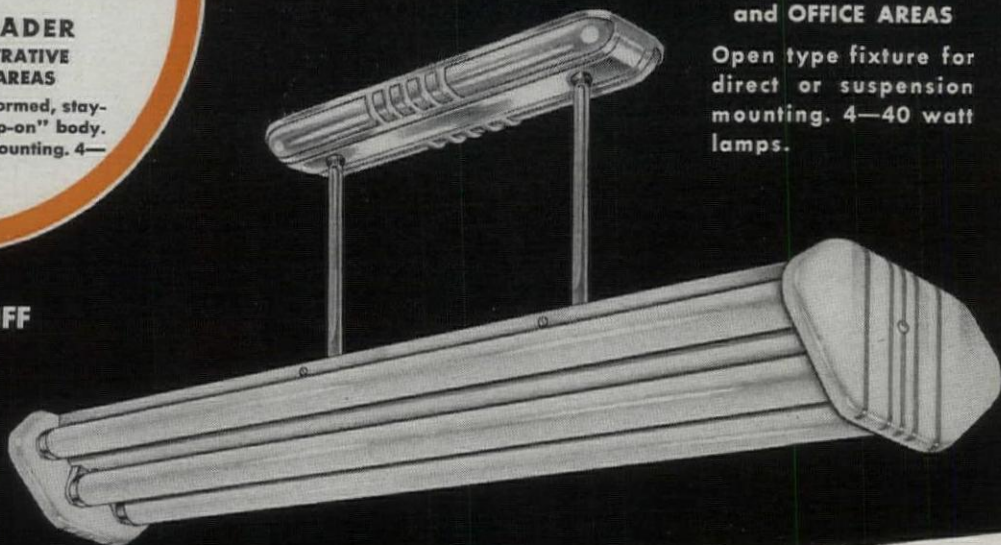


The CRUSADER FOR ADMINISTRATIVE AND OFFICE AREAS

New type plastic die-formed, stay-put side panels. "Snap-on" body. Direct or suspension mounting. 4—40 watt lamps.

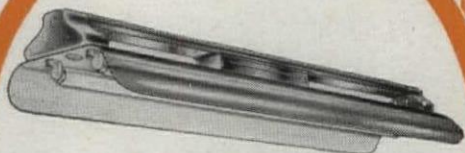
The PARKWAY for ADMINISTRATIVE and OFFICE AREAS

Open type fixture for direct or suspension mounting. 4—40 watt lamps.



5-Seconds ON-and-OFF

Merely release spring clips and the entire reflector or body drops, making all parts accessible for servicing.



The DAY-LINE FOR PRODUCTION AREAS

For a single unit or continuous installations. "Snap-on" reflectors for low cost maintenance; 2—40 watt, 3—40 watt and 2—100 watt lamps.

LOW-COST MAINTENANCE Continuous Money Savings not Reflected in Original Price

Engineered for quick accessibility to all working components, these fixtures can be constantly kept at their peak of illumination efficiency—thus assuring a day-to-day effective return on your light-dollar investment... Their simplified mechanical design not only assures structural rigidity, but avoids time-consuming, expensive, continuous maintenance... Get details from your Day-Brite engineering representative. Descriptive literature on request.

DAY-BRITE LIGHTING, INCORPORATED
5461 Bulwer Ave. • Saint Louis 7, Missouri

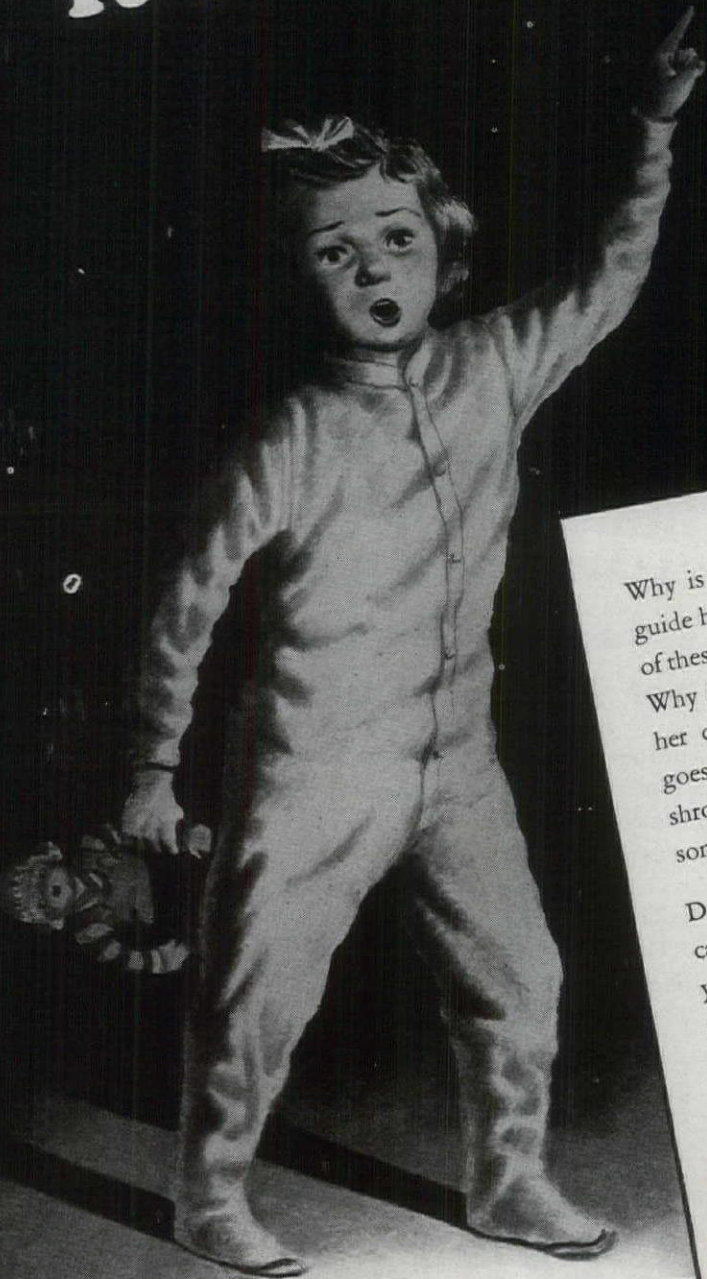


The Sign of Quality
Look for this Label

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

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

**“Daddy,
it’s DARK up there!”**



Why is it that a child *must* have a light to guide her up to bed? Where does she get all of these ideas of gremlins, goblins and ogres? Why is a light so comforting, dispelling all her childish fears? As far back as history goes, man has feared the dark because it shrouds his surrounding world with fearsome mystery.

Darkness can bring disaster. Despite the precautions of utility companies, accidents beyond their control can cause interruptions of normal electric current, and lead to human injury, sabotage and damage to equipment.

But, when an Exide Emergency Lighting Unit is on duty, it operates instantly and automatically to give full protection. Wire or write your nearest Exide Branch and ask to have this service explained to you.



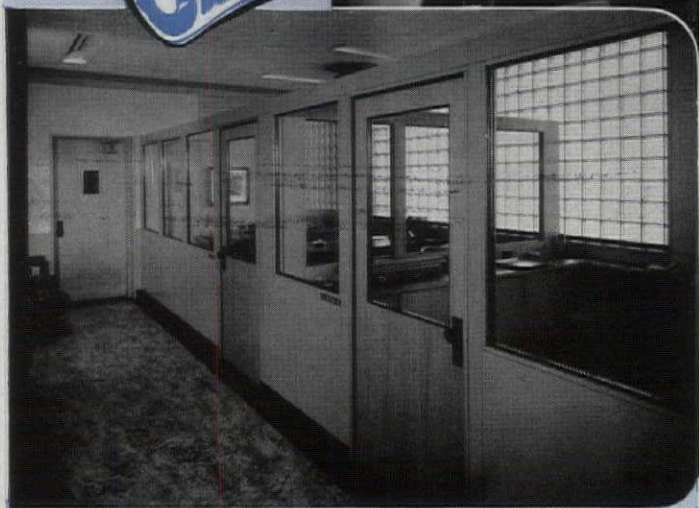
Exide
EMERGENCY
BATTERIES

THE ELECTRIC STORAGE BATTERY CO.
Philadelphia 32
Exide Batteries of Canada, Limited, Toronto

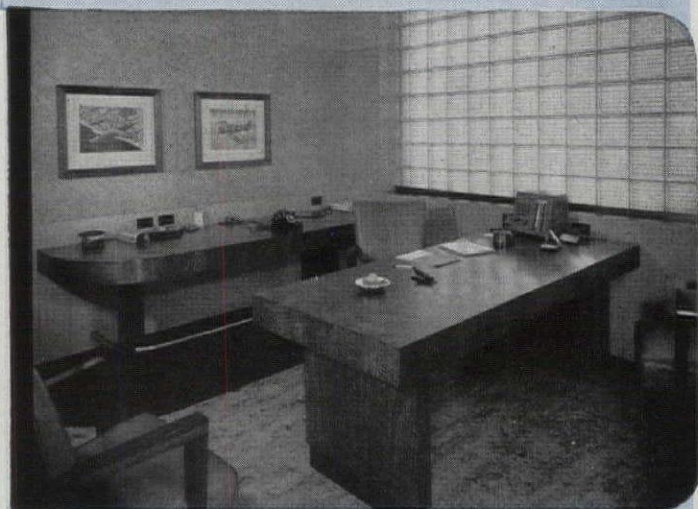
AN
ENGINEERING OFFICE
COMPLETELY
FINISHED WITH
**FORMICA
PLASTICS**



General Drafting Room, Desk Tops,
Counters, Walls of Formica.



Partitions and Doors for Executive offices, Grey Formica.



Chief Engineer's Desk is Formica Realwood.

YOU would get a thrill from the business-like modernity of this engineering office which is completely finished in Formica plastics—walls, ceilings, desks, partitions.

Everything is done in restrained work-a-day colors with grey and black predominating, but the dense, smooth surfaces give a most modern, efficient atmosphere.

It is highly practical, too. Easy to keep clean and shining because Formica can be cleaned with a damp rag or with soap and water. Horizontal areas are cigarette-proof, so refinishing will not be necessary because of cigarette burns.

The surfaces will retain their color and resist checking and crazing indefinitely, so it is very unlikely that anything will ever be spent for repairs or maintenance. After the war many offices will be finished in this way.

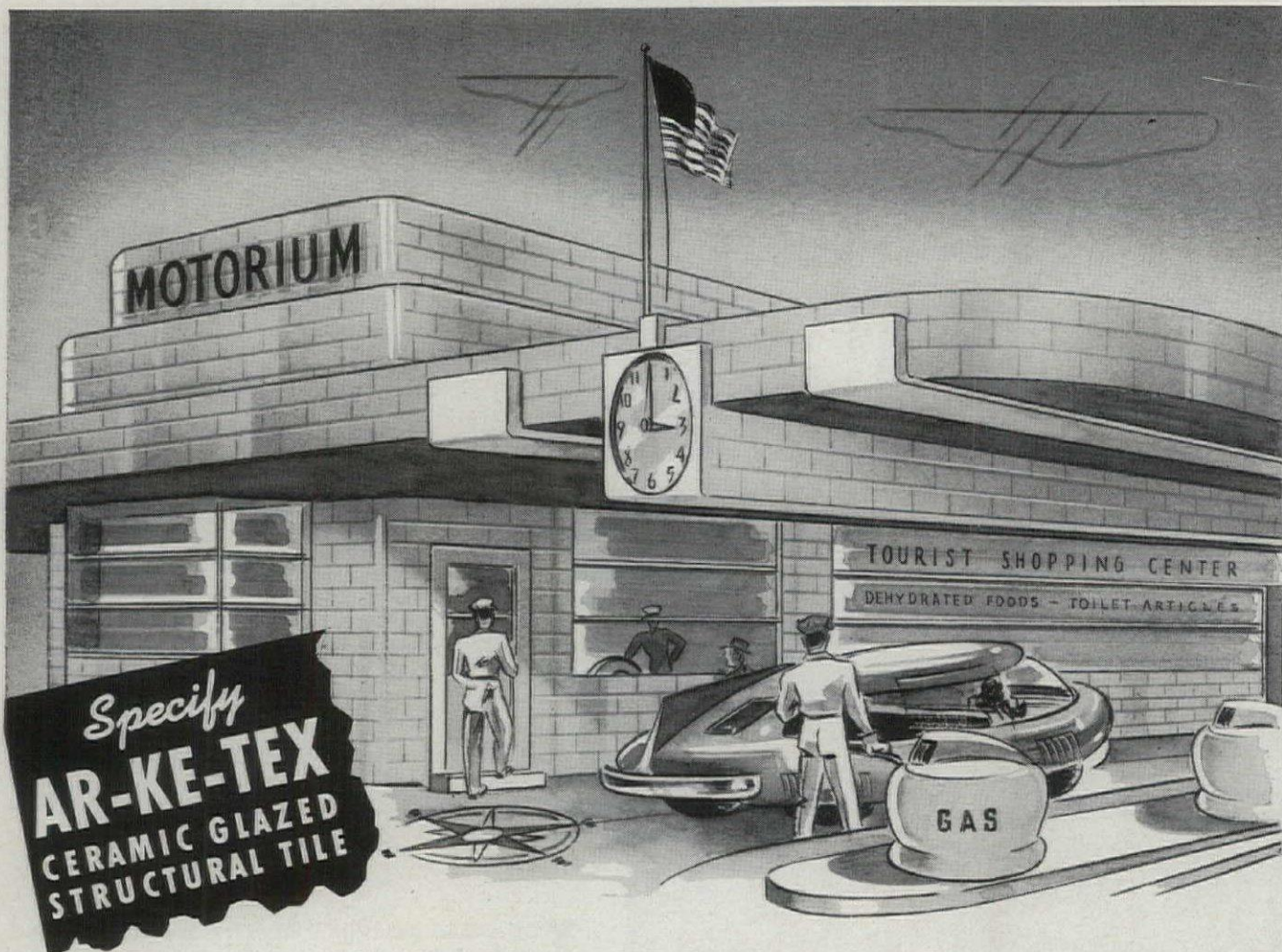
"The Formica Story" is a sound moving picture showing the qualities of Formica, how it is made, how it is used. It is available for professional meetings.

THE FORMICA INSULATION COMPANY

4651 Spring Grove Avenue

Cincinnati 32, Ohio





WEATHER-PROOF
WALLS
of
IMPERISHABLE
COLOR
BEAUTY
LUSTRE
for
MOTOR
HIGHWAY
BUILDINGS

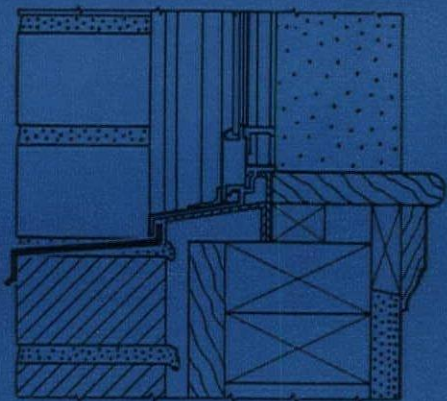


TOMORROW'S super highway centers are going to look the part. They will be styled to achieve the utmost in eye appeal . . . quality-built to cut maintenance to a minimum. No material so fully meets these architectural and functional requirements as AR-KE-TEX Ceramic Glazed Structural Tile—wall and finish *all-in-one*. Blazing sun and freezing cold, alike, leave its beauty and lustre unaffected. AR-KE-TEX dozen colors are everlasting . . . its glazed, impenetrable surface impervious to the effects of oils, grease, moisture, acids or alkalis. Because AR-KE-TEX walls eliminate the expense and bother of refinishing or painting they actually pay for themselves within only a few years. Since it is available in a dozen colors and textures, AR-KE-TEX makes it possible to achieve any desired architectural effect or color scheme. Today, our new Circular Continuous Kiln is producing an even better AR-KE-TEX Ceramic Glazed Structural Tile—around the clock. And we can furnish definite shipping promises within 24 hours after your inquiry reaches us.

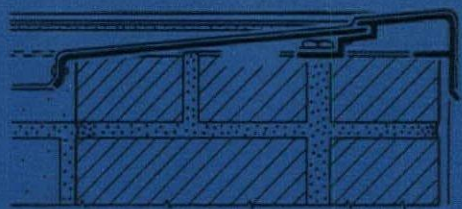
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Aluminum sill used with double-hung aluminum window; equally adaptable to a wood window.



This coping is a combination of an extruded shape and formed aluminum sheet.

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Wartime Construction*
**ALCOA ALUMINUM
SILLS AND COPING**

Structures scheduled to be built soon—hospitals, recuperation centers, housing projects and the like—will require fewer man-hours if Alcoa Aluminum window sills and coping are employed. The natural lightness of aluminum, coupled with their design, makes handling and erection easier. Installation methods and anchoring devices are simple. Maintenance costs are low, because construction is easy to keep weathertight and aluminum requires no protective painting.

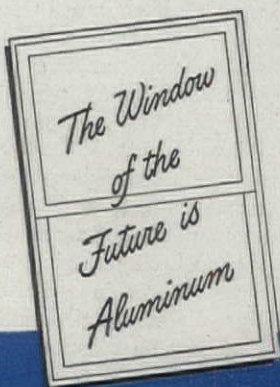
There now exist procedures under WPB whereby you may be able to obtain approval for the use of aluminum on your projects.

Alcoa Aluminum window sills and coping meet

all the requirements for exacting performance, replacing heavier, harder-to-handle building materials. The extrusion process places metal exactly where it's needed functionally and for strength. Dies are available to produce standard shapes to suit most types of construction. Coping shapes, used in combination with formed aluminum sheet, provide an economical and permanently watertight cap.

Those who wish to use aluminum for these purposes should apply to Aluminum and Magnesium Division, WPB, Washington 25, D. C.

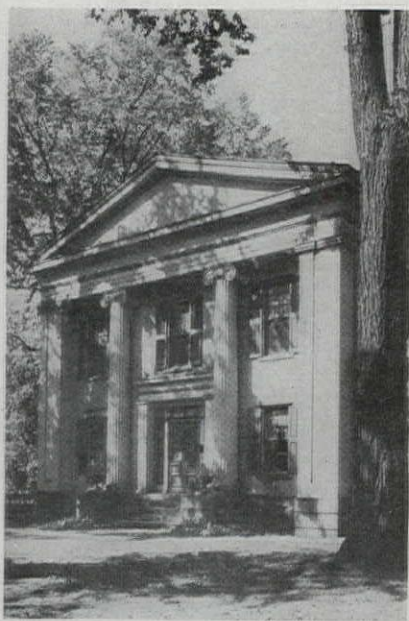
The booklet, "Window Sills & Coping of Alcoa Aluminum", shows many of these standard shapes, together with construction design details. For a copy, write ALUMINUM COMPANY OF AMERICA, 2167 Gulf Building, Pittsburgh, Pennsylvania.



ALCOA ALUMINUM



REQUIRED READING



Wooster-Boalt House at Norwalk, Ohio. Built in 1848 as a girls' school. From "Greek Revival Architecture in America"

GREEK REVIVAL ARCHITECTURE IN AMERICA

By Talbot Hamlin. New York (114 Fifth Ave.), Oxford Univ. Press, 1944. 6¼ by 9½ in. xl + 439 pp. and 94 plates. \$7.50.

"The writing of a book of this nature required not only a scholarly knowledge of the subject, but also a profound and sympathetic understanding of the culture and thought of the people, their background, their traditions, their aspirations and achievements," Dean Leopold Arnaud, of the Columbia University School of Architecture says in his foreword to this latest book by Talbot Hamlin. The knowledge and understanding indubitably are here, and the scholarly approach is evident throughout, yet this book is happily lacking in the verbosity and dryness which in less skillful hands it could so easily have had. Wide in scope, exhaustive in treatment, carefully annotated, it is nonetheless interesting and pleasant reading.

Following three introductory chapters on the background of the Greek Revival architecture in the United States, and the whole adolescence of American architecture, the book is divided geographically, with a chapter for each of eight cities or sections covering among them the whole country: Philadelphia, Boston, New York, the New England states, the Old South, the Gulf Coast, through the South to the Mississippi, through the North to the Pacific. And a final chapter sums it all up in an analysis of why the

Greek Revival succeeded, and why it failed. The arrangement of the material thus is logical, well suited to a book that doubtless will be widely used for reference.

Seeking the explanation of the success of the Greek Revival, Mr. Hamlin finds it partly in the general culture of the period: "... before 1815 culture had been rationalist and theocratic and after that it became primarily aesthetic and libertarian," he asserts. The American people in the years between 1815 and 1845-50 were steeped in the classics. The arts suddenly came into their own, and a new aesthetic sensitiveness swept the country. And though we may laugh at certain of its aspects—the "mawkish sentimentality of the earlier years of Godey's *Lady's Book*," and "its occasional pretentions"—yet, never before or since "has there been a period when the general level of excellence was so high in American architecture, when the ideal was so constant and its varying expressions so harmonious, when the towns and villages, large and small, had in them so much of unostentatious unity and loveliness as during the forty years from 1820 to the Civil War."

In the economic state of the country during that period Mr. Hamlin finds a second reason for the success of the Greek Revival architecture. The country was rich, expanding, growing, in constant need of "an amazing amount of building of every kind." The new style caught on quickly, and flourished.

But why did it finally fail? Why did it not continue to develop? What killed it? Again Mr. Hamlin finds his answer in terms both cultural and economic: in "logic and the ostentation of the new-rich;" in the derivative basis of the Greek Revival as a style—why stop at the Greek?—and in the urgency of the new millionaire's desire to make his money obvious to all.

Mr. Hamlin has given us here a thought-provoking and inspiring book, as well as an extraordinary beautiful one. It is copiously illustrated—there are almost a hundred plates, and many plans—and further enriched by a double appendix on the American development of Greek-inspired forms and articles of architectural interest published in American periodicals prior to 1851. And for good measure there is a detailed bibliography and an easily workable index. This is a book which no one will want merely to read: it is a book to own. For here is the history of what was once—regardless of our present opinion—an important influence on architecture in this country.

WRITINGS ON EARLY AMERICAN ARCHITECTURE

An Annotated List of Books and Articles on Architecture Constructed before 1860 in the Eastern Half of the United States. By Frank J. Roos, Jr. Columbus, Ohio (The Ohio State Univ. Press), 1943. 6 by 9½ in. viii + 271 pp. \$2.75.

Apart from the introduction and the index, this book consists solely of a list of almost three thousand references of all kinds: titles of books and articles on architecture in the eastern half of the United States prior to the Civil War. The Introduction explains the scope of the list and methods of classification of titles, offers suggestions for its use, and makes a few pertinent remarks on past scholarship in the field.

The need for a book such as this is obvious. It is indeed to be hoped, as Professor Roos says in his introduction, that someone will compile a similar list for the areas and periods not here-in covered.

NEW EDITIONS

PLASTICS CATALOG

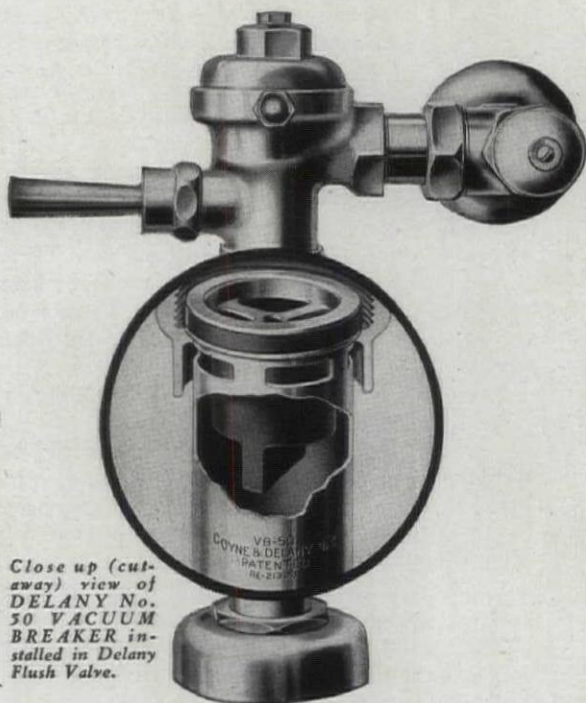
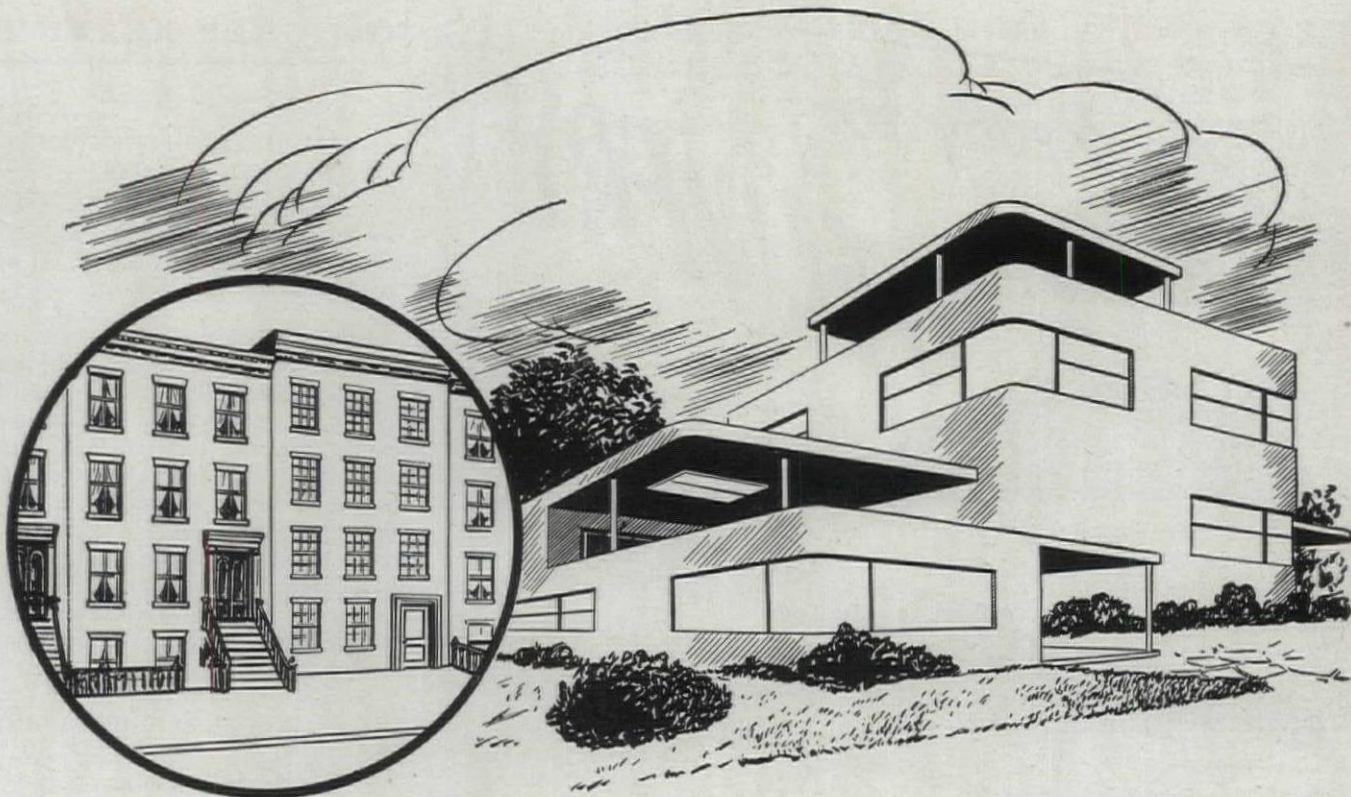
1944 *Encyclopedia of Plastics.* New York 17 (122 E. 42nd St.), *Plastics Catalogue Corp.*, 1944. 8½ by 11½ in. 990 pp. + charts, tables and inserts. illus. \$6.00

Like many another hardy annual, the "Plastics Catalog" gets bigger and better with each new edition. This year's runs to more than a thousand pages all told, is handsomely bound, and both profusely and colorfully illustrated. Close to 150 articles are included.

Here the history and development of plastics materials in every branch of industry are once again brought up to date. "Case histories" are given of 40 major plastics developments used by the Army and Navy, with figures given wherever possible on savings in time, manpower, weight, etc. New materials and manufacturing methods are discussed; a whole new section on Tests and Specifications includes procedures on identification, a list of standard testing methods, and the approved ASTM specifications for plastics materials.

The catalog is divided into 10 sections: Plastics in War; Tests and Specifications; Materials; Engineering and Molding; Fabricating, Finishing and Assembly; Machinery and Equipment; Laminates; Plywood and Vulcanized Fiber; Coatings; Synthetic Fibers; Synthetic Rubber and Rubber-like Plastics. In addition there is an index and directory section including a bibliography, a glossary of commonly used terms, and a list of educational institutions offering courses on plastics.

(Continued on page 28)



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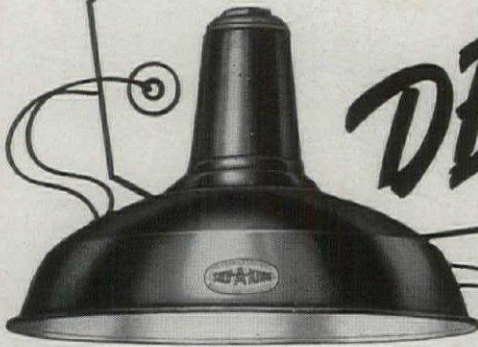
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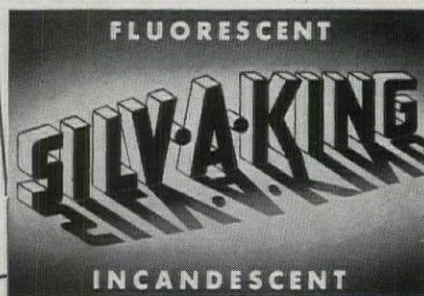
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REQUIRED READING

(Continued from page 26)

MOVABLE AND LONG-SPAN STEEL BRIDGES

George A. Hool and W. S. Kinne, ed. *New York (330 West 42nd St.), McGraw-Hill Book Co., Inc., 1943. 2nd ed. 6 1/4 by 9 1/4 in. illus. 497 pp. \$5.00.*

Here is an enlarged and corrected second edition of another of the six volumes in the Structural Engineers' Handbook Library. A considerable amount of new material has been added, particularly in the sections dealing with Bascule Bridges, vertical-lift bridges and continuous Swing bridges. Section 6 on Suspension Bridges has been enlarged by the material pertaining to the George Washington and Golden Gate Bridges, which are compared in detail.

THE ST. MARK'S NEIGHBORHOOD

A Study of Housing and General Property Conditions in a Congested Urban Area. New York (105 East 22nd St.), Community Service Society, 1943. 8 1/2 by 11 in. 50 min. pp. 10 maps. \$0.50.

Originally issued in 1941, this excellent report made jointly by the staffs of the Department of Real Estate, School of Commerce, Accounts and Finance, New York University, and the Committee on Housing of the Community Service Society of New York, has now been revised, largely because of the proposed Stuyvesant Town project (see ARCHITECTURAL RECORD, June, 1943, p. 16), diagonally across 14th Street from the St. Mark's Neighborhood.

The text has also been changed to include additional 1940 U. S. Census data, and more emphasis has been placed on suggestions for postwar redevelopment of the area.

This is an excellent study of one neighborhood and its needs, its habits and its potentialities. Further such studies could do much to bring post-war plans into sharper focus.

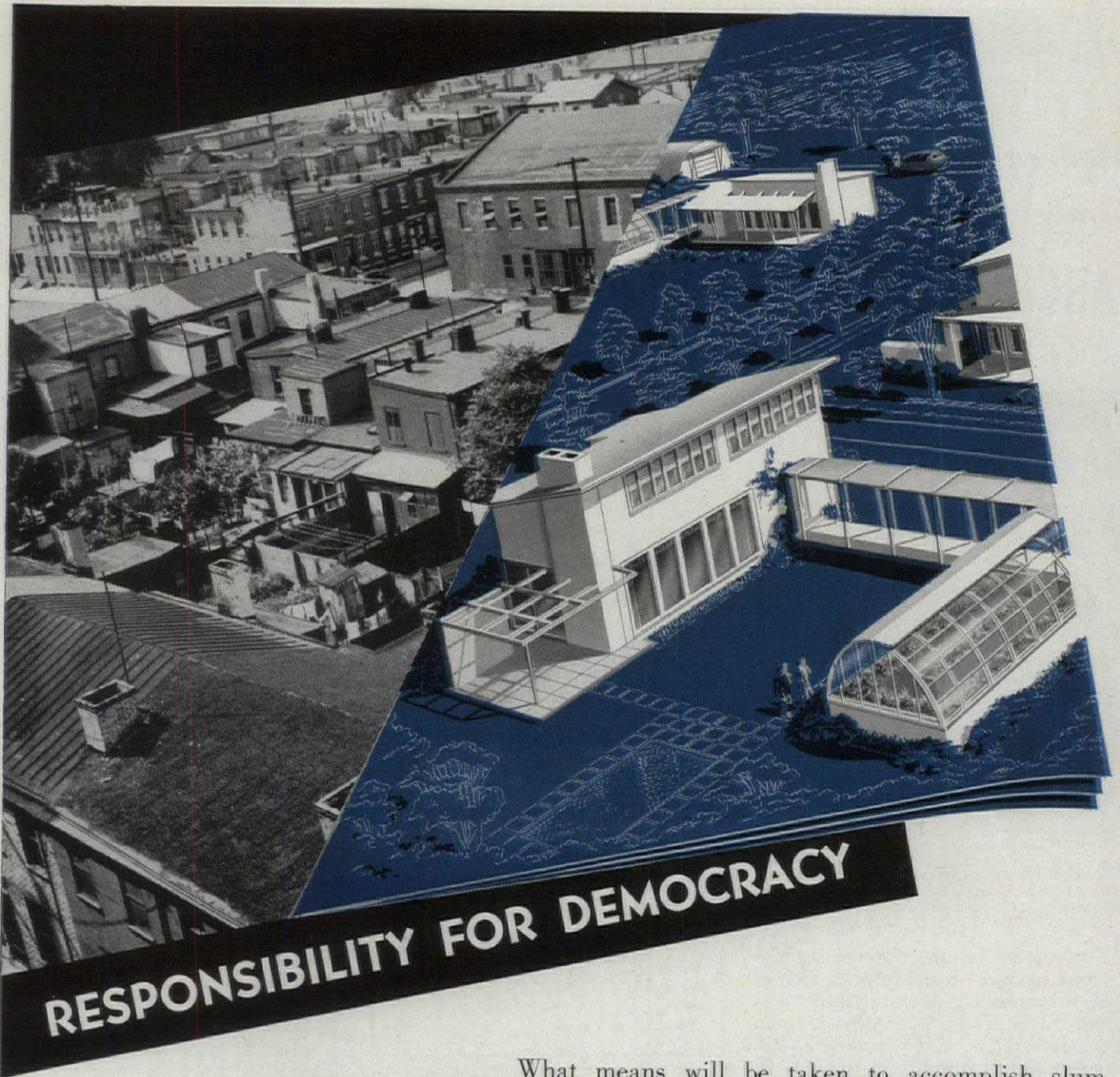
PERIODICAL LITERATURE

"THE VOICE OF THE PROFESSION"

The Journal of the American Institute of Architects, Washington, D. C. (The Octagon), Jan. 1944.

In this first issue of the A.I.A.'s new pocket-sized monthly, Henry Saylor's wide editorial experience and shrewd understanding of the needs of the architectural profession have combined to give us a book that is as pleasing

(Continued on page 30)



RESPONSIBILITY FOR DEMOCRACY

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

STRAN STEEL

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

What means will be taken to accomplish slum clearance in the post-war world have not yet been determined. Yet accomplished it must be, for on a decent standard of living depends much that is vital to the future of democracy.

Versatile and efficient, Stran-Steel framing systems provide the building industry with an effective medium of construction for all types of housing developments. They speed erection, safeguard the building investment, and lend themselves to the application of modern methods and materials. Stran-Steel's engineering experience, greatly increased by large-scale wartime assignments, will be at the service of architects and contractors.

UNIT OF NATIONAL STEEL CORPORATION

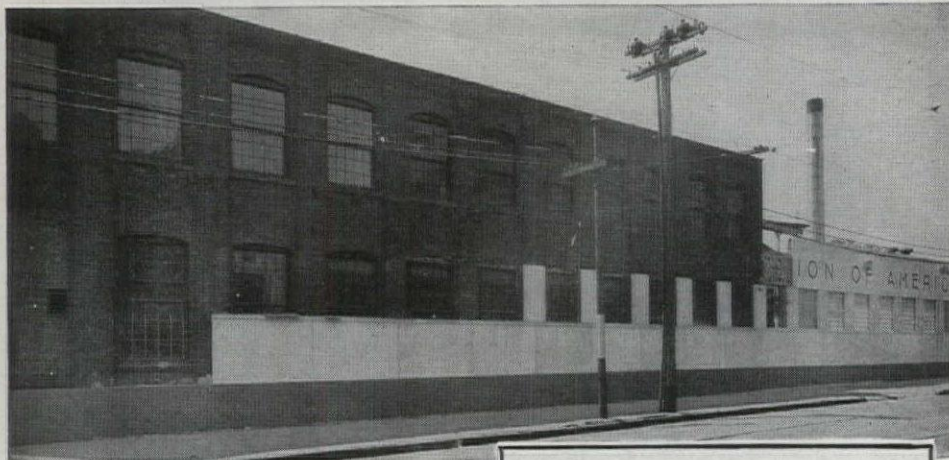
(Continued from page 28)

Modernization and Conversion with thin precast

#6 ARCHITECTURAL CONCRETE SLABS
Notes on the use of thin, prefabricated, concrete building units for modernization

ARCHITECTURAL CONCRETE SLABS

made with Atlas White cement

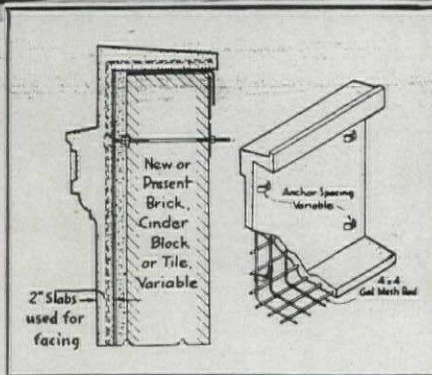


Architectural Concrete Slabs, only two inches thick, go right up over old brick walls to transform the appearance of the Wire Rope Corp. of America plant in New Haven, Conn. Bolts through the old masonry gave permanent anchorage. Architect, Leo F. Caproni, New Haven. Slabs made with crushed quartz and Atlas White cement by The Dextone Co., New Haven.

New economies in modernizing are found in exterior and interior facings of thin precast Architectural Concrete Slabs. These factory-made units of reinforced concrete are only 2-2½ inches thick, making it possible in most cases to retain existing walls and still stay within building lines.

Architectural Concrete Slabs are made of selected aggregates exposed in a matrix of Atlas White cement. Lugs, and hooks and anchors for attaching the slabs, are cast integrally with the reinforcing. Thus a wide range of textures, colors and designs is combined with the structural strength and durability of concrete.

Slabs may be cast in sizes up to 100 square feet or more, and in a variety of shapes—curves, channels and angles—which may be “wrapped around” the building. Combinations of returns and reveals are obtainable



Left: General detail showing how parapet and coping are cast monolithically with facing slab, and method of anchoring to masonry by tie-rods.
Right: Typical of spandrel units with integrally cast return. Note anchors, which receive tie-rods, fastened to embedded reinforcing mesh.

in a single monolithic unit.

For further information ask for the booklet, “Architectural Concrete Slabs.” Write to Atlas White Bureau, Universal Atlas Cement Company (United States Steel Corporation Subsidiary), Chrysler Building, New York 17, N. Y.

OFFICES: New York, Chicago, Albany, Boston, Philadelphia, Pittsburgh, Minneapolis, Duluth, Cleveland, St. Louis, Kansas City, Des Moines, Birmingham, Waco.

AR-ACS-43

Prefabricated

ARCHITECTURAL CONCRETE SLABS

made with ATLAS WHITE CEMENT

Journal of The American Institute of ARCHITECTS



JANUARY 1944.

Let's Stop Tinkering With Building Codes
Factory and Community
Dimensional or Modular Coordination
The Place of the Architect
Post-War Construction and the Government
Maginnis · Robert Moses · MacCormack
Taylor · Coe · Kluber · Goodman · Fisher · Heath
35c
PUBLISHED MONTHLY AT THE OCTAGON, WASHINGTON, D. C.

to the eye as it is stimulating to the mind.

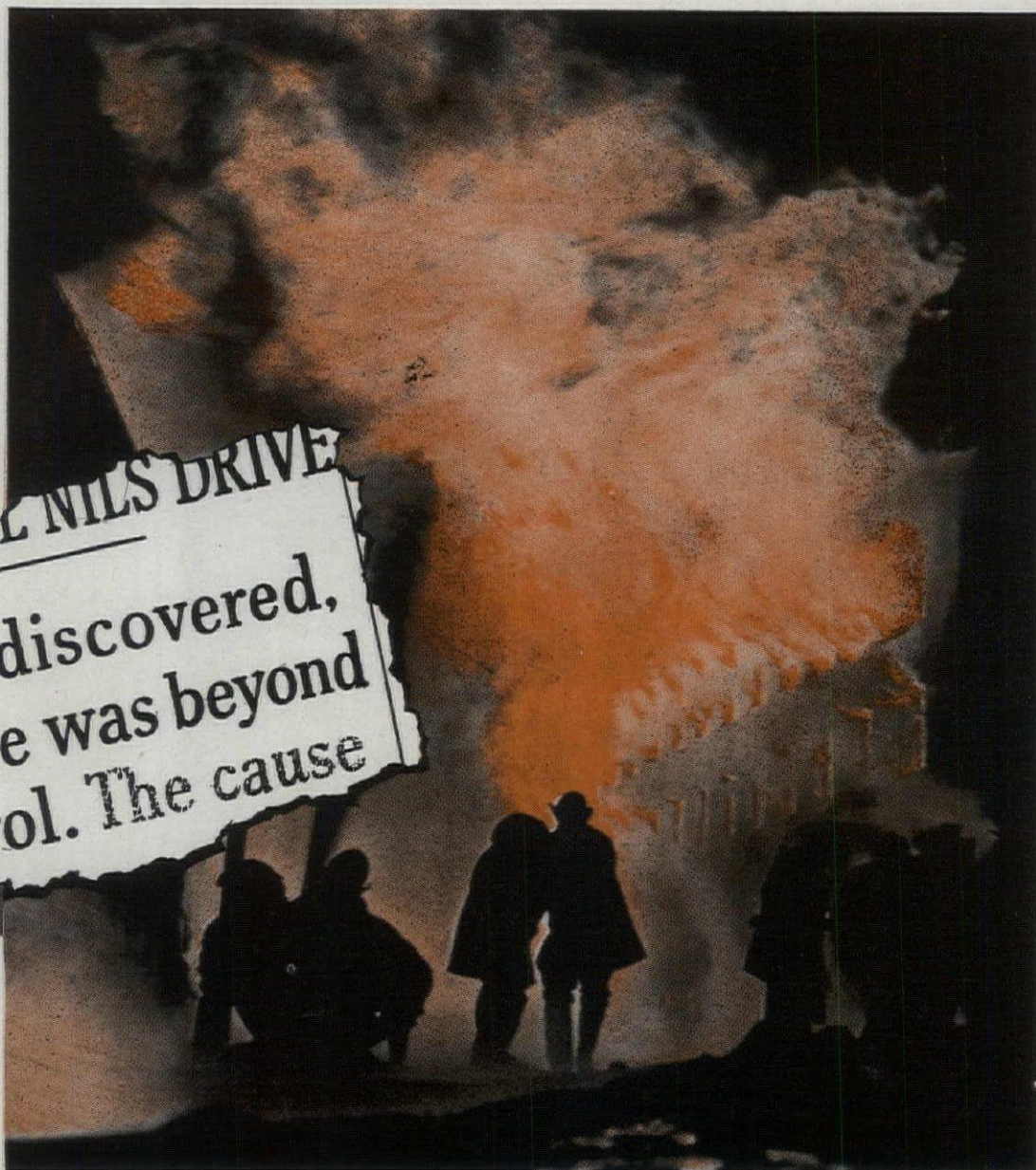
The hope expressed by Mr. Saylor in his introductory editorial, that the *Journal* will “pick up, as with a microphone, the Voice of the profession, and amplify it to audibility,” seems well on its way toward fulfillment. For this first issue gives us two articles on architects—“Musings on the Morrow,” in which Charles Maginnis considers the challenge of the changing times to the profession, and William Taylor’s comments on “The Place of the Architect” in the world of today and tomorrow; an article on dimensional coordination and one on building codes; Robert Moses’ birdseye view of New York City’s mammoth postwar construction program; a digest of a *New Republic* article on “Factory and Community;” and the A.I.A.’s own statement on “Postwar Construction and the Government.” Add to all this, Theodore Irving Coe’s glimpse of “Postwar Materials and Techniques of Construction,” a page of letters, and a decidedly worthwhile department called “Highlights of the Technical Press,” and you have a magazine that is well balanced, interesting and more concerned with the future than with the present.

PLANNING AND PEOPLE

Extracts from an address by Mayor Wilson W. Wyatt of Louisville, Ky. *Recreation, New York 10 (315 Fourth Ave.), Jan. 1944, pp. 567-568.*

“We are always talking about government by the people as well as for the people,” Mayor Wyatt points out. “Well, then, let’s make our community

(Continued on page 32)



MANDATE NIS DRIVE

When discovered,
the fire was beyond
control. The cause

GIVE FIRE A FIVE MINUTE START in an unprotected plant or warehouse and you can count on a crippled or destroyed business. All the insurance in the world will not save the building nor buy back lost customers. Neither will "fireproof" construction prevent burning contents from reducing a structure to twisted steel and broken cement.

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overworked motors . . . all these have increased your chances of a disastrous fire.

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about Automatic Sprinkler Fire Protection



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A. No. A Grinnell System is prefabricated in our plant, installed in your plant by men so expert they've equipped hospitals without disturbing patients.



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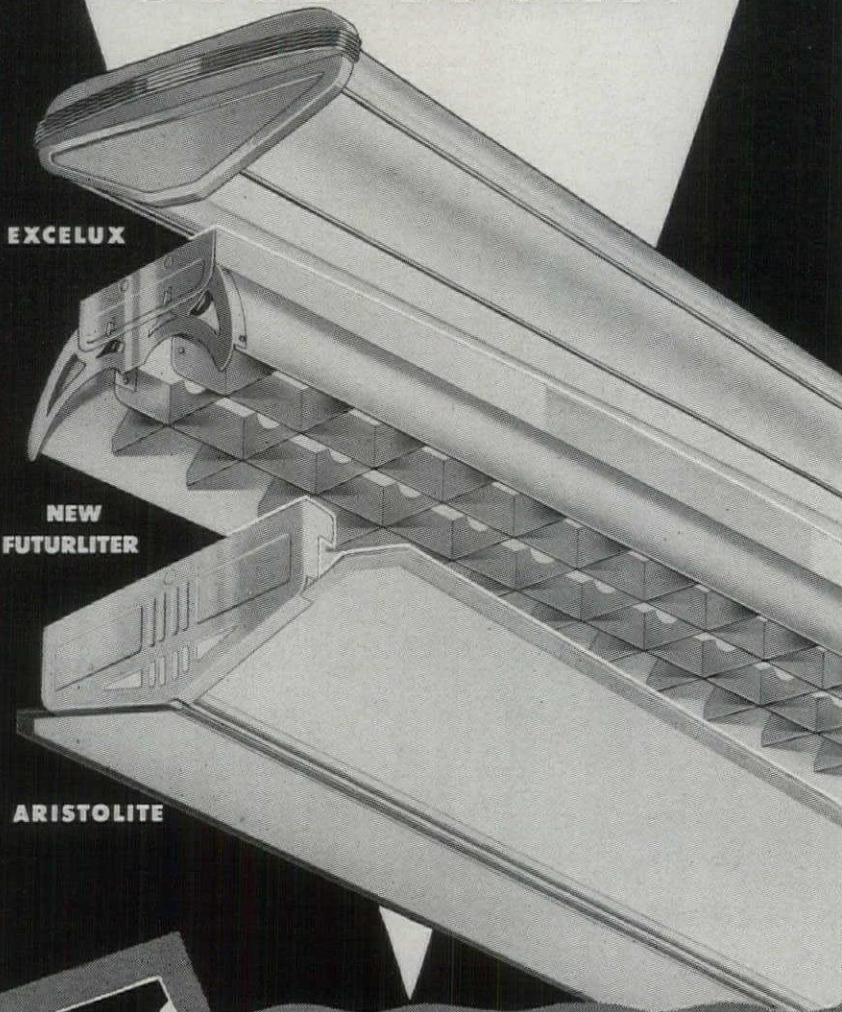
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REQUIRED READING

(Continued from page 30)

planning by the people. . . I venture the prediction that where properly selected citizen committees, in cooperation with local officials, prepare a community's postwar plans—or area development, as I should prefer to call them—a large part of the final projects will become realities, for they will represent the ambition of the people for their city."

Sound common sense, that! Find out what the citizen wants for his city, invite him to share in the planning of it, and action and public backing will be assured.

THE WORK OF THE NIAGARA PARKS COMMISSION

By Ronald Way. *Journal of the Royal Architectural Institute of Canada, Toronto* (57 Queen St., W.), Dec. 1943, pp. 207-218. *illus.*

Despite its title, this article is chiefly concerned with Ontario's famed Niagara Parks, their history and development. Conceived some fifty years ago, the Parks now cover 35 miles, and border the Canadian bank of the Niagara for its full length from Lake Erie to Lake Ontario. The Niagara Parks Commission has jurisdiction over this whole area.

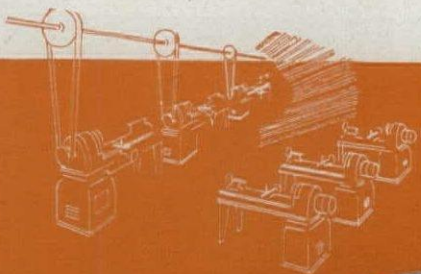
Ronald Way, historian to the Commission, has sketched here the policy of the Commission in the improvement and development of the Parks, and gives brief descriptions of some of the Commission's latest achievements. These include the Oakes Garden Theater, the Rainbow Gardens, a restaurant, several important restorations, and the School for Apprentice Gardeners.

POSTWAR PLAN FOR SAN FRANCISCO WATERFRONT

By M. Deming Tilton. *Architect and Engineer, San Francisco* (68 Post St.), Dec. 1943, pp. 12-23. *illus.*

As Director of Planning, San Francisco City Planning Commission, Mr. Tilton "knows whereof he speaks." This is a clear, concise report on the Commission's tentative postwar development plan for the entire San Francisco waterfront. With maps and diagrams he points out the existing problems, the general benefits of the Commission's plan, and the basic proposals.

As for the plan itself, it is wide in scope, embracing the filling in of tidal areas on San Francisco Bay to the extent of about 730 acres, sewer projects, a continuous 23-mile shoreline drive, various recreational facilities, and small boat harbors.



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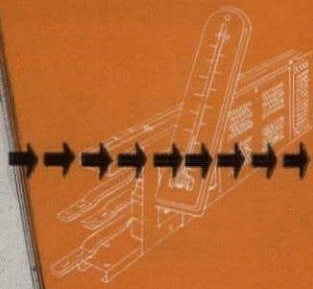
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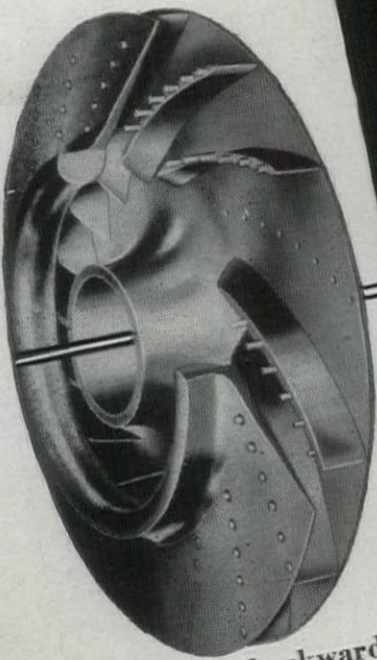
Bus Duct **FACTS** are contained in Bulletin 3286. This bulletin is a concise ... complete ... usable handbook on Bus Duct. It tells why Victory Bus Duct should be used ... why it meets Limitation Order L-273 ... why every rating carries complete Underwriters' approval. In addition, it gives data on plug-ins and fittings; dimension data; and specifications.

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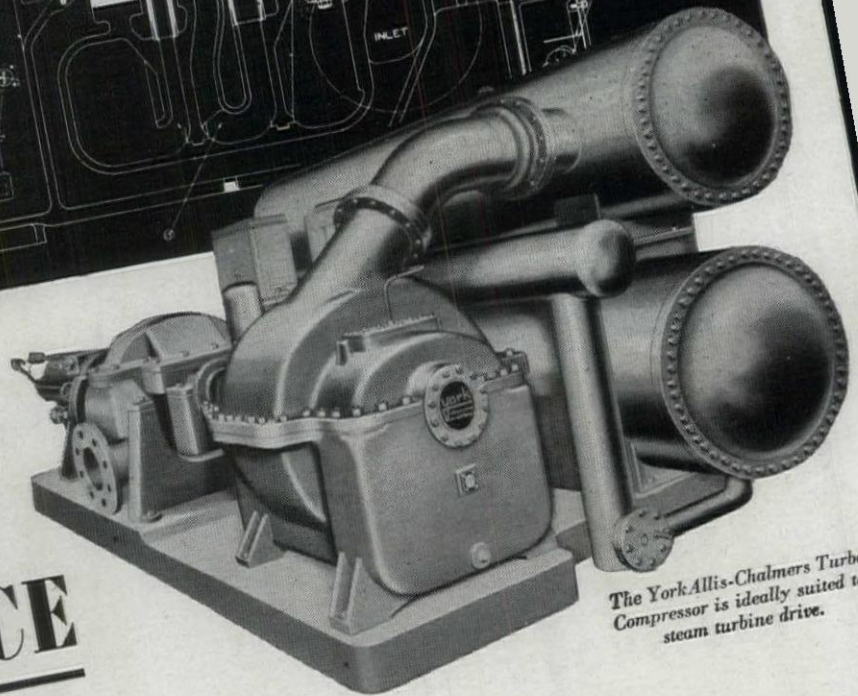
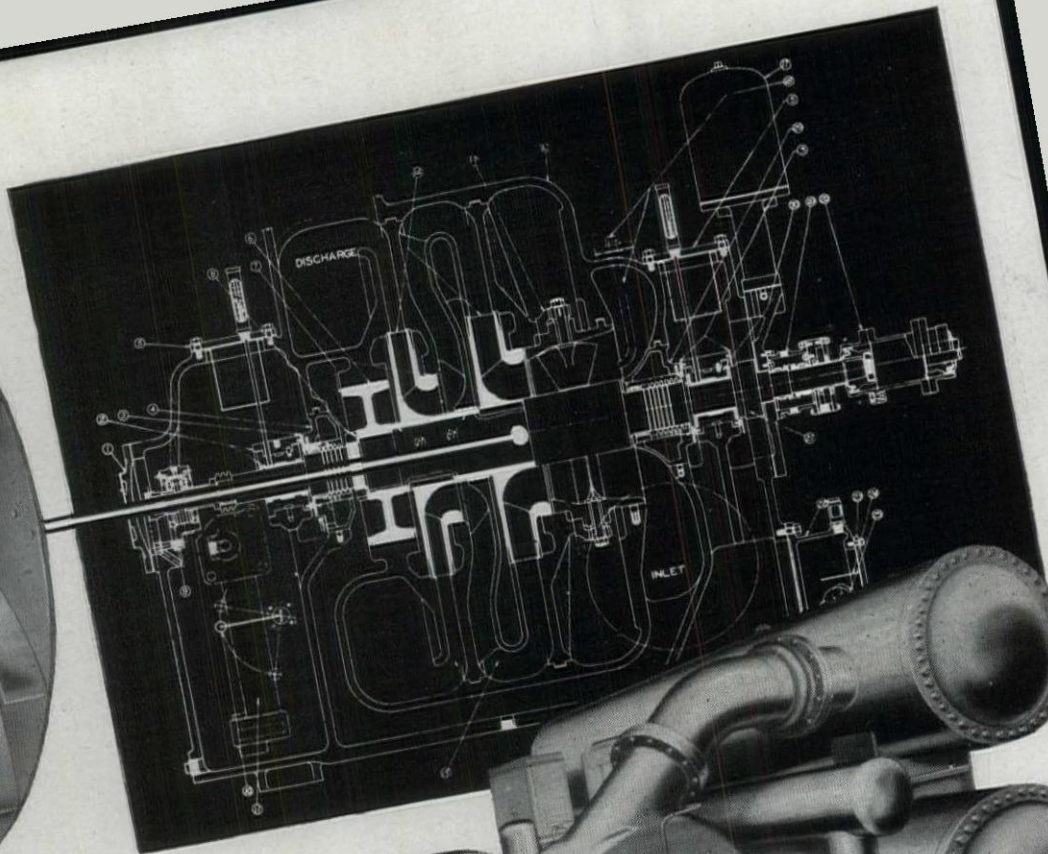


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There is no copper tube made anywhere that has more care exercised in its manufacture than STREAMLINE copper tube. It is held to very close tolerance to promote the ideal piping connection when used with STREAMLINE fittings. The STREAMLINE fitting has an exclusive feature—the feed hole—which enables the plumber to tell visually when a perfect leak-proof joint has been made.

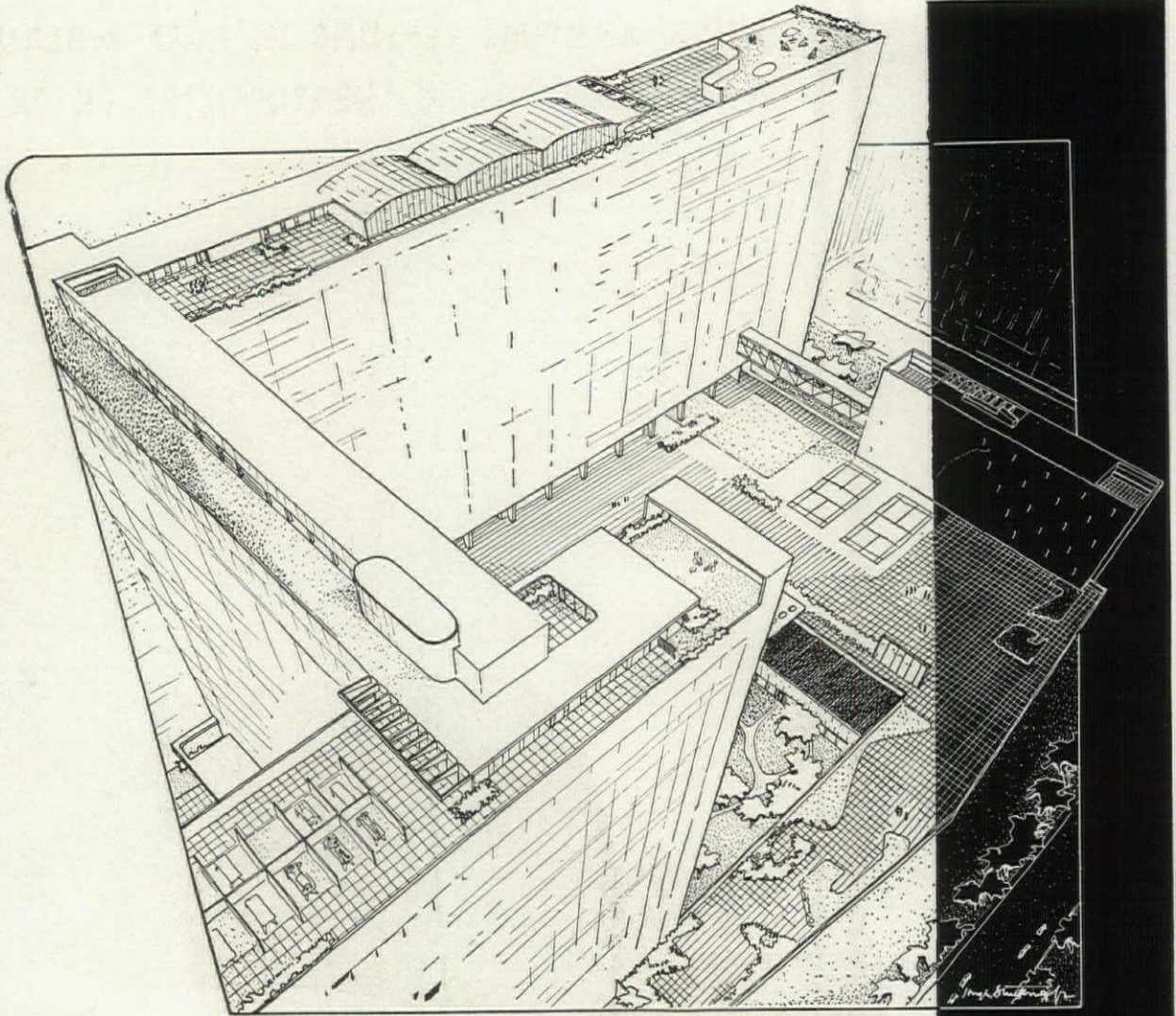
STREAMLINE copper tube and fittings were the twin products that revolutionized piping methods for plumbing, heating, water works and many other uses—and although they are now in the service of our country, in the war effort, they will when peace returns, be used once more by the plumbers and steamfitters of America to build the perfect piping installation.

STREAMLINE
PIPE AND FITTINGS DIVISION
MUELLER BRASS CO.
PORT HURON, MICHIGAN

- 1. TUBE PIERCING
- 2. TUBE QUENCHING
- 3. DRAWING
- 4. HEAT TREATING

—HARD GOVT. TYPE M—

—HARD GOVT. TYPE M—



HOSPITAL IN 194X



Reasoning that traditional limitations of design will be put to the test in post-war building, architect Hugh Stubbins, Jr., on the staff of Harvard's Graduate School of Design, has studied this hospital plan "from the roof down." For it is in the roof plan, he explains, that most hospital architecture of the past has wasted a maximum of vitally needed space.

Shown here by contrast is the busy and efficient roof of a "typical" hospital of tomorrow—with indoor and outdoor solariums, pools, physical therapy and exercise areas, rest stations, convalescent wards and restau-

rant facilities . . . *all in the roof plan alone!*

Barrett Specification Roofs, because of their extreme adaptability, now make it possible for architects and social planners to execute many of the revolutionary improvements in living, housing and working conditions that are awaiting the end of this war. Then, as now, these famous coal-tar pitch and felt roofs will provide the maximum in dependable, long-lasting waterproofing and weather-proofing protection.

* * *

The hospital shown here is fifth in the Barrett series of designs by outstanding American architects devoted to functional planning in roof architecture. You are invited to write today for reprints of the complete series for your files.

THE BARRETT DIVISION

ALLIED CHEMICAL & DYE CORPORATION

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*Reg. U. S. Pat. Off.



New York Designer Leo Jiranek, born in Grand Rapids, has specialized in furniture and home furnishings ever since receiving his engineering degree from Princeton in 1922. As consultant to some of the country's leading manufacturers he has worked with many materials, including plastics.

FROM WARTIME LESSONS IN PULP MOLDING ... A MOLDED PLASTIC THEATRE LOGE CHAIR

Until very recently it bordered on Sunday supplement sensationalism to talk about molding plastics into forms as large and intricate as the comfortable, spring-base theatre loge chair which the well-known furniture designer Leo Jiranek has suggested here. But war-stimulated research on the problems of forming plastics-impregnated paper pulp... plus experience with fluid pressure molding of plastics-bonded plywood... have opened up vast and exciting new possibilities.

Tomorrow it may well be possible to produce strong, durable articles like Mr. Jiranek's

chair which will combine the strength of laminated plastics with the excellent finish, complexity of form and production economy of conventionally molded plastics.

Complete experimental pulp molding equipment has been installed in Monsanto's plastics laboratories, and the many problems involved in this new and highly promising technique are being thoroughly explored in cooperation with leading pulp molders.

Sketches below illustrate details of how this technique might be applied to a problem like Mr. Jiranek's chair.



Plastic in form of resin is added to a mixture of paper pulp and water in a beater of type used in paper mills.



Pulp is then pumped to felting tank in which a die made of wire screening is suspended.



When air is evacuated from die, vacuum attracts pulp particles, producing preform approximate shape of chair.



Preform is dried, may then be molded by rubber bag method to give it final finish.



Upholstery might be Monsanto's water-proof, washable Saflex.*

Body might be pulp impregnated with either Resinox* or melamine resins.

Ash tray in arm could be conventionally molded from Resinox.*

Arm light could be molded from Lustron*, Resinox* or Fibestos.*

Ingenious feature of Jiranek chair is spring base. This, of course, would be metal.

*The Broad and Versatile Family of Monsanto Plastics

(Trade names designate Monsanto's exclusive formulations of these basic plastics materials)

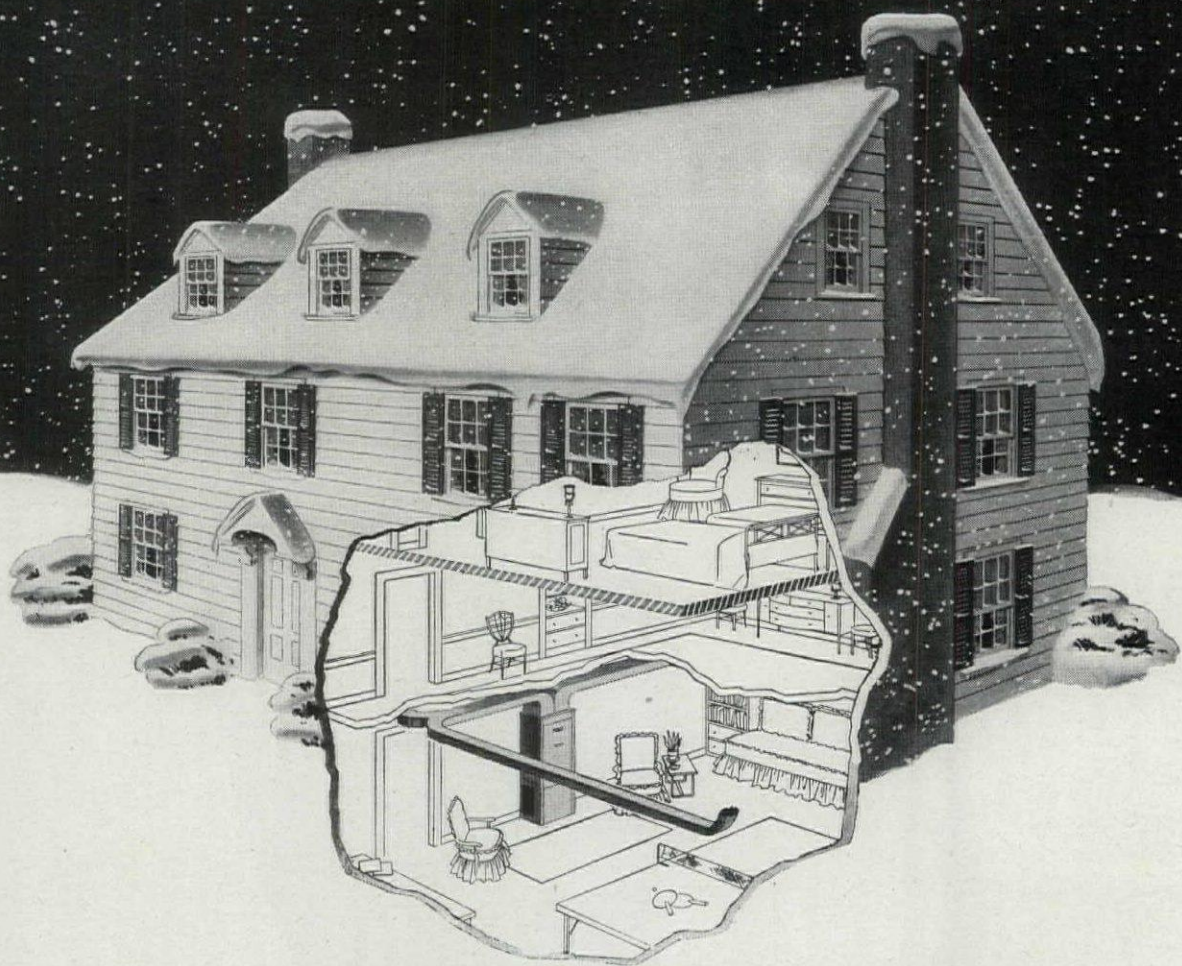
LUSTRON (polystyrene)
SAFLEX (vinyl acetal)
NITRON (cellulose nitrate)
FIBESTOS (cellulose acetate)
OPALON (cast phenolic resin)
RESINOX (phenolic compounds)
Sheets • Rods • Tubes • Molding Compounds • Castings • Vupak Rigid Transparent Packaging Materials



FOR FACTS ON POSTWAR PLASTICS ...

For more facts on pulp molding—and on many other new developments likely to affect the shape of things to come—see the 24-page booklet, "The Family of Monsanto Plastics," prepared especially for product designers. Also included are charts, graphs, photographs and information on the complete line of Monsanto plastics, one of the widest and most versatile groups of plastics offered by any one manufacturer. Simply write: MONSANTO CHEMICAL COMPANY, Plastics Division, Springfield, Massachusetts.

Outdoors, the weather is
your business . . .



indoors, it's our business!

WHAT you architects have in mind for the home of the future is of vital interest to us *now*.

If, for example, more compact, better-insulated homes are to be the rule, we who must keep those houses warm, and cool, can plan more accurately, and offer greater economy. That is why General Electric engineers are following the trend of architects' thinking so closely today . . . in order to match, as nearly as possible, our heating and air conditioning equipment to your postwar needs.

This phase of G-E research we hold just as impor-

tant as the laboratory and field tests out of which new and improved General Electric domestic heating and cooling equipment is steadily evolving.

We think we can promise you that the results of all this effort will bring to architects and home-owners alike a new *yardstick* for measuring indoor "weather control" and human comfort in postwar.

General Electric Company, Heating and Air Conditioning Equipment Divisions, Section 4442, Bloomfield, N. J.

☆ BUY WAR BONDS ☆

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Hear the General Electric Radio Programs: The "G-E ALL-GIRL ORCHESTRA" Sundays, 10 p. m., EWT, NBC . . . "THE WORLD TODAY" News, Every Weekday, 6:45 p. m., EWT, CBS



UNDER THE NATION'S ROOF

February, 1944

Biggest roofing news in 1943 was the greatly increased acceptance of perforated felts by architects, engineers and roofers.



Roofs built to most rigid specifications...with the finest materials...by experienced and conscientious workmen - can go wrong from blister trouble. Ruberoid Perforated Felts are your best insurance policy.



Cause of blisters is two-fold: Air trapped between layers, or moisture in the roofing fabric. Irregularities in the deck, "roofed" over by the first layer of felt, imprison these pockets of air and moisture. This works with temperature changes, expanding under the heat of the sun, pushing up the covering into a blister.



Experiences with Perforated Felt Built-Up Roofs have been piling up fast...and they're all good. Case history record of blister elimination through use of perforated felt has astonished many "old-timers".



Ruberoid P-E-R-F-O-R-A-T-E-D Felts have double valve action. Outlet valves release vapors. Inlet valves insure a complete asphalt seal between the layers of the completed roof.



Smooth surfaced asbestos adopted for numerous government installations. Specifications now call for No. 15 Perforated Asbestos Felt in place of No. 20 (non-perforated) formerly used.



New specifications, providing increased use of perforated asbestos and asphalt felts, now available from Ruberoid. Ask about specifications for asbestos and combination roofs.

The RUBEROID Co.

Asphalt and Asbestos Building Materials

For up-to-the-minute information on your roofing and building problems consult our nearest sales office:

NEW YORK (18)—500 Fifth Ave. • CHICAGO (1)—307 North Michigan Ave. • BALTIMORE • ERIE • MILLIS (Boston) • MINNEAPOLIS • MOBILE

Let's get the plans started!

Let's Consider Some of the Principal Reasons Why Plans For Postwar Projects Should be Started Now!

THE VOLUME of proposed postwar projects is piling up fast. Nearly seven billion dollars worth has now been tabulated by the Dodge organization. Included are churches, schools, manufacturing buildings, hospitals, residences, theatres, and almost all other types of private and public construction*.

These jobs are scheduled to go ahead after the war—or as soon as restrictions permit.

... Why should owners and architects collaborate now to plan and design postwar structures? We can think of the following reasons; check the ones which appeal to you as most logical:

- Projects that are designed now will be ready to move fast when the time comes for taking bids, ordering materials and equipment and organizing construction crews.
- Owners will save money on the cost of early postwar construction because price trends are definitely upward.
- Owners will also get more for their money because a more thorough study of preliminary plans will correct inefficiencies and eliminate changes before structural work begins.

- New postwar building products will be evolutionary, not revolutionary. This is substantiated by past experience and the current statements of leading manufacturers.
- Products that will be available will be the most modern of the established materials and equipment—and some new products of obviously reliable standards.
- The greater the volume of postwar construction that is planned and ready to go, the greater the amount of employment that will be found in both manufacturing and contracting fields by our millions of returning fighters.

So, urge your prospective postwar clients to authorize you to proceed with plans for every possible job. You need them—the industry needs them—and the nation needs them.

And keep your Dodge Reporter advised of every postwar job on your boards. The accumulation of such information will help and inspire the many organizations and committees that are striving night and day to create, through their collective efforts, an adequate and comprehensive postwar construction program—one that will function to maintain the prestige of private enterprise within the industry.

* A statistical tabulation of postwar construction projects reported by Dodge in residential, non-residential and public works classifications is complete to December 31, 1943. A copy can be obtained upon request from your Dodge Reporter.

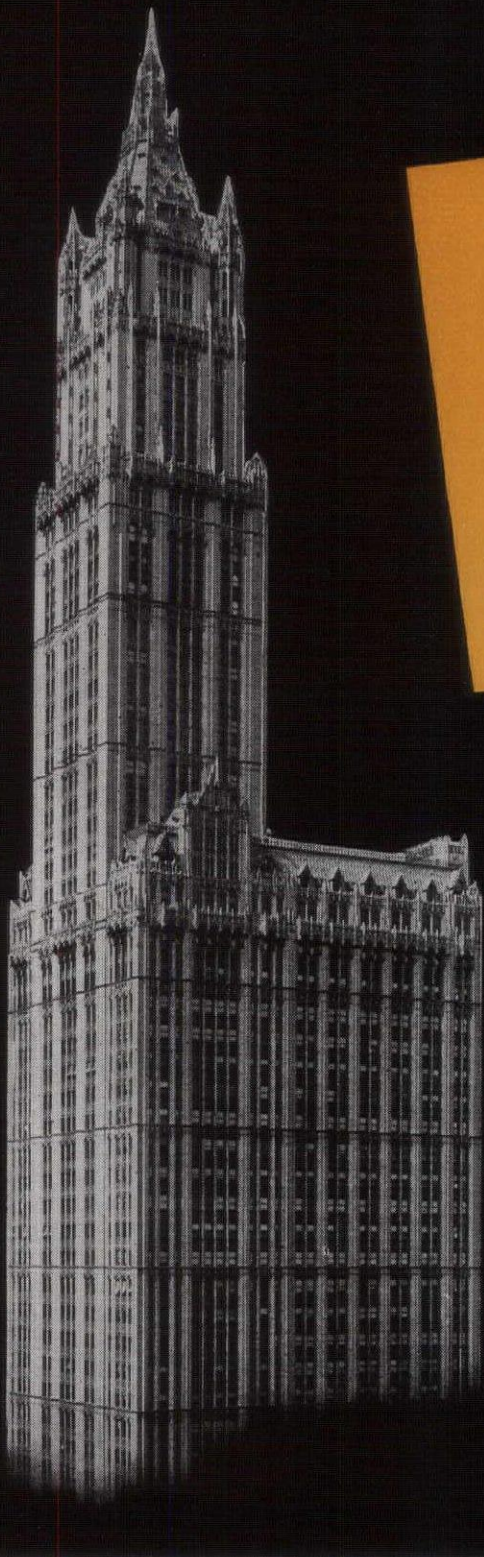


DODGE REPORTS

Issued by F. W. DODGE CORPORATION—119 West 40th Street, New York 18, N. Y.

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BUFFALO 2	Curtiss Building	INDIANAPOLIS 4	Architects & Bldrs. Bldg.	PHILADELPHIA 7	1321 Arch Street
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THE WOOLWORTH TOWER REPORTS ON ITS
BATTEN SEAM COPPER ROOF



**30 YEARS
SERVICE...
NO REPLACEMENTS**

When the Woolworth Tower . . . for many years the world's tallest building . . . was constructed in 1911, it was roofed with copper, installed with batten seams.

According to Frank A. Grace of the contracting firm of Hermann & Grace which installed the roof over 30 years ago and has taken care of maintenance during recent years, not a single sheet of copper has ever been replaced.

Once again copper has proved its claim of unsurpassed durability . . . and once again copper has reflected credit on those who specified it and installed it.

4467A

KEEP ON BUYING MORE WAR BONDS



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MORE FACTORY CAFETERIAS URGED

PLANS to expand war plant cafeteria facilities will be put to immediate action by seven government agencies, it has been announced. This is in answer to the by now amply demonstrated fact that such facilities, not allowed in the original building plans, are vital to the manpower problem.

Of the country's 20,000,000 war workers, only 6,500,000 are now reached by in-plant cafeterias, and 5,500,000 are in immediate need of such facilities. It is for this latter group that the new plans are intended. Similar provision for the remaining 8,000,000 workers is held to be either impracticable because of small plant size, or unnecessary because of a location near existing and adequate restaurants.

In-plant feeding facilities, in effect in less than 20 per cent of the factories at the start of the war, are now set up in 33 per cent, but expansion will have to be stepped up 25 per cent, it is estimated by the Office of War Information, if all workers are to be assured adequate feeding by the end of the current year.

Lockheed Has New Commissary

One of the most recent in-plant feeding organizations is the new \$500,000 Lockheed Employees' Recreation Club Commissary in Los Angeles, one of the largest employee-owned-and-oper-

ated projects in the country, equipped to serve 60,000 meals a day over the steam tables and counters of a central cafeteria and from 22 canteens.

The main cafeteria, served by six lines, seats 1700 at one time and is equipped to serve 24,000 meals per day. An additional 36,000 hot meals can be rushed each 24 hours, by specially designed, insulated "hot and cold" trucks, to the 22 canteens, some of which are miles away in cities where branch plants are operated.

The project is an incorporated, non-profit organization. Built and equipped by the Lockheed Management, it was turned over as a gift to the employees' club to own and operate.

The central cafeteria building, where all the food is prepared, is located on Empire Avenue across from the main Lockheed Factory B in Burbank. Occupying an entire block, and covering a total area of 450 by 144 ft., it has 65,000 sq. ft. at ground level and 3,000 sq. ft. of office space on a balcony overlooking the main dining room.

The dining room itself is 144 by 100 ft., with a few extra feet for closed-off private dining rooms used by special departmental luncheons or dinners. One small room is reserved for company executives.

Designed by John Parkinson and Donald B. Parkinson of Los Angeles,

and built by the H. W. Baum Co., general contractors, the building is of fire-proof construction. All exterior walls are of reinforced brick. The roof is reinforced concrete columns and beams, with reinforced joist construction which carries a roof slab. The roof itself is composition. Interior partitions are terra-cotta tile.

Underground boiler rooms are fire-proof, walls and slabs being of reinforced concrete. The transformer room and balcony floor are reinforced concrete, and the ground floor is a plain concrete slab. The floor slopes from north to south, with a drop of approximately 4 ft. in the 450 ft. length of the building. The average ceiling height is 16 ft.

There are specially designed floor drains to take up water used in steam cleaning the kitchen and storage areas which occupy 4/5 of the entire building. These drains divide the floor into sections for quick, easy drainage.

A 3000-gal. concrete oil storage tank is located underground. The boilers normally are operated by gas, but oil is used as a standby in case the gas company requires a temporary shut-down to save consumption. The burners are so designed as to be able to use either gas or oil.

Two Kewanee boilers provide steam heating throughout. The steam is carried through 1 to 4 in. insulated pipes. There are steam radiators at floor level and circular type unit steam heat radiators overhead. There are about 50 unit heaters and radiators throughout the plant.

Lighting fixtures in the main dining room are of wartime design: simple wooden boxes with a high gloss enamel, the lower part of the bulb frosted to give an indirect light at low cost and minimum use of critical materials. Each fixture recedes about 14 in. into the ceiling and uses a 250-watt bulb. There are approximately 50 of these in use.

In the kitchen there is a ventilation fan under each of three hoods located directly over the three sections of cooking equipment (gas ranges, fry-kettles, soup kettles and steam pressure vegetable cookers). These hoods are of special design using filters to eliminate the gathering of grease and to afford fire protection.

There are complete public address and inter-communicating systems throughout the plant. The "P.A." system will be used for music, messages and special programs.

Lockheed's new commissary has six-line central cafeteria with seating capacity of 1700; 22 canteens serve branch plants

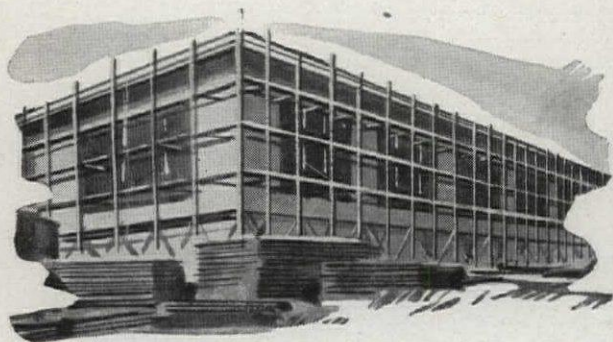


Is a
post-war
construction "boom"
coming?



1

Business advisory sources in Washington report that post-war planners are figuring on a volume in construction materials after the war roughly the same as in the boom in the late 1920s. That would be more than a third higher than in the five years immediately preceding the outbreak of this war.



2

They estimate that the construction business and the related furniture and glass industries will provide employment for about 25% more people than before the war.

3

Many preliminary plans for post-war buildings include flat roofs and greater utilization of roof areas. Flat roofs call for coal tar pitch and felt roofing materials. The wartime spurt in inventiveness has brought many marvelous new things, but nothing has been invented that is better for flat roofs than coal tar materials.—Koppers Company, Pittsburgh, Pa.



KOPPERS

THE INDUSTRY THAT SERVES ALL INDUSTRY

coal tar roofing
coal tar waterproofing

NEW YORK PLANS FASHION CENTER

TO PLANS already proposed for New York City's postwar face-lifting there now has been added a huge hundred million dollar World Fashion Center and Municipal War Memorial project of Rockefeller Center proportions.

Recommendations made by the Mayor's Committee for World Fashion Center, chaired by Grover A. Whalen, call for a project covering an area equivalent to from six to eleven square blocks, costing, site included, from \$88,700,000 to \$126,838,000. About half this total would represent the cost of the war memorial.

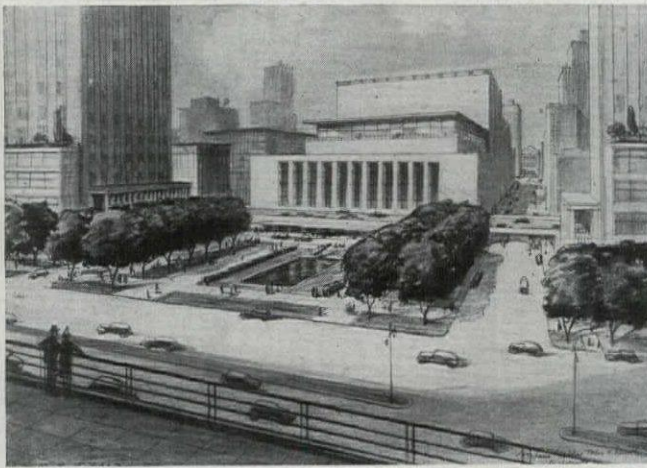
The fashion center itself, as proposed

by the committee, would consist of from seven to eleven buildings with a total of some 2,000,000 sq. ft. of office space devoted to merchandising offices and showrooms, studios, display theaters, a school of retailing, a fashion library and a museum of costume art. No manufacturing would be permitted within its bounds. This part of the project would be built by a World Fashion Authority created by the State Legislature, and would be purely a business venture, "entirely self-liquidating within the lifetime of its economic utility."

The war memorial, on the other

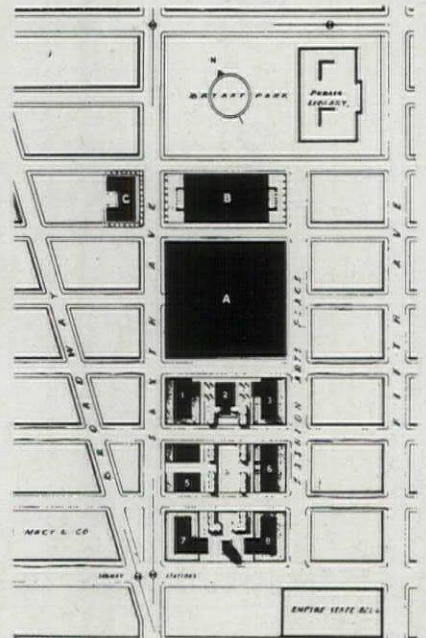
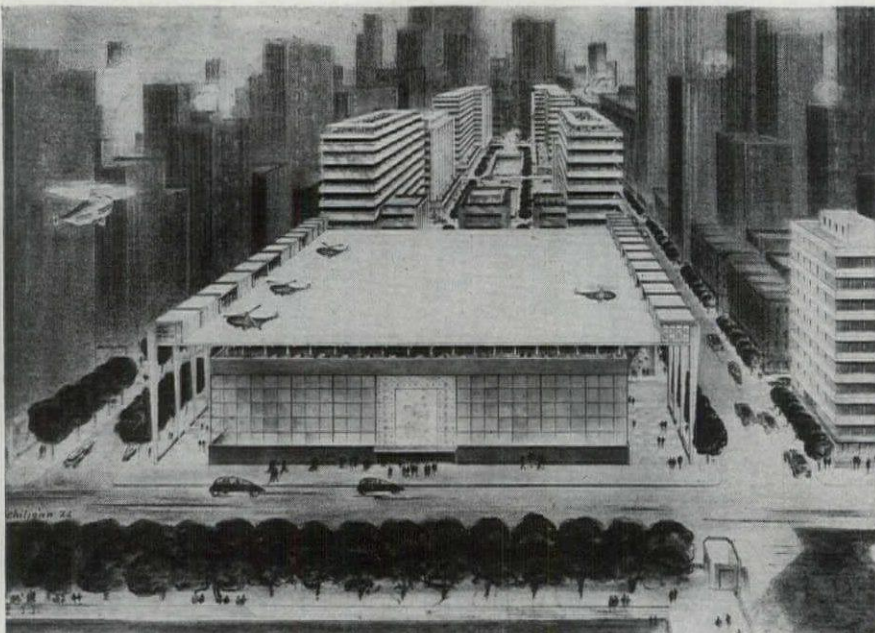
hand, would be financed municipally, through 2.75 per cent bonds. This would be a group of three buildings consisting of a convention auditorium seating 25,000, combined with an exposition center roofed by a helicopter terminal, and an underground bus terminal; a municipal opera house; and a school of industrial art. There would also be underground garage facilities for 2,000 to 3,000 cars, located under an existing park such as Bryant Park or Madison Square.

Ten possible sites have been proposed by the committee, six of them on Fifth Avenue between 24th and 34th Streets, three of them on Sixth Avenue between 34th Street and Bryant Park, and one covering the whole triangle between Broadway and Sixth Avenue from 24th to 32nd Street.



Above: two views of the proposed Center; Voorhees, Walker, Foley and Smith, Architects; renderings by Chester B. Price. Below, left: municipal opera house, convention auditorium and exposition center, roofed by helicopter terminal; fashion

center buildings line court to the rear; school of industrial art is across the street at right. Victor Chiljean, delineator. Below, right: one of the Committee's ten preliminary site plans. A. J. Daidone, A.I.A., supervising architect



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Because it is made by the continuous weld process, Republic Steel Pipe affords all of the features which accrue from this advanced method of manufacture.

It is uniformly clean and free from scale—inside and out. It is free from hard areas—therefore easy to bend, coil, thread and cut. It welds readily and soundly. It is available in waste-saving uniform lengths and in extra long lengths.

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carry stocks of Republic Steel Pipe—black and galvanized. See your local jobber for full information on sizes available, delivery schedules and priority required.

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This advertisement is appearing in the following publications: Architectural Record, Engineering News Record, and Heating, Piping and Air Conditioning.

Republic

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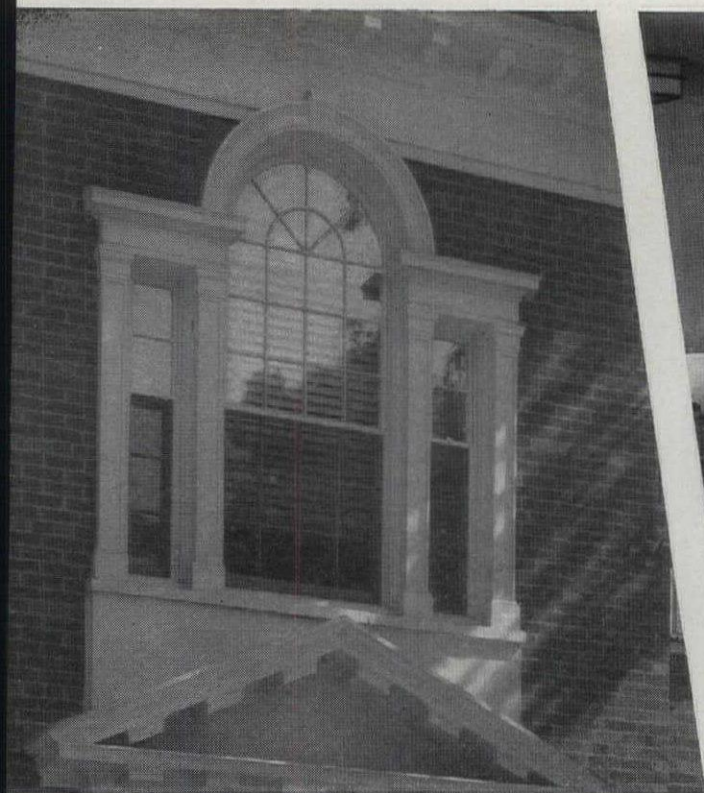
Pipe is only one of a wide line of Republic Steel Building Products. See Sweet's for details.

How
PITTSBURGH GLASS

can help you design better homes



Bathroom Design has advanced considerably in recent years . . . and Carrara Structural Glass has contributed substantially to this progress. Carrara is so colorful, adaptable, and permanently beautiful. It is available in 9 shades. This room, with mirror "Copper Backed" to withstand moisture, is in 3 shades of Carrara. Architect: Maxwell A. Norcross.



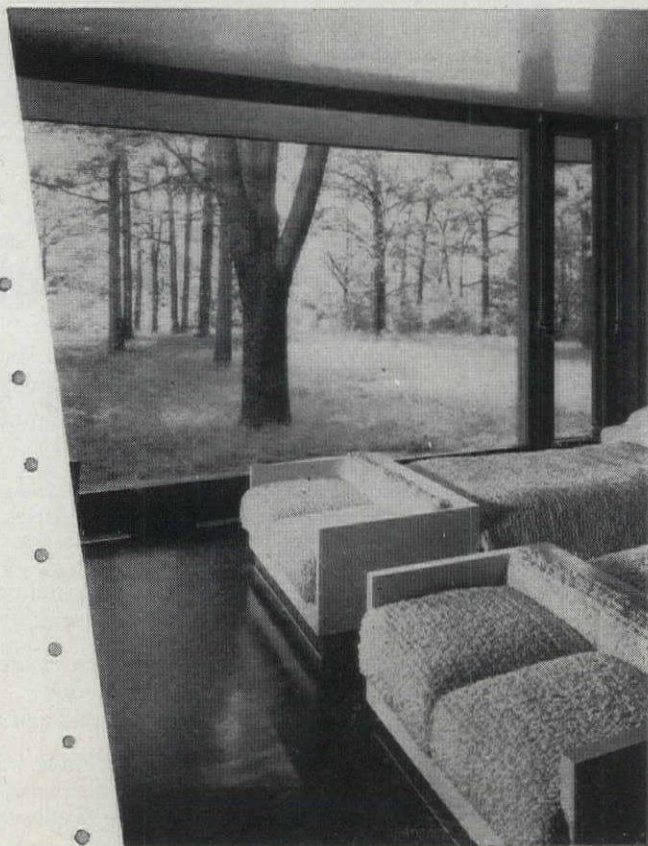
The Trend is toward larger window areas in home design . . . even in the small dwelling. It is, therefore, more important than ever to select a window glass of top quality. Penn-vernion Window Glass has won wide recognition as a quality product . . . clear, bright-surfaced and offering unusually good visual properties for a sheet glass. Architect: Henry Wilkinson.



The Variety of colors and backings now available in Pittsburgh Mirrors has made them more useful to the architect than ever before from a design standpoint. They can be made from blue, green, flesh-tinted or regular plate glass . . . with silver, gold or gun-metal backing. This attractive mirror application was designed by Architect Richard A. Morse.



In High Favor with architects is the application of "picture" windows to home design where natural outdoor beauty indicates an opportunity to "build-in" a view. Pittsburgh Polished Plate Glass in such windows assures clear, undistorted vision together with maximum surface beauty in the glass itself. Architect: George Fred Keck.



PITTSBURGH PLATE GLASS COMPANY

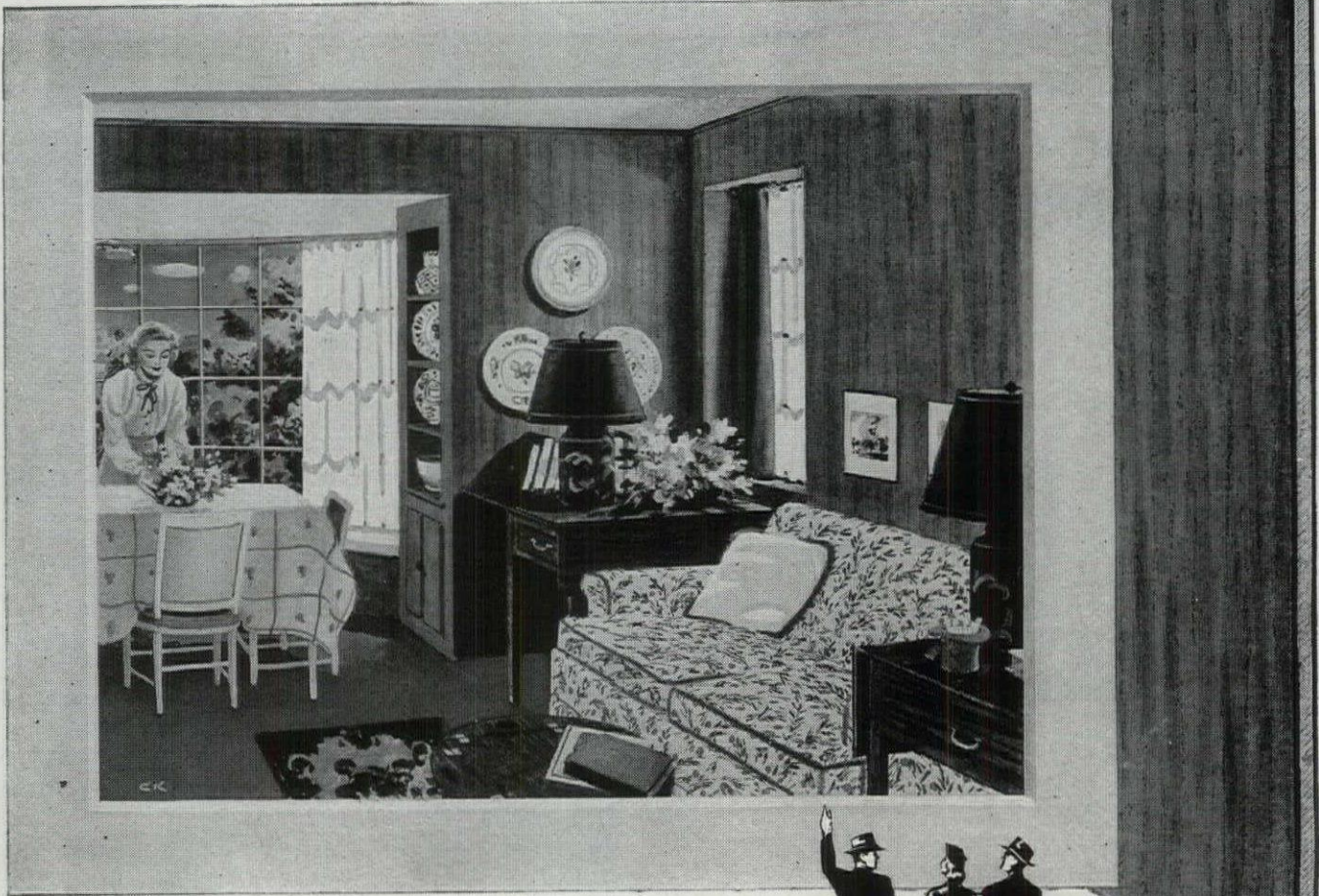
GRANT BUILDING, PITTSBURGH 19, PA.

★ Design it better with **PITTSBURGH GLASS**

THE ACCEPTED LINE FOR EVERY ARCHITECTURAL USE

"PITTSBURGH" stands for Quality Glass and Paint

STARTING IN MARCH! Full page advertisements, in color, will feature Weldwood Plywood in Better Homes and Gardens, American Home, House Beautiful.



What? No Plaster!



No sir, *no plaster!*

Just the sheer loveliness of Weldwood Plywood Paneling—charming, luxurious, beautiful and absolutely practical for the *small cost*, soon-to-be-built home.

A wonderful *fact*, isn't it?

Think of the design possibilities!

Think of those clients of yours who've "always wanted wood-paneled rooms" but couldn't have them before.

Now, for those 194x homes, you can offer them rooms superbly done, partially or wholly, in mahogany, walnut, oak, gum, knotty pine or other fine hardwoods for little more than the cost of ordinary walls.

What's more, Weldwood Plywood Paneling is guaranteed for the life of the building!

Crack-proof and permanent, it goes right on furring strips attached to studding.

A few big, 1/4", 4' x 8' panels are raised into place, and presto! . . . the walls are ready for trim.

No waste of material . . . no waiting for walls to dry . . . no plaster damp to cause cracks and warping.

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

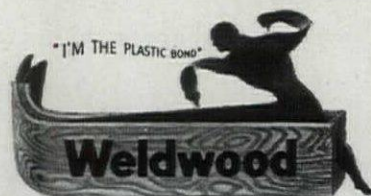
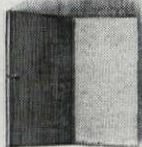
Forever smooth, they do not develop

rough grain-lines to show through costly wall paper or paint.

One-quarter inch in thickness, they are available in 6' x 4', 7' x 4', 8' x 4' size panels. (Grain runs short way.)

Write for complete information.

The Mengel Hollow-Grid Flush Door opens up new, low-cost design possibilities.



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.

WELDWOOD Plywood

Weldwood Plywood and Plywood Products are manufactured and marketed by
UNITED STATES PLYWOOD CORPORATION **THE MENGEL COMPANY**
 New York, N. Y. Louisville, Ky.

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

Materials for men to work with

● All indications point to the construction industry as one of the prime employers of labor during the postwar readjustment period. This is natural since construction has more ramifications, more allied fields, employs more different skills—than any other industry, from producers of raw materials to manufacturers of the thousand-and-one products that go into the modern building. It provides the most widespread employment of labor throughout the country, in field, forest, and mines, in factories and mills, and in the local on-site assembly of materials and equipment.

● The stimulation of building is a major concern therefore in all postwar planning, by industry, by individuals, by finance, and by government. The newly-appointed postwar planning legislative committees, and their probable advisor, Mr. Baruch, must be aware of these facts, and equally aware of the necessity of implementing the early resumption of building of all kinds by the earliest possible release of the materials essential to building. Naturally, war needs must be supplied first and nothing must jeopardize the war program. But steps must be taken *now* to be ready to release all possible restrictions on all non-critical materials.

● Some materials can and should be made available now, even if in limited quantities. Some are. As war contracts are completed and labor is released, the need becomes more acute. Lumber, according to all accounts, is the most critical material, but some metals and, of course, masonry materials, are available. The release of materials to manufacturers of building materials and equipment should be speeded now, not only to provide reemployment of factory labor but to provide promptly the necessary products for on-site labor to resume building activity.

● There is little that the architect and engineer can do about this phase except urge, with all their power, collectively and individually, prompt action for the resumption of building. But they have a responsibility of their own also, the responsibility of having plans ready; waiting only for the materials to be made available, promoting to private owners, corporations, financial institutions, municipal authorities, the advantages of being ready to use the first materials to come back on the market.

● The producers of materials and equipment have a like responsibility, that of informing the public of the advantage and the necessity of planning now. In addition, it is their responsibility to inform the public, and especially the designers of buildings, just what products they will make available. Now is the time to reassure the public that proved, tested—yes, *improved*—products can be incorporated in the plans and specifications now, with assurance that they can and will be supplied. The public has been made hesitant, reluctant, and inactive, by too much literary effort. It is time to be literal, factual, and realistic and prepare for action.

● Let the “miracle” materials come along in their own time and place, and the faster they can be developed, introduced, and made real, the better. But it is time to urge planning now with materials we can make and use (in better ways than ever before, we hope) rather than waiting for the millenium. The millenium of perfected products will never materialize if building is not resumed in the immediate reconversion period, if employment (and thereby consumption) is not resumed in peacetime building.

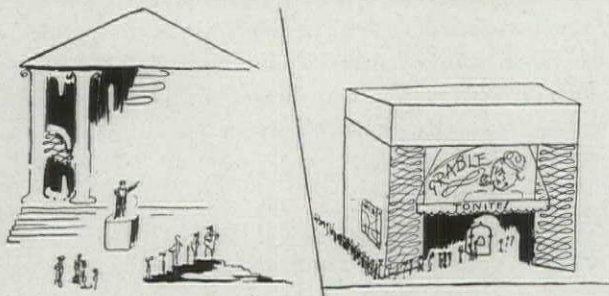
Kenneth K. Stowell

PRESSURE PLANNING

By Joseph Hudnut

Sketches by Christopher Tunnard

WHEN I was a very young man my father explained to me the basic principle of democratic politics. This principle, he said, is expressed in a line from Holy Writ to which a single word, derived from the secular art of architecture, had been added: To him who hath shall be given *proportionally*. The word *proportionally*, used in this sense, referred to the relative weights of men in the political sphere and to their consequent capacities for pressure exerted at sensitive points. It was this idea of proportion, of nice measure and decorum, which transformed into an art that which in our later and less spacious day might appear as a crude distribution of the nation's funds. To very big men, for example, such as manufacturers and railway magnates, there were given tariff concessions and generous slices of the public domain; to middle-sized men, such as contractors and speculators, there were given paving jobs and orders for military equipment; while very little men (they were not in those days called intellectuals) received illustrated



"it appears that the American people are not, like the ancient Athenians, politically minded"

books from the Smithsonian. My father, who was sometimes big and sometimes small, was given a free pass on the railroad. Whenever he took this out of his pocket—and that was very often indeed—I received a silent but forceful lesson in the art of politics.

In college many years later the matter was explained to me somewhat more solemnly. It appears that the American people are not, like the ancient Athenians, politically minded. They do not as a rule like to be bothered with political matters, especially when these demand, as in municipal affairs, for example, a careful scrutiny of data and of consequences. Above all, they are impatient of those who, in the name of the public good, would persuade us of our responsibility for those abstractions called future generations. There is no word of which they are more suspicious than they are of the word *planning*.

Nevertheless, we must be somehow governed; and happily there have appeared on the public stage agencies generously willing to attend to these matters for us. These are the group interests, various, contradictory and sometimes anonymous: *labor, capital, agriculture, industry*. Divergent except in their zeal to serve, these groups nevertheless submit of their own accord to a system of checks and balances, having agreed like gentlemen not to swallow

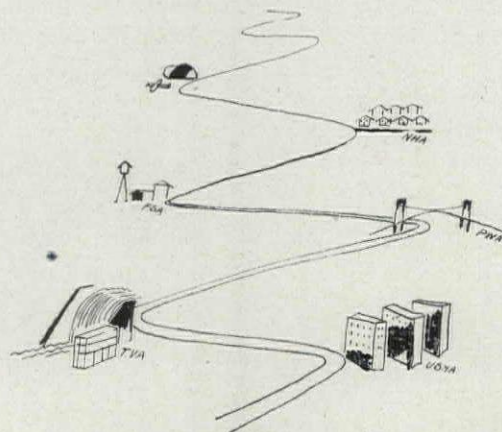
each other; and my professor, whose voice had hesitated just a moment at the phrase "of their own accord," summed up the matter very neatly by saying that in a democratic capitalistic state one must presuppose "a dynamic balance of conflicting and cooperating forces."

The system, except for that brief misunderstanding in the 1860's, seems to have functioned, each group having, by and large, received rewards proportional to its devotion. In spite of a somewhat archaic machinery of government it will no doubt continue to function for some time to come, sustained by that instinctive sportsmanship which is the real but unwritten constitution of our land. No single group will, in spite of the example set by Mr. John L. Lewis, successfully impair the nice balance by which all live. We shall, in short, continue to be ruled by pressure groups; and a resolution of pressures, in accordance with the law well known to engineers, will determine our general course.

* * *

Now there is some reason to believe that this resolution may be in the direction of planning—a term which may include, not planning for victory merely, or for markets and jobs after the war merely, but also the planning of cities. It is quite evident that more than one economic group is showing an interest in this subject, hitherto the lonely child of academies; and the word *planning* is given almost daily new meanings in harmony with new intentions. I do not mean that we shall arrive at city planning through some sudden generous concert of competitive groups; I mean rather that as a by-product of economic compromises, of group impulses checked and balanced against each other, the general good may appear to be identified with the good of more than one special class and an objective of public interest may become an objective for special interests and be promoted by these interests. Such a congregation is assuredly not unprecedented in the democratic process.

It would be interesting to inquire into the special char-

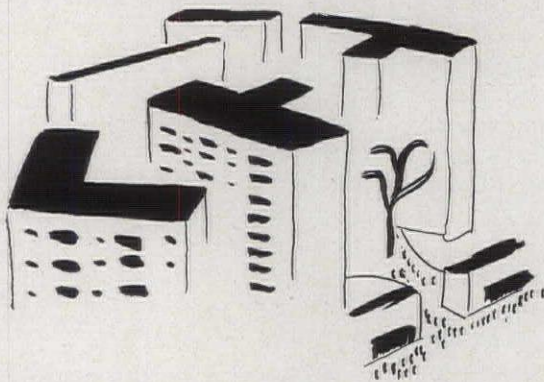


"... planning would proceed, I suppose, by successive compromises, and in a zig-zag course"

acteristics of a city-planning art arrived at in this way. We may take it for granted, for example, that the values and ends, the processes and colorations, of city planning would be determined by whatever nice and changing balances of political power might from time to time obtain. Since there would be periodic regroupings among these forces promoting planning and periodic strengthening or weakening, as this or that interest appeared to be menaced, of those forces opposed to planning, we should find it difficult to foresee and plot a general course of development. Unless some economic group should be so unsportsmanlike as to swallow the others or the state, planning would proceed, I suppose, by successive compromises and in a zig-zag course. It would differ strangely from the planning of those absolute minds who conceive this field as the peculiar province of the intellectual forces: differ so much as to demand, for the sake of clarity in discussion, a special distinguishing name. I am going to suggest the name *pressure planning*.

* * *

What economic groups will participate in pressure planning? Certainly not the farmers. To the farmer, government is among the forces of nature: unaccountable and unappeasable like lightning and the boll weevil.



"A perfect flower, surely, of the art of pressure planning"

Government teases the farmer with regulations and taxes and then is as mysteriously benevolent, buying millions of little pigs only to bury them, rewarding with good money those who leave their land uncultivated. And what is a city other than a point of origin for these and other cantankerous tyrannies? Not that farmers as a class will actively attack the planning idea; they will oppose it rather with those "vast reserves of inertia" which of late have checked and balanced those energies operative in Washington which in turn have checked and balanced the farmer. Farmers are in that respect not unlike bankers, whose historic and present function is to guard, conserve, and prevent.

Nevertheless, bankers are capable of change. When, as sometimes happens, they are not in a state of fright, they may be found surprisingly hospitable to a new idea. They are, I suspect, undergoing even now a slow mellowing towards the idea of planning.

Several years ago when I was boarding the plane from Boston to New York I was given a place beside a banker. I was scarcely seated before my companion focused on me that Medusa look which the benefactors of colleges reserve exclusively for deans and demanded, "What in hell is this thing called city planning?"—and before I could reply, he added, "If it's what I think it is, I'm against it."

At that moment our plane left the field. The harbor, plumed with delicate ships, dropped beneath us; the black wharves and the grey Navy Yard were turned into toys; the fragile skyscrapers cast fretful shadows beside the green Common; and the vast city became a delicate haze, uncertainly rounded by the grey-green country. It seemed a good moment to talk about city planning; but my neighbor had thrust his nose deeply into an editorial by Walter Lippmann.

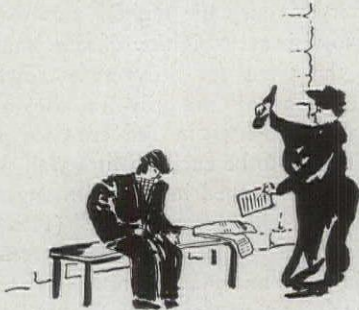
I am perpetually surprised by the subtle ways in which ideas make their way in this inhospitable world. Only two years after this airplane flight I was invited by this same banker to visit an exhibition of city planning! I was shown there the plans for Stuyvesant Town, a project which has contributed mightily to the education of bankers. Eighteen blocks in the crowded east side of New York City are to be enclosed in a wall within which apartment towers, arranged in a pattern suggested by the game of dominoes, will "accommodate" (Heaven help us) 24,315 people at the rate of 445 per net acre—without so much as a hint of communal amenities other than a park or two reserved for tenants. A perfect flower, surely, of the art of pressure planning.

I attended the other day a crowded convocation of manufacturers, called together by a contractors' association. The speakers were chiefly concerned with the problem of employment for returning soldiers. Never have I heard such heart-felt solicitude for our brave boys; and the deduction that they can only be rescued from an approaching penury by new and wider markets for concrete, plywood, and gas ranges appeared increasingly irrefutable as the day progressed. Presently, much to my surprise, the subject of city planning was introduced and, I must say, presented in a very able manner by an enthusiastic practitioner of that science. The speaker pictured the new city "for which we are all fighting": a bright and clean city, with spacious tree-embroidered vistas, and a population made happy by nobly-built houses and gracious institutions. Brave words and well pronounced; but it was not until the speaker began his description of the new constructions which his program implied that he was successful in arresting the attention of his audience. And how eloquent was the picture he then drew! It appears that very rapid changes both technological and economic are in process in the "building industry"—so much so that buildings, when buildings are again erected, will submit to mass-production and streamlining to such an extent as to make them, like radios and automobiles, uniform industrial products. A flood of new techniques and materials will be loosed from our chemical laboratories; wholesale methods of fabrication, of distribution, of assembly, and of financing will be introduced and adopted; and new houses will flow ceaselessly, thirty million each year, from the assembly lines—prefabricated and pre-gadged, truckable, deflatable, expandable, self-mortgaged and self-amortizable—to cover the industrialized earth with a mantle of standardized happiness.

It seemed to me as my colleague continued his story that the room gradually filled with the noises of building operations and factories, with the rustle of contracts sliding into index files, with the music of twenty million radios, and with the warmth of twenty million gas ranges, a chicken stewing on the top of each. It seemed to me that the ungenial mist of social reform which had hitherto clouded planning from the vision of industrialists

began palpably to dissipate. The sales resistance to planning suddenly melted away. One of my neighbors, a member of the National Chamber of Commerce, was heard to say that planning after all was not so much socialism as selling, and he was for it.

It is hard to imagine the vast expansion of city planning once it has behind it the driving power of industrial promotion. When the well-being of populations is measured in terms of gasoline consumption and of radios sold, when the rebuilding of cities is made integral to the process by which money is made to flow faster and faster,

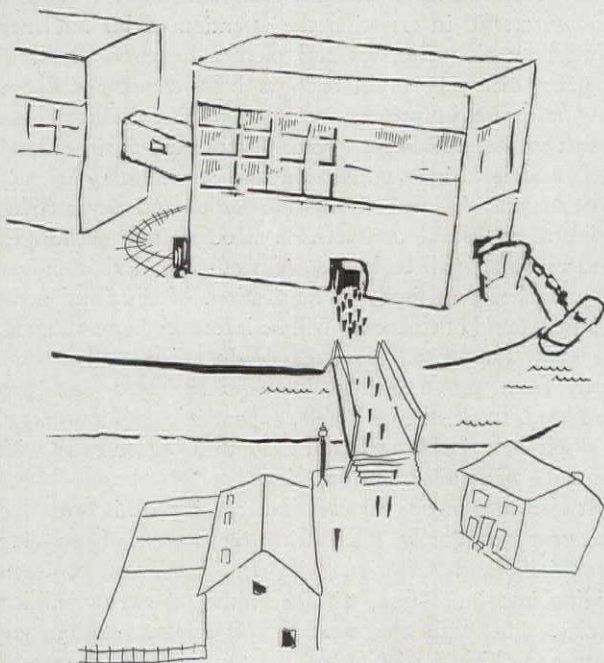


"... unwelcome efforts of uplifters to improve the workingman's status"

there is no telling what changes will take place in the values and ends of that sociological art. Of one thing we may be sure: the pressures of manufacturers and real estate dealers will be, if not unilateral, then nearly so. They will, I am sure, "mutually educate each other in policies to be pursued." Already they have discovered the inutility of the architect.

* * *

I shall always be surprised by the complacency with which a banker or a lawyer can contemplate the total extinction of architecture. I am less surprised by the indifference of labor, because labor, with incidental exceptions, has always associated that art, if not with the idle luxuries of the rich, then with the unwelcome efforts of uplifters to improve the workingman's status through charitable enterprise. One would suppose that of all



"the factory which has created this community, and which now sustains it, is yet no part of it"

economic groups, labor would be most disturbed by the overcrowding of our slum areas, our acres of blight and insanitation, by the tragedies and vulgarities of our terrible cities. Surely they, more than any others, are face to face with the difficulties of living together in these cities. The way out, we are told, is through higher and higher wages, all political questions being translated into economic terms; but even if that is true it seems strange that men should not recognize also the promises of the well-advertised art of planning, an art which is certainly not without an economism of its own.

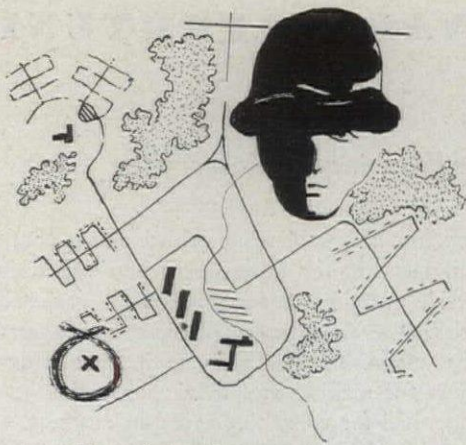
The fact is that labor is suspicious of this art. That is because laboring men, in the rare moments when they think of planning, think of it as something likely to confirm the social system under which we live. They do this not by logical deduction but instinctively. That same reflex which in the mind of a banker makes planning socialism, makes it in the mind of labor, absolutism. The prejudice is not mitigated by the fact that city planning is sponsored by professors and architects.

I think that I understand this prejudice when I study those many plans for industrial towns which have been generated by the Port Sunlight experiment. The tree-lined streets which embrace the homes of the workers lead with that sinuosity so dear to the landscape architect to the rigid, mechanized mass of the centrally-placed factory—as if to emphasize in the planner's art the social dissonance which exists between these. When the cathedral stood at the center it became, however aristocratic its origin, integral with the life of the society around it; but to the factory that society is little more than a tool. The factory which has created this community, and which now sustains it, is yet no part of it. Whatever may be its importance in the economic pattern of the town, it is not included in its social organization. If, as often happens, the managers of such factories are solicitous of the health and well-being of the citizens, this solicitude is nevertheless that of an alien.

It may be that the war will bring about a gradual change in this relationship of factory to town, and that this change may reveal more persuasively to labor the intentions of city planning. I have noted, for example, the United Auto Workers' proposal for a city at Willow Run. When people work in a factory not merely to assist the profits of manufacturers or yet merely to make a living for themselves and their families but also as a means of defending and promoting that larger life which holds in its embrace both town and factory, they have given the factory a social function in the town. It may be that a habit of thought and feeling thus generated may be continued after the war. If that should happen, labor may acknowledge with fewer reservations that responsibility for our common destiny which is both the cause and the consequence of city planning. It may also happen—such miracles do come to pass—that labor will be somewhat less tenacious of its advantages in the building industry, seeing that that industry also is not without a social serviceability.

* * *

There are, of course, still other pressure groups. The returned soldiers, for example—a company capable of no mean influence in civic design should they take it into their heads to demand better cities. Nor would such a demand be without precedent. The Pro-consul Sulla, in the last years of the Roman Republic, provided his veter-



"should our soldiers demand . . . some ameliorations in the environments of their homes, seen now in perspective"

ans with handsome bonuses in the form of planned cities. It was for that purpose that Augustus created thirty cities, among these, for example, the city of Turin, planned after the accepted principles of Alexandrine science, and gave these, complete with theater, baths, and galleried forum, to his legionnaires. Our own art of city planning may take a surprising course should our soldiers demand, at the end of the Great War, not only hospitalization, pin-up girls, college education, and unlimited Coca-Cola, but also some ameliorations in the environments of their homes, seen now in perspective. If that should happen, we may experience a sudden cloudburst of shining new cities.

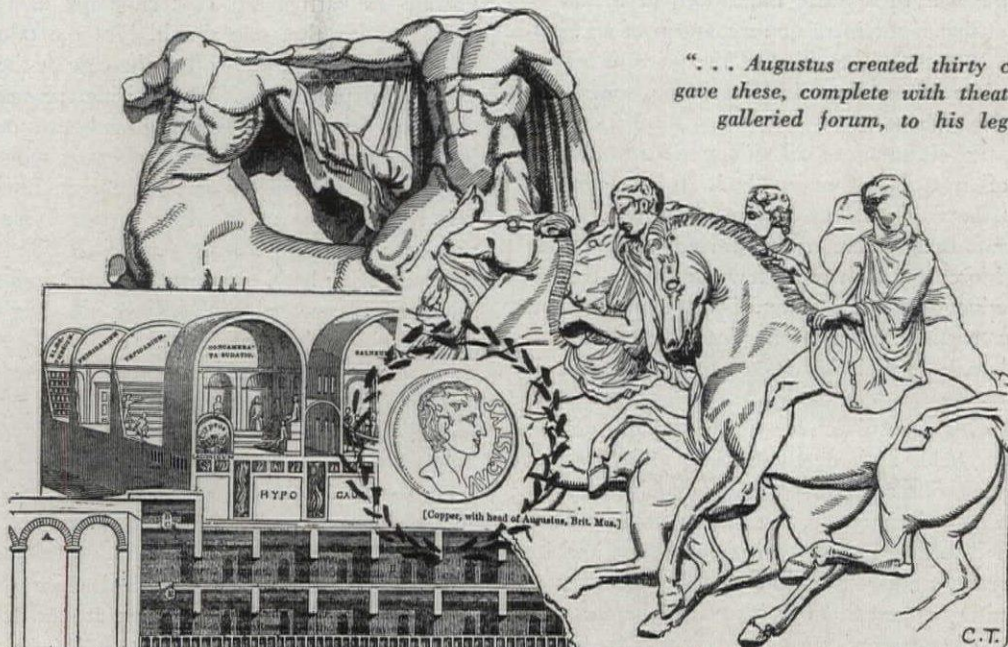
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It is strange when you come to think of it that planners have so seldom made use of the pressure process, so well tried in the art of politics. Heaven forbid that I should offer advice to planners; but is it not true, gentlemen, that you have been somewhat too confident of the literary and graphic method, somewhat too reliant upon argument as the mainspring of human conduct? You are too reasonable to believe that mankind is reasonable or even that society, being persuaded of its own good, can act as a united force for a rational end. Perhaps the time has come for more sustained and vigorous action in the political arena. Perhaps the time has come for a pressure planning, inaugu-

rated not by industrialists or labor or real estate dealers, but by planners.

I have not forgotten that planners no less than architects have participated from time to time in the development of pressures. They are not, after all, wholly unaccustomed to alliances with economic groups. They, also, know how to weight their logic with self-interests. Nor are such self-interests always incompatible with the general welfare. The express highway along the Hudson promoted the land values of individuals and the profits of automobile manufacturers, but it also made life more enduring for everyone on the island of Manhattan. The housing projects in Harlem brought sudden preposterous luxuries to certain fortunate negroes, but they also assist the resolution of a social crisis to which no one can be indifferent. It is quite certain that our planning has seldom been consequential except when immediate to some special power, ponderable in the political sphere and accustomed to privilege. An art of city planning which offers a profit to whole populations is by that circumstance made to touch no one directly—and that is especially true when the profit is reserved for a future generation. Future generations do not elect present aldermen. The political ear is seldom attuned to universal harmonies.

Therefore it would be foolish to refuse in every instance the companionship of economic groups; and yet it is plain that these companionships are dangerous. If they become habitual the cause of planning is lost. In the end he who pays the piper will, we may be sure, call the tune. Nothing has hurt the cause of city planning more than the distortion of that term to include the creation of new markets for manufactured products: that subtle process by which social progress and betterment are identified with fertility in the invention and production of mechanisms. It was less injured, I think, by the use of the planner's creed to salvage speculative profits in land. The best that can be hoped from such collaborations of idea will be the attainment of whatever limited part of the planner's objective may be consonant with the intentions of his ally. It is probable that the planner's important goal will be made not less but more inaccessible by the pressure planning or groups other than his own. He will be taken for a pleasant buggy ride—from which he may walk home.



"... Augustus created thirty cities . . . and gave these, complete with theater, baths, and galleried forum, to his legionnaires"

A POSTWAR PROFESSIONAL OPPORTUNITY

By Frederick M. Feiker

Dean, School of Engineering, George Washington University

PRESENT discussions of postwar planning necessarily, perhaps, deal in generalities. No one knows when the war will end. Of one fact, however, we are increasingly sure—the war will not end abruptly. There will be a tapering off period into peacetime production.

It is rather generally conceded that war production has now reached the operating stage. The period of new construction of plants has passed, the pressure for raw materials is relaxing, and we are settling down to a more stabilized stage of production, with a gradual closing of certain kinds of plants and increases in others as changes in war goods are necessary. As these stages progress, materials, equipment, and manpower will become increasingly available for peacetime commodities.

The time has come to consider how to utilize these facilities. Certain broad economic analyses, such as the report by the Brookings Institution, suggest that the pent-up demand for housing and for a wide variety of commodities for home use assure at least two years of activity immediately following the ceasing of war. It is a fair guess that the savings by purchases of war bonds will be turned into automobiles, electric refrigeration, television and home construction. The unknown factor in this prophetic guessing is the attitude of returning soldiers and their readjustment to peacetime life.

It does seem, however, as though it were possible to predicate the future of both the engineering and architectural professions more specifically in two directions. First, in the general trend toward mass producing in the factories of everything from plumbing, heating and kitchen units, which were heretofore, in general, assembled on the home site by local labor, to the complete packaged home. The war has proved beyond doubt that enormous production goals are possible in a short time by the application and refinement of the American principles of simplification, standardization and mass production. Even before the war there were indications of a rapidly growing notion that if the intricate mechanism of an automobile can be bought for one-third of the price of a very less intricate piece of equipment like a home, something ought to be done about it.

The fly in the ointment of all this trend toward the substitution of manufacturing methods for tailormade homes, is that the economics of costs, of mortgage financing, and of craft union relationships are not satisfactorily worked out. Moreover, with some few exceptions the experimental products of this extension of the factory method into home construction, are far from pleasing to many.

The second major trend that might seem prophetic is the tendency toward the elimination of the privately-practicing, independent consultant, in form though not in function, in the fields both of engineering and of architecture. The profession of private landscape architecture as such has practically disappeared. Landscape architects are employed by federal, state, and local governments and by large developers. Similarly the old-type independent professional consulting engineer, in terms of numbers, is disappearing. Engineer-trained men have found their op-

portunity, not in establishing private offices, but in joining manufacturing or government enterprises, in which they receive their income for professional services as wages or salaries. The development of the great electrical manufacturing establishments, with their standardization of equipment for making and using power, has greatly lessened the field for consulting work in electrical engineering. Should this two-part trend—i. e., the "socialization" of the engineering and architectural professions—continue along with the increase in mass-production concepts, it seems probable that fewer and fewer architects will find their place in the establishment of private consulting business. More and more members of the profession may be associated with government-financed enterprises, with institutions or with manufacturing or merchandising establishments.

There are evidences that the public consequences of these two trends are not satisfactory. We have gone over-technological in the last twenty years. Moreover the emphasis, at the moment, on essential technical training for the Army and Navy for modern warfare will react to emphasize the value of the liberal arts. With this latter tendency professional men should have considerable personal sympathy. An independent professional man has a sense of responsibility to the public which is a public asset.

Imagination and creative planning and execution are attributes of the individual, not of the mechanized, group. Surely the disadvantages of an over-emphasis on technology as the only factor in civilized progress are evident today. I am not an apologist for the economic and social gains of a technical age, but war is being won by men—not by improved machinery alone. The strategies of war and peace are not made by machines but by creative brains.

What then can engineers and architects do to match their professional training with the future? My own thought is a very simple one: they should enter into partnership—a partnership of technology and art. I don't mean by this that one should hire the other and worry about who is boss, as is often the case at the present time within our professions. We criticize the unions for jurisdictional disputes, and live in glass houses ourselves. Trying to determine such minor matters as whether structural engineers are architects or structural architects are engineers is beside the point. As a former executive officer of the American Engineering Council, having many happy relations with both organizations and individuals in the architectural profession, I believe sincerely that the two groups obviously complement each other. The public needs this complementary approach to the future design and planning problems of cities, of state, of industry, the trades, the arts, or the home.

Much could be gained, not only by the establishment of a joint over-all postwar planning committee of architects and engineers, but by the more immediate and practical idea of blending the architectural profession and the engineering profession in individual office partnership. If I were an architect, I would look around for an engineer

(Continued on page 114)

TO WELCOME THE MERCHANT MARINE

Catholic Seamen's Institute, Brooklyn, N. Y.

Henry V. Murphy, Architect

CONCEIVED, fortunately, long before the war, the Seamen's Institute was completed just about the time such a building was most needed. It was planned as "a permanent non-sectarian center of cultural, recreational, social and religious influence to promote the welfare of the merchant marine," and was brought to realization in the difficult days of dimouts on land and dangers at sea. Now it is there as the challenge of the church to the barrooms of the river front. It was the architect's task to express these several purposes in the building.

Thus the dominating feature of the exterior is the lighthouse-like tower. It is built of glass block and terra cotta trim, and may be illuminated from within with alternating colors. The tower is visible to ships' personnel as they enter the harbor through the Narrows; its 30-ft. steel mast

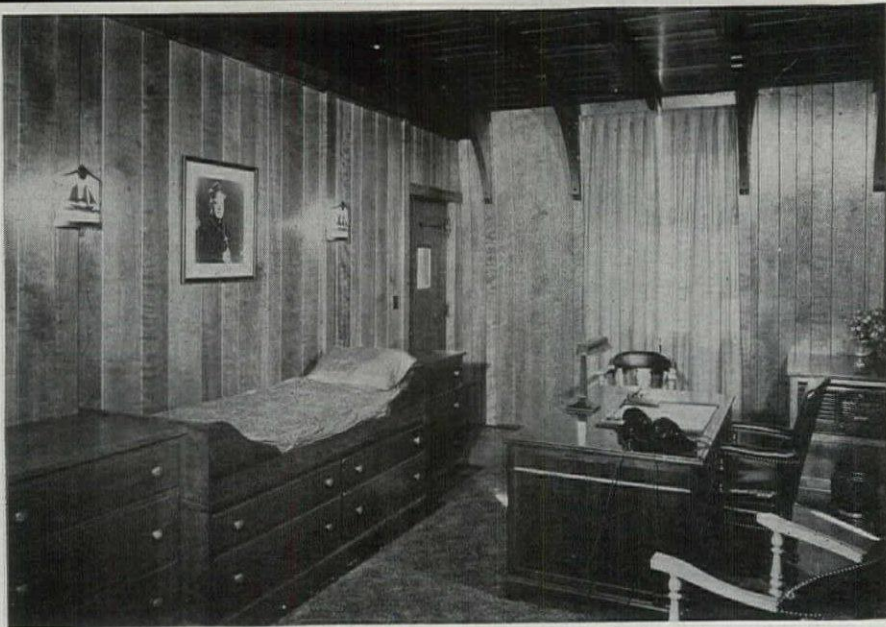
will carry code flags along with national colors. The building was constructed of beige face brick, reinforced with solid concrete, and walls within of salmon colored face brick. A traffic surface on the roof anticipates the day when the war will end and the roof may be developed to represent a ship's deck.

Interiors were designed to place the ecclesiastical in a friendly atmosphere, and carry a note of strength throughout. Rooms vary in purpose from the front office, where a seaman from a foreign land may receive his mail or messages, through recreational and social rooms, to priest's office and chapels. Sculptures, paintings and other decorations express the religious note in a background of the sea. While fairly elaborate, interiors and furnishings were planned to welcome hardy men in a hazardous calling.



Decorative spandrels picturing merchant vessels and maps of the continents, done in relief by sandblasting a natural stone, add the symbolism of the sea





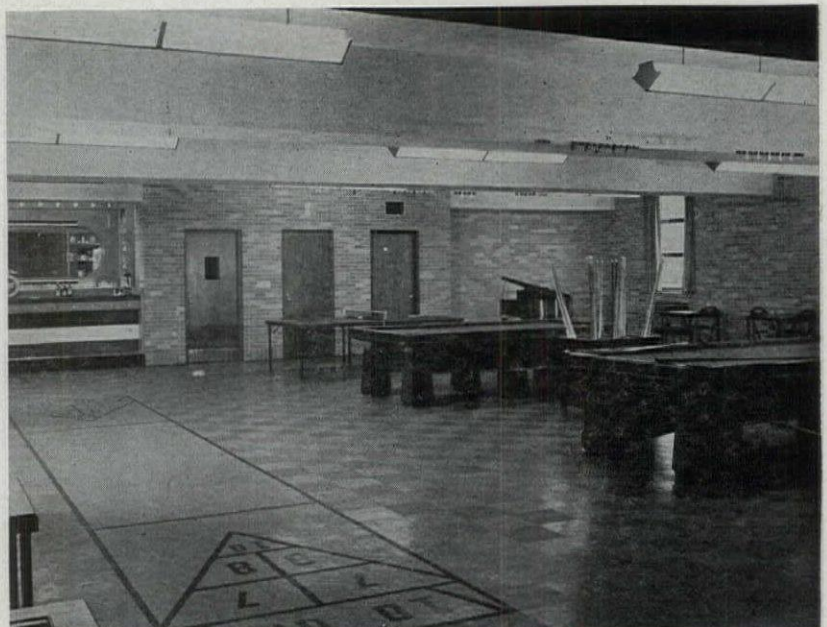
Molitor photos, courtesy John Wanamaker

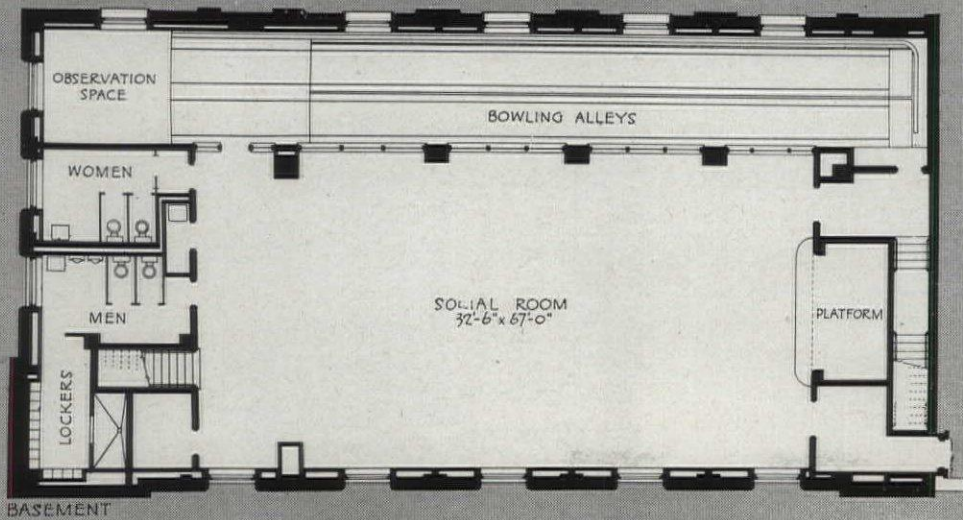
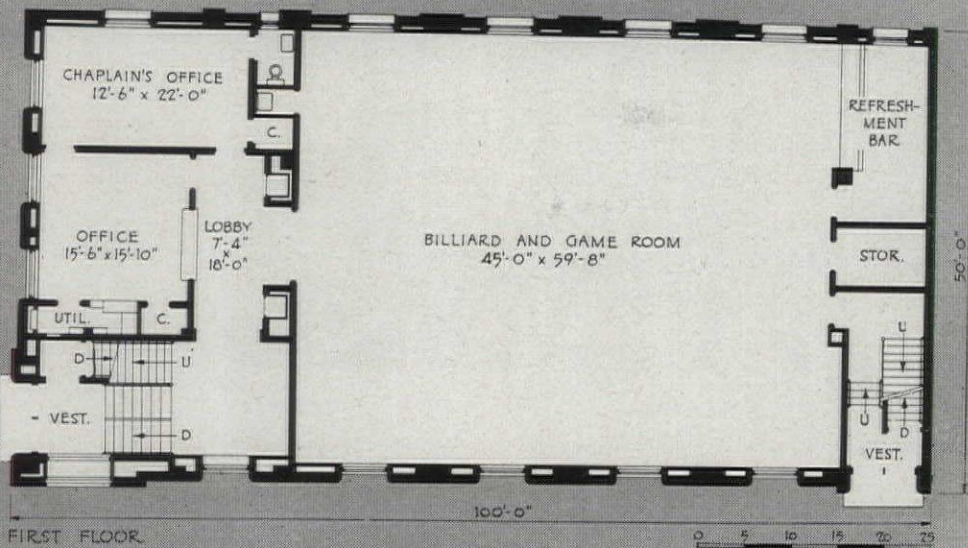
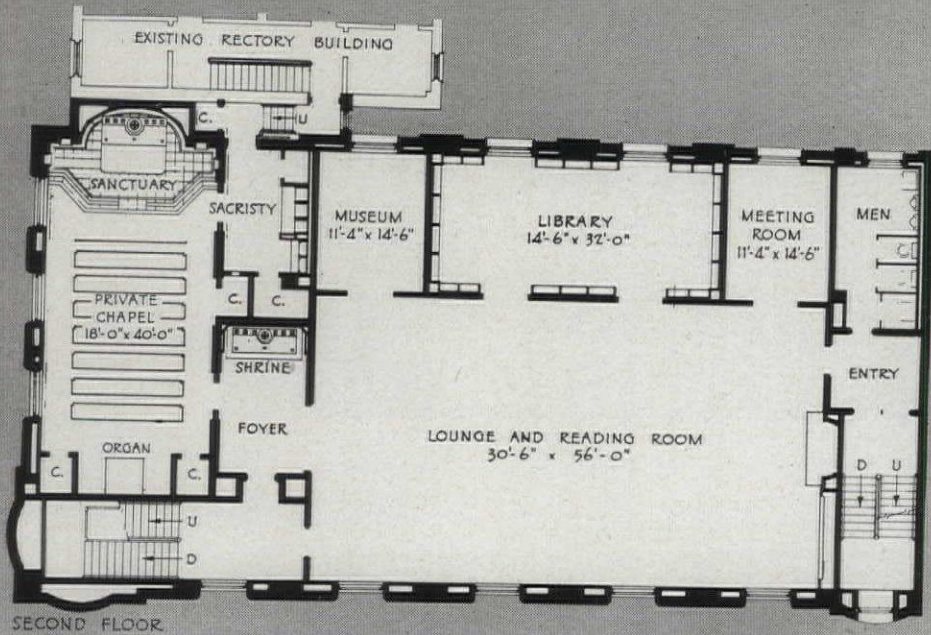
Chaplain's office, styled like the cabin of an old sailing vessel. End walls follow "ship's curve"



Dining and social room, basement floor. Bowling alleys are beyond the columns at the left

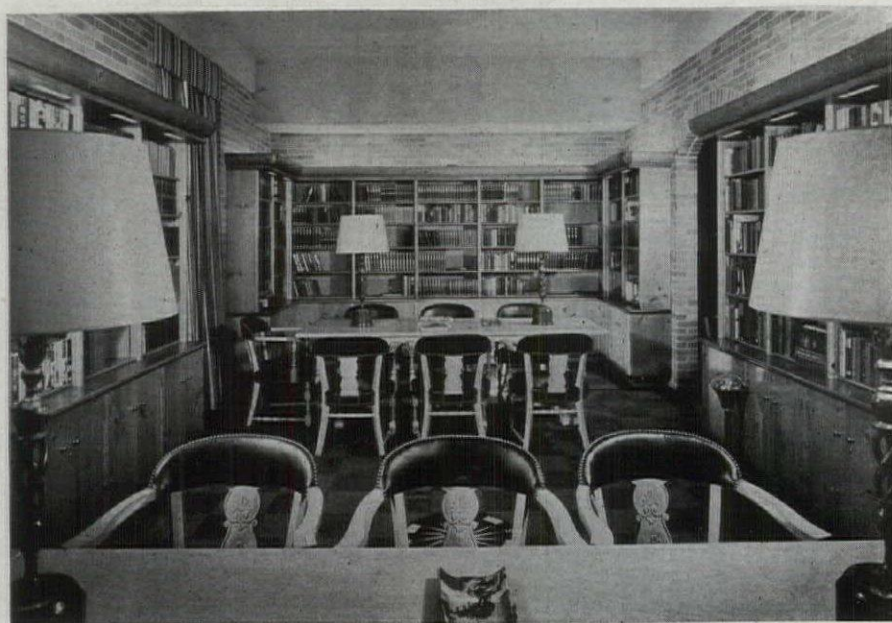
Main recreation room on first floor, with billiard tables, games and bar. Ceilings have sprayed sound treatment throughout







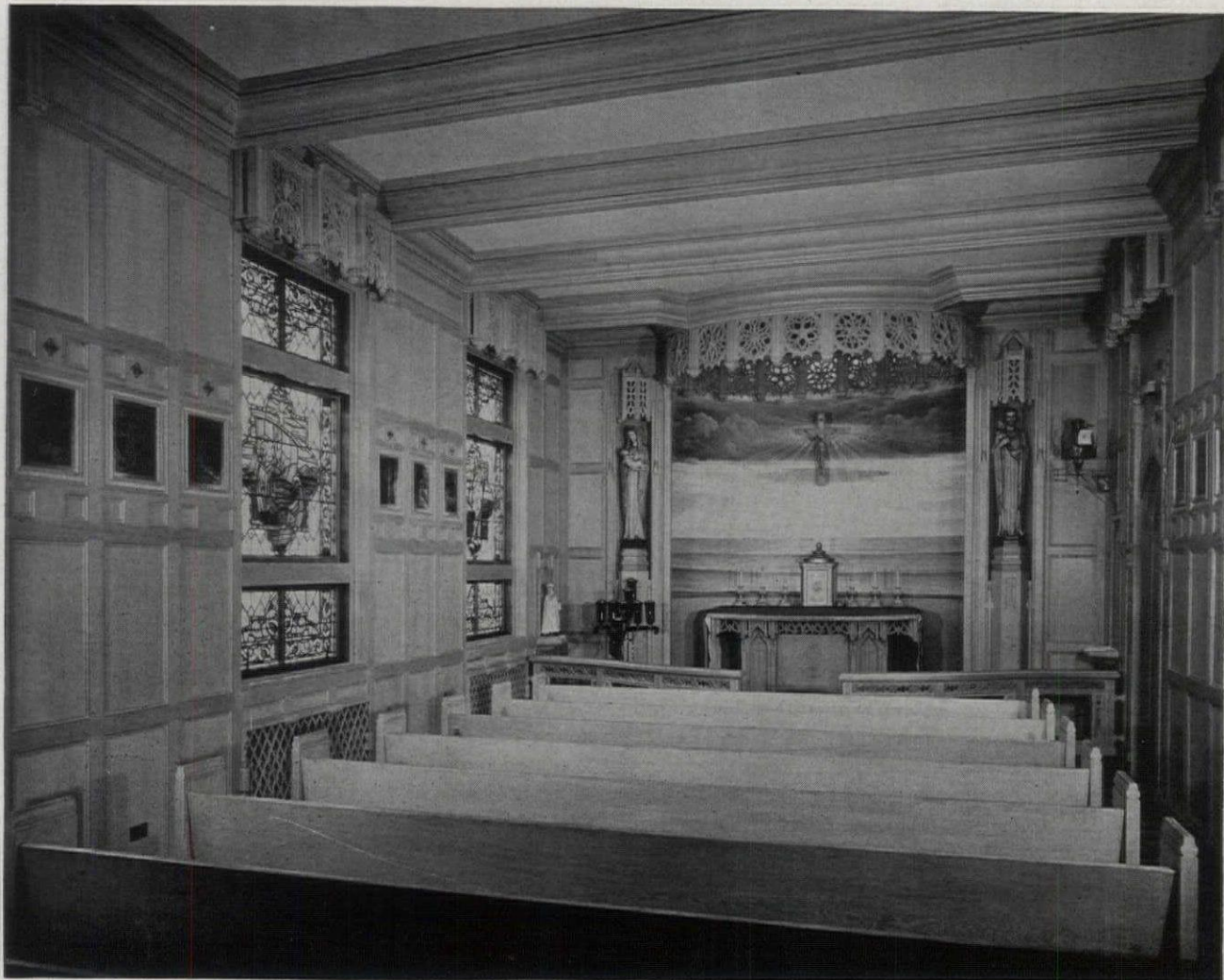
Furnished for the quieter pursuits, the lounge has carpeted floor and acoustic ceiling



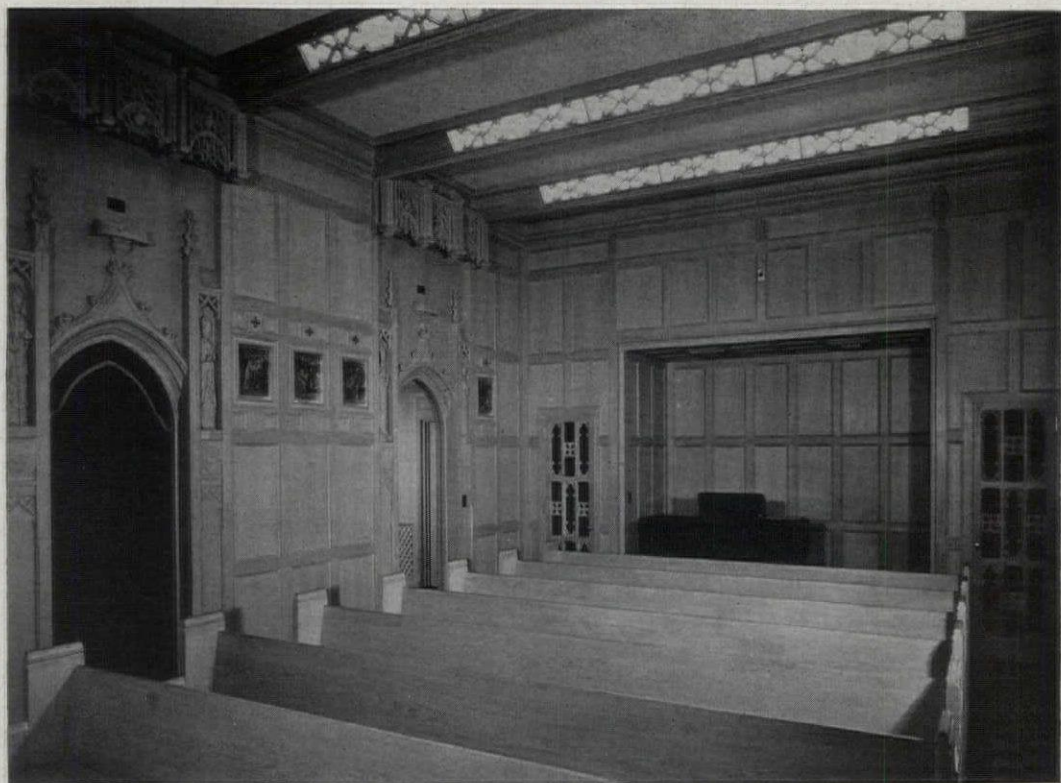
Opening off the lounge are the library (left), meeting room and a museum for travel souvenirs

A movable altar, slid into foyer doorway of lounge, converts it into a chapel for services that overflow the main chapel





The chapel, an elaborate Gothic room, the "climax of an effort to welcome men home from the sea"
Rear view of the chapel. The alcove at the rear houses an electric organ (sound screens either side)



LONG-TERM CREDIT

FOR URBAN REDEVELOPMENT

By Arthur C. Holden, A.I.A.

A discussion of one vital aspect of all postwar planning—the distinction between federal handouts for land purchase and federal regulation of long-term credit

NO ONE questions that we have achieved the technical and physical capacity to rebuild our blighted urban areas and to make our cities worthy of a great civilization. There is agreement in many quarters that urban redevelopment will in all probability be the most important outlet into which productive effort can be put following the close of the war. The method of financing the urban redevelopment program is, therefore, a subject of paramount importance since much of our domestic economy in the immediate postwar period and our land economy for generations to come will have roots in the actions government and banking interests take with respect to it. The development of the cities of tomorrow will depend largely on the system of long-term credit which evolves out of the chaos from which we now suffer.

It is sensible first to review the reasons for existing blight.

1. Buildings have been designed as individual structures on individual lots, with very little thought given to group relations. Neither the design nor the form of construction used has been easily adaptable to change in use. Owing to the rapid growth of American cities and the need for new facilities, emphasis was necessarily placed upon individual freedom of action, and many social and common law restraints upon the individual, which had protected the community in the mother country, were outlawed by statutes in American states. As a result, until the advent of our zoning legislation in 1916, Americans showed little recognition of the responsibilities not to injure amenities.

2. While it has always been known that there are wide fluctuations in the earning power of persons, families and corporations, we apparently have lacked a method for balancing the *costs* of building and maintaining property against the *value* of the use that individuals, families and corporations can derive from property. In other words, we do not know how to translate production costs into a rental equivalent.

3. Construction and real estate finance have been based upon what we now realize to be the following questionable assumptions: that we could count upon a continuous increase in land values; that capital invested in real estate did not need to be amortized; that real estate could be counted on to yield a return sufficient to cover the "market" rate of interest on either the original capital invested or its "appreciated capitalization" and that this yield could

be expected to be continuous; that a ready capital market for the turnover of real estate could be maintained where buyers could be found capable of taking over real estate and putting it to economic use; that, since real estate investments were made out of savings, these did not need to be considered in connection with the expansion and contraction of money and credit, or in connection with the fluctuations in the value of money.

4. Furthermore, our tax troubles also are related to urban blight. Local communities must depend upon the real estate tax for their income. They have land assessments for taxation upon the price that can be realized for real estate in the capital market, rather than on the income derived from capital investment; since the "market" price is extremely difficult to establish, the familiar tax assessment method has accentuated periodic misadjustments. Faulty tax assessment methods have indeed led directly to a depression of real estate values and the further acceleration of the processes of blight.

Should it not be said that the areas which we now recognize as blighted were not originally planned and built upon a realistic economic basis, nor have we been able to maintain them in sound financial condition? Some economists say that blighted areas cannot be rebuilt on such a basis. But it is now time that the attempt be made to put urban real estate on an economic basis and to recognize that many present misadjustments cannot be corrected until we adopt sounder economic methods.

The dilemma of blighted areas is the accumulation of debt claims against the properties in the areas. In the first place there is mortgage debt, which means that original construction cost has never been paid off, but merely transferred to others. In the second place there are taxes, which are used in large part to pay financing and refinancing charges against public bonded debt: this in turn means that the original cost of creating public services has not been paid off but merely transferred. When situations arise where the obligations on debts cannot be met, the logical recourse is the procedure known as bankruptcy.

The Constitution of the United States gives to the Congress exclusive right "to establish uniform laws on the subject of bankruptcies throughout the United States." Congress has the power to draw an intelligent definition of bankruptcy for real properties in blighted urban centers. Congress may provide under bankruptcy procedure for



Gottsch-Schleisner photos

New York's Lower East Side, viewed from Grand Central. Over a quarter of a million people have moved out of the congested five and six-story tenement houses since the first housing law was passed in New York State in 1926. Even though the proposed federal "handout" to help cities buy up blighted areas were to be authorized (Wagner Bill or Thomas Bill), it is hardly to be expected, says the author, that after funds had been apportioned to needy cities in other parts of the country, there would be enough left to purchase more than a small portion of the Lower East Side

group reorganization in coordination with group replanning and rehabilitation of blighted properties.

Those economists who take the view that blighted areas cannot be rebuilt on an economic basis advance the proposal of a huge outlay for purchase of blighted areas through a federal subsidy. What is really needed is a composition of conflicting claims or a group reorganization. In any blighted area, a technical appraisal commission acting in cooperation with a trustee should be able to freeze and redistribute all claims on the basis of a ratio appraisal of each participating interest. It should be possible to assign to each claimant, whether holder of a reputed equity, or a mortgage or lien, or an owner in fee simple, a certificate which should express in terms of a ratio, the right of the individual claimant to his equitable share in the enjoyment of property rights. These certificates should differentiate between the right to enjoy physical facilities such as shelter and the right to enjoy the yield attributable to investment.

What is the significance of a composition of existing rights and relationships under the bankruptcy powers of the federal government? It means this: although the Constitution guarantees liberty of contract to all, if it is found that contracts become unworkable or if their consequences become contrary to the public interest, then it is a prerogative of government to resolve those interests in a way

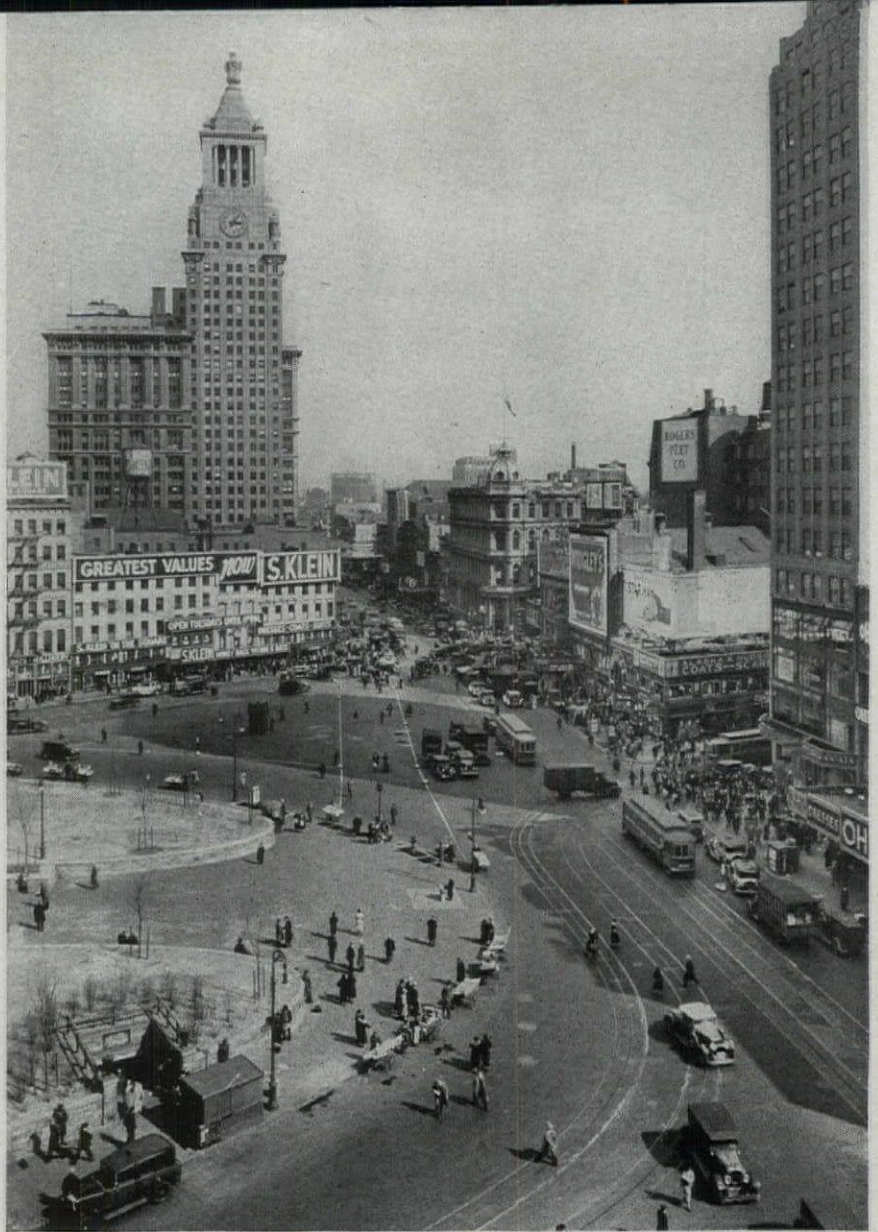
which appears fairest to all the parties involved, including the public. Thus it is seen that we have it in our power to create a situation where blighted districts are freed of old restraints, which are due to the conflicts of special interests.

Urban redevelopment in the postwar period on a scale designed to take up much of the slack in unemployment resulting from the mustering out of men in the armed forces and the drying up of jobs in war industries, will require two things: intelligence and credit. Since there should be no differences of opinion as to the need for calling up and applying the greatest possible degree of intelligence, these remarks will be confined to the second requisite—credit.

Let us review the suggestions of Dr. Alvin H. Hansen, Professor of Political Economy at Harvard, and Mr. Guy Greer, formerly associated with the Federal Reserve Board as economist and now a member of the board of editors of *Fortune*.

Professor Hansen calls for bold public spending as the only course that can prevent disastrous unemployment. He makes it clear that it is no timid policy of pump priming which he advocates. He affirms that fiscal policy must recognize that private investment is not and will not be able adequately "to take up the slack in the propensity to

Union Square, New York, a famous example of lack of coordination in planning so far as private improvements are concerned. The towering offices of the Consolidated Edison Company are seen a block removed from the Square. The author points out that a prosperous mercantile business has grown up in obsolete buildings at the Square's strategic corner, preferring these quarters despite the availability of property in the steadily depreciating neighborhood. Meanwhile a traffic bottleneck continues to exist at Fourth Avenue and 14th Street, the busy corner of the Square



invest," and consequently that public expenditure must compensate for this shortcoming. Although Professor Hansen's book, "Fiscal Policy and Business Cycles," advocates a compensatory tax policy to finance governmental spending, his more recent published articles, especially those written in collaboration with Mr. Greer, give greater emphasis to a policy of increasing the federal bonded debt.

Strength is added to the Hansen-Greer argument by the directions suggested for governmental investment. Instead of figurative leaf-raking or boondoggling projects, selected for the least possible interference with private enterprise, they list six "main fields suitable for public investment." These are: urban redevelopment and housing; river valley and regional development similar to the TVA; reorganization and rationalization of transportation facilities; improved functioning of agriculture; expanded social security program; and international investments.

Hansen and Greer, proceeding on the assumption that urban development could not be carried out on an economic basis, suggest further increases in federal bonded debt to buy up urban blighted areas on a grand scale. They have taken the position that the cost of the bond issue may properly be shifted to the taxpayers because they insist that the mistakes of the past are a logical charge against society as a whole.

Hansen and Greer have taken up suggestion of the Na-

tional Association of Real Estate Boards asking for the creation of a national real estate commission which would be given the power to lend federal funds raised by bond issue to local commissions that are to use these funds to buy up blighted urban areas. What they suggest is a huge re-financing operation which will transfer to the taxpayers a huge capital investment that is of doubtful value so far as the present owners are concerned. I believe that the mistake of the past cannot be remedied by making the public pay again for a faulty system of capital finance for which it has already paid too much.

John T. Flynn, financial writer and authority on security speculation, has called attention to the danger of a progressively mounting governmental debt and has pointed out that Professor Hansen's proposals fail to differentiate between credit and bonded debt. Mr. Flynn points out the dangers of monetary inflation that may arise through too great a dependence upon commercial banks for disposing of excessive issues of federal bonds.

While there is a great deal to be said in favor of the Hansen-Greer proposals, the failure to distinguish between the specific federal power to control money and credit and the federal power to issue bonds is a fundamental and grave weakness.

When bonds are issued by government, it is on the assumption that the expenditure will produce revenue which



Beneath the Elevated on New York's Pearl Street. Here are seen obsolete buildings on the original small plots of land. These are used largely for warehousing, despite inefficient and wasteful operating costs. Even though the location is close to the water front, rents are low because of depreciation of properties. The most economical solution, says the author, would be a voluntary agreement of owners to pool interests for replanning and rebuilding on a scale suitable for modern uses. The New York Urban Redevelopment Law of 1941 was designed to make such a project possible.

will pay off the bonds in the future, as for example, tolls for the Panama Canal; or on the assumption that the taxing power of the government will be sufficient to pay off the obligation on bonds that do not finance income producing work.

It should be clear that two alternatives are open to Congress in dealing with the problem of reducing or eliminating unemployment: one through government enterprise, the other through power to regulate money and credit. By suggesting increase of bonded indebtedness, Hansen and Greer pin their hopes on resort by the government to the methods of enterprise, a field in which government is limited by the Constitution itself. They disregard the field in which government under the Constitution is given complete control—the power to coin money and regulate the value thereof. It is in the power to direct credit flow that the government has a tool which is an attribute of government, and which has even greater power to stimulate enterprise than the assumption by the government itself of the role of enterpriser.

While short-term credit is a well organized series of advances and liquidations, in capital enterprise the role

of credit is less evident. The payment for labor and materials of construction is really credit advanced to the producer of the building. Until this credit is liquidated by the ultimate consumer, the volume of credit remains expanded. The ultimate consumer is the consumer of the shelter the building affords. The building itself is not consumed, although it does depreciate just as a machine depreciates. Payments for consumption of shelter can only be made in terms of a rental equivalent. With but few exceptions we have neglected to liquidate credit by regular periodic amortization payments during the life of the building.* We have assumed that ownership gave the right to withdraw as profit as large a proportion of income as could be got away with. As already pointed out, we relied upon the mistaken notion that the rapid increase of population would continue indefinitely to add a scarcity value to real estate so that we could neglect the liquidation of the credits that had been advanced to improve real estate. *The task which we face is to translate the discredited notion of permanent capital investment into the idea of financing needed capital improvements by the installment payment method.*

It took years of experiment to develop a coordinated system of short-term credit, marked by the passage of the National Banking Act of 1863 and the inauguration of the

(Continued on page 116)

* For data on cumulative burden of financing charges including interest at five per cent, see "Money in Motion — Social Function of Banking" by Arthur C. Holden (Harper & Bros., 1940), p. 140, Table IV.

FOR A WARM CLIMATE WITH COOL WINDS

House for Mr. and Mrs. Henry Timby, San Carlos, Cal.

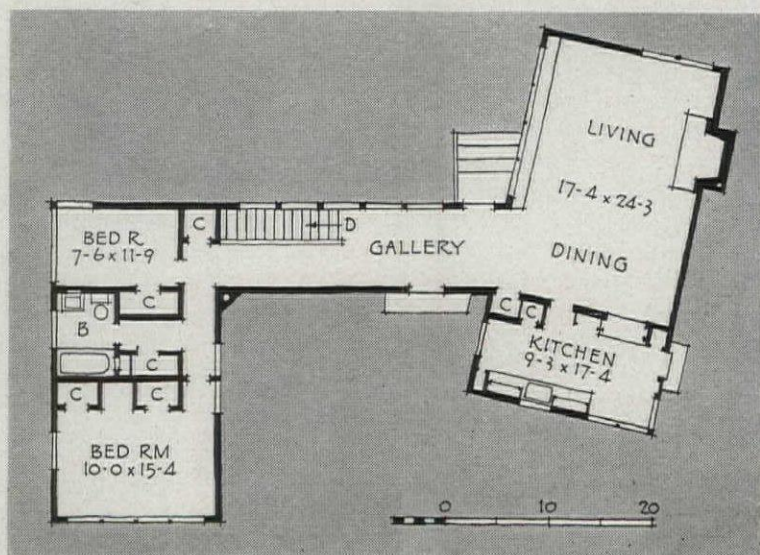
William Wilson Wurster, Architect

A WARM climate and a west wind were the determining factors in the design of this little house. The location is 23 miles south of San Francisco, a favored spot for commuters. Here the climate is warm, for informal outdoor living, but the west wind is strong, and sometimes chilly. What started out to be a small house, then, became spread out, virtually built in two sections, to provide a protected court toward the east. The two wings with the joining gallery form a shelter for a small terrace near the

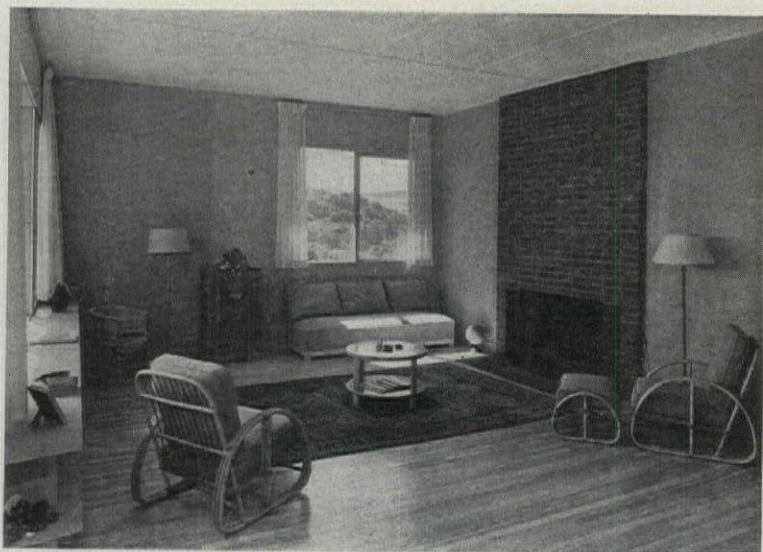
house, and, by virtue of the changes in grade, the protection from the wind extends to a larger area under huge live oak trees farther from the house. The living room wing is angled to take advantage of fine views to the west and southwest, with full window areas along those sides of living room and gallery. This arrangement of the house had two further advantages: plenty of winter sun for gallery and living room, and a logical development of site contours, for the living room section is close to the



The unusually extensive perimeter of this little house was dictated by weather conditions—a warm climate for outdoor living, but a strong west wind. So the house spreads out to form a wind-break around an informal courtyard

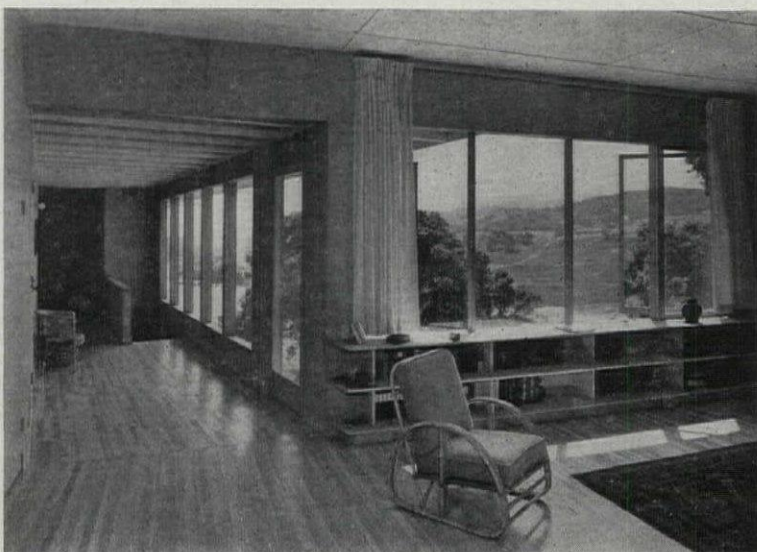


ground for easy access to the outdoor living area, while the bedroom wing comes considerably above ground level. Enough, in fact, to provide the car shelter below. Incidentally, the rear of this wing at the ground level is enclosed for a darkroom and for a utility-laundry room. This utility room affords access from car shelter to house via the gallery stairs. The house is of wood frame construction. Exterior is finished with oiled redwood. Interiors are of white pine plywood, with flush joints without battens. Ceilings are of fibreboard with half-round batten strips. The interior plywood is stained slightly, to hold the color and keep it looking as natural as possible. In kitchens and bathrooms it was varnished.



Roger Sturtevant photos

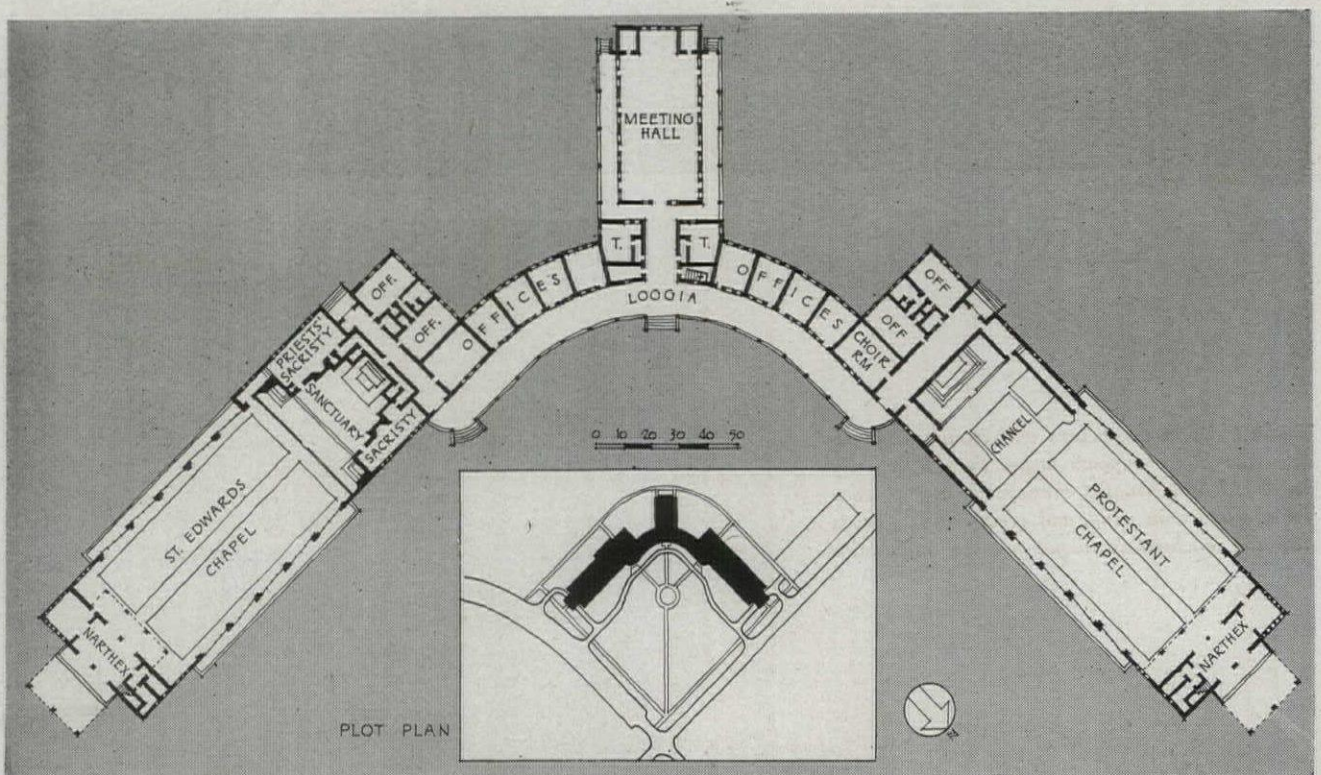
Being built in two wings with connecting gallery, the house appears larger than it actually is. Incidental benefits are exceptional privacy for the bedroom wing, and great window areas for the enchanting views of the mountains



FLEXIBLE PLAN FOR FLYERS' CHAPELS

Twin Chapels, U. S. Naval Air Station, Jacksonville, Fla.

Robert and Company, Inc., Architects and Engineers





THE problem of rather unpredictable space requirements for chapels at a huge air training station is neatly anticipated in this plan of almost-twin buildings. Even if seating could be exactly calculated the scheme would be considered nicely functional, with the two chapels at right angles and connected by the arc of offices, and the extra meeting hall in the middle. But it also provides considerable flexibility in the event that either of the two chapels

(one Catholic, the other Protestant) has overflow crowds. Each chapel is walled on either side by rows of sliding doors, so that crowds may overflow right out the sides. That would normally be possible in the Florida climate. Or, extra worshippers could be seated in the meeting hall. A public address system permits any desired arrangement. The open walls did, however, introduce the problem of drafts along floors, hence the choice of radiant heating.

Radiant heating was here designed to meet a special heating problem—cool drafts along the floor because of the wide openings in the walls. Even when weather is mild enough to permit leaving the sliding doors open there might be a large flow of air along the floor. Lack of wall space was another factor in the choice of the floor-panel system. The heating coils are three-quarter-in. wrought iron welded piping, with hot water as the heating medium. Coils are embedded in the structural concrete floor, which is laid directly on an earth fill. Some floors are finished with marble, others with quarry tile





Interior view of St. Edwards Chapel. Identical as to over-all size, the two chapels vary as to interior arrangement

Interior of Protestant Chapel. Both chapels have the sliding doors to permit virtually complete opening of the walls



HOW ABOUT A PEACE CONSUMPTION BOARD?

By Dorothy Thompson

WHEN Donald Nelson first said that the heart-breaking United Nations phrase of "too little and too late" would be replaced by "too much and too soon," it seemed like an unwise boast, but that condition is already beginning. Despite the fact that American industry is producing goods of high and almost immediate obsolescence, it is proving itself competent to keep them flowing, moving, sailing, flying, shooting, while it provides the people at home with all of what they need and most of what they want.

On this score pride is justified, complacency is not.

It is this very "miracle of production" that can create, once this war is over, the worst problem which American industry and society have ever had to face.

The great crises of the twentieth century which have been marked by periodic and ever-larger waves of depression, and prolonged and halting recoveries, and have been a basic cause of revolution and war, have none of them been crises of the elements of production. At no time have industries been bankrupted and men unemployed and destituted because of a shortage of raw-materials, capital or laborers—the elements of production. Exactly the opposite is true. All depressions, in highly developed industrial societies, are the result of a glut of these things. Modern depressions never occur on the producing side of the scale but on the consuming side. They are crises of the market. It must be clear to any unconfused mind, that they are therefore not caused by high wages, or high prices paid to farmers whose prices in the case of most working farmers are merely wages paid by themselves for their own work—but that the over-all cause is predominantly an insufficient market. So-called crises of "over-production" occur only when production and consumption get out of balance.

Obviously the largest and richest market is in the wealthiest country or countries, and since production is the only source of wealth, and we are the wealthiest country, we are any seller's best market. The most profitable export trade is never carried on with poor countries but with rich ones. Thus, though foreign trade never accounted for more than seven to ten per cent of American sales, 75 per cent of that was conducted with the world's next richest empire, Great Britain. It is ridiculous to talk about raising the standards of living of the Chinese coolie, in order that he should be able to buy our goods, if we neglect to raise the standard of living of the Georgia cracker, in order that he should buy his own country's goods.

This war has demonstrated that the American people have never bought the fullest possible production of American industries, except when, as now, they buy an immense percentage of it collectively. War solves the problem by providing a convenient collective incinerator for about 60 per cent of what American factories and fields can produce, provided they have a market for it. The market is still the American people, who are borrowing the money (from themselves and their posterity) to pay for the goods, which war then destroys with great rapidity. We will have victory, but no offsetting economic as-

sets to show for our money or production for war.

An incinerator is a convenient outlet, but is a most unsatisfactory way of meeting the main issue. The problem is how to create the means by which the American people can enjoy the goods they are able to produce, and thus provide American industries with their only certain peacetime market.

Necessary to a solution of this problem is a changed attitude of mind. We are still governed by habits of thought that are hangovers from a by-gone age when the problems of production were not solved, and when contentment with poverty might reasonably be considered a virtue, since poverty for millions was something inescapable that had to be endured. It is no longer inescapable, nor need it be endured, as millions know. And it is no longer an economic virtue either, but an economic sin.

The economic argument for the profit system is that we need profits to increase and improve the apparatus of production. Profits are the source of investments. However, if our production capacity surpasses every consumption opportunity, the most die-hard standpatters will be unable to find a reasonably full argument for a laissez-faire attitude. It is only by extending, accelerating and creating new types of consumption that the profit system can be reconciled with sound economics.

When ten million uniformed men come home looking for work, we are going to have a gigantic, going production concern, capable, after conversion to peacetime operation, of fulfilling every present desire of the American people, and creating new products and new desires that they have never yet dreamed of. This plant has been expanded and kept going during the war because its products were collectively absorbed for a national purpose. And unless new national objectives are created, the plant is going to contract, many workers will be unemployed, the market will wither and many enterprises "go bust" because wealth has again created poverty.

I don't think that this will happen without the most serious social disturbances. Too many people went through the last depression. The memory of it is a horror. This country lost in that depression—between 1929 and 1939—250 billion dollars of income, or 90 billions more than the entire national debt, including the cost of the war to date. This is the loss, if you calculate 1929, the last prewar year of approximately full employment, as 100. Of course, we lost much more, because in ten years the productive system had become vastly more efficient—so efficient that in 1943 it produced goods to the value of an income of 143 billions, considerably more than in three full years of depression. In ten years, we lost three times the entire income of the boom year of 1929.

The way to find a new market is not to count on exports to China or Australia or Latin America. A more enterprising spirit than we have had in the past can create opportunities in many foreign places, to be sure. But we must always bear in mind that the total export trade of the world prior to the war amounted to only 35 billions annually, less than the increase of our production in the past year, and we aren't going to have a monopoly of it

by a long shot. Furthermore, unless we want to take goods in equal exchange for goods, we are going to be giving part of our production away, absolutely free—exactly as we did after the last war. If we are giving anything away, it would be much more sensible to give it to ourselves.

The way to find a new market, I believe, is to create a new market, right here in the United States. The market created by the war—the market that most recently has made us rich—is *collective consumption* and that's the way to create a plus market in peace.

If the people of this country can make themselves rich by manufacturing and selling to themselves barracks, they can for instance make themselves richer by manufacturing and selling to themselves houses. Wouldn't it be wise to make slums obsolescent and supplant wretched, ugly and unhygienic houses by modern and beautiful ones, even if the process of doing it amounts to a tax on property long since amortized with the original investment repaid several times over?

If it is said that people can't afford new houses, it must be said in contradiction that they can afford them if they are paid to produce them efficiently—without any excessive profiteering. If they are not paid to produce anything they obviously can't buy anything.

The young American, fed through movies and advertisements a highly idealized picture of American life must occasionally compare it with the reality before his eyes. The entrances to our cities show jungles of littered lots, old car dumps, and dingy, hideous houses in grimy streets. Agricultural slums are even worse. In the deep South, American citizens, colored and white, are living in hovels the like of which are not to be seen this side of the Balkans.

Hundreds of thousands of farmers are still transporting goods to market over dirt roads that are morasses at some time of the year and wear out trucks and cars at all times. Millions of Americans are without electric lights or bathtubs or running water. Farmers milk their cows in the rays of kerosene lamps that too often burn down their barns. Beautiful streams are choked with sewage; deforested hills are eroding.

In the richest cities, there are schools so ugly, unhygienic, dingy and crowded that they would long ago have been torn down in Sweden. Many thousands of children in this country never eat a well-cooked, well-balanced and nicely-served meal—while little Norway before the war found it possible to feed every schoolchild, rich or poor, a hot meal every day.

We have not nearly enough hospitals and not nearly enough doctors to keep Americans healthy, and in rural communities, countless children and adults have never seen a dentist.

Winston Churchill in his Guild-Hall speech suggested a "Four Year Plan" for England after this war. America needs generation of such plans—national plans, regional plans, state plans, county plans, village plans—all plans which will employ labor to create private and collective assets, and consume production.

These plans ought not to be made by a central bureaucracy dominated by the interests of any political party. They ought to be made by bi-partisan boards representative of industrialists, trade unions and professionals in every organized community. Otherwise communities that need hospitals will get unneeded postoffices and jails, and

almost everything will be undertaken as a vote catcher.

There ought to be in Washington a *Peace Consumption Board*, headed by a man like Donald Nelson or Charles E. Wilson, to review all programs requiring assistance in financing, and to integrate the whole program. It ought to be, and can be, as divorced from party politics as is the War College.

All work should be done by private industry under acceptable contracts that will squeeze out profiteering, and in all cases labor should be engaged off the open market through the prevailing system of collective bargaining. Under no circumstances should any work be considered as "relief." The WPA was the most reactionary idea ever advanced by "liberals"—to create a sub-standard class of subsistence workers on the periphery of an economy!

We don't want workers for "subsistence." People who are merely subsisting are not customers for industry.

We want a population whose minimum standard is one room per person with electric light, automatic refrigeration, freshly painted walls and respectable furniture in a house on a decent looking street, near a modern playground, and a school in which every room is light and beautiful and every child is fed daily one hot, tasteful meal.

We want every road that serves an economic purpose hard-surfaced. We want every town, village and industry in reasonable proximity to an airport and to hospitals and clinics where, in return for medical and hospital insurances every one can be treated for what ails him—and in time.

We want waste lands reclaimed, as parks or forest reserves. We want the entire transportation system improved and rationalized. We want low-cost theaters and symphonies; we want the remarkable techniques developed in moving pictures for the education of soldiers, further developed for teaching geography, history and the exact, natural and social sciences, in schools and in theaters, churches, town halls and granges.

We want industries decentralized, so that agriculture and manufacture can be tied together again, and the dangerous drift toward great cities halted and reversed.

In short, we want to make America the most beautiful, inspiring and comely home for man in the entire history of the human race, through the planned integration of all its myriads of initiatives, making ourselves individually prosperous in the process of rebuilding America.

I am amazed when industrialists call this "Utopian." Let them look at their own industries! They are Utopian. A Utopian industry demands a Utopian market. If it doesn't organize a commensurate market, the Utopia of production will vanish in chaos.

The imaginations that organized the production side of industry can also organize the market if they will apply to the problems of consumption the same boldness of vision and enterprising organization they have applied to the problems of production. Organized production cannot survive an unorganized market. The challenge is primarily directed at the leaders of business to bring into being a PCB (Peace Consumption Board) which will eliminate future need of a PWB, WPA or WPB.

The chance will be ours after this war. If we miss it, it is unlikely that history will ever offer us another one. Our grandchildren, on the contrary, will be emigrating to some other land of opportunity.

SERVICE STATIONS

*Architectural Record's
Building Types Study
Number 86*

MERCHANDISING WILL SHAPE NEW STATIONS

By Henry Ozanne

A STATION FOR A MUNICIPAL AIRPORT

J. Gordon Carr, Architect

A STATION FOR A SHOPPING CENTER

Henry S. Churchill, Architect

A STATION FOR A HIGHWAY HOSTELRY

Harcell H. Harris, Architect

RESTAURANT STATIONS ON THE TURNPIKE

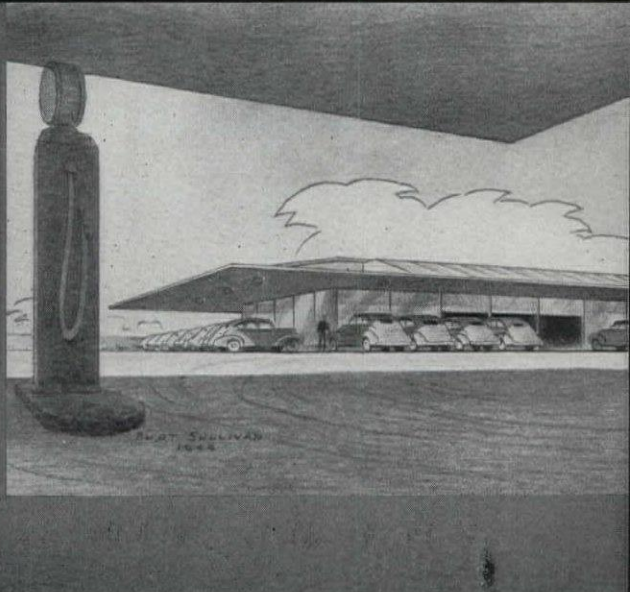
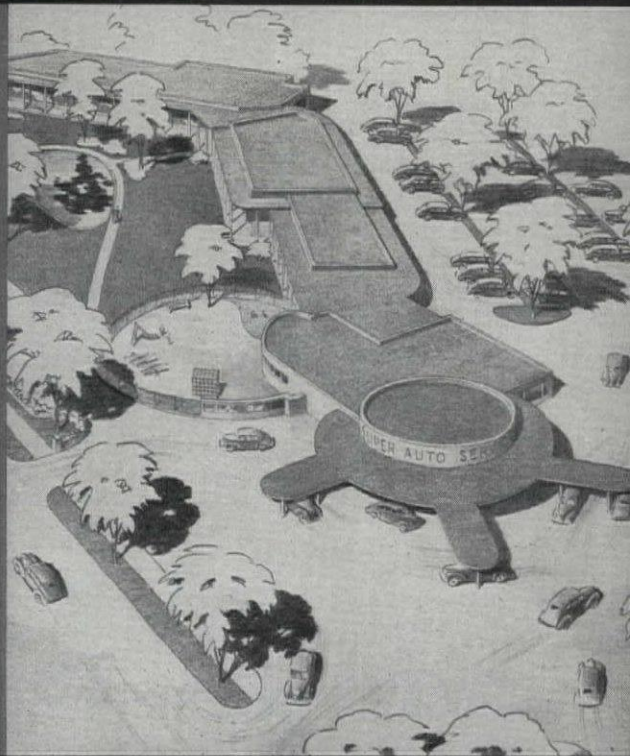
Standard Oil Co. of Pennsylvania

ELEMENTS IN SERVICE STATION PLANNING

By George J. Hemmeter

TIME-SAVER STANDARDS *Service Station Buildings*

THIS, the second of the collaborative Building Types Studies, was developed by the editors of *National Petroleum News* and of *ARCHITECTURAL RECORD*, and is published simultaneously by both magazines. Consultation with men who will be responsible for postwar highway buildings—sales executives of oil companies—indicates that service stations will have some new functions, and will tend toward more ambitious projects. New merchandising policies appear to be more important than technical changes in automobiles. Airport station possibilities are still open to imaginative experimentation. As a part of the study, the expected trends have been visualized, by three leading architects, in three proposals for stations. Current practice in design is summarized by the architect of the country's largest oil company.



MERCHANDISING WILL SHAPE NEW STATIONS

By Henry Ozanne, *National Petroleum News*

VASTLY extended merchandising possibilities are assured for the postwar service station and we here set forth some of the industry's current thinking on this subject. We believe no more radical difference between the service station of the past and that of the future can be pictured than in this respect of the sales program. This augmented sales program will perhaps bring about more change in the building requirements of service stations, immediately after the war, than any other single factor. It will affect the siting of future stations, the size of establishments, and the architectural handling of sales rooms in relation to service facilities. It will invite not only new methods of display but the further adaptation of the whole interior to the patronage of women.

The change in merchandising, war born, is under way right now. The war years are a time of unsettled buying habits. The entire consumer market is deranged and depleted as the public abandons its buying ways of a lifetime in the search for newer and scarcer goods. A psychological readiness is quickly created to turn to any new source of supply, and that readiness is already breaking down lines of prejudice that have existed in the past against service station merchandise. Public conditioning to roadside selling may be virtually complete before the end of the war.

Two stories are dramatic illustrations. One is told by the sales manager of a major oil company who, driving along a western highway, saw in front of a roadside station two dozen square-patch samples of linoleum beckoning to the passing driver. Here was something really new. The sales manager stopped and inquired within the one-

man station. This is what he heard:

"I pay \$50 a month here, and for three months it's been all I could do to pay the rent and buy groceries. My gallonage used to run 12,000; now it's less than half that. I bought a couple of rolls of floor covering for my house and found I'd made a mistake and had one roll too many. I tried selling the extra roll here. It was gone in an hour. Then I bought 12 more rolls to give it a real try. They sold out, and I hit on a different plan: I got these samples and now I just take the orders. They're going well; I'm making money on it."

This operator, in return for simply writing up a book order, was netting \$4.75 on every roll of linoleum and already had sold 24.

The second story is that of a major oil company which tried the experiment of selling ice in Detroit last summer. A deal was made with an ice house which had been forced to discontinue deliveries in the labor-shortage area. The ice firm itself built and distributed 56 ice boxes to a group of service stations. Each station took 1,200 to 1,500 lb. of ice daily, enough for an average of about 40 customers. The idea caught on at once; there was no trouble in selling, and each station netted a profit on the venture. Customers drove in, cafeteria-like, split off their own 25 or 50-lb. scored cakes, tossed them on the rear bumper of the car, paid the station operator, and drove away. There was practically no selling involved and almost no handling. The plan will be extended next summer.

Such stories indicate the changing buying habits of the American motorist and give a hint of the peacetime promise in service station merchandising. But while the

Up-to-date prewar station typical of midwestern and eastern areas, Gilbert Miles Ramsey, architect. Clean "typing" of station, adequate office display, and compact pump island

Gardner Herrick Studio





Advanced station model in current use; Frederick Frost, architect. The "drum" shape is a trademark. Porcelain enamel finish, standardized elements, efficient arrangement, good screening

change is now rapid, it is in line with the whole history of the development of the service station as a trading point for the automobile owner. This growth has been prompted by the growing congestion of downtown shopping areas and the consequent decentralization that has been under way in urban communities for a decade.

Three chief categories of merchandising lines constitute the mainstay of the service station (1) *strictly petroleum products* (gasoline, oils, greases, anti-freeze); (2) *kindred products and service* (tires, batteries, car accessories and the services entailed by these, motor work, brake adjustment, wheel balancing, etc.); (3) *other items* not directly related to automotive needs themselves (see accompanying list of merchandise items). The growth of service station merchandising has been greatest in the third group, next greatest in the second group.

We shall cite one example only in the kindred products group—the battery business. This, according to Herbert King, vice president of the National Battery Co., now provides an annual market in new battery sales, recharging, rentals, service, cables and the sale of junked batteries, of \$300,000,000.

And battery sales have not decreased during the war, due to older cars in use. In fact, Mr. King estimates that the 1943 business was 12 per cent higher than 1941. The postwar years will be even more profitable.

Mr. King lists four ways in which battery business may be carried on, and while specifically dealing with batteries, his suggestions may be made applicable to wider merchandising problems:

1. Sponsorship and sale of the battery maker's own brand through a distributor. In this case the oil company receives an override or rebate from the jobber for his aid in selling the merchandise.

2. Sponsorship of a tire and rubber company's brand battery, the rubber company paying a rebate to the oil company.

3. Purchase by the oil company from the battery maker of his advertised brand and reselling of the product

through the station.

4. Sale and distribution of the oil company's private brand battery purchased from the manufacturer, the oil company taking responsibility for the merchandising and distribution program.

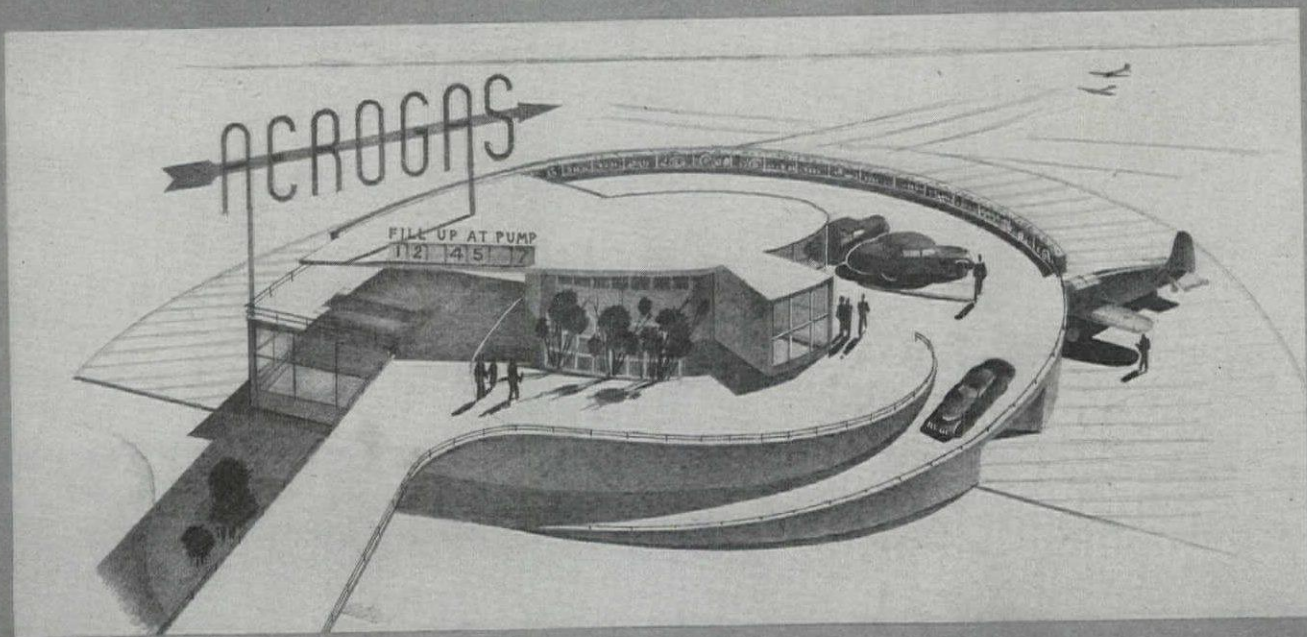
To this might be added, (5) the prominent display of the goods in and about the station.

Increased parking space needs in metropolitan areas have prompted the development of the outlying station which has "grown up" in the community shopping area where it is located. This in turn has led to a more "personalized" relationship with the motorist, repeated contacts and continuous service. This whole pattern has resulted in a heightened importance of merchandising for the station operator, and it has been in this type of area that the "super" station has developed. Such an area, from both its residential and its business aspects, is midway between suburban and "downtown." We believe this is the geographical unit that offers the largest opportunity for postwar service station merchandising, and, in general, the importance of miscellaneous merchandising will increase with area decentralization. The cross-roads station, the ultimate limit in this decentralization process, will be able to handle items that could not be profitably stocked by a metropolitan station, e.g., garden seed, overalls (see accompanying merchandising list). This means that the sale of petroleum products will become relatively less important and the sale of kindred and general lines more important in ratio to the decentralization from areas of population density to those of population sparsity.

This growth of general merchandising by the service station will call not only for a greater merchandise stock, but also for additional services in installation, a lowered price, and a convenient location.

In assuming its postwar role, the service station will be characterized by a much larger display room. Showcases and counters largely will replace the open-shelf display now usually situated behind the bays. This, in turn, will

(Continued on page 87)



A STATION FOR A MUNICIPAL AIRPORT

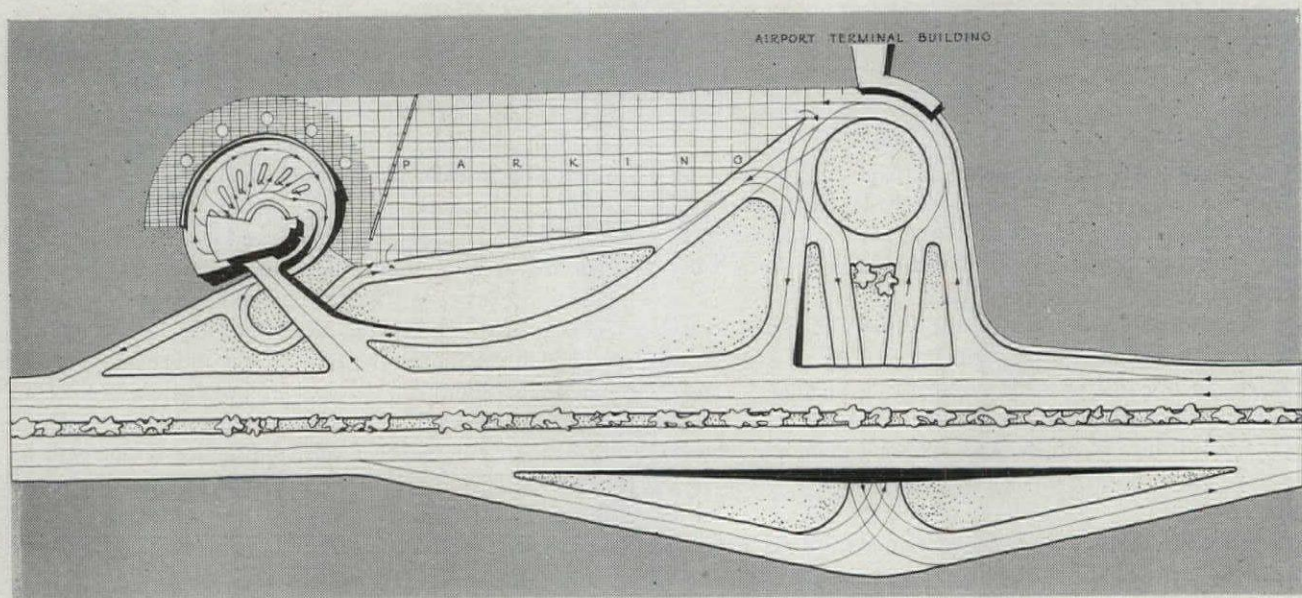
With two levels, for cars and planes. J. Gordon Carr, Architect

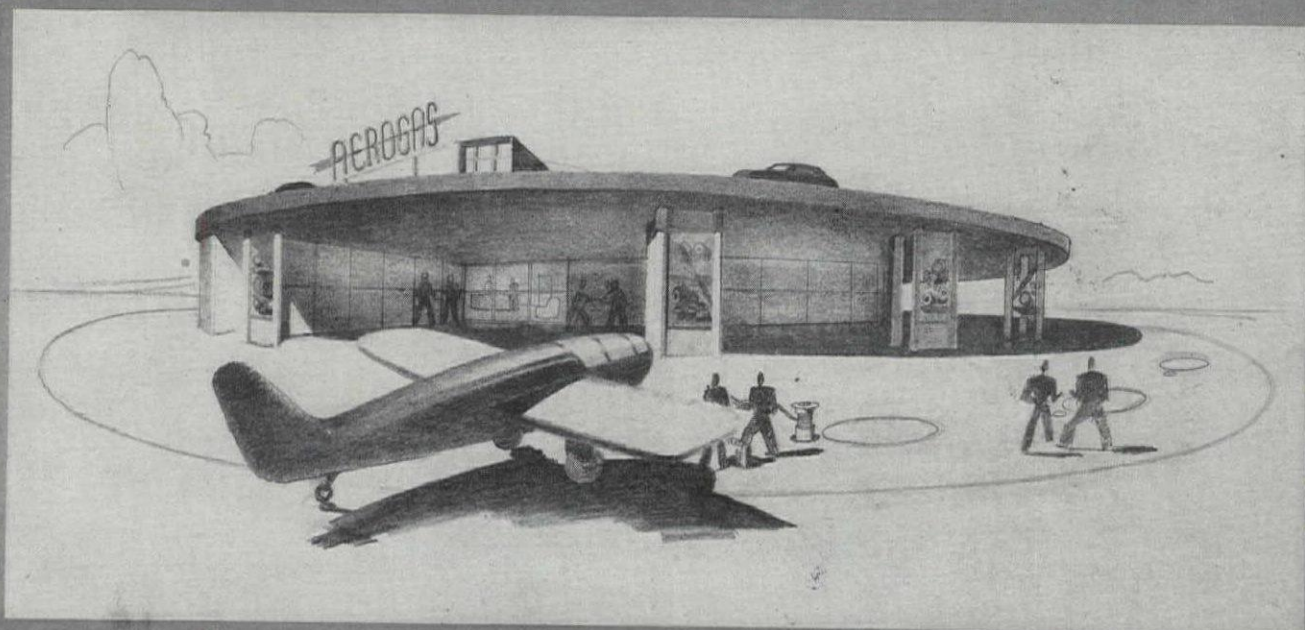
IF EVEN half of the predictions about the airplane come true, the gas stations needed for airports will move into the big-business class. With the prospect of bringing together large and small planes—freight, passenger and private—perhaps helicopters as air taxis; automobiles, trucks and even boats, the airport will broaden the scale of fuel supply and service operations and will pose a problem of coordination for the architect.

For this study Mr. Carr has visualized a possible gas station for a large municipal airport. It is assumed that the station will service automobiles, coming both from the

airport itself and from the passing super-highway, also smaller private planes (commercial planes are assumed to be fueled at their hangars).

Circulation being the first problem, the station is developed in a two-level scheme, with cars serviced above, planes below. Besides having easy access, either from highway or airport, cars also have an easy route through the station, moving around the circle to a "dock," then on around to the exit ramp. An indicator sign on the entrance canopy tells the driver which stalls are free. The canopy extends over two stalls, for protection against bad weather. At the





In this two-story service station for a municipal airport, private planes are fueled on the lower level, cars above. Autos follow a circular route, planes taxi onto turntables

pumps the cars face toward the flying field, giving the occupants a view of airport activities. But in their line of vision are merchandise display cases placed along the perimeter of the terrace.

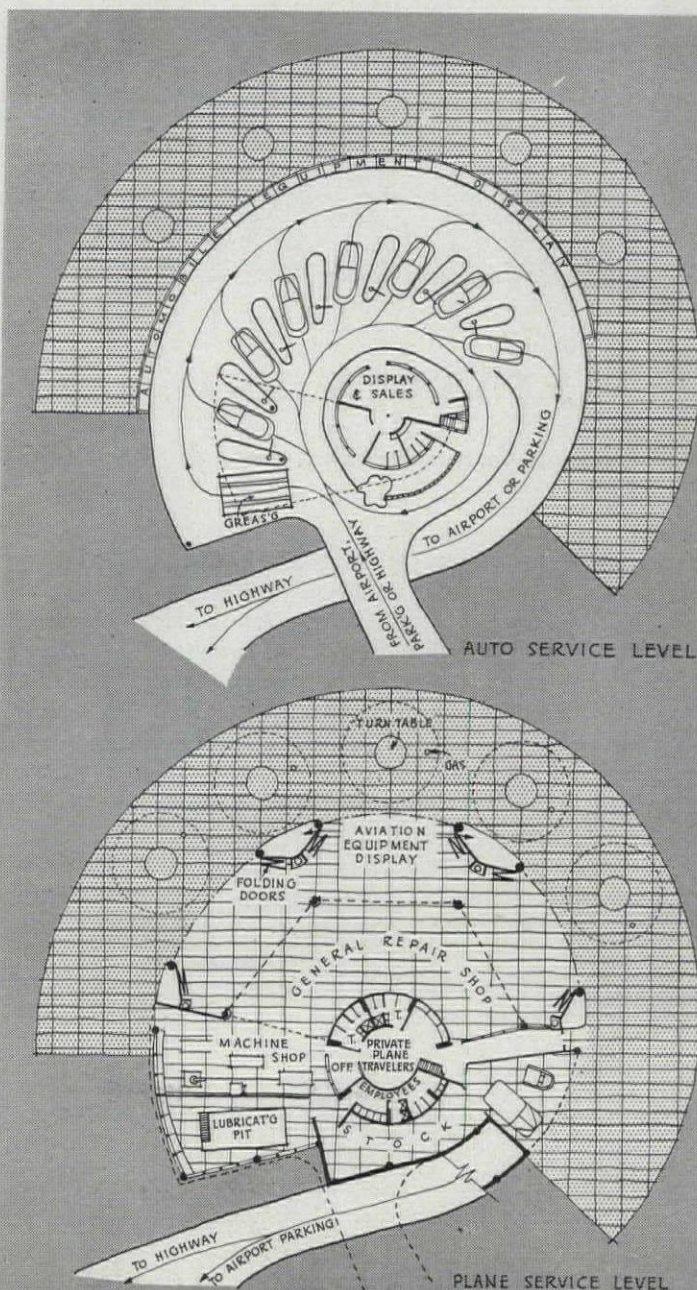
Cars are fueled from mechanism recessed in the platform. The hose nozzle is inserted into the tank, clamped on, the indicator set for the desired amount, or for "fill 'er up," and a cut-off attachment makes the rest of the fueling automatic. One attendant can service several cars at once.

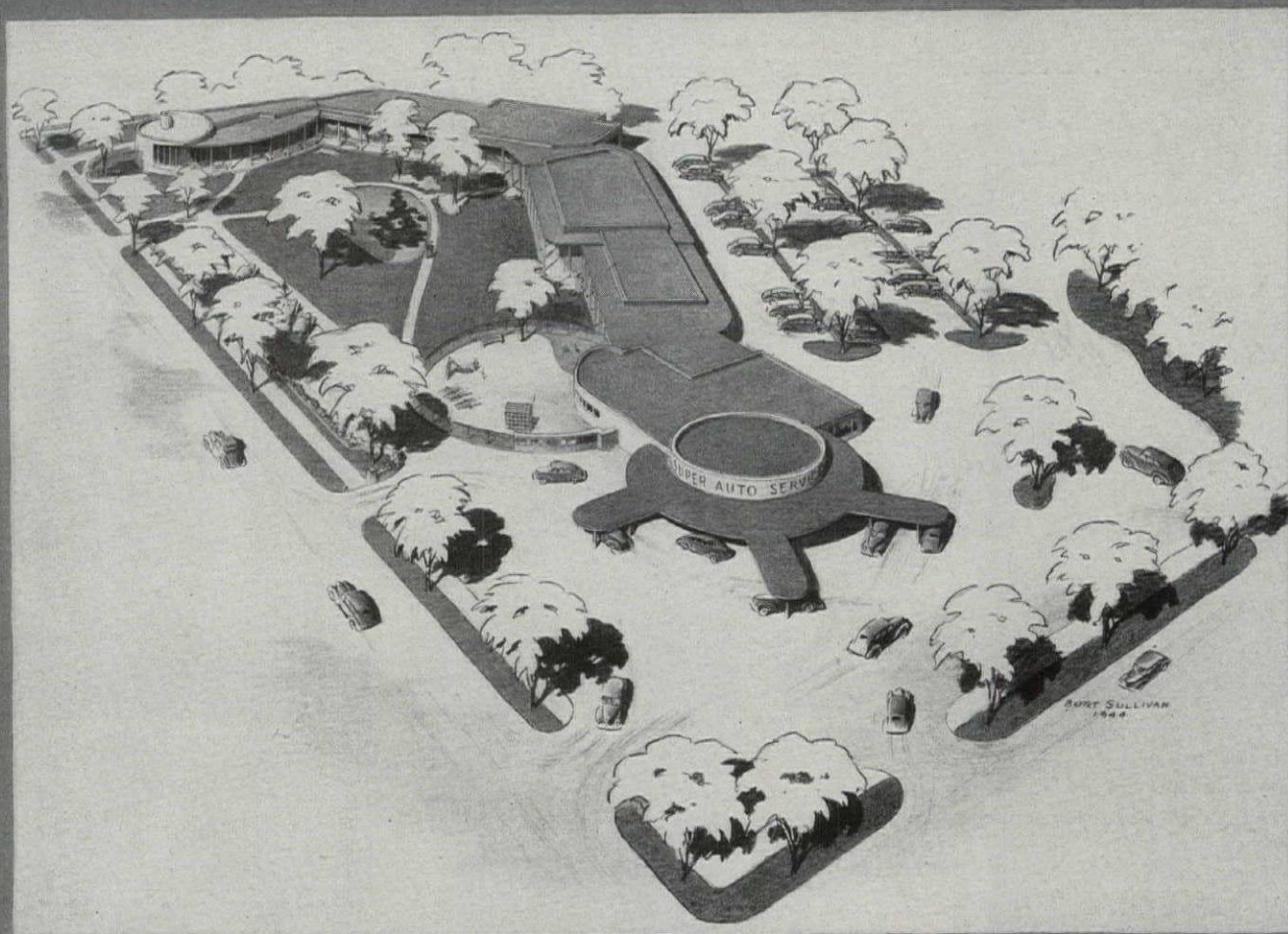
For greasing service the first stall is used. When the car is in position, hatch doors in the pavement open to permit greasing to be done from below.

Private planes are serviced at the level of the flying field, taxiing in directly to the apron. After a plane takes its position on a turntable, the servicing apparatus rises from its recess in the apron. Then it is lowered again, by hydraulic mechanism, to leave the apron free of obstructions. Then the turntable operates electrically, turning the plane around to face the field.

For general servicing, a plane may nose into recesses under the upper level platform. Here it can be given the same service that larger commercial planes get in their hangars. Minor repairs, check-ups and servicing, and even overnight storage (for planes up to a 40-ft. wingspread) are possible at this service station. For special work, a service truck and tow tractor are kept in the garage.

Between platform supports there are display areas for aviation equipment, to attract the private flyer using the station. The center part of the station is devoted to facilities for the private pilot and his passengers. Here they can take showers, change clothes, make appointments, or just wait, in much more convenient quarters than in the main airport building.





A STATION FOR A SHOPPING CENTER

*With modern merchandising and town planning. Henry S. Churchill, Architect**

IN DRAWING up this postwar service station project, Henry S. Churchill had an unprecedented opportunity. Before him, as information, lay the report on trends in merchandising thought gathered by *National Petroleum News* in a survey taking in all major companies, and summarized in the article beginning on page 72. Before him also was an analysis of the service station in relation to the shopping center, by the eminent town planner, Clarence S. Stein. This is, therefore, by no means a "dream scheme" but a reliable anticipation.

Although no information is officially available, it is known that a number of companies have quietly purchased considerable frontages for service stations in association with shopping centers. The particular plan presented could be used either at the center of a small community or on the way downtown in a larger one. In either instance, the center would be placed in close conjunction with a residential neighborhood and would avoid congestion.

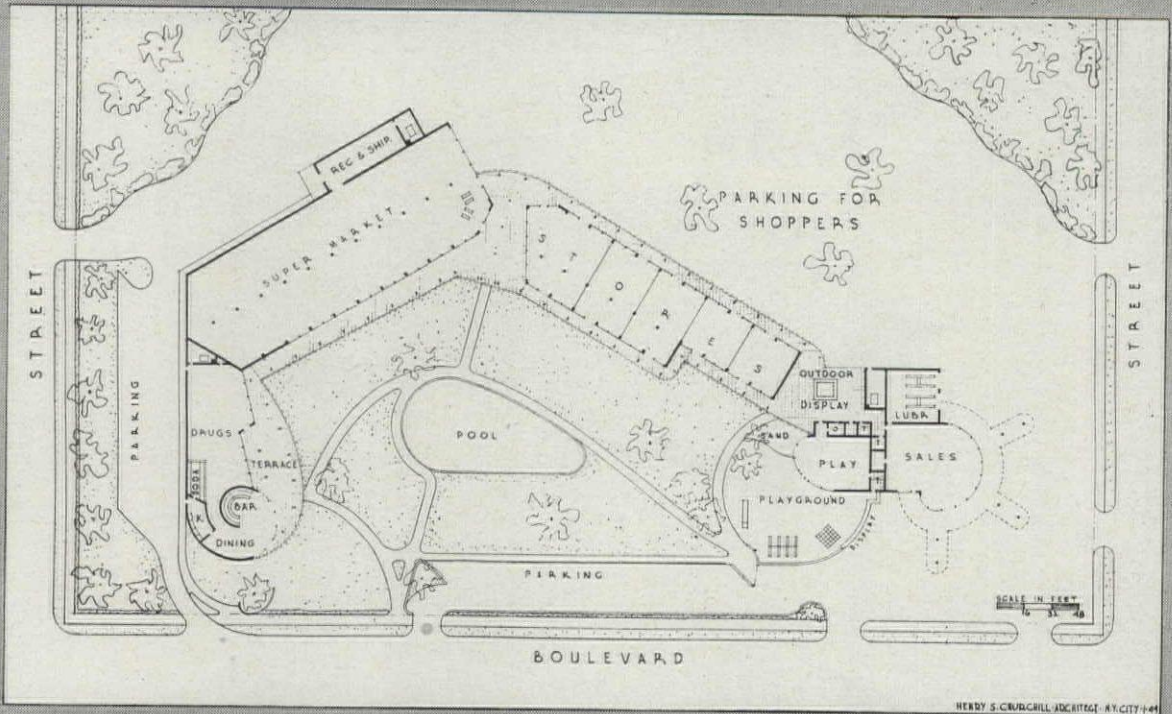
From the oil company standpoint, certain features of the plan are immediately manifest. The service station is
**Clarence S. Stein, AIA, contributed valuable ideas on the community planning aspect of this study*

the first element that is seen from the main traffic approach along the boulevard. The ingenious diagonal arrangement makes the "rear" parking opportunity just as visible from the distance as the "front" parking. (In eastern states the public still has much to learn about the convenience of rear parking.) Strictly speaking, there is scarcely a "front" or "rear" aspect to this development.

Access is easy. The driver who has "almost gone by" has a second chance to enter at the farther end of the lot, behind the drug store.

Both the sales and the service features of the station itself are expanded. The enlarged merchandise display immediately greets the entrant. Women, who make up the shopping majority, will welcome the opportunity to "park the children" as well as the car under trained supervision.

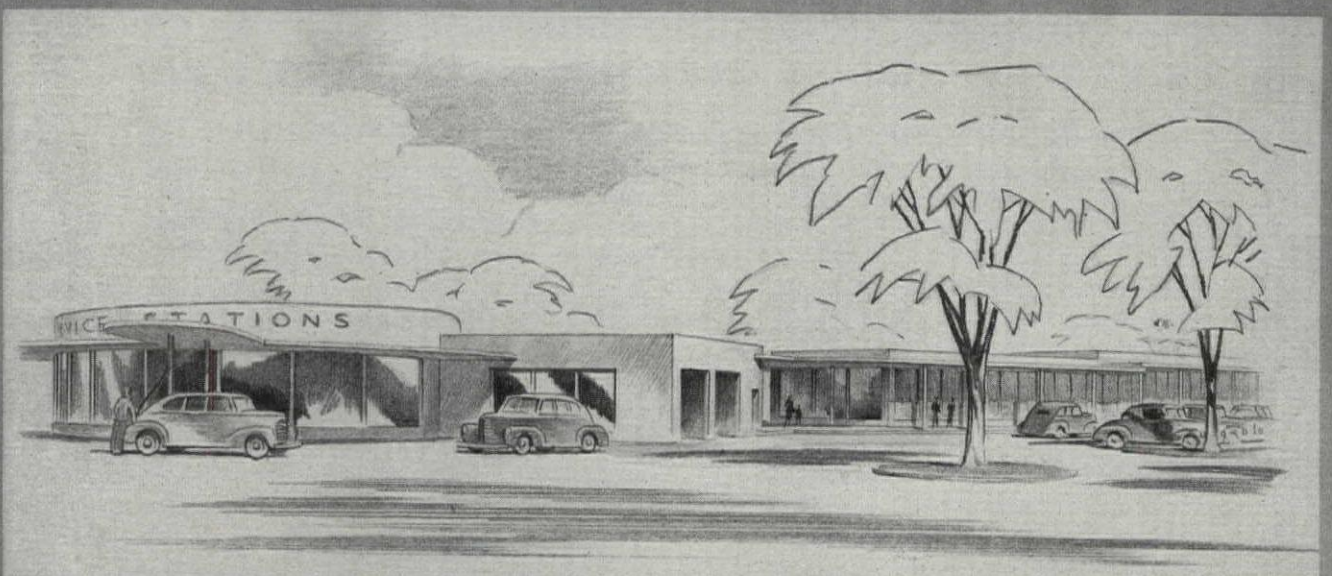
Sound community planning principles are manifested by the plan. In this approach, the station itself comes last instead of first among the elements considered. First comes a shopping center with unobstructed pedestrian access from the neighborhood as well as motor access from a main thoroughfare; second, adequate off-street parking; third, a service station suitably related to the parking lot.

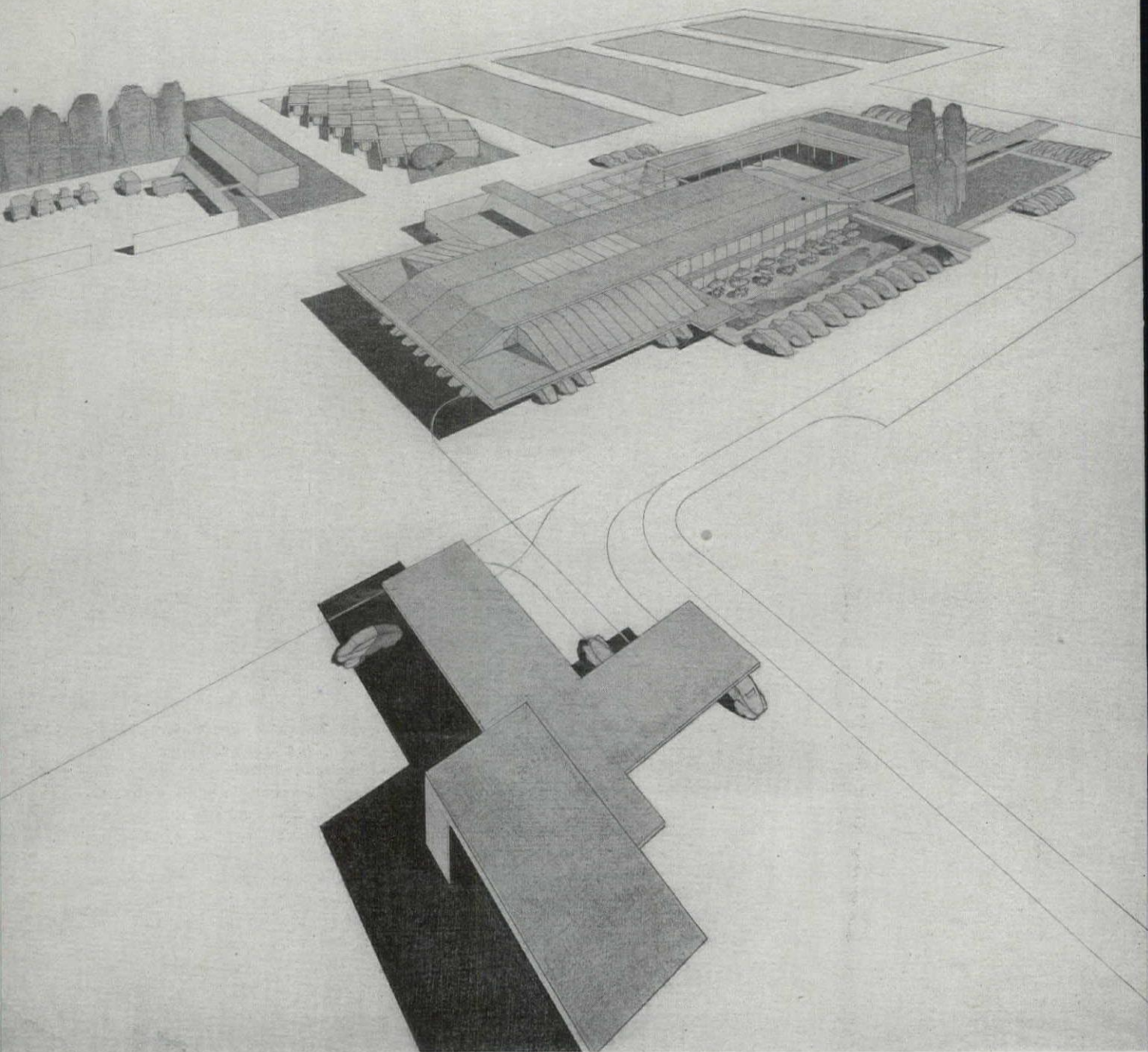


HERBY S. CRUDCHILL, ARCHTGT., N.Y. CITY 44

On a main thoroughfare, motorists do not window-shop. Judgments are formed on the basis of the appearance of a shopping center as a whole. These facts dictated the off-street disposition of the plan above. In a first study, a half-circle arrangement was adopted, open to the boulevard. This axial scheme was discarded, because in actual fact the high-speed motorist approaches at a tangent. The curve was therefore readjusted to give him the best possible long-distance sight-lines toward the service

station, the drug store, the supermarket—all the main features of the scheme. The supervised playground was conveniently placed near the main entrance. It becomes an additional "service." Front parking is not allowed to repeat the old error of obscuring the group of buildings as a whole. Note the many entrances and exits, including out-of-the-way service access to the supermarket. Below, view from parking lot, showing attractive arcades that make this another "front" and not an untidy backyard





A STATION FOR A HIGHWAY HOSTELRY

—and a cross-roads shopping center. Expanded step by step from the original service station, it also includes unique facilities for truckmen

Harwell H. Harris, Architect

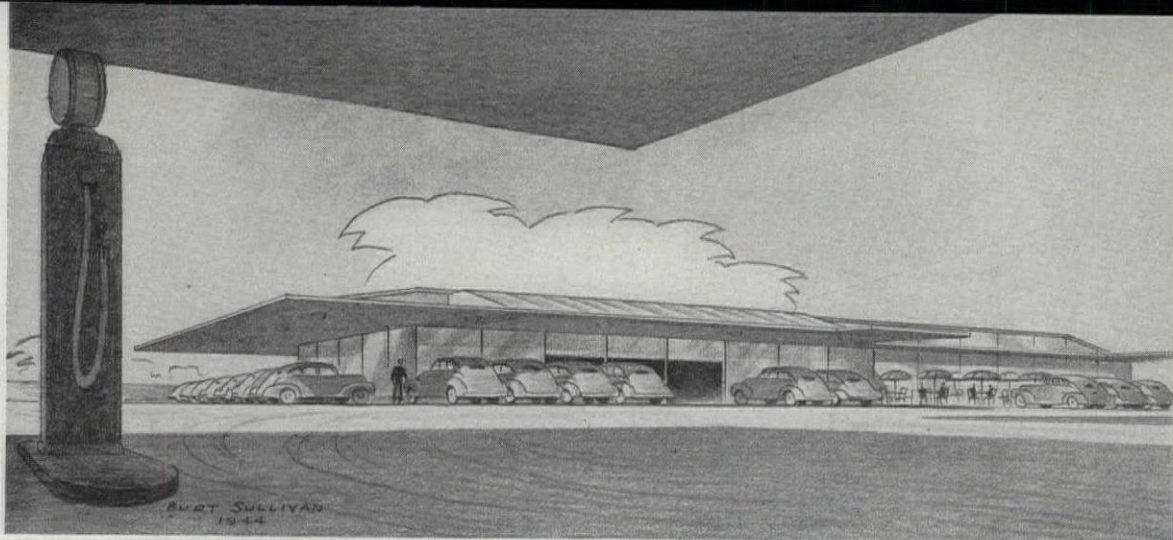
THE inclusion of trucks and truckers in its speed highway service is what gives this project its size and special interest. Although this is the first time to our knowledge that an able architect has devoted such careful thought to the humble truckman, yet the idea is firmly based on advanced existing practice as exemplified in the Pennsylvania Turnpike stations shown immediately following.

Large as it is, this highway hostelry is planned so that it can expand gradually from a very small original nucleus. The possible steps are shown clearly, overleaf, on page 80.

The other considerations governing the design may best be gathered from the notes which Mr. Harris wrote for his own guidance:

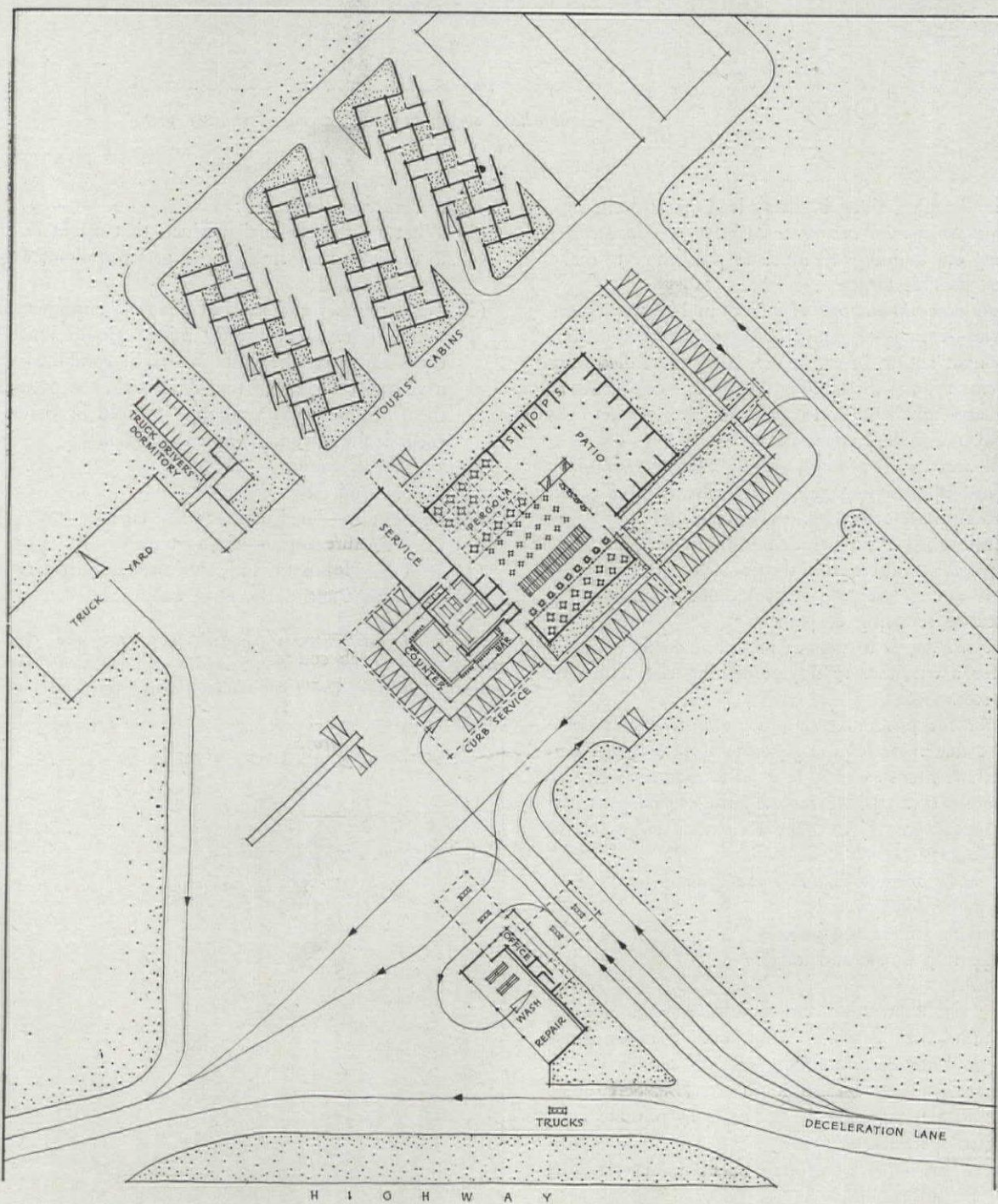
Do not depend upon written signs to enumerate accommodations. Let people get the idea of what to do by seeing other people doing it.

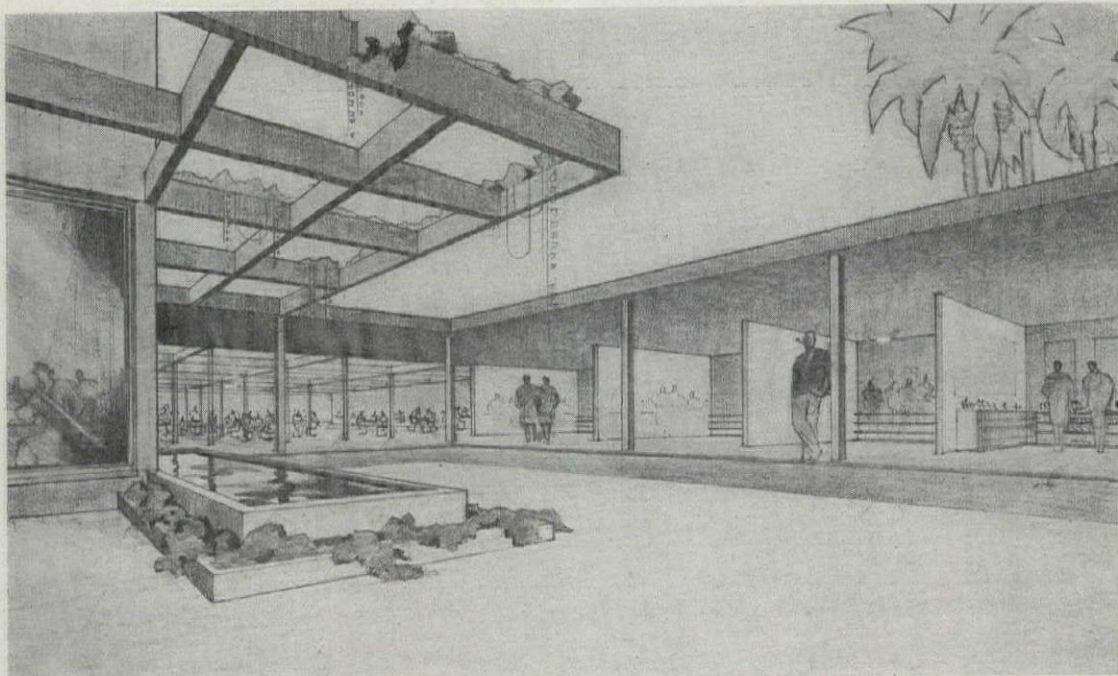
Make establishment visible from greatest possible distance to all approaching cars—this may mean placing it back from highway some distance so that view is not blocked by cars in front—remember speed of cars!



Above, view from pumps toward curb service, lunch-room, and dining terrace. The plan, below, is a further development of the existing Midway type, page 82. A big difference is that here the trucks are brought in at

the front, not the rear, of the lot, so as not to intrude on the quiet of cabins and social facilities. The scheme is turned to face the major and minor avenues of approach; the architecture in itself "tells the story"





Neighborhood shopping center, arranged about a patio

Make landscaping along highway lead eye to buildings. Turn buildings with broadside to view of approaching cars—string out buildings as much as practicable to make the biggest possible target.

Make all accommodations visible from highway: gasoline—service—eating—sleeping. Make all accommodations visible to man sitting in car which is being refilled. Try pointing cars toward the building group to focus attention on other accommodations. Provide an exit between gas station and dining-sleeping units.

Give the man in the car a chance to "change his mind":

- (1) When approaching along highway. (Either a second entrance or a think-it-over lane.)
- (2) While waiting for car to be filled with gas. Make it possible to drive from the gas station to the dining units and the sleeping units without much doubling back or retracing of path.

Separate the traffic to various parts but do not make it difficult for a customer to buy something else which he belatedly sees.

Recognize the fact that practically all moving about is in cars and that these require generous space to make that movement swift and easy. Scale it all to man-in-a-car. Use turning radius of a moving car—as little reversing as possible. In appearance, try to make a virtue of large area of paving.

Try to make one gas station serve:

- (1) Customers for gas only
- (2) Arriving diners and lodgers
- (3) Departing diners and lodgers
- (4) Trucks

Try to group lubrication and if possible repair and car washing units with gasoline station unit. Plan on possibility of one attendant handling all gas service during hours of slack business—also lubrication maybe. Spread out goods display to make it as visible as possible from cars and from path to rest rooms.

Recognize possibility of growth in size and variety of all kinds of roadside business.

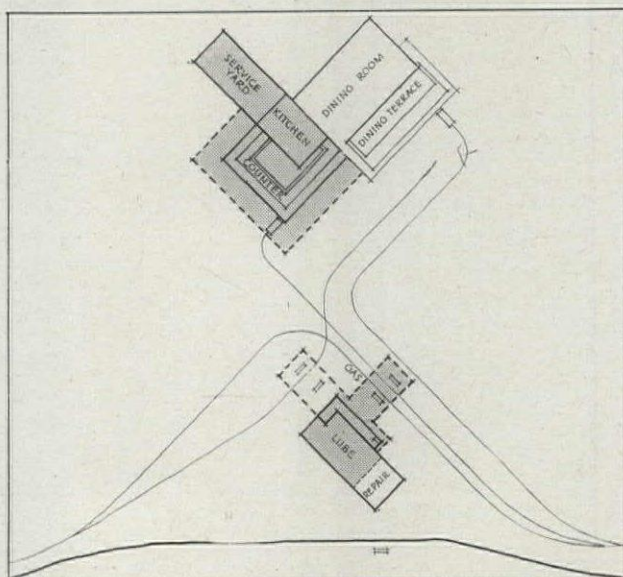
Consider nature of the region:

- (1) What are the regional products that might be sold to tourists? Plan small shops grouped about a garden court.
- (2) What number and kind of potential customers live within distance of say 30 miles? Could lunch in the patio under the wistaria tree be combined with a visit to the shop of the silversmith, the potter, or the furniture maker, so that it could be made an excursion for women from the region?

Units of development:

- (1) Gas and oil only
- (2) Gas station—lunch counter and curb
- (3) Gas—lunch counter—dining terrace
- (4) Add dining room and truckmen's dormitory
- (5) Add shops and patio, more cabins

Nucleus of the project: shaded parts are the original station and lunch counter; additions represent further steps in building, which are all tabulated immediately above



RESTAURANT STATIONS ON THE TURNPIKE

*Pennsylvania Turnpike Stations provide for truckers as well as tourists.
Construction and Maintenance Division, Standard Oil Co. of Pennsylvania*



*Midway includes Howard Johnson restaurant, also truckers' lunch and dormitories.
Trucks enter at right, swing far to rear, emerge at same service station as passenger cars*

FEW stations could provide so good a prewar test for post-war planning problems as these examples on a high-speed trunkline. The 160-mile Pennsylvania Turnpike, connecting Pittsburgh with Harrisburg, has no traffic lights, no sideroads, no crossings. It started with no speed limit; it has one now and will probably retain a high one in peacetime.

The right-of-way is 200 ft. in total width. The two 24-ft. lanes are separated by a 10 ft. dividing strip.

The big Midway Station, illustrated on the first four pages of this description, is 90 miles from Harrisburg. Eleven stations in all were built at selected points along the Turnpike. All have the same kind of long approach

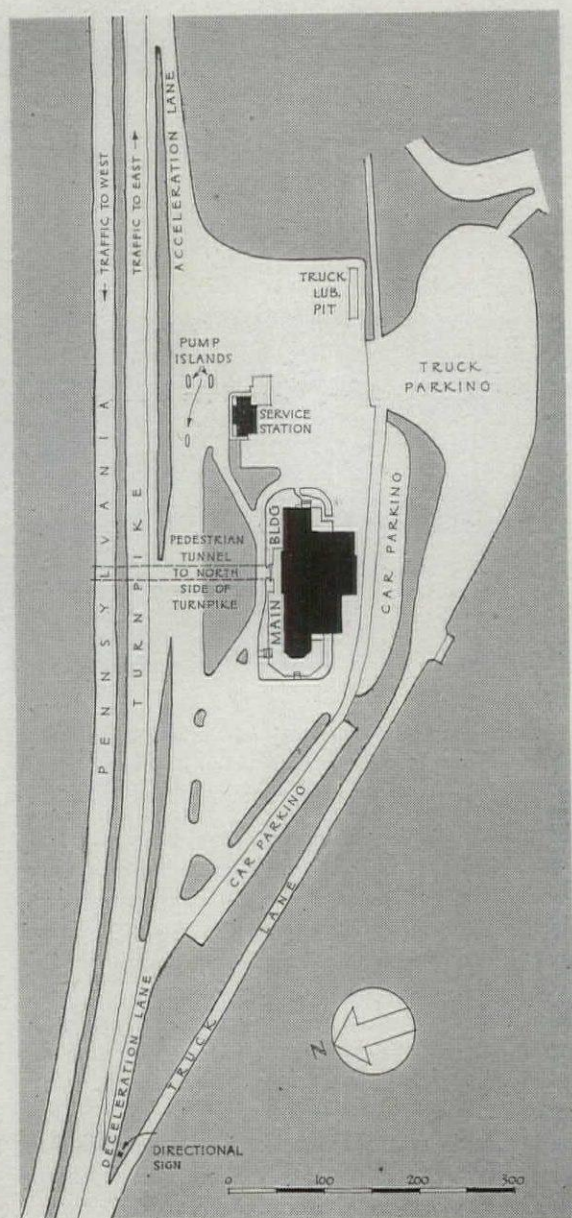
and exit lanes, but the buildings range from the little service station shown on page 86 to the large building above, with its leased Howard Johnson restaurant seating 120 diners, its separate, popular, truckers' lunch room, its lounge, apartment for the manager, and dormitories for truckers as well as for resident station workers.

Of special interest are the modifications in station planning introduced by the factor of high speed, and the special provisions made for truckers.

The speed of travel made it necessary to place identification signs miles ahead of the stations, to provide long lanes for access and departure. These are shown on the Midway plan, next page, and more fully described on page



At the Midway Station, truck and passenger-car approaches are separated. At left, station plan (a smaller parking area is across the turnpike); across-page, main building plans

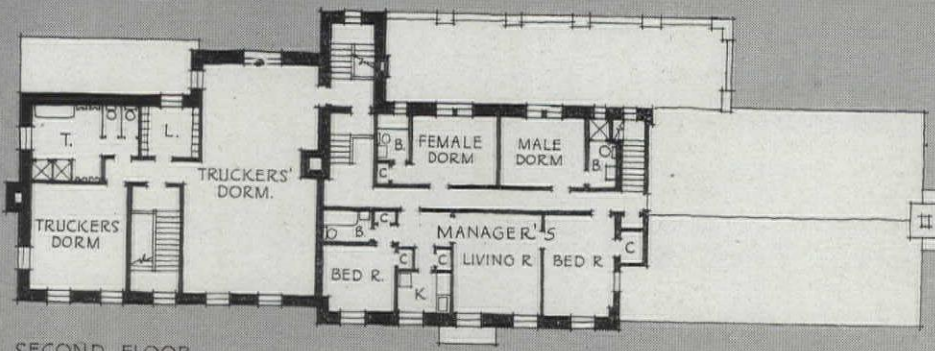


88, in the article on service station planning. The total length is nearly half a mile.

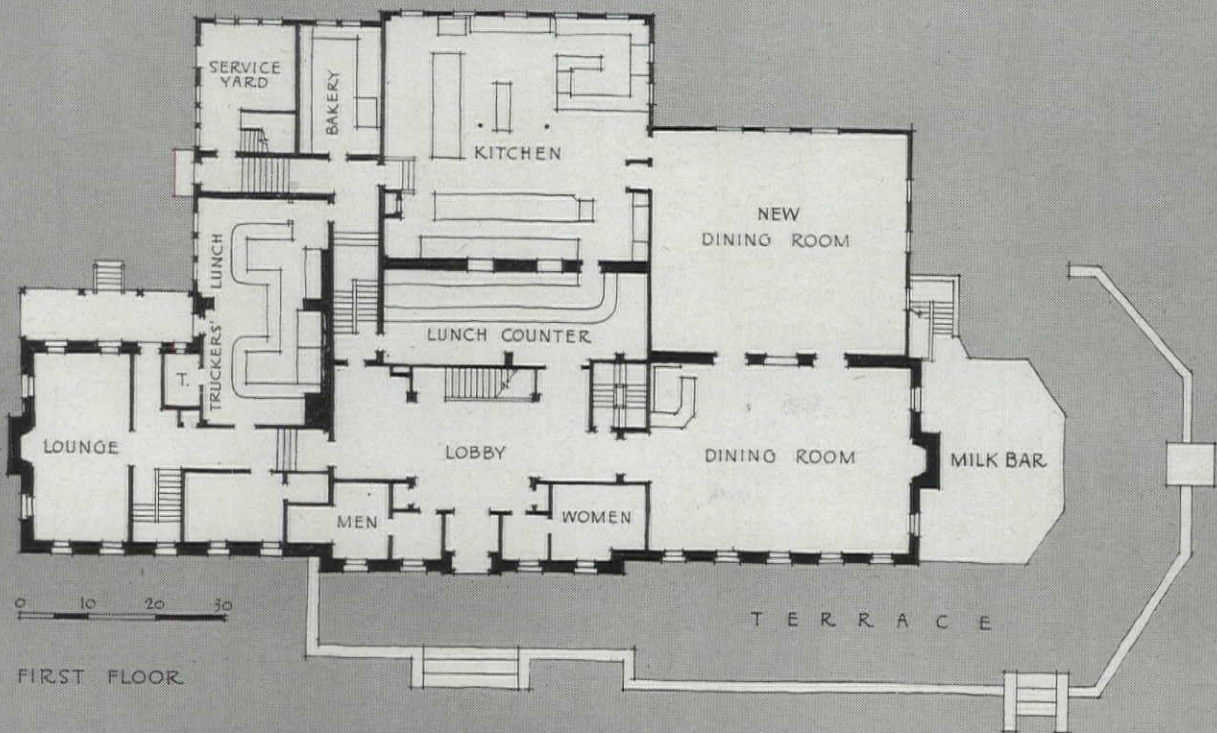
Turnpike drivers demand rapid service, and therefore the location of the pump islands was a special problem for the designers. The first stations were built with some pumps lined up in front and others placed on ahead. This arrangement congested traffic, because motorists would stop at the pump nearest the station even if there were clear islands farther on. A rearrangement was made so that motorists would have to pass all other islands first if they wished to stop at the one in front of the station. Incidentally, this one is set off to one side of the entry so as not to block it.

Provision for trucks and truckers greatly affected the planning of the Midway Station. Diesel fuel was provided for, and pumps were installed capable of delivering up to 25 gallons per minute. Trucks are brought in on a special lane to the rear of the property. The truck parking space includes a wired enclosure for bonded trucks and other valuable cargoes. There is a special truck lubricating pit. For the trifling sum of 35 cents, truckers may make use of one of the large dormitories, one of which is reserved for Negroes. Total dormitory capacity is 38 beds. For an extra 15 cents the driver gets a shower, soap, towel. He can even have pajamas furnished him if he so desires, and the workroom is available to him when he has to make up reports. The truck drivers' special lunchroom, pictured at the bottom of page 84, has proved highly popular with many other travellers because of the hearty food.

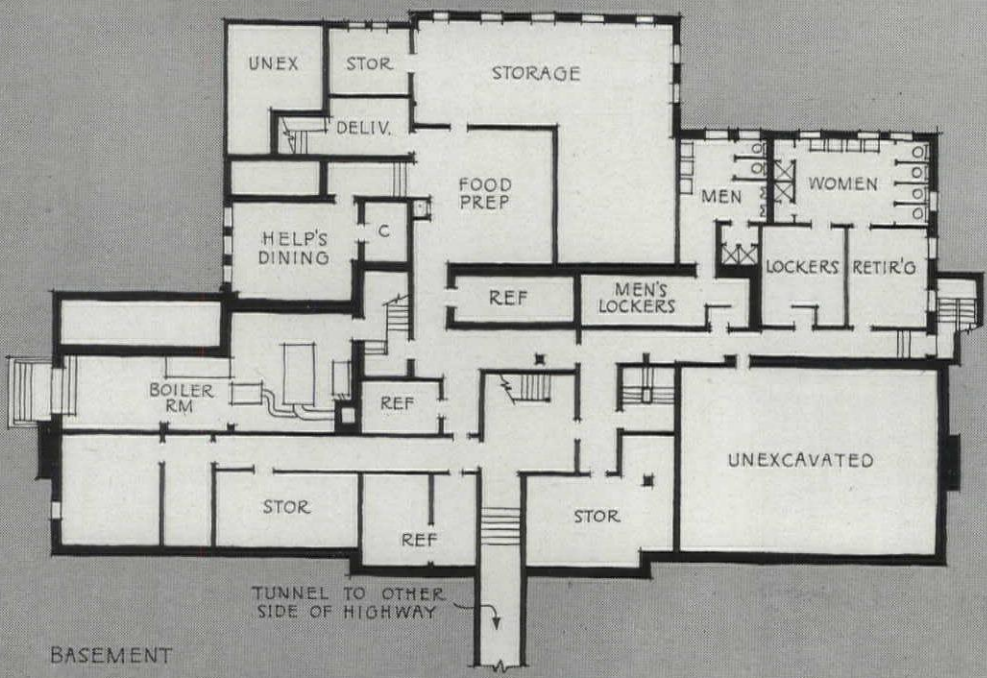
Across from the facilities shown at left in the plan is another large parking lot of nearly equal dimensions, serviced from the smaller building (page 86), and between the two there is a \$20,000 heated pedestrian tunnel.



SECOND FLOOR



FIRST FLOOR



BASEMENT

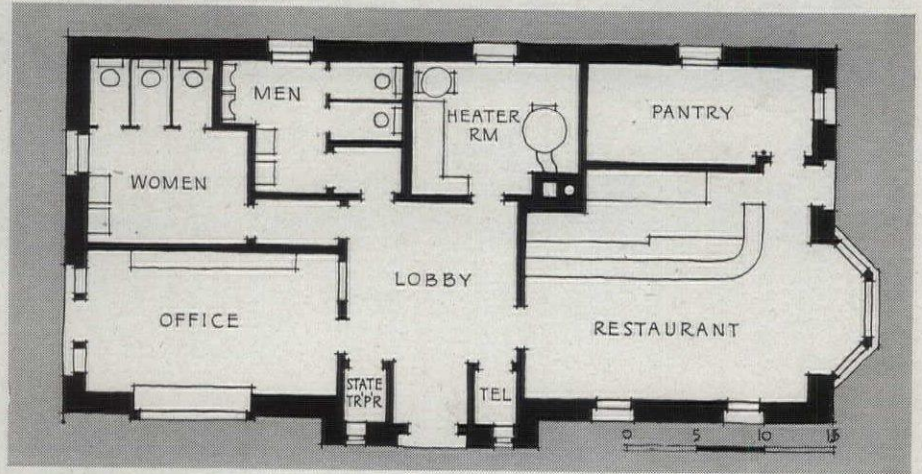


Serving prewar traffic, the leased Howard Johnson restaurants did a large business which raised the need for expansion that is indicated in the plan on the preceding page. But by far the most interesting innovation was the introduction of the truckers' counter restaurant, below, which drew many additional patrons because of its convenience and simple hearty food. At left, below, is shown a truckers' dormitory (see plan, preceding page)

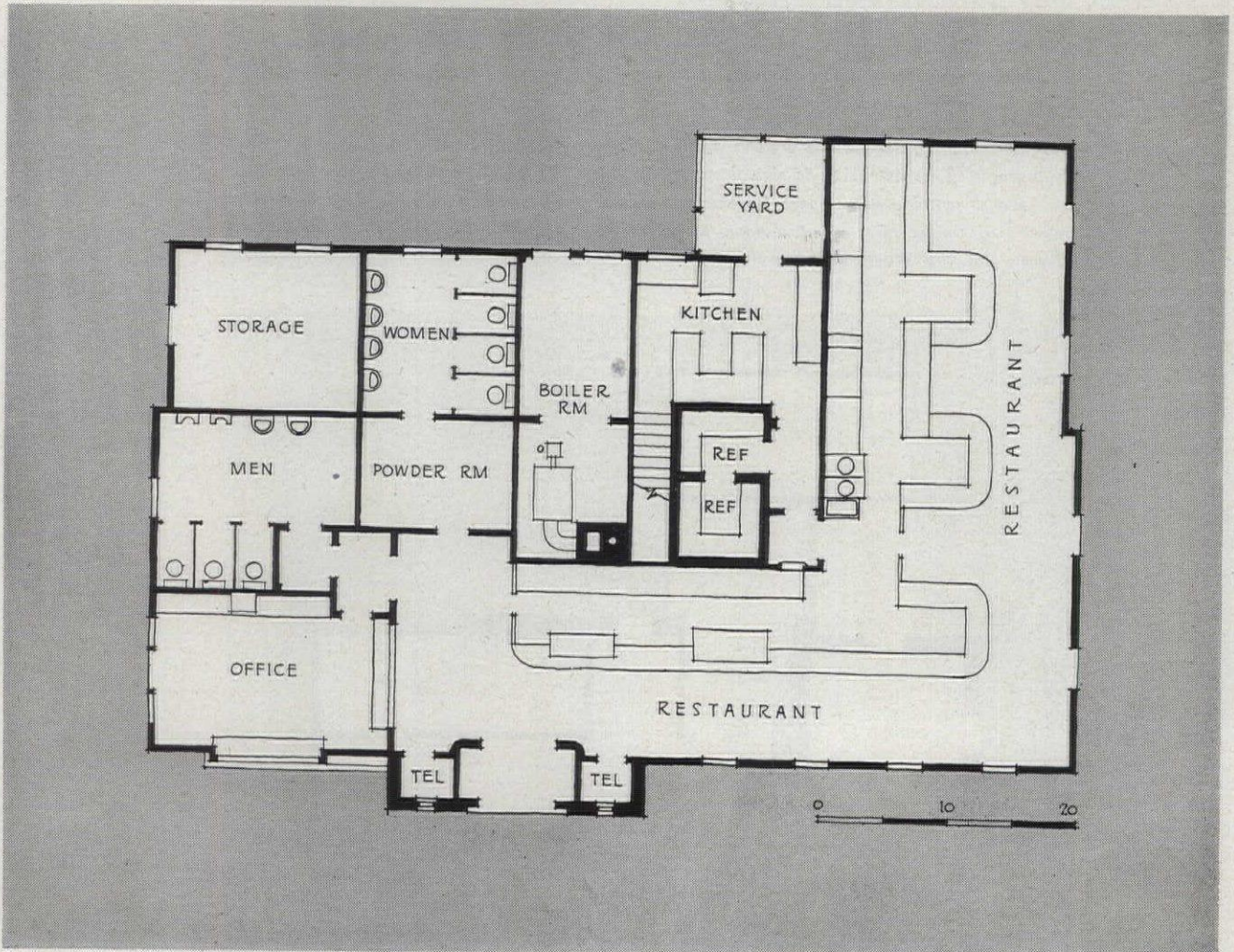


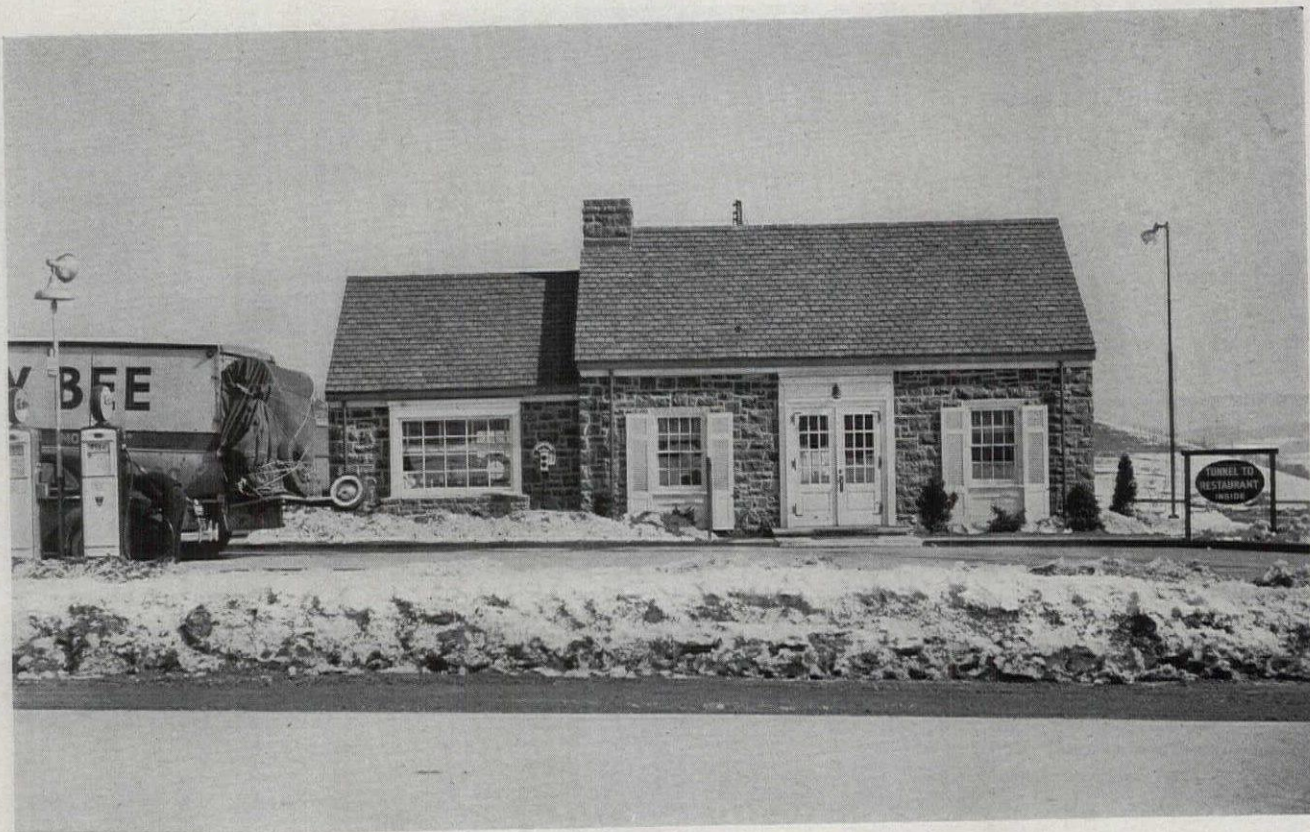


Intermediate stations on the Pennsylvania Turnpike are of various sizes. The one at Cove Valley, above, has a smaller counter-type lunch room in which, since the plan below it was drawn, the counter was put slightly farther forward to give more space for service.



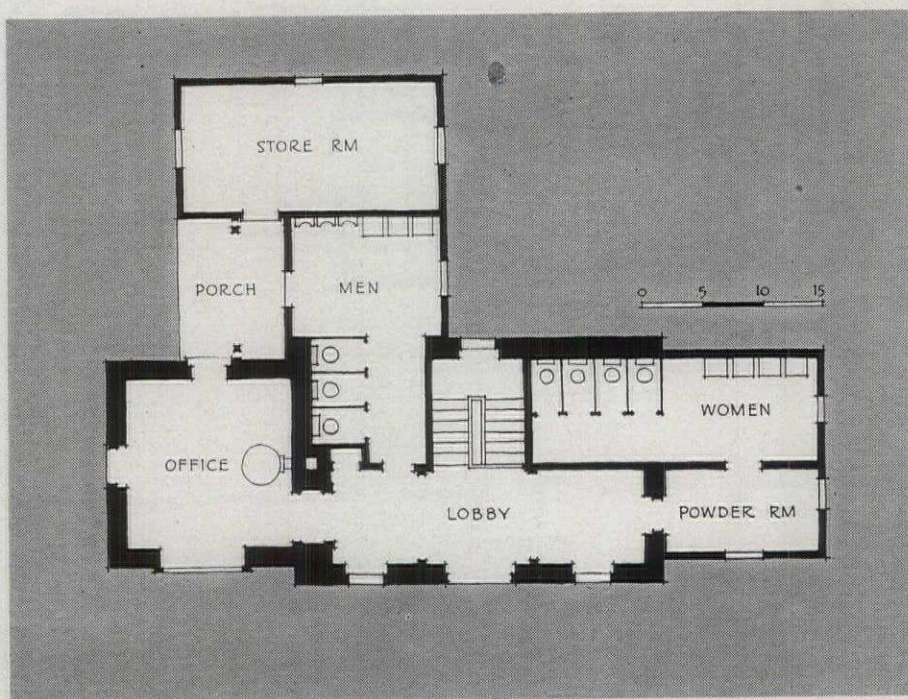
Below is the plan of a larger station finished in wood instead of stone, with longer L-shaped counter space





This smaller service building, without restaurant, is a part of the larger scheme at Midway. It lies across the turnpike from the main establishment, and is connected with it by means of the pedestrian tunnel for which a sign may be discerned in the picture, off to the right, and for which the stairs are inside the building. (The tunnel is also shown in plan on page 32.) The parking lot for this small building is fully as large as the average intermediate station, and gives the larger establishment full drawing power for traffic in both directions

The plan, below, shows the station after a very recent enlargement not shown in the photograph. This extension is significant of a continuing trend, because its main purpose has been to provide more space for the women's rest rooms. It is easy for men designing stations to forget how often women travelers have children to look after—sometimes babies—and how cramped they can be under these circumstances without the extra space



require that a larger part of the floor area of the station be given over to merchandising. As volume expands, the margin of profit narrows and the competitive factor becomes more important. The postwar service station operator, more truly than ever in the past, will be a "small merchant," but not necessarily a general store operator. Specialty interests will always keep him in a different class.

This gives reason to question how typical the one-man station of the future will be. Perhaps a station with an attendant devoting most of his time to selling will be the rule. The "clerk" may be introduced into the service station in place of the attendant indiscriminately running back and forth from a lubrication job to that of selling a toy for the baby. As a sales program becomes more integrated with the service station operator's total business, sound merchandising practices must be adopted, such as the adequate planning of stocks, the use of market surveys, and even advertising programs. Training and experience in salesmanship will count for more than they have in the past.

The place of merchandising in the future business of the service station will dictate changes not only in the planning of the station itself, but in its siting both within the trading area and on the individual lot. The choice of a crossroads situation, dictated purely by petroleum products sales considerations, may be subordinated to the choice of a community-integrated location. And sales displays will be re-oriented from backwalls to visible positions facing the flow of traffic. Increased parking demands will probably develop the side and rear areas, both for parking purposes and for window fronts. This will mean a larger investment in property and structure, and will lead to a higher specialization in sites.

Another limiting factor on postwar service station planning must be mentioned—the design and engineering achievement of the postwar automobile. If high octane gasoline leads to motor redesigning that makes use of an octane rating of, say, 90 or over, and effects a greater mileage per gallon than we now know, the need for service stations for refueling purposes decreases. Also, such innovations as sealed motors or one-shot lubrication systems would limit still further the service station as a dispenser of petroleum products. This would be offset, to some extent, by the expected increase in the number of vehicles.

What the future offers is summed up by D. R. Mackenroth, general sales manager of the retail stores division of the Goodyear Tire & Rubber Co., Inc.:

"First, among the many varied patterns of service stations today, one dominant trend is apparent. Tires, batteries and maintenance accessories, and their related services, are rapidly becoming an integral part of this operation. This is a functional change, supported by consumer requirements.

"Second, other lines and services can be added only where location and all required facilities are on a par with successful competition.

"Third, retail merchandising of service station requires coordinated planning for all lines and services. It must give the operator a complete set of usable tools.

"Fourth, automobiles and all related lines and services will continue their upward march of progress."

The following is a suggested list of merchandise items proposed by a major oil company for distribution by service stations after the war. The list represents the extended business activity in which, industry leaders say, the service station already can profitably engage.

AUTOMOTIVE

Tires and tubes	Steering wheel covers	Certificate and license holder
Batteries (<i>where recharging is done</i>)	Radiator cleaner	Exhaust deflectors
Spark plugs	Radiator solder	Foot pedal pads
Motor lubricants	Radiator flush	Floor mats
Lamps (<i>head, rear, sealed beam</i>)	Tire paint	First aid kits
Fuses	Cleaner, wax, and polish	Tube repair kits
Seat cushions and covers	Polishing cloths	Rubber cement
Defrosting Fans	Handy oils	Oil filter-cartridge
	Protective hand cream	Radiator hoses
		Fan belts
		Windshield wiper blades

HOME ITEMS

Coffee makers	Mops (dust, wet)	Knives (<i>slicing, paring</i>)
Fruit jars	Spot removers	Door mats
Ironing tables, pads, covers	Highball glasses	Waste baskets
Clothes baskets	Ovenware	Dinner ware
Clothes pins	Furniture polish	Bowl sets
Clothes lines	Step ladders	Casserole sets
Brooms	Brushes	Refrigerator sets
	Thermometers	

TOYS

Wooden toys	Model plane sets	Jumping ropes
Books	Baby play yards	Games
Yo-yo	Kites	

HARDWARE AND PAINTS

Files	Fly swatters	Electric sockets
Hammers	Paint scrapers	Shovels
Chisels and punches	Fly spray	Scotch tape
Friction tape	Cattle spray	House paint
Spades	Screwdrivers	Paint brushes
	Hatchets	Turpentine
	Rules and tapes	

RECREATION

Bicycle tires and tubes	Fishing tackle (<i>lines, rods, reels, hooks</i>)	Picnic jugs
Bicycle pedals	Table tennis	Thermos bottles
Bicycle baskets, carriers; etc.	Badminton	Camp chairs and stools
Bicycle locks	Boxing gloves	Robes
Boat seats and cushions	Archery sets	Baseball equipment
	Sweat shirts	Croquet sets
		Sunglasses

GARDEN AND FLOWERS

Vegetable and flower seed	Trowels	Shovels
Aprons	Sprinklers	Rakes
Shears	Insecticides	Hose and nozzles
	Garden sprayers	

CLOTHING

Work pants	Billfolds and keychains	Belts
Work shirts	Overalls	Hose
Work gloves	Coveralls	Luggage
Raincoats	Suspenders	Welders' mits
Jackets		

BASIC ELEMENTS IN STATION PLANNING

By George J. Hemmeter, Architect, Construction and Maintenance Department

Standard Oil Co. of New Jersey

LONG-RANGE prophesy lies outside the range of this department. Many striking predictions are made regarding the ultimate future of the motor service station. There is one prediction of which we may be sure: whatever comes will develop out of the best current practice. The remarks that follow, on the subject of planning the service station, are confined to present day experience, with just a few suggestions concerning the visible future. These remarks are, moreover, based on the observations of just one man in one company serving one area of the United States. They are offered, not as final wisdom on the subject of service station architecture and planning, but as encouragement to others to pool their experience in friendly discussion. What is said here may seem "all wet" to an architect designing stations on the West Coast or in the South. And yet there are probably some elements of service station design in which good practice is the same everywhere, for the reason that we are all driving the same cars and have the same anatomy to drive them with.

Another general observation may be made before we go into detail. The mainstay of service station income is the profit from the sale of gasoline. All other services and profits are secondary. For example, it is the profit on gasoline that carries the rest rooms, which in turn pay for themselves only if their presence causes even more people to stop for gasoline. The usual gasoline sale is not large. It averages about a dollar. Therefore other services are interfering with profits if they cause any blocking or delay in gasoline sales. This is the reason why we pay so much attention to broad "easy" driveways and careful arrangement of station facilities on the plot.

Scope of the Services Offered

Obviously the first object of the gas station is to get the car driver to stop. Simple as this statement may sound, it was not always fully appreciated. For example, the introduction of rest rooms as a featured service was late in coming. The gas station must (a) be situated where it is natural for the driver to stop or think of stopping; must (b) create or suggest additional reasons. So far, the reasons have been: 1. Refueling or replenishing the car, with gas, oil, water, anti-freeze, battery water, air. 2. Taking care of the corresponding needs of the driver, by means of rest rooms, soft drink stands, sandwiches and coffee, lunch-room, restaurant with or without bar. 3. Making driving more comfortable, by such services as windshield wiping, defrosting, adjusting seats for women drivers, etc. 4. Adjustment and care of cars, grease jobs, washing, adjusting headlights, checking and installing equipment such as tires, spark plugs, batteries and other car accessories. 5. Convenient purchases. Having already stopped, and taken care of his parking problem, the driver is hospitable to suggestions that he purchase goods other than automotive accessories. 6. Overnight lodging. 7. Amusements.

There has been talk about extensive merchandising at service stations after the war. Different companies take different attitudes as to the extent or manner in which they intend to go into such merchandising or correlated activities. Moreover, these policies are still in the making. The present study is confined to the standard elements of the service station which are virtually universal today.

Approaches

Distant visibility is the first requisite. The farther away the driver can see the station he is approaching, the more time he has to make up his mind to stop. The easier it looks to drive into the station and get out again, the more likely he is to choose this particular one. Especially on one of the new high-speed highways, the way in must not only be easy but easy at high speed. Moreover, the way in must look easy at high speed.

Sites are selected by the sales departments on the basis of a multiplicity of considerations, which cover among other things the distribution pattern of the company in the particular territory. It is often necessary to make the best of lots not ideally suited to service stations.

Within towns or cities, corner lots are preferred at present where other conditions are equal, because they are well situated to serve traffic from two directions and get the resident trade from side streets; they are likely to be visible from a greater distance, and sometimes stoplights cause a preliminary slow-down by the driver which encourages him to break the rhythm of his driving at this point and drive into the station if it is inviting.

Roadside Stations. High-speed traffic arteries have set the most advanced standards for roadside service-station planning. State signs for a high-speed station are now posted at a distance of several miles ahead of the station. On the Pennsylvania Turnpike, a fully developed trunk highway without speed limits, Esso stations have been planned with "deceleration lanes" branching off the main highway at a distance of 1,200 ft. ahead of the station. Up to within 350 feet of the pumps the pavement of this strip is continuous with that of the highway (see plan, page 82). At this point there is a separation strip of cobblestone or other rough paving. The "acceleration lane" on which cars leave the station is handled more simply; it runs parallel with the main highway for a distance of 1,000 ft. before rejoining it, in this manner giving the driver a chance to gauge main-line high-speed traffic and avoid collisions. Some states require a full stop on the part of any side-traffic entering the main highway, and in such a situation the "acceleration lane" is superfluous.

City Stations. The size of the lot is decisive; in the middle of the block a station cannot, within our experience, be well handled on less than a 75-ft. frontage. At corners less frontage may suffice. Some city authorities require an abrupt and narrow type of construction in the approaches so as to make the driver come to a near-stop before entering; but where this requirement does not exist, we try to make the path *as little curving as possible*. This means that the car crosses the sidewalk usually on a diagonal path of travel; and this in turn requires that entryways be at least 30 ft. wide (in our own practice). If possible we make them 35 ft. wide, and have sometimes gone to 40 ft. or more. Different cities have varying regulations concerning the safety islands with curbing that must be left at the sidewalk for pedestrians. At turns, an inside radius of 20 ft. is the least that is now permissible.

Signs. These are generally placed as far out toward the street as possible. In our own case we place the pole on our own property, and the sign swings over the sidewalk. At corner stations, one sign usually suffices for both



The V of a 1,200-ft. approach lane of a high-speed highway station (Penn Turnpike). See text, under "Approaches"

streets. The common practice is to hang the sign on a cross-arm, or otherwise attach it to a pole or stanchion, at a height of about 12 ft. to bottom of sign. Some companies illuminate the sign by means of spotlights on goose-necks. Some use fluorescent or cold-cathode light in the sign and its lettering; some employ a special shape for the sign. The pole or stanchion carrying the sign often extends up beyond the sign, to a total height up to 20 ft. above the sidewalk, where floodlights are attached to illuminate the station. Poles or stanchions carrying such lights are now usually manufactured in hinged form for purposes of easier rebulbing and cleaning.

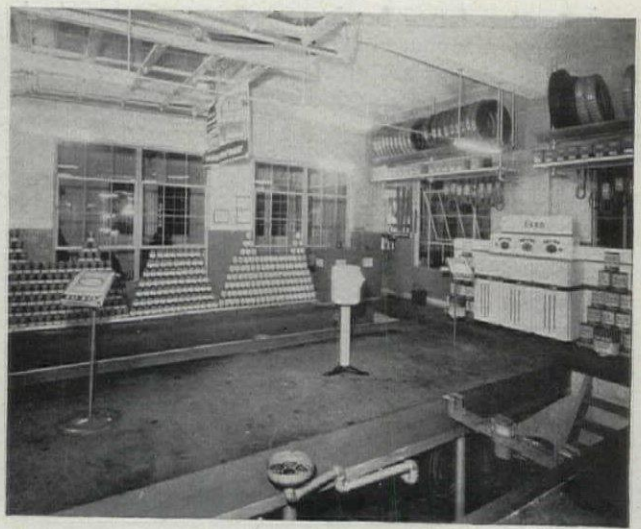
Paving

The most economical material varies, of course, according to region. Cold asphalt concrete is generally preferred, at a cost running from \$1.85 to \$2.20 per square yard; others are oil-penetrated macadam, at about \$1.25, or peastone or gravel at from 75 cents to \$1 per square yard, in that order of preference. In some regions, concrete at about \$2.50 is best buy. Where the asphalt or macadam compounds are used, it is good practice to set a slab of concrete around the pumps extending laterally 8 ft. each side of the pump island, and longitudinally 6 ft. each end. Some companies which use narrow driveways carry the concrete slab from the sidewalk to the building line at the pump island. The concrete resists deterioration from gasoline spillage. The preference for asphalt is based on the ease with which it can be inconspicuously patched; also, it is more resilient than some other surfaces.

Station Sizes

Station ratings vary considerably among the different companies and from one area to another. Although Esso stations are generally economical in materials and planning, a fully developed de-luxe station with three service bays might on occasion represent a prewar investment as high as \$15,000, not counting in the land cost. A very acceptable station, starting out with one bay and capable of being expanded, may represent an investment (apart from land) of \$6,000 at prewar rates.

The question of personnel is increasingly important in station planning. The basic question is whether the same men will wait on customers and service the cars, or whether the station under consideration is of a size or specialization involving a separate sales and service staff. By far the predominant prewar type was the one with combined



Showing lubrication bays of an "Esso" station, with pits, high-pressure lubricant storage, tire rack, sales display

sales and service personnel. In our opinion, in laying out a station for this type of operation, it is a cardinal principle that service bays be close to the pumps, and that a view of the pumps be had from any point within.

Building and Pump Placement

It would be difficult to lay down any hard and fast rule for locating the building on the property in view of the many varying factors, such as the size and shape of the lot, the grading, the visibility from thoroughfares. With proper consideration given to the physical characteristics of the property itself, the most important item affecting the building location is to be found in the arrangement and the dimensions of the driveways. The more modern stations usually have front driveways 12 ft. in width; in other words this is the distance from the property line to the pump island. The driveway between the pump island and the walkway in front of the building should, in our opinion, be approximately 30 ft. or even 35 ft. in width to permit the free movement of vehicles on the property and avoid congestion at the pump islands. This space is especially needed to prevent obstruction of cars going in and out of the lubricating and wash bays of the building. It is frequently necessary to adjust these ideal driveway dimensions to suit limitations of the property.

When a corner property is to be developed, in most cases the traffic is so divided on the two thoroughfares that it becomes necessary to install a pump island paralleling each street. This plan would still be followed even though the ratio of traffic were unequal, say 60 to 40, or 65 to 35. Occasionally this would mean the addition of another pump on the heavier travelled street; in this case the pump island would be lengthened slightly.

In some localities, especially in the southern states, the canopy type of building is generally favored. It offers the necessary shelter against the heavy rains and the excessive heat of the sun in the region. The use of this type of structure places certain limitations upon the location of the pump island in relation to the building line, and in most cases the driveway width between the two is approximately 20 ft. In some regions there are objections to the canopy on the score that it diminishes visibility of the show windows from the outside and that, in comparison to the open station, the canopied one appears to the motorist to be more crowded. The additional cost must also be taken into consideration since it runs to 20 or 25 per cent of the cost of the average building, depending on the type.

Another factor bearing on the location of the building in relation to the pump islands is the servicing of the storage tanks. Codes vary greatly in respect to the size of storage tank that is permitted, and the placing of the tanks. Economy dictates, in any case, that storage tanks be as close to the pumps as possible. If tanks are placed well back from the sidewalk near the pump islands, then the huge transport trucks, built to carry as much as 4,000 gallons of gas, must be able to reach the tanks with the least possible amount of turning and manoeuvring; otherwise the accumulated distribution cost of the company will be increased very measurably through unnecessary delays. Wide driveways are indispensable to efficiency.

There are companies that prefer to make an island structure of the office, on the assumption that the display of automotive accessories is made visible from both sides, and brought, so to speak, right under the motorist's nose. These plans vary considerably. Sometimes the office alone is in the island position, the workbays being at the rear of the lot. This, however, requires more steps or more personnel. Occasionally, the service bays have been made a drive-through affair behind the office, cars theoretically coming in, stopping for service, and being driven on to the exits to make room for the next one. Were it always possible to work on one car at a time, finish it, and go on to the next, this arrangement might be considered ideal. However, since this is not possible, the question is open whether this scheme might not make the traffic difficulty greater rather than smaller, because one car has to be driven out of the way before the next is put in for work. Still another criticism is that the drive-through arrangement deprives the dealer of valuable display space along the rear wall of the service bays. These various considerations help to explain the general acceptance of a position for the service building along one of the off-street boundaries of the lot. This leaves the whole paved area out in front as clear as possible for the manoeuvring and parking of cars. It also puts all the facilities as close together as possible, with a saving in personnel.

Pumps

There is some talk, on the part of equipment companies, of modifications in the standard pump that the public has recognized in the past as the mark of the service station. The new plans have not yet been released. There is a possibility, even, that some designs may offer gas delivery from a hose suspended from a cantilevered canopy overhead; this would take up much less space on the ground, and leave additional pavement available for moving cars around by eliminating pump islands, or, again, it might be possible to get convenient use from slightly smaller lots.

The mechanical problem in a hookup of this kind is the placement of the calcometer so that the public can see the exact amount of fuel purchased and the total amount of the sale. Then, too, there is the difficulty of handling the hose and contriving a foolproof device to reel it up automatically out of the way.

The psychological problem is whether the public will recognize the new "pumpless" type of station as readily as it does the accustomed one. Perhaps the architecture can be made to promote the recognition of the station without the aid of the visible pump island. In this regard a vast change has already occurred in the past ten years. Formerly every station was considered an entirely individual problem in design; now, throughout large areas, the stations of the major companies are so well "typed" as to be recognizable at a glance.*

If standard pumps are used as hitherto, certain acknowl-

edged principles will continue to govern their placement. One cardinal principle worth observing is that pump islands should be as short as possible, the pumps standing in groups, customarily two in a group, depending on the number of products. This permits quick dispensing of any one grade of fuel without the necessity of having to adjust its position on the island. Short islands block traffic less and permit a more flexible route through the driveway.

The island is usually placed on a concrete base with a curb of about 6 in. in height and a width of 3 ft. 0½ in. as the acceptable minimum. The length may run up to 4 ft., 8 ft., 12 ft., 16 ft., 20 ft., or more.

At the pump island the station owner has his choice between working for more *display* or more *convenience*. Some stations are designed with display cases at the pump island; for example the center pump in a battery of three may be mounted over a display case. The advantage of this kind of a display is that small accessories are brought to close range. Such showcases are in a comparatively vulnerable position even though protected by two flanking pumps. Chances of damage are diminishing now that glass is being combined with plastics or replaced by them. The chance of keeping the display clean is perhaps a little less than in the office. The main disadvantage of the idea is that such show cases make it more difficult for attendants to get around the pumps for the primary purpose of the station, which is to refuel the car.

Whatever may be the future of island display cases, pump islands must allow for some other appurtenances besides pumps. There must be provision for windshield fluid and chamois, and a decision must be made about the provision of air and water. Usually water is supplied at the island but air at the periphery of the station. Both water and air service, but especially air, mean longer standing time at the island. Since the backbone of the station income is found in gas sales which do not generally run above a dollar per unit, it is highly important that traffic in rush hours be moved through the station swiftly. Hence the usual practice of supplying air at remote points out of the way of through traffic. Water is sometimes piped to the island and fed to car radiators through a hose with a patent nozzle. The fact that the old-fashioned watering can survives in general practice is due not only to the expense of piping but to the proclivity of the public for the careless handling of hose, and the proclivity of attendants for forgetting to turn off the water in freezing weather.

An island light is frequently used (see "Station Lighting," page 122) and provision must be made for the pole on the island.

Service Station Building

Four standard components go into the typical service station building: the lubrication bay, washbay or miscellaneous service bay, rest rooms, and office. In addition there is needed a boiler and store room which may also contain the air compressor and tank, and there is usually a tool and work area off one of the service bays.

Over-all building dimensions are set primarily by the space required in the work bays. The dimensions of lubricating and washing bays vary considerably in different localities. The principal dimensions more generally used are as follows:

The building depth should be at least 25, better 26 ft. in the clear. Lubricating bays should be of a minimum width of 11 ft. 3 in. from center to center of bays. Wash bays should be 12 ft. wide in the clear. There

(Continued on page 120)

* A study of service stations, made in the ARCHITECTURAL RECORD in 1930, was the first in an architectural publication to expound this principle.—Ed.

SERVICE STATION BUILDINGS

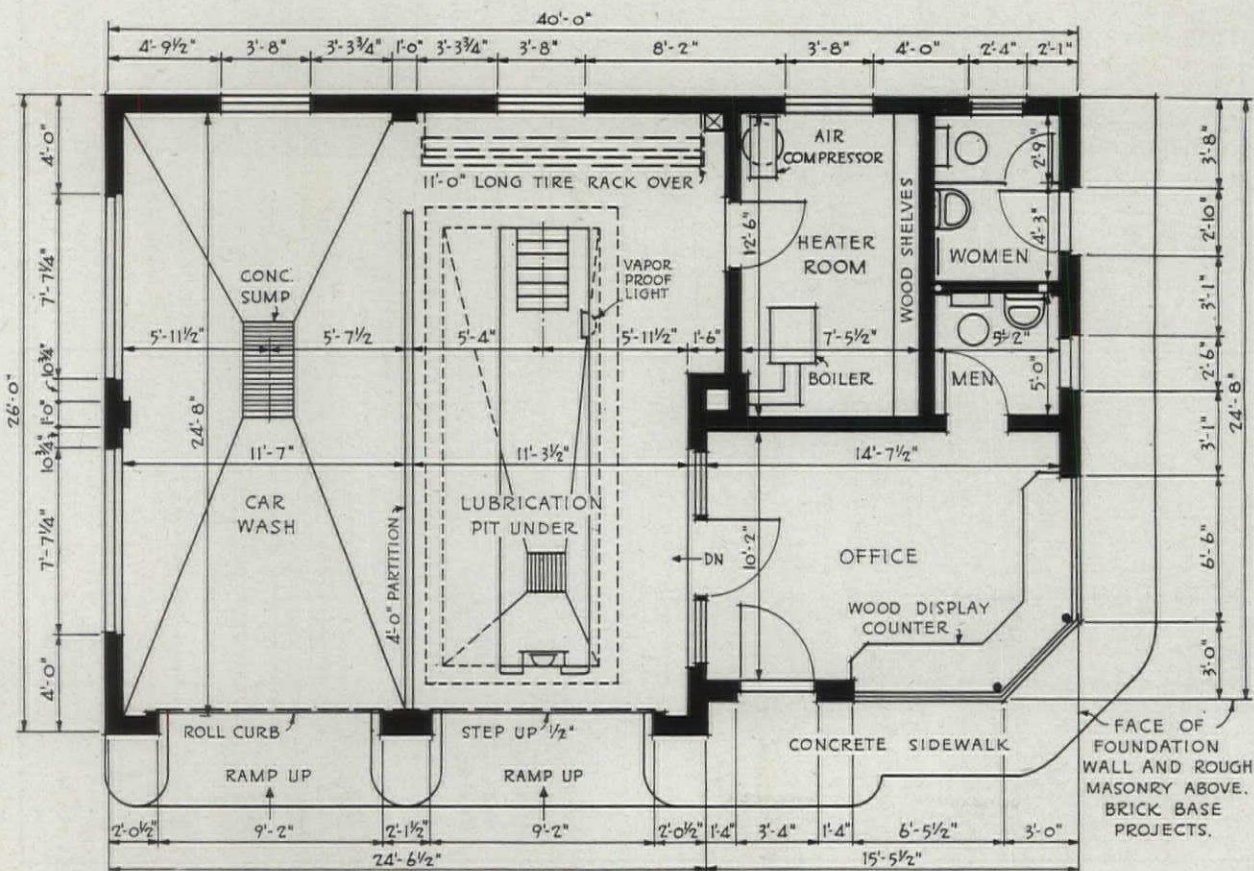
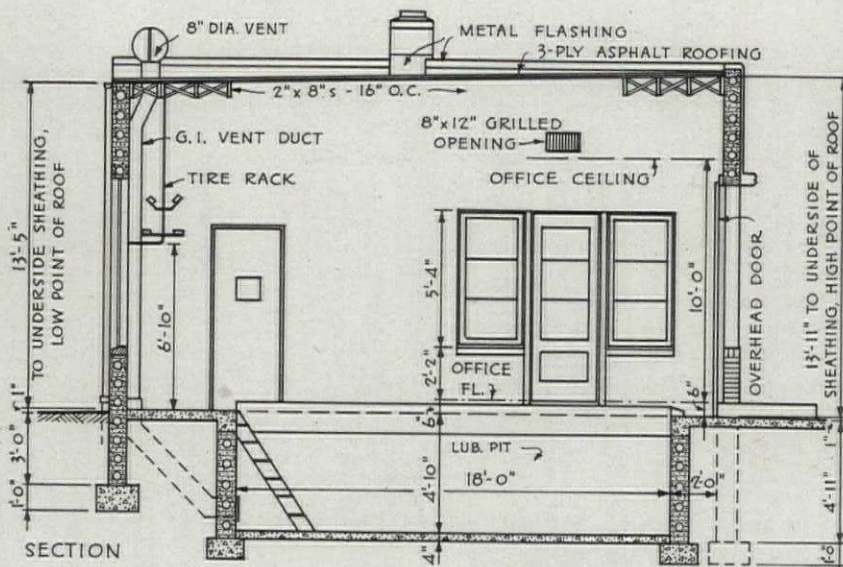
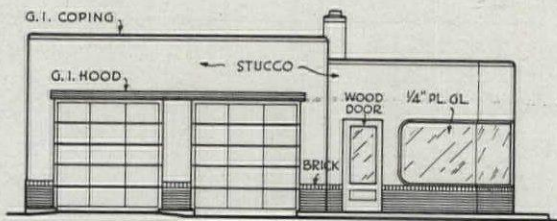
Standard Plan by George J. Hemmeter, Architect of Construction and Maintenance, Standard Oil Co. of New Jersey

ARCHITECTURAL RECORD
TIME-SAVER
STANDARDS
FEBRUARY, 1944

The drawings on this page are descriptive of standard prewar practice of a major oil company for the common "two-bay" type in its economical form. For larger stations, bays are added. In post-war practice, dimensions will be slightly larger. For doors, minimum recommended dimensions of opening are 10 ft. by 10 ft.

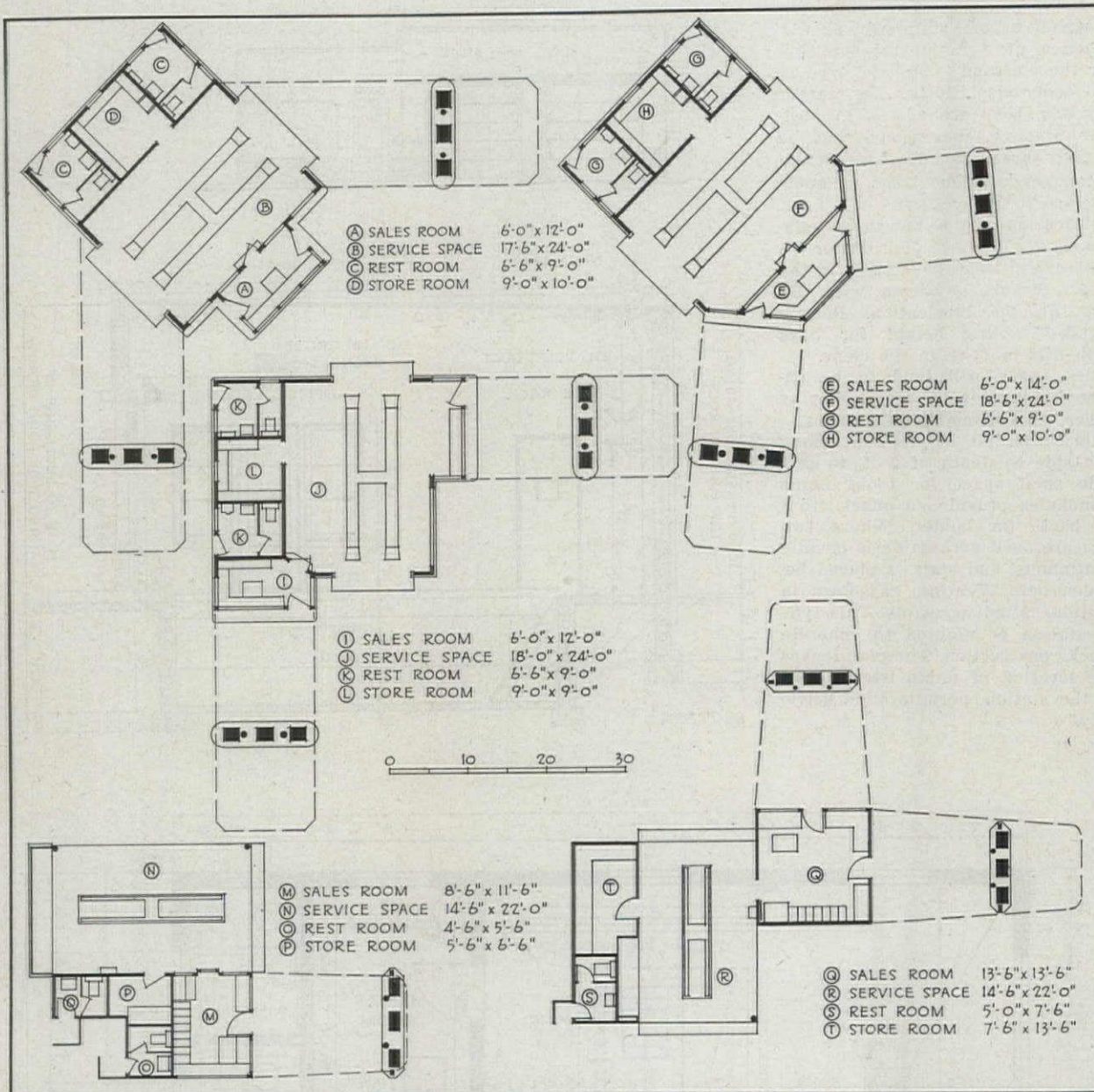
Lubrication bays to measure a minimum of 11 ft. 3 in. center to center, and wash bays 12 ft. in the clear. Station is shown with pit, not lift, for lubrication. Recommended ceiling height for bays with lifts is 13 ft. in the clear.

Office space will tend to be enlarged to provide more display space, also women's rest rooms. Lubrication pit is undercut along one side to depth of 2 ft. to provide shelf space for tools. Some companies provide an offset, front or back, for ladder. Where two pits are used excavation is usually continuous, and stair is placed between both. Venting, as shown in section, is indispensable. This type of station is adopted to concrete block construction. The plan leaves the location of pump islands free of the station, permits wide driveways.

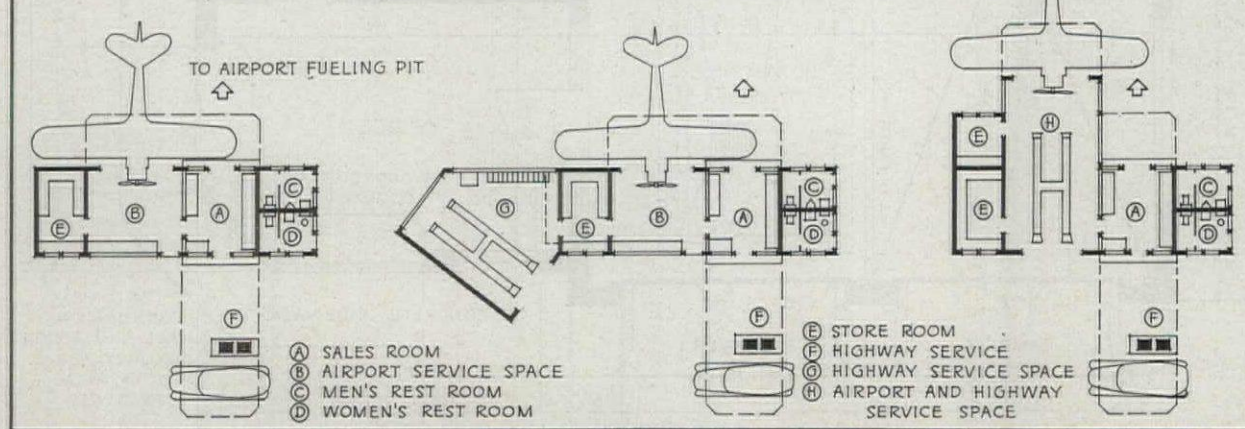


SERVICE STATION BUILDINGS

Plan data for stations of varying size and location



POSSIBLE UNITS FOR AIRPORT AND HIGHWAY SERVICE





PLASTICS AND HIGHWAY SERVICE

The General Electric Company offers the advice of their plastics technicians to the farsighted architects who desire to apply plastics to the design of tomorrow's highway service structures. Consider plastics in the following list of building materials and equipment parts. G-E plasticians can help you adapt the various plastics materials to your building requirements. Write Section C-285 for further discussion of any or all of these suggestions.

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

PD-285

GENERAL  ELECTRIC

SIGNS
Interior and Exterior
(Display, directional, etc.)

WALLS AND TRIM
Wall surfaces Mouldings
Panels Covs
Wainscots Baseboards
Door surfaces Kickplates
Trim Push plates

HARDWARE
Doorknobs Toilet seats
Handles Soap dispensers
Escutcheons Soap dishes
Towel racks Glass holders
Medicine cabinets

ELECTRICAL
Light reflectors Switch plates
Luminous or phosphorescent
spots (drops, buttons, edges)

FURNITURE
Flat tops for counters, bars,
desks, tables of all kinds.
Knobs, handles, pulls

SERVICE
Trays of all kinds
Working surfaces
Dining service (dishes, cups,
etc.)

FIFTY YEARS IN THE PLASTICS INDUSTRY

FOR BETTER BUILDING

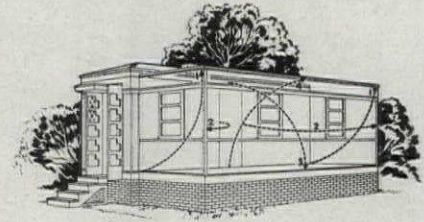
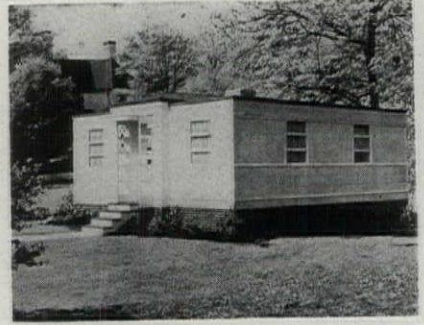
MOBILE BUNGALOW

A mobile, expandable five-room bungalow developed by the Palace Corporation of Flint and Saginaw, Mich., is completely factory built, and ready for occupancy an hour after its delivery at the site.

The house leaves the factory as a unit 8 ft. wide and 28 ft. long. At the site it is opened to full size (see diagram): (1) the roof is raised from its position against the side of the center section; (2) the end walls are swung

into place; (3) the floor section is lowered; and (4) the side wall that is hinged to it is raised to join with the roof. Once the sections have been fitted together, the joints are sealed against the weather. No fabrication is necessary at the site. The foundation is prepared by a local contractor in advance.

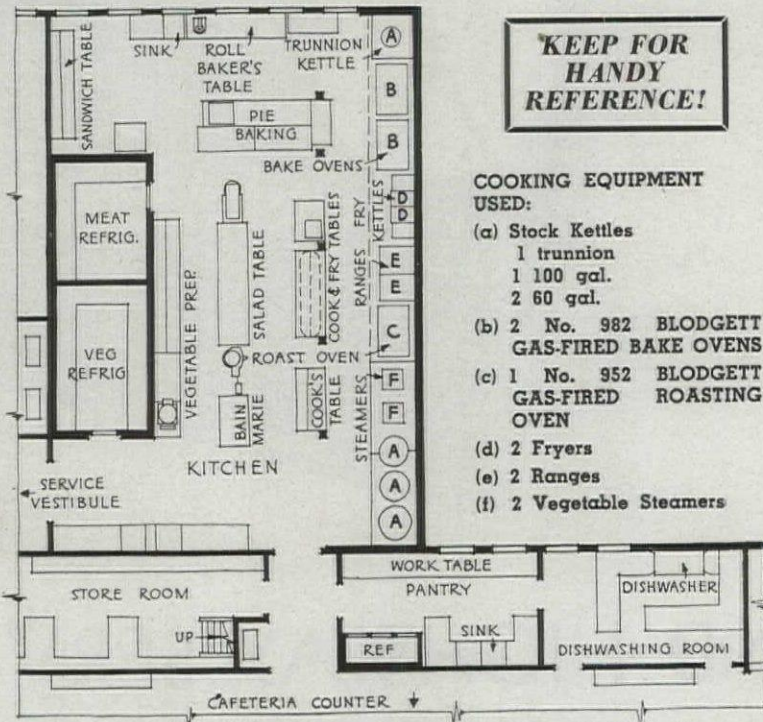
All fixtures are in place when the house leaves the factory. These include the shower, washbowl and water closet in the bathroom; the oil heater;



At the site the bungalow is opened to full size: (1) the roof is raised from its position against the side of the center section; (2) the end walls are swung into place; (3) the floor section is lowered; (4) the side wall that is hinged to it is raised to join with the roof

KITCHEN PLAN NO. 8: Eighth of a series of successful mass-feeding kitchen plans.

The kitchen below produces food for 3600 employees of a shipyard.



KEEP FOR HANDY REFERENCE!

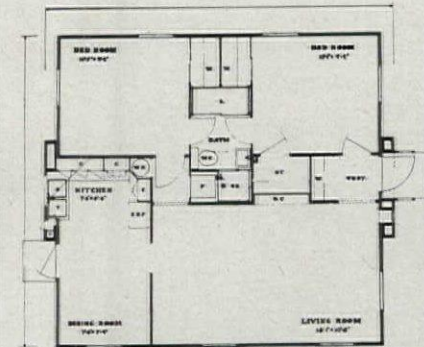
- COOKING EQUIPMENT USED:**
- (a) Stock Kettles
 - 1 trunnion
 - 1 100 gal.
 - 2 60 gal.
 - (b) 2 No. 982 BLODGETT GAS-FIRED BAKE OVENS
 - (c) 1 No. 952 BLODGETT GAS-FIRED ROASTING OVEN
 - (d) 2 Fryers
 - (e) 2 Ranges
 - (f) 2 Vegetable Steamers

Designed by Glenn Osgard of Stouffer's Restaurants for Chas. M. and Edward Stotz, Architects-Engineers.

THE No. 952 BLODGETT ROASTING OVEN in this installation has a capacity of over 300 lbs. in two 12" compartments. THE TWO No. 982 BLODGETT OVENS provide four sections of two compartments each, with 16-pan, 96-pie capacity. The right-hand oven does double duty as a roasting unit. For details and specifications of Blodgett Ovens, consult your equipment house or write



The G. S. BLODGETT CO., Inc.
53 Maple Street
Burlington, Vermont



the electric stove, refrigerator, dishwasher, two-tray sink, hot water boiler and cupboards in the kitchenette. In addition, such basic furnishings as beds, dressers, dinette set and living room set can be delivered with the house. They are stored in the center section in transit, and could be shipped thus, along with the rest of the furniture, should the house be moved to a new location.

(Continued on page 96)





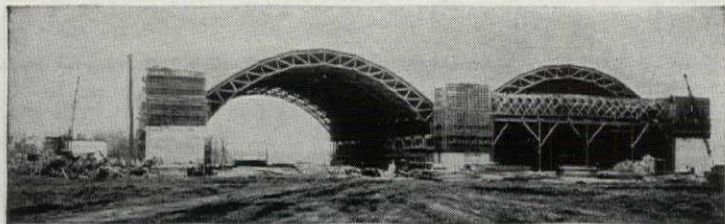
THE NAVY BUILDS WITH WOOD

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

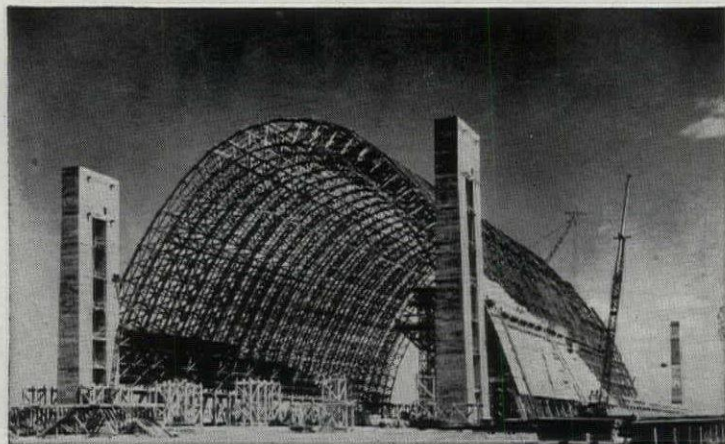
This spectacular use of lumber and the Navy's wide application of the Teco System of Timber Construction have advanced the science of timber engineering. You, too, may have the advantages of timber construction. . . . strength, economy and permanence now and in peacetime.

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

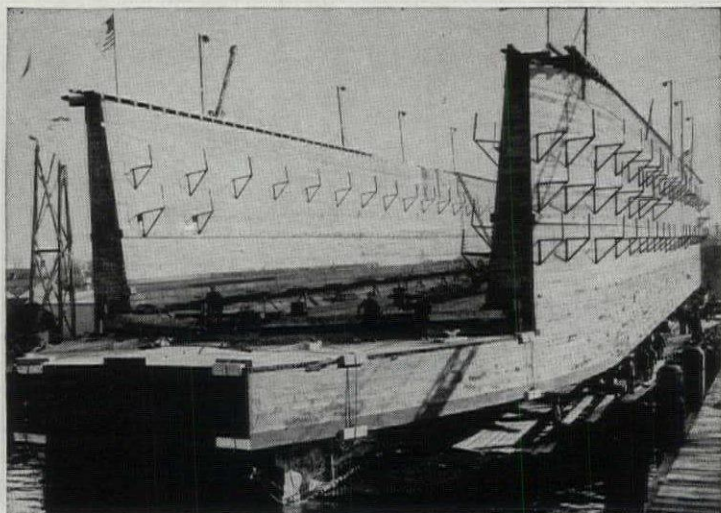
TIMBER ENGINEERING COMPANY
 Washington Chicago Minneapolis
 Portland New Orleans



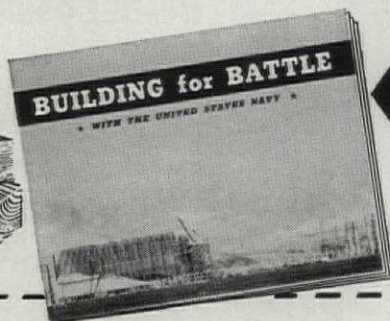
Timber Hangars for the Navy's war planes.



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.



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

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 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.....

Specify
TECO
CONNECTORS AND TOOLS

ENDORSED BY LEADING LUMBER
 MANUFACTURERS AND FABRICATORS.

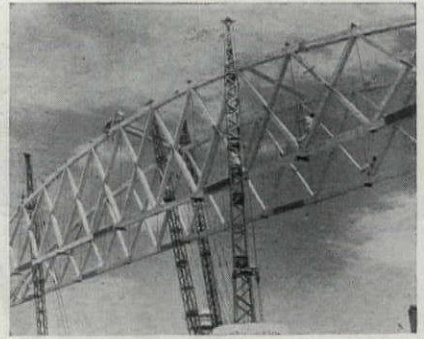
FOR BETTER BUILDING (Continued from page 94)

Several thousand war units have been built for government housing projects, and current production is 500 units a month, the company reports. Two postwar models are now open to public inspection.

The postwar model is a one-story unit measuring 28 by 24 ft. over-all. Materials to be used in actual production will depend on advancements achieved by present experimentation, the producers explain, but the emphasis

will be on durability and light weight.

The living room, measuring 18 ft. 1 in. by 10 ft. 8 in., features a built-in bookcase with two built-in compartments beneath the shelves, and built-in cabinets next to the vestibule. Dimensions of the other rooms are: dinette, 7 ft. 4 in. by 7 ft. 9 in.; kitchenette, 7 ft. 4 in. by 6 ft. 6 in.; master bedroom, 10 ft. 5 in. by 9 ft. 2 in.; second bedroom, 10 ft. 1 in. by 9 ft. 2 in.; bathroom, 5 ft. 1 in. by 5 ft. 1 in.



200-ft. span wood trusses in San Diego plant are said to be longest of their type

LONG SPAN WOOD TRUSSES

One of the most interesting features of the recently completed final assembly building of the Aeronautical Company's plant at San Diego, Cal., was the use of 200-ft. span clear wood trusses, believed to be the longest of their type ever built. The building was constructed under the supervision of the Bureau of Yards and Docks.

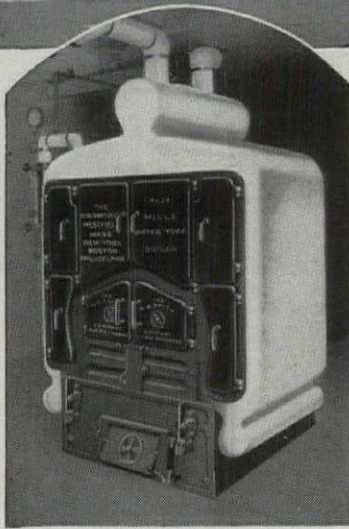
"These trusses are of the bowstring type, selected with a view to economy of material, not only insofar as the trusses themselves are concerned, but as to lesser height of walls required, which results in still further economy due to minimization of horizontal forces," Frank L. Hope, Jr., architect, and Stanley Burne, structural engineer, explain. "At the same time, certain advantages occur in the matter of camouflage treatment, etc. The entire building is one large room, 570 ft. long, 200 ft. wide, 35 ft. clear height under the trusses, and 60 ft. to the crown of the roof, there being 31 trusses spaced 19 ft. apart. Trusses are 25 ft. high at the center, the height thus being $\frac{1}{8}$ of the span.

"The upper chords are laminated, permitting the use of smaller sizes of timber (quite a consideration) and which, of course, makes curved chords relatively easy to build. The lower chords are solid timbers, joined with steel splice plates, and construction details throughout are of orthodox design. Trusses are designed to sustain customary dead and live loads, plus certain moving crane loads applied to the lower chord. The various component parts of the trusses were made at the Arch Rib Truss Co.'s plant and shaped to template and were interchangeable. These parts were numbered, shipped and assembled on the job.

"Deflection of wood trusses, due to 'compacting' of the various joints under the influence of time and loading and also to timber shrinkage, is a major consideration, especially in long spans. To minimize shrinkage difficulties in the new green lumber, all parts were treated in a hot solution of wood pre-

(Continued on page 98)

HEAT for the SUPER SERVICE STATION



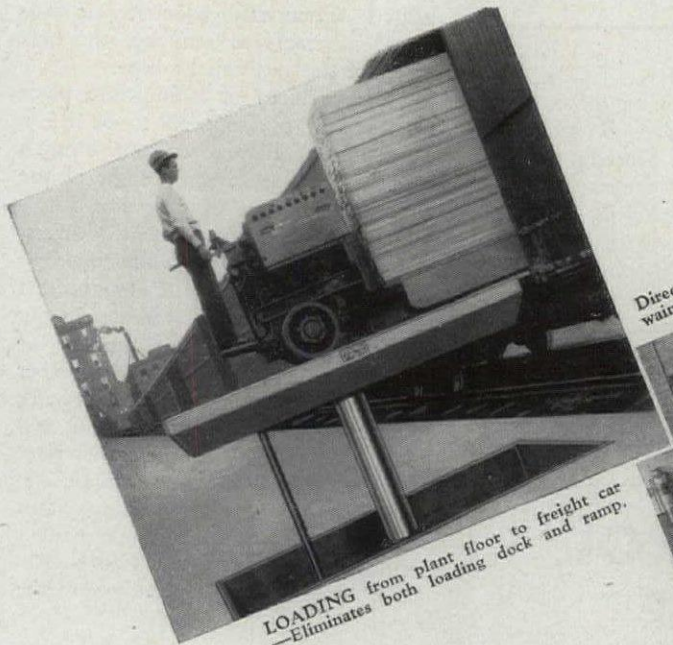
H.B. Smith BOILERS are first choice wherever Heating demands are HEAVY

An H. B. SMITH "34 MILLS" boiler heats this attractive combination super service station and automobile sales room designed and engineered by McClintock & Craig, Inc. of Springfield, Mass.

Post War super service stations — like the best of such pre-war structures will probably be heated by a combination of Unit heaters in the lubrication, direct radiation in the office. Multiple air changes caused by the constant opening and closing of doors will create heavy demands on the boiler to produce steam fast. That is why you should specify an H. B. SMITH cast-iron boiler for the job . . . the boiler that has proved in hundreds of service station installations that it has the reserve capacity to meet this special type of heavy duty requirements.

THE H. B. SMITH COMPANY, INC., WESTFIELD, MASS.

Branch Offices and Sales Representatives in Principal Cities



LOADING from plant floor to freight car
—Eliminates both loading dock and ramp.

Directly FROM PLANT FLOOR INTO TRUCKS. Side
wainscot and Skirt Guard provide maximum safety.



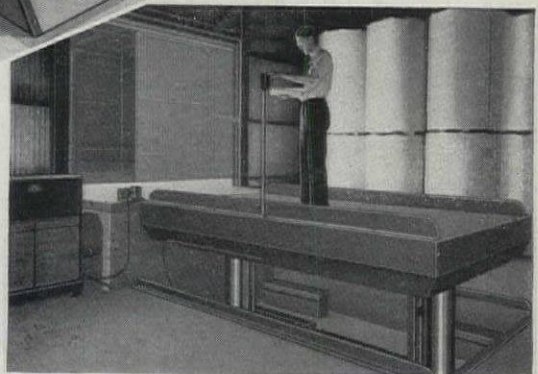
An Elevating Subject for Post-War Planners

NEW BOOK GIVES THE ANSWERS

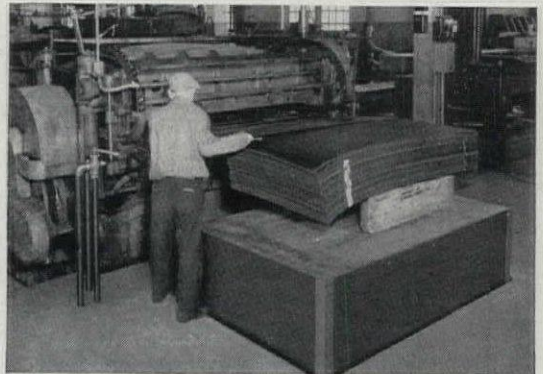
Just off the press and marked for your A.I.A. File 33-Y is one of the most complete and fact-filled booklets of its kind ever presented to the architect on hydraulic lifts . . . Rotary's Levelator Manual. Its compact, easily read sections show actual installations, as well as give pertinent technical data and layout information. It offers the help you need in gaining three of your principal post-war objectives in planning industrial buildings:

1. Conserving vital plant space for increased usability.
2. Eliminating unnecessary construction costs.
3. Streamlining buildings for greater efficiency.

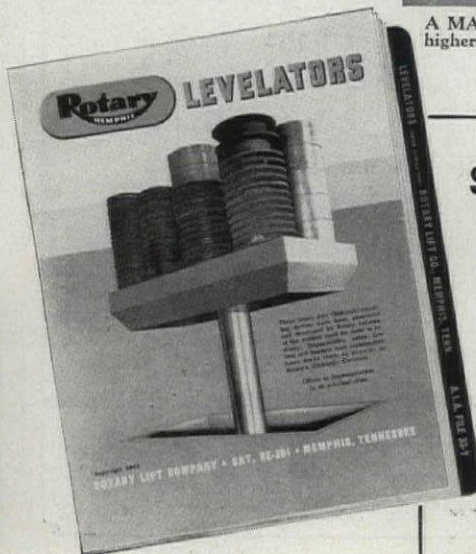
Rotary Levelators are extremely simple and highly practical oil-hydraulic lifting devices. Heaviest loads are PUSHED up as oil is pumped under pressure into a powerful jack by an electric pumping mechanism (or by compressed air when available). Installation is simple and inexpensive. Get your free copy of Rotary's New Levelator Manual for the answers to many of your most perplexing problems. Write today!



FROM PLANT FLOOR TO LOADING DOCK. Dual plungers, mechanically equalized, are used on this long car.



A MACHINE FEEDING LEVELATOR. Permits handling higher stacks—keeps work on level with machine bed.



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Please send my copy of the NEW Rotary
Levelator Manual suggesting post-war ap-
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FOR BETTER BUILDING (Continued from page 96)

servative, which had the effect of removing surface sap and replacing with preservative so that seasoning would proceed without abnormal checking or distortion. Excellent workmanship was required at the dapped joints of the diagonals, and where steel keys were employed at the heel joints and lower chord splices, space was provided in the daps for pouring in melted lead, which not only insured dead fits, but also equalized distribution of stresses among the keys. The resulting stiffness, and uniformity of deflection

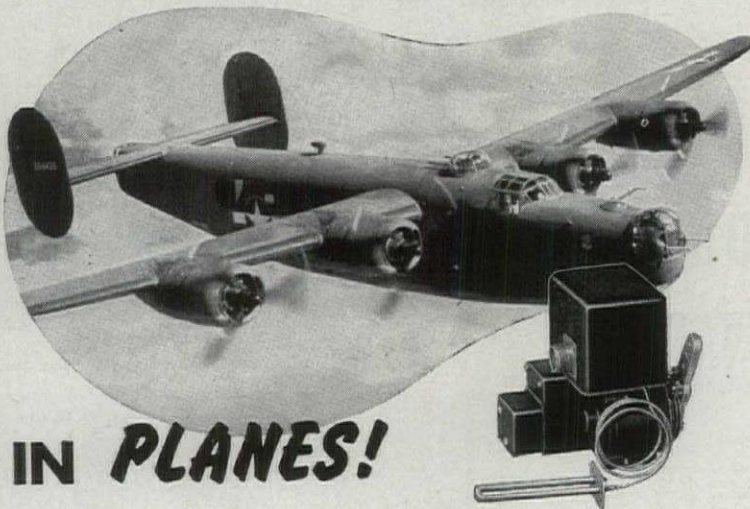
proved very satisfactory.

"It is felt that, as a matter of principle, it would be well to test these trusses under load, a procedure rarely adopted where spans are shorter and less apt to incur skepticism. Accordingly, two trusses were set up on the ground, with blocking under the ends, and a sort of bridge constructed, upon which was loaded sufficient tonnage in such a manner as to simulate full design load conditions. Under this test a maximum deflection of $4\frac{3}{4}$ in. was observed at the middle, quite small for

this span, and while the trusses appeared structurally adequate, it was found advisable to reinforce the heel plates of the end panel points.

"The problem of lifting into place to a height of from 35 to 60 ft., a single unit of this size was not so much a matter of the 16 ton weight of the truss as avoidance of excessive distortion and similar mistreatment. Reversal of stresses incident to hoisting had been provided for in the design. At the start, four 'crawler' cranes were employed, until a sufficient number of trusses was in place and tied together by the horizontal and vertical bracing system to laterally support those following. After which three cranes were sufficient, one at the center with one at each quarter point. To maintain equal distribution of load while maneuvering into position, the closest coordination was necessary between the cranes."

TEMPERATURE CONTROL GOES INTO BATTLE



IN PLANES!

Planes have temperature control problems, too. This is but one of the ways our armed forces are using Hydraulic-Action, the positive and effective principle of White-Rodgers Controls.

White-Rodgers temperature and pressure controls are available today on priorities of AA-5 or better. Maintenance of existing heating, refrigeration and air-conditioning equipment or installation of new equipment essential to the war effort now is possible with these accurate and trouble-free controls.



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Controls for Heating • Refrigeration • Air Conditioning

FLAMEPROOFING PLYWOOD

A new development in plywood is a flameproofing process which gives it the same fire resistance as has flameproofed timber.

Sheets of plywood are flameproofed, a carload at a time, by American Lumber & Treating Company's Minalith process. This pressure treatment employs a combination of phosphate, sulphate, and boron chemicals. It prevents flamespread and delamination by filling the wood cells throughout the plies with chemicals which inhibit the flaming characteristics of wood substance. The plywood sheets are sanded after treatment if they are to be used in national grain-finish panels. For use in painted units, no sanding is required. American Lumber & Treating Co., 332 S. Michigan Ave., Chicago.

CIRCULAR LAMP

Circular fluorescent lamps will be added to its line of Mazda F lamps as soon as conditions permit, the Westinghouse Lamp Division has announced. These will be produced in $8\frac{1}{2}$, $12\frac{1}{4}$ and 16 in. sizes, of 20, 30, and 40 watts respectively.

There are no production facilities for these new lamps at present and due to the heavy demands of industry and the military, no sample lamps are available, the company reports. Prior to going into production on these new lamps, however, complete information about auxiliaries and accessories will be released.

200-WATT FLUORESCENT

For areas where high levels of illumination are required, or where high-bay mounting is necessary, a new model HF-235R industrial fluorescent unit, (Continued on page 100)



A string of Seventeen Boilers
"Rounding out" of Kewanee Plant

KEWANEE STEEL BOILERS

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

These days saving fuel is not only good economy but a patriotic duty. Kewanee Boilers are built to save fuel. A check to see whether or not they are being properly operated may assist in getting from them the results they are capable of.

Whether for Low Pressure Heating or High Pressure Steam 75 YEARS BOILER BUILDING EXPERIENCE back of each Kewanee has developed a correctness of design and proportioning that puts to work all the usable heat.

Big high fireboxes...long gas travel...large water content and unimpeded waterways for better circulation...ample steam space; such basic features of all Kewanee Boilers insure getting the most heat from the best available fuel — whether coal, oil or gas.



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75 YEARS
BOILERMAKERS

using two 100-watt lamps, has been announced. It is suited to individual or continuous-row mounting, and is designed to produce maximum light intensities with a minimum use of critical materials, conforming to all WPB requirements. A single piece of non-metallic reflector board, finished in Miracoat high-temperature baked enamel, furnishes 86 per cent reflectivity. Sylvania Electric Products, Inc., Lighting Division, Salem, Mass.

HEATING INNOVATIONS

Two interesting new aircraft heaters suggest possible postwar developments in the heating fields. The first of these is a new portable, self-powered, automatic forced warm air furnace, weighing only 45 lb. and comparable in size to an average traveling bag. Equipped with its own fuel supply and a tiny precision-built prime mover, this sealed unit, developed for the Army Air Forces for a variety of undisclosed

ground and flight applications, is said to provide a flow of pure heated air "in sufficient quantities to keep an average single family home warm in the coldest weather." Norge Division of Borg-Warner Corp., Detroit.

The second of the new aircraft heaters is the combustion-type high-altitude *Janitrol*, which utilizes a unique "whirl flame" principle, able to withstand the tremendous air pressure encountered in 700-mile-an-hour plane dives. This heater has been approved by the Army and Navy and is now in service in United States and Canadian approved aircraft in many theaters of war, the manufacturers report.

As the company engineers explain it, the reason the "whirl flame" principle keeps the heater alight, even when pressures suddenly increase ten times as in diving, is the fact that the flame is swirled around itself at a high rate of speed, resulting in continuous re-ignition and a "self-piloting" effect. The result, they say, is a flame which remains stable and sustains combustion under the most adverse conditions. Surface Combustion, 2511 Terminal Tower, Cleveland, Ohio.

WARTIME APPLICATIONS

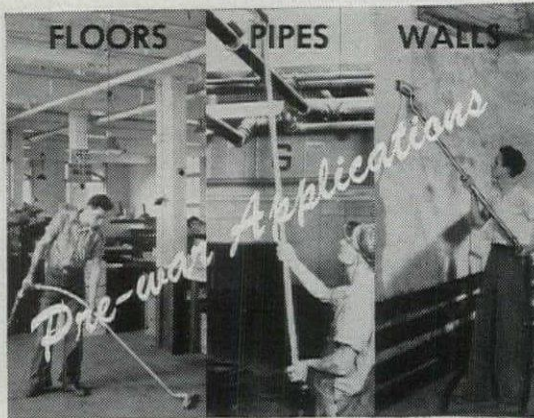
PLANES—removes chips and rivets, cleans before painting. Cleans hangers, equipment, hulls, wings and tanks.

INSTRUMENTS—bench work, assembly, inspection, vacuum for schools and testing.

CHEMICAL—cleans goods, prevents explosions in alcohol, paint, TNT, asbestos, and synthetic rubber plants. Reclaims lime, rubber, flux and valuable dusts.

METALS—reduces danger of explosions of magnesium dust, eliminates health hazard, removes chips, scale and abrasives. Collects ores, conveys slag, recovers metals.

SHIPS: Saves man power, from bench work to final inspection. Removes sand blast and shot, cleans before painting.



← *Look what the War did to SPENCER VACUUM!*

We show the pre-war applications for Spencer Vacuum above because we are not yet allowed to secure photographs of the many new and revolutionary applications listed at the left.

In all cases Spencer has speeded up operations with less man-power required for the job.

Some say that bench and assembly cleaning is the most valuable use of the Spencer. Others point to the reclamation of materials, reduction of fire and health hazards, or the fact that Spencer provides a new conception of stream-lined production where cleaning between operations is necessary.

POST-WAR production will find these applications a necessity in order to compete with other plants that already have Spencers installed. Why not ask for the bulletins?

STANDARD BASIS FOR MASONRY COORDINATION

American Standards Association Committee A62, Coordination of Dimensions of Building Materials and Equipment, (see ARCHITECTURAL RECORD, November 1943, p. 10) has announced the distribution of a proposed American Standard Basis for the Coordination of Masonry, A62.2.

"This basis for masonry coordination has been referred to the industries producing structural clay products and has received unqualified approval from an overwhelming majority of manufacturers," M. W. Adams, secretary of the Committee, reports. "They have agreed to make coordinated sizes of units available as soon as they can get material for new dies and manufacturing equipment."

The standard conforms to the Proposed American Standard Basis for the Coordination of Dimensions of Building Materials and Equipment, A62.1, and supplements it by establishing general methods for the coordination of masonry.

"The coordination of masonry involves certain methods which apply to all masonry products, but not usually to other structural materials," the foreword to the standard states. "The successful coordination of different masonry products, facilitating their use in various combinations and with layout dimensions correlated with their unit dimensions, both horizontally and vertically, is in itself an important ob-

(Continued on page 102)

SPENCER VACUUM
HARTFORD
CLEANING
THE SPENCER TURBINE COMPANY, HARTFORD 6, CONN.

Is this going to happen in your homes?

Never again," many builders are saying.

For beautified ceilings and dry-built full-wall construction have ended the necessity for using materials which often crack, even before woodwork is applied . . . and which can be an endless source of annoyance and expense to builder and home owner alike.

Strong-Bilt Panels in full-wall size have solved the problem which has puzzled thinking architects and contractors for years.

FIRST—by eliminating joints.

SECOND—by making available a strong, rigid, crackproof material, with a beautifully pebbled surface.

THIRD—by providing a method of application employing Upson Floating Fasteners which anchor the panels securely from the back and compensate for normal structural settlement.

Highly successful use in over 50,000 homes, and endorsement by prominent builders attest the value of dry-built full-wall construction.

Strong-Bilt Panels are available now only for housing jobs carrying priority ratings. For booklets and detailed information, phone, wire or write The Upson Company, Lockport, New York.

Upson Quality Products Are Easily Identified
By The Famous Blue-Center



Cuts Down Construction Time! One Panel covers entire wall of average size room. Applied with Upson Floating Fasteners which anchor panels securely from the back and compensate for normal structural settlement. No face nailing. No joints. No time-consuming system of filling and taping. No nails to countersink. No nail holes to fill.

Moisture Troubles Licked! Entirely dry-built. No waiting for plaster to dry. Eliminates the 1000 pounds of water which may be used in plastering a 6-room house.

Efficient Insulating Value! Up to 3½ times that of plaster.

Crackproof! Positively will not crack, splinter or chip. Does away with annoying and costly repairs.

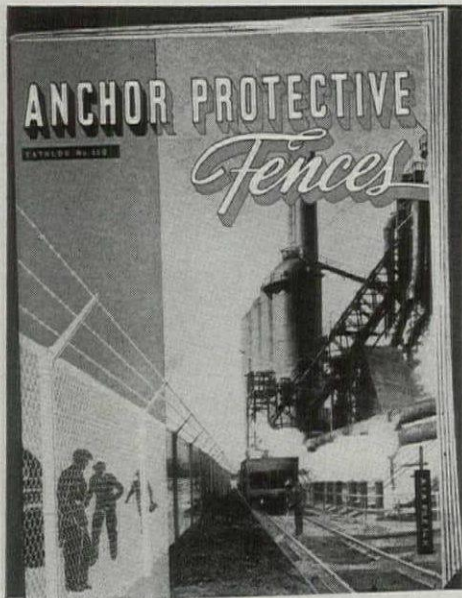
Tough and Strong! Withstands impact up to 6 times heavier than needed to shatter boards with a brittle core.

Finest Painting Surface On Any Wall Material! Pebbled and prezied at the factory. No fuzziness. Can be painted immediately after application.



**UPSON
STRONG-BILT
PANELS**

**THE CRACKPROOF BEAUTY SURFACE
WITH EFFICIENT INSULATING VALUE**



free TO ARCHITECTS
Get this ANCHOR FENCE SPECIFICATIONS MANUAL for your A. I. A. File 14-K

THIS 44-page Reference Manual on Chain Link and Iron Picket fences and gates has been prepared especially for architects, engineers and others who have occasion to specify fence. Profusely illustrated with installation photographs and sectional drawings, it describes in detail the various heights, weights, structural features and applications of Anchor Fences. Included are sample specifications for fencing jobs.

Anchor Fences are made in all standard sizes and in a wide range of styles for every type of job: industrial, residential, or institutional. And Anchor's Nation-wide Erecting Service insures prompt, efficient installation anywhere in the United States.

Plan now to make Anchor Fences add "the final touch" to your post-war projects. Get the facts about Anchor Fences . . . see how they give extra protection, long life, low maintenance costs. Mail the Coupon below for your free copy of the Anchor Fence Specification Manual to complete your A.I.A. File 14-K. Or, for immediate information, consult your classified telephone directory for the address of your local Anchor Fence Sales and Erecting Service.

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 Send me your free Specification Manual of Anchor Fences.

Name

Firm

Address.....

FOR BETTER BUILDING

(Continued from page 100)

jective. This standard establishes principles which apply to and are sufficient for the coordination of masonry products."

The standard covers (1) the methods of applying the Standard Basis for the Coordination of Dimensions of Building Materials and Equipment to masonry, and (2) minimum requirements for application standards for masonry products.

Copies of the proposed standard may be secured from M. W. Adams, Modular Service Assn., 110 Arlington St., Boston.

MINERAL WOOL STANDARD

The National Bureau of Standards has submitted to the producers, distributors and users of mineral wool Recommended Commercial Standard TS-3633: Mineral Wool (High Temperature Installations).

The standard provides minimum requirements for mineral wool blankets, blocks, insulating cement, and pipe insulation for insulating heated industrial equipment. It covers the thermal conductivity, density, standard sizes and tolerances for the different types of mineral wool insulation, and includes recommendations to show the proper way the various types of mineral wool products should be installed.

AIR FILTERS

Three new impingement type filters recently announced by one company have a special expanded-metal filter mesh design said to result in lower initial resistance and high efficiency, even when heavily dust-laden. These filters are:

The *Badger*, available in 1 in. and 2 in. thicknesses, and many sizes ranging from 100 to 600 sq. in.; specially designed for ventilation and air conditioning service and other applications where high efficiency, large dust holding capacity, and low static pressures are required. Fire hazard is said to be eliminated. Frames are sturdy, arc-welded, and can be provided with handles if desired.

The *Permo-Aire* filter, recommended for extra heavy duty and industrial air cleaning services; supplied in 2 in. and 4 in. thickness with areas from 100 to 1200 sq. in. Filtering efficiency said to be as high as 98.5 per cent.

The *Permo-Aire Grease Filter* for safe kitchen and galley ventilation, removes grease from kitchen fumes, avoids danger of grease fires, protects mechanical equipment and insures better sanitation. Air Devices, Inc., 17 East 42nd St., New York 17.



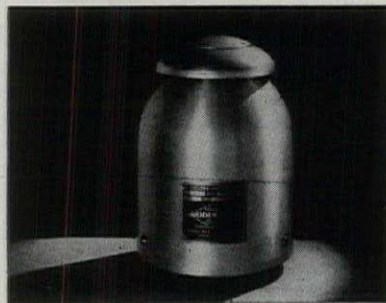
Another building owner who got more heat with less fuel

"Our first floor tenants complained of the heat... Our top floor tenants complained of the cold... Here's what the heating expert we consulted told us:

"Stop wasting valuable fuel! Convert your obsolete steam heating system into an economical and controllable Webster System—one that assures prompt heating-up, balanced distribution of steam, and even room temperature throughout the building. That's the only way you can get better heat distribution with the fuel allotted you."

Actual surveys made by Webster Engineers show that seven out of ten large buildings in America (many less than ten years old) can get up to 33 per cent more heat out of the fuel consumed.

If you are wondering how to obtain the same comfortable heating service in your building with less fuel this winter, write for "Performance Facts" and compare the performance information on the Webster Moderator System of Steam Heating. This free book contains case studies of 268 modern steam heating installations.



The Webster Outdoor Thermostat automatically changes heating rate when outdoor temperature changes. This device is part of the Webster Moderator System, a central heat control that is saving fuel for hundreds of America's commercial and institutional buildings.

WARREN WEBSTER & CO., Camden, N. J. Pioneers of the Vacuum System of Steam Heating Representatives in principal Cities : : Est. 1888



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THE RECORD REPORTS (Continued from page 14)

include road improvement, construction of new municipal buildings, fire-houses, community buildings, schools, etc.

The Commission also approved the preparation of plans for 16 state projects to be constructed after the war, at an estimated total cost of \$4,211,300. For the most part these projects are additions to state hospitals and educational institutions. Plans for each project are to be prepared by architects already selected.

SHORT-LIFE HOUSING

At the request of a sub-committee of the Central Housing Advisory committee of the Ministry of Health, the Royal Institute of British Architects has prepared a memorandum on "House Construction of a Definite Limited Life," published in full in the *Journal of the Royal Institute of British Architects*, October, 1943.

The conclusions reached by the RIBA as a result of their study of the

advisability of short-life housing as a means of combating the expected post-war shortage and the greater use of standardization and prefabrication are:

"1. While recognizing the difficulties arising from shortage of housing and the urgency of the problem, the Royal Institute is unable to recommend short-life housing as an adequate solution of the housing problem.

"2. While recognizing that there may be shortages of materials of traditional kinds after the war, the Royal Institute is opposed to substitution for them of unproved materials.

"3. The Royal Institute is opposed to the creation of a body of men unskilled in any craft beyond the assembly of ready-made buildings. It is in favor of the creation of an increased force of skilled labor through apprenticeship and training, and is of the opinion that such a force could be obtained in a limited number of years.

"4. The Royal Institute is of the opinion that only a long view of housing could be acceptable. That codes of building bylaws should not be relaxed for the sake of speed or cheapness at the expense of quality in either building materials or construction.

"5. The Royal Institute recognizes that there is a place for a limited application of standardization and prefabrication and the advisability of converting war factories to peacetime uses. It is not in favor of diverting these factories indiscriminately to the production of either ready-made buildings or building materials, especially to goods or construction of untried quality or value. It is in favor, to a limited extent, of discriminate mass production provided good design and quality are integral parts of the goods produced. The Royal Institute is not in favor of these factories being assisted to force their goods on the public, or in any way to limit the freedom of choice and the exercise of judgment by the public."

DISPOSITION OF WAR

HOUSING

A bill, S 1607, to provide for the disposition of federal war housing, has been introduced into the Senate by Senator Francis Maloney of Connecticut. The declared purpose of the act, to be known as the "Federal Housing Disposition Act of 1944," is that the National Housing Agency and the several communities "should determine the disposition of federal war housing in the respective communities in its relation to the future development of the community as a whole." It specifies that within 30 days after cessation of hostilities, "each agency having supervision or control of land, buildings or

(Continued on page 106)

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ENGINES with
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AUTOMATIC CONTROLS**

**offer the greatest
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since the inven-
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Turntables and headphones can be installed at low cost. Provision for film and slide projection should always be considered where regular instruction or

entertainment may be provided by this means.

But library use is only one phase of service that RCA sound equipment provides for schools.

Are you planning a post-war school? If so, don't fail to get a free copy of RCA's new 20-page booklet "Planning Tomorrow's Schools." Send the convenient coupon. RCA, Camden, New Jersey.



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Please send me a copy of "Planning Tomorrow's Schools."

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THE RECORD REPORTS *(Continued from page 104)*

other real property which was acquired or is held or utilized for war housing shall transfer all control of such property not actually required for the legitimate continuing functions of such agency to the National Housing Agency," which shall proceed as rapidly as possible to dispose of such property.

Mrs. Samuel I. Rosenman, chairman of the National Committee on Housing, has pointed out that the proposed bill

"in large part follows closely" the recommendations of her committee, published last July.

POSTWAR PROPHECIES

Employment for 7,500,000 men

Home building and other construction will spearhead postwar business prosperity by providing immediate employment to 7,500,000 men, says Melvin H. Baker, president of the National Gypsum Company and newly-elected

director and vice-president for Upstate New York of the National Association of Manufacturers.

Mr. Baker urged every community, big or small, to inventory immediately its needs in the way of public buildings, maintenance repairs and other construction, and from such survey to develop a definite plan of procedure so that no time need be lost when hostilities cease.

Postwar Consumer

Buying Intent

The U. S. Chamber of Commerce has translated into family percentages the findings in its current survey of postwar consumer buying intent. The resultant figures are described by the Chamber as not constituting predictions of actual postwar purchases, but solely as a reflection of buying intentions. It is added, however, that in many instances they probably represent sharp underestimates of the consumer demand likely to appear immediately after the war.

According to this survey, of the country's 35,000,000 families, almost two-thirds, or 64 per cent, name one or more purchases they almost certainly would make if the war were to end tomorrow. Of these, 4.4 per cent intend to build, or buy a new home, and 39 per cent of the home owners say that they would almost certainly make some sort of improvements or repairs in their properties within six months. In addition, 67 per cent of farmers say they would make farm improvements ranging from new outbuildings to building or repairing fences.

Emphasis on Plant Conversion

Emphasis during 1944 in the field of industrial engineering and building will be placed definitely on design work for postwar plant conversions, expansions and additions, according to a consensus of opinions from leading members of the H. K. Ferguson Company, industrial engineers and builders of Cleveland and New York.

Pertinent points summarized from the survey of the group were:

"1. Reconversion of plant facilities already are under way in some instances. Many government plants have shut down. Some are—and have been—actually converted to other purposes. Others are being dismantled. The result is that we are entering industrial conversion much like we would be going into a real estate boom. Nobody knows the full picture.

"2. Some construction materials are now available for use in sufficient quantities—among them steel and lumber—but controls are still being maintained by government agencies. By late

(Continued on page 108)



INVISIBLE CURTAINS Against the Cold!

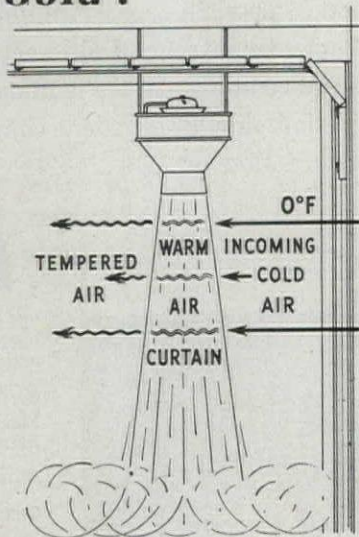
WING FEATHERWEIGHT UNIT HEATERS WITH HIGH VELOCITY DISCHARGE OUTLETS

Where garage doors or factory shipping room doors must be opened frequently or left open for fairly long intervals, the only way to keep the temperature of the room or building from cooling off is to build a wall or curtain of warm air through which the outside cold air cannot penetrate. This is made possible by one or more Wing ceiling suspended Featherweight Unit Heaters with Type 1-HV, High Velocity Discharge Outlets. These heaters force a curtain of warm air directly to the floor level, preventing the escape of warmed air from the interior and the infiltration of cold air from the outside.

Write for complete information on this and other Wing Unit Heaters for industrial applications.

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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

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WADE MANUFACTURING COMPANY
 PLUMBING EQUIPMENT SPECIALTIES
 DIVISION OF WOODRUFF AND EDWARDS, INC.
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WECO
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With everything new but the experience and know-how . . . offering more of everything but price . . . today's Wade line is big news to buyers and specifiers of drains and similar plumbing specialties. It represents a unique combination of engineering skill and productive facilities, for the Wade organization has now joined forces with Woodruff & Edwards, Inc.

In time-tested basic design, Wade products leave nothing to be desired; Wade has specialized in this field for 75 years. And in the actual fabrication of such products—the casting, machining and finishing—Woodruff & Edwards, Inc., has had an equally long and outstanding record.

The big Woodruff & Edwards plant is recognized as one of the most modern and best equipped foundries in the country. Here are the facilities that enable Wade experience to reach its fullest expression—to produce drains and similar equipment that challenge all the old standards, in sound construction, in precision machining, and in dollar value.

Investigate this new source of supply that can mean much to you right now—still more in the years to come. Write for the big Wade catalog.

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Stop Water Hammer!



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Water hammer not only causes that annoying banging in the pipe lines—it exacts a heavy toll on valves, piping and equipment. With the WADE Wacor Water Hammer Arrester you get positive, permanent relief. The No. 6 Junior, shown above, handles the requirements of the average size home. Other standard sizes available for all conditions, on hot and cold water piping, in all residential, commercial and industrial buildings. Write for bulletins.

THE WADE LINE INCLUDES:

- Roof Drains
- Floor Drains
- Back Water Valves
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 SERVE YOU

THE RECORD REPORTS (Continued from page 106)

summer we can hope for WPB releases on certain items. Top military and production men will then know better our material requirements for the future because the European invasion pattern will be set.

"3. A shortage of designing and construction engineers is likely to develop. It is therefore important for corporations to plan early—to make detailed drawings, specifications; to write up and actually place purchase orders for future delivery. Men are now avail-

able; competent organizations are intact.

"4. The peak in building costs has not yet been reached. Postwar costs will be higher per unit than war costs. A run-away market may be expected once the postwar building program starts.

"5. It is true that the country is 'overbuilt' in total volume of factory floor space. But the floor space is generally not located in the proper places for economical use. The reasons are legiti-

mate, the principal one being that sites for wartime plants and sites for peacetime plants don't have the same requirements."

BRITISH CODE RECOMMENDS MINIMUM LOADS

The first draft standard under the British Building Codes and Practices program is now being circulated by the British Standards Institution before consideration for final approval. It recommends the minimum loads which should be taken into account in the design of buildings, for use with working stresses based on the properties of the various materials. No account has been taken, however, of constructional loads. One section of the proposed standard makes recommendations for dead superimposed loads and forces induced by wind, and is for conditions that are normal for Great Britain. The effect on buildings of enemy action in time of war is considered in the second section, and buildings are classified in terms of their resistance to such action.

The British building code program plans for the development of a series of building codes as well as a Classification Code. It is planned that the Classification Code will have chapters on natural light and air; space and circulation; precaution against noise; precaution against fire; strength-stability and loadings; weather protection; services—heating, lighting, water supply; heat insulation; corrosion; and dirt and vermin.

The recently approved National Building Code of Canada, the Building Code of the State of California, the Pacific Coast Building Code, and the German Building Code of 1941 were all studied as sources of information by the technical committee. "In the field of research and investigation," the committee reports, "the most comprehensive work on floor loads appears still to be the survey by the U. S. Bureau of Standards by its Committee on Building Regulations."

Copies of the proposed British Standard Code of Practice on Strength—Stability and Loadings have been received by the American Standards Association and may be borrowed from the ASA Library.

COURSE IN CITY AND REGIONAL PLANNING AT MIT

A short training course in City and Regional Planning, open to men and women with professional experience in architecture, landscape architecture, civil engineering, political science, or public administration, has been announced by the City Planning Division of the Massachusetts Institute of

(Continued on page 110)



Engineering the *smokeless* fireplace in small, tight buildings creates a problem. As you know, with an *ordinary* fireplace, the air exhausted by chimney draft usually *exceeds* the amount of air coming in through cracks and crannies. Result: partial vacuum, downdraft, SMOKE! Bennett solves this problem, with the FRESH AIR Fireplace Unit.

To replace the vacuum, fresh outdoor air enters the room through the heating chambers of the fireplace which have ample heating capacity regardless of outdoor temperatures. These units provide all elements of the internal construction . . . throat and damper, down-draft shelf, combustion chamber, etc. . . each properly positioned and proportioned.

Product of 20 years of specialized experience, they are pre-engineered to make smokeless operation *doubly certain*. That's why they can be guaranteed not to smoke.

Production of Bennett fireplace units, Flexscreens, and construction supplies will be resumed when permitted. For description of all Bennett products, see 8-page catalog in Sweet's Architectural File. The Bennett Company, Fireplace Division, Norwich, N.Y.

BENNETT
Guaranteed
FIREPLACES

Money-saving tips for your post-war carpet installations



If you want the most for your after-the-war carpet dollar, you'll want the advice of experts on three major considerations: 1. Length of wear. 2. The application of styling to fit the "atmosphere." 3. Short-cuts that will lower the cost.

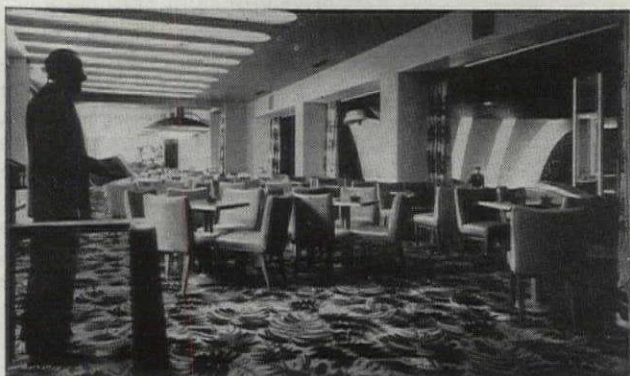
You can get accurate answers to these problems and many others through the advice and services of Bigelow Carpet Counsel at no extra cost per square yard.

TRAFFIC AREA FIGURES →

The Bigelow Carpet Counsel wear formula will help you select the carpet you need for heavy traffic areas. This estimate of wear will weigh every factor: The number of people who will cross the specified area, the additional shock the carpet must receive from different types of flooring, allowances for wet feet and many other considerations that will sum up to the carpet quality you need.



The Airlines Terminal Restaurant in New York has Bigelow heavy duty carpet.



A graceful modern design for the new Washington Statler.

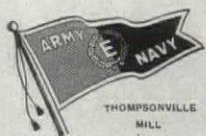
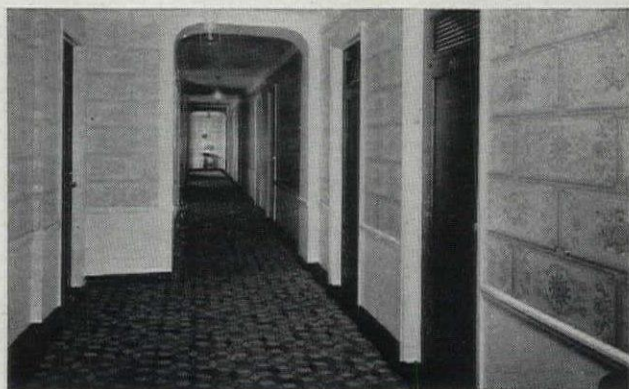
← PROFITS IN GOOD STYLING

There is a real dollar and cents value in choosing the right patterns and colors. Some rooms demand a riot of gay color, others require soft restrained tones.

Get the carpet that will help you build the "atmosphere" that you want. Bigelow Carpet Counsel will be glad to help you.

PLANNING PLUS . . . →

Bigelow Carpet Counsel can help you eliminate waste during the planning stage. Such cost-saving plans as expert advice on the quantities of carpet that should be held in reserve for future wear spots will take many of the headaches out of your post-war carpet installations.



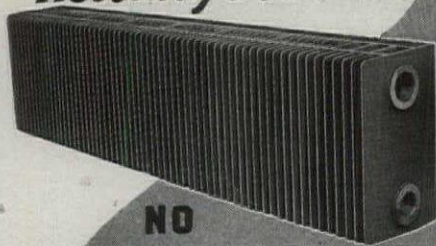
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"When it comes to carpet come to Bigelow"
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Specify **THE UNIT HEATER**
with **ONE PIECE CONSTRUCTION**
Heating Sections

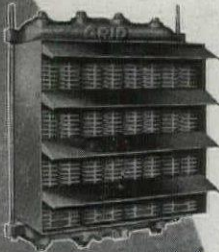


**NO
SOLDERED, BRAZED,
WELDED OR EXPANDED
CONNECTIONS**



GRID condenser "fin" sections are made in one piece of high test cast iron—the same physical properties as cast iron radiators. You know how long they last! In GRID sections there's nothing to become loose—nothing to develop leaks or breakdowns—and being made of similar metals there's no electrolysis to cause corrosion. GRID "fin" sections can also be adapted for use as radiators, both open and convective type.

**WILL LAST AS LONG AS THE
PIPES FURNISHING STEAM
OR HOT WATER TO IT—**



**CAST IRON
HEATING
SECTIONS**

Cast iron GRID Unit Heaters are built to last for years. In many installations they will last as long as the building itself — and still have the same high efficiency as the day they were installed. Engineered and tested to operate with either hot water or steam up to 250 lbs. pressure, GRID units have proven themselves — for 14 heating seasons, on high pressures. Why specify unit heaters that will lose their efficiency after a short period when you can get GRID for permanency? The complete story, with engineering data and capacity tables are yours for the asking. Write

**D. J. MURRAY MANUFACTURING
COMPANY**
WAUSAU, WISCONSIN
Offices in Principal Cities

GRID UNIT HEATER

THE RECORD REPORTS

(Continued from page 108)

Technology, Cambridge, Mass.

The course will commence on Monday April 3, and will continue for a period of 12 weeks. Lectures and seminars will be held on principles and techniques of planning, social and economic aspects of planning, and planning legislation and administration. These will be supplemented during the entire period by a program of practical experience, either of in-service training in the offices of planning agencies in the Boston metropolitan region, or of work on projects selected by the participants and carried on in the drafting room of the City Planning Division at Technology.



**OLD ALTAR PIECE
GOES TO COOPER UNION**

A classic example of Italian Renaissance architecture, believed to have been a part of an altar and constructed between 1575 and 1600, has been presented to the Cooper Union Museum for the Arts of Decoration, New York, by Whitney Warren, Jr., of New York.

The wooden structure, 14 ft. high, came from the estate of the late Whitney Warren, architect. It was used as a doorway in his Park Avenue apartment. Though dimmed and cracked with age, the original carving, gilding and paint are intact.

The embellishment of angels and the liturgical motifs on the columns and arch indicate to Dr. Rudolf Berliner, research specialist of the Museum, that it may have been used as a retable, the superstructure of an altar, containing a painting, in one of the Renaissance cathedrals.

(Continued on page 112)

**FLOORS
that help
EMPLOYEES
SEE BETTER**

**One of many advantages of
Light-Reflecting Floors made
with Atlas White Cement**

That floors, like walls and ceilings, can be made effective reflectors of light and thus improve seeing conditions, is a development of war-plant construction. And when made with Atlas White cement, their reflective properties are more than skin deep.

Light-reflecting floors made with Atlas White cement have already proved their contribution to overall lighting effectiveness. In a large airplane plant, a white cement floor increased lighting on vertical work areas by 20%—underwing areas by 61%—when compared with a gray cement floor. Compared with darker floors, the difference would be greater still.

For the full story of light-reflecting floors, ask for a copy of "Light From Floors." Write to Atlas White Bureau, Universal Atlas Cement Company (United States Steel Corporation Subsidiary) Chrysler Building, New York 17, N. Y.

HOW ABOUT MAINTENANCE?

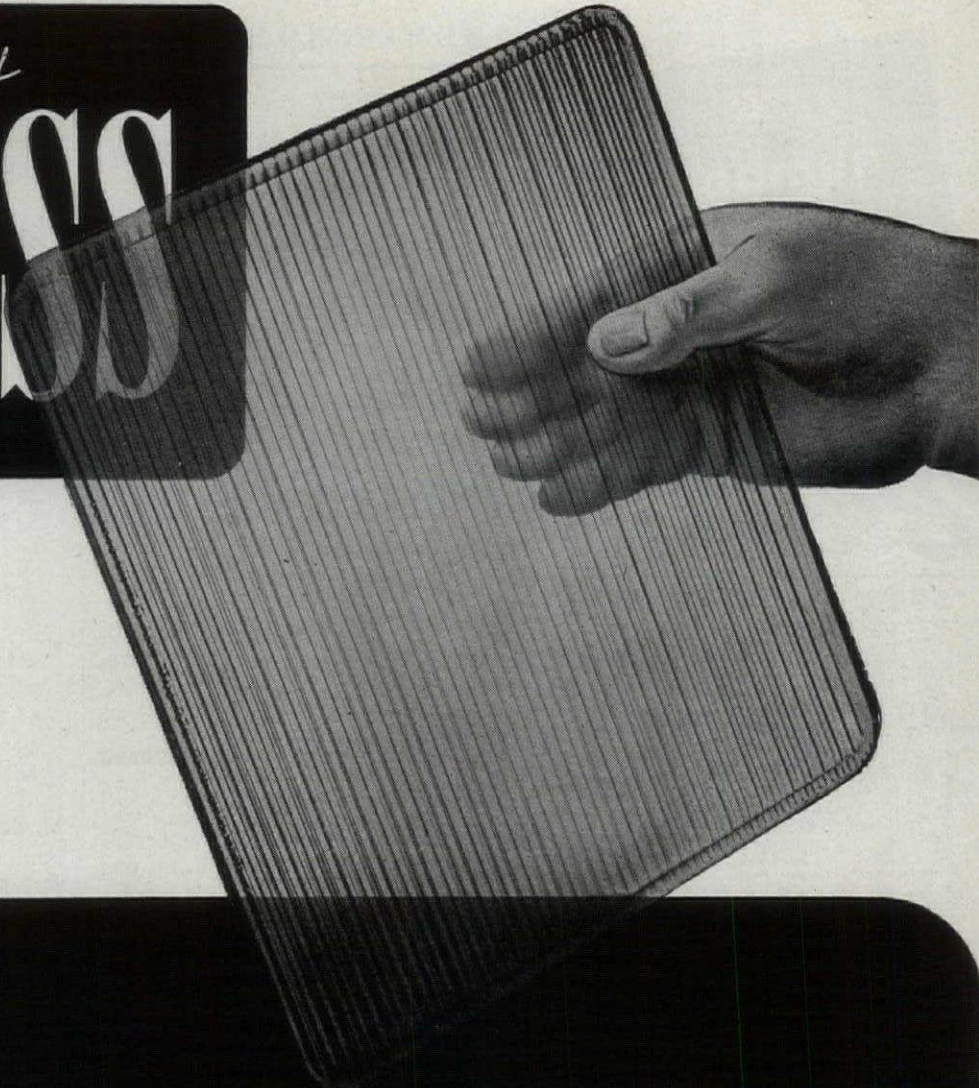
Experience shows white-cement floors are easy to clean, easy to keep clean, and retain their reflection advantage. Maintenance is simple—frequent sweeping, occasional damp mopping, periodic scrubbing.

AR-F-25

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



Crystal
GLASS



... the best material available for scientifically-correct **ILLUMINATION**

CRYSTAL PRESSED GLASS is the *one* material that has all the inherent qualities to make it the best medium for modern illumination...

Because

HOLOPHANE has developed and perfected economical, efficient and permanent lighting units — based on the advantages of prismatic crystal glass. Consult Holophane engineers without charge or obligation. Their services are offered not in competition with those of architects or engineers, but are supplementary to their advice.

- **IT IS CRYSTAL CLEAR** (will not discolor)
- **IT IS WATER REPELLENT** (and stays that way)
- **IT IS SCRATCH RESISTANT** (impervious to abrasion)
- **IT WILL NOT WARP** — even at high temperatures

HOLOPHANE COMPANY, INC. . . . *Lighting Authorities — Since 1898*

342 MADISON AVENUE, NEW YORK

Holophane Co., Ltd., 385 Yonge St., Toronto, Can.

Because good lighting and the saving of manpower are so unmistakably linked we have contributed to and are cooperating with the WAR PRODUCTION FUND TO CONSERVE MANPOWER.

THE RECORD REPORTS

(Continued from page 110)

ASHVE MEDAL AWARDED

Dr. Ferry C. Houghton, now a Lieutenant Commander, U.S.N.R., has been awarded the F. Paul Anderson Medal of the American Society of Heating and Ventilating Engineers.

The award is made to Dr. Houghton "for outstanding research over a long period of years in the fields of heating, ventilating and air conditioning, resulting in distinct benefits to the public and the nation; for advancement of the knowledge of the physiological reactions of persons to their environments and for the careful presentation of technical data readily adaptable to general use in engineering."

The Anderson Medal was founded in 1930 in honor of Dean F. Paul Anderson. Dr. Houghton is the fifth recipient.

HARRY T. FROST

The sudden death on December 28 of Harry T. Frost brought to an end a memorable career in city planning—a career which included the designing of Quezon City, the intended new capital of the Philippines. When Mr. Frost left the islands just prior to Pearl Harbor, the city was very near completion.

Born in England, Mr. Frost had been in this country for 30 years. He was a member of the firm of Bennett, Parsons and Frost of Chicago.

SIR EDWIN LUTYENS

Sir Edwin L. Lutyens, widely known British architect, and president of the Royal Academy since 1938, died in London on January 1.

Buildings of Sir Edwin's design are to be found in many parts of the world: the British Embassy in Washington, D. C.; the British Art Exhibition Building and the British School of Art in Rome; Government House, New Delhi, India; the Picture Gallery and South African War Memorial in Johannesburg; and others.

WADDY BUTLER WOOD

Waddy Butler Wood, whose death came on January 25, was the designer of many of the most impressive buildings in Washington, D. C., among them the new Interior Department Building, the Chinese Embassy, and the Stock Exchange Building. He was a fellow of the American Institute of Architects and a former president of its Washington Chapter.

NEW ARCHITECTURE IN MEXICO

- Hospitals
- Town Houses
- Country Houses
- Office Buildings
- Store Groups
- Factories
- Schools
- Apartments
- Workers' Houses

Modern Architecture below the Rio Grande, with its straight line, unornamented flat surfaces, presents a dramatic contrast to the old, heavily ornamented Spanish Colonial buildings. Yet Esther Born, in her book "THE NEW ARCHITECTURE IN MEXICO" has delineated in text, photographs and colored diagrams, including supplementary text on mural painting, sculpture, and pottery, how perfectly acclimated it has become to its background.

This new volume is a reference source for building designers everywhere, and contains a complete assemblage of the progressive thought of architects and engineers of the Aztecs and the Spanish Americans. Reduced price \$2.50.

.....
ARCHITECTURAL RECORD

Book Dept.

119 West 40th, New York 18, N. Y.

Enclosed is a check or money order for \$2.50. Please send me **NEW ARCHITECTURE IN MEXICO**.

NAME

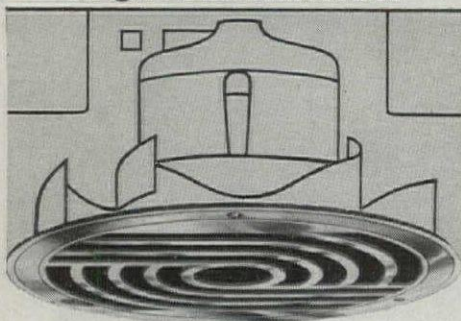
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A number 1 "MUST" in every post-war home

Blo-Fan

"SPOT VENTILATION"



The Science of Electronics now makes it possible to remove the finest particles of dirt from the air electrically—but no one yet has found a way to take out ODORS except by expelling them at the SPOT where they form.

... "Blo-Fan" SPOT Ventilators, therefore, are essential adjuncts to every fan-driven heating or air-conditioning system. "Blo-Fan" combines the advantages of a fan and blower. It is suited particularly for kitchen, den, game room, office, etc.

Specify Today!

For Details see our Catalog in 1944 SWEET'S



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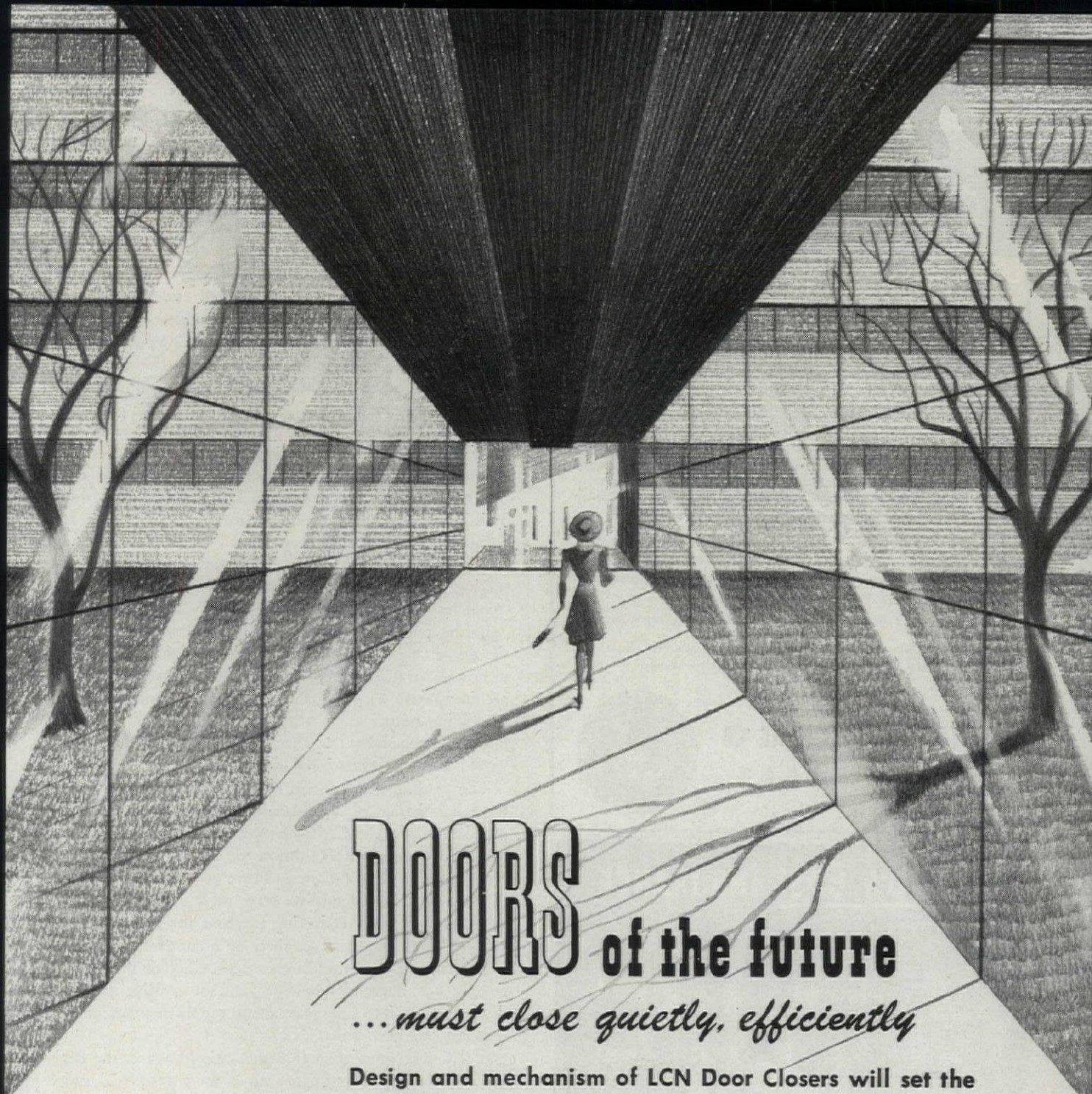
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Branches (to be reestablished after war)

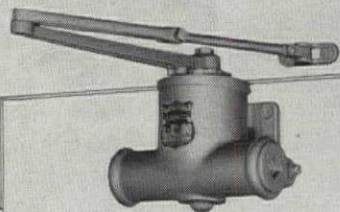
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DOORS of the future

... must close quietly, efficiently

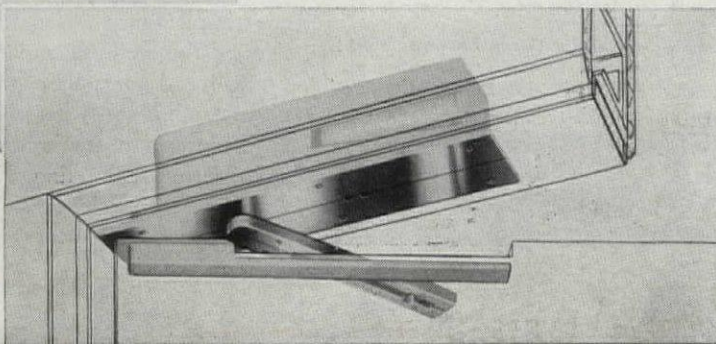
Design and mechanism of LCN Door Closers will set the standard for the future, as they have in the past.



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DOOR CLOSERS



Abesto

WHAT IS THE MOST IMPORTANT PART OF THE BUILDING YOU DESIGN?

No architect can answer that question simply. The building is made up of equally important component parts. Foundation — side walls — roof — all must weld into a strong whole.

Because Abesto Cold Process Roofing materials have proven through years of actual use, and because our engineers have constantly met and answered problems arising in the field we can offer the architect a material which is superior in the three qualities that are essential to a good built-up roof.

We give you—

Better adhesion which insures close bonding of laminations
Cured Elasticity which allows for the expansion and contraction of a roof without cracking—

High resistance to oxidation which gives long term service.

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

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For Low Cost Insurance



--against
the danger
of scalding water
in shower baths
and wash sinks



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. 22

POWERS WATER TEMPERATURE CONTROL

PROFESSIONAL OPPORTUNITY

(Continued from page 54)

as a partner on an equal professional basis, and if I were a consulting engineer I would do likewise with an architect.

The problems of a peacetime conversion of a war economy are big enough for the combined efforts of all professional men. In practice a specific undertaking in the field of the engineer and architect should be approached by a partnership of minds. The main need at the moment is for the establishment of a unity of purpose, not alone for the selfish purpose of survival but for the public good that underlies the term "profession." An architect without a sense of public responsibility is a designing carpenter, and a professional engineer is separated from a skilled technician only if he has the essential sense of public duty. This concept of the professional man is not new—it has been stated by many leaders of both the engineering and the architectural professions. What we could do is to stop talking about it and put this combined sense of professional responsibility to work.

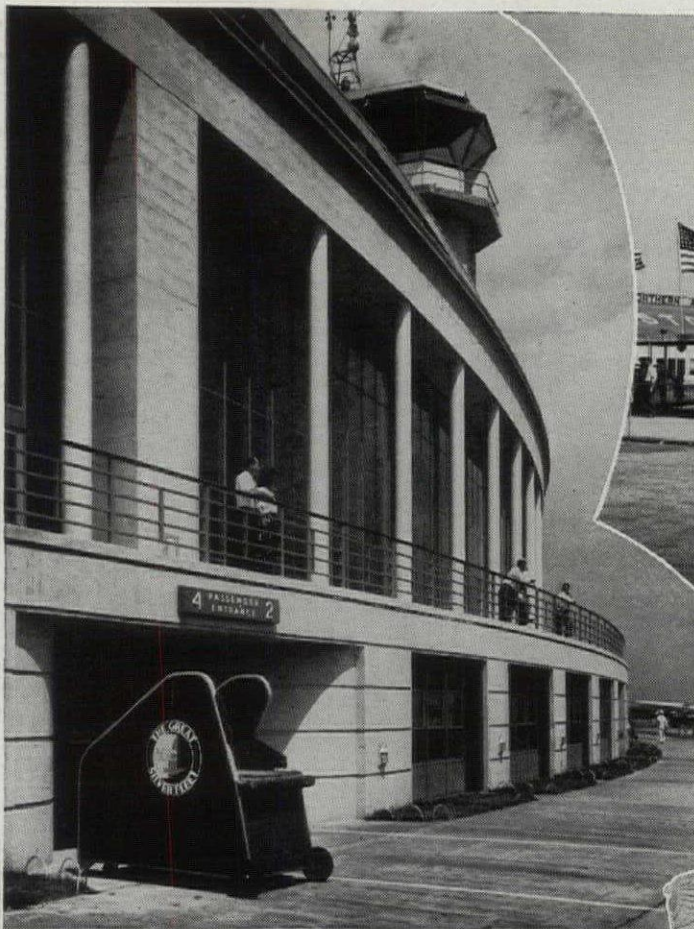
In the public interest the engineer in this combination should be able to understand and to implement the various technical advances in the mass-production trend, and the architect, with a presumably better concept of the art of combining beauty and utility, could manage this sense of public responsibility in the combined enterprise. Both would share a professional consciousness.

The coming era will find us related professionally to the rehabilitation of older lands. The ten per cent of the population of the Americas to the south, for example, are men and women with traditions of culture far older than our "upstart" United States. There are no middle classes in these countries. Should we serve these nations acceptably we shall find ourselves having to prove the values of technological and industrial advances on a completely different basis than our own middle-class acceptance of them. This is only one illustration of the kind of creative thinking that must go into any permanent rapprochement of our respective national attitudes.

It will take more than this generation to meet the challenge. So one of our opportunities for professional unity lies in the field of helping to direct the training of our coming professional men.

An over-all committee of architect and engineer statesmen could think through the future training of young men who are to enter the construction and engineering fields. We need to enrich our courses of instruction with larger concepts of professional responsibility to the public. We need to have young men understand the interrelations, not only between structural details and costs, but of the international character of professional purposes.

Some of these areas for mutual understanding and partnership of mind are ready for immediate consideration. Some are in the long view. All resolve themselves into one simple concept—let's combine the professional objectives of the architect and engineer for mutual selfish advantage and for public good. Let us clarify the public understanding of what we mean by the professions of engineering and architecture. Let us compare the values of independent thinking with the possibilities of a socialization of the professions. Let us form a partnership of mind as well as a partnership in business.



Above—Grand Rapids, Mich., Airport architectural concrete administration building, designed by Spencer Weber, Lansing, Mich., engineer.

Left—Architectural concrete administration building at Washington National Airport. W. E. Reynolds, commissioner of public buildings. Louis A. Simon, supervising architect and Howard L. Cheney, consulting architect

Below—Decorative details on administration building at Jacksonville, Fla., Municipal Airport are an integral part of the architectural concrete structure designed by Jefferson D. Powell, Jacksonville architect.



A

RCHITECTURAL CONCRETE for AIRPORT BUILDINGS

economical, firesafe, designed in keeping with the spirit of aviation

Even before the war the vigorous, fast-growing air transportation industry was utilizing concrete as a combined architectural and structural medium. Since Pearl Harbor hundreds of firesafe concrete hangars, service buildings and other structures have been built to serve military aviation.

Architectural concrete will likewise provide modern, good-looking, low annual cost airport buildings for the inevitable postwar expansion of civilian aviation.

Literature on newest developments in architectural concrete construction mailed free in United States and Canada. See Sweet's Catalog, 4/33.

PORTLAND CEMENT ASSOCIATION, Dept. 2-8, 33 W. Grand Ave., Chicago 10, Ill.

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

Federal Reserve System in 1913. The Federal Reserve has been least successful in its relation to our long-term credit needs. To date we have depended upon an uncoordinated system of long-term investment, which has been so extremely sensitive to speculative manipulations that it has tended periodically to throw our short-term banking system out of balance. Although we have delayed overlong de-

veloping a truly coordinated system of long-term credit, we have already taken many steps which should facilitate the move that now must be taken.

The amortizable mortgage has been known in the United States since the first building and loan society was founded over a hundred years ago, but it is only since 1934 and the formation of the Federal Housing Administration, that we have put into general

use a type of mortgage which makes regular amortization payments mandatory. We have only recently learned that a system of mortgage insurance may be utilized to improve standards, reduce risks, lower the interest rate, and provide for more liberal credits. Our commercial banks have learned how to expand their deposits against reserve ratios established by experience. They have found that an interest of less than one per cent is adequate to finance the expansion of their deposits against short-term paper. Let us attempt to translate this experience into the terms of our long-term credit needs.

The largest and most important institutions which furnish long-term capital loans are the life insurance companies, savings banks, and savings, building and loan associations. It is significant that these institutions are organized on a mutual basis. Together with investment bankers and private financiers, these institutions serve the long-term credit needs of the nation. They perform a long-term banking function, but they operate outside the Federal Reserve System. They are regulated by the laws of the various states in which they are organized or in which they are authorized to do business.

Based upon the experience which we have already had in the field of short-term banking, it should now be possible to recognize that our savings banks, building and loan associations and life insurance companies do in fact comprise a capital banking system with capital reserve potentiality. To these organizations is should be possible to entrust the task of expanding capital or long-term credit on the basis of their own actuarial records. It should be obvious that if these capital banks were permitted to create credit deposits up to four times their mutual savings deposits, interest at one per cent would bring the institutions a total income equal to that they now receive by lending out their savings deposits directly at four per cent.

If the large lending institutions of the country which operate on a mutual basis are to be given responsibility for expanding capital credit, every precaution possible should be taken to assure the stability of the savings entrusted to these organizations. Already, through the Federal Housing Administration, a means has been established for insuring the capital that is invested in mortgages. Thus mortgage investments made by lending institutions can be protected by requiring conform-

(Continued on page 118)

You can specify



TILE-TEX PRODUCTS NOW...

for post-war projects!

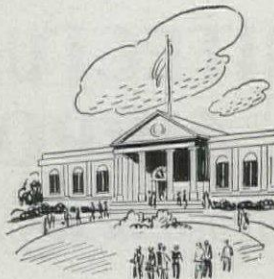


Many architects are now busy working on plans and specifications for post-war projects. It is important that they know what products, previously on the market in pre-war days, will be available once the war ends.

Tile-Tex Asphalt Tile Flooring, Tuff-Tex Greaseproof Industrial Flooring, Tile-Tex Decorative Wall Tile, and Flexachrome Plastic Flooring all will be available shortly after the war ends. Complete data on all of these products can be found in Sweet's Catalog for 1944. At the present time, we are able to furnish Tile-Tex Asphalt Tile Flooring and Tuff-Tex Greaseproof Industrial Flooring. The other two products mentioned have been discontinued for the duration.

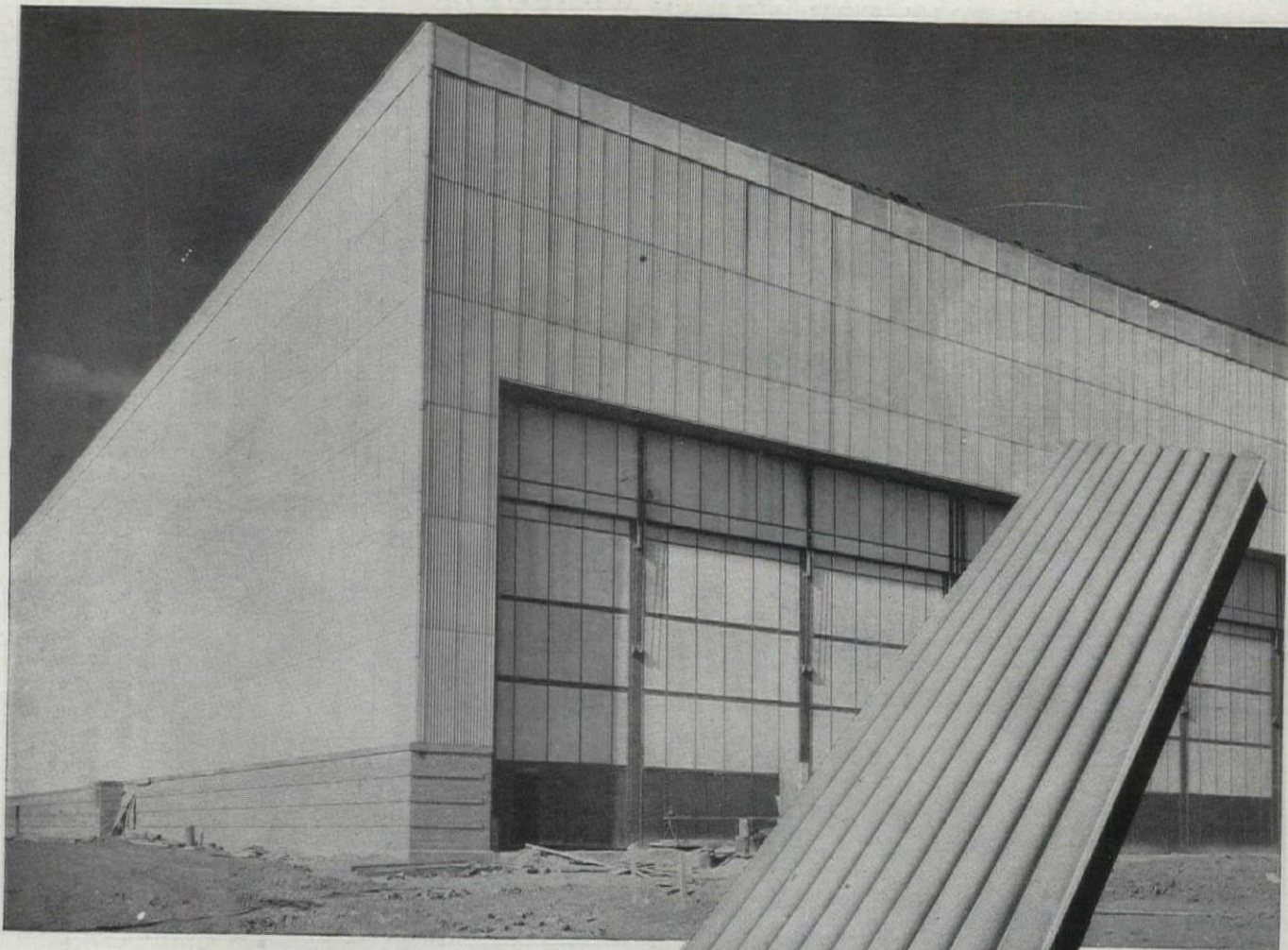
Constant improvement in product quality has been a major Tile-Tex policy. The war years have taught us much that we hope to incorporate in the products we manufacture. All four of the Tile-Tex products mentioned above will be noticeably improved in many ways.

If you are writing specifications now for post-war buildings, you can specify Tile-Tex products with the assurance that they will be available at that time.



★ The Tile-Tex Company

101 Park Avenue, New York City • Chicago Heights, Illinois



Rushed to completion for Warplane production, but

● J-M Corrugated Asbestos Transite sheets are light gray in color and require no painting or preservative treatment. They are fireproof, weatherproof and rotproof.

BUILT for PERMANENCE with ASBESTOS

THE outside walls of this huge new bomber plant, with a perimeter of over a mile and a height of approximately eighty feet, are made of Johns-Manville Corrugated Asbestos Transite.

The big, tough, durable sheets, like the one illustrated above, were simply hung in place over light frame construction. Result—a quick erection job and at the same time a permanent type of wall that will stand for years with little if any maintenance.

If you have a construction project—from a small transformer house to a huge bomber plant like this one—investigate J-M Corrugated Transite for both the roof and sidewalls. Made of asbestos and cement, it cannot burn, and will not rot or rust. It never requires painting or preservative treatment of any kind. It is highly resistant to gaseous fumes and

can be used around chemical plants where many ordinary building materials will not long endure. Furthermore, it is economical in cost.

An interesting brochure entitled "The Maintenance Crew Walks By" tells the whole story of J-M Corrugated Transite. We'll be glad to send you a free copy. Address Johns-Manville, 22 E. 40th St., New York 16, N. Y.

Some Wartime Uses of J-M Corrugated Transite

MUNITIONS PLANTS	AIRCRAFT HANGARS
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J-M Corrugated Transite and J-M Asbestos Built-up Roofing are making an important contribution to the protection of our industrial plants in Wartime.



JOHNS-MANVILLE

CORRUGATED *Asbestos* **TRANSITE**

ity with standards set by the governmental agency writing the insurance. These standards might be extended to building maintenance, and might anticipate the setting up of reserves for the replacement of worn out structural parts to safeguard further the investment throughout its lifetime.

It should be clear that lower interest rates, capital amortization, and the

establishment of proper building maintenance standards and setting up of reserves to enforce the standards, on the one hand strengthen the position of the borrower and, on the other, strengthen the safety of the lender's investment.

If amortization is put at the rate of four per cent per annum, the amounts received each year in amortization soon build up to enormous sums. Assum-

ing that credit were expanded at the rate of a billion dollars a year for new construction purposes, and the loans made each year amortized at the rate of four per cent per annum, by the end of the 25th year the amortization payments would cover the further needs for extending credits to the construction industry, assuming that these advances were continued at the rate of a billion dollars a year.

On the basis of a coordinated long-term credit system, credit would be expanded for urban redevelopment as a postwar employment stimulant at one or one and one-fourth per cent, which compares favorably with rates that have already been established through the coordination of the short-term credit system. With low interest, amortization payments could be accelerated and yet total annual charges could be kept within the limits required to balance the rental equivalent. Loans of this type should be extended solely for the purpose of financing work on capital improvements. (New credit should not be utilized to buy out the interest of existing equity owners and mortgagees, but it should be extended to them on the most favorable terms, providing that they agree to accept a composition of present debts based upon a ratio appraisal.)

The orderly method of measured expansion for credit in the long-term field of capital finance advocated here contrasts with the disorderly methods that have been followed in the past. The extended periods of stock-market gambling so common in American financial history were periods of fortuitous capital expansion: by forcing the market demand for securities, the value of wealth was expanded; and, having so expanded wealth it was thought by some economists that enough could be "saved" to make the needed investments in constructions and other forms of capital enterprise.

It is generally recognized that the familiar form of capital expansion is unsound. Having recognized the dangers of an overstimulated capital market, it is natural for some economists to think that the loss of the active capital market can be offset by the use of a governmental subsidy. Fundamentally, a subsidy is recognition of a dislocation. There is still time enough to do something before the war ends. The type of thinking which is needed should seek to find a way for financing real estate construction that is more economic than the ways we have pursued in the past.



Save Heat ... and Time ... in **COMMERCIAL GARAGES**

Tight closing keeps drafts out, keeps heat in. Easy operation saves time, reduces maintenance to a minimum. Electric door operators provide efficient remote control.

Use the **BARCOL OVERdoor** and **Electric Operator**

Get this equipment **NOW** for remodeling jobs. Be sure to specify it when complete new garages can again be built. The owners of commercial garages now having **BARCOL OVERdoors** and **Electric Operators** swear *by* this equipment, not *at* it. High quality materials and construction, experienced engineering, and careful installations insure accurate, durable, dependable operation. Let us *prove* these claims ...

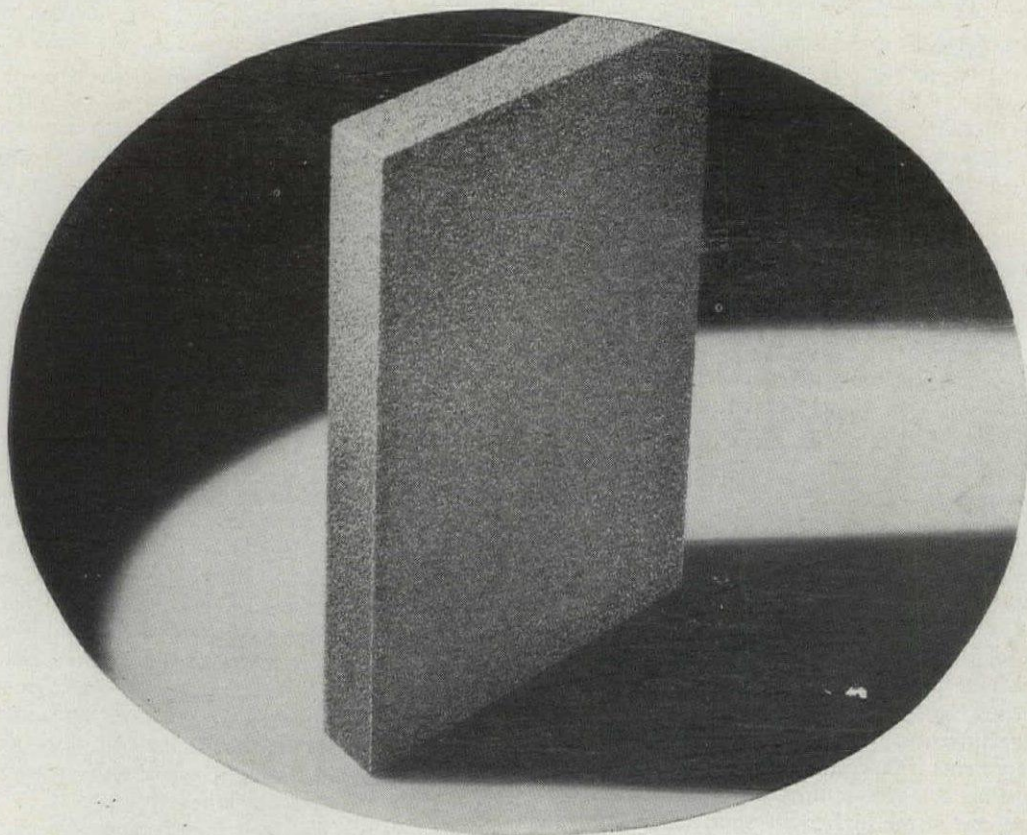


FACTORY-TRAINED SALES and SERVICE REPRESENTATIVES IN PRINCIPAL CITIES

BARBER-COLMAN COMPANY

102 MILL ST.

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New!

An insulation that never grows old!

PC Foamglas, the new cellular glass insulating material, is a notable contribution to insulating practice, primarily because of this important fact: PC Foamglas retains its insulating value *permanently*.

Moisture can't get into it or through it. Acid atmospheres don't affect it. It is vapor-proof, fume-proof, vermin-proof. These usual causes of deterioration—especially in roof-insulating materials — can't

make Foamglas lose effectiveness with the years . . . because this unique new material is *glass*, and has the agelessness of glass.

Obviously, Foamglas effects big savings in maintenance and in insulation replacement costs for any type of building.

Foamglas is fire-retardant, too, when used as the insulating factor in standard types of built-up roofing. It is light-weight. Rigid and sturdy.

Easy to install. Standard size is 12" x 18", in thicknesses of 2", 3", 4", 4½" or 6".

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Every architect and engineer will want the complete facts about PC Foamglas — the new insulating material of *permanent* effectiveness. Send the coupon, now, for free literature describing it in detail.

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INSULATION

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 Please send me, without obligation, your free literature on PC Foamglas Insulation.

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

STATION PLANNING

(Continued from page 90)

should be no difference in the front-to-back depth of the building, no matter whether lifts are used or pits, since both require about the same amount of room. The height of the building for lift installation should be a minimum of 12 ft. 6 in. to clear ceiling height, but it is preferable to use 13 ft. as a general over-all inside height. For pit building the height is sometimes lowered to effect a construction economy offsetting the cost of additional excavation. In such cases the minimum inside clear height should be 11 ft. 6 in., although this height is sometimes controlled by the height of the overhead door installation. One trend is for doors to become larger. In postwar construction we anticipate the use of doors 10 ft. by 10 ft. replacing the smaller dimensions often used before the war. The overhead door type is now virtually universal.

Lubrication Bays

These are two types: the pit bay and the lift bay. Both have earnest partisans among station operators. A few points of comparison are given.

In cost, in our territory, a pit complete with approximately 2 ft. of storage space along one side is around \$440, of which \$350 represents construction, \$75 wiring, \$15 air lines.

The average lift costs approximately \$445 installed. Of this \$290 represents lift cost, \$75 installation, \$58 the increase of the air compressor in size from 1 hp. to 2 hp.; \$7 is the extra cost of the higher lift door, \$15 is spent for oil. A higher building may be required.

Consequently there is little difference in initial cost.

The life of a lift averages from 12 to 15 years. The life of a pit is the life of the building. Lifts have more salvage value in that they can be moved and reinstalled in other locations.

Maintenance costs of lifts are greater and increase with time, as does the added maintenance cost of the compressor. As a rule, the only upkeep cost for a pit is the cost of painting.

Lighting with lifts requires portables; pit lights are permanent.

The visibility of the pump island and general station area is an advantage of the lift system. (Automatic alarms can be used in pits to signal the approach of customers.) Also, lifts make it easier to show the customer points under the chassis where extra service is needed.

Lifts (i.e. a bay with full wheel lift) can be used for washing cars; this is not possible in pits.

Pits provide storage space without enlargement of the station, as much as the operator desires to excavate. Pits will accommodate the lighter commercial vehicles; lifts are limited in this respect by the weight and height of the vehicle.

Pit construction, which is usually of steel or masonry, comes under local building regulations which control not only structural design but also the very important element of venting. The stair arrangement for pits has many deviations from any particular standard. Some designers install the stairway within the pit itself while others provide an offset to one end, front or back, to permit maximum length of pit for greasing. Some pits are provided with a ladder only but this practice is becoming obsolete.

In most pit construction a tool space is provided by recessing the wall its full length on one side. Where more than one pit is installed, the entire area between them is often opened up for storage and work space and a common stairway is sometimes provided between pits at the

rear. This arrangement also speeds up service by permitting free movement from pit to pit.

Accessories are not dealt with here except as they affect roughing-in dimensions; therefore, on the subject of oil drain pipes and other details in pits, readers are referred to installation diagrams of manufacturers.

Lubrication equipment along the rear wall of the lubrication bay includes the attractive porcelain enamel storage units for high-pressure greasing, usually accommodated in the space of about 5 ft. to 6 ft. between the pit or lift and the rear wall of the bay.

Display is an important function of the workbay itself. The entire rear wall is frequently used not only for the storage units already mentioned but for a display cabinet in either wood or metal, accommodating a full line of accessories, the battery charger, storage closets, and the like. The tire rack and tube shelf is usually formed in the upper part of the cabinet.

Wash Bays

These are usually slightly wider than the lubrication bays because more space is needed for working around the car. The general finish of this room includes painted walls and ceiling and a concrete floor pitched toward a sump or an approved type of trap and floor drain. In some cases a grease separator is required by code, since this sump, unlike that under the lubrication pit, is connected to the sewer. At the entrance a special rolltype concrete curb is sloped inward toward the drain, and is arranged to accommodate the sill for the overhead door.

A partition 4 ft. high between the washbay and other workbays protects the latter from spray.

Except in rural areas there is no special demand for high pressure or hot water, adequate impact being assured by the design of the special nozzles; but in areas where mud is prevalent, both hot water and higher pressure are desirable.

The problems of the specialized "auto laundry" are not within the scope of this article.

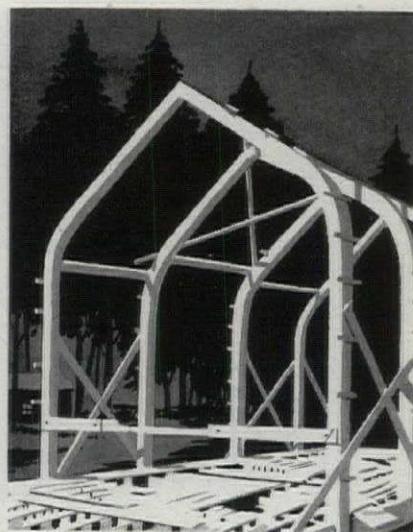
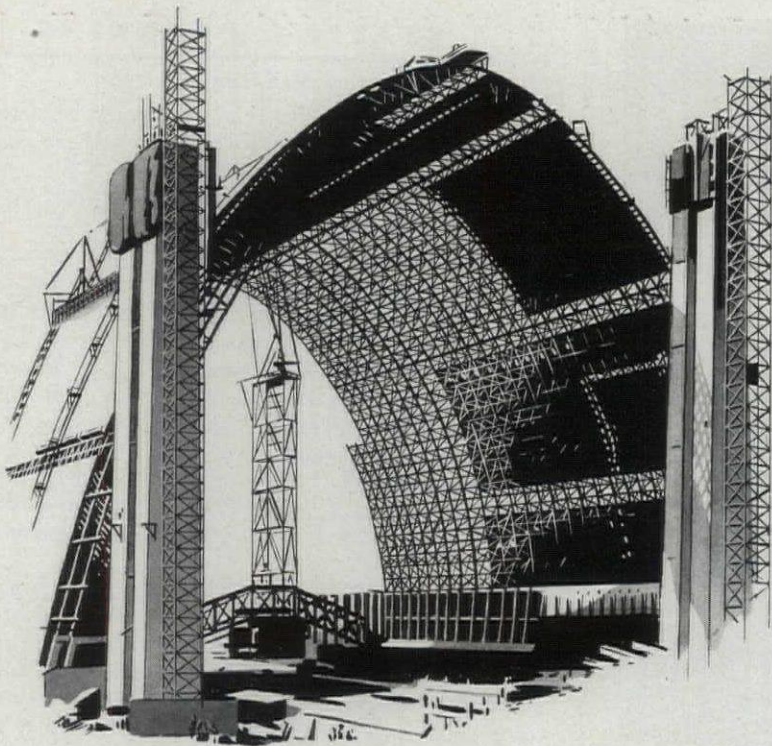
Rest Rooms

The importance of rest rooms was not appreciated until comparatively recently. Room surfaces are naturally chosen with a view to easy cleaning and cheap maintenance; hence tile floors and tile or other hard-surfaced wainscot materials are preferred. Lamp-sterilized seats are installed in many Esso stations. Fixtures with foot-pedal flushing are coming into favor.

In postwar practice, increasing attention will be paid to women drivers. The ladies' rest rooms will tend to be expanded into "powder rooms" supplied with a lounge and added facilities comparable to those found in smaller hotels. The softer colors preferred by women will replace the sanitary black and white or pea green of frequent prewar usage. Carpeting and drapery are, however, still a luxury beyond the economical means of the usual service station to maintain. It is better to give the most attractive finish possible to unpretentious materials than to let pretentious ones look shabby. Mirrors with shelves for handbags are among equipment items that will be considered essential; special venting, perfume sprayers, deodorant chemical containers are possibilities.

Note that current practice puts the entrance to the ladies' rest room out-of-doors, with suitable screen, so that it may be approached without passing under the eyes of attendants; the entrance to the men's rest room is usually inside, where attendants can also make use of the room and where male customers pass additional display on the way in and out. Wherever merchandising plays a

(Continued on page 122)



Monsanto chemicals open greater possibilities for wood

Wood, most adaptable of building materials, has come into vastly expanded use during the war. New horizons have been opened for the product of our forests through chemical treatments which guard lumber against termites and other insects, against sap stain and decay, against moisture absorption, warping and swelling. Chemical treatments even make wood fire-resistant.

Laminated wood, bonded by chemicals and plastics, makes possible structural members with strength which, until recently, was believed impossible with wood. This progress forecasts the wider use of wood in the postwar period... points toward the specification of chemically treated wood not only for hangers, but for homes, factories, churches, schools and farm buildings.

Monsanto supplies plastics for bonding agents and produces the following products to preserve and improve wood:

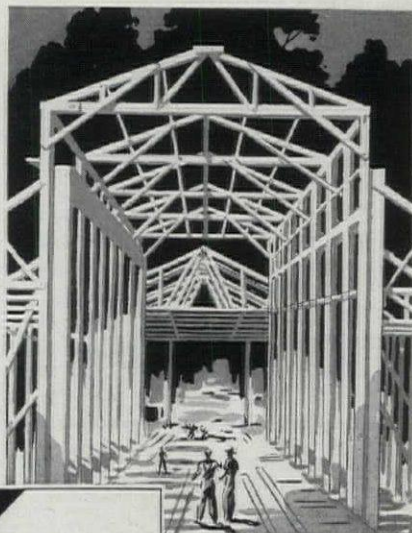
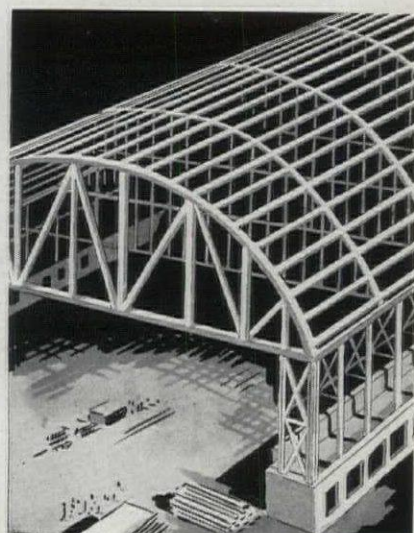
PERMASAN, guarding wood against damage by termites, powder-post beetles, rot and decay.

PERMASAN 116, retarding swelling and shrinking due to moisture changes; guarding against decay and insect damage.

SANTOPHEN 20, an ingredient in wood-treating chemicals made by Monsanto or sold to many companies which make their own formulations.

SANTOBRITE, controlling sap stain. Also used to make cellulose insulating board termite-resistant and as a preservative in wall paper adhesives.

Chemically treated wood is going to play a role of increased importance in the great building era to follow the war. It will have new uses in industrial structures... add new beauty to the homes of tomorrow. If you would like information on Monsanto Chemicals for wood-treating, we shall be glad to send you technical bulletins upon request to MONSANTO CHEMICAL COMPANY, Organic Chemicals Division, 1700 South Second Street, St. Louis 4, Mo.



There's an Architectural future in
Chemically Treated
WOOD

MONSANTO
CHEMICALS

SERVING INDUSTRY...WHICH SERVES MANKIND

THIS

Modern Kitchen

IS AVAILABLE NOW!



FOR WAR HOUSING— POST-WAR PLANNING

● Here's a Kitchen Maid modern kitchen—a combination of units from its line of advanced cabinetry which is available today for war housing; ready to be specified in peace-time plans as well. With Kitchen Maid's factory producing 50,000 war kitchens, there is no serious re-conversion problem, and the entire line will be quickly available for all residential purposes after V-Day.

Developed before the war, proved by extensive war housing experience, this new cabinetry is the fulfillment of present and early post-war needs. It is constantly being specified for projects of all types. And *composite construction* is the principal reason for its wide acceptance.

Made of hardwood, plywood, and other compositions, Kitchen Maid Cabinetry combines all the advantages of the best materials available—each used where it serves best, gives greatest strength and longest life. Remarkably flexible, too—with standard units to fit practically any arrangement. Before planning another war or post-war job, see your Kitchen Maid dealer, or—

WRITE FOR THIS NEW FOLDER



The Kitchen Maid Corp., 642 Snowden Street, Andrews, Indiana.
Please send new folder on "Kitchen Maid War and Post-War Cabinetry."

Name _____

Address _____

Architect Builder Dealer Owner

KITCHEN MAID

FOUNDER OF MODERN KITCHEN UNITS



STATION PLANNING

(Continued from page 120)

prominent part, after the war, there may be a tendency to have both the men's and women's rooms entered from inside the sales room.

Offices, Lounges, Sales Room

The trend will be to enlarge offices, both because there will be more goods displayed, and because the operator of a thriving service station is a business man entitled to administrative and bookkeeping conveniences. The office consists of three essential elements: a lounge for customers who are waiting for their cars, display of goods surrounding this lounge, and the bookkeeping facilities, safe, and cash register of the station.

Visibility of both the pumps and the service bays from the lounge is highly desirable, and provision of adequate storage space for accessory supplies will be gratefully received by the operator.

The possible enlargement of sales rooms raises many possibilities for future experimentation. One trend, in larger stations, may be toward employing special sales personnel, and further separating the sales function from such services as lubrication and car washing. The manager's office would then of course be intermediate so that he could supervise both.

Construction

There seem to be no revolutionary structural systems in sight for service stations. The majority of those built by Standard Oil Co. of New Jersey have cement-block walls with stucco finish; porcelain enamel finish is substituted in heavy industrial centers, for easier cleaning. Preference for cement block is based on its universal availability, its economy, adaptability to different plans and finishes. Other systems involve brick and stucco, or brick, or steel prefabricated panels with porcelain enamel facing, the latter preferred by some companies for their salvage value and portability.

Station Lighting

In dark rural surroundings the same *apparent* good visibility and good advertising value can be obtained with less light than on the city street. Lighting is used to emphasize the buildings, approach ramps, and pump islands.

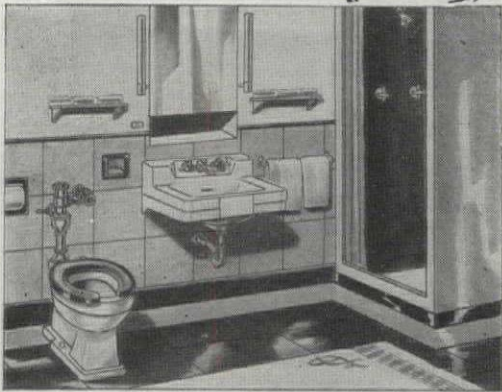
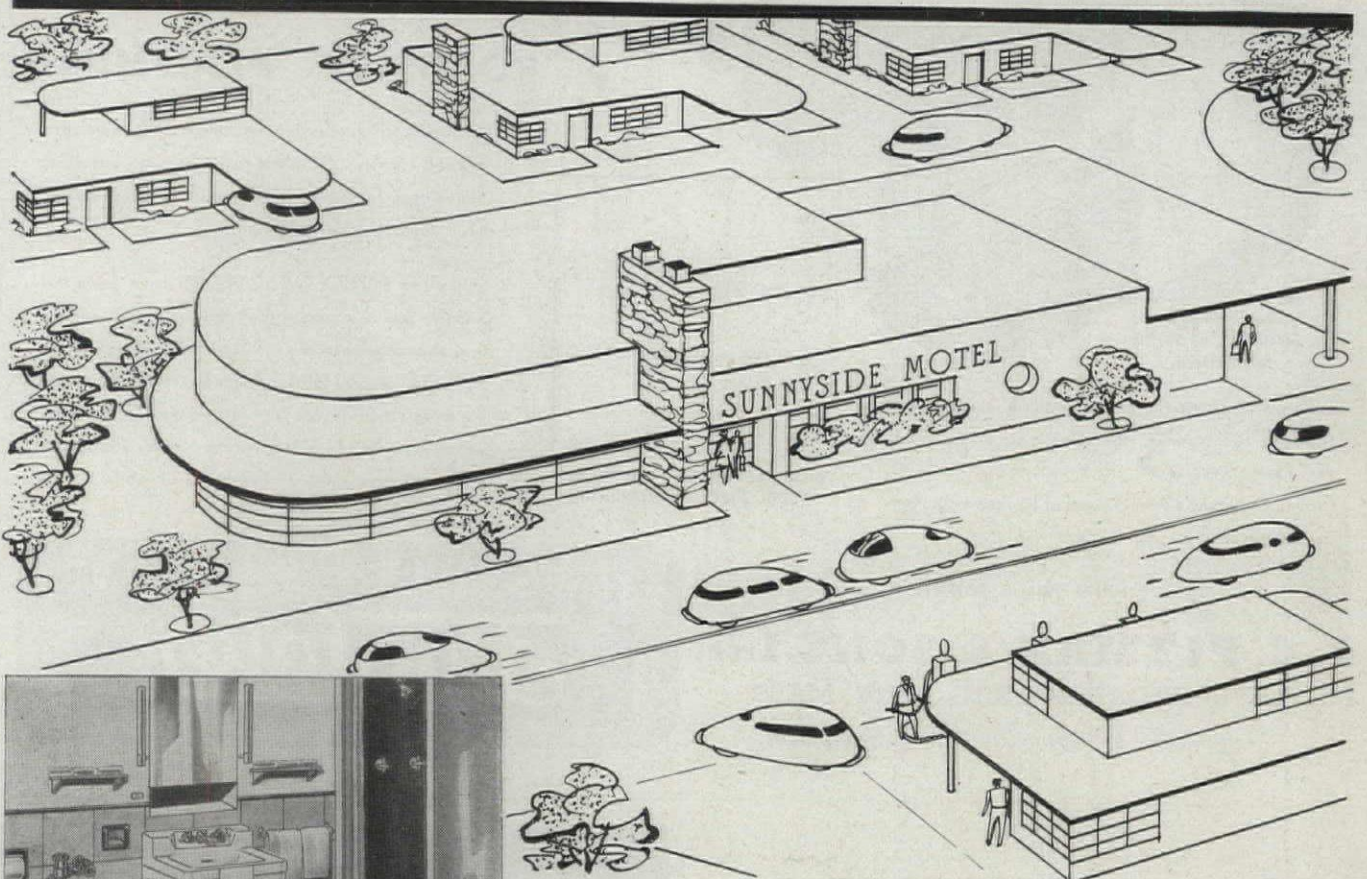
In general, the intensities we try for are as follows: on driveways, 2 to 3 foot-candles; on ramps, 4 fc.; at pump islands, 6 fc.; floodlight on the building, 8 to 10 fc.

Although floodlights near the ground are economical to install, care has to be used in choosing locations where they will not shine into the eyes of passers-by. Chief reliance is on floodlights mounted on the high poles or stanchions previously mentioned, which are manufactured with a hinge for convenient rebulbing on the ground. Subsidiary floodlights mounted above the island lights serve to soften the light by dispelling opaque shadows.

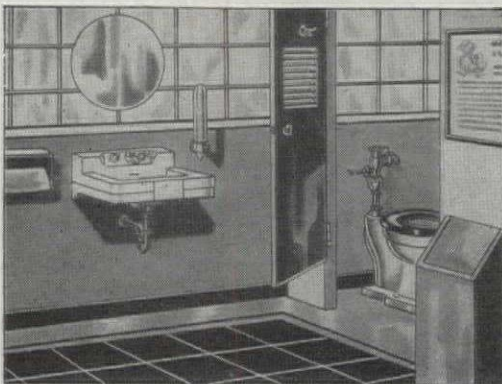
Now that color is becoming easily available in a wide range, the expedients for dramatizing the station are being multiplied.

The lighting of the station interior calls for about 9 to 10 fc. in both the workbays and the office. There is an increasing use of fluorescent lights. In a 2-bay station, three lines of lights with two 40-watt lamps in each (front to rear) or three lines, each with three 30-watt lamps, will usually suffice. In the average office, one 40-watt ceiling lamp, and four or five 20-watt or 30-watt lamps in the transom above show-windows will do the trick. Portable lights are provided in washbays and lubrication bays with lifts; vapor-proof or explosion-proof lights in pits.

COMFORT ON TOMORROW'S HIGHWAYS ★



Tourists will expect maximum convenience and comfort in tomorrow's motels and courts. Modern bathrooms will continue to play an important part in guest satisfaction. Be sure to plan for adequate, high quality bathrooms in the plans on your board.



The great strides in rest room design and equipment made before Pearl Harbor will be reflected in the service stations of tomorrow. Crane quality equipment for these rest rooms assures long service and guest satisfaction.

ALREADY on the drawing boards of architects are exciting new ideas for motels, tourist courts and service stations—ideas that will come to life in post-war America—to serve again a nation on wheels.

And, for tomorrow's motels, Crane will again offer the equipment and experience that have served the traveling public so well in the past. For the Crane line of tomorrow will include plumbing fixtures, piping, valves and heating equipment built to guard the health and care for the comfort of guests—equipment of high quality, sturdily constructed to stand the more than average use that such service demands.

If you are planning motels, tourist courts or service stations, it will pay you to check with Crane. Information on fixtures, dimensions, and piping data are available to aid you.

CRANE

CRANE CO. GENERAL OFFICES: 836 SOUTH MICHIGAN AVENUE, CHICAGO 5, ILLINOIS

PLUMBING • HEATING • PIPE • PUMPS • FITTINGS • VALVES

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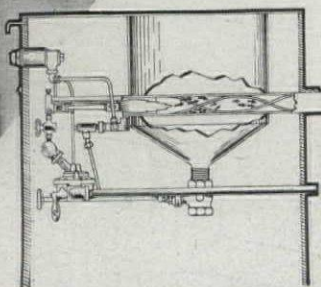
Deep Fat Fryers

IN
"ROADSIDE" PLANNING



Typical roadside stand installation of PITCO FRIALATORS

Efficient mass production of food requires special tools for each specific operation. You as an architect have access to all the knowledge of the J. C. Pitman Company's twenty years of kitchen engineering research.



CROSS SECTION SHOWING MODERN "COOL ZONE" CONSTRUCTION

Practically all successful roadside stands specialize in fried foods . . . it is the pulse of their business. These deep fat frying installations in roadside stands have developed into "big business."

Gas fired PITCO FRIALATORS have been the popular choice among these roadside stands and we feel should be selected by discriminating architects. PITCO FRIALATORS produce healthy and appetizing deep fat fried foods — providing the greatest economy in production — occupy small floor area and require minimum of man hours of labor.

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VERD-A-RAY

THE NEW GLARE-RESISTING INCANDESCENT BULB

Pioneering gives way to acceptance. A list of industrial plants now using this new lamp for reduction of glare - only after testing and proving before buying - would sound like "who's who" in war materiel production. The product is now on sale in nearly all retail stores. If you are not familiar with Verd-A-Ray, why not write for literature and sample - Today.

SAVE ELECTRIC CORP., TOLEDO 5, OHIO

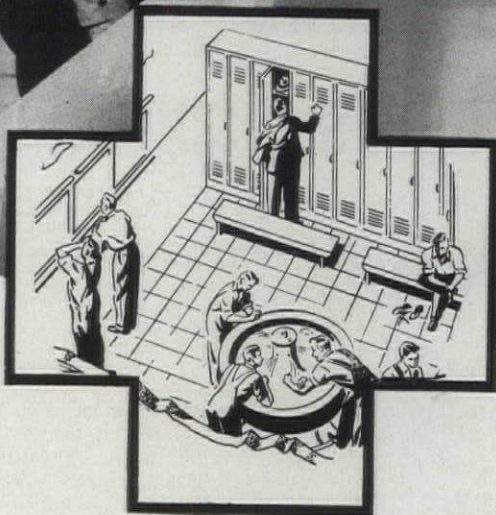
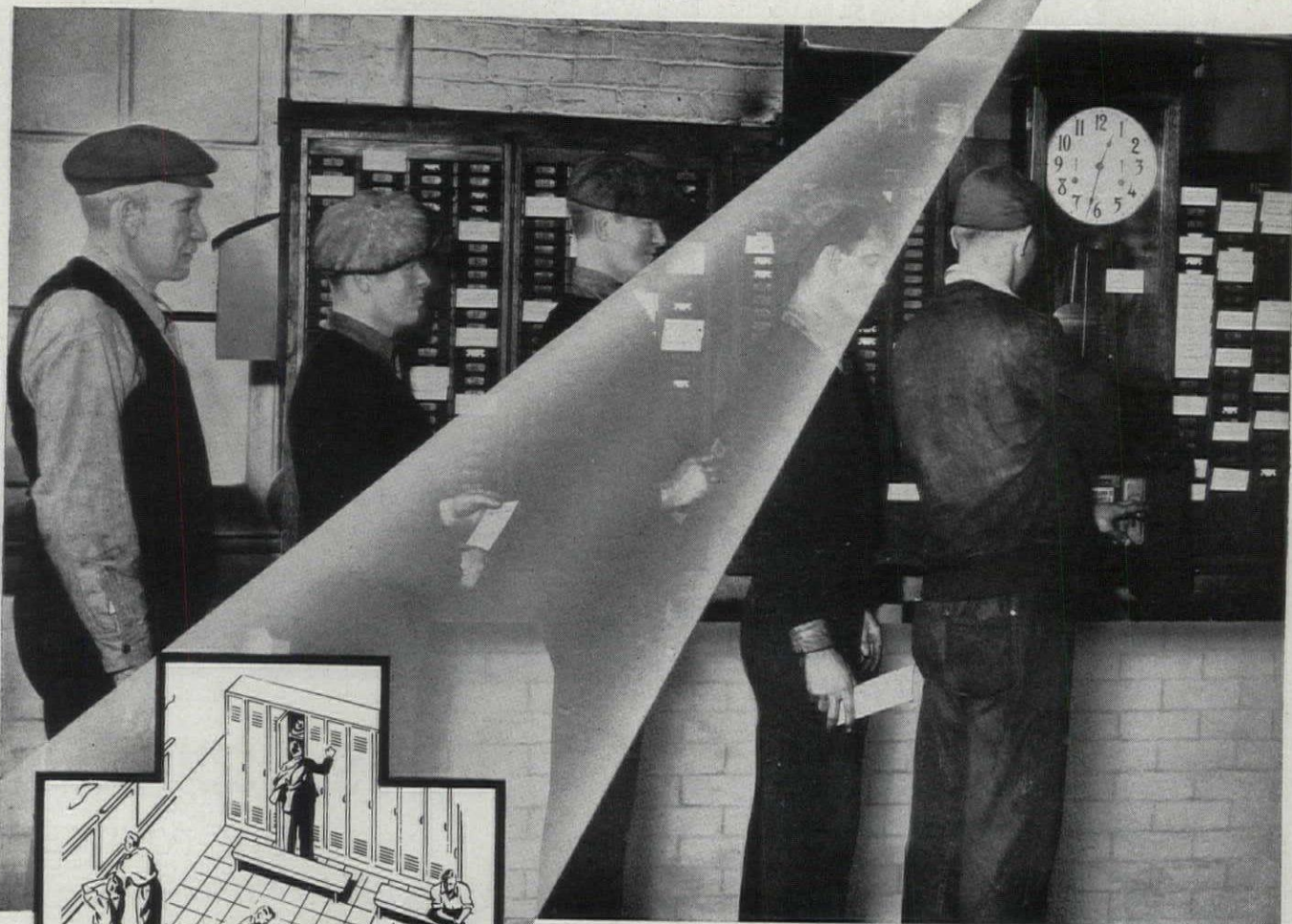
194?

We'll be ready

Out of the experience in providing military needs are coming revolutionary developments in Automatic Control.

**MINNEAPOLIS
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CONTROL *Systems*

Well planned **"HEALTH ZONES"**
keep workers on the job!



TODAY, industry must out-pace military demands. That's why Uncle Sam is repeatedly underscoring his chief home-front order: "Keep workers in there punchin'."

You can assist Uncle Sam—by helping to ease the serious strain illness places on wartime efficiency. Don't underrate the importance of that, either. For illnesses such as common colds and their complications are responsible for at least half the absenteeism in war plants today. A loss now totaling one week's production time a year!

Yet health records definitely prove that properly planned washrooms, providing adequate supplies of soap, hot water, and individual tissue towels, can greatly weaken the striking power of harmful bacteria. Plant health can be vastly improved . . . more workers kept out of sick-beds.

★ ★ ★

Let these well-planned washrooms, literally "health zones," be your extra contribution to America's fight for peak production. Scott can help you. The Scott Washroom Advisory Service Manual, packed with washroom layouts and suggestions, and a set of Don Graf Data Sheets, may be had on request. Address: Scott Paper Company, Chester, Pa.



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VARNISHED CAMBRIC
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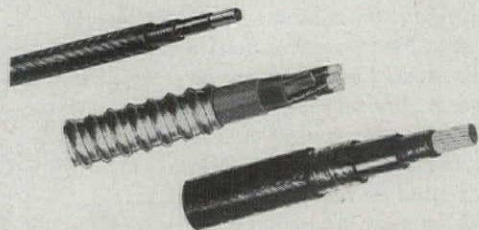
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OIL-RESISTANT • OZONE-RESISTANT
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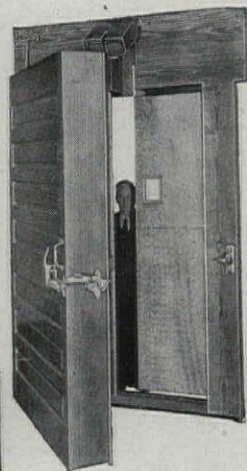
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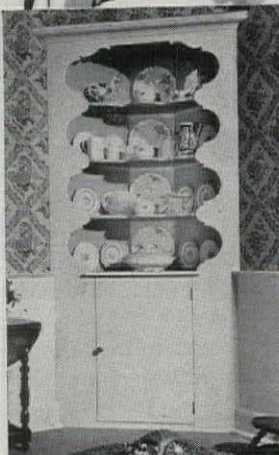
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JAMISON-
BUILT COLD STORAGE DOORS

*** here's inspiration

FOR YOUR POST-WAR
PLANNING



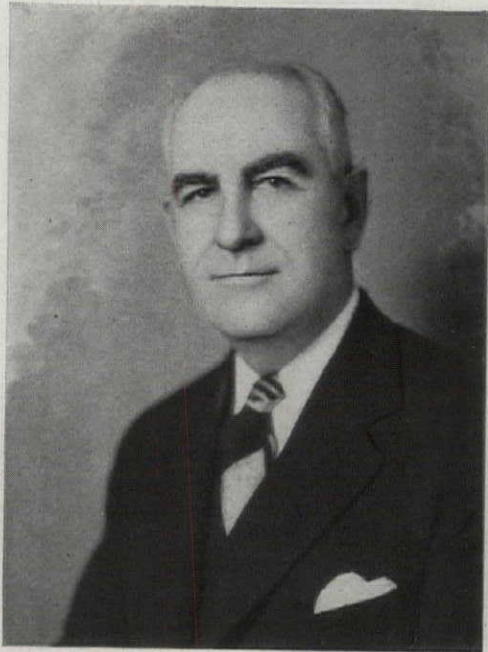
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This charming china closet is typical of Curtis authentic styling in stock architectural woodwork.

1866
CURTIS
WOODWORK

An Ecclesiastical Expert



speaks of

OIL BURNING SYSTEMS

Henry V. Murphy, Brooklyn architect, practices his profession in the Roman Catholic Diocese of Brooklyn, comprising the counties of Kings, Queens, Nassau and Suffolk, the largest single diocese in the world. He is the architect of the handsome Catholic Seamen's Institute, as published in this issue of the Record, in which Petro equipment is used. Mr. Murphy is now planning a number of post-war ecclesiastical projects in which oil burning systems will be used. He expresses these views on oil burners:

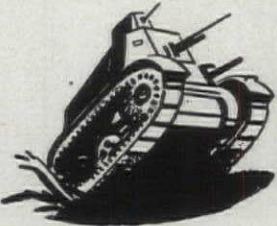
"I have found that the use of oil burners eliminates the dust and noise which accompany the delivery of coal and the removal of ashes, and it has been my experience and that of the engineers of the Diocesan Building Commission, with whom I have been associated, that oil burning systems used in ecclesiastical work have proven dependable, efficient and operate on low costs. In my opinion, the Petro equipment maintains its leadership because of its proven strength, compactness, efficiency and lasting qualities. In most of my work I have used the Petro equipment and found it to be completely practical and efficient both in design and operation."

Mr. Murphy briefly summarizes the chief factors in the operating economy of good oil burning systems. Since our national security compelled reversion to other fuels in hundreds of plants these factors have been brought into extra sharp focus.

Operators of Petro Systems who had to convert to other fuels are eager to resume operation with oil. They now have records of their boilerroom costs "before Petro"; costs of operation with the Petro Systems; and current costs with the fuels and equipment in use since the emergency reversion.

These three way cost comparisons are factual. They eliminate opinions and estimates. The almost unanimous desire of these operators to resume the use of Petro Systems as soon as possible is arresting evidence that the comparisons prove that Petro delivers definite operating economy.

The related factors of equipment strength and long life are emphasized in the many plants which continued to operate their Petro Systems. Two and three shift operation, seven days per week, considerably above rated capacities have imposed a brutal load on the equipment. Petro Systems have consistently carried these loads without noticeable increase in "service" or repair costs.



OIL IS AMMUNITION USE IT WISELY

Full data on Petro Industrial Burners are in Sweet's—or Domestic Engineering—catalog files, or we will gladly send copies on request.



PETRO

Cuts Steam Costs



PETROLEUM HEAT AND POWER COMPANY

STAMFORD

Makers of good Oil Burning Equipment since 1903

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Jeepers, —

**THEY'RE EITHER TOO HOT
OR TOO COLD!**



A PROBLEM familiar to every architect and builder. But...
Cheer up, Junior! After the war, your family
can enjoy **PAYNE ZONE-CONDITIONING**
... successor to the old-fashioned central furnace. Dependable, economical gas heating and fresh air circulation, controllable by zones or individual rooms. ★ Not available now; we're producing for war. But before writing any post-war specifications, consult your PAYNE Dealer. ★ Meanwhile, let's all back the boys with Bonds.

PAYNEHEAT

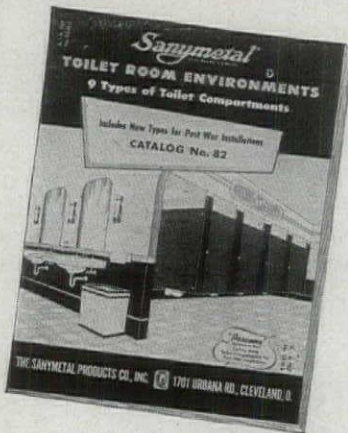
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6

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Next to the entrance lobby, the greatest impression creators in most buildings are the most used rooms—the Toilet Rooms. Toilet Room Environment impresses more persons, either favorably or adversely, than any other one feature of a building. When planning postwar buildings, be sure to have this, the most complete catalog of Toilet Room Compartments ever issued, including the superb Sanymetal Hung-from-the-Ceiling "Porcena" (Porcelain on Steel) Toilet Compartments and many others—with complete formal specifications. Get your copy today. Ask for Catalog No. 82.

THE *Sanymetal PRODUCTS CO., INC.**

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WHEREVER you go in America today, you'll find busy war industries in which CAREY Products make a notable contribution to high production efficiency.

In aviation gasoline refineries . . . synthetic rubber units . . . power, food processing, textile, aluminum, steel, airplane motor, machine tool, and munitions plants . . . in Government buildings and on Victory ships—in every type of war activity — CAREY products are helping to conserve fuel, step up kilowatt output, save labor and materials, speed production . . . and win the war!

CAREY HEAT INSULATIONS are making possible maximum power production on minimum fuel. CAREY BUILT-UP ROOFS and fireproof CAREYSTONE SIDING are protecting valuable plants and equipment against fire and fumes. CAREYDUCT is maintaining high efficiency in air-conditioning systems. CAREY ASBESTOS PIPELINE FELT is protecting emergency pipeline against corrosion. CAREY ELASTITE FLOORING is speeding

plant traffic, saving time, money, manpower. CAREY ELASTITE EXPANSION JOINT is assuring maintenance of concrete floors and runways with minimum labor and expense.

If it's "top" wartime plant efficiency and economy you're after — specify CAREY Products. Write Dept. 21 for details.

- ★ ★ **Industrial Products** ★ ★
- ★ of ASPHALT — ASBESTOS — MAGNESIA ★
- ★ Roofing . . . Siding . . . Flooring . . . Insulations . . .
- ★ Waterproofing Materials . . . Expansion Joint . . .
- ★ Asbestos Paper and Millboard . . . Air Conveying
- ★ Systems . . . Asbestos Oil & Grease Absorbent . . .
- ★ Asbestos Pipeline Felt . . . Insulated Sheathing . . .
- ★ Rock Wool Insulation. ★
- ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

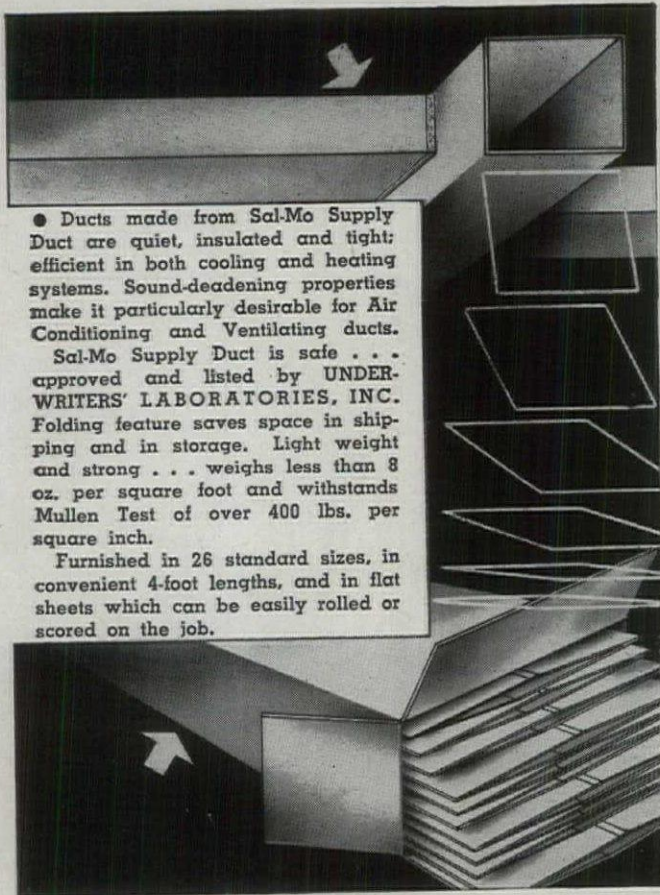
THE PHILIP CAREY MFG. COMPANY • Lockland, Cincinnati, Ohio

Dependable Products Since 1873

IN CANADA: THE PHILIP CAREY COMPANY, LTD. Office and Factory: LENNOXVILLE, P. Q.

For Air Conditioning - Ventilating
Warm Air Heating . . .

SALMO Supply Duct



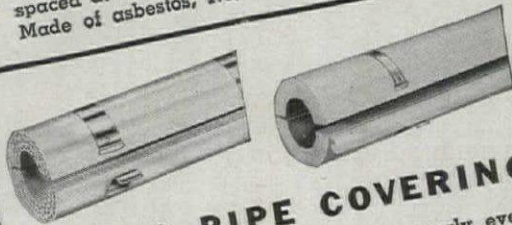
● Ducts made from Sal-Mo Supply Duct are quiet, insulated and tight; efficient in both cooling and heating systems. Sound-deadening properties make it particularly desirable for Air Conditioning and Ventilating ducts.

Sal-Mo Supply Duct is safe . . . approved and listed by UNDERWRITERS' LABORATORIES, INC. Folding feature saves space in shipping and in storage. Light weight and strong . . . weighs less than 8 oz. per square foot and withstands Mullen Test of over 400 lbs. per square inch.

Furnished in 26 standard sizes, in convenient 4-foot lengths, and in flat sheets which can be easily rolled or scored on the job.

SAL-MO NO. 77 ASBESTOS DUCT BOARD

An asbestos product developed for constructing ducts in air conditioning, ventilating and warm air heating systems. Sal-Mo Ductboard is light in weight, easily and quickly applied, moisture-resistant. Available in sheets 33" x 48", just the right size to cover two joist openings spaced at 16" centers, making two cold air return ducts. Made of asbestos, No. 77 Ductboard is fireproof.



SAL-MO PIPE COVERING

There is a Sal-Mo Pipe Covering for nearly every known purpose. Aircell, Multicell and Sixcell for steam and hot water lines; Wool Felt Covering lined for cold water pipes. Sal-Mo Alaska Frost-Proof for protecting water and gas pipes exposed to low temperatures and Sal-Mo Anti-Sweat for preventing damage from sweating, dripping pipes.



SALL MOUNTAIN COMPANY
176 WEST ADAMS STREET • CHICAGO 3 ILLINOIS

ARE YOU in a RUT?

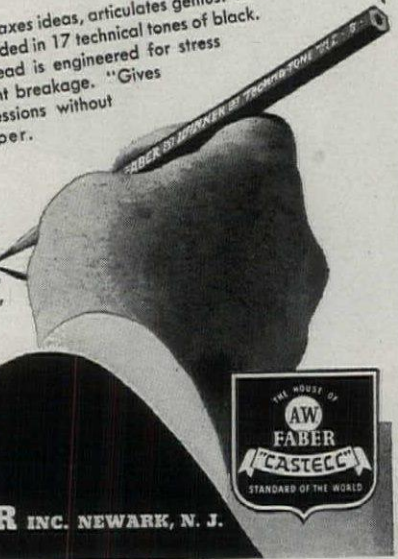
Mr. Pencil Technician, if your creative talents are not hitting on all cylinders, try changing to

WINNER

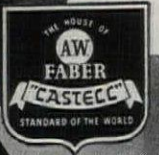
Techno-TONE

the drawing pencil that coaxes ideas, articulates genius. Because it is smooth, uniformly graded in 17 technical tones of black. Because Techno-TONE lead is engineered for stress and strain, it resists point breakage. "Gives off" rich, intense impressions without digging into the paper.

★
BLUEPRINTS beautifully—saves inking-in. Write for free sample of your favorite degree. Dept. 1, A. W. Faber, Inc., Newark, N. J.



FABER INC. NEWARK, N. J.



NEW FINDINGS ON

Insulation



Taking temperature readings at 43 thermocouples with potentiometer.

New facts about insulation efficiencies—room temperatures—are disclosed by an authentic, unbiased heat loss experiment, conducted in four identical test houses by the Wood Conversion Company. These data show an important difference between "calculated" and actual insulation results. A copy of the complete report is available to architects without cost or obligation. Keep up to date on insulation with these new findings—

Write

WOOD CONVERSION COMPANY

Dept. 115-2, First National Bank Building

St. Paul, Minnesota

MIRACLE ADHESIVES

Adhesives of a thousand uses

For BONDING, JOINING, FASTENING GLASS · WOOD · METALS · CORK · FIBRE · CONCRETE · CERAMICS · RIGID PLASTICS, ETC.

without nails, screws, bolts, shields or clips.

SUCCESSOR TO WET MORTAR FOR TILE SETTING

R-MIR-DEK

The NON-SLIP, HARD-WEARING, FIRE-RETARDENT FLOOR AND DECK COATINGS, AND PAINTS

... adaptable to stairs, ramps, floors, decks and areas around machinery, etc.

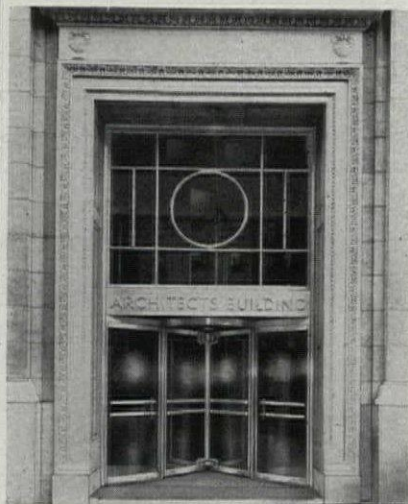
NOW AT WORK FOR U.S. • LATER AT WORK FOR YOU

MIRACLE ADHESIVES CORP.

261 Fabyan Place, Newark, N. J.

MEMO

Don't overlook revolving doors in your post-war plans!



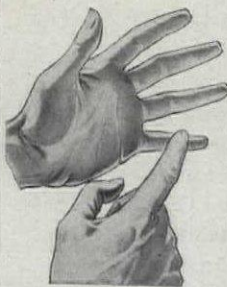
Architects' Building (101 Park Avenue, New York) shuts out winter's icy blasts with this draft-proof Revolving Door. Built of Herculite Glass and stainless steel, its "all-glass" construction permits maximum visibility.

Architects:
Morris and O'Connor

You Can Cut Your Heating Costs Up To 25 Per Cent.

EVERY TIME swing doors open, wintry winds rush in—warm air escapes—and up go your clients' heating costs.

Chilly drafts reduce the comfort of your clients' customers and personnel, and reduce efficiency. Show your clients how to stop "open door" losses by including Revolving Doors in their postwar plans. They'll eliminate "stack-draft" wind pressure—shut out dirt, dust, and street noises—and save up to 25% of fuel costs. See our 24-pages of data in your Sweet's Catalog.



5 Ways a Revolving Door Pays for Itself—

1. Cuts heating and cooling costs.
2. Increases usable lobby space.
3. Reduces damage from dust.
4. Assures customers' comfort.
5. Safeguards employees' health.

Revolving Door

DIVISION of

★ INTERNATIONAL
★ VAN KANNEL
★ ATCHISON

INTERNATIONAL
STEEL COMPANY
Evansville 7, Indiana

When you're
in Pittsburgh

STOP AT

the

HOTEL

PITTSBURGHER



Hub of Pittsburgh war activity—headquarters for the Nation's "Busy People", the big, new PITTSBURGHER is more than ever 1st choice of men and women who want to get things done!

400 OUTSIDE ROOMS
ALL WITH BATH & RADIO

Singles \$3.30 to \$4.40

Doubles \$5 to \$6.50

A KNOTT HOTEL

Jos. F. Duddy, Mgr.

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

“Boys, let’s put our heads together and see how much paper and paper board we can save!”

★ THAT’S the spirit. That’s what we’ve all got to do to lick this problem of getting enough paper and paper board for Army and war-production use.

★ Every company has got to organize a Paper Conservation Committee and tackle the problem with all the gumption and the brain power at their command.

★ Paper inventories must be checked with the idea of eliminating peace-time extras. From stationery to board containers, every paper item must be examined to see in what way each company can use less paper.

★ Functional packaging must be the order of the day.

★ Sure, you have followed all the government directives on the subject. Even made cuts of your own. But, frankly, that isn’t enough. Every time another ship leaves an American port loaded with paper-wrapped war supplies, the problem becomes tougher.

★ And it’s up to you to join with the rest of industry to lick it. The War Advertising Council and the War Production Board have prepared a brief list of suggestions to help you. But you know your own business. You know how you can use less paper.

★ ***It’s up to YOU!***

★ **TO GET MORE PAPER FOR . . .**

★ Blueprints for battleships
★ “K” ration containers
★ Signal Corps radio sets
★ Containers for shells
★ Gas mask canisters
★ Disposable gun covers
★ V-mail envelopes
★ Blood plasma boxes

★

★ **USE LESS PAPER THESE WAYS**

★ Eliminate slack fills.
★ Increase units per case to the maximum practical.
★ Reduce separators to shoulder height.
★ Eliminate carton liners if possible.
★ Eliminate individual cartons wherever possible.
★ Reduce weight of containers whenever compatible with safety.
★ Do away with all unnecessary overlapping.
★ Set up a Paper Conservation Board in your plant.

★ *This advertisement prepared under the auspices of the War Advertising Council in co-operation with the Office of War Information and the War Production Board.*

Let’s All Use Less Paper

Those SERVICE STATIONS of Yesterday WHICH WERE SHEATHED IN **SUPORCEL**

(registered)

Superior Porcelain Enamel
ARCHITECTURAL PARTS

require but a washing down with soap and water to make them look as good today as when first erected. Used by Gulf, Sun Oil, American, Atlantic Gulf Refining, Richfield, Standard of N. Y. and Standard of N. J. The experience gained with SUPORCEL will lead the way to

The SERVICE STATIONS
of TOMORROW

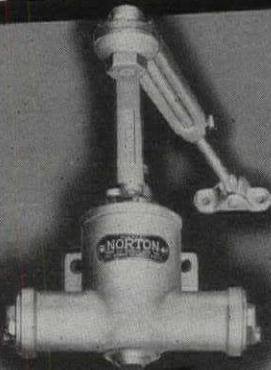
Please Write to

**PORCELAIN METALS
INC.** 28-20 Borden Avenue
Long Island City 1, N. Y.

Manufacturers of the new "SEAPORCEL" Ceramic coating used by the Army, Navy, Maritime Commission and Coast Guard aboard ships.

See Sweet's File 1943 Section $\frac{13}{9}$ See Sweet's File 1944 Section $\frac{6}{11}$

NORTON DOOR CLOSERS



First Choice
IN PEACE OR WAR

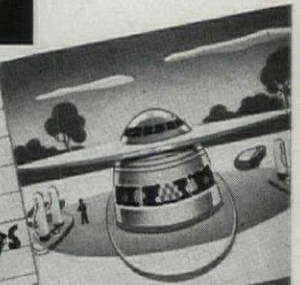
For essential maintenance information including repair parts listings, write for new Wartime Catalog No. 22 W. Norton Door Closer Company, 2910 North Western Ave., Chicago 18, Illinois.

NORTON DOOR CLOSER COMPANY

Division of The Yale & Towne Mfg. Company

the problem

*Better Wiring
for Highway
Service Buildings*



the answer

WIREMOLD

FUNCTIONAL

WIRING SYSTEMS

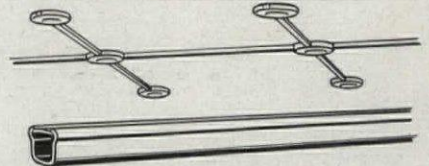
For LIGHT

For POWER

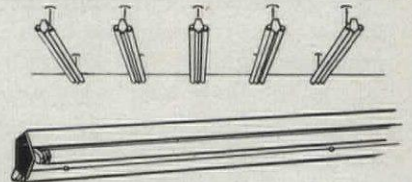
For COMMUNICATIONS

Meeting the specialized wiring needs of service building construction, including fluorescent, display and general lighting. Architects are invited to consult our Engineering Department and to send for latest bulletins and engineering data sheets.

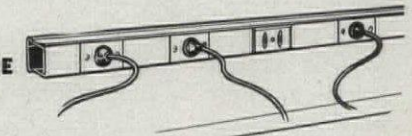
**SURFACE
METAL
RACEWAYS**



**"3000" SYSTEM
WIRING FOR
FLUORESCENT**



**PLUGMOLD
PLUG-IN-ANYWHERE
WIRING SYSTEMS**



**PANCAKE
OVERFLOOR
WIRING SYSTEMS**



KNOW YOUR

WIREMOLD

AND YOU KNOW THE ANSWERS

THE WIREMOLD COMPANY, HARTFORD, 10, CONN.



how's YOUR quota?



...YOUR 4TH WAR LOAN QUOTA

WHETHER your plant meets its quota, or fails, lies largely in *your* hands. Your leadership can put it over—but if you haven't already got a smooth running, hard hitting War Loan Organization at work in your plant, there's not a minute to lose.

Take over the active direction of this drive to meet—and break—your plant's quota. And see to it that every one of your associates, from plant superintendent to foreman, goes all-out for Victory!

To meet your plant's quota means that you'll have to hold your present Pay-Roll Deduction Plan payments at their all-time high—plus such additional amounts as your local War Finance Committee has assigned to you. In most cases this will mean the sale of *at least* one \$100 bond per worker. It means having a fast-cracking sales organization, geared to reach personally and effectively every individual in your plant. And it means hammering right along until you've reached a 100% record in those extra \$100—or better—bonds!

And while you're at it, now's a good time to check those special cases—*growing more numerous every day*—where increased family incomes make possible, and imperative, far greater than usual investment through your plant's Pay-Roll Deduction Plan. Indeed, so common are the cases of two, three, or even more, wage-earners in a single family, that you'll do well to forget having ever heard of '10%' as a reasonable investment. Why, for thousands of these 'multiple-income' families 10% or 15% represents but a paltry fraction of an investment which should be running at 25%, 50%, or more!

After the way you've gone at your wartime production quotas—and topped them every time—you're certainly not going to let anything stand in the way of your plant's breaking its quota for the 4th War Loan! Particularly since all you are being asked to do is to sell your own people the finest investment in the world—their own share in Victory!

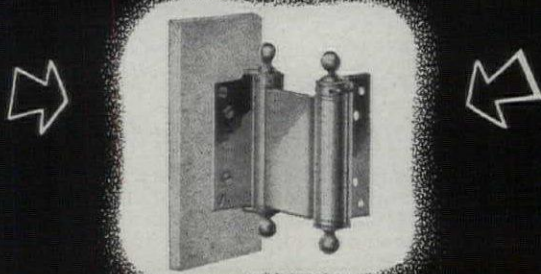
**LET'S ALL
BACK THE ATTACK!**

This space contributed to Victory by

ARCHITECTURAL RECORD

This is an official U. S. Treasury advertisement—prepared under auspices of Treasury Department and War Advertising Council.

Why Builders *Prefer*
 ★ Milwaukee "NU JAMB" ★
 SPRING HINGES



• Builders and architects, too, like the "NO HANGING STRIP REQUIRED" feature of the NU JAMB. More easily and quickly applied—offers more solid support—avoids the "give" of the old hanging strip (which often tore loose). Makes a more modern, attractive, longer-lasting installation that satisfies the builder, architect and owner.

• The NU JAMB is typical of the quality features in the COMPLETE MILWAUKEE BUILDERS HARDWARE LINE. Recommend MILWAUKEE for all building needs today!

MILWAUKEE STAMPING COMPANY

814-B South 72nd Street
 MILWAUKEE 14, WISCONSIN



*The Modern
 Electric Door*

EXCLUSIVELY HORN

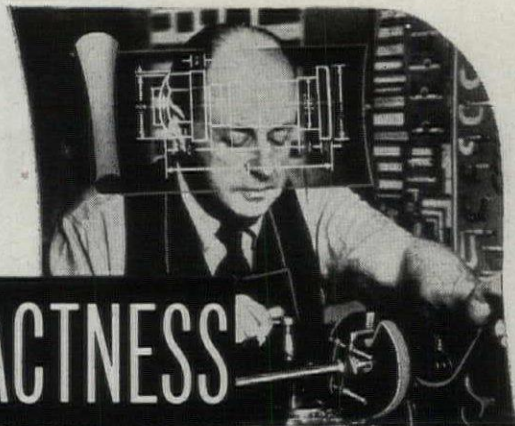
Tomorrow's design . . . available
 now for lasting service



HORN MANUFACTURING COMPANY

FORT DODGE, IOWA

World's Largest Manufacturer of Automatic Folding Doors



**EXACTNESS
 RULES HIS WORK**

How exacting he must be is dictated to him by a sheet of blue paper—a blueprint. There can't be any guess work here. Every detail—every dimension—every view must be shown in complete clarity. For on his ability to interpret the blueprint rests victory or defeat.

To take the "guesswork" out of blueprints, draftsmen . . . engineers . . . technicians . . . insist on working with



because KOH-I-NOOR Drawing PENCILS can be depended on for sharp . . . crisp lines which produce sharp, clean prints...

because KOH-I-NOOR Drawing PENCILS can be depended on for the same fine quality that has made them standard for more than 50 years.

Available in 17 uniform degrees of hardness and softness.
ECONOMICAL IN THE LONG RUN!

NO. 1700 - TECHNICRAYON PENCILS
 Made in 40 brilliant colors. Each pencil is polished in the color of the lead . . . for easy identity. Available in sets only of 12 or 24.

Send for leaflet No. 3.



The **RIGHT** pencil for the **RIGHT** job

KOH-I-NOOR PENCIL COMPANY, INC.
 BLOOMSBURY, NEW JERSEY



Sand-blasted BLACK SERPENTINE Spandrels

DESIGNED BY
**HENRY V. MURPHY, ARCHITECT, FOR
CATHOLIC
SEAMEN'S INSTITUTE**

indicate the new vistas of decorative utility that this treatment opens for current and postwar building.

A request on your business letterhead will bring samples of the various stones from our Virginia quarries.

Alberene **STONE CORPORATION
OF VIRGINIA**
419 FOURTH AVE., NEW YORK 16, N. Y.
SALES OFFICES IN PRINCIPAL CITIES



More than a quarter million dollars plowed back to American industry

by One Allen Ventilating Unit . . .

Ventilation that does the job comes first with Allen. Close on the heels of that consideration comes lowered cost to the buyer. Only when we click on both are we satisfied, because only then do we know we've done a job.

Basically better ventilation engineering has enabled Allen to furnish industry with more than four thousand Allen Type "H" Roof Fans at an average saving of \$62.50 per unit over the nearest comparable equipment—more than a quarter million dollars.

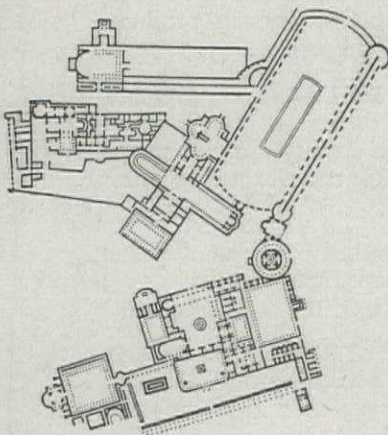
The explanation is simple. Allen patents cover the use of dampers balanced in the effluent air stream—open when the fan is running, closed automatically when power is off. This is in contrast to construction used by several other manufacturers wherein mechanical, motor-operated dampers are mandatory and up the cost.

Approximately 400 of these Allen units top the huge Willow Run Bomber Plant alone. Allen has an answer for your ventilation problem, too, whether it's ordinary or extraordinary. Let's talk it over. *The Allen Corporation, 9751 Erwin Avenue, Detroit 13, Michigan.*

THE *Allen* CORPORATION 
ENGINEERED VENTILATION FOR INDUSTRY

BOOKS ON: FUTURE PLANS

CITY PLANNING



THE CITY Its growth
Its decay
Its future
by Elliel Saarinen

A study of the organic growth of the medieval town—small—compact—walled—free of traffic—and depending for its "style" and layout on strategic location . . . in anticipation of an age of speedy communication by car, plane and radio. A book for student and layman alike. 380 pp. 6 x 9 1/4—illustrated. Price \$3.50.

Emperor Hadrian's villa. From "The City"

PAST PROJECTS

"A dozen books in one"

CITY PLANNING: HOUSING

by Dr. Werner Hegemann

Edited by Wm. W. Forster & Robert C. Weinberg

A book of ACTUALLY executed projects—a worldwide survey in atlas form—photographs—airviews—maps—diagrams and tabulated data. 1200 illustrations—168 pages 12 by 16, handsomely bound.

EVERY Governmental Agency concerned
with Civic Improvement
City Planning Commission and
Municipal Official
Housing Authority
Reference and Public Library
Student in City Planning
Architect, Traffic Engineer, Land-
scape Designer
Private Builder and Developer

should take advantage of this timely material at the new reduced price of \$10.00 (formerly \$13.75).

ARCHITECTURAL RECORD Book Dept. 119 West 40th, New York 18, N. Y.

Enclosed is money order or check for which please send me the following:

CITY PLANNING: HOUSING \$10.00
THE CITY \$ 3.50

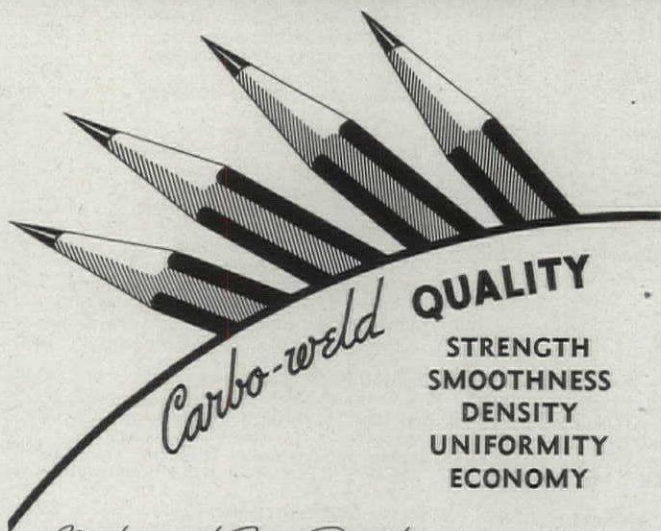
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ADDRESS

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KIMBERLY

DRAWING PENCILS



**STRENGTH
SMOOTHNESS
DENSITY
UNIFORMITY
ECONOMY**

Makers of Fine Pencils since 1889

General Pencil Company

67 FLEET STREET  JERSEY CITY 6, N. J.



SWIMMING POOL CHLORINATION and WATER TREATMENT

"BLUEPRINT NOW!"



W & T Chlorinators, Ammoniators, Dry Chemical Feeders, Chemical Reagent Feeders, Chlorine Residual and pH Testers, essential for purification and treatment of swimming pool water, are available for projects carrying priority ratings.

Our **SERVICE ORGANIZATION** is always willing to cooperate with architects and engineers to keep present installations in operation.

Why not "Blueprint Now" for post war work? **W&T** Swimming Pool Technical Publications are available. We invite your inquiry.

WALLACE & TIERNAN

COMPANY, INC.

Manufacturers of Chlorine and Ammonia Control Apparatus
NEWARK 1, NEW JERSEY
Represented in Principal Cities



SAMSON SPOT SASH CORD

*the most durable
material for hanging
windows*

★

WHERE THE NEED IS GREATEST
Samson Braided Cords Serve Best
Now and Always

SAMSON CORDAGE WORKS
BOSTON 10, MASS.

SAMSON SPOT SASH CORD



Reg. U.S. Pat. Off.



INVEST IN THE BEST PAINT

Cabot's Cellopakes get their long life from an unique patented process known as "Collo-paking." This exclusive process breaks down paint pigments to a submicroscopic fineness and unites them inseparably with the oil. That's why Cabot's Cellopakes form a tough uniform paint film that's longer lasting, has greater hiding power, shows no brush marks. And because Cabot Cellopakes are made from pure pigments only, their colors are fresher, brighter, guaranteed not to fade.



FREE White Book contains complete information on Cellopakes (Colloidal paints). Write for your copy and color cards today. Samuel Cabot, Inc., 1278 Oliver Bldg., Boston, 9, Mass.

CABOT'S DOUBLE-WHITE and Gloss Cellopakes

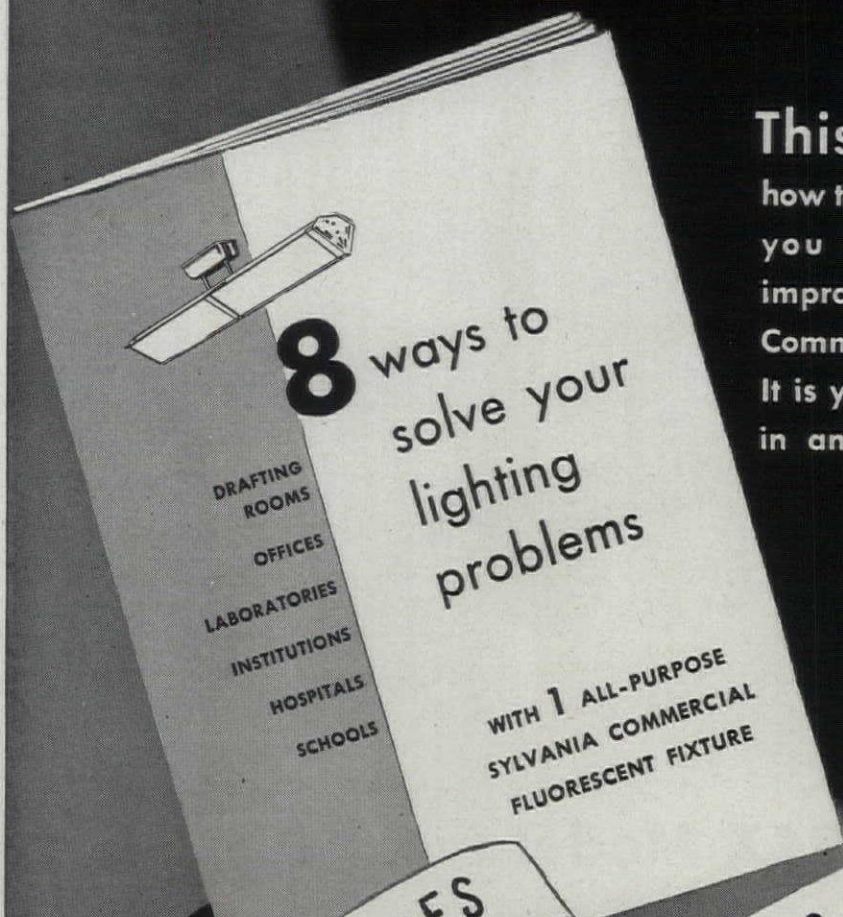
Beautifying American homes for over fifty years

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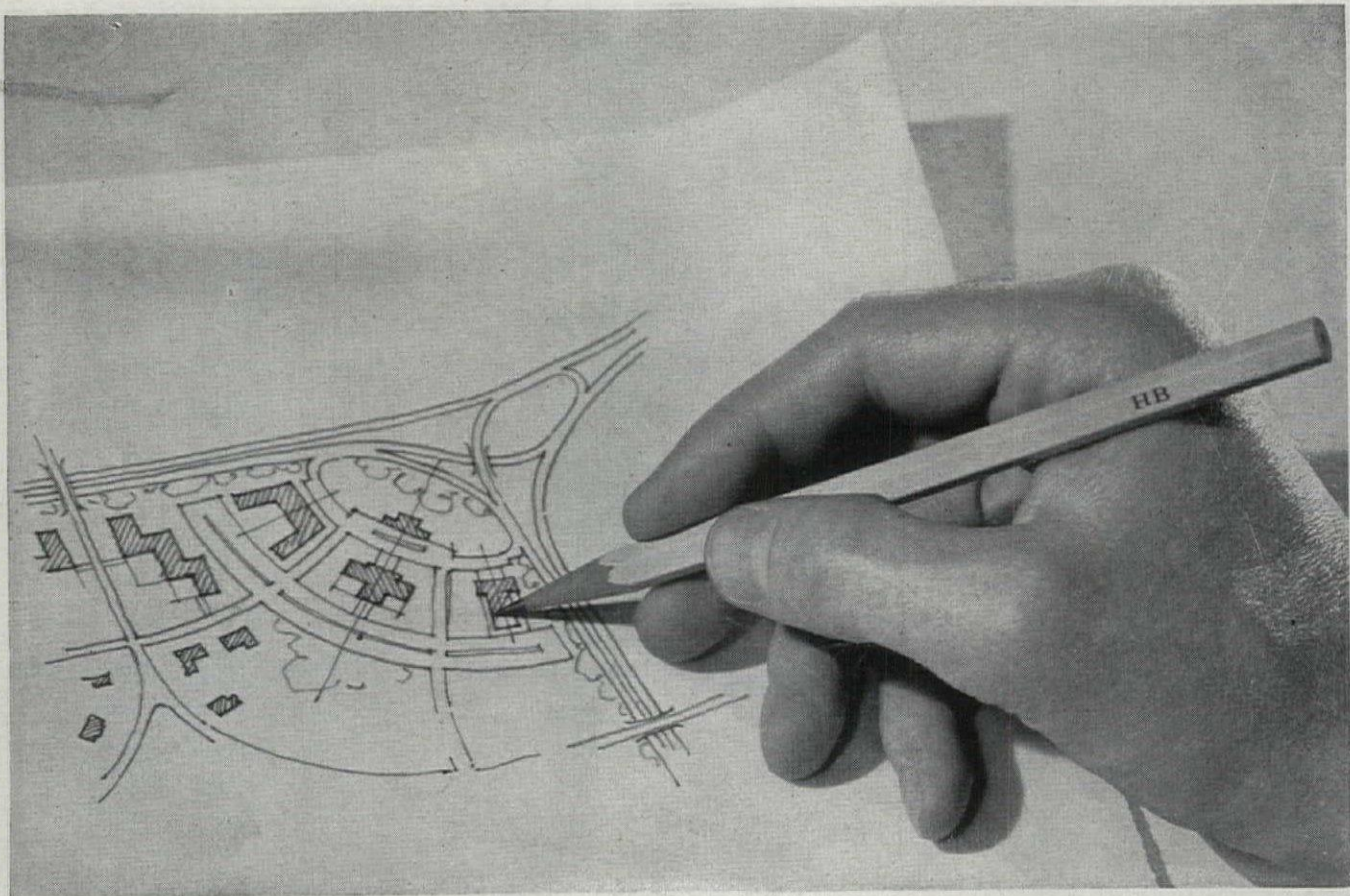
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