

More than . . . a printmaking process

WITH an Ozalid machine you make whiteprints direct from your engineering drawings in two fast steps—Exposure and Dry Development . . . the most simple method on record.

The Model B illustrated here is designed for large-scale production; turns out prints at speeds up to twenty feet per minute.

OZALID CUTS DRAFTING TIME

You can make design changes quicker with Ozalid.

Using an Ozalid transparent print of the original—it's never necessary for the draftsman to redraw any line which remains the same in the new design . . . it's never necessary to employ photographic equipment . . . or to otherwise throttle production.

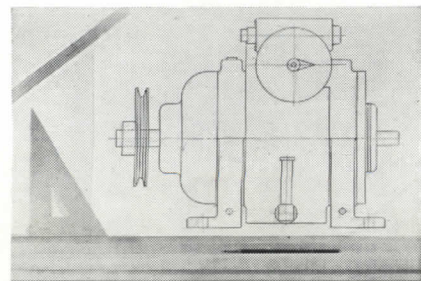
Ozalid transparent prints are made in the same manner as standard prints—without Van Dyke tieups. Think what this means considering the number of design changes you're making today—the number you'll be making in the postwar period.

Be sure of a "head start" with Ozalid!

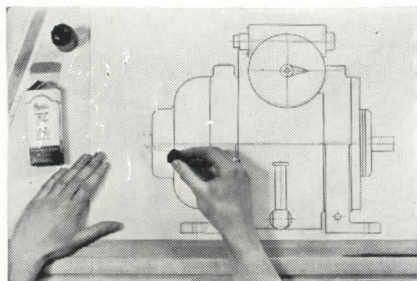
OZALID GIVES THESE EXTRA VALUES

Most Versatility

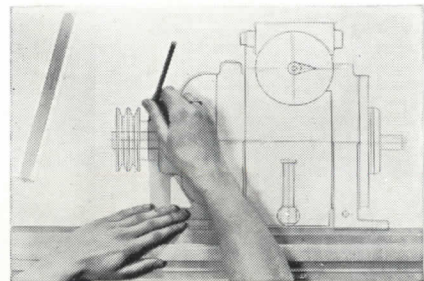
You can do much more with Ozalid. You



1. This is an Ozalid transparent print of an engineering drawing—part of which has to be changed.



2. The draftsman quickly eradicates the obsolete lines with a quick-drying corrector fluid.



3. The new design is drawn in . . . the desired number of prints can be made from this transparent copy.



can make prints of your engineering drawings, charts, and letters which will have blue, black, or maroon lines on a white background. You can make prints on standard, transparent, and foil materials.

What's more—all Ozalid materials are available in cut sheets, as well as roll stock; thus, by using sheets the size of your originals you can completely eliminate trimming waste.

Low Maintenance Costs

Any inexperienced person can operate an Ozalid Whiteprint Machine. There's

never a labor problem, because Ozalid's Dry Development has simplified printmaking—eliminating the liquid baths, the driers, the plumbing connections which demand skilled supervision.

Another result of Ozalid's Simplified Printmaking is low electrical consumption. The Model B, operating at maximum speed, consumes only 4.4 kilowatts.

Ozalid Whiteprint Machines are designed for large-scale, medium, and occasional print production . . . and there are dry developing units for those having a suitable printer.

OZALID PRODUCTS DIVISION

GENERAL ANILINE AND FILM CORPORATION

Johnson City, N. Y.

OZALID IN CANADA—HUGHES OWENS CO., LTD., MONTREAL

WRITE FOR CATALOG . . . and sample booklet of Ozalid Whiteprints. See how leading manufacturers save time, labor, and materials with Ozalid.

AIRMEN HAVE THEIR

Gremlins

... but so do

AIRPORT BUILDERS

Yes, the men who build and will build many a far-flung airport have gremlin troubles, too. Their gremlins are different from those that badger airmen, but they are equally evil and destructive. Yet, being more tangible and longer recognized, they are easier to thwart—if proper measures of prevention are taken. The old adage, "an ounce of prevention is worth a pound of cure," is never truer than in this instance. But first, let's call the



roll of a few of the gremlins that builders must exorcise:

Wind: snow, ice and rain: cold and heat: corroding waters: dust and grit: animals that gnaw and destroy: devouring termites—a relentless, never-at-rest, destructive army . . . working unseen, with their damage often unsuspected until irreparable harm is done, they labor hand-in-glove to hex any building—airport or otherwise—and to shorten its life and usefulness.



Copper gives Vital Protection

Of course, architects and builders have long recognized the effectiveness of copper and its alloys in providing protection for any building against weather, time and other destroyers.

In fact, competent authorities agree that there is no substitute for the all-round protective service that copper and its alloys afford against the various "gremlins" of building deterioration. That's why Revere copper and copper-base alloys are so frequently specified for roofing, flashing and other sheet metal work, hot and cold water lines, heating and air conditioning lines, storage tanks, and other uses. Revere Architectural Shapes and Sheets are used for the construction of doors, windows, grilles, store fronts and the like. Their fabricating qualities lend themselves to a wide variety of design applications.

With an Eye to the Future

Today Revere is 100% committed to war production;

no metal is otherwise available.

But post-war days may well demand building programs projected on a new and larger scale than ever before. The impact of the 4,000 new airport terminals included in the Civilian Aeronautical Authority plans is an exact case in point. Vast housing and public building projects, on the boards already, are other examples.

When again we can build, Revere will be ready—as before the war—to meet every demand of the building industry. Ready to supply improved products including copper and brass pipe and tube, roofing and flashing materials and many other products and materials to protect, service and beautify any building that's being built or remodeled.

Can We Help You?

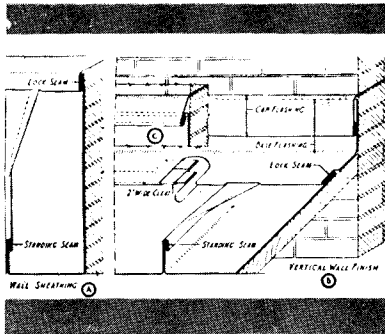
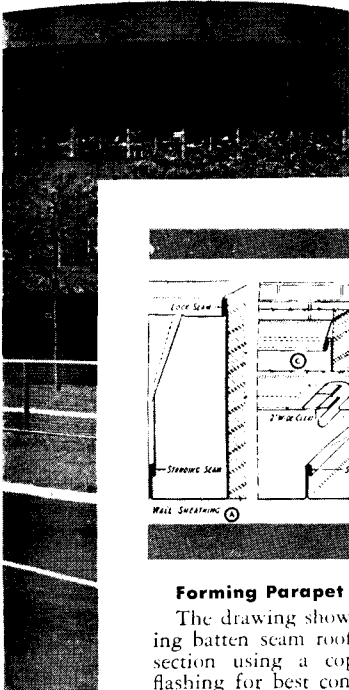
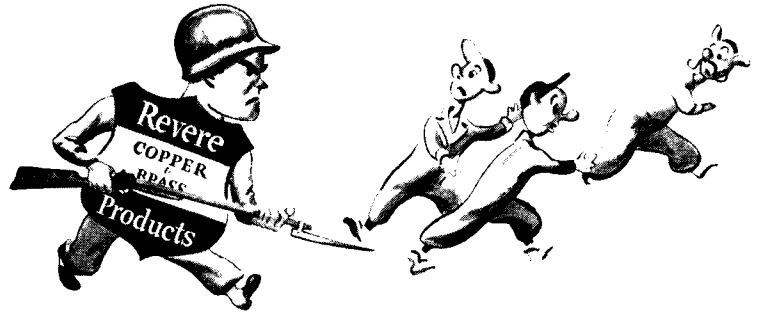
In the meantime, for more complete information, we refer you to our current Catalogues in Sweet's Architectural Files. Reprints of this data sent free on request to our Executive Offices. In addition, we'll be glad to offer technical advice on problems concerning the use of our products. No obligation, of course.

REVERE

COPPER AND BRASS INCORPORATED

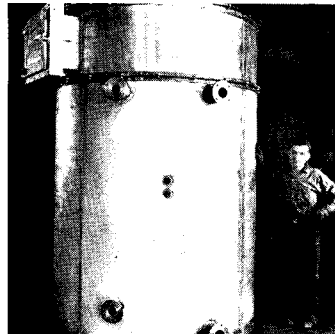
Founded by Paul Revere in 1801

Executive Offices: 230 Park Avenue, New York



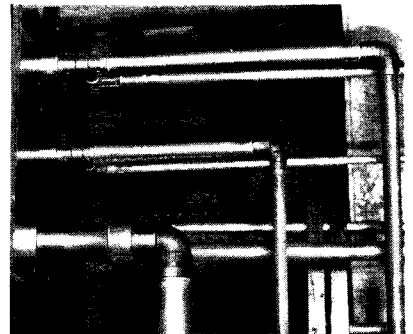
Forming Parapet or Wall Finishes

The drawing shows methods of finishing batten seam roofing at a wall intersection using a copper cap and base flashing for best construction.



A 1400 gal. Herculoy Tank

Herculoy—copper-silicon alloy with strength of steel and corrosion resistance of copper—is ideal for welded tanks and pressure vessels.



Copper Water Tube Installation

Showing complicated piping in restricted 18" space. Fittings are soldered type. Revere also produces Red-Brass pipe and Copper in S.P.S. sizes.

Even this "Less than \$3000" home can afford **RADIANT HEATING**

For the benefit of those who thought that Radiant Heating was a luxury limited to high-priced housing, we present this New Jersey home . . . built for less than \$3000.

While this is admittedly an extreme case, it does demonstrate a very important fact: from a price angle, Radiant Heating is completely practical for the most modest residential construction you might be concerned with in post-war days.

The heating coils are Byers Wrought Iron, laid on gravel and covered with concrete. Heating medium is hot water, from an oil-fired boiler. One view above shows the compactness of the installation.

The boiler, a water heater, and a washer fit into a small area beside the sink, saving space, steps, and dollars.

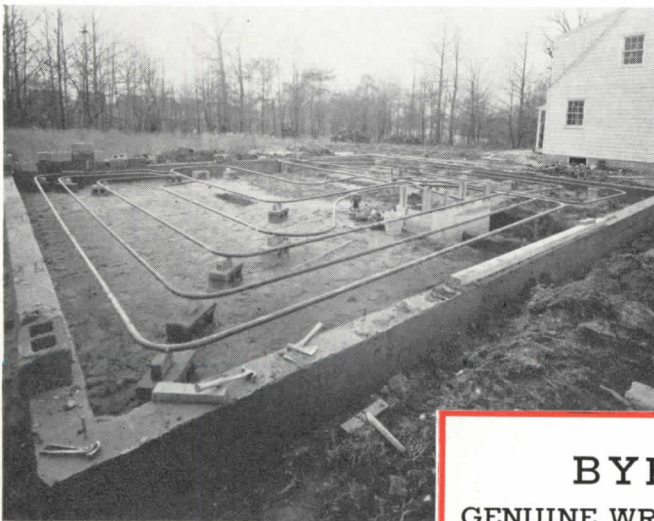
Whether you are planning a war plant for today, or some structure for tomorrow, you'll find it profitable to check the proven advantages of Radiant Heating against the heating needs. It is economical to install and operate. It helps overcome the radiation losses of large glass areas. It eliminates the cold floor bugaboo that in the past handicapped no-basement construction. It permits changing of partitions in functional homes without affecting the heating. And it demands no excessive investment

to obtain assured dependability and highest quality. Byers Wrought Iron combines high heat transmission, an expansion coefficient almost identical with concrete and plaster, excellent forming and welding qualities, and *proven* resistance to corrosion — all at a cost so reasonable any ordinary home can afford it.

If you do not have our technical bulletin, "Byers Wrought Iron for Radiant Heating Installations," please send for a copy. And remember that our Engineering Service Department will be glad to consult with you on any specific problem.

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

and **BYERS WROUGHT IRON** for the coils



*Corrosion costs you more
than Wrought Iron*

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GENUINE WROUGHT IRON
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CARBON STEEL TUBULAR PRODUCTS



ARCHITECTURAL RECORD

COMBINED WITH AMERICAN ARCHITECT AND ARCHITECTURE

VOL. 94

NO. 2

AUGUST • 1943

CONTENTS

DESIGN FOR SALE! . . . An Editorial . . . by Kenneth K. Stowell	41
PUBLIC BUILDINGS	42
1. Dreaming Isn't Planning. By Major General Philip B. Fleming, Administrator, Federal Works Agency.	
2. Borough Hall that Beat the Budget. Borough Hall, Borough of Queens, City of New York. William Gehron, Architect; Andrew J. Thomas, Associate.	
3. Poured Around Its Predecessor. Monterey County Courthouse, Salinas, California. Robert Stanton & Thomas B. Mulvin, Architects.	
4. Multi-Use Municipal Building. Municipal Auditorium and City Hall, Topeka, Kansas. Griest and Coolidge, Architects.	
5. Economical County Courthouse. Lenoir County Courthouse, Kinston, North Carolina. A. Mitchell Wooten, Architect; John J. Rowland, Associate.	
6. A Pattern for Postwar Pools. Scope Park Swimming Pools, Kansas City, Missouri. Marshall & Brown, Architects & Engineers.	
A CONNECTICUT FARMHOUSE: Modern Version	58
Residence for Mr. & Mrs. Eric Hodgins, New Milford, Connecticut. Allan McDowell, Designer; George H. Van Anda, Associate.	
PRACTICAL RADIANT HEATING . . . By Raymond Viner Hall	52
RESTAURANTS . . . BUILDING TYPES STUDY NO. 80	67
1. Restaurants of the Future. By Francis Keally, A.I.A. Illustrated with plans and sketches by the author.	
2. The Pump Room, Hotel Ambassador, Chicago. Samuel A. Marx, Architect; Noel L. Flint & C. W. Schonne, Associates.	
3. Planning the Restaurant Kitchen. By Harry Blumberg.	
TIME-SAVER STANDARDS . . . Restaurant Seating	83
THE RECORD REPORTS . . . News from the field	7
LETTERS FROM RECORD READERS	14
REQUIRED READING . . . Reviewed by Elisabeth Coit, A.I.A.	26
QUESTIONS FOR PLANNERS . . . By Charles W. Killam, F.A.I.A.	30
FOR BETTER BUILDING . . . News of materials, equipment and methods	86
INDEX TO ADVERTISEMENTS	124

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



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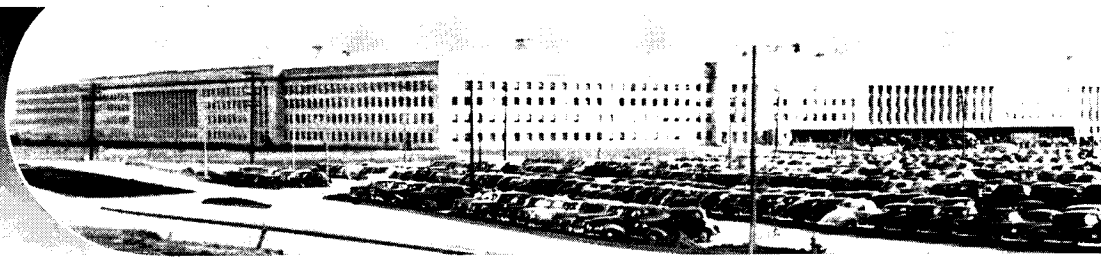
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The magnitude of the War Department Pentagon Project at Arlington, Va., is best visualized by such facts as: provides working quarters for 40,000 employees; has nearly nine miles of corridors; has six large cafeterias.

Chief Architects: George E. Bergstrom and David J. Witmer.
Consulting Engineer: Charles S. Leopold.
Plumbing Contractor: Fred Brutschy Co., Inc.



WATROUS FLUSH VALVE installed in the new War Department Pentagon Building—WORLD' LARGEST OFFICE BUILDING

3,004 Watrous Flush Valves will bring to the new War Department Pentagon Building the "all-out" water and maintenance saving performance for which Watrous Valves are famous. Here in the world's largest office building these valves will demonstrate the tremendous extra savings that are possible when each valve can be *adjusted* to the

actual water requirements of the fixture on which it is installed.

For detailed information on Watrous Flush Valves, including the new "V" model which is now available for essential applications, write for Bulletin No. 858-W or see the new 1943 Sweet's Catalog File, Catalog No. 39, Section 27.

THE IMPERIAL BRASS MFG. CO., 1240 W. Harrison St., Chicago, Ill.



● 3,004 Watrous Majestic Flush Valves are installed in the Pentagon Building as shown in these two views.

Watrous Flush Valves

WASHINGTON NEWS

**Airline executives meet in Washington, CMP Regulation 6
—Construction. Construction price control. War housing.**

Washington has just played host to a relatively small but far-sighted group representing the leading commercial airlines in this country. A five-day conference of this group, composed chiefly of airline presidents, resulted in the drafting of a world-wide air transportation system.

The airline executives proposed a network of air transportation routes covering the entire world. One of the more important problems discussed in connection with the plan was the establishment of necessary airport and air navigational facilities throughout the world. It is admitted that adequate landing facilities, as a result of war operations, are available to a limited degree at this time. One of the conference members, the president of one of our larger domestic airlines, was quite frank in stating that millions of dollars would have to be expended in the construction of terminal facilities. He added that with "the mushroom growth of air cargo transport used by the armed forces" it will be necessary to construct permanent hangars, warehouses and, in some cases, housing accommodations for commercial peacetime air terminals.

CMP Regulation 6—Construction

After many false starts, the long awaited CMP Regulation governing construction finally has been issued by WPB. As was forecast in the May RECORD, there is very little difference between the provisions of the new regulation and those of former CMP orders. The regulation is to be used only for securing materials for construction, and does not apply to the procurement of materials for other facilities. L-41 remains the construction industry's "green or red signal." Authorization to begin construction still must be obtained under the old Limitation Order.

For maintenance and repair construction work or for minor capital addi-

tions which do not come within the purview of L-41, necessary materials may be secured under CMP Regulation 5 and 5-A. The construction regulation lists various forms which must be used to apply for allotments plus the authority to construct facilities. This list names 12 different types of construction, ranging from multiple residential war housing to command construction for Army and Navy projects. The list, known as Exhibit A to CMP Regulation 6, explains what application forms are required for the various types of construction and to whom these forms must be submitted. Further, it outlines the requisite authorization and allotment forms for all types of construction.

Construction price control

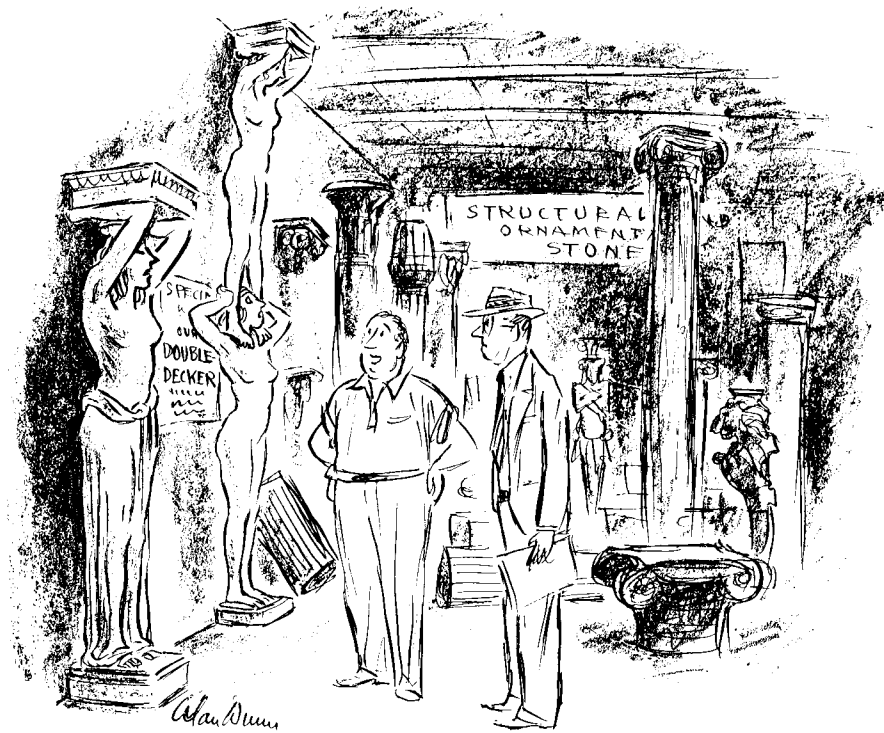
The long-proposed OPA action pertaining to construction and building

materials will not be made public for another month, it was strongly hinted in Washington. A new price policy, in line with available supplies, has been crystallized which will exempt some materials from price control, but the new regulations are now only in the draft stage. These drafts are being presented to various industry advisory conferences for suggestions and changes from the specifically interested groups. There are about 15 of these conferences yet to be held.

There have been countless jurisdictional problems within OPA, as well as varying opinions in the allied construction and building materials industry. OPA blames industry for the long delay and industry points its finger at OPA as the procrastinating "culprit."

While officials in OPA have been somewhat hesitant about discussing the coming regulations, it has been learned that residential and farm housing as well as apartment and hotel construction will remain under Maximum Price Regulation No. 251. Various construc-

(Continued on page 10)



"It's the only thing that isn't on the critical list."

— Drawn for the RECORD by Alan Dunn

"And here's the foundation of



In the restaurant of "tomorrow" as in the restaurant of today, good food, smoothly and efficiently served will attract customers and keep them coming back. So the foundation of the restaurant business will continue to be the kitchen and its equipment.

How well Vulcan equipment supplies this foundation is indicated on the opposite page, where you will see how Vulcan cooking units can be used to solve almost any cooking and kitchen planning problem.

And, while primarily engaged in war

work, we are still further developing and perfecting this equipment for the restaurant of "tomorrow." Therefore, you can be sure that when peace comes Vulcan equipment will continue to supply the extra margins of speed, flexibility and economy as it has done for more than fifty years.

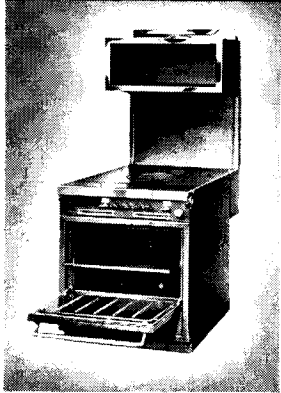
Let us work with you in your planning both for today and "tomorrow." We can still supply equipment which is allowable under W.P.B. regulations and will gladly send you catalog and prices on request.

STANDARD GAS EQUIPMENT CORP.
BAYARD & HAMBURG STS. BALTIMORE 30, MD.

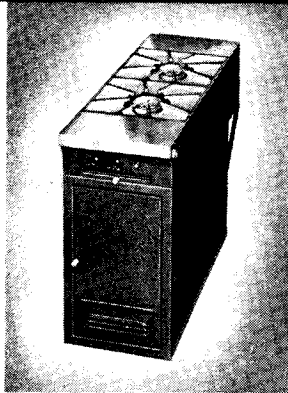
Branch Offices: NEW YORK • BOSTON • AURORA, ILL. • CHICAGO • NEW ORLEANS • LOS ANGELES

Leaders **VULCAN** *today*

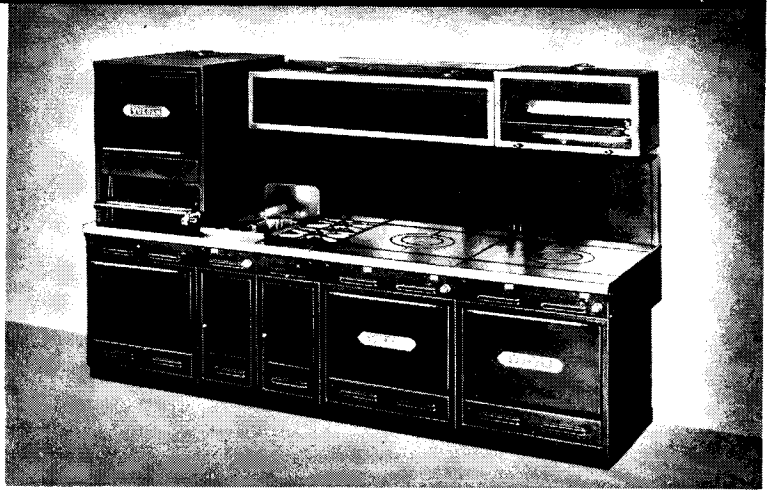
tomorrow's restaurant business"



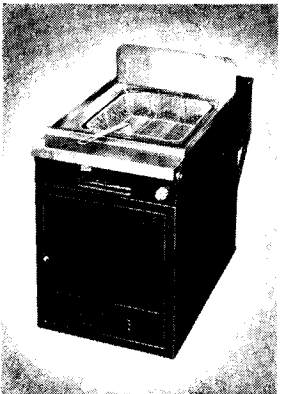
VULCAN RANGES in standardized models serve every cooking need. Extra top capacity at low cost provided by...



... **VULCAN EXPANDO UNITS** which can be connected to the right or left with top matching range unit.



COMPLETE VULCAN BATTERY showing a typical hook-up for a medium-size restaurant. Note broiler, fryer and 2-burner open top at left for cooked-to-order work. Two ranges with large insulated ovens give ample cooking capacity for top and oven work. Elevated broiler provides extra capacity and permits large broiler to be turned off during stand-by periods, saving fuel. Post-war designing may change Vulcan's outward appearance, but the fundamental soundness of its engineering will be unchanged.



VULCAN DEEP FAT FRYERS, single or double, can be connected in the spot best suited for broiling and fry cook next to...



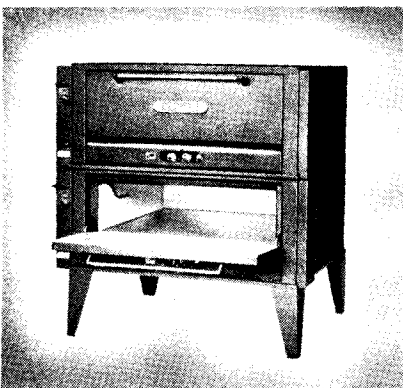
... **VULCAN CERAMIC BROILERS**, which have extra speed, large capacity and elevated oven for finishing or warming.



SPECIAL SERVICE REQUIREMENTS are handled by this arrangement of Vulcan units. Ranges are grouped to give cooks unobstructed facilities. Note alternating open and closed top ranges at right of battery—bank of fryers connected to left of ranges with broiler following.



VULCAN ROASTING OVENS can be connected in battery as an integral or separate unit, easing roast cook's work and preventing overlapping.



VULCAN SECTIONAL OVENS have separate burners and automatic heat controls for each deck so that roasting and baking can be done simultaneously on different decks at different temperatures.

Leaders **VULCAN** tomorrow

(Continued from page 7)

tion materials such as iron and steel, machinery, etc., will be transferred to specific price regulations.

Many types of construction services will be placed under a "Service Regulation." Price control exemptions will be granted to work done by other than a manufacturer on industrial projects. This will include installation construction, road building, and certain public works. Manufacturers who perform their own installations services will not be exempted under the new policy.

War housing

The National Housing Agency has liberalized its regulations controlling the sale of privately financed war housing. The new policy will permit a builder to sell up to one-third of the total dwelling units in all projects which he has built in any one war housing area. This permission applies only where priorities were sought on and after February 10, 1943. The remaining units must be held for rental, but may be sold to war workers who are eligible occupants after two months' rental occupancy at the option of such tenant.

Modification of the regulations also have been made for the reconsideration of established rental schedules if unforeseen additional costs are incurred during construction. A reasonable charge may be made for garage space as well as the addition of actual costs on a pro-rata basis for the tenant's use of gas and electricity.

—*J. Maxwell Dickey*

Washington Correspondent

* * *

WPB NOTES

Industrial Facilities Report

The value of war industrial facilities financed with public and private funds reached \$19,339,000,000 by the end of March, WPB reports. This includes all projects for which contracts have been let since June 1940.

Of this total, \$15,140,000,000 worth was financed by government funds, while the balance of \$4,199,000,000 was privately financed. These facilities include those with an estimated cost of more than \$25,000 and were the direct

obligations of the War and Navy Departments, Maritime Commission, Defense Plant Corporation, United Kingdom and loans of the Reconstruction Finance Corporation, or were privately financed as reflected by the issuance of necessity certificates. These figures indicate that to the end of March, 78 per cent of the new industrial facilities financed since June 1940 were financed from government funds, while 22 per cent were privately financed.

Unused Priorities

Long pending and unused priorities for war housing projects, which have tied up critical material available for this purpose, will be recovered and re-allocated to builders who are prepared to go ahead with construction, it has been announced by WPB and NHA.

To this end, WPB has issued an order revoking all outstanding P-55 preference rating orders except those which qualify under the Controlled Materials Plan.

The revocation order applies to war housing preference rating orders issued under earlier priorities procedures, where the builder has not taken steps to qualify his project under CMP procedures. Issuance of P-55 orders was discontinued April 1, 1943.

The new order does not affect outstanding P-55 preference rating orders, the authorization issued under current war housing procedures. It also does not affect builders whose structures are authorized on CMP-4-C or CMP-H-1 forms.

BROOKLYN HOUSING

PROJECT

The New York City Housing Authority has filed its petition with the Board of Estimate to have the city condemn the entire site of Brownsville Houses, a large-scale project intended for postwar erection, it has been announced. The 18 acres bounded by Stone, Sutter, Dumont and Rockaway Avenues in the Brownsville section of Brooklyn will be taken. The Authority already has obtained title to more than 60 per cent of the site by private purchase.

Brownsville Houses will cost approximately \$8,260,000, and will accommodate 1,338 families in its 27 residential buildings. A nursery and a clinic will be provided. The project is being developed with the aid of state loan funds and state and city subsidies. Frederick G. Frost and John Ambrose Thompson are the architects.

POSTWAR HOUSING

BOOM FORECAST

While privately financed war housing construction is continuing in considerable volume, the necessary wartime elimination of all home building not required for the housing of war workers is resulting in a tremendous deferred demand for new homes, Earle S. Draper, Deputy Commissioner of the Federal Housing Authority, said recently.

This demand is particularly apparent in many communities which have not needed additional housing for war workers and also is developing on a broad scale among all groups which normally would be buying new homes, Mr. Draper said. As a result, wide interest is being shown in the possibilities for prompt resumption of home construction when the war is over and materials are again available for normal building.

Predicting that the larger part of the postwar demand will be in the small home field for individual ownership, Mr. Draper pointed out that machinery for stimulating quick revival in that field will be immediately available under the FHA mortgage insurance provisions of Title 11 of the National Housing Act.

DEMOLITION LAW

In the form in which it was signed by President Roosevelt, the new Latham Act embodies the suggestions submitted by the National Association of Home Builders (ARCHITECTURAL RECORD, July, 1943, p. 94) requiring the removal of all temporary publicly financed housing within a specified period of time after the emergency is terminated.

The law now provides for the re-
(Continued on page 12)



A Glimpse of Tomorrow's Restaurant Air Conditioning

Parting the curtain on Worthington's progressive Air Conditioning developments, in anticipation of the eventual removal of material restrictions, will find Worthington engineering fully ready to partner with architectural planning of post-war structures.

Prominent on today's drawing board are plans in the making for tomorrow's food service — already approaching the amazing total of a *half-billion dollars* in post-war commitments for new building construction and remodeling.

For this great mass market restaurant construction program, Worthington will have special designs

of Air Conditioning equipment available in new, compact, flexible units for immediate application. The complete line will serve every purpose.

Incorporating design features of far-sighted vision as to future trends in Air Conditioning — architects, builders and engineers may confidently rely upon Worthington's broad experience supplemented by war work and research in specialized fields.

Worthington will be prepared to help with timely counsel in the preparation of designs, drawings and specifications — authenticating and simplifying the planning, and coordinating it with the most advanced engineering.

WORTHINGTON PUMP AND MACHINERY CORPORATION, HARRISON, N. J.
District Offices and Representatives in Principal Cities

CA3-95

WORTHINGTON AIR CONDITIONING AND REFRIGERATION

(Continued from page 10)

removal of such structures "not later than two years after the President declares that the emergency . . . has ceased to exist, with the exception only of such housing as the Administrator, after consultation with the local communities, finds is still needed in the interest of the orderly demobilization of the war effort." A further provision in the amendment states "That all such exceptions shall be reaffirmed annually by the Administrator, and that all such exceptions and reexaminations shall be reported to the Congress."

CONSTRUCTION TREND

Construction awards in the 37 eastern states aggregated \$1,851,272,000 during the first six months of 1943 as compared with \$3,723,725,000 in the corresponding period last year, according to F. W. Dodge Corporation. The decline in the three major categories were: non-residential building down 54 per cent; residential building down 50 per cent; and heavy engineering work down 44 per cent. The greatest dollar declines were in manufacturing buildings, miscellaneous non-residential buildings, public works, utilities and one-family houses all of which are types of construction which were pushed in 1942 so as to expand the nation's war production capacity and to provide military and naval training facilities.

The month of June showed only a minor decline of 2 per cent from the preceding month, due primarily to a drop off of \$22,577,000 in heavy engineering work. Manufacturing building with a valuation of \$53,717,000 was more than double the May total of \$24,206,000 but fell far below the June, 1942 figure of \$271,801,000.

June residential building, amounting to \$61,508,000, was \$1,783,000 below May, but ran just about a third of the June, 1942 total of \$185,471,000.

POSTWAR PLANNING ACT

A Municipal Postwar Project Act introduced in the House by Representative Melvin J. Maas of Minnesota would remain in force until six months after the termination of the war. It authorizes an appropriation of \$25,000,000 to be available to municipalities on an allotment basis for planning and

(Continued on page 94)

#4 Notes on design, use, and installation of thin, precast Architectural Concrete Slabs... prefabricated concrete building units.

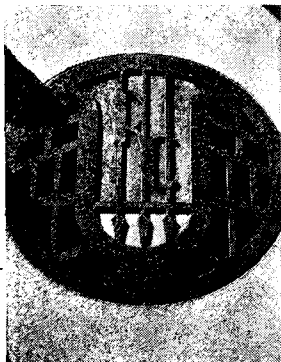
CONCRETE SLABS ARCHITECTURAL

You have Freedom of Design with

ARCHITECTURAL

CONCRETE SLABS

Your choice in color, texture, shape, and size in thin prefabricated units



Perforated grille for a radio store with blue, buff, and red aggregates combined in single thin, precast slab.

PRACTICALLY unlimited latitude in design is combined with the permanence of concrete in thin, precast Architectural Concrete Slabs made with Atlas White portland cement.

Color and Texture are obtained by exposing the aggregates — granite, quartz, ceramics, vitreous enamels, to name a few.

Shape presents practically no limitations. These thin, precast units can be made to any desired profile, so that they can be "wrapped around" corners, reveals, sills, heads, parapets, and columns. This not only enhances the appearance, but, by reducing the

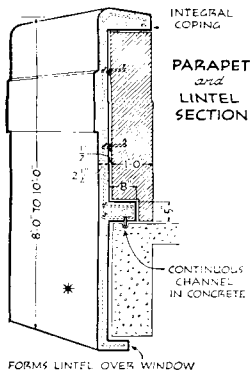
number of joints, minimizes danger of leakage and lowers the cost of erection.

Size can vary from small units up to slabs of 100 square feet and more.

Ask for the new 28-page book, "Architectural Concrete Slabs." Write to Atlas White Bureau, Universal Atlas Cement Company (United States Steel Corporation Subsidiary), Chrysler Building, New York 17, New York.

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

AR-ACS-40



Parapet and lintel section in one thin, precast unit. Note lug for anchoring.

Prefabricated
**ARCHITECTURAL
CONCRETE
SLABS**



made with
ATLAS WHITE CEMENT

FROM THE ARMY'S NEW RAINCOAT . . . A HIGH SPEED RESTING MACHINE!



Harris Armstrong, A.I.A., has studied at Washington University and Ohio State, worked under the late Raymond Hood. From his St. Louis office during the past ten years have come many notable residences and doctors' buildings. For many of these he has also designed furniture.

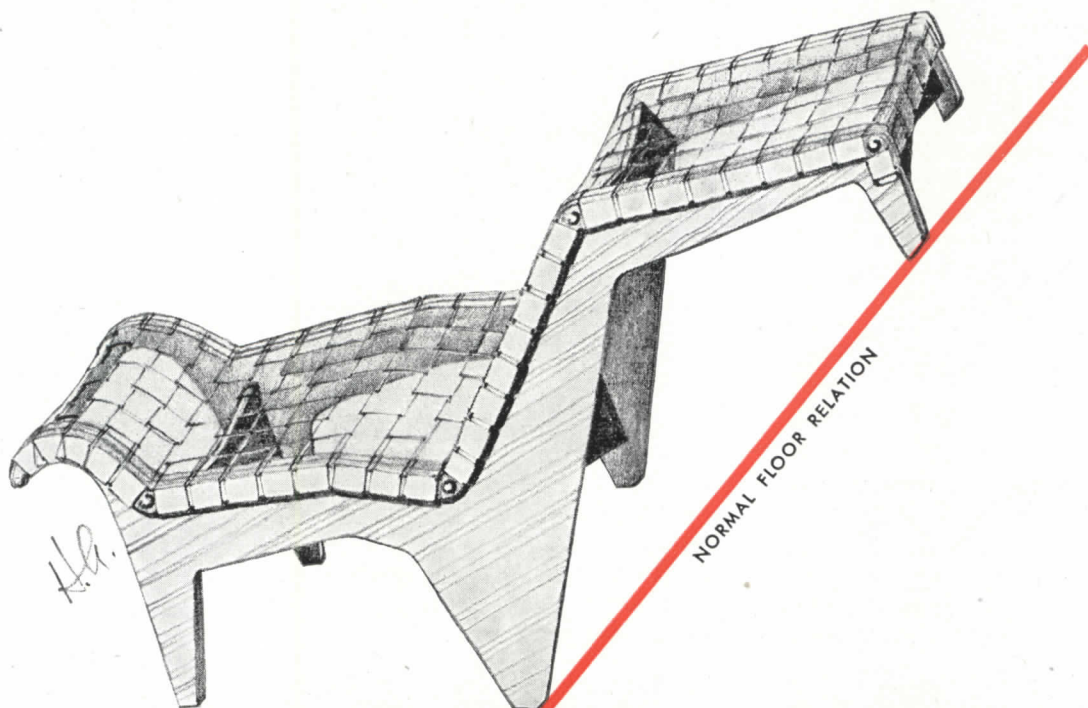
St. LOUIS Architect Harris Armstrong may have had his tongue in his cheek when he named the chair he has sketched below — but he was on sound ground when he designed it to take advantage of a physiological fact long recognized by athletes and ballet dancers: *i.e.*, the human machine relaxes more easily and completely with feet perched higher than the head.

One of the most interesting features of Mr. Armstrong's design is its effective use of Saflex, a material which epitomizes the great versatility of modern plastics and the great strides they have made in answer to wartime needs.

For example, in the Army raincoat Mr. Armstrong is examining in the photograph, Saflex

now replaces rubber with marked success, yet the first Saflex compounds were developed to serve as thermoplastic binders for high test safety glass. To fit Saflex for its new job, it was transformed almost overnight from a thermoplastic into a thermosetting material that qualifies as the most rubber-like of all plastics.

In its new formulations, Saflex can be vulcanized and otherwise handled almost exactly like rubber. It can be given a variety of interesting textures and any color, even clear transparent. Particularly it is resilient without actually being elastic—a quality which led Mr. Armstrong to specify webbing woven from board strips of Saflex for his ultra-comfortable chair.



FLOOR RELATION FOR HIGH SPEED RESTING

Chair's frame would be strong, lightweight, weather and water-resistant, plastics-bonded plywood. Brightly colored, interestingly textured Saflex webbing would also be waterproof so that the chair could serve equally well in or outdoors and would be simple and easy to clean. In addition to the sheet-form specified here, Saflex is also supplied as molding compounds and in formulations for coating fabric as in the Army raincoat.



The Broad and Versatile Family of Monsanto Plastics

(Trade names designate Monsanto's exclusive formulations of these basic plastic 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



FACTS FOR POSTWAR PLANNERS

Saflex and the Resinox or melamine bonding resins which might be used in the plywood frame of Mr. Armstrong's chair are just part of the large Family of Monsanto Plastics, probably the broadest and most versatile group of modern plastics offered by any one manufacturer.

For facts on the entire family—and an overall picture of what plastics are, how they are fabricated and what they promise in the future—see the 24-page guide to Monsanto Plastics recently prepared for product designers. Simply write: MONSANTO CHEMICAL COMPANY, Plastics Division, Springfield, Massachusetts.

"HOUSE OF THE FUTURE"

(Editorial, July 1943, page 41)

Record:

I have read the article carefully. It is refreshing to note such a sound, common-sense point of view so ably expressed. Two months ago when I read the article in the *Readers Digest* on the "House of the Future" I wondered if dreams and fancy were taking us out of the world of realism entirely. The press is so full of promises which ignore the economics of practice, that I take this occasion to compliment Ken for this article.

In making such comment, I am not disposed to hinder the advancement of new ideas nor to restrict the visionary practitioner in any degree. Out of such minds ideas are created which gain foothold and, after use, become the worthwhile and the commonplace things.

—RAYMOND J. ASHTON, *President*
The American Institute of Architects

Record:

Kenneth Stowell's editorial in the July RECORD is like a shot of sense-restoring fresh air in an opium parlor. The unrestrained fancies now rampant threaten to harm not only the great potential market for houses but for many other postwar consumer's goods as well.

Those who are faced with the task of actually preparing plans and specifications for postwar undertakings know there is little that is likely to be available in the period immediately following the war that will be radically different from what we were using in 1940. To wait for revolutionary innovations would mean that we would get both no construction and no innovations.

In the course of the first five peacetime years, and more rapidly thereafter, I expect to see a number of changes in our housebuilding methods and some very important improvements in materials and equipment. But I expect also that these will filter into the market gradually and that, with the most drastic acceleration of technical change that can be contemplated, it

would be at least a generation before the utility of existing houses would be seriously affected.

—MILES L. COLEMAN, *Vice-President*
Starrett Brothers and Eken, Inc.

Record:

I believe statements like this should be placed before the public since the poor public is becoming confused by the vast amount of publicity regarding changes in housing methods. The habits of human beings change gradually and I think history has proved that architecture and the habits and customs of man progress slowly and soundly with the architectural development leading the way when changes seem to be an advantage to the living habits of the people.

The editorial refers to prefabrication as one way of reducing cost. I think this is something to look forward to as a proper development in our housing technique. This development in prefabrication need not change the plans or the appearance of the houses, simply speeding up the time of construction and reducing costs. It seems to me that the important work that the architect has to do in the future in respect to the housing problem is the reduction in costs.

—WALTER R. MAC CORNACK, *Vice-President*
The American Institute of Architects

Record:

In my opinion, Mr. Stowell's statement as to the house-of-the-future is based on sound logic and in its clear and concise expression he has rendered a service to the architectural profession. If it could be read by prospective clients who are considering building after the war, much of the hesitancy in preparing plans now might be eliminated.

—RANDOLPH L. PATTESON, *President*
West Virginia Chapter, The American Institute of Architects.

Record:

This statement goes to the roots. It clears to me that it ought to help clear the air of foggy thinking and help us all to keep our feet on the ground. I like especially his statement

that the owners and occupants of the house of the future have not only physical requirements but also certain "psychological proclivities," something that—it seems to me—theorizing experiments are prone to forget or disregard.

—CHARLES F. LEWIS
The Buhl Foundation

Record:

I like Kenneth Stowell's editorial very much. I have also thoroughly agreed with your statements about the position of the prefabricated house. As I recall it, you have said that it is about where the airplane was during the first world war.

I feel that the whole editorial policy of the RECORD, in taking a progressive but thoroughly realistic attitude toward housing developments, is utterly sane and very much needed.

—ROBERT W. McLAUGHLIN
Holden, McLaughlin & Associates

Record:

I have read Kenneth Stowell's editorial, and I agree with his approach. In fact, we have been doing everything we could to combat a lot of what we consider bad publicity that is being given the house of the future and the prefabrication programs in particular.

—J. C. TAYLOR, JR., *President*
American Houses, Inc.

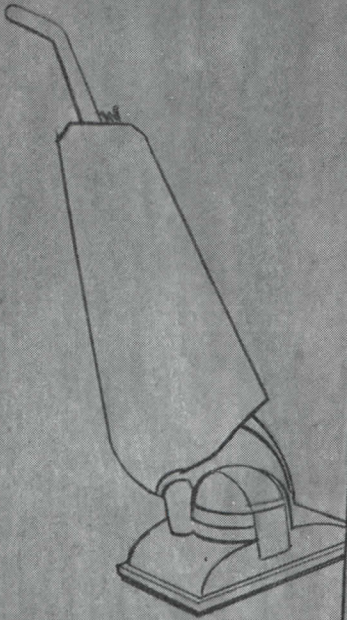
Record:

I think the editorial to be entirely sound. Its simple, matter-of-fact summary of the essential characteristics of a postwar house is very refreshing after the barrage of fantastic notions that have been so widely publicized of late. I am glad that the RECORD has committed itself to a policy of realism in a field in which there is so much disordered thinking.

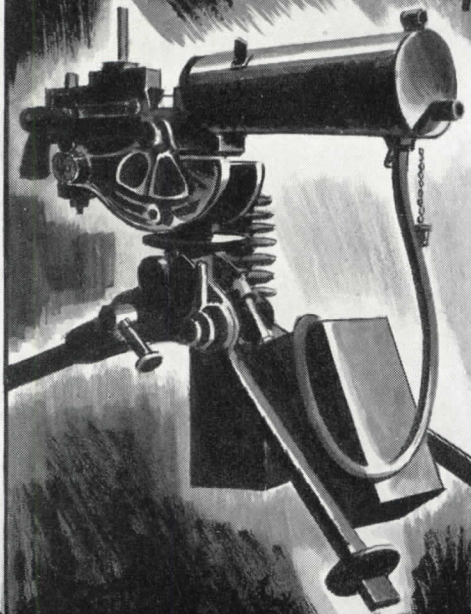
While I agree entirely with the spirit of the editorial, and in fact do not disagree with any statement in it, I feel that there is a danger in the point of view expressed. Certain of our ultra-conservative, pot-boiling dilettanti of the profession will take this editorial as a justification of their eternal stylistic

(Continued on page 104)

VACUUM CLEANERS



TO MACHINE GUNS



TO WHAT



PLAN YOUR DISTRIBUTION SYSTEM

FOR *Quick Production Shifts*

Future demands on your plant are being decided on battlefields thousands of miles away. To meet them, utmost flexibility in production facilities is the order of the day.

Such flexibility depends to a large extent on your plant distribution system. Is it adaptable to quick changes in the nature, density and location of loads?

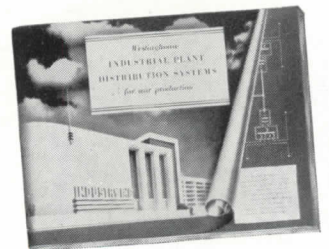
Westinghouse engineers have helped hundreds of war plants choose the "one best" distribution system for their needs. In each case, increased efficiency and protection against sabotage, with the least use of critical materials—have been the governing factors in the selection.

This broad engineering experience is available to you, to help you better meet today's demands, and get set for the swift changes that may come tomorrow.

For prompt action, call our local office. Or send for the helpful booklet below. Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa. J-94563

UP-TO-DATE FACTS ABOUT DISTRIBUTION SYSTEMS

Keep up to date on latest plant distribution systems. Send for 24-page Booklet, B-3152, which briefly describes different plant distribution systems, and points out the advantages of each.



Westinghouse

PLANTS IN 25 CITIES . . . OFFICES EVERYWHERE



PLANT DISTRIBUTION SYSTEMS

Get the job done
Faster..Better
 with
USAIRCO
BLOWERS • WASHERS
COILS

The big task now is to get the job done quickly, efficiently—to get the types of blowers you need to produce the result you want.

USAIRCO can meet your needs now with a complete line of blowers—the result of twenty years of experience in the design and manufacture of air handling equipment.

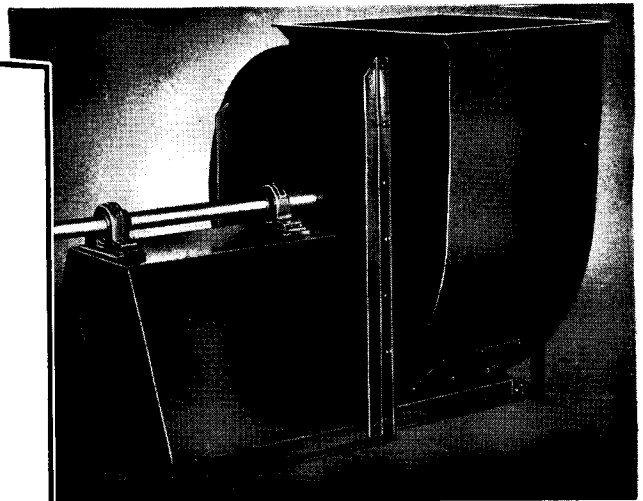
USAIRCO products are functioning today for every phase of the war effort—for the Army, Navy and Maritime Commission—in war plants, airplane factories and processing industries. They are demonstrating their ability to meet the job requirement and the operating budget.

Write today for complete details, prices and delivery dates. Individual catalogs and ratings on all USAIRCO units are available.

UNITED STATES
AIR CONDITIONING CORPORATION

*Manufacturers of the most complete line of air-handling equipment.
 Factory representatives in principal cities.*

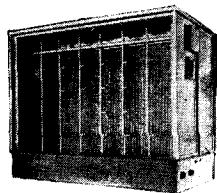
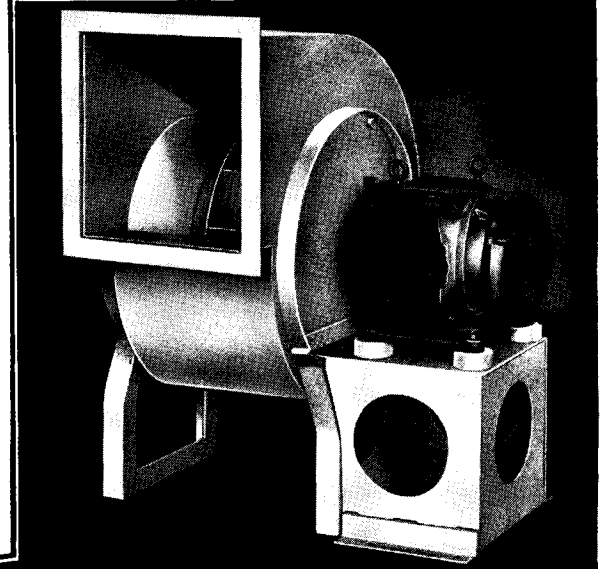
Northwestern Terminal • Minneapolis, Minnesota



HEAVY DUTY BLOWERS

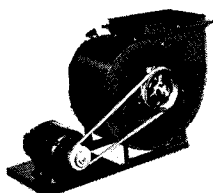
For industrial and commercial applications USAIRCO has a complete line in all popular arrangements. Pictured above is arrangement number one Blower, with both bearings outside air stream.

Below is arrangement number four Blower. Available in both backwardly inclined blade and forwardly curved blade types—sturdily constructed for industrial and other heavy-duty requirements.



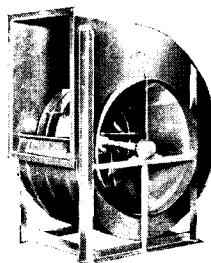
AIR WASHERS

Single and double stage air washers in various capacities for all needs. Used in installations where dependable equipment is required for air cleaning, cooling, humidifying or dehumidifying. Air Washers operate with cold water or refrigerating apparatus.



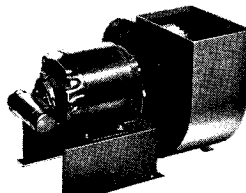
"E" BLOWERS

Belt-driven exhaust blower for light duty work where static resistance is low. Type "E" Blowers are easy to service; are available in several discharge arrangements. An adjustable pulley permits 30% speed variation to handle air as required in different installations.



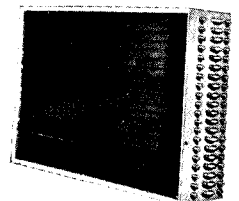
HEAVY BLOWERS

Backwardly curved blade type shown (also blowers with forwardly curved blades), available in types and capacities ranging from 2,000 to 70,000 c.f.m. Used for large scale air handling jobs. Made in single and double inlet, and in varied discharge arrangements.



"SU" BLOWERS

Direct-driven exhaust blowers are designed for use where space is limited. Built strongly, mounted rigidly to prevent vibration. Slow speed motor operates the wheel. Efficient for exhaust applications in warehouses, factories, barracks or mess halls.



COILS

Cooling, heating and air conditioning Coils—fin type with high heat transfer efficiency. Now constructed of steel to conform with wartime regulations.

PRECISION

machined into the product

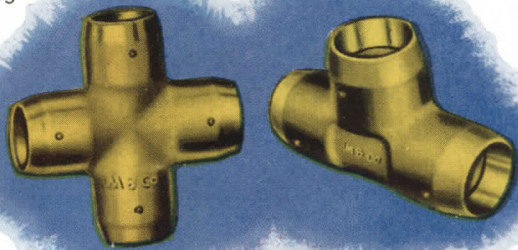
Precision is the keynote in the manufacture of STREAMLINE fittings beginning with the core, from furnace to mold and on through the machining operations.

Men of many years experience and "KNOW HOW" plus laboratory control through every phase of the work are a few of the many reasons for the consistently high quality and uniformity of STREAMLINE fittings.

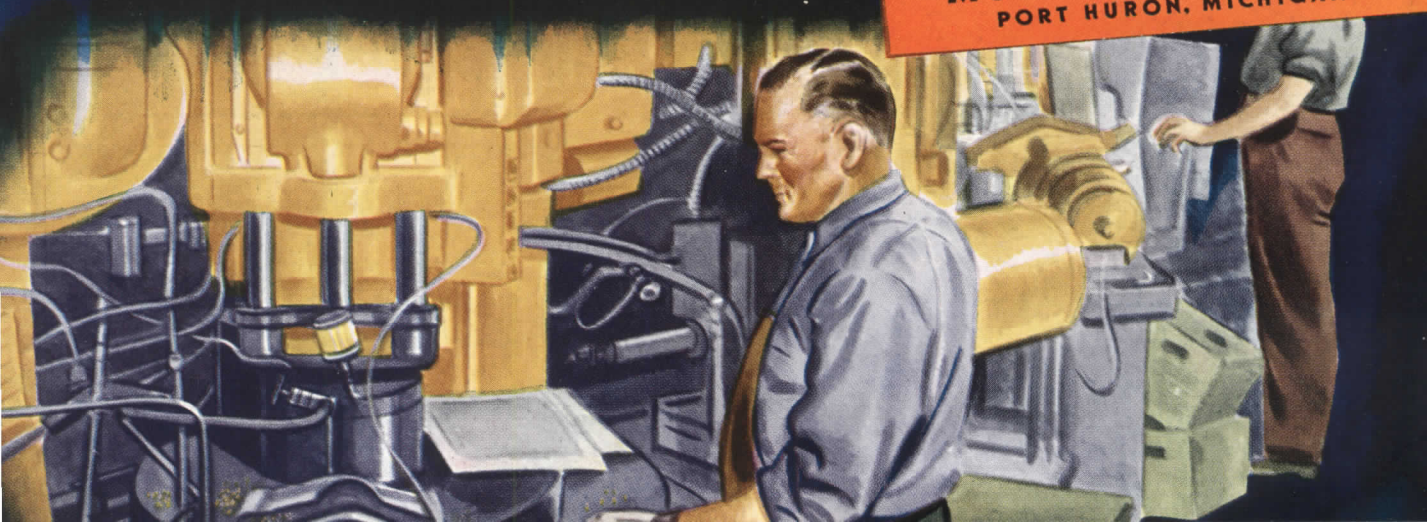
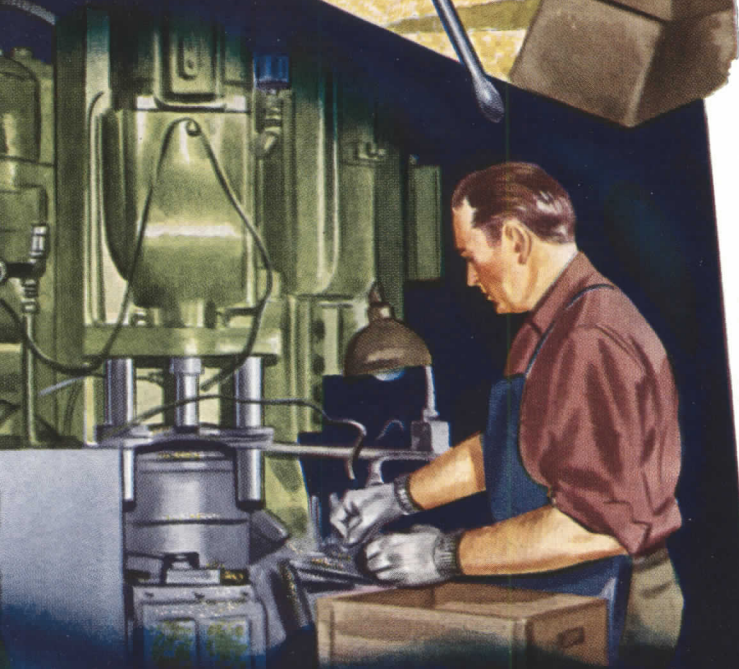
Twenty-five years ago this factory was working entirely for Uncle Sam—in fact, our country's needs in the first World War was the very reason for our birth and existence. Today we are again working 100% to supply war materials for our armed forces—and during all the years between the first and second world war in which we were building a large domestic business, we also continued to supply ordnance material for Uncle Sam's Navy.

STREAMLINE fittings are now installed in victory ships, sub-chasers, submarines, mine sweepers . . . and the material used in their manufacture in peace time is also being utilized for a multitude of munitions parts. When peace is restored, all this expended brass and copper will be garnished for peace time use in those businesses of which we are now temporarily deprived.

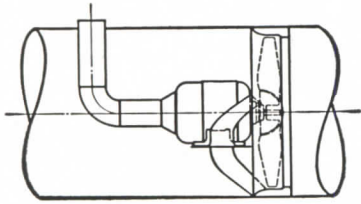
When copper and brass return from the war in countless millions of fragments to the scrap piles of the nation, you'll not find one rusted piece. Truly, these are the kings of metals, and—best of all, for plumbing the homes of America.



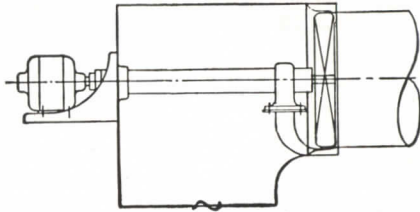
STREAMLINE
PIPE AND FITTINGS DIVISION
MUELLER BRASS CO.
PORT HURON, MICHIGAN



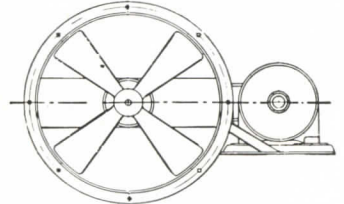
HERE'S WHY PROPELLAIR Fans can help you solve any problem involving heat and fumes!



DIRECT-CONNECTED TYPE
For temperatures up to 120° F.



EXTENDED-SHAFT TYPE
For temperatures up to 450° F.



BELT-DRIVE TYPE
For temperatures up to 450° F.

These three illustrations show how fumes or air—at practically any temperatures experienced in industrial plants—are successfully handled by Propellair Fans. Because hundreds of installations of each type are setting performance records for their particular applications, leading architects everywhere are specifying them for war-production ventilating jobs.

The direct-connected, or "CD," type is most frequently used for handling fumes and air at temperatures up to 120° F. It is shown here installed in a straight pipe. Because the motor is located within the air stream, the totally enclosed ball-bearing type is recommended. If the motor is equipped with a small auxiliary duct, temperatures up to 160° F. may be handled. This small duct should lead to the outside of the main duct so that it can pull cool air over the motor. Where heated *clear* air is involved, the open-type motor may be used, in which case cool air should pass *through* the motor from the auxiliary duct.

The extended-shaft, or "CE," type—shown here installed in an abrupt right-angle turn of a duct system—is recommended for handling fumes and air at temperatures up to 450° F., because under such conditions a motor should not be operated directly within the air stream. The open-type, ventilated motor is usually used, mounted rigidly to a cast steel base. The drive shaft is housed and sealed in steel tubing.

The belt-drive, or "CSV," type is a heavy-duty unit built to operate under temperature conditions up to 450° F. (With a stainless steel fan, not now available, it can handle temperatures considerably higher.) As in the "CE" type, the motor is placed outside the duct. The belt drive is used because it eliminates metal-to-metal transmission of heat to the motor. Fan bearings are of special air-cooled design and are protected, as is the belt, by welded steel tubes in which they operate.



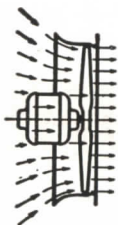
PROPELLAIR FANS OFFER THESE ADVANTAGES

AXIAL-FLOW, AIRFOIL PROPELLERS,

especially designed by Propellair engineers, deliver maximum air with minimum horsepower. Air flow is even over all parts of the blades—the *whole* fan works, not just the tips! These unique propellers are also non-overloading—from free air to complete block-off, horsepower remains virtually constant as long as motor speed is constant. The number of blades, and their angle and shape, depend on the job to be done.

CURVED ENTRANCE RING,

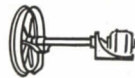
in addition to serving as a sturdy support assembly, reduces tip loss and enables Propellair Fans to deliver *maximum air per horsepower*. Introduced in 1930, as a result of exhaustive experiments and tests by Propellair engineers, this design makes possible the utilization of the "Airfoil" air-movement principle in the *entrance ring* as well as in the *propeller*.



A PROPELLAIR FAN FOR EVERY APPLICATION



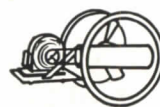
CD—Direct connected to electric motors. For ducts, hoods, roof ventilators or panels.



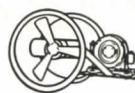
CE—Extended shaft fans for ducts, dryers, etc., where motor must be outside the air stream.



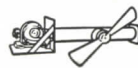
CF—For belt drive from separate motors, engines or line shafts. Also with extended shaft assembly.



CS—Heavy-duty complete belt-driven unit in duct section. For severe dust, corrosive or explosive vapors.



CSV—Heavy-duty complete belt-driven unit for high temperatures in ducts, pipes, and as stack boosters.



CSB—Heavy-duty complete belt-driven unit for ducts or stacks to handle explosive vapors, dust, or high temperatures.



CU—Low-stand, tiltable, portable cradle fan for hardening-room service, product drying or cooling.



CM—Heavy-duty pedestal blast fan for cooling men and products in heavy industries.



C—Industrial circulator fan for general air-circulating service of all types.



CB—Slow-speed, ultra-quiet complete belt-driven fan. For office or room ventilation.

If you have a pressing industrial ventilating problem, write us! We'll either mail you our complete Propellair catalog No. 10-F—or have the nearest Propellair ventilating specialist get in touch with you—whichever you prefer.

On the other hand, if you'd like more information for future reference, and not in connection with a specific war-production job, see our 20-page insert in Sweet's Catalog for 1942.





Beginning with a pencil and paper, the plastics development engineer includes in every *new plastic* those qualities which will make it more than fulfill desired *new restaurant* specifications.

Alert manufacturers and designers, today, are planning for the incorporation of plastics into restaurant and hotel equipment to assure ruggedness and positive performance—in addition to beauty and tastefulness in appearance. The fact that *plastics* are an integral part of every ship, plane and tank in today's war is proof of their durability and efficiency under the most adverse conditions.

Today, General Electric plastics engineers bring to *restaurant operators*—and their architects—the greatest fund of *plastics* experience and talent in the industry.

Tomorrow, these *restaurant operators* and *builders* can, and will, justifiably rely upon *plastics* to give them added quality, endurance, and appearance in their equipment from "*front office*" to "*back of the house*"!

General Electric's reservoir of plastics "Know How" is always at the disposal of you and your architect.

Address your requests for information about plastics to Sec. Z-1, One Plastics Avenue, Pittsfield, Mass.

BUY WAR BONDS

Listen to the news on the WORLD TODAY each week-day evening, CBS, 6:45 E.W.T. On Sunday, listen to the HOUR OF CHARM on NBC, 10.00 P.M. E.W.T.

P L A S T I C S D I V I S I O N S

GENERAL  **ELECTRIC**

PD-150

YESTERDAY

Going up! When gay, young blades went calling, the touch of a little button brought swift, convenient service. It was just one of thousands of Edwards signaling devices serving peacetime, social and business communication needs of the country.



TODAY

Going down! Another signal. But now his touch deals out death to the enemy . . . timed to the split second. Again, it is an Edwards signal, one of thousands of high-speed communications systems serving the United Nations.

TOMORROW?

Better communications for peacetime industry



● First things first! Right now Edwards equipment is the hair-trigger "nerve center" in many implements of war . . . the "voice" of armies, air fleets and naval squadrons. That's *first*.

But the beginning of another era is ahead of us . . . one which will be built upon—strengthened with—the research of war-trained industries. A time when business men will take war developments and convert them into better peacetime products.

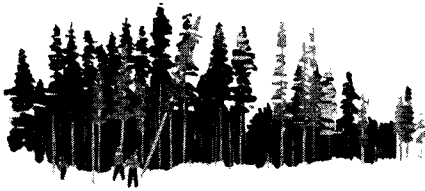


Edwards proposes to be first in the communications field, in converting its war-born and war-tested products and ideas.

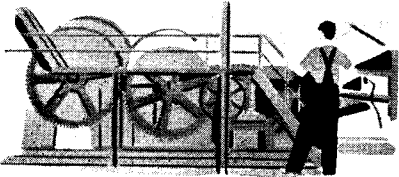
Edwards is already at work . . . preparing . . . so that America's factories, institutions, homes and public utilities will have the most advanced signaling devices and communications equipment for peacetime services and projects.

Edwards and Company, Norwalk, Conn.
In Canada, Edwards and Company, Ltd.

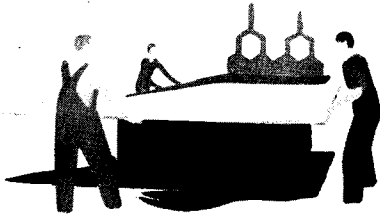
EDWARDS
SINCE 1872
Communication Equipment for
Homes, Institutions and Industry



• Today, in the vast Northwoods, millions of trees are maturing—trees that were planted as a “crop”, in forest conservation, to assure always a supply of “tall timber” for the American people.

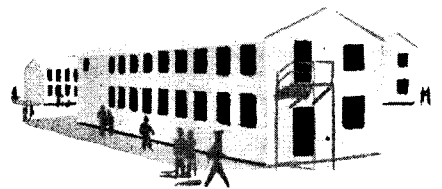
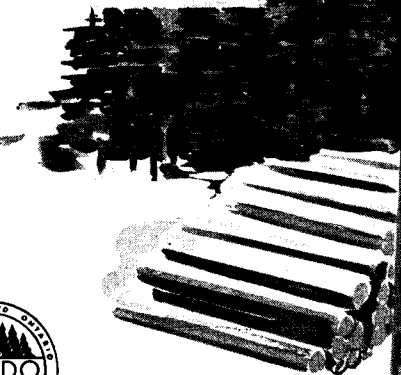


• One of the products made from wood and having many uses is INSULITE. The logs are brought to the Insulite Mills and, in special machines, are ground down until the wood fibres, the “sinews of the wood”, remain.



• These fibres are then processed into large, strong, durable boards—INSULITE. Insulite, when used as sheathing in home construction, has a bracing strength four times that of ordinary wood sheathing, horizontally applied.

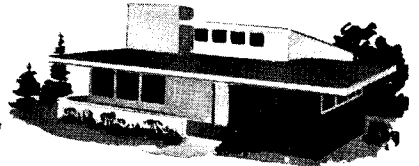
FROM NORTHWOODS TREES!



• Insulite has many building advantages. Today speed in construction is important. War buildings must be erected, almost overnight. The large Insulite boards are quickly applied, rapidly nailed into place, thus saving valuable time.

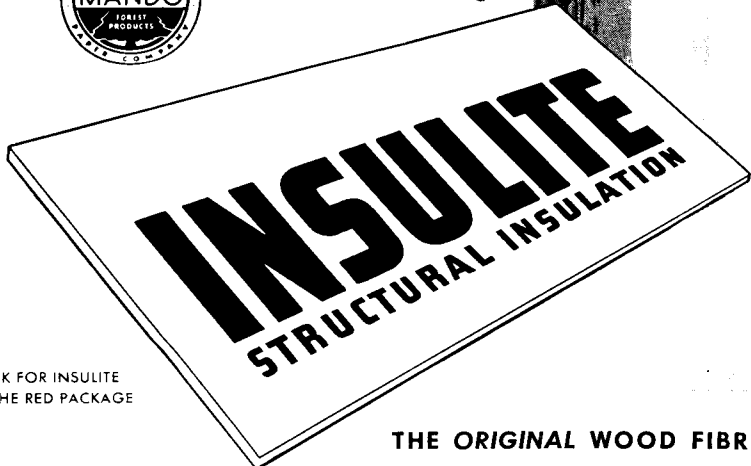


• The concentration of war workers made serious housing problems in many places. In the quick construction of livable quarters for these workers, Insulite is proving of great aid. By providing effective insulation, Insulite reduces fuel consumption in winter, makes cooler homes in summer.



• When Victory is ours, America will face a serious housing shortage. In building the home of the future, Insulite will be an important help. Homes constructed with Insulite approved Wall of Protection have walls that provide a double barrier of insulation against extremes of temperature.

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All over America you'll find that the smart, modern restaurants that get and hold business are sound conditioned with Acousti-Celotex. Others are taking the first and most important step in bringing their establishments up-to-date by installing famous Acousti-Celotex.

Architects, planning restaurant modernization programs, should recommend sound conditioning with Acousti-Celotex, now. This recommendation will do much toward keeping patrons happy in face of your client's wartime restrictions on food and his unavoidable limitations on service.

The Acousti-Celotex distributor in your city is headquarters for sound conditioning and is a mem-

ber of the world's most experienced organization. His recommendations are available to you without obligation. He has the proved engineering performance, high quality products and he guarantees results.

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IN V-DAY JOBS . . .**

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F. W. Dodge Corp. statistics show 15,000* actual building projects now being planned for immediate action on the day of Victory . . . not "dream" work, but practical down-to-earth building projects, using tried and true material.

More than 9,000 of these projects are in the designing stage *right now* — indicative of American architectural vision, and the ability to look forward realistically.

On many of these jobs, Lockwood Builders' Hardware has been selected and specified, the result of team-work planning between architects and Lockwood engineers. The production orders are on the Lockwood V-Day schedule.

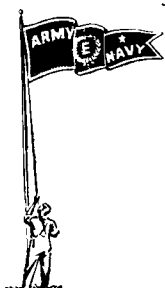
Architects know that Lockwood engineering developments were outstanding before the war . . . that they are now being applied effectively in war construction . . . that our engineers, our machines, and our workmen are ready to produce builders' hardware to meet every requirement . . . and that they can look to Lockwood, now, for practical V-Day planning.

To bring your V-Day projects nearer to the ready-to-go stage, call in a Lockwood representative. He and we are equipped and ready to serve you.

*On the basis of a partial round-up of projects planned for V-day construction.

LOOK TO LOCKWOOD

for practical realizations of progressive ideas in Builders' Hardware. Old enough to respect tradition — but not old enough to be steeped in it! — Lockwood is always willing to try new things. For instance: Holabird & Root felt that screw heads would mar the effect of the hardware they were designing for Washington's Hotel Statler. So we worked out a new way to fasten the escutcheons — *without visible screws.*

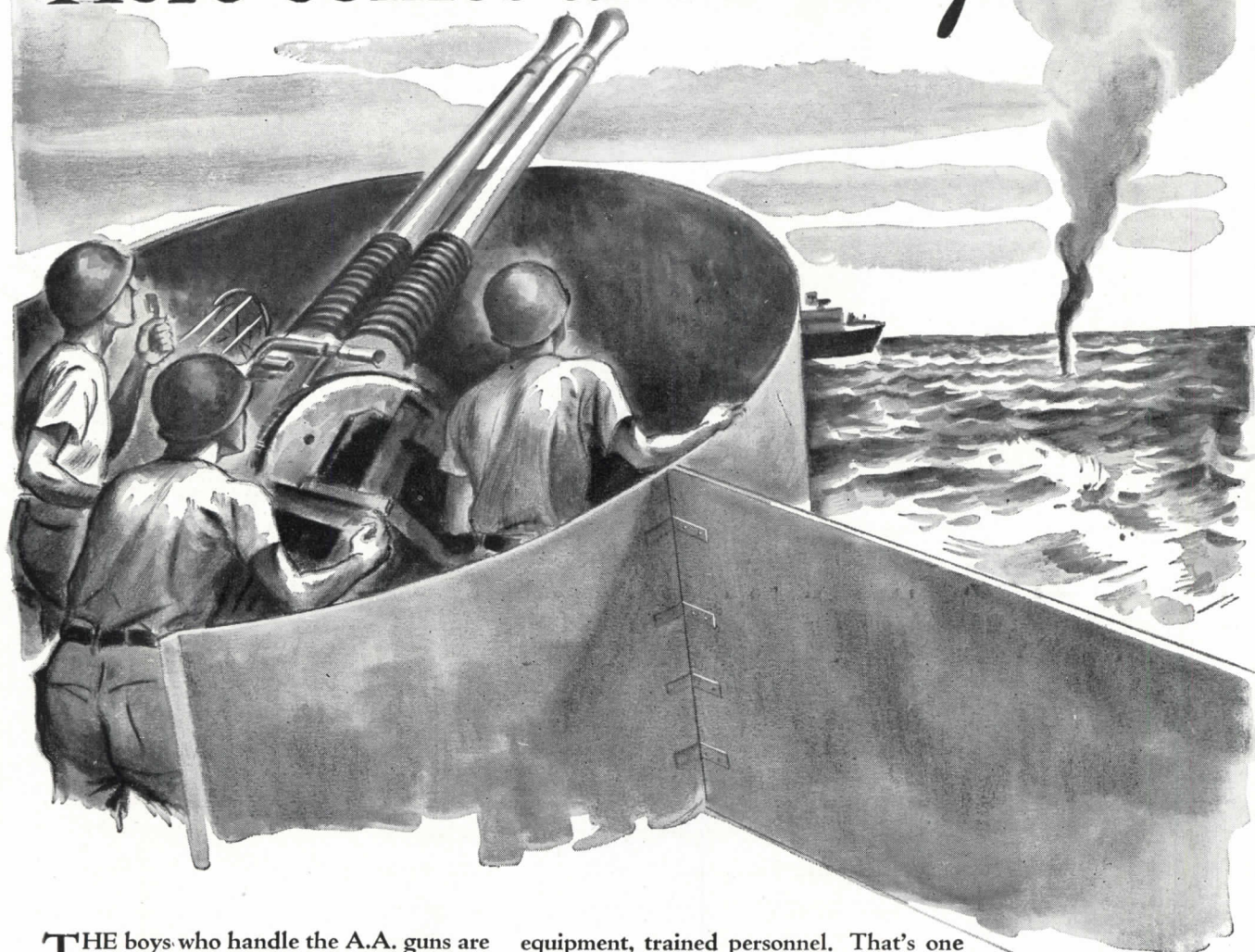


Lockwood Hardware Mfg. Co.

Division of Independent Lock Co.

Fitchburg, Massachusetts

Here comes another—*get him*



THE boys who handle the A.A. guns are becoming a lot of expert wing shots. They've learned how to "lead 'em"—how to put shells where the target is going to be when the shells get there. They'll get plenty of practice, for there are still a lot of Jap Zeros to be blasted out of the sky, and the boys behind the gun shields are doing it, protected against shrieking bomb splinters by sturdy armor plate.

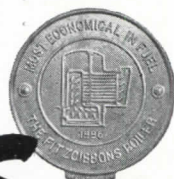
That's our job—gun shields and gun platforms. Fifty years of experience in fabricating Fitzgibbons steel boilers, now is turned to account in fabricating armor plate, with almost no change in technique,

equipment, trained personnel. That's one of the factors the Axis did not count on—the facility with which industries like ours could be turned to the building of war essentials. They still do not understand it.

Let's keep them wondering, until wonder turns to despair. Let's keep our sights dead on the Big Job, to put all we have into it—either in Production or War Bonds, or both—until the day when we spell Peace with a capital "V."

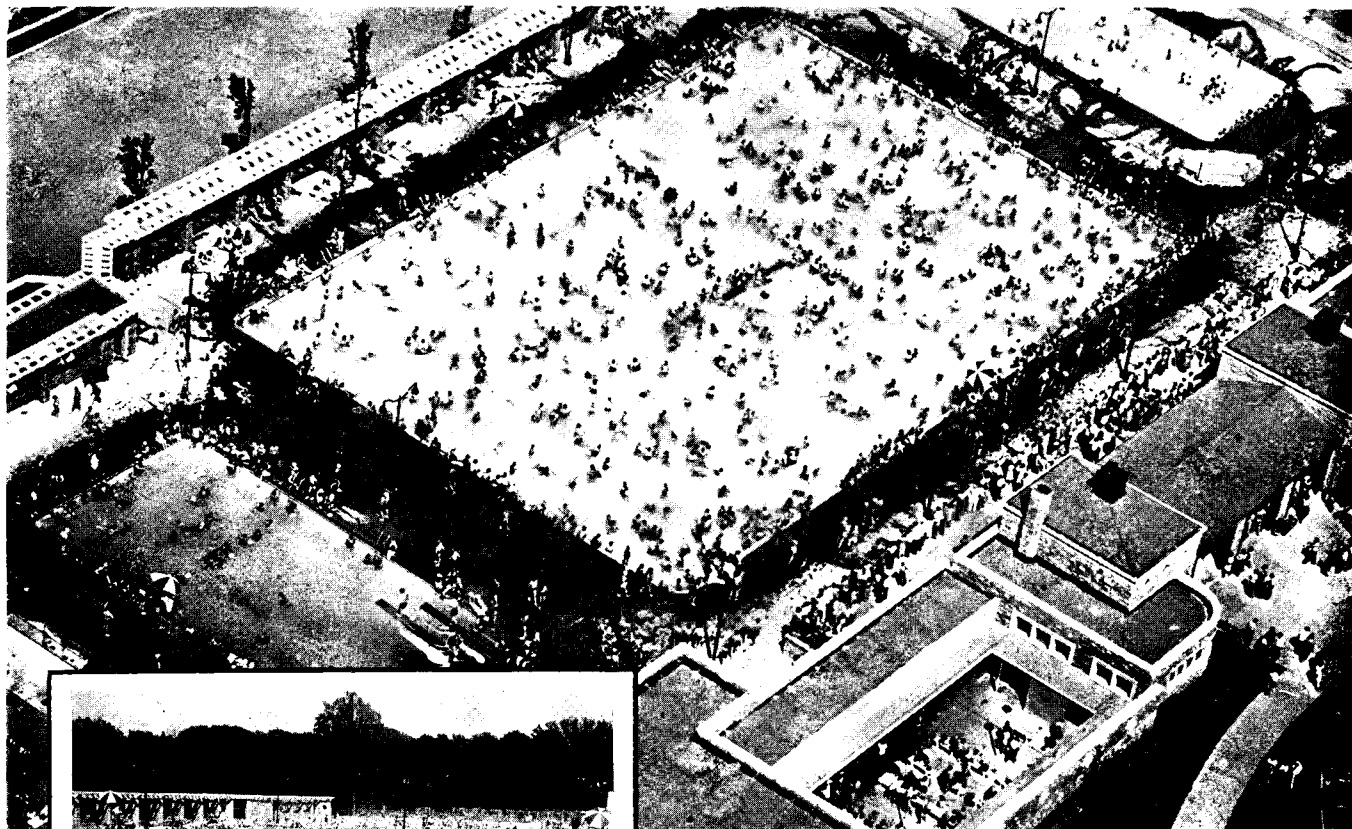
FITZGIBBONS BOILER COMPANY, INC.
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**BUY U. S. WAR
BONDS and STAMPS**



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Swimming pools in Swope Park, Kansas City, Missouri, America's third largest city park; Marshall and Brown, Architects and Engineers. The pools include the main swimming pool, 165 x 105 feet, the diving pool, 70 x 40 feet, and the wading pool, 70 x 35 feet. The combined capacity of the three pools is about three-quarters of a million gallons of water.

Health Protection for Thousands of Swimmers

WALLACE & TIERNAN Chlorinators stand guard at public pools over the country, shielding countless bathers from the dangers of water-borne infections. Accurate, simple to operate, and above all dependable, W & T equipment controls the application of the chlorine which carries a residual sterilizing agent into every part of the pool.

Suitable priorities must be furnished for new W & T

equipment. Where these priorities are not obtainable, the W & T nationwide organization is keeping present installations in top working condition, thereby assuring safety for swimmers.

Many architects and engineers are taking advantage of this service. Ask us about it; also for the W & T Swimming Pool Technical Publications which review water treatment for various types of pools.

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TOWARDS A NEW BRITAIN.

Cheam, Surrey England (45 The Avenue), Architectural Press, 1943, 154 pp. 4 by 6 in. illus. 1s.6d.

A little brother to "Rebuilding Britain" (ARCHITECTURAL RECORD, April p. 49; May, p. 26), this book was published as a sort of guide to the Rebuilding Britain exhibition recently sponsored by the R.I.B.A. and two score other professional and trade associations. With an average of a picture a page and stimulating and inspiring text are shown happy solutions reached in Sweden, Switzerland, Czechoslovakia, Arizona, etc., spacious city layout, double room and bath for about half a dollar, good housing with rents averaging from 8 to 12 per cent of the family income, even a piggery "designed with gusto and a real architect's interest in the home and social life of the pig." "What today's needs actually are few yet know"; but this thirty cents' worth of good reading goes a long way toward making it Everyman's business, and one feels confident that "a less unsightly Britain is being begun now" by a people that has "inherited a good country"—friendly livable towns, lovely villages, good pubs, fun fairs—"things that create mateyness and good feeling."

HOUSING YEAR BOOK.

Chicago (1313 East 60th St.), Nat. Assoc. of Housing Officials, 1943, 159 pp. 6 by 9 in. \$3.00 (pub. no. N175.)

The ninth Year Book has three features: 1. Over half the space is given to concentrated reports on the 1942 activities of federal agencies concerned with housing—NHA, FPHA, FHA, FHLB, FSA, WPB, and OPA—written by their respective administrators, commissioners or other executives; 2. The usual detailed directory of housing agencies, federal to local, really active as distinguished from those merely on the statute books; 3. A judicial summary of progress in 1942 and part of 1943, the period of reorganizing for emergency and postwar planning.

As publicly financed housing enters on its second decade and as we read the report of growing recognition of the importance of planning, of authori-

ties created, of tenants' contribution to the war effort, we recall that not a little of that progress is the result of NAHO's conferences, institutes, reports, and news bulletins which have persistently attacked one problem after another in a way no less acute because it has been consistently suave and manly.

TESTS FOR COMPOSITE TIMBER AND CONCRETE BEAMS.

By Frank E. Richart and Clarence B. Williams, Jr. Urbana, University of Illinois, 1943, 62 pp. 6 by 9 in. illus. 70c. Limited free distribution. (Eng. Expt. Sta. Bull. 343.)

Investigation, by the Research Professor of Engineering Materials and his assistant, of a type of beam in general use only a decade or less, with a view of testing various types of "shear developers" for beams consisting of a concrete slab placed on a continuous laminated deck made up of small-dimensioned timbers placed on edge, intended principally for floors subjected to heavy loads such as highway bridges, wharves, warehouses.

NEW EDITIONS

REFRIGERATING DATA BOOK.

v. 1, 5th ed. New York (50 West 40th St.), 1943, 510, 160 pp. 6 1/4 by 9 in. illus. \$4.00.

In accordance with the present plan of publishing in alternate years new editions of v. 1, covering refrigeration principles and machinery, and of v. 2, on applications of those principles, appears now the fifth edition of this authoritative handbook first published in 1932 and planned as a textbook as well as a work of reference for professionals and others in the industry.

HEATING, VENTILATING, AIR-CONDITIONING GUIDE, 1943, v. 21.

New York (51 Madison Ave.), Amer. Soc. of Heating and Ventilating Engineers, 1943, xxiv, 1160, 90 pp. 6 by 9 in. illus. \$5.00.

In the 21st edition prepared to meet war conditions the high standards and basic information of earlier editions

have been retained, and a supplementary eight-page section treats recommended new emergency practices. Twenty chapters have been completely rewritten, eight others revised, and a new one added to include abbreviations, symbols, state laws, and codes.

PERIODICAL LITERATURE

VENTILATED WALL SAVES STEEL.

Heating and Ventilating, New York (148 Lafayette St.), May 1943, p. 42, illus.

The Austin Co. has designed for the Douglas Aircraft plant a "breathing" wall of brick, perforated tile and vapor-sealed rock wool insulation 50 feet high, with only light-weight trussed steel ties to hold the many wall layers together—thereby saving half the steel used in other plants—but having the insulating value of an 80-inch brick wall.

CORRECT LIGHTING PROTECTS AGAINST SABOTAGE.

By Cyril Ainsworth, Architect and Engineer, San Francisco (68 Post St.), May 1943, pp. 26-31, illus.

Principles of protective lighting, and notes on how to measure efficiency, by the acting chairman of the American War Committee on Protective Lighting of Industrial Properties: good light on trespasser, none on the guard; avoidance of glare on street traffic, railroads, etc.; attention to areas shaded by adjoining buildings, to position of poles well inside the fence, to searchlights in strategic positions.

DEALING WITH OBSOLESCENCE.

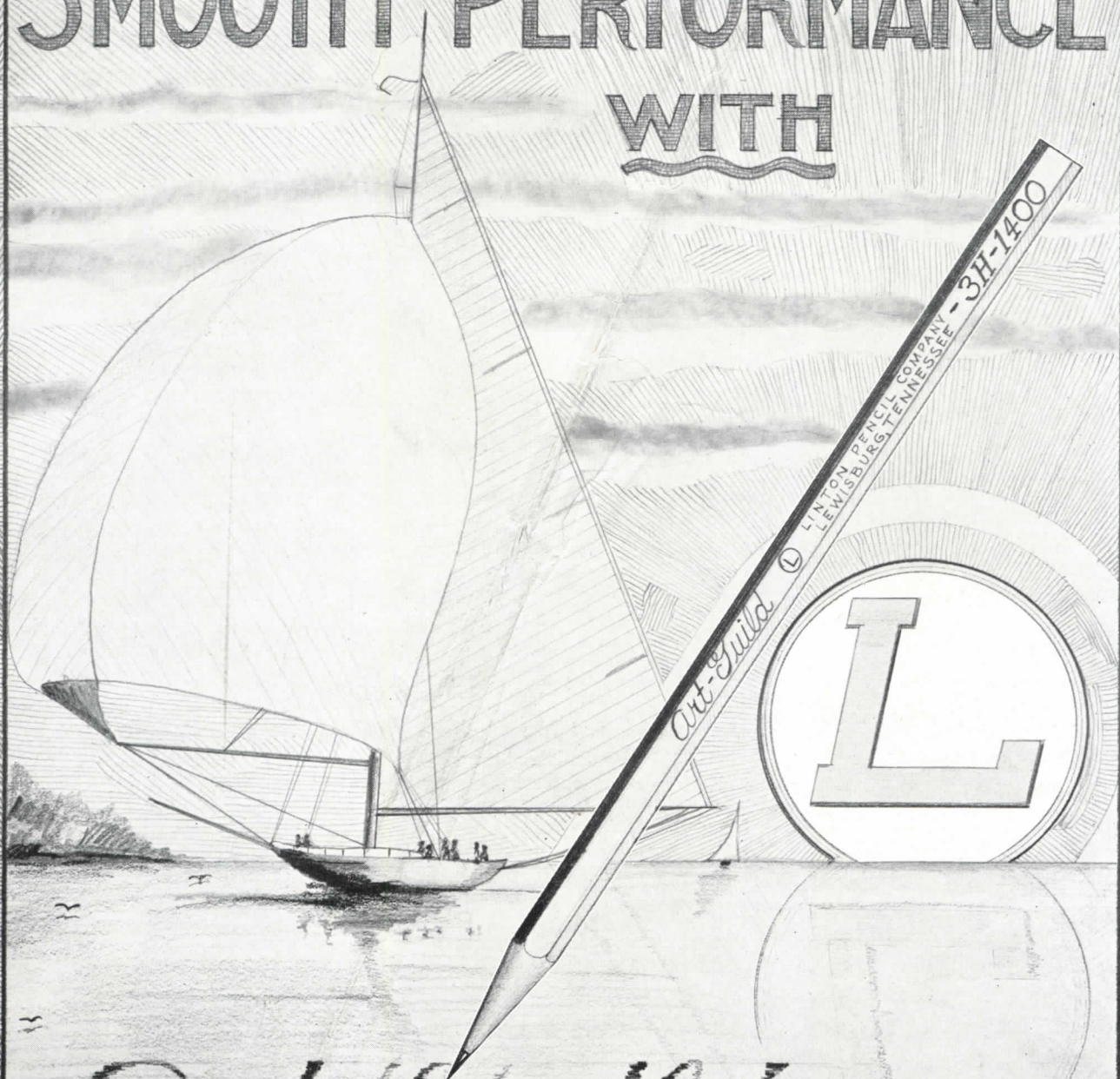
Symposium, Tomorrow's Town, New York (512 Fifth Ave.) July 1943, pp. 2-3.

Time zoning, the requirement that a builder submit plans to a designated agency which would estimate the structure's life span and establishment of a compulsory retirement fund to form "a kind of property insurance that would enable periodical replacement," is proposed by a real estate man. Representative bankers, insurance executives and a planner disagree. "Who will keep

(Continued on page 26)

SMOOTH PERFORMANCE

WITH



Art Guild Pencils

NO GRIT

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NO GAMBLE

Edwin Shotner

This drawing is one of a series made with Art-Guild BONDED LEAD drawing pencils

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RE-LIGHTING

the new **manpower** *requirement*
production



OPERATION STUDY SHEET

Working Conditions *Fair. Machine needs additional lighting to raise general illumination level and eliminate shadows*

This man needs more light

The plant where this worker is employed—like most plants built before Pearl Harbor—was probably designed for peacetime production, with lighting equipment intended merely to supplement daylight. Hence, *its lighting system is inadequate for wartime night work*—and production falls off seriously on the “swing shifts.”

Re-lighting for better illumination will correct this condition, make it easier for workers to see—thus increasing efficiency and production. Re-lighting costs little and is easy to arrange. A Silv-A-King lighting engineer, for instance, can tell you quickly how to re-locate lamps to eliminate glare and shadow...show you where it is necessary to increase lamp wattages or install additional equipment to insure uniform high lighting levels.

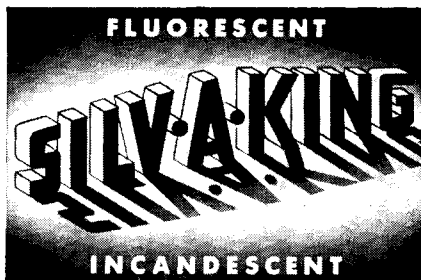
Silv-A-King fluorescent equipment, with reflectors of non-critical Silv-A-Tex, is available for prompt delivery to war plants. Silv-A-King equipment (fluorescent or incandescent), plus a Silv-A-King “engineered layout” make an unbeatable combination.

BRIGHT LIGHT REFLECTOR COMPANY, INC.

308 Morgan Avenue, Brooklyn 2, N. Y.



Send for new Folder 43-V describing Silv-A-King “Victory” Fluorescent Units.



SILV-A-KING MAKES *Light* WORK FOR YOU

REQUIRED READING

(Continued from page 26)

the estimate under review to meet changing living habits?” Obsolescence is not the sole cause of blight; also obsolescence often lies in economic and social factors other than physical deterioration . . . sometimes unpredictable. Cities should revise their clumsy tax assessment methods, revalue houses every five years or so for tax purposes.

A RE-EXAMINATION INTO THE INVENTION OF THE BALLOON FRAME.

By Walter Field. *Journal of the Amer. Soc. of Architectural Historians*. Troy, N. Y. (Rensselaer Polytechnic Institute) v. 2 no. 4 (dated Oct. 1942, published Spring 1943), pp. 3-29. illus.

Inspired by Giedion’s “Space, Time and Architecture” (Cambridge, Mass., 1941) Mr. Field reviews the development of this form of construction which is only one of America’s rich contributions to the art of building. With chronic labor shortage and abundant wood, it needed only the invention of the machine-made nail to make general over a century ago houses which could be completed in one week. Originally crisp and simple, they underwent in turn the influence of the Greek revival, the importation of grandiose European styles, the extravagancies of the Gilded Age,—to return recently to a new simplicity.

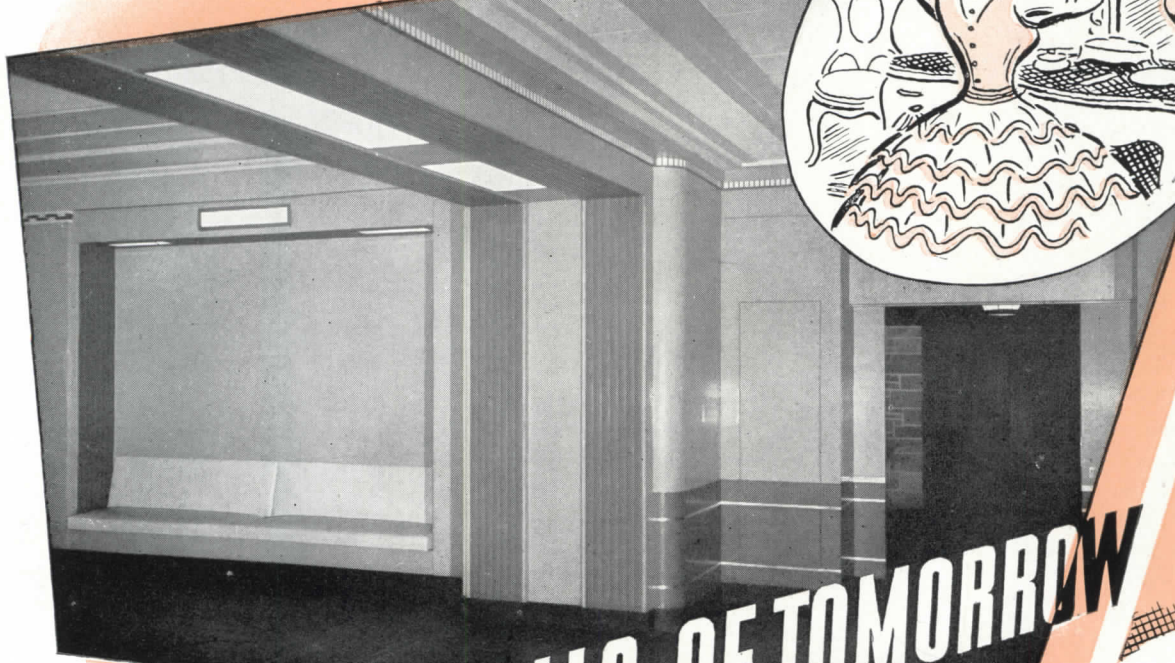
TERRIFIC BEAUTY.

Time. New York (Time and Life Bldg. Rockefeller Center), July 19, 1943, p. 36.

“I doubt if we shall ever again see the centre of London as beautiful as it is this summer. Much that was ugly, as well as some that was irreplaceably lovely, has been destroyed. Bombs have created unexpected and delightful views; St. Paul’s stands out as St. Peter’s does in Rome, and one can see it to great advantage from distant open spaces . . . Many hideous buildings make quite respectable ruins. From the rubble purple willow herb grows luxuriantly, and in one place I know of bracken is sprouting out of sandbags . . . In Victoria Street a breed of ducklings has grown up comfortably from a nest in the rubble. Above all, for the first time in our lives, there is a sense of space and air in London, and these are the first essentials of all town planning . . .”—quoted from London’s “New Statesman and Nation.”



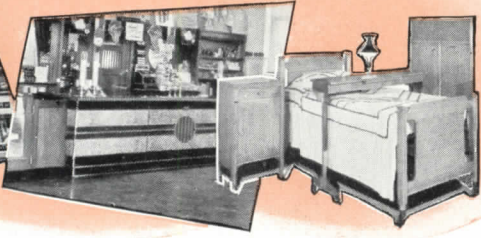
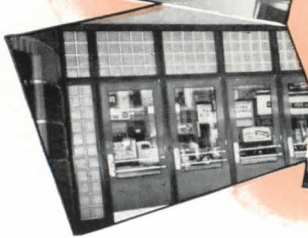
I DREAMT I DWELT IN MARBLE HALLS



DREAM HALLS OF TOMORROW

NO WONDER people dreamed of marble halls and marble dresser tops in the pre-plastic age. Marble was enduring, non-warping and took a beautiful polish. But today man-made Formica laminated plastic adds luxury qualities no natural material from quarry, mine or forest ever had. Formica will not buckle, crack or chip. It resists wear, moisture, and chemicals. It can be given a wide range of colors. It takes a high polish. Fabrics, wood-veneers, and mosaics can be incorporated. If the hall of your particular dream is a sandwich bar, school or factory restaurant, hotel, theatre, store, bank or public building requiring table, counter or furniture tops, interior paneling or outside decoration you'll find Formica the material of your dreams.

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FORMICA

QUESTIONS FOR PLANNERS

By CHARLES W. KILLAM, F.A.I.A.

A recent book by an eminent architect seems to raise more questions than it answers.

In this respect it is typical of many current writings on community planning, or city rebuilding. One feels the urge to ask the authors questions about both what they wrote and what they did not write. The book that prompts me to ask a few is "The City, its Growth—Its Decay—Its Future," by Eliel Saarinen.*

Mr. Saarinen urges organic decentralization, flexible planning, reevaluation, re-legislation and town designing in three dimensions instead of town planning in two dimensions. He relies largely upon re-educated architects to improve town designing.

He states that town designing concerns not only professional planners and civic authorities, but every dweller in the community, and he aims to

write in a manner understandable even to the non-professional. He fails in this attempt because he uses many hyphenated words which should be explained and illustrated, not only for the layman, but also for the professional. A comparison of the medieval town plan of Malines, a lacrimal gland in man and a decentralization pattern for greater Helsinki will not convince either the layman or the professional that it furnishes any useful guide for rebuilding an existing American city. He urges the need of examples of accomplished work but gives none. Nor does he describe an imaginary accomplishment so as to make it real. The typical housing project does not furnish any useful guide to the much more complicated job of decentralizing a city. Are there any professional decentralizers who have carried out their designs?

The book lacks definitions. It does not define congestion. Does it mean

traffic difficulties? Too many people per room? Too much land coverage? Are the Fifth Ave. and Park Ave. areas in New York slums because of too much land coverage? They have been built up for some time already, time enough for slumminess to set in. Other cities furnish like examples to a somewhat lesser degree of long-existing areas built up to what extremists call congestion but which nevertheless have not become slums. Compactness is mentioned as though it were necessarily an evil. That depends.

What is meant by "flexible planning"? If a street system is once laid out and lined with millions of dollars' worth of building how can it be changed? How change an office building district to some other use without impracticable replacement of buildings? Such replacement would have to be on a large scale and take

(Continued on page 96)

* Reinhold Publishing Corp., New York City. 380 pages, illustrated, \$3.50.

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to GUADALCANAL

Are Working Day and Night Supplying the Proper Nutritive Fried Foods to Our Expanding Military Services - - PITCO FRIALATORS ARE STILL AVAILABLE*

Our entire resources today are at the command of our armed forces, but the day will come when PITCO Frialators will again be plentiful . . . and when that day does arrive the deep fat frying equipment bearing the name of PITCO FRIALATOR will still be the leader in the field.

Due to war conditions, definite delivery promises today often lead to disappointment tomorrow, but spare parts are available through your dealer today, and for specific service write direct to us and we shall be glad to give you full particulars.

*HERE'S HOW TO OBTAIN NEW EQUIPMENT—PITCO FRIALATORS are still available on approval of Form No. PD638-A. Consult your jobber or write us for complete information.

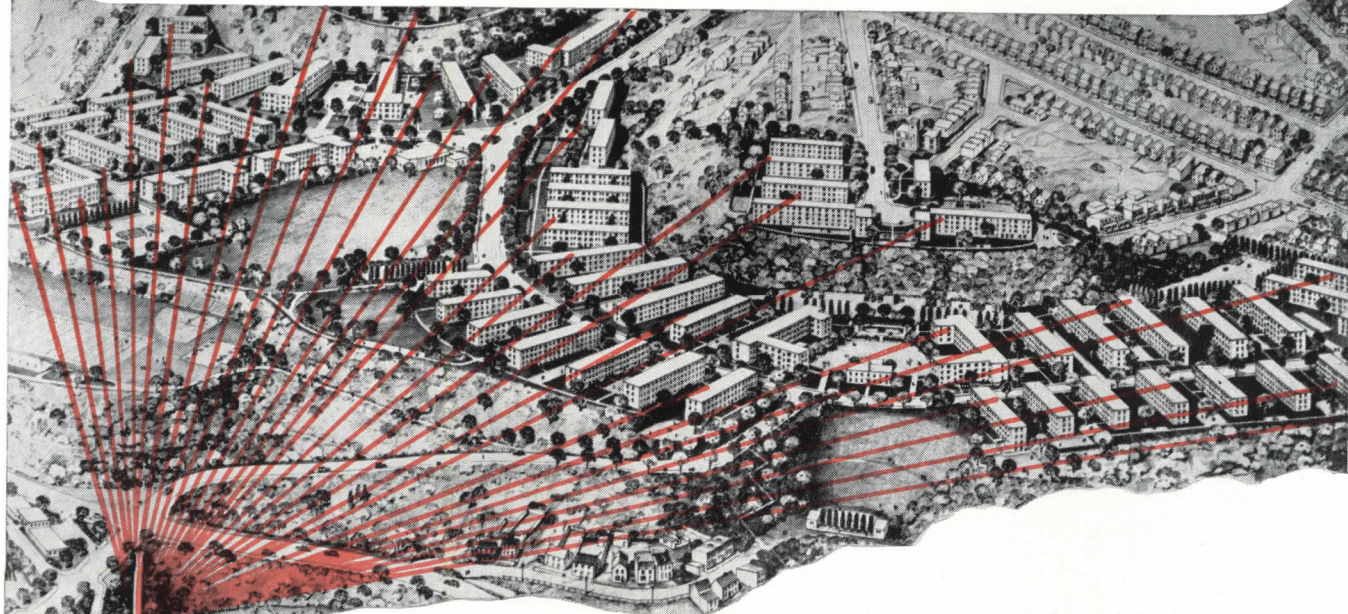


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FURNISHED MORE THAN 25,000 FT. OF
PREFABRICATED INSULATED PIPE CONDUIT



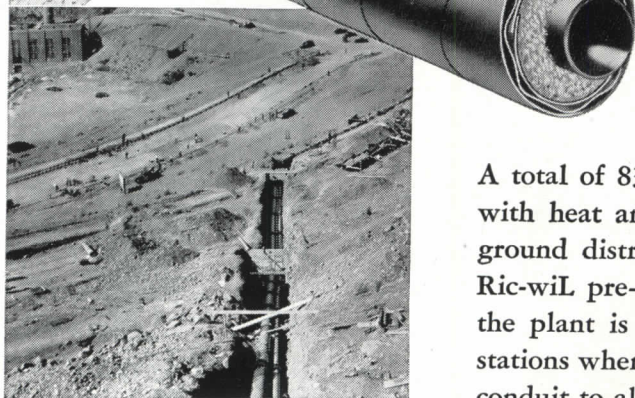
For Terrace Village Housing Unit No. 2 in Pittsburgh

Fuel savings of 15% or better are made possible in this mammoth project by a central heating system. Ric-wiL pre-fabricated pipe units provide the insulation and protection for the entire underground distribution system.

A total of 83 buildings, comprising 1851 living suites, are supplied with heat and hot water from a central plant, through an underground distribution system containing over 25,000 lineal feet of Ric-wiL pre-sealed Insulated Pipe Units. High-pressure steam from the plant is piped through Ric-wiL steam conduit to six scattered stations where hot water is generated and circulated through Ric-wiL conduit to all the buildings, for heating and hot water supply. Thus the project realizes the economy of steam, and the temperature control and convenience of hot-water heating.

All conduit was factory pre-fabricated and shipped pre-sealed to the site in convenient lengths. Installation was made in record time, with a minimum of excavation and backfill, saving countless man-hours and interfering little or none with other construction. The system is highly efficient, permanent, and maintenance-free—typical of all Ric-wiL engineered projects.

Ric-wiL Insulated Pipe Units are ideal for hospital, school, industrial or municipal installations of all kinds. Let us show you their advantages on your next construction project.



Line of Ric-wiL conduit from anchor to boiler house (top, left). Note shallow, narrow trench.

Installing connector band. All necessary accessories are prefabricated and shipped with order.



RIC-WIL INSULATED PIPE CONDUIT SYSTEMS

THE RIC-WIL COMPANY · CLEVELAND, OHIO

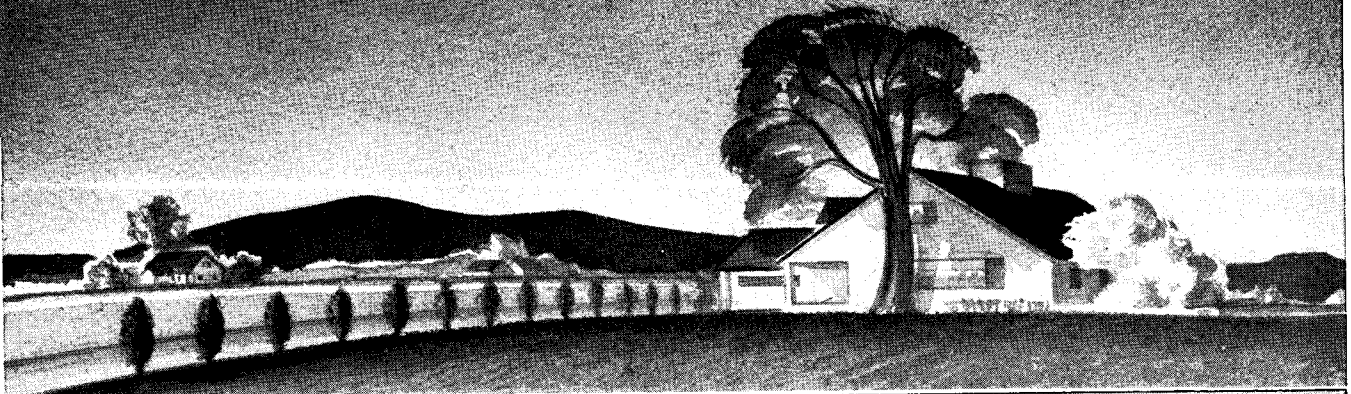
AGENTS IN PRINCIPAL CITIES

MEMO FOR POST WAR PLANNING

Household operating and upkeep expenses come out of the same pocketbook as mortgage amortization payments. High-quality equipment, as supplied by General Electric, usually reduces monthly operating bills more than it increases monthly payments on the house...so actually it costs less to live better.

Remember, General Electric high-quality equipment will best serve the interests of your after-Victory clients or customers.

GENERAL  ELECTRIC
HOME BUREAU • BRIDGEPORT, CONN.



1. LAND



2. STRUCTURE



3. OPERATING EQUIPMENT



A HOME



Many war workers, newcomers in Industry, are seeing *good lighting* for the first time. Housewives who thought a lamp's prime purpose was to look pretty, and husbands who just suffered along because—, are now experiencing illumination planned to give maximum efficiency and comfort.

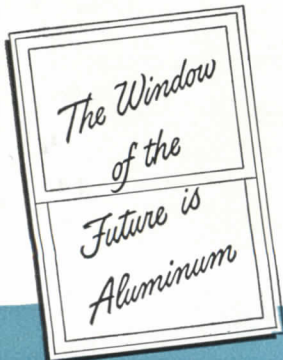
Will they be satisfied with old style lighting in their homes, when the easy chair again takes its proper place in our scheme of living?

Architects and designers are considering this prob-

lem at odd moments in hours devoted to winning the war. Some promise radical changes, like trough lighting hidden from view. Others plan on improving the old, profiting by what they've learned where Industry has speeded war production by good lighting.

Alzak* Aluminum, the reflector material that puts the kind of light exactly where you want it, will be available for this postwar lighting work. It places no limitations on reflector shapes. It is long-lived and easy to maintain. ALUMINUM COMPANY OF AMERICA, 2167 Gulf Building, Pittsburgh, Pennsylvania.


*Registered trade mark, Aluminum Company of America.



ALCOA ALUMINUM



Reg. U. S. Pat. Off.



Our Factory Whistle Will Answer the Final Bugle

★ America must win the peace... must win it by switching over with the same speed and dynamic energy with which



we turned full-out for war. The final bugle must find us with a full head of steam. ☆ Then jobs and products, products and jobs will be America's urgent need. Then industry, ready to go with new goods, new ideas, new services, must fill the gap *quickly*...and in so doing make wasteful "make work" projects unnecessary.

☆ That's the job LCN is preparing for today.

In the midst of pouring out a tremendous stream of vital war parts, we *make* time to forge the plans for the critical first days of peace. ☆ Expect us then to switch over men and machines with utmost speed . . . to unleash a steady flow of new and better products. The factory whistle, calling men to productive peace time jobs, will be America's answer to the final bugle.



DOOR CLOSERS

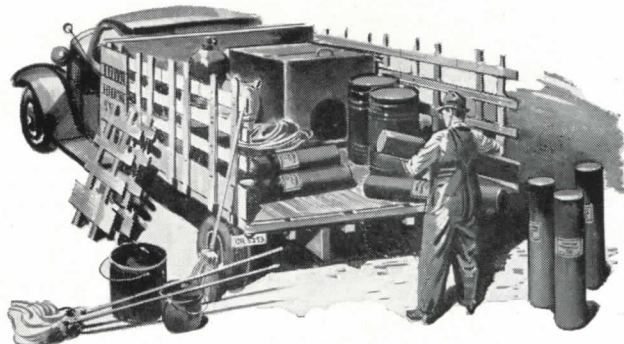
NORTON LASIER COMPANY, 466 WEST SUPERIOR STREET • CHICAGO

Is the War over for your customers?

Roofing

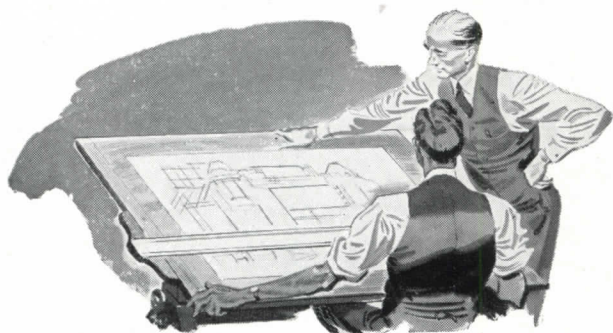


People are just beginning to realize that "post-war" won't come all at once for everybody. "Post-war" is here right now for some companies which have caught up on the demand for wartime construction materials. Maybe they are potential customers, right now, for new buildings, alterations, etc.

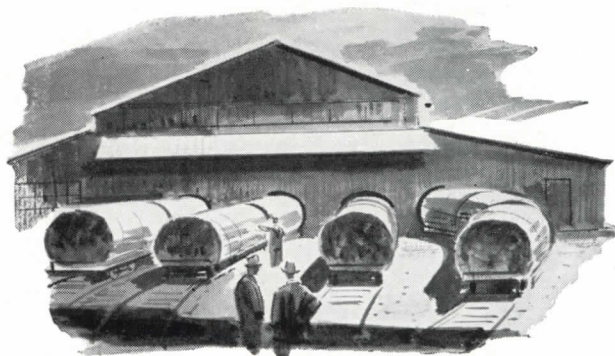


Many building materials are now more available than they have been for a long time and more of them will probably be available from now on. Roofing materials are easier to obtain. Remember that wartime experience, like peacetime experience, has shown that the best advice on roofs is to "Stick to Coal Tar."

Treated Wood



Architects have been designing more and more for wood construction and finding new possibilities in this age-old and substantial structural material. But this is not a mere wartime development. Pressure-treated wood has been first choice with many builders for years.

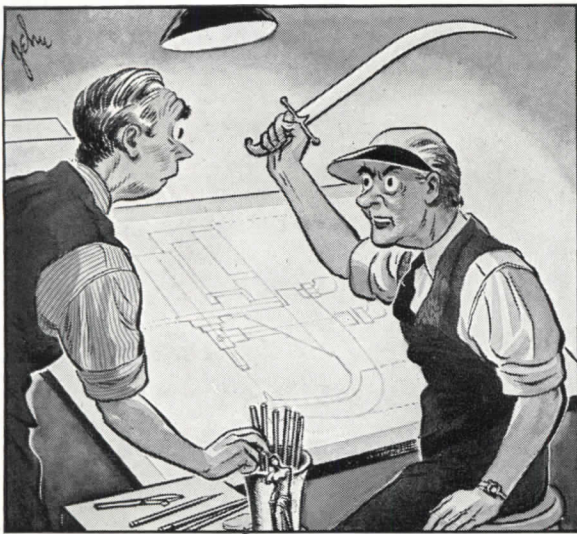


Wood, *plus* pressure treatment, is a permanent construction material. It is as strong . . . pound for pound . . . as steel. It is readily pre-fabricated to design. By proper treatment it is protected against decay and insect attack. Design your buildings to use pressure-treated wood.

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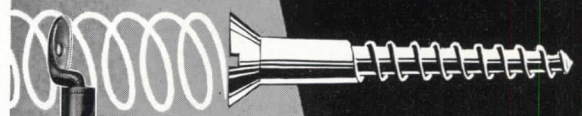
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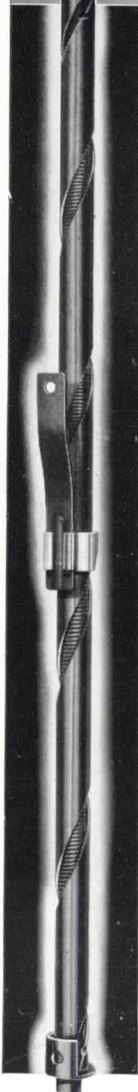


ZIP!



ZIP!

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Invisible
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The simplicity, rapidity and ease of the installation of the Grand Rapids Invisible Sash Balance is but one of its more highly commendable features. Its smooth, dependable performance can be emphasized. The ease of tension adjustment, absence of tapes or cables, and the actual invisibility of the entire working mechanism are of primary importance to the contractor engaged in priority installations—and will continue to be in eventual post-war construction programs.

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LOOKING AHEAD—

THE STORE FRONT OF THE FUTURE is very much the business of The Kawneer Company. Having originated the store front idea back in 1905, and having pioneered many important store front developments, Kawneer is now working on the better Kawneer Store Fronts of tomorrow.

The recent Kawneer-New Pencil Points Architectural Competition revealed interesting new trends; other research is pointing the way to improvements of great importance. Kawneer production facilities, now devoted 100% to the war effort, will again be directed to the manufacture of superior store front construction.

Jury: Kawneer Competition. L to R, seated — Mies van der Rohe, Frederick Bigger, Morris Ketchum, Jr., Samuel E. Lunden; standing — William Lescaze, Kenneth Reid, Roland A. Wank.

First Prize—Seymour R. Joseph, Arch., N. Y. C.

STORE FRONTS OF TOMORROW NEW PENCIL POINTS-KAWNEER 1943 COMPETITION

Kawneer

ORIGINATORS OF THE
RUSTLESS METAL STORE FRONT
AND ALL-ALUMINUM RESIDENTIAL WINDOW

The Construction Industry Is Noted For

PROGRESSIVE ACHIEVEMENTS

MODERN construction came in with steel, concrete, and the safety elevator more than fifty years ago. The progress of the industry since then has been recorded in many ways. Such early skyscrapers as the old Monadnock Block in Chicago and the twenty-two story Masonic Temple in the same city—regarded as an eighth wonder of the world by visitors to the Columbian Exposition in 1893—were but fore-runners of Rockefeller Center, the Chicago Merchandise Mart, the Parkchester Housing Project in New York, and all the vast war plants built in the last couple of years.

In 1942, the industry, in full mastery of modern design, planning, management and building techniques, carried through successfully the largest construction program in the history of this or any other country. It completed many projects ahead of schedule and won many Army and Navy "E" awards—overcoming many unusual obstacles in so doing.

To the architects, engineers, contractors, sub-contractors of America—and the great firms who have supplied them with progressively improved materials and equipment—must go full credit for the excellent planning and efficient coordination of productive effort which has brought the industry to its present enviously high position in the economic structure of the nation.

And, these same devoted factors are preparing now for new and greater developments in construction after the war.

Dodge services will continue—as for more than fifty years—to aid in the dissemination of timely information about construction activity and the available (old and new) materials and equipment which may be utilized in the attainment of future construction goals.

Dodge services include Dodge Reports—daily, selective news covering activity on construction projects of all kinds; Sweet's Files—bound volumes of catalogs on construction materials, equipment and services; Home Owners' Catalogs—a bound volume of catalog information about home building projects and services; and Dodge Statistical Research Service—providing a scientific basis for serving the various divisions of the Dodge organization, the construction industry, the press and the Government with reliable statistics developed from Dodge Construction Reports. These—plus Architectural Record, the leading professional magazine serving architects and engineers—provide members of the industry with exceptional facilities for organizing their activities and promoting the logical sale of their products in an efficient and economical manner.

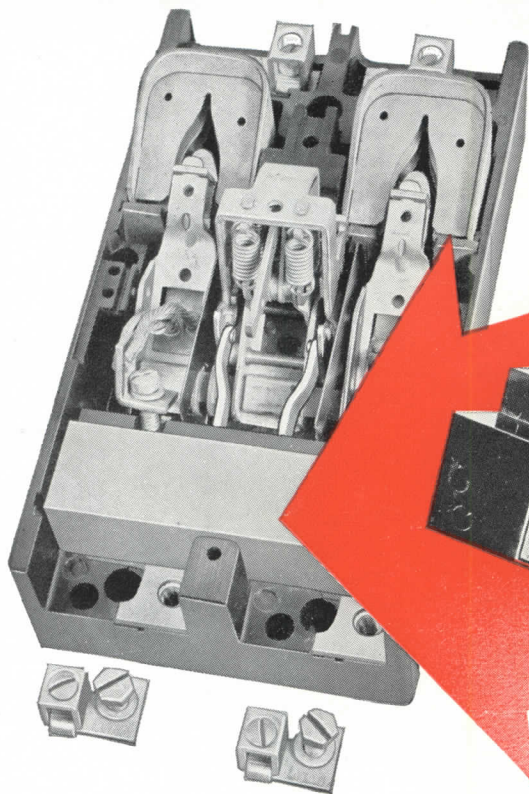
*For Daily, Selective Information on War-Time
Construction—and Jobs for the Post-War Period—Use*

DODGE REPORTS

Issued by F. W. DODGE CORPORATION

119 West 40th Street, New York — and Principal Cities East of the Rockies





Cover has been removed from this 100-ampere G Frame Nofuze "De-ion" Breaker to show how interchangeable trip unit can be removed without disturbing other parts of the mechanism.



Interchangeable

TRIP UNITS

make **NOFUZE BREAKERS** adaptable for war or peace



Whether in khaki or "civvies", Nofuze Breakers provide circuit protection that can be accurately fitted to job conditions.

Today, when most Westinghouse Breakers are "mobilized" to protect war circuits, they are keeping current flowing *safely*, with minimum interruptions in war production.

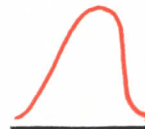
When peace comes, with its equally great problems of conversion to civilian goods, Nofuze Breakers will permit economical and speedy change-overs. For example: In the larger frame sizes, trip units are removable and interchangeable. Thus if your conversion results in heavier or lighter loads, the present trip unit can be quickly replaced with one of the required trip rating. It's as easy as that.

Ask your Westinghouse representatives for help on *your* war circuit problems. Or write direct to: Westinghouse Electric & Manufacturing Co., East Pittsburgh, Pa., Dept. 7-N. J-60539

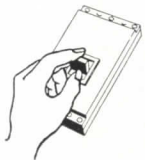
NOFUZE "DE-ION" BREAKERS



Prevent harmless overloads from interrupting war production.



Protect circuits from dangerous overloads and "shorts".

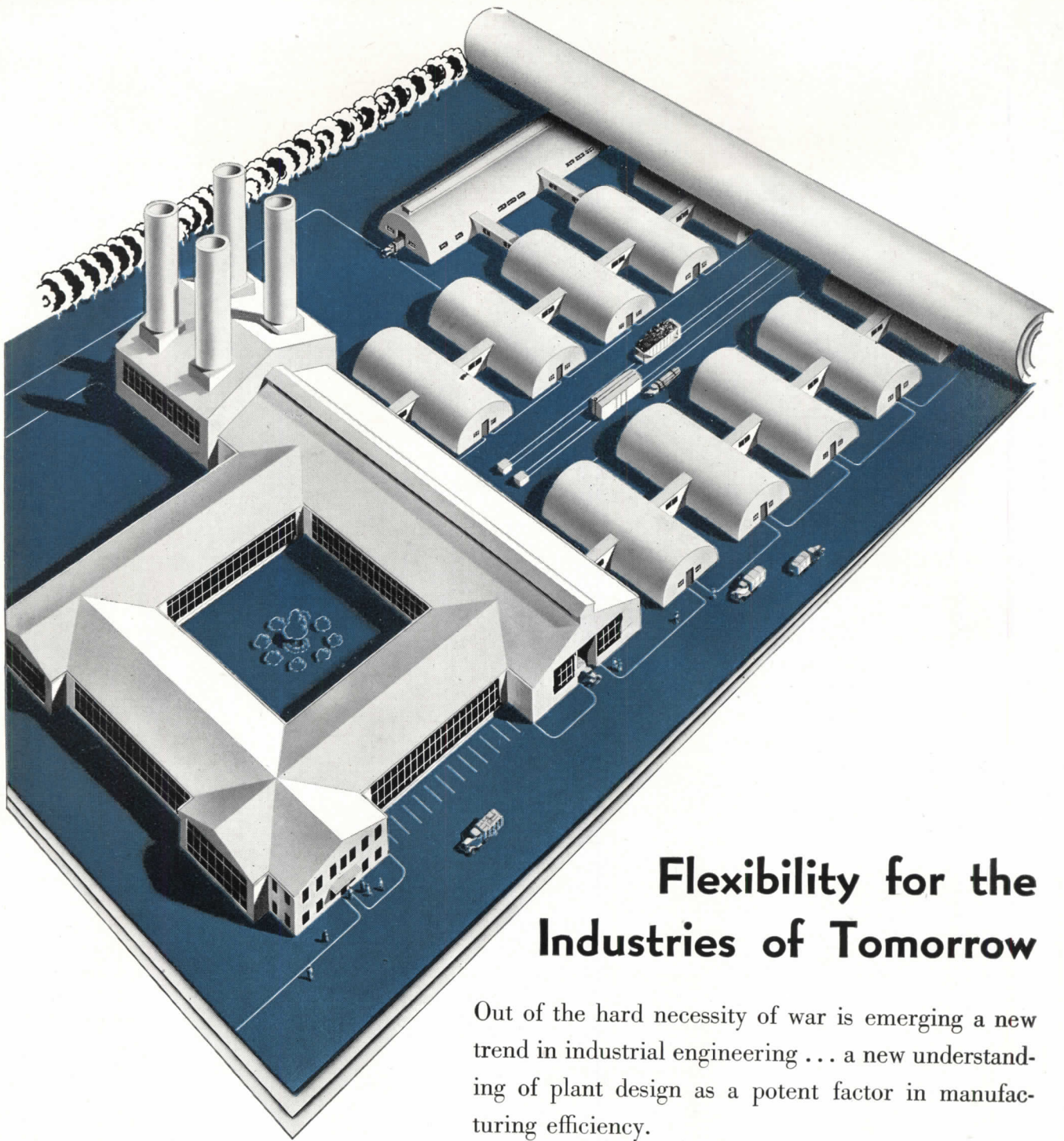


Restore service instantly with just a flip of the switch.



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PLANTS IN 25 CITIES... OFFICES EVERYWHERE

NOFUZE CIRCUIT PROTECTION



Flexibility for the Industries of Tomorrow

Out of the hard necessity of war is emerging a new trend in industrial engineering . . . a new understanding of plant design as a potent factor in manufacturing efficiency.

It is a concept that demands exceptional flexibility in design and construction—an inherent characteristic of Stran-Steel building systems. Present wartime assignments are bringing about important developments in the application of Stran-Steel systems to industry's widely varied requirements. When peace returns, Stran-Steel will apply this experience to serving the peacetime needs of progressive industrial designers.

STRAN STEEL

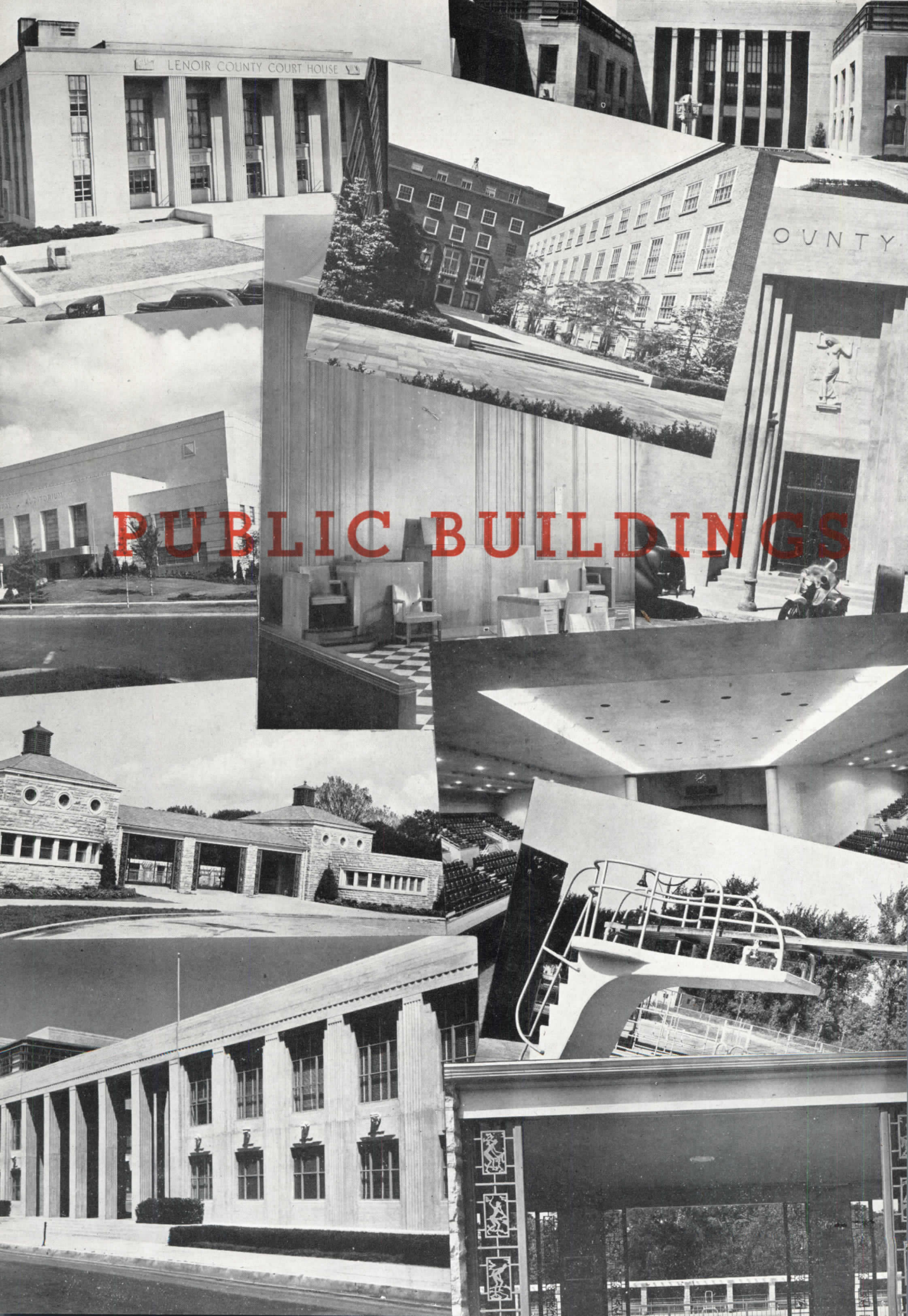
DIVISION OF GREAT LAKES STEEL CORPORATION
1130 PENOBSCOT BUILDING, DETROIT, MICHIGAN

UNIT OF NATIONAL STEEL CORPORATION

DESIGN FOR SALE!

DESIGN, according to Webster is—"to plan mentally; to conceive of as a whole; to organize a scheme of." It is in this sense that we use the word design—not in the sense merely of creating a visible form or pattern.

- ◆ If there is one field above all others which the architect, almost any architect, will claim as his own, his special province, that is this field of design! Here he is competent to create—or to criticize, not just destructively, but constructively. His is not carping criticism or mere self assertiveness, it is self confidence—for this is one field in which he is sure of his ground and of himself. He can show just how he would improve the design in question, be it a building, a plan, a detail, an interior, a refrigerator. The architect's competency to design is due to innate ability plus a rigorous discipline of study, training, and practical experience.
- ◆ When all is said and done, this trained talent and knowledge of materials, equipment and methods is his stock-in-trade—his *raison d'être*—his bread and butter (and cake, if any). He lives for and by better design. Of course to carry out his designs, as well as to conceive them in practical terms, he must reduce them to paper and models, to words and drawings. But these are means to an end, and the end is a building, a banquet hall, or a bath tub.
- ◆ Opportunities for improved design are all around and yet how few architects have devoted their design talents to anything but buildings. True, buildings are a specialized design field, and this is an age of specialization. But there are men who specialize in design—design of anything that can be made or built, including buildings. They have become style specialists to manufacturers and merchandisers. That this is a field for architects is implicit in what we have just been saying, and is borne out by the fact that many of the industrial designers employ architecturally trained men and women in their offices because of their creative and practical approach.
- ◆ Then why are there not more architects engaged in designing other products in industry? Perhaps it is because of a lack of promotional and selling urge. Architects have in the past shown a willingness to design but a hesitancy to market that ability for themselves. Selling is important in architecture and it is equally important in industrial design. But selling takes time from creative design—art is long and time is fleeting. Nevertheless, the first requisite of selling, the architect already has—a superior product, needed and in demand. The second requisite is a reasonable price. That he has, too, as can be easily demonstrated. The third requisite is proper contact with the customer—perhaps there is the difficulty. "Making friends and influencing people" is, however, the forte of someone in every successful enterprise, business or professional, architectural or engineering, industrial designing or product styling. The ability to dramatize what one has to offer in such a way as to create an urgent desire for it is a factor that has been recognized by successful industrial designers.
- ◆ There was a cynical saying among architectural students some years ago—"Any good graduate can design the building, but it takes an artist to land the job." There is enough truth in this to make it worth a little thought. And it may point the way to the logical expansion of the architect's sphere of activity—the design ability is there, the need for it is evident all around us. Why not a little more attention to ways and means of being "the artist that lands the job?" It does not mean a lowering of professional standards but it might well mean a greater appreciation of, and use of, the designing ability of the profession—and in the end the "rightful place" of the designer in the scheme of things, and finally, an "ever increasing service to society" on the part of the profession.

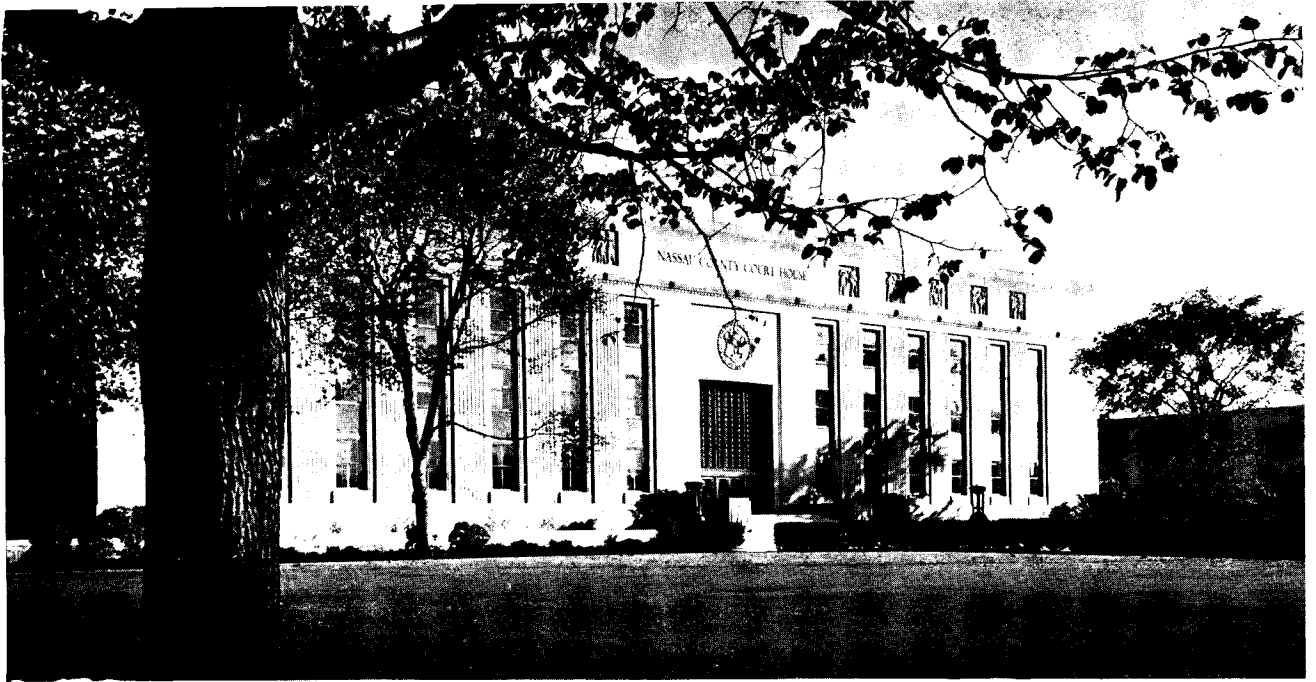


LENOIR COUNTY COURT HOUSE

COUNTY

PUBLIC BUILDINGS

AUDITORIUM



Sigurd Fischer

Nassau County Court House, Mineola, N. Y. Lawrence J. Lincoln, Architect

DREAMING ISN'T PLANNING

By MAJOR GENERAL PHILIP B. FLEMING, ADMINISTRATOR, FEDERAL WORKS AGENCY

As our victory over the Axis daily becomes more certain, the air is more and more filled with plans for a better postwar period, both foreign and domestic.

Speculating about the future is a game everyone can play. But even a cursory examination of many of the schemes suggested for the future reveals that they are little more than fantasies, impractical of realization within any predictable future. And of the remainder, however practical and desirable they may be, few can be said to represent actual plans. This is particularly true of proposals for rebuilding our cities.

For some time after the war, pending the reconversion of much of our manufacturing capacity to the production of peace-time goods, we are likely to be confronted with large-scale unemployment, unless we have prepared in advance to avoid such a situation.

In my opinion, our best hope of avoiding large-scale unemployment lies with the construction industry. This is true because well-planned construction activities are capable of utilizing more labor of varying degrees of skill than almost any other, and because the benefits extend back from the construction site into the mines, forests and factories of the country, stimulating still further employment. The Bureau of Labor Statistics of the Department of Labor has estimated that for every man-hour worked at the construction site, two and a half additional man-hours must be worked off the site in the production, fabrication and transportation of the needed materials. If this estimate is correct it means that if construction, both

public and private, were stimulated to a point where a million men could be employed at the site, three and a half million men would find their way to pay rolls. Two million men employed at the site would mean a total of seven million jobs in construction and allied activities.

But aside from the stimulation of employment, there is another reason why we should expect construction to play an important role in the postwar period. We need the construction for its own sake.

During the war, building has been restricted to the most essential of war-connected needs. Everywhere we see the effects of deferred maintenance and postponed building. Highways, for instance, except for the most essential portions of the strategic network, are being pounded to pieces by heavy traffic. Residential construction has failed to keep pace with the increase in the number of new families, to say nothing of replacing obsolete dwellings. Community facilities of all kinds—schools, hospitals, water supply, sewage disposal, airport buildings, recreation facilities—overtaxed by the strains placed upon them by wartime overcrowding, need rehabilitation or replacement.

How much of the construction load can be carried by private business is a matter of speculation. It will depend upon a number of factors which cannot be foreseen. In this sphere it will not be possible to achieve an overall program in advance, since the realizable possibilities must be related to the needs and means of individuals and private business establishments—needs not now revealed.

But on the side of public construction we can plan con-

structively with every assurance that our plans can be realized. The needs of federal, state, and local governments are fairly clear, at least in broad outline, and we know what must be done to realize them.

The problem is not simply one of obtaining appropriations. In my opinion, there will be no difficulty about that. What is not well enough understood is that money alone will not result in needed construction, nor will it provide jobs. Public works projects, like construction of any other kind, must be planned. For the new hospital or the new school, a site must be obtained—often by the long-drawn-out processes of condemnation in the courts. Arrangements for financing must be made, sometimes by means of bond-issue referenda. Engineering surveys must be made. Architects must be employed to prepare designs, and these must be translated into working drawings. Construction bids must be solicited by advertising and then canvassed. All of these steps must be taken before the contractor can take over and a single construction worker given a job.

As a consequence, no state, city, county or other unit of government can be said to have a postwar plan unless it has already initiated some, if not all, of these steps. There will be no jobs immediately after the war unless all the steps have been taken before the end of the war.

The experience of the old Public Works Administration, in which I was executive officer and deputy administrator, from 1933 to 1935, illuminates the problem. PWA had been given three and a third billion dollars with which to make jobs quickly and at the same time to plan a nationwide public works program. Our instructions thus were in conflict, since it was obviously impossible to prepare a program and at the same time create job opportunities. To prepare a program involved careful consideration of each proposed project to see that it was properly integrated with existing facilities and with community, regional and national needs. This in itself would have taken months or years.

Many cities were slow in filing applications. When they did, the proposals submitted were usually little more than vague, generalized ideas. Sites had not been secured; legislative authority, in many cases, still had to be obtained; no engineering studies had been made, no architectural work had been done; no working drawings had been prepared. A small amount of federal construction was ready to start, but eighteen months elapsed before it was possible to put as many as 100,000 men to work. In the meantime, the President, in order to prevent actual want, created the CWA and allocated to it \$400,000,000 of PWA funds with which to improvise projects. It was out of CWA that WPA developed. Both CWA and WPA served a highly useful purpose. While some of the projects may have had little permanent value, they did sustain and give hope to millions of the jobless in their time of need. Those who criticize WPA need to remember that it was merely the natural result of our own neglect as a nation to plan soundly in advance. Having learned our lesson, there is no excuse if we fail to plan soundly this time. For in days to come bare subsistence wages on made-work projects will not do if we are really sincere in our determination to achieve Freedom from Want.

New York State and New York City are at work now on site acquisition and the preparation of working drawings. The California legislature recently appropriated

funds for plan preparations. A number of other states have made similar appropriations, but most of them are too small to have any appreciable effect on postwar rehabilitation. Aside from the exceptions I have noted, the planning page, for states and cities generally, is mostly a blank.

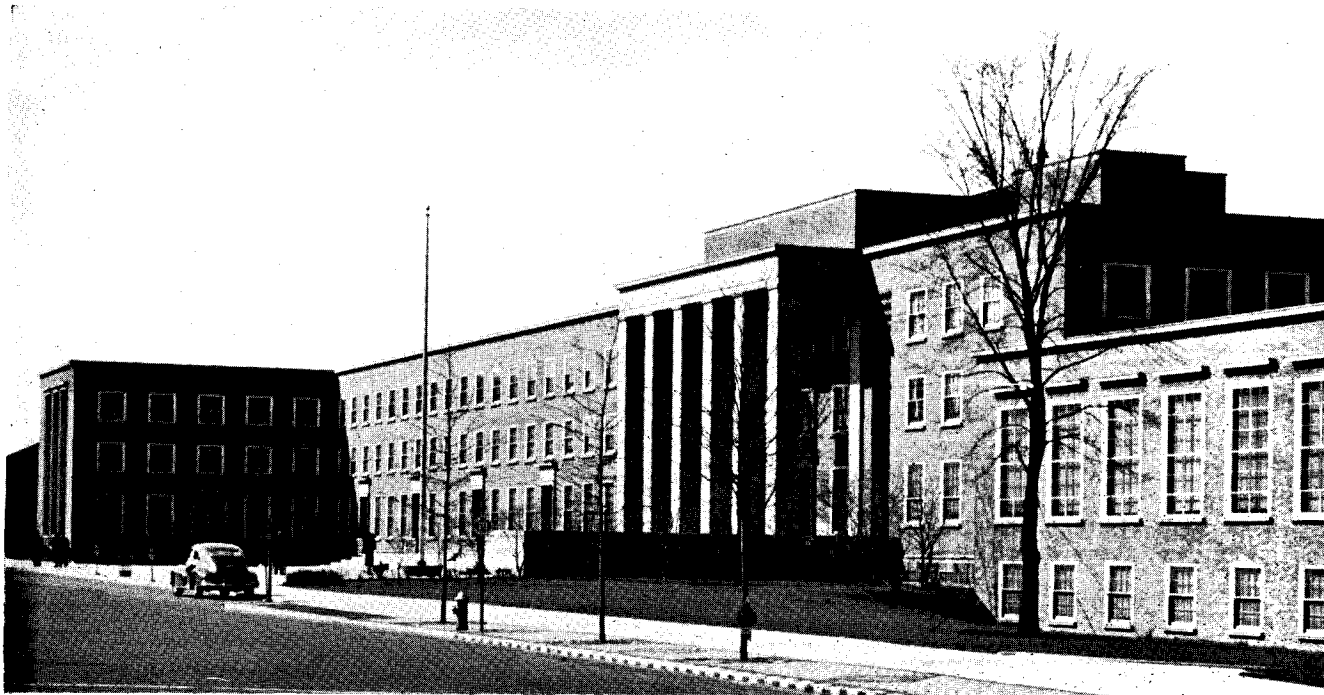
Most of the cities are waiting, I think, to see what help they may expect from the federal government. This is entirely understandable. While legislation is pending to permit the Federal Works Agency to assist local communities in plan preparation, the bill, as I write, is reposing in the House Ways and Means Committee.

Without waiting for Congress to act, there is much that states and municipalities can do for themselves. It is obvious now that public works construction is a continuing function on all levels of government, and the planning of such works should be provided for in state and city budgets as a continuing function also. Relatively, the cost of such activities is slight. They should be considered in the light of insurance against possible future need.

Personally, I hope it will be possible to achieve a nationwide program, composed of both big and little projects, and including a good many that can be started and stopped quickly. It should be capable of management in such a way that public construction will best supplement the recovery efforts of private business. If those optimists who predict a great boom to follow the war prove to be correct, it may be desirable to initiate at once only the most urgently needed of public works construction. Plans for projects that can safely be postponed can then be laid back on the shelf until some later time of need. Moreover, a truly national program will be a protection against the surrender of public construction to pressure groups, for unless we can have some sort of control over the program, we are likely to see any funds that may be available grabbed up for pet projects of dubious merit. A city that has not yet provided its citizens with a safe water supply has no business building a monumental football stadium before it fixes up its water works—and in saying that, I am no enemy of football.

If federal assistance to states and cities should be forthcoming, this careful advance planning will still be of the utmost value. As PWA experience shows, no federal agency administering a federal-state public works program can speedily and intelligently assist state and local communities unless concrete proposals, with carefully drawn plans, are submitted to it for consideration. Much time will be lost if only vague ideas, unbacked by engineering studies, are offered.

I have been asked what architects and engineers can do about all this. As private citizens, I think they can do a good deal. They can call on the mayor, for example, and ask him just what plans he is making for the postwar period. They should not be satisfied with pretty pictures or vague generalities. They should ask to see the deed to the needed land and the working drawings. Those are acid tests of sincerity in this matter. And then they might go over to the state capitol and have a talk with the governor and the State Planning Commission along the same lines. But they will have to do it as disinterested citizens, making it perfectly clear that they are not simply seeking commissions for themselves. It wouldn't hurt to take the president of the Chamber of Commerce, a couple of labor leaders and representatives of contractors and materials' dealers along. They also have a stake in this.

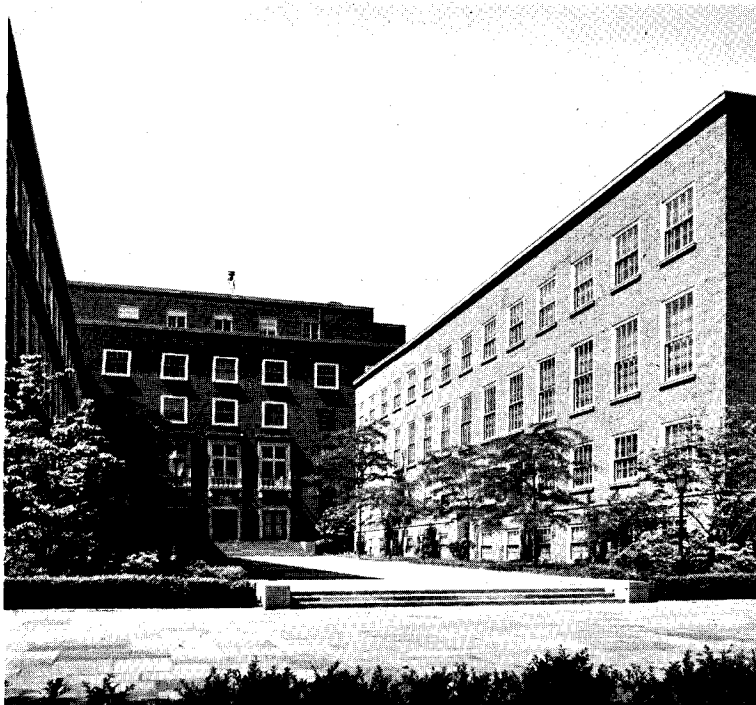


Sigurd Fischer photos

BOROUGH HALL THAT BEAT THE BUDGET

BOROUGH HALL, BOROUGH OF QUEENS, CITY OF NEW YORK

WILLIAM GEHRON, ARCHITECT; ANDREW J. THOMAS, ASSOCIATE



Sullivan A. S. Patorno, Mechanical Engineers
Matthew Hiller, Structural Engineer
Clarence C. Combs, Landscape Architect
O'Driscoll & Grove, General Contractors

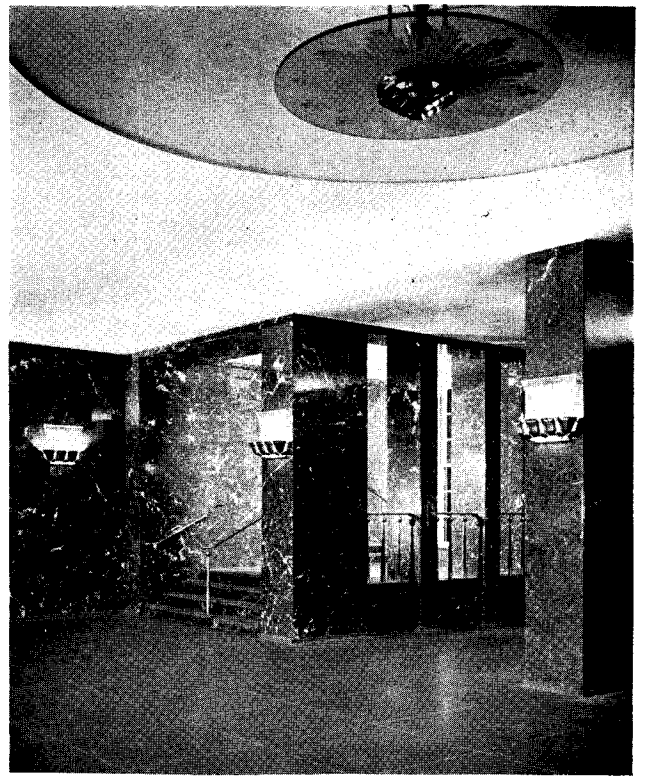
IF public buildings generally are not distinguished for economy, or for speedy construction, here is at least one that is. Circumstances demanded that the building be ready for occupancy in just under a year from the start of the planning, and that it be built for 50c a cu. ft. Plans were ready for bids in three months, and the eight months construction deadline was met. And the cost ceiling was satisfied with a comfortable margin; the "substantially completed" cost was 40c. a cu. ft. But in spite of this speed and economy, Mr. Gehron has achieved a building of marked character and distinction.

Plans were based on a purely functional idea of providing separate wings for each of the principal Borough departments. Floor areas required for the various units made it



advisable to have the wings of different sizes. Another requirement for each department was easy access from the main entrance, and certain units wanted separate street entrances to care for heavy peak loads of public visitors. These factors, plus economy considerations, called for a low building, and the city fathers expressed a preference for a style of Colonial character.

The building to meet these requirements is 585 ft. long, fronting on Queens Boulevard, with two wings, each 150 ft. long on the rear, and with a colonnaded porch at the main entrance terrace. The width of the wings was determined by actual plotting of the furniture and equipment. A maximum of daylight was obtained by utilizing ground contours, and by varying the number and height of stories to the demands of individual wings.



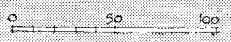
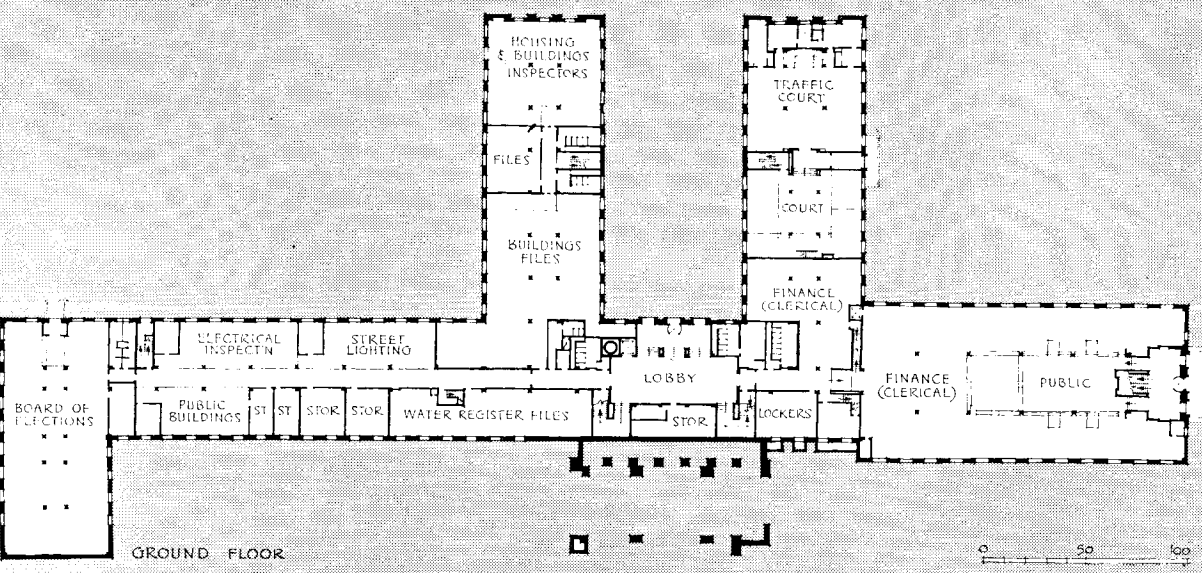
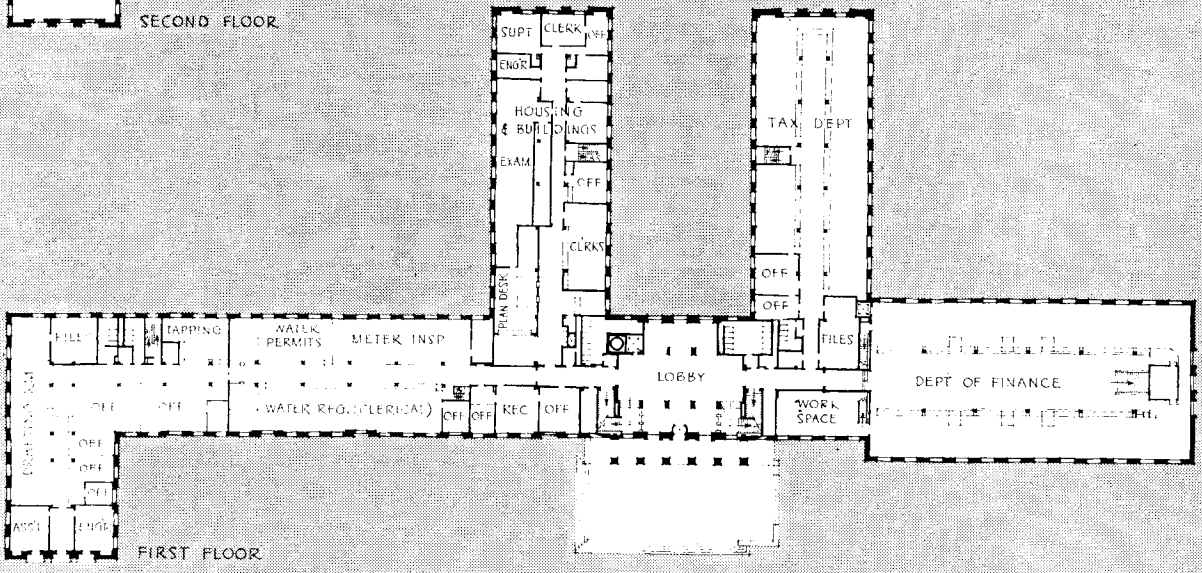
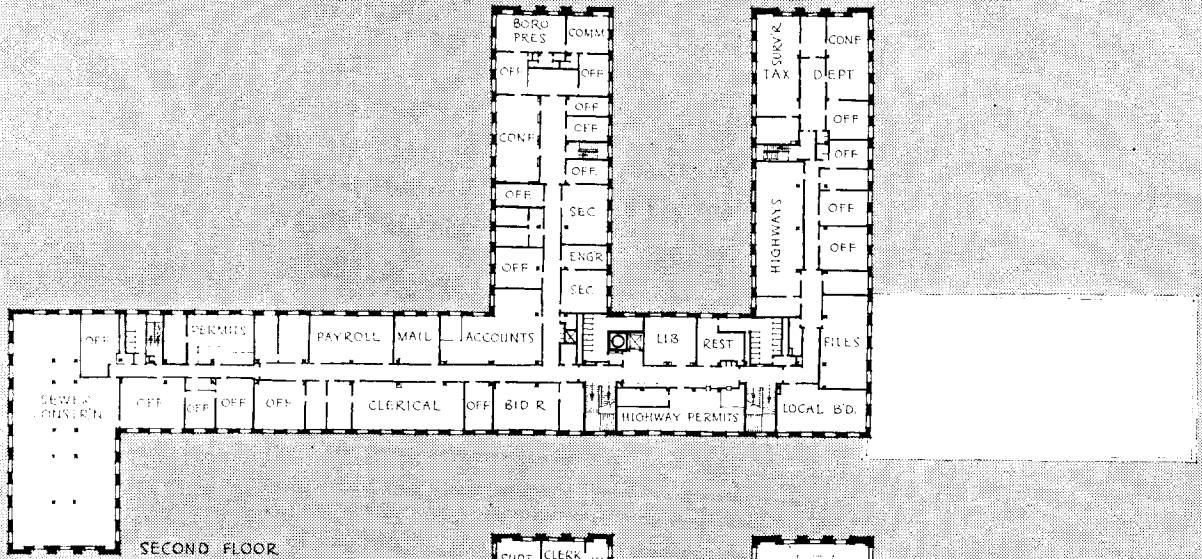
Above: view toward front of the main lobby on the first floor

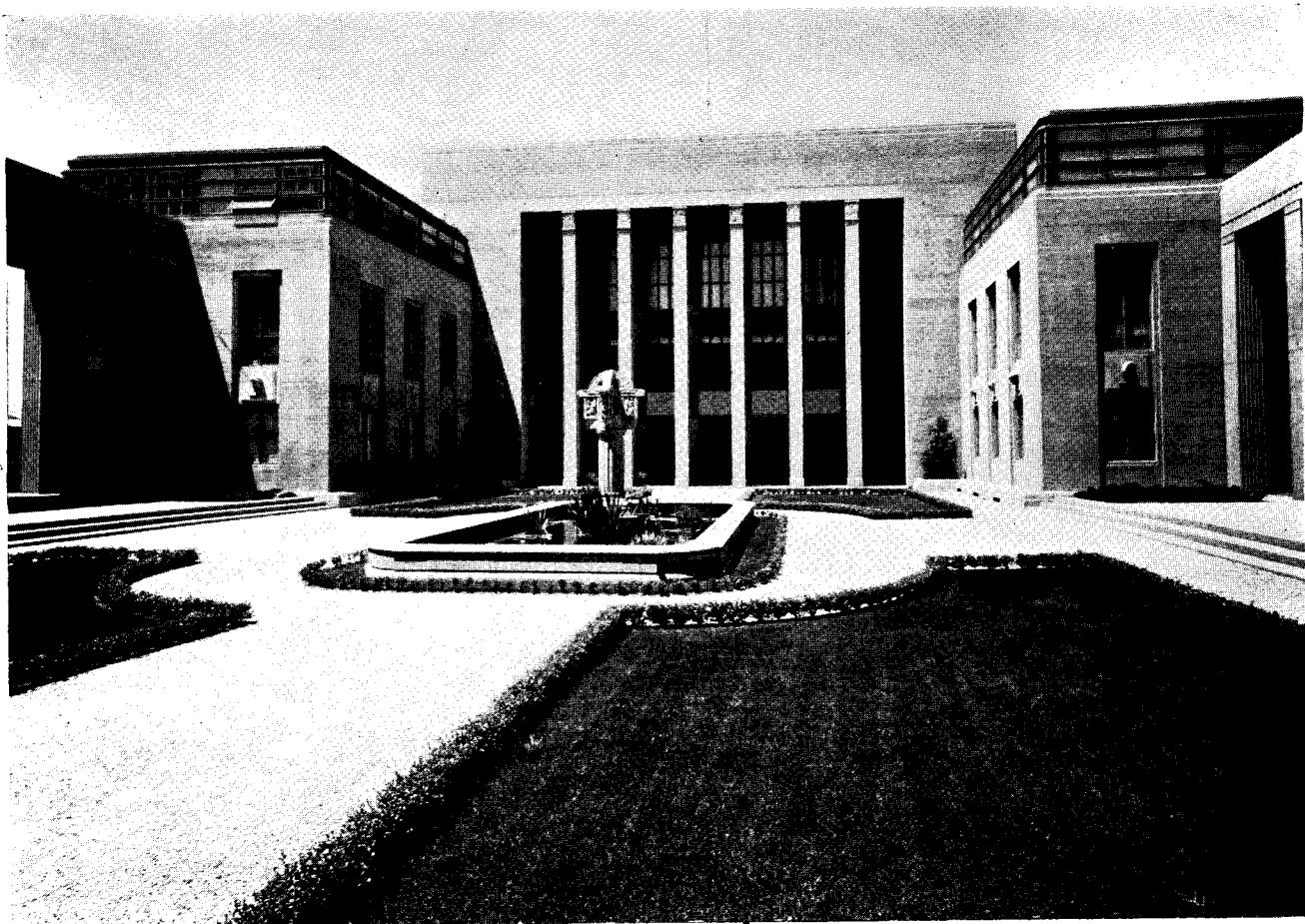
Upper left: public entrance from the sunken garden in rear

Lower left: first floor tax payment room, finance department



Ceiling heights range from 14 ft. 6 in. for the main floor, to 10 ft. 0 in. for the third floor, for both main building and rear wings. The Tax Collector's department, in the two-story side wing, has a higher ceiling height, 15 ft. 6 in., to give a banking-room character to the main tax collection quarters. The combination of ground-floor space for heavy-traffic departments and reduced ceiling heights above, made possible the unprecedented economy.



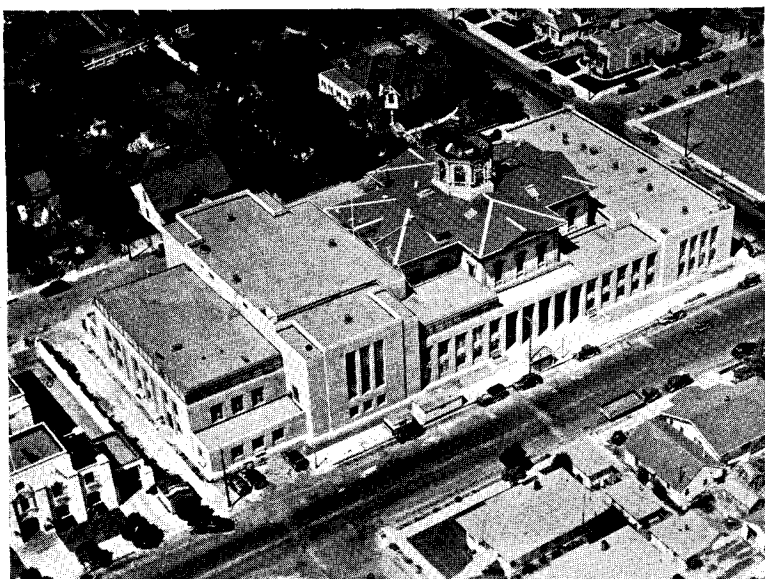


Sibyl Anikeeff

POURED AROUND ITS PREDECESSOR

MONTEREY COUNTY COURTHOUSE, SALINAS, CALIFORNIA

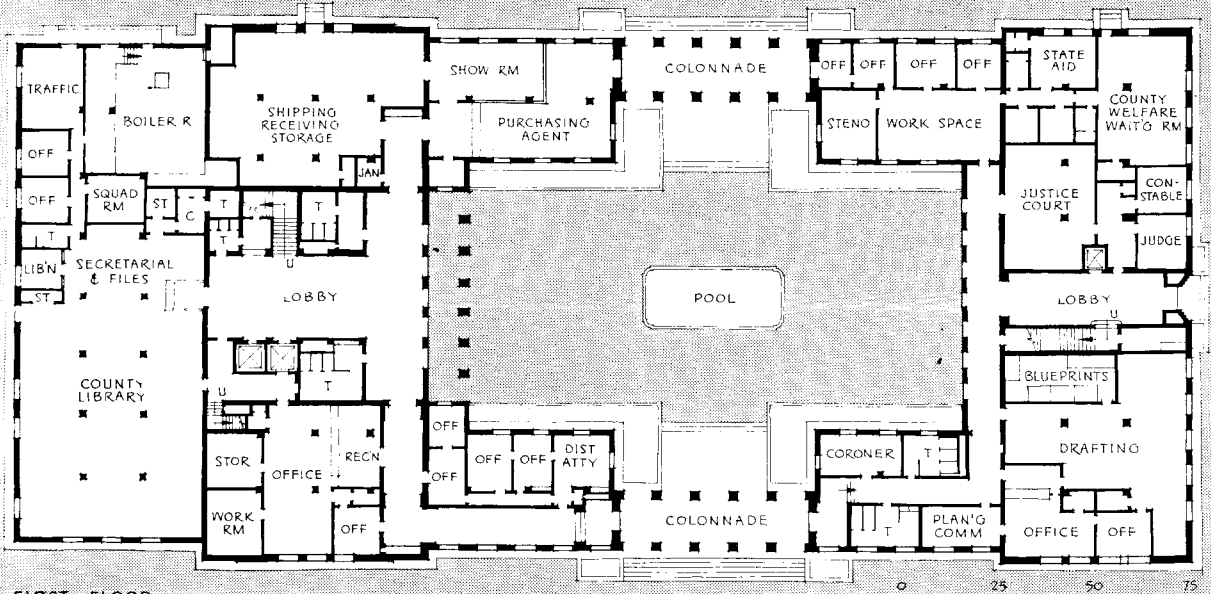
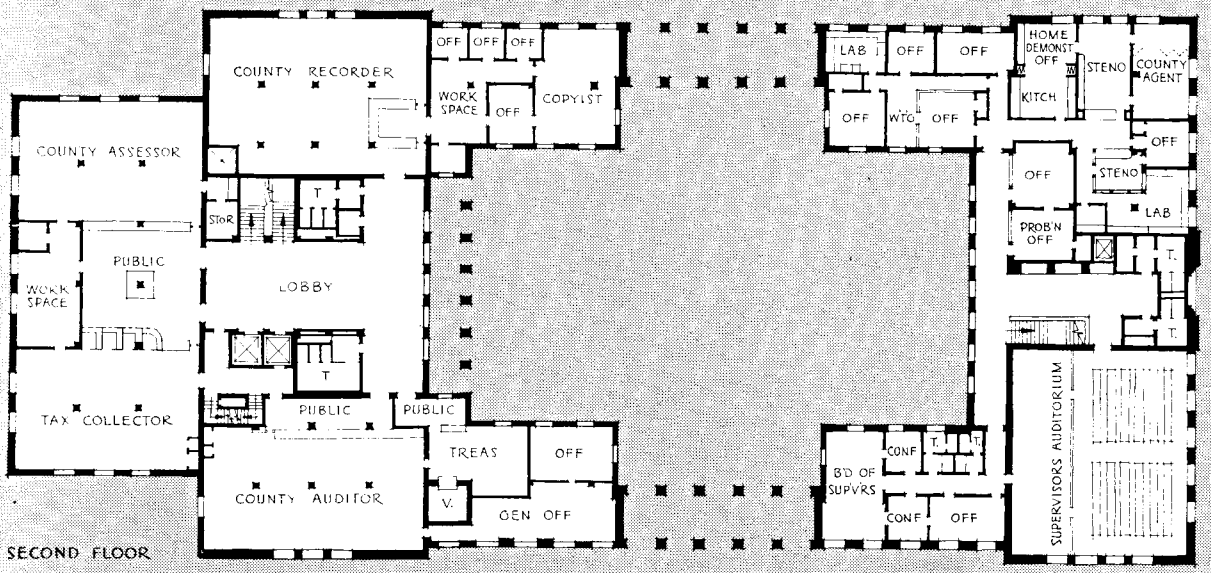
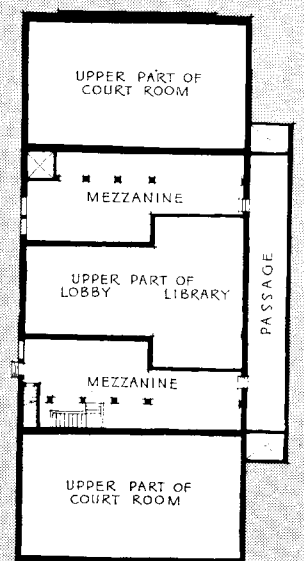
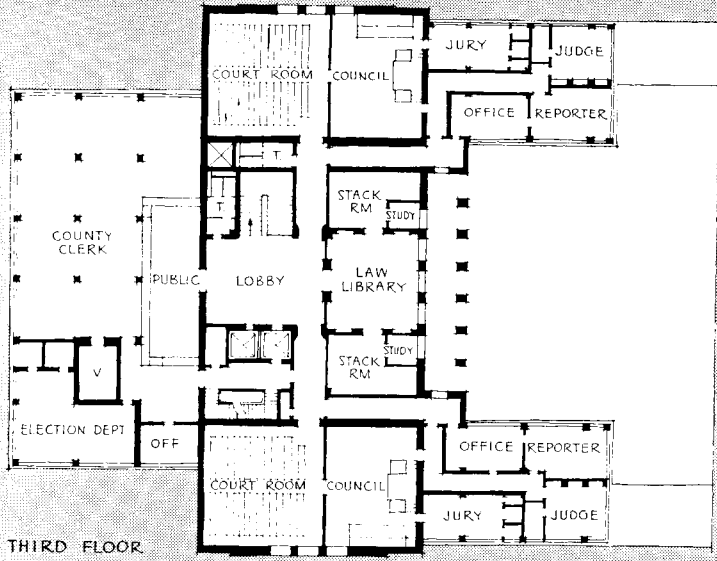
ROBERT STANTON AND THOMAS B. MULVIN, ARCHITECTS

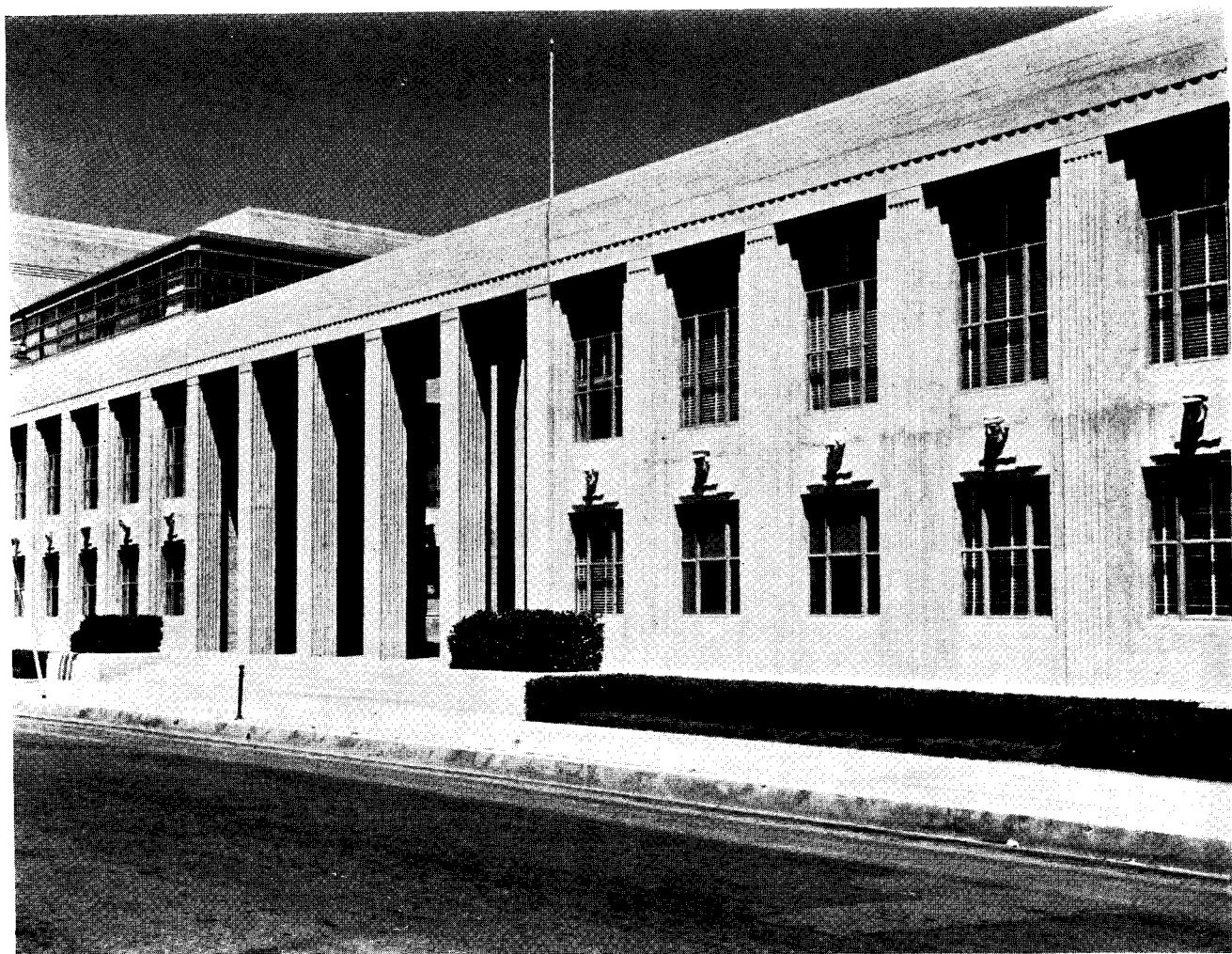


Richard D. Ware and Mac D. Perkins
Structural Engineers

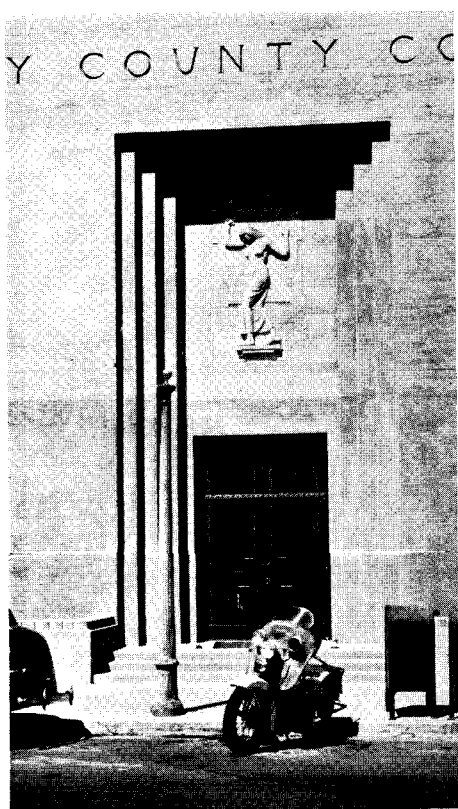
G. M. Simonson, Mechanical Engineer
Barrett & Hilp, Contractors

THIS COURTHOUSE for a California county took its form from the former courthouse, only in reverse. For it was necessary to design, and build, the new structure around the old, leaving the old on the site and in continued use until the new was ready for occupancy (photograph at the left). With this consideration as a starting point, the plan was allowed to develop naturally "with every effort made to avoid forcing either modern tendencies or classic reactions." Soil conditions ruled out any thought of a tall building with its concentrated footing loads. The structure is supported on a



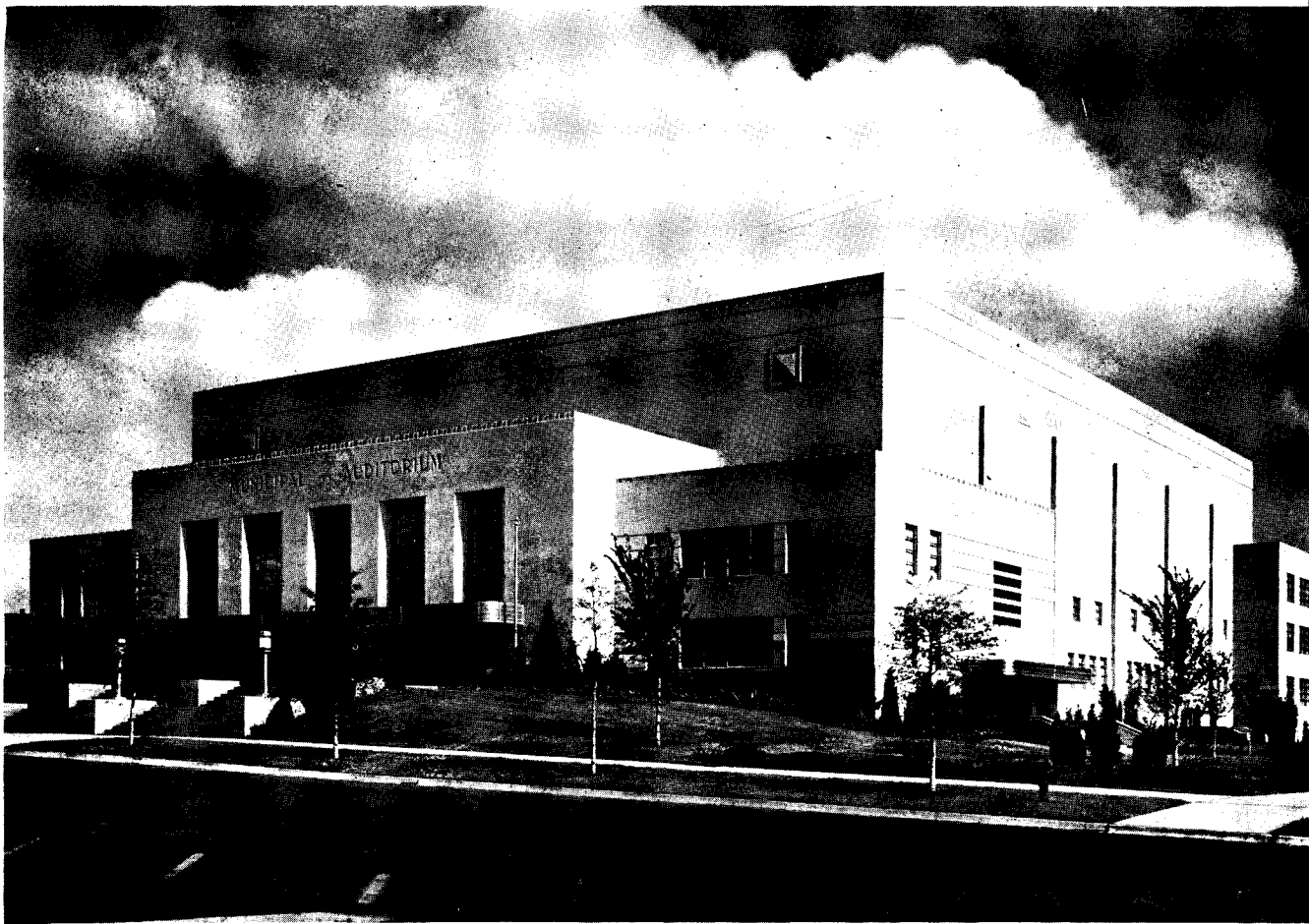


Except for the heads on the spandrels, all ornamentation is simple enough to be cast monolithically with the building.



grillage of concrete footing beams, with uniformly distributed loads. It is of reinforced concrete of monolithic design throughout, except for steel girders used over court rooms and the supervisors' auditorium. The exterior finish is the exposed monolithic concrete, in pink high-silica Portland cement, sandblasted to an even texture. Most of the ornamentation is monolithic with the building; exceptions are the heads on the spandrels, which were cast of concrete and set in place. These heads are of some two dozen designs, of local historical interest, done by Jo Mora, sculptor.





Wolfe

MULTI-USE MUNICIPAL BUILDING

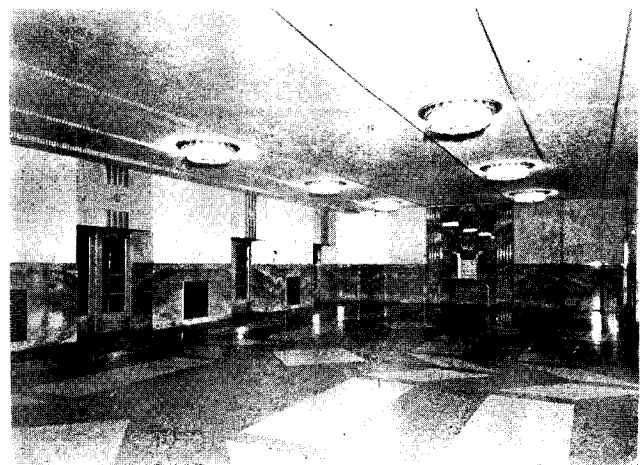
MUNICIPAL AUDITORIUM AND CITY HALL, TOPEKA, KANSAS

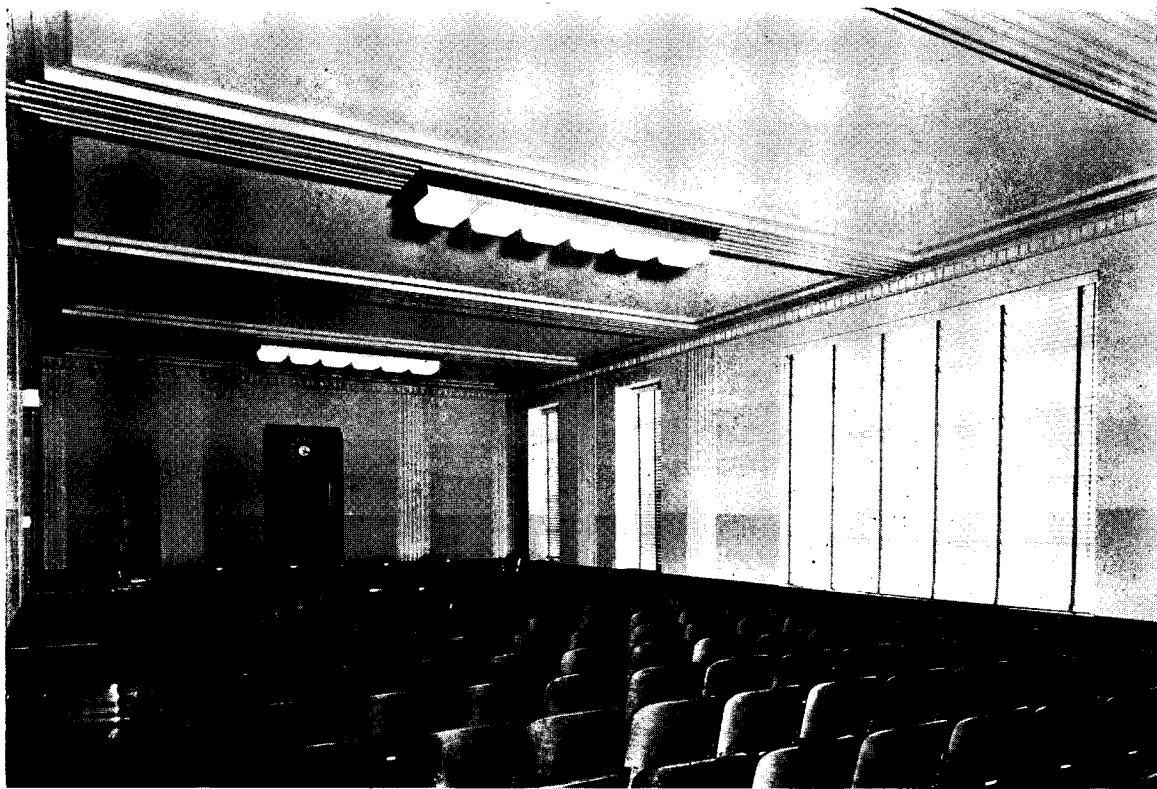
GRIEST AND COOLIDGE, ARCHITECTS

Finney & Hazard, Structural Engineers; William L. Cassell, Mechanical Engineer;

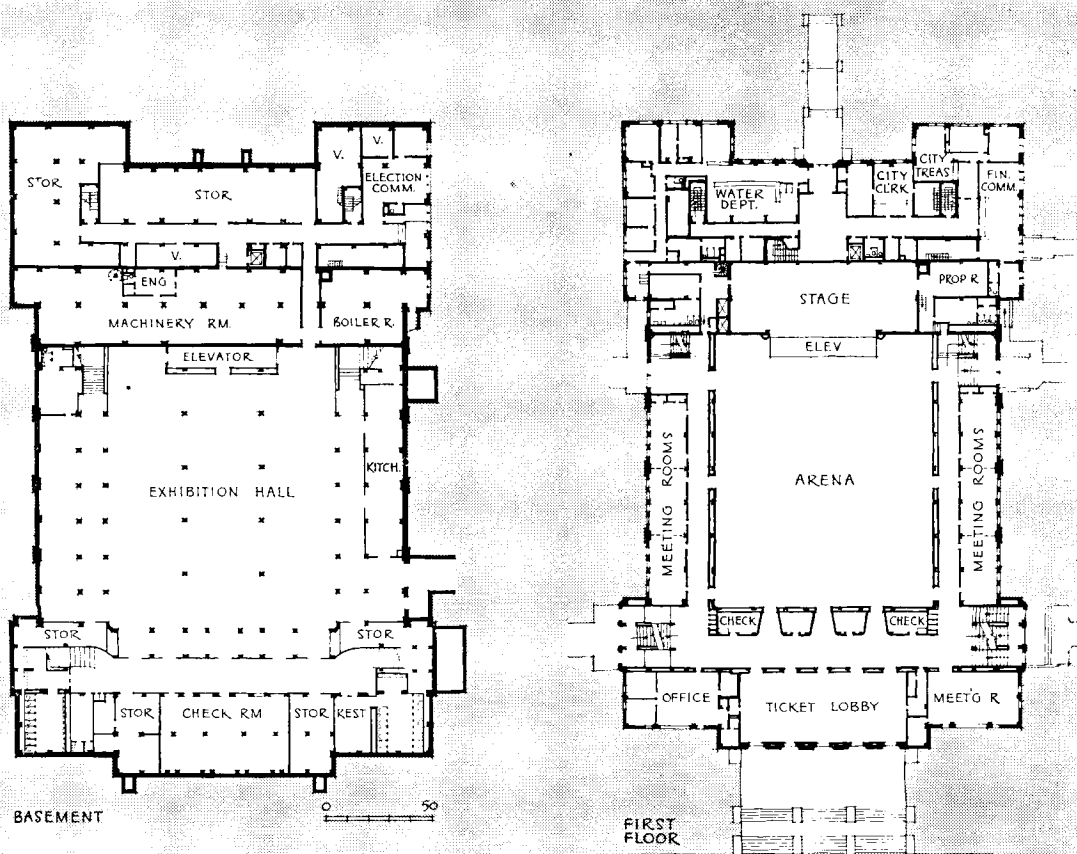
F. M. Spencer & Son, Contractors

LIKE many another moderate sized city, Topeka for years ran its municipal affairs from an ancient city hall, and, also typically, needed some civic center for sports, plays, exhibitions and other community functions. Just before the war the two needs were met in a combination municipal auditorium and city hall, with a large exhibit room in the basement of the auditorium section. The auditorium is of the arena type, with seats removable for sports or what-not. Total seating capacity is 4,247, of which about half is in the balcony. Auditorium section is separated from city hall by a common dividing wall in the rear. Both parts of the structure are completely air-conditioned. The building rests on huge concrete piers down to a shale bed. Except for the auditorium floor, its supports and roof trusses, the structure is of reinforced concrete. The six roof trusses are of steel, with a span of 164 ft.



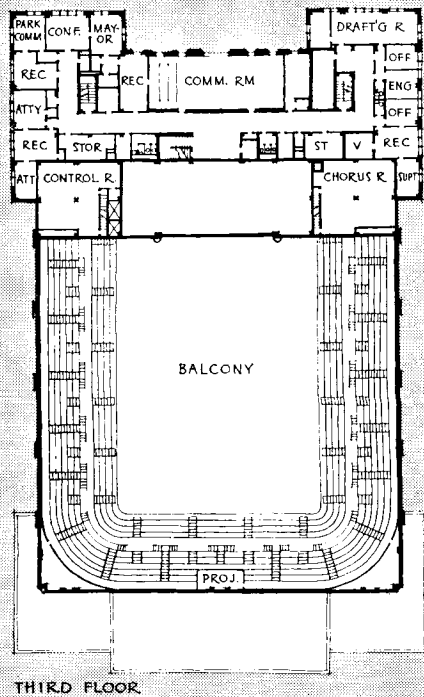
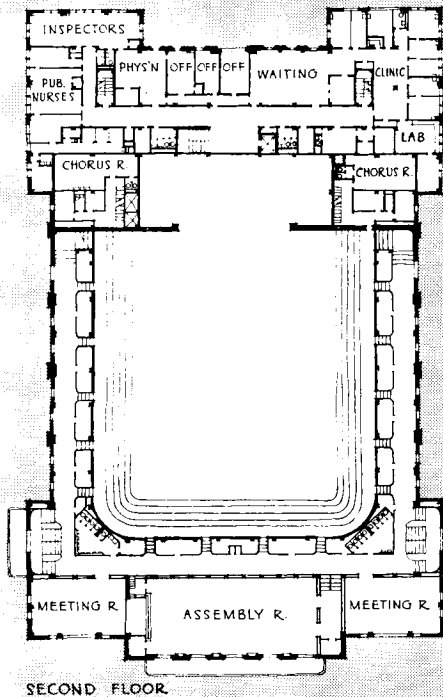


The City Commission chamber on the third floor of the city hall section of Topeka's multi-use municipal building





Auditorium floor may be cleared for sporting events. Bleachers can increase the balcony seating capacity to 3,500



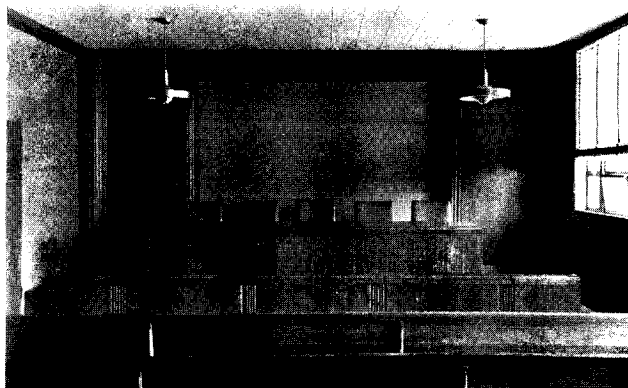


ECONOMICAL COUNTY COURTHOUSE

LENOIR COUNTY COURTHOUSE, KINSTON, N. C.

A. MITCHELL WOOTEN, ARCHITECT; JOHN J. ROWLAND, ASSOCIATE

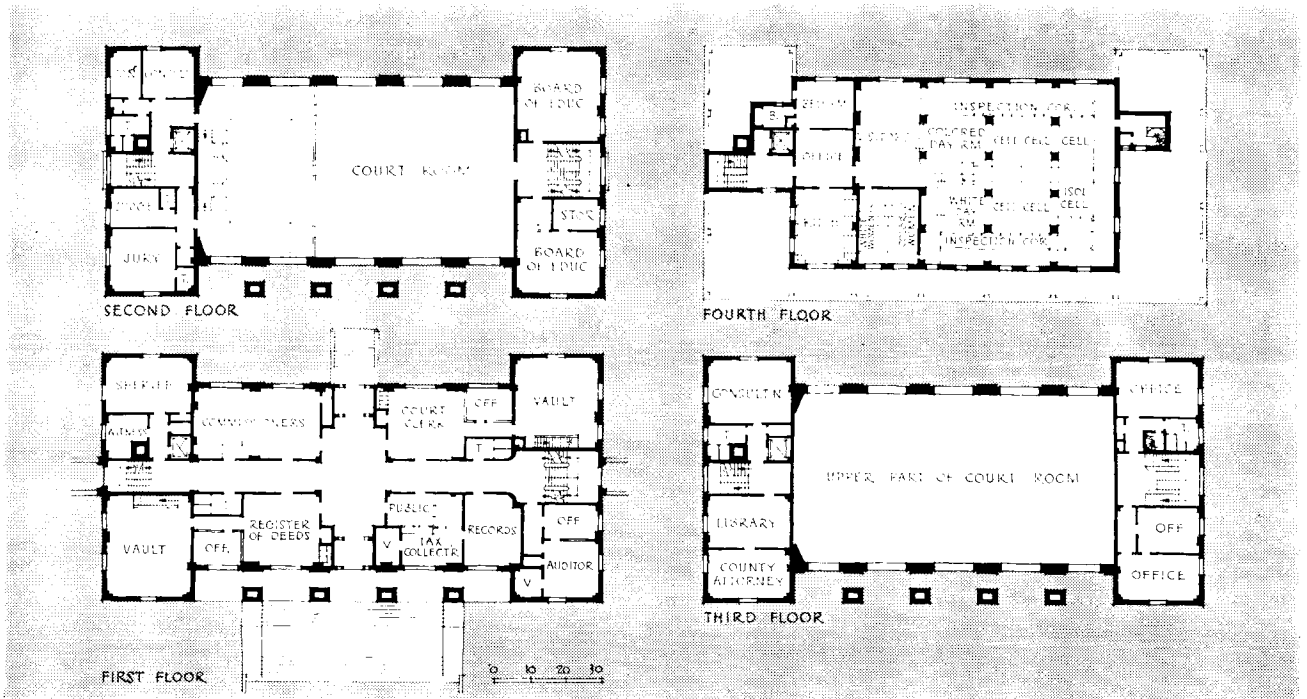
AGAIN PRACTICAL functionalism wins its victory. In this county courthouse in the Deep South the old-style monumental first floor with its high ceilings has been abandoned in favor of a 10 ft. 6 in. ceiling height, in the interests of economy. The building was planned to gather together scattered county departments, plus some newer federal offices, and the budget was limited, even with the P.W.A. help. So the building was designed like an office building. The only concession to traditional courthouse architecture was the high columns in the front, and their simplicity is refreshing enough so that the word "concession" is really unwarranted. The building contract cost was \$275,000; the fully equipped cost, \$314,000.



With all its simplicity, the plan has one unusual feature, which is explained by the North Carolina laws. In a small county the Court Room must be also an auditorium for community meetings of all kinds. Thus it gets a bit out-sized for a small courthouse, being required to seat 400. To accommodate it in a symmetrical building it was logical to place it on the second floor, with access from either end



Joseph W. Molitor photos



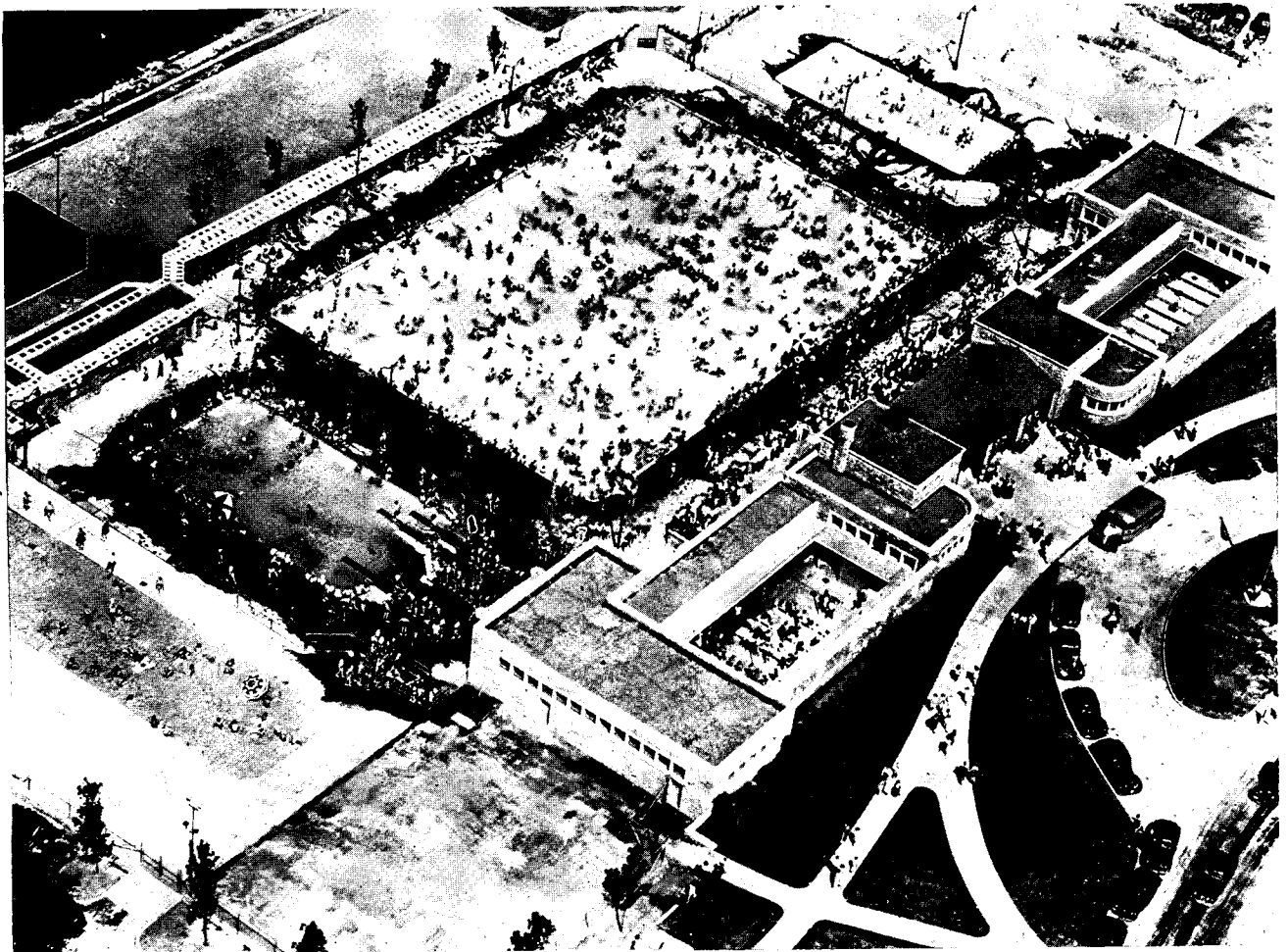


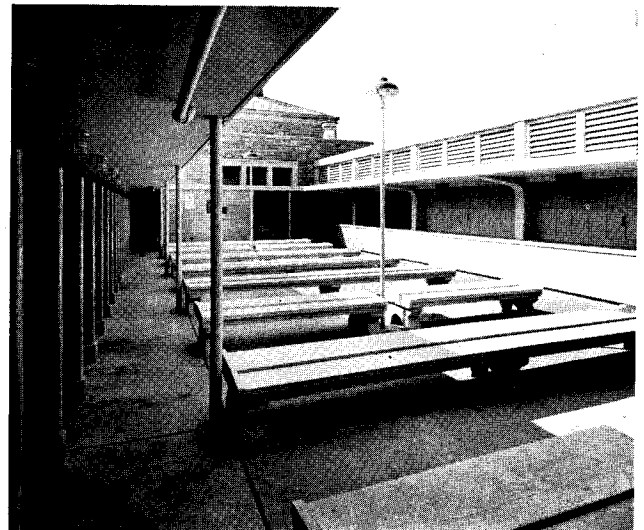
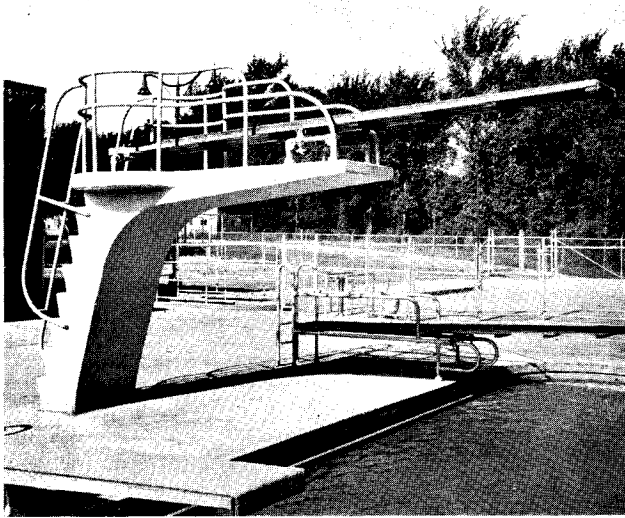
A PATTERN FOR POSTWAR POOLS

SWOPE PARK SWIMMING POOLS, KANSAS CITY, MO.

MARSHALL & BROWN, ARCHITECTS AND ENGINEERS

William L. Cassell, Mechanical Engineer; Hare & Hare, Landscape Architects





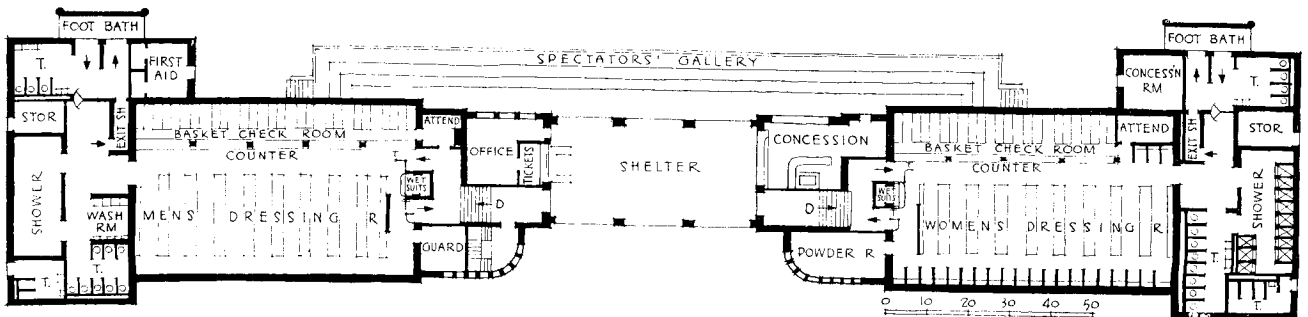
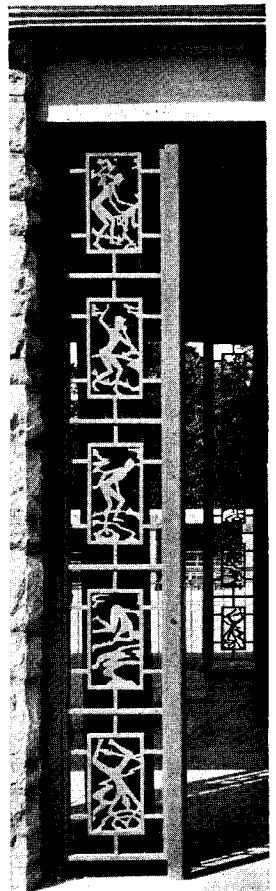
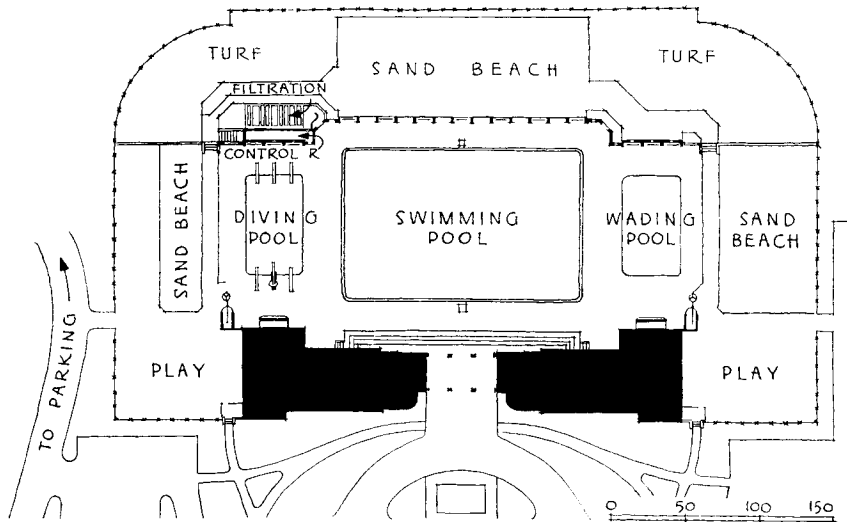
Anderson Photos

SETTING a pace for municipal swimming pools that may be expected after the war, this just-barely-pre-priorities project offers a number of planning suggestions.

There are three separate pools—for diving, swimming, and wading. Thus is the great run of ordinary paddlers shielded from the fancier performers, and thus are

the kiddies kept away from deep water. There are also extensive sand “beaches,” grass and play areas for those who “don’t go near the water.” Night lighting, both above and below the water, adds to safety as well as usefulness.

Altogether the development cost \$400,000, much of this advanced by WPA.

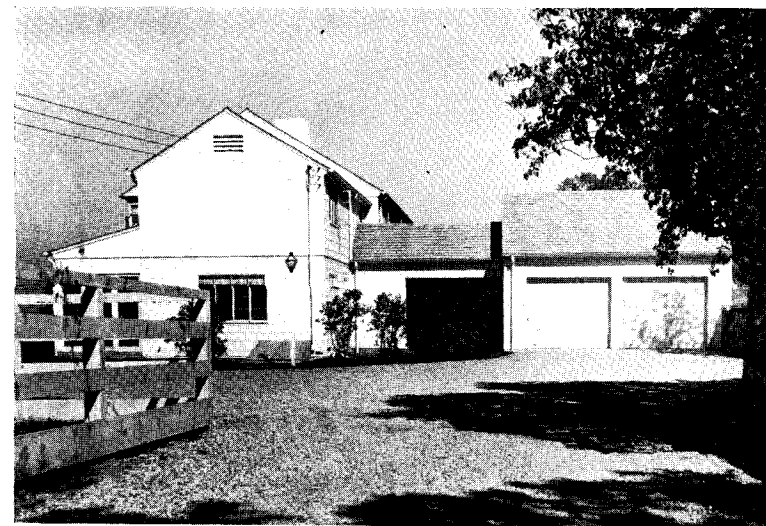




A CONNECTICUT FARMHOUSE: MODERN VERSION

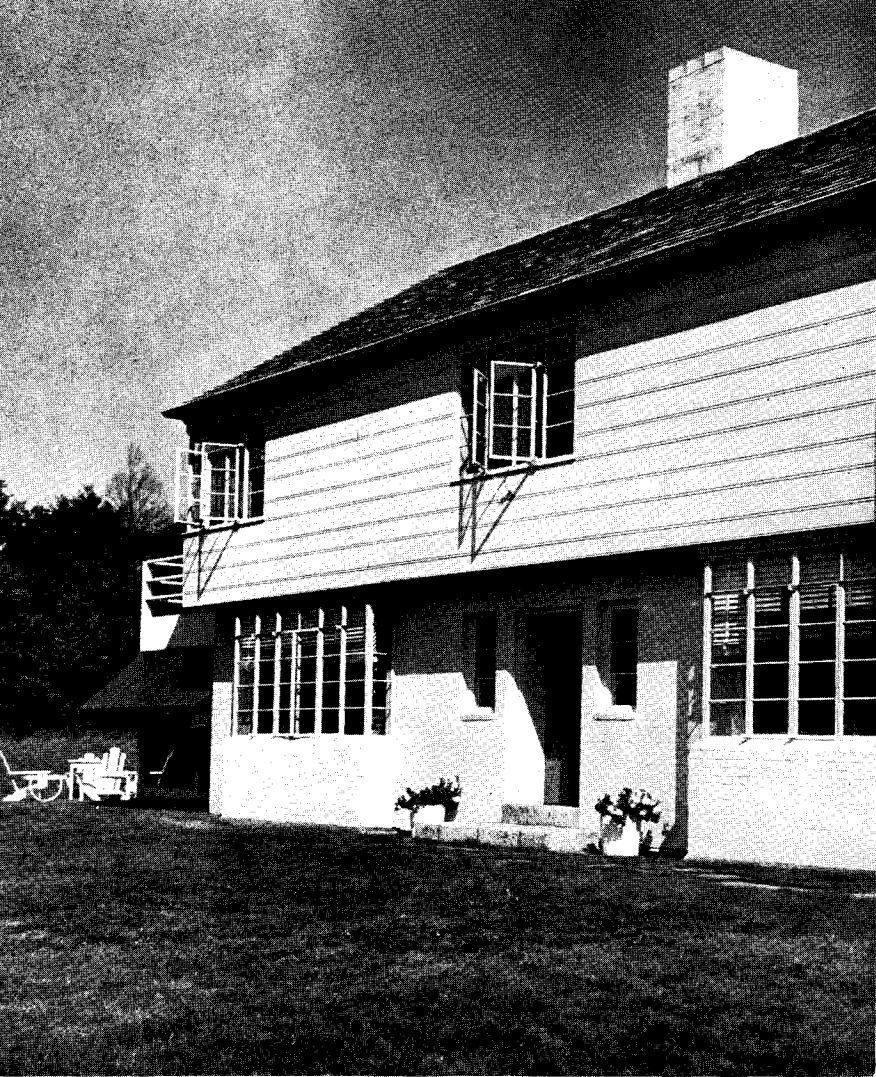
RESIDENCE FOR MR. AND MRS. ERIC HODGINS, NEW MILFORD, CONN.

ALLAN McDOWELL, DESIGNER; GEORGE H. VAN ANDA, ASSOCIATE



DESIGNED with a fresh point of view, yet to fit into a group of typical Connecticut farm buildings, this house in effect reverses the planning principles of its fellows. It is the same general shape as the traditional local product, but it opens outward toward the views instead of focussing inward toward the central fireplace of an earlier day. It was also planned with unusual deliberation for clients who studied *their own* requirements with painstaking thoroughness. The result: "We are living in our new house and we *like* our architect."

The first floor plan was laid out for maximum convenience of the family and consideration for the servants. A little bar, with sink, in one of the hall closets saves many steps, and also saves confusion in the

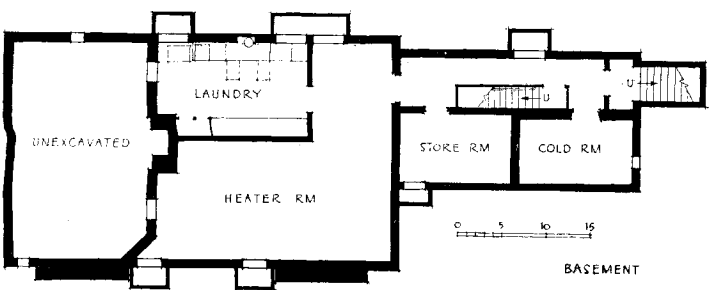
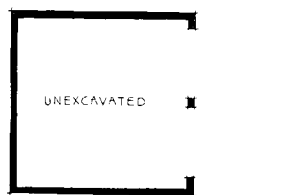
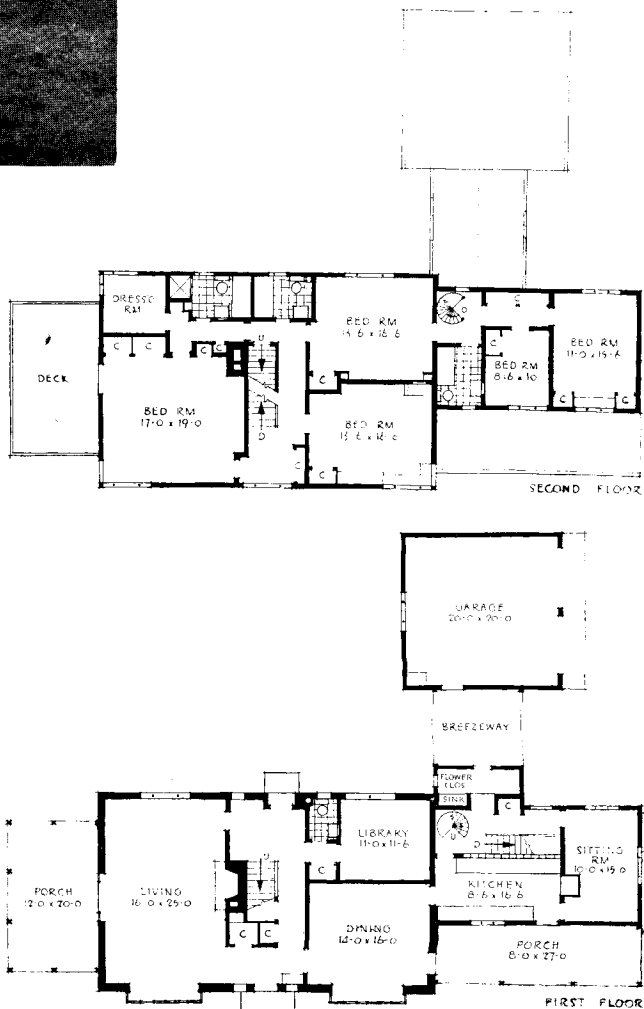


Gutters are carried around the corner, to keep downspouts off the front

George H. Van Anda photos

kitchen. The library was planned as a "dead end" room for total isolation and quiet; its principal purpose is as a study, but it can be a guest room, or a sick room.

The kitchen plan was "redrawn ten times," and each change was studied with scale models of the all-electric





Circular stair (right) leaves space for separate passage to servants' room

equipment. The kitchen wing was designed primarily in the interests of the servants, who have their sitting room and access to their upstairs rooms entirely separate from the kitchen. The circular stair left room for the separate entrance to the sitting room. The porch with this wing serves as outdoor dining room for the family, outdoor living room for the servants.

Enthusiastic gardeners in this family particularly appreciate the flower closet, with its wash-up sink, at the rear entrance.

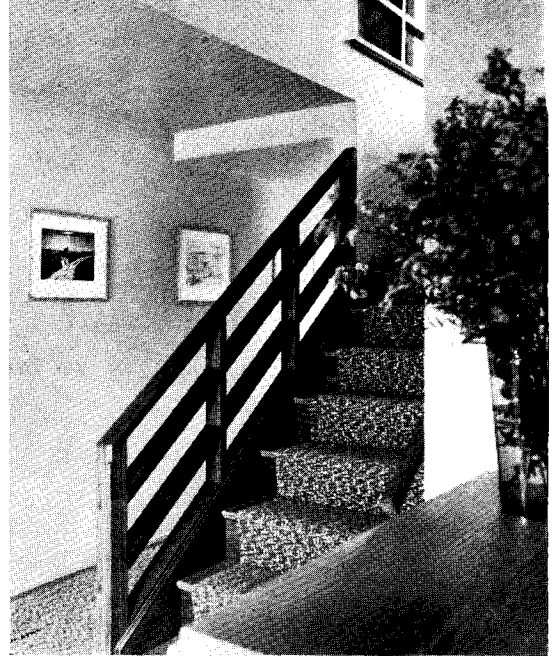
Each bedroom has a shallow niche for the beds, an idea which was desired for itself and also for the odd spaces it left for extra closets. One of these is an upstairs cleaning closet, with a duplicate set of supplies, so that it is not necessary to carry them up and downstairs. The clients wish they had found space for one more—a



closet for nothing but work clothes. Beside two of the bed niches there is a master switch to turn on all hall lights and outside lights in case of an alarm.

The basement laundry is really a combination laundry-canning-milk room, where vast quantities of farm produce can be processed without reference to the kitchen. The "cold room" is for the root crops; it is lined with shelves and has insulated door and inner wall.

Construction is frame, with brick veneer on first floor, wide redwood siding above. Both the common brick and the redwood siding are painted. Side walls have a one-inch rock wool blanket; ceilings have four inches of loose rock wool. Roofs are of asbestos cement shingles. All interiors are of dry-wall construction, finished with various combinations of paint and wallpaper.



The clients particularly liked the simple walnut stair rail

Plan of the all-electric kitchen was "redrawn ten times"



PRACTICAL RADIANT HEATING

By RAYMOND VINER HALL

From a wide and successful experience in providing his houses with radiant heating systems, the author discusses the basic principles and explains their practical application in detail

IN this discussion we are first concerned with recognizing the conditions which sustain healthful comfort of the human body. Secondly, we approach the practical problem of maintaining those conditions in an enclosed space, regardless of outside weather factors, by means of radiant heating panels.

COMFORT. It is generally understood that the processes of metabolism in the human body produce a release of energy in the form of heat of from less than 400 to more than 700 Btu per hour, depending upon the degree of exertion involved. The individual must lose this heat to maintain comfort, and he may lose it in two ways—by radiation of heat from the body to surfaces colder than his skin temperature, and by convection to cool air flowing over the skin.

Extensive tests have proved that the rate of loss may be maintained at the optimum level even though there is a net gain in heat received by radiation from adjacent warmer surfaces, provided that there is a larger compensating loss by convection to cooler air. Furthermore, the same rate of loss may be obtained by reversing this procedure; a large net loss by radiation to cold surfaces may be offset by a corresponding gain by convection from warmer air.

However, it has also been definitely proved that as large a loss as practicably obtainable to cool air, with a compensating gain from radiating warm surfaces, is a most healthful and pleasant condition from the standpoint of human comfort—approximating as it does the natural radiation of the sun on a brisk spring day. For a more detailed discussion of these phenomena the reader is referred to "Heating by Radiant Means," by T. Napier Adlam, and to "A Progress Report on Radiant Heating and Cooling," ARCHITECTURAL RECORD, September, 1940.

These phenomena lead us directly to the matter of RADIANT HEATING—which is the process of raising the average temperature of environmental surfaces to compensate by radiation for the high heat loss of the body by convection to cool air.

The first step is to carefully insulate all exposed construction, including the double glazing of all windows. Good insulation not only reduces the coefficient of heat transmission through the wall but also sets up an interesting chain, as follows: Higher insulation value = higher interior surface temperature with a given indoor-outdoor variation = a rise in the average of interior surface temperatures = a lower allowable room air temperature = a lower differential between interior and exterior temperatures = a smaller total Btu loss from the building.

The second step is to introduce heat within the construction itself—to use as large a portion of the interior surfaces as feasible as a low temperature radiating panel. For minimum air temperatures within a room this panel should theoretically become the entire ceiling, since the air warmed by contact with the warm panel tends to remain in place as a shallow layer near the ceiling, with convection currents reduced to a minimum. In one-story buildings, however, this setup has the disadvantage of increasing heat loss through the roof, since the relatively high temperature developed within the construction of the ceiling panel greatly increases the indoor-outdoor temperature differential.

Another method uses the floor area as a radiating panel. The floor system has many advantages from the standpoints of sales appeal, ease of construction, and cost. Its disadvantage lies in the low maximum surface temperature (85 degrees) which may be used without causing discomfort. The maximum Btu output of the floor at this temperature is sometimes insufficient to provide enough heat, thus necessitating additional heat sources at other points. Also, a slightly higher air temperature (one to two degrees) sometimes results, together with barely perceptible convection currents. Where the floor construction consists of a concrete slab on the ground, the temperature loss downward is greatly reduced due to the thermal resistance of the earth.

My experience indicates that a simple floor system is the best and most economical solution for a one-story build-



Pipe coils anchored in place above the reinforcing bars and ready for the fill and concrete to be poured

ing. Where required, radiation supplied by the floor is augmented by subsidiary wall coils under large glazed areas or by means of isolated ceiling panels at crucial points.

For the small two-story building, the first floor ceiling becomes a panel radiating downward to provide for the first story, and so designed that the heat loss flowing upward causes the second floor to act as a radiating panel supplying about 50 per cent of the Btu requirements of the second story. The balance of required heat for the second story is provided by small ceiling or wall panels for local control. In the more elaborate systems, with an increased budget, the first floor construction temperature is also raised to act in conjunction with the ceiling panel.

Of course, the circumstances involved in any particular building will influence the type of system to be employed in the particular case.

BASIC DESIGN.* Briefly, the necessary basic calculations include the following steps:

1. Assume the interior air temperature which will be required to maintain comfort. This air temperature has varied from 62 to 72 degrees in the author's practice. The latter figure is abnormally high for a radiant system, and was caused by a very large glass area in a small room, requiring a higher air temperature for comfort. In a small room the small volume of air more nearly approaches the average temperature of enclosing surfaces. For the normal building, with well-insulated construction and a normal amount of glass, the air temperature may be assumed to be about 66 degrees.

2. On the basis of the coefficient of heat transmission of the construction, together with exterior climatic conditions, the Btu loss through unheated, exposed surfaces is calculated. To this quantity is added the necessary heat required to raise entering air to the assumed temperature.

3. The average temperature of unheated surfaces is then calculated.

4. Taking into consideration the average temperature of unheated surfaces together with the assumed air temperature, the final surface temperature of the heated surface

* An analysis of this may be found in the current A.S.H.V.E. guide. Also ARCHITECTURAL RECORD, Sept., 1940.

which is required to produce the necessary number of Btu's is now determined.

5. It is now necessary to calculate the average temperature of all interior surfaces. By reference to the accompanying chart, using the factors of average interior surface temperature and assumed air temperature, we immediately know whether or not a comfort-producing condition has been obtained. Should the effective temperature fall below that indicated it will be necessary to select a higher assumed air temperature (step 1) and repeat the calculations.

6. Having determined the area and temperature of the heated surface, the last step consists of providing heat within this construction necessary to maintain the surface at the calculated temperatures, as well as replacing the incidental direct loss from the construction.

Although the method of calculation as above outlined is essential for any job in which it is necessary to forecast the actual conditions to be attained, a simplified method of design may be used in buildings where no abnormal conditions are to be met.

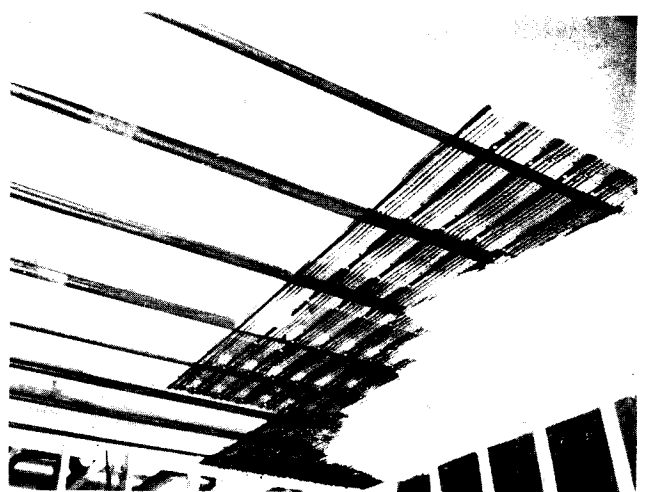
Due to the excessive number of unknown and/or uncontrollable factors, the design, installation and operation of any type of heating system may not be termed an exact science. If even the most optimistic of engineers considers a 20 per cent margin of excess capacity to be an irreducible minimum in a conventional job, we are perhaps ill-advised to attempt to tailor a comparatively new type of system within 2 or 3 per cent of the actual demand to be placed upon it.

With this thought in mind, we may simply design a heat source which will, by radiation and convection, supply enough heat to maintain the customarily calculated 70 degree air temperature. This is not to lose sight of the fact that the advantageous characteristics of a radiant type system are gained in direct proportion with the *size* of the warmed radiating panel.

This method, however, is subject to the same experienced judgment required for the proper design of any system of heat supply. That is to say, it is best used by an engineer who thoroughly understands the subject, particularly in respect to the implications of any abnormal conditions which may be encountered. In the hands of such a designer, this method provides the margin of safety which

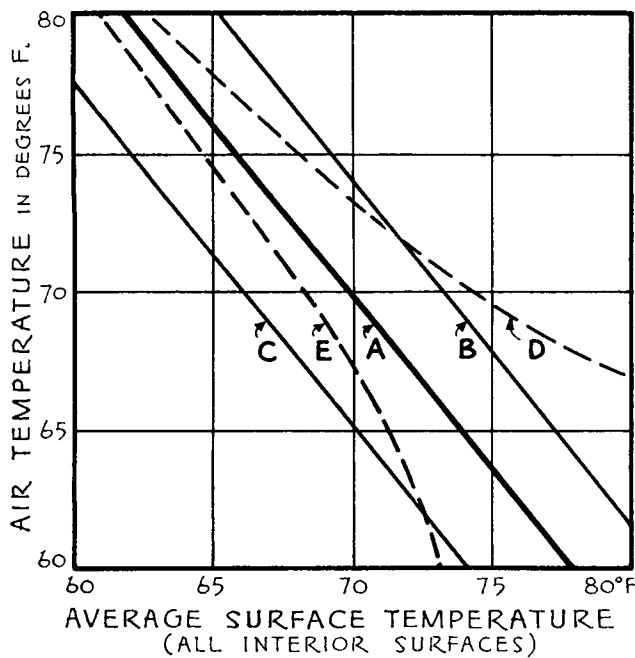


Individual valves for balancing the system are conveniently located in a typical return header installation



Pipe for a ceiling type radiant heating installation is in close contact with the metal lath and plaster

Tompkins Studio



(A) Optimum design curve for home or office. (B) Curve for seated person—reading, sewing, etc. (C) Curve for person sweeping, dusting, etc. (D & E) Approximate limit of comfort in relation to curve A. As surface temperatures go up and air temperature down the body becomes less sensitive to variation of these factors. Explaining, in part, why a Radiant system produces comfort over a much wider range of activities

good engineering makes mandatory.

The value of a thorough understanding of the principles involved is certainly a prerequisite for the proper design of a satisfactory radiant heating system, and for this reason, it is emphatically pointed out that the designer's first dozen jobs should be thoroughly analyzed. Only after this educational process is completed on each project should allowance be made for the probability that a bemused owner will some night forget to close the front door.

THE HEATING ELEMENT. There are several means at hand which may serve to supply the necessary heat to the radiating panel—all of which have been tried experimentally; with varying results.

The most imaginative method consists of electrical elements distributed near the surfaces of all feasible enclosing areas, i.e., wall and ceiling finishes, drapes, rugs, etc. This installation would possess the very great advantages of practically instantaneous response, and extremely accurate control. Much preliminary work must be done before this becomes a reality. Lower electric power costs may be necessary for economical operation.

A number of radiant panel systems have employed hot air circulated within the construction; with generally quite acceptable results. The practical difficulty of forming continuous paths for air travel has been a discouraging factor working against wide acceptance of this method.

The installation of encased pipe coils carrying hot water or steam (the most widely accepted methods) has a number of advantages which may be summarized as follows:

1. Flexibility of installation: Amount of heat supplied to any particular location or area may be easily varied by pipe arrangement.

2. Good piping practice is common knowledge among heating contractors—thus increasing the probability of getting a mechanically correct system.

3. Ease of control by means of valves located as desired.

4. Economy of construction, inasmuch as a minimum of special provisions is required.

The records prove a good piping job of built-in coils is at least as enduring as the balance of the construction, and certainly more enduring than the useful life of the average building itself.

THE FLOOR SYSTEM. With good economy and practicability in mind, the floor structure of a one-story house may well be composed of a concrete slab, over gravel fill, on grade. The concrete slab may be stained and waxed, or paved with non-insulating floor finish materials. Hot water pipes (140-120 degrees) are arranged within the slab. This method employs standard trade practices which do not frighten the heating contractor. As a result we obtain the advantages of radiant heating without employing strange or new means.

THE COIL LAYOUT. The length and size of the required pipe is easily calculated with the use of standard formulae of heat flow when the area, surface temperature, and rate of loss of the floor, together with the circulating water temperature, are known. For the convenience of the designer, charts and tables have been worked out.

The manner of arranging the required length of pipe is largely a matter of preference, but is also affected by the relative costs of bending and welding. The most popular arrangement is, of course, the sinuous coil illustrated in the accompanying photographs. A minimum of welding is required, at the expense of many full 180-degree bends. Bending is not an overly serious problem for the average heating contractor.

The spacing of individual pipes may vary—depending on the heat flow desired at any particular point in the room. The writer usually employs 1 in. pipe spaced 8 in. to 16 in. o.c., arranged in sinuous coils, with supplies and returns sized in accordance with standard practice.

Due to the tendency of downward convection currents to form adjacent to exterior walls and glass areas, an attempt is made to neutralize this effect by running supply mains along these spaces together with a closer coil spacing where deemed necessary.

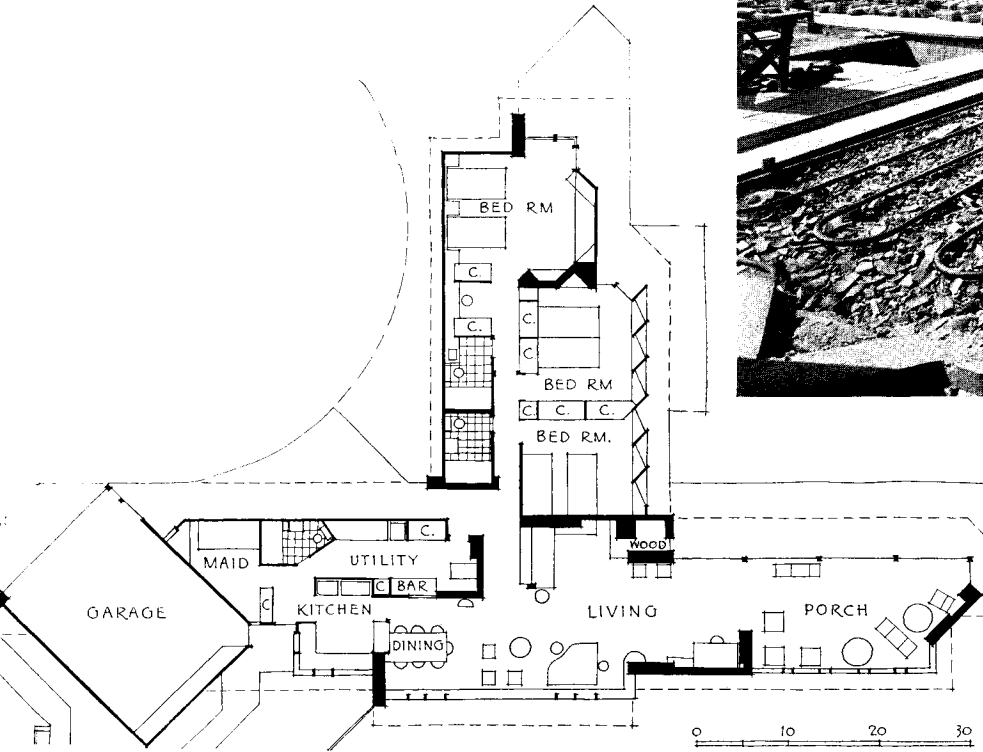
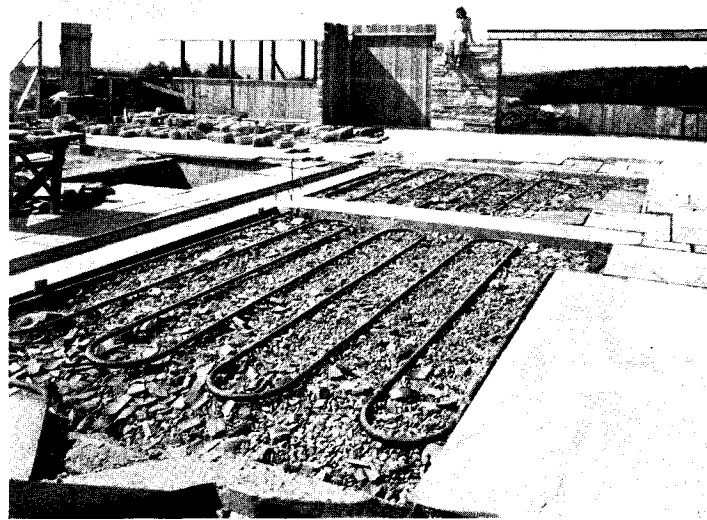
Standard control valves are introduced at each coil; and are located under built-in cases, wardrobes, etc.

A refinement consists of a lock-shield valve placed near each control valve, so that the system may be permanently balanced for operation with all control valves open. In several of our smaller jobs, the return line from each coil is individually carried to a common header near the boiler location, with a control valve in each line at that point.

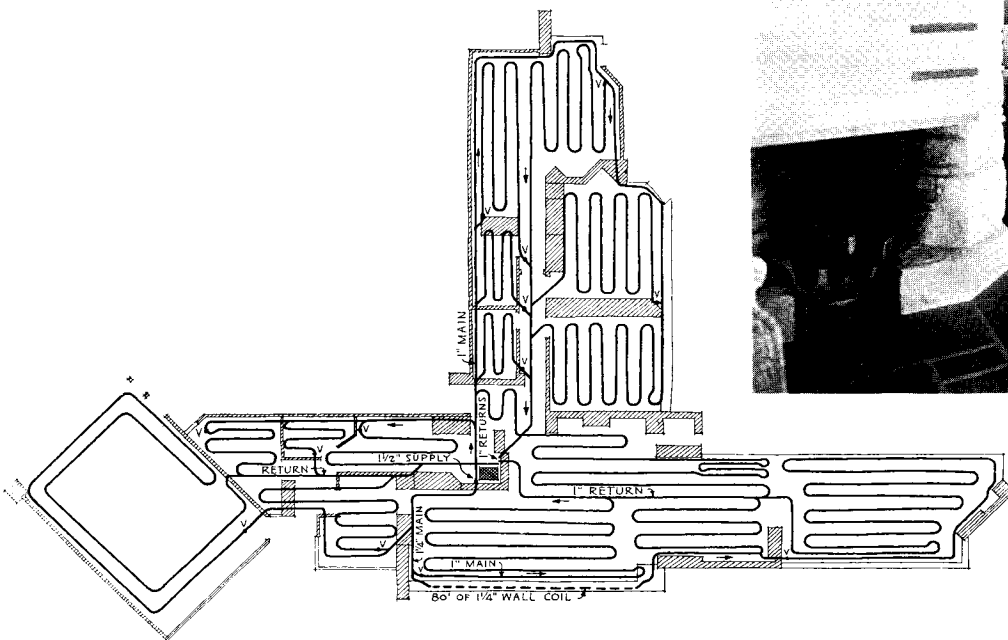
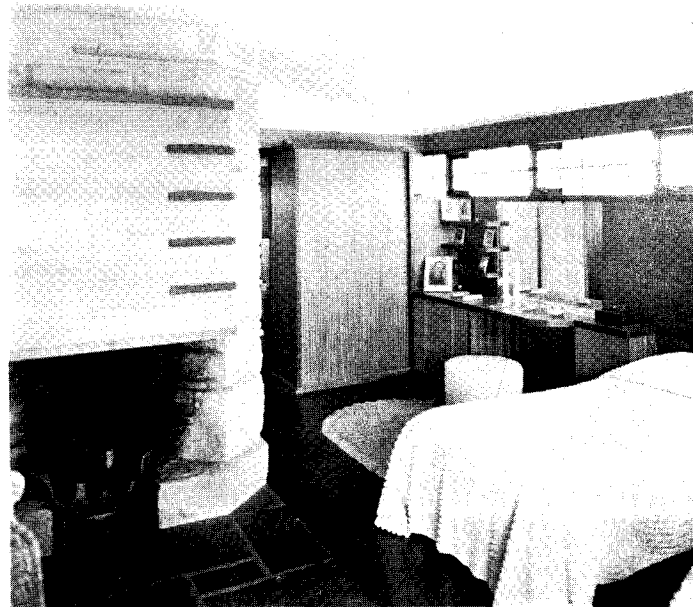
GRADING AND VENTING. It is very important that the system be carefully graded to drain. Usual practice consists of starting the main supply at the center of the slab—grading down until the returns are extended one-half diameter below the slab (a maximum drop, usually of two inches). Air vents should be installed at all logical points: over heater, adjacent to each valve, at return header, etc.

SUBSIDIARY HEAT SOURCES. The wall section indicates one type of wall coil which has been employed on

Below. Plan of the residence for Mr. and Mrs. George F. Simons, St. Marys, Penn. Raymond Viner Hall, Architect. . . . Right. View showing heating coils laid on broken tile fill, available locally. A 3-in. bed of cement mortar encases the coils and forms the base for the stone paving used throughout the house. Note projecting handles of control valves at left of coils



Below. Plan of the heating coils showing their disposition and indicating, by arrows, the direction of flow. Small letters "V" indicate the location of control valves. The wall coil (at the bottom of the diagram) is on the north wall of the house, and is concealed by a wall case. . . . Right. View of the Master Bedroom showing stone floor and fireplace



several jobs to supply additional heat where it is most needed; at glass areas. The warm convection current set up at the glass plane overcomes the natural down draft at that point, and materially reduces the chilling effect of the glass. In addition, condensation is generally eliminated entirely; an important consideration where there is view.

Where ceiling coils are used, a simple method consists of attaching the coils to the joist, clipping wire lath to the coils, and plastering the whole—with particular attention to forcing the scratch-coat upward until the pipes are half embedded in the mortar. With provision for expansion at the wall lines no cracking need be expected. It is important that the initial warming-up period extend over several days, with the heat gradually increased from cold water to the full temperature. Incidentally, water temperature of 180 degrees has been used in one of our ceiling installations without apparent harmful effects to the plaster panel.

PIPE MATERIALS. Buried in the construction, and therefore inaccessible, the coils should be of a durable material which may be easily and carefully worked. The material should have substantially the same rate of expansion as that of the concrete in which it is buried, to avoid excessive strains being set up during operation. In the writer's opinion, these conditions are best met by employing coils of black wrought iron, welded for use in concrete. However, since plaster has a rate of expansion more nearly approaching that of copper, the use of small flexible copper tubing has distinct possibilities in wall and ceiling plaster panels, particularly if supply mains and fittings may be kept free of the mortar; thus allowing full play for expansion. A third material, in common use abroad, is black steel pipe. Proponents hold that very little corrosive effect really exists in a closed hot water system. The action of free oxygen is limited by the small unvented quantity present and the active chemicals in water are of little importance in view of the very small amount of fresh water admitted to the system for make-up purposes. But the additional cost of wrought iron, it is believed, is well justified in that it assures the owner an installation as permanent and trouble-free as it is possible to obtain.

WELDING AND TESTING. Concerning construction procedure, it has been found highly advantageous to place the coils immediately after the foundation is in. The floor slab may then be poured with a minimum of confusion, before the exterior walls are started.

Butt welding of end joints in the coils is according to standard practice. Where room control valves are required it is customary to weld in short nipples of 1/2-in. pipe, threaded on one end to receive the valve.

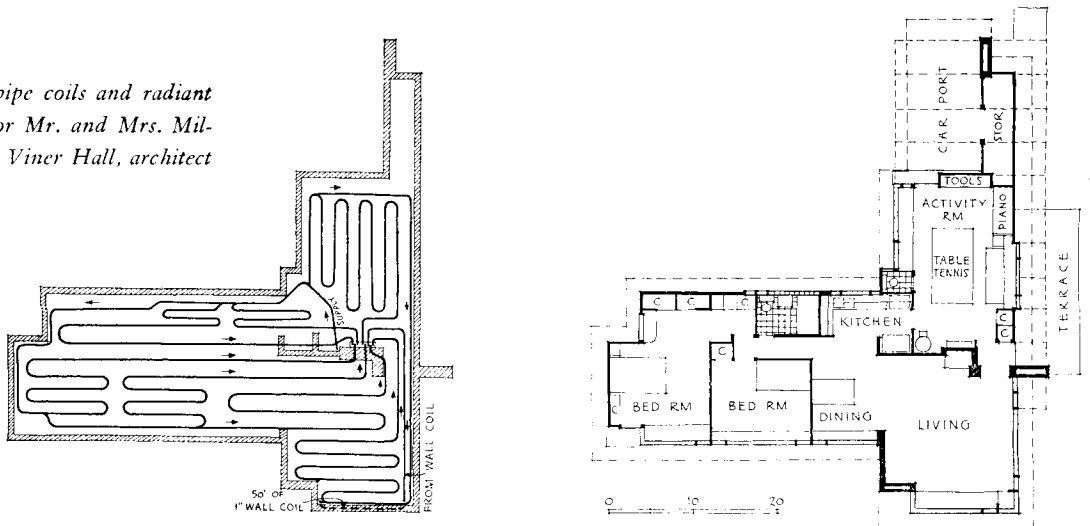
After all coils are completed and hooked up it is well to fill the system with cold water, jacked up to a pressure of 125 to 150 pounds. Each weld is then given two or three sharp raps with a hammer. Incidentally, it is necessary to provide a valve ahead of the gauge which should be shut off before the hammering begins, since each blow transmits a severe shock, capable of wrecking a perfectly good gauge.

BOILER. A conventional hot-water boiler is used, together with typical accessories. When the boiler also serves to supply domestic hot-water by means of an indirect coil it will be necessary to carry boiler water temperatures higher than desired for circulating throughout the heating system. To modulate the circulating water temperature, it is necessary to install a valved tie line between the supply main above the boiler to the return line between the circulator and boiler. By adjusting the valve, enough of the cooled water in the return line may be by-passed by the boiler that the supply main temperature is reduced to the desired point.

Extremely accurate or rapid temperature control is very difficult to obtain in the type of installation we are discussing, because of the relatively large thermal content of the slab when warm, or conversely, its appetite for heat when cold produces a considerable time lag. However, as *comfort* is the desired end the effect indicated on the design curve shows the comparatively wide zone of comfort with the radiant type system which permits considerable variation in slab and/or air temperature before discomfort is felt.

Substantiating this are some twenty of our jobs located
(Continued on page 108)

Plan and layout of pipe coils and radiant heating. Residence for Mr. and Mrs. Milton Tichy. Raymond Viner Hall, architect



RESTAURANTS

PLANNING FOR TOMORROW

BY JAMES S. WARREN

Editor, *Restaurant Management and Hotel Management*

Ahrens Publishing Company

Restaurateurs at the moment are pretty well preoccupied with problems of price ceilings and manpower shortages but those who are looking ahead are thinking of the profit-making improvements they will undertake as soon as men and materials are available. The competition will be keener than ever, and everything possible, within reason and the budget, will be done to get customers and to keep them.

In this lies the architect's opportunity to work with the restaurateur. Sketches and plans can be made now to create the postwar restaurant—a restaurant that attracts and holds customers—a striking, pleasing, intriguing front that will make the passerby stop and say, "This looks like the best place to eat along this street." And once inside the restaurant, the interior design, arrangement, color and appointments should give the customer a decided lift, a feeling of comfort and well being. It should leave "a good taste in his mouth" so that he will return with friends. The restaurateur knows that food quality, service, and price are his part in satisfying customers, but that these must be staged in a more pleasing environment to be competitively successful.

As the architect and restaurateur must work together to these ends, we of *Restaurant Management* and *Hotel Management* have enjoyed working with the editors of ARCHITECTURAL RECORD to produce a collaborative study of the restaurant of the future, presented simultaneously in our magazines, thus reaching both the designer and the restaurant owner and operator. It is hoped that this effort will bear fruit since both parties to the designing of modernized, remodeled, and new restaurants are being given the same background material in our publications at the same time. We know well from past experience that the progressive restaurateur needs the help of the architect in creating the successful new restaurant, in making it as attractive and efficient as possible within the limitations of the space and money involved.

There is no doubt in our minds that the architect and restaurateur can work together to their mutual advantage in serving a hungry postwar public—and the time to begin is now.



Hedrich Blessing

Cove Restaurant, Belmont Hotel, Chicago
Loebl and Schlossman, Architects

RESTAURANTS OF THE FUTURE

By Francis Keally, AIA

PLANNING THE RESTAURANT KITCHEN

Including consideration of waiter-service restaurants, cafeterias and counter-service restaurants

By Harry Blumberg

THE PUMP ROOM, Hotel Ambassador, Chicago

Samuel A. Marx, Architect;
Noel L. Flint and C. W. Schonne, Associates

ARCHITECTURAL RECORD'S
BUILDING TYPES STUDY

NO. 80

RESTAURANTS OF THE FUTURE

BY FRANCIS KEALLY, AIA

Illustrated with plans and sketches by the author

PEOPLE have had the habit of eating for a long, long time, and while habits change with changing times, there are traditions and conventions which have developed throughout the years. We can expect in the eating habits of the future, and in the places where people eat, the same evolutionary development, rather than a revolutionized eating process or an unrecognizable restaurant. The war has changed eating habits to some extent—limiting the diet, shrinking the menu, standardizing the portions, and bringing about more “mass feeding,” and “eating out” than ever before. But most of these changes may be temporary.

Eating could be made much more scientific and functional—a full meal for instance, with all its vitamins, compressed in one small package so pulverized as to be easily assimilated in a short time. Fortunately, people are not interested in that kind of efficiency in eating. Their tastes are much more Epicurean, and they really want to enjoy their food, their company, and their surroundings. Because of this, the architect has a distinct function in providing the proper atmosphere for eating, as well as in providing the facilities for the scientific preparation of food. And he must do this by exercising his imagination and ingenuity, accomplishing much with little.

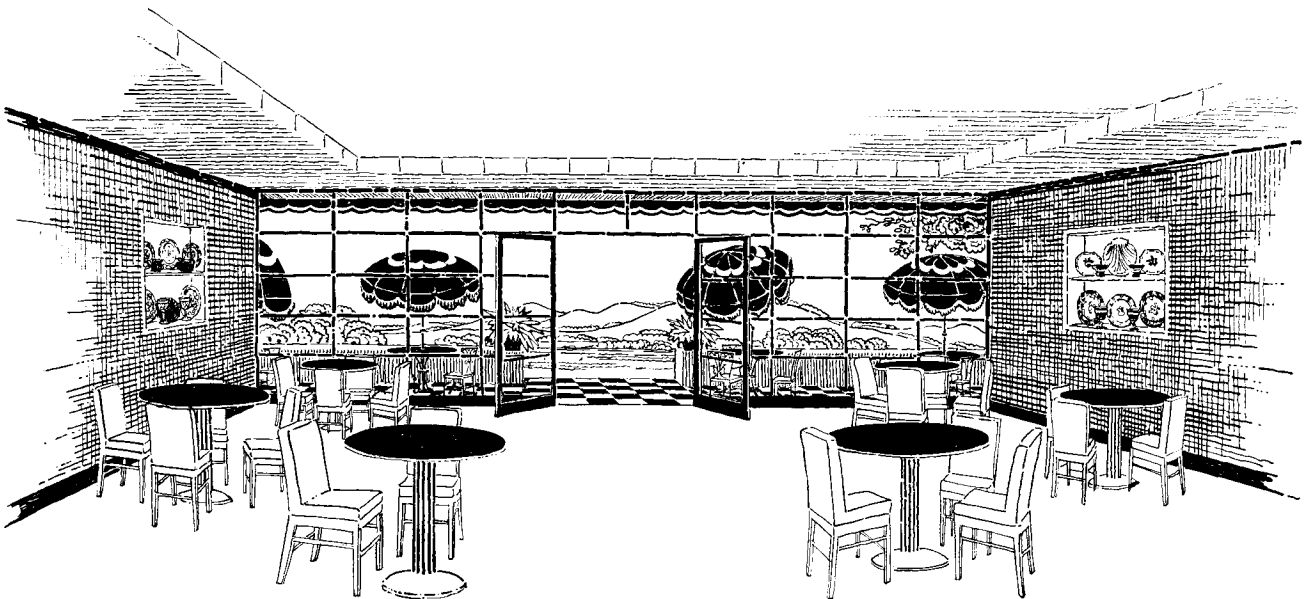
The plans and sketches reproduced here are representative of some indications of the kinds of developments we may expect in postwar restaurant planning and decoration. Of course the type of restaurant makes a great deal of difference in both planning and decoration, and the type of restaurant is usually designated by the type of service (or self-service). The main divisions might be classified as (1) the waiter-service restaurant (2) the self-service or the

cafeteria, and (3) the counter-service restaurant. There are also combinations and variations of these types. We show here not only how it is possible to combine the various types, to serve a hotel for instance, but also variations and new ideas for each of the types.

For any and every type of restaurant the exterior should be inviting and should indicate the character of the interior. The advertising value of the restaurant front should never be underestimated. Even a narrow frontage can be made distinctive and attractive by recessing the glass front and then using well designed signs on the side walls thus exposed. Such signs, being perpendicular to the flow of traffic, are easily seen and attract attention. (See plan at bottom of page 72.)

In creating the proper environment for any type of restaurant, the ingenuity, ability, and knowledge of design is of much more importance than the amount of money spent. A designer with the “know how” can achieve the desired result with the simplest means and the greatest economy. Restaurants of the future will be less lavish, I believe, less expensive and in far better taste, both figuratively and literally, than those of the prewar era.

Many restaurants, even those that are successful today, will need remodeling and restyling when the war is over and they make a fresh start with augmented menus and additional service. It is remarkable what a change in mood and what fresh atmosphere can be provided in the remodeled restaurant by merely a change of color scheme and wall decoration, and such slight additions as changed banquettes or booths re-upholstered in harmonious color. Apparent changes in size can be made by the introduction



of large sections of mirror strategically placed, and by the introduction of large panels of photo murals, or of open scenic wall paper. New lighting fixtures will also accomplish wonders in making the change from prewar to postwar style.

We can expect more improvements in lighting, air conditioning and sound control than in almost any other phases of restaurant work. Lighting is extremely important in creating the proper atmosphere as well as providing the means of seeing one's food. The color, intensity and direction of the lighting may make the difference between the success and failure of a restaurant. Here again, the type of lighting varies with the type of restaurant. Usually the intensity of the lighting varies inversely with the prices in the restaurant. In other words, in the lunch room or cafeteria a high intensity of lighting is used to produce a bright, cheerful, clean effect. In the higher-priced service restaurants, lighting is more subdued to enhance the richness and mood of the surroundings. Concealed lighting sources of all sorts are gaining in favor for they eliminate glare which is always objectionable. In planning this type of light however, accessibility is important for con-

venience in re-lamping, and to keep down maintenance costs.

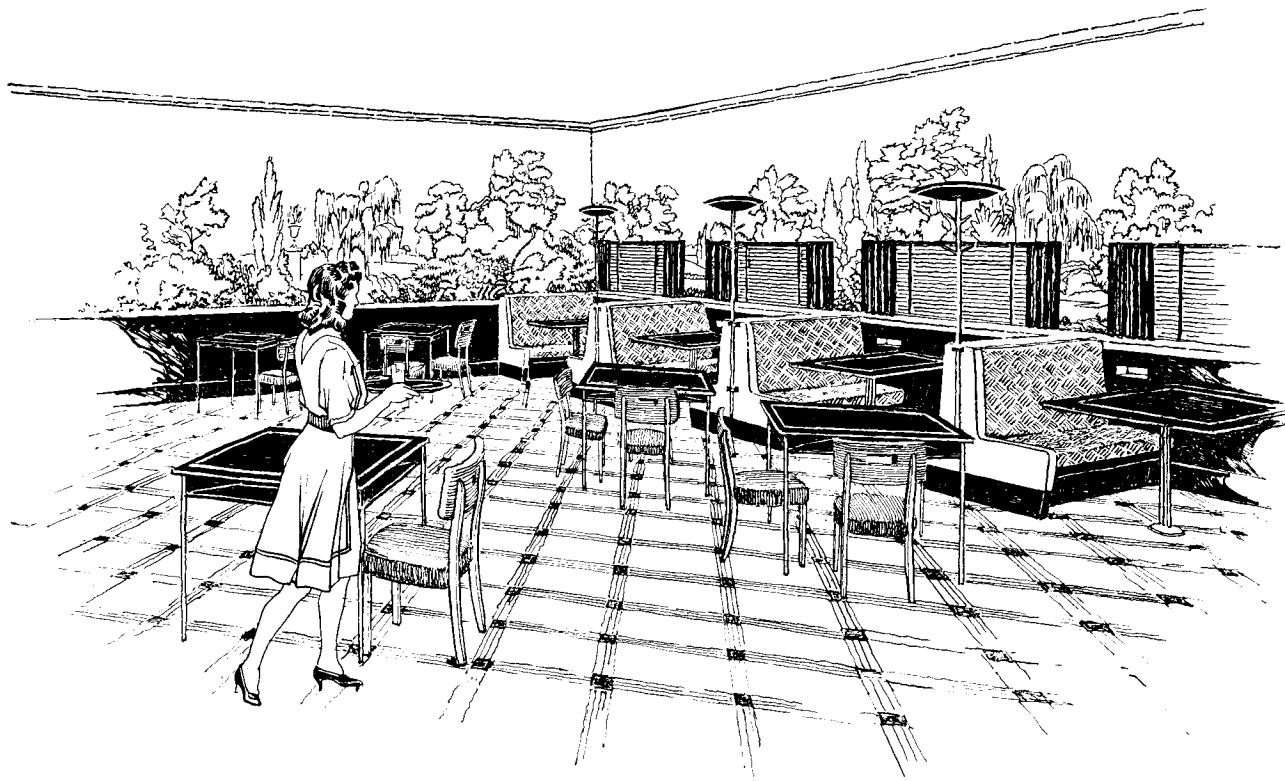
More attention will be paid in postwar restaurants to acoustical treatment of the room, for the clatter and bang of sounds reflected from hard surfaces is too jarring for war-frayed nerves. Relative quite in the dining room costs virtually nothing but the thoughtfulness and ingenuity of the architect in using sound-absorbing materials wherever possible.

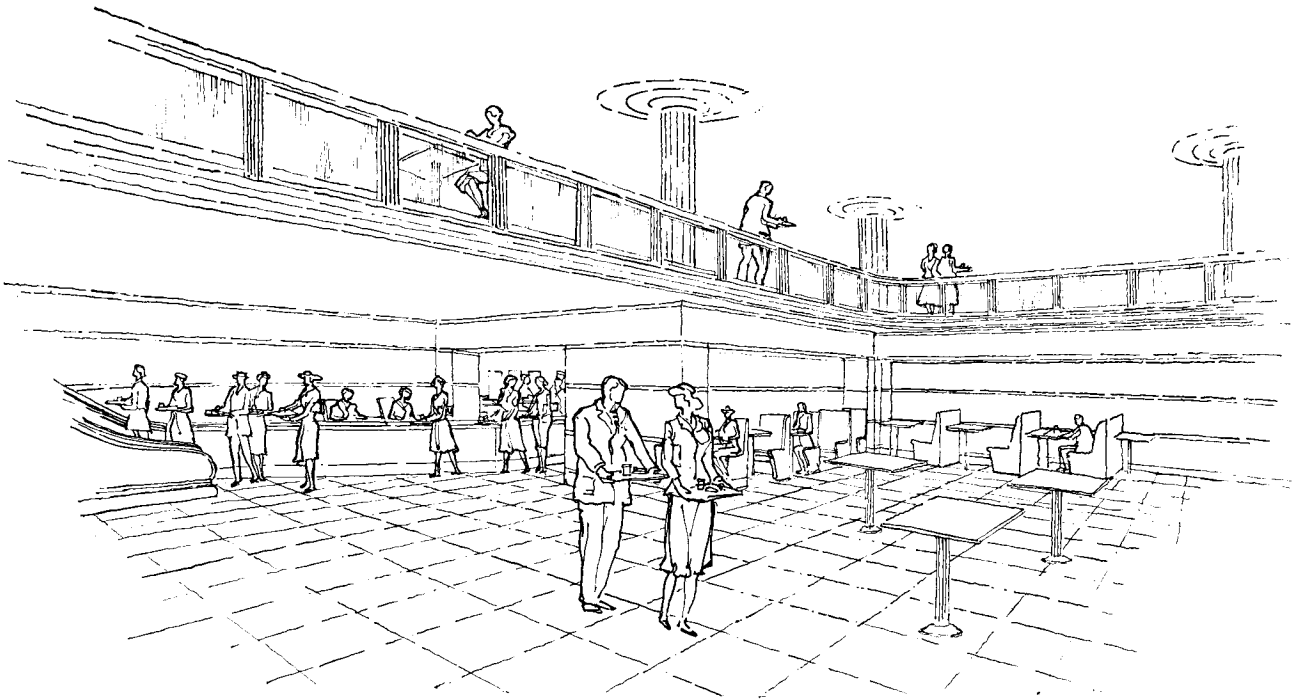
It is not possible for us to show here the necessity for creating a comfortable environment through complete air conditioning but summer cooling has become practically a necessity because of the competition in metropolitan restaurants. Proper controls should be insisted upon, for too cool a dining room may be shunned by once-chilled customers.

In spite of the necessity for more elaborate and efficient restaurant equipment, I believe that the trend toward simplicity in interior design treatment will continue. It will be leavened by great beauty of color and of lighting, by interest in richness of texture and material, and by a greater appreciation of character, form and proportion.

In the sketch on the page opposite a definite feeling of openness is given to a basement restaurant by simulating an open terrace at one end. The terrace is wide enough for a single row of tables so virtually no seating is lost. Terrace lighting can be varied from brilliant sun to soft moonlight and the landscape background can be changed also. General lighting, emanating from ceiling offset and the decorative wall cupboards, is diffused and pleasing. The illusion of space and openness banishes any possible feeling of claustrophobia.

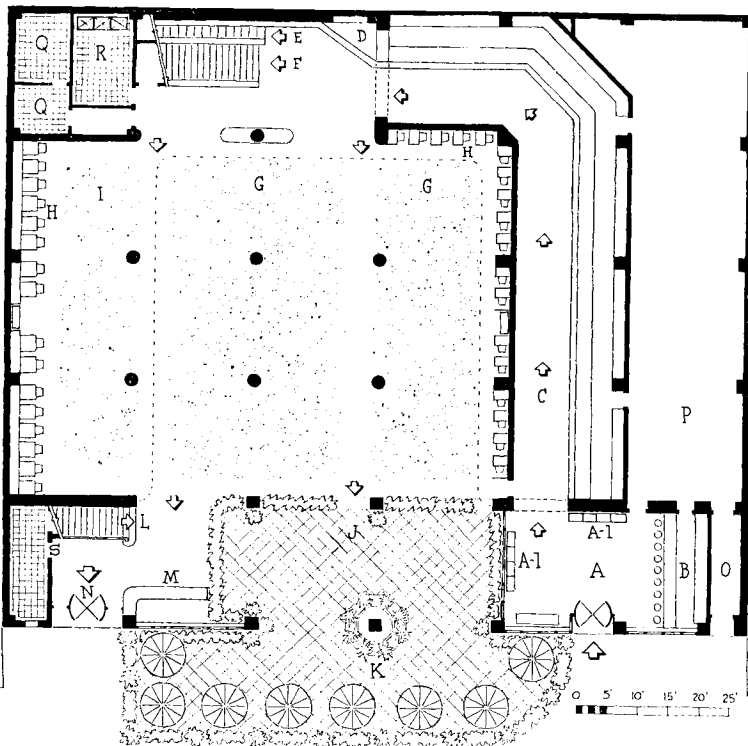
Use has been made of a wide variety of plastics in the restaurant shown below. Table tops of laminated plastic have a convenient pocketbook-and-package shelf below. The table tops are reversible, black on one side, red on the other. The wall covering is made water-proof with transparent plastic. Booth and chair covers, combination lighting fixtures and hat racks, draperies, and even the uniform and shoes of the waitress are of plastic—of different kinds, each for its particular purpose. Plastics are colorful, impervious and durable.



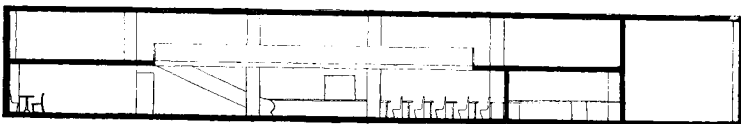


PERSPECTIVE, PLAN AND SECTION OF A LARGE

METROPOLITAN CAFETERIA



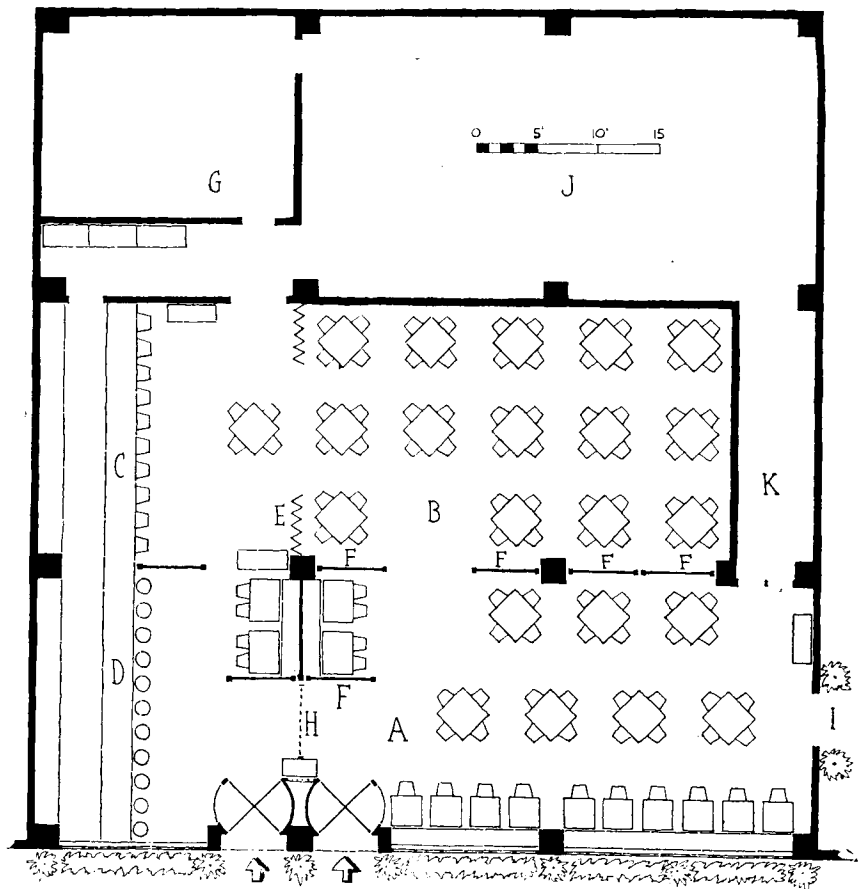
In designing a large postwar cafeteria, Mr. Keally has incorporated several interesting ideas. He has separated the entrance widely from the exit, has visually closed off the counters from the dining area, has added an escalator and tray carrier to the mezzanine, provided an outdoor-indoor dining terrace, etc. The letters on the plan indicate—(A) Entrance Lobby. (A1) Tray racks. (B) Bar. (C) Serving counters. (D) Checker. (E) Escalator. (F) Stairs. (G) (H) (I) (J) and (K) Dining areas of various kinds. (L) Stairs down from mezzanine. (M) Cashier. (N) Exit. (O) Service entrance. (P) Kitchen. (Q) Toilet. (R) Soiled-dish pantry, with dumb waiter. Two dish washers in basement. (S) Storage.



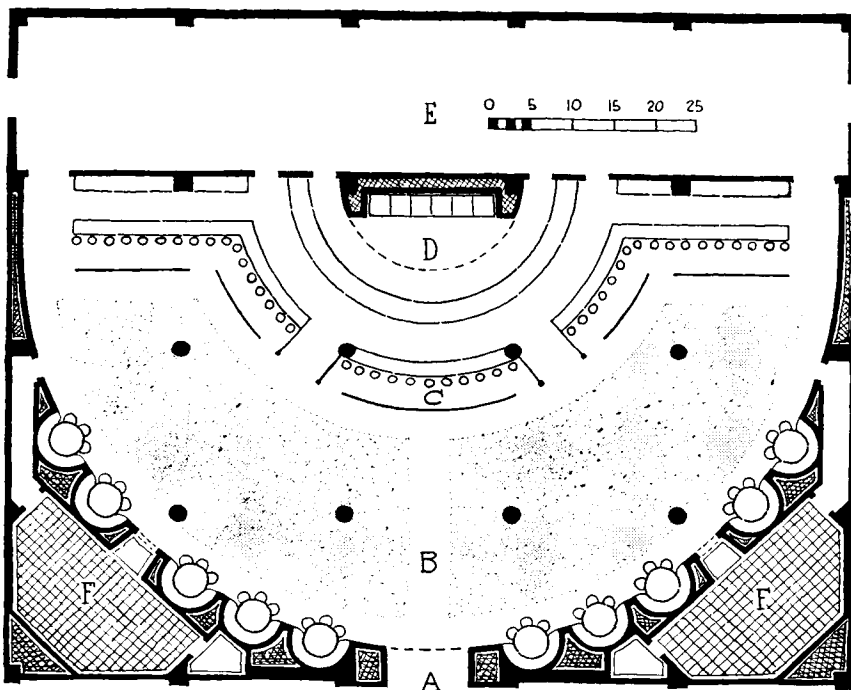
**PLANNED FOR FOUR
TYPES OF SERVICE**

An ingeniously planned restaurant offering four types of service, and having two main entrances. Flexibility and convertibility are gained by the use of accordion screens (E) and panelled partitions (F).

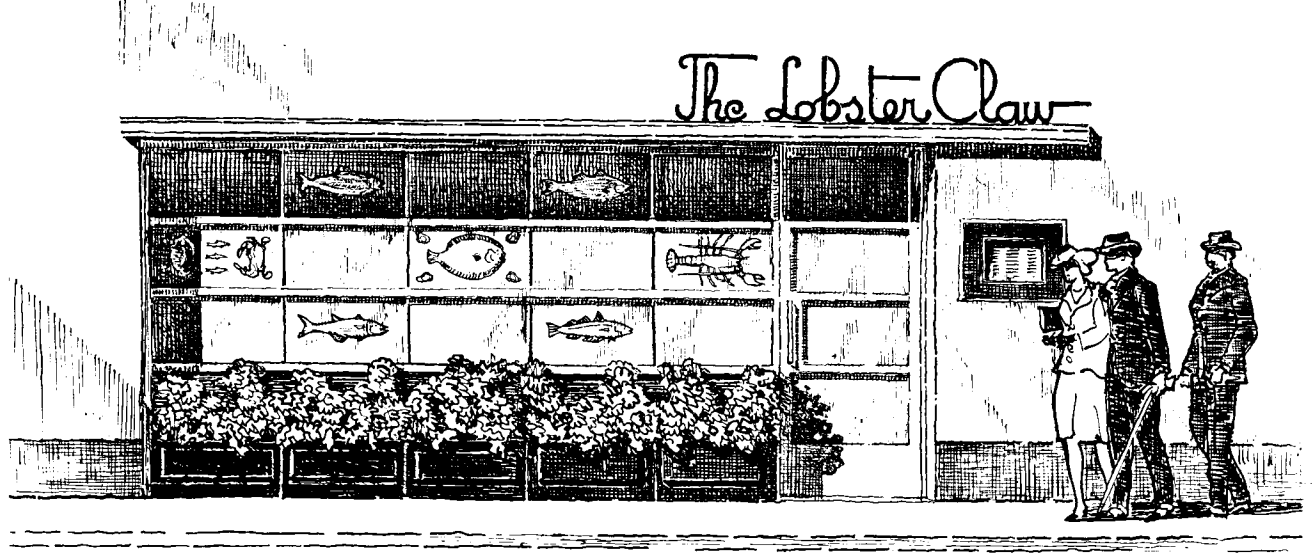
(A) is the service restaurant portion, accessible from the street or from hotel lobby at (I). (B) is a self-service table restaurant, customers taking up food from counter (C). Stools are used at counter (C) only at night when it is used as an all-night, short-order lunch counter in connection with counter (D) when sliding screen (E) shuts off restaurants (A and B). Stools are removed to storage room (G) when not needed. Rooms (A) and (B) can be thrown together for banquets or private parties by simply moving the screens. (J) is the kitchen, (K) a serving corridor



A NOVEL SEMI-CIRCULAR RESTAURANT



A multiple-purpose restaurant for the future is interestingly designed as a semi-circular room, although the standard 20-foot steel column spacing is maintained for the tall building above. Focal center is an open chef's kitchen of the rotisserie type (D), while the main kitchen and other services occupy the area (E), directly accessible through serving doors. Counter service is provided, as shown at (C), and table service in the large area (B). Bench-booth tables seat six or eight, and the two rooms (F) are private dining rooms, or may be used for overflow crowds



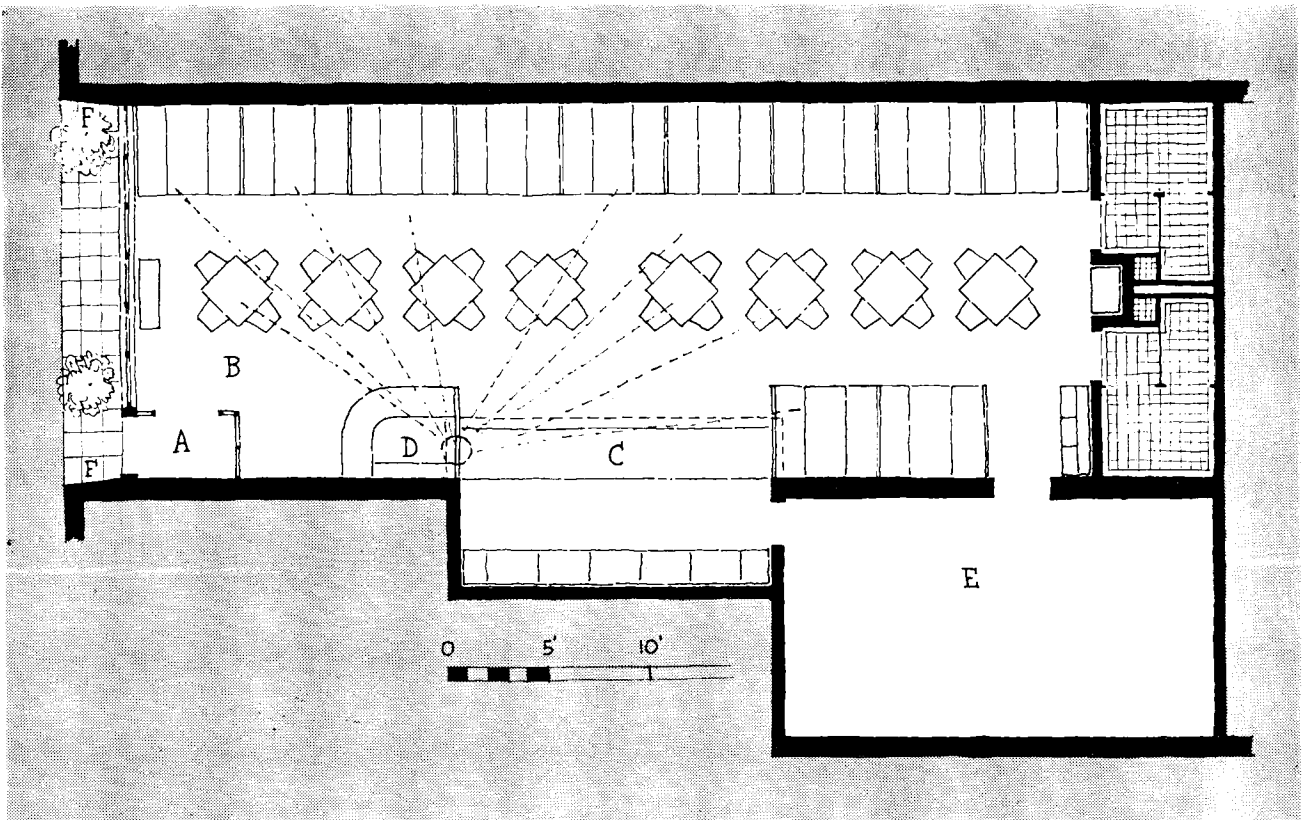
Ice gives way to plastics as the decorative preserver of the fish and crustacea which form decorative panels in the window of this postwar restaurant. The sea specimens may be cast in acrylic resins which are transparent and preserve the color and beauty of the fish. Various flora and fauna have already been permanently preserved by this method

A TELEPHONIC CAFETERIA

A UNIQUE type of restaurant service is suggested in this plan. Each table is equipped with a telephone direct to the chef. On entering, the patron orders, from the printed menu. When the order is ready the indicator light at the table sig-

nals the customer who then picks up the complete food tray at counter (C). This automatic electrical system can be expanded to indicate which tables still have "orders on the fire," the number of the special dinners ordered at each table, etc.

The entrance (A) is set back from the sidewalk, and the surfaces exposed at (F) are used for attractive restaurant signs. (B) is the main dining room. (C) the serving counter. (D) the cashier and control. (E) the kitchen.

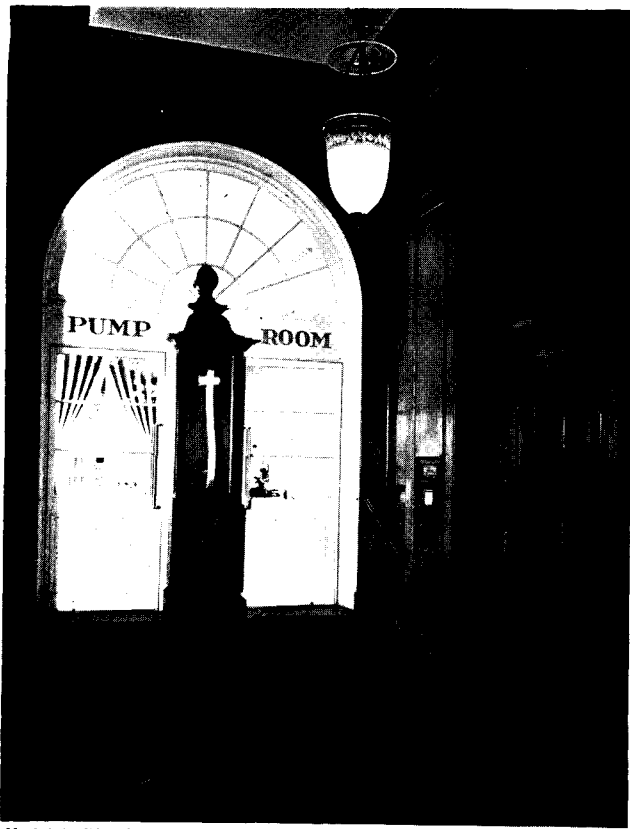


THE PUMP ROOM

HOTEL AMBASSADOR, CHICAGO

SAMUEL A. MARX, ARCHITECT

NOEL L. FLINT AND C. W. SCHONNE, ASSOCIATES



Hedrich-Blessing Studio

TAKING its name, its distinction, its social aspirations, and much of its decor from the famous Pump Room of Eighteenth-century Bath, England—this room has achieved atmosphere, popularity, and success. This remodeling is both distinctive and distinguished, imaginative though traditional, with careful attention paid to every detail. The old pump handle at the entrance is at once intriguing and sets the tempo for the room.

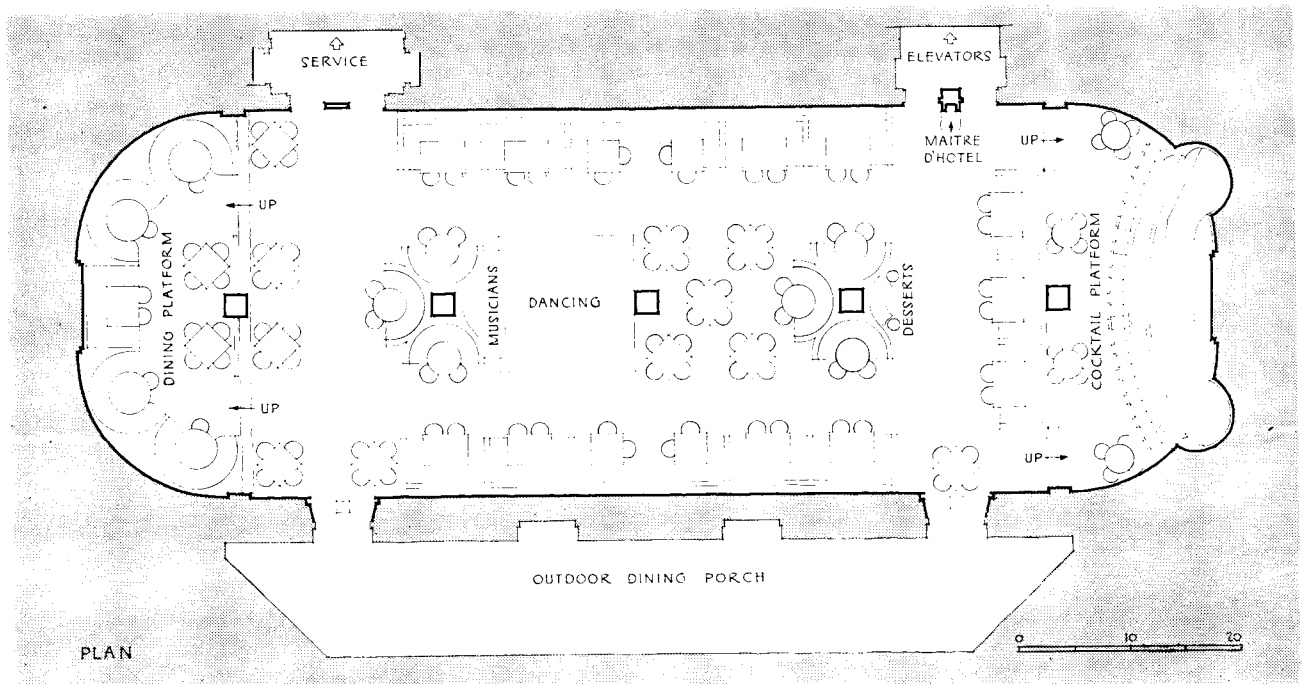
Booths were installed along the walls and around existing columns and a small dance floor and orchestra space are also provided. One end of the room is occupied by a popular cocktail lounge and bar, adjacent to the main entrance from the hotel lobby. Walls are very deep purple-blue, with end walls, columns and ceiling oyster white. Upholstery throughout is oyster-white leather. The pat-

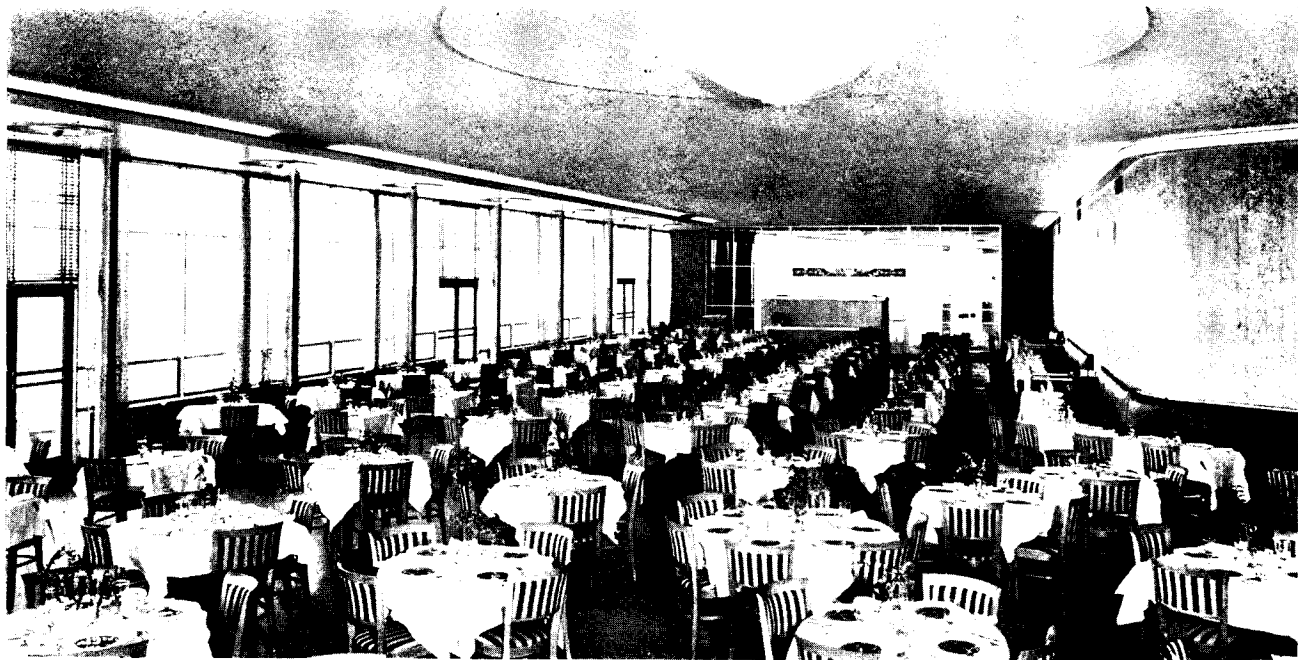




terned carpet is predominantly deep purple-blue. Lighting is an important adjunct to the entire decorative effect and indirect lighting emanates from a strip along all walls behind the booths. The crystal chandeliers are indirectly lighted

to give a soft glow and the lighting effects are all controlled by dimmers. Waiter costumes are brilliant scarlet, and the coffee boy (left), is clothed in viridian green. The staging is effective, suave, complete—and appreciated by the patrons.





Orville K. Blake

PLANNING THE RESTAURANT KITCHEN

By HARRY BLUMBERG*

As eating is both an art and a science, and cooking also involves both, so does the planning of the kitchen where the food is prepared. Kitchen planning is an art, for there are few exact equations, many variable "unknowns," and not even a definite proportion for the size of the kitchen in relation to the size of the restaurant's dining area. Each kitchen-planning problem must be solved on its own merits within the limits imposed by the physical structure and by the purposes (and the purse) of the restaurateur.

The success of the restaurant—any restaurant—depends upon four things, (1) *good food*, well prepared and attractively served, (2) *good service*—skillful, courteous, prompt, (3) *right prices*, consistent with the quality and quantity of the food and service, (4) an *attractive environment* that makes eating a pleasure, gustatory or aesthetic.

The architect's work has a bearing on all of these factors, directly or indirectly. Good food comes from good kitchens. For that reason it is important that the architect's kitchen-equipment engineer or consultant be experienced and thoroughly familiar with the type of restaurant called for in each particular project. Kitchens that are adequate in size and properly planned produce good food more easily, quickly, and more cheaply than inefficient kitchens. An efficiently planned kitchen requires less operating personnel than a poorly planned kitchen. This means lower operating expense throughout the en-

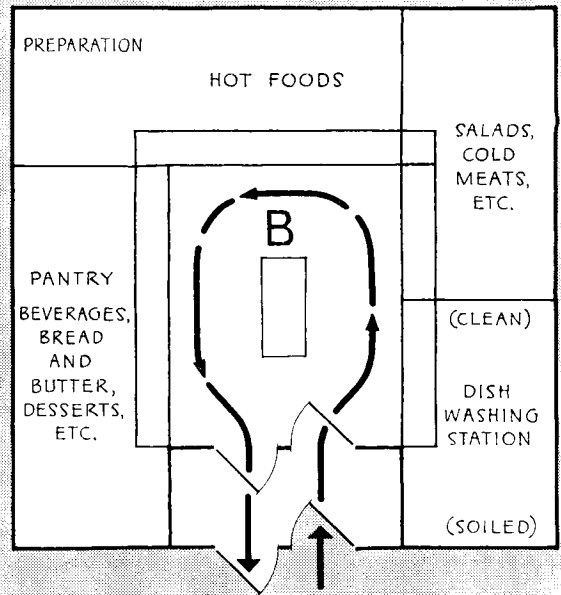
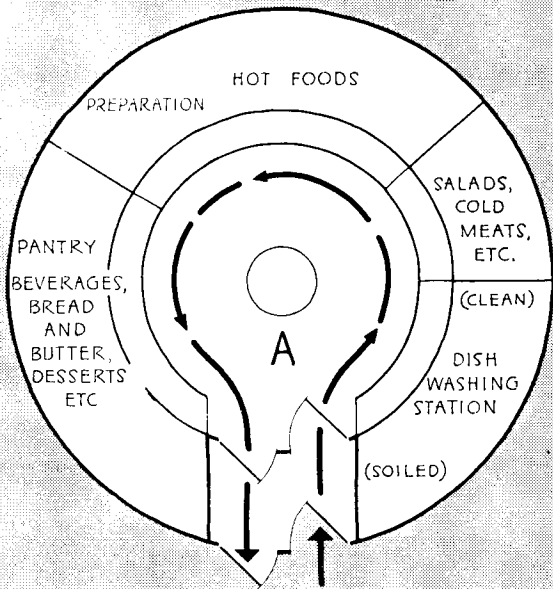
tire life of the restaurant. A well-planned kitchen saves chefs' and waiters' steps and time, and therefore time in serving patrons, which means satisfied customers, and a quicker "seat turn-over." A poorly planned kitchen creates cross-circulation, confusion, inefficiency, loss of time, collision, breakage, and consequently higher costs and dissatisfied customers. It is good economy therefore to use enough space to provide adequate kitchen and pantry facilities and equipment so that the service will operate smoothly and efficiently. More patrons can be served in a given time than if cramped kitchen quarters slow up food production and service so that customers must remain seated for unduly long periods, which means that fewer customers will be served.

What is a properly planned kitchen? Naturally, it is one in which the flow of materials and personnel is organized and synchronized for the greatest efficiency. On the next page I have indicated diagrammatically the "ideal" type of kitchen plan from the point of view of waiter-circulation and proper sequence of waiter operation. Also included are diagrammatic adaptations of this ideal kitchen-flow diagram. The same sequence of operations is applicable in large or small kitchens. The relative sizes of the various departments and their counters varies of course with the size and type of the restaurant.

The choice of the type and size of equipment for each

*Vice-President, Nathan Straus-Duparquet, Inc.

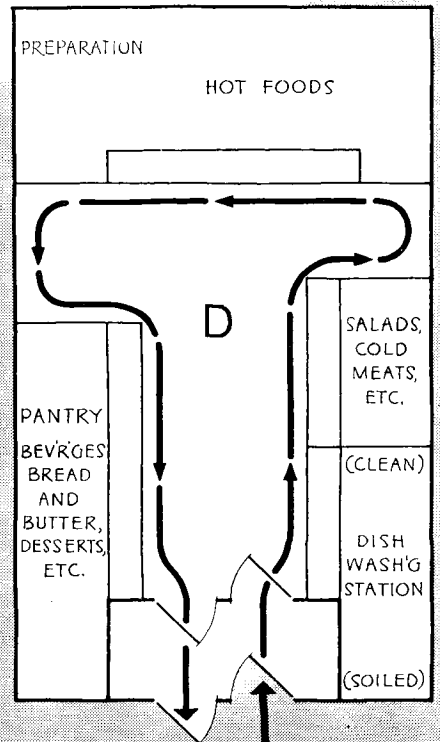
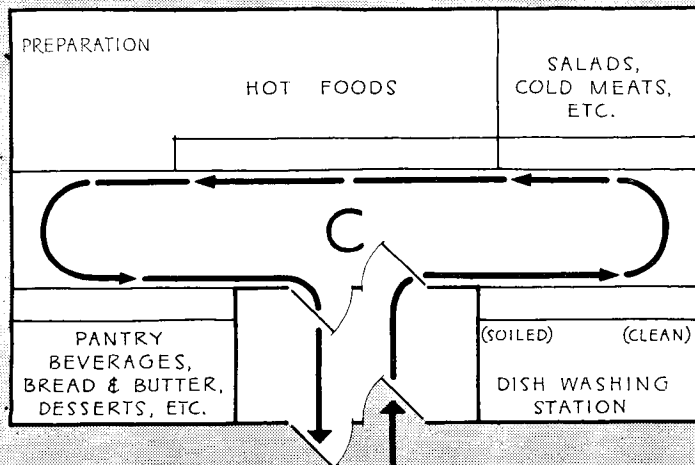
(Continued on page 77)



SEQUENCE AND CIRCULATION IN KITCHEN PLANNING

The illustrations on this page are simplified diagrams which illustrate the basic principles of kitchen planning for the greatest efficiency. The arrows indicate waiter circulation, always in one direction, with no cross traffic. The circular diagram (A) should first be studied as it illustrates the "ideal" kitchen. (B) is an approximation of the "ideal" as adapted to a square plan. (C) is the adaptation to a wide kitchen and (D) to a long, narrow kitchen. It can be seen that in general the square kitchen saves many steps as the waiter path is shortest. The

governing consideration in each of the plans is the length of counter needed to properly serve the number of waiters employed. In general, waiter traffic on entering the kitchen is from soiled dishes, to salads, cold meats, hot foods, and vegetables, pastry, dessert, bread and butter, and beverages. He picks up the necessary dishes in this general order, therefore counters and equipment should be arranged to conform to the flow of waiter traffic.



of these departments in the efficient kitchen depends on the same factors.

The diagrams on page 76 illustrate that part of the kitchen which comes in closest relationship to the dining area. Of course, back of these services with which the waiter has direct contact, there are the additional services and operations which must be carefully planned for. These include the receiving and checking of raw food, its proper sorting and storage, refrigeration, the segregation of foods of different characters, the various preparation operations such as washing, peeling, slicing, butchering, mixing, baking, freezing, etc., etc. Limitations of floor space in many crowded metropolitan districts necessitate the relegation of the storage and preliminary preparation of foods to the basement and, in some cases, even the main kitchen is in the basement, with the steam tables and serving pantries only on the main floor. Wherever it is possible, it is advisable to have storage, preparation, kitchen, pantries, and dining room all on the same level.

However, the architect and his equipment engineer must work together within the framework imposed by the problem in its entirety. They rarely have a chance to produce an ideal plan, for first floor space is usually at a premium and the economics of the problem must be given careful consideration if the restaurant is to succeed.

It is obviously impossible to do more in this article than to point out the basic principles of planning and indicate the inevitable effects of good and bad planning on the operation of the restaurant. To illustrate, we have chosen three different types of restaurants which might be considered typical of their classes. A service-restaurant, a cafeteria and a lunch-counter coffee shop. Even a brief survey of their planning and equipment will show why complete standardization is impossible and why the experience and training of the kitchen engineer are needed in arriving at an efficient solution to the planning problems within the areas provided. Each restaurant has its own problems, limitations and possibilities.

KEY TO KITCHEN PLANS

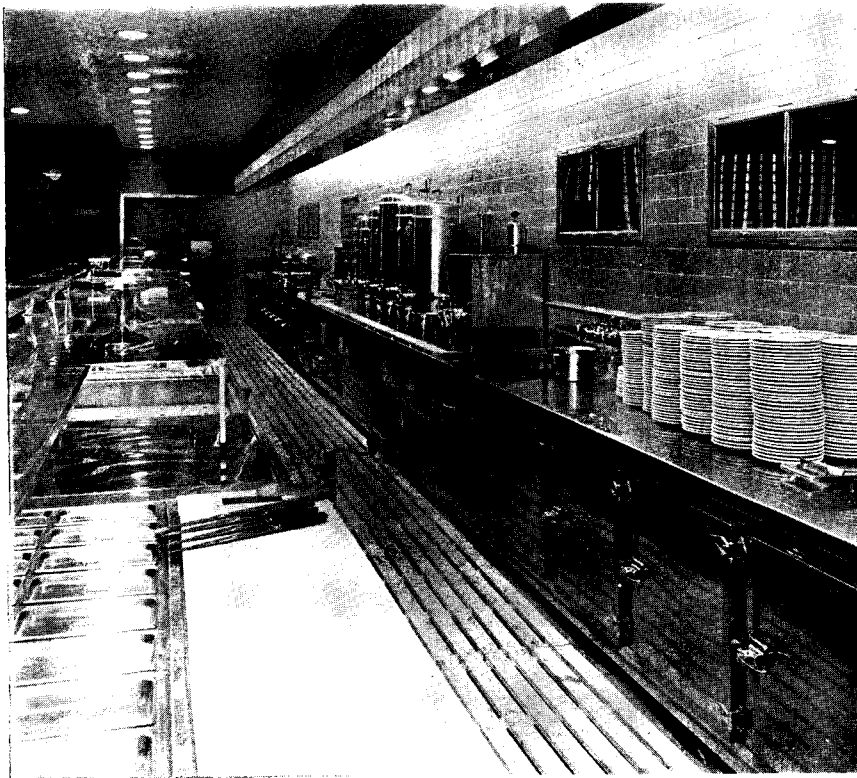
The plans of the three restaurants shown on pages 78 through 82 inclusive, have been numbered uniformly to indicate the equipment. Since different types of restaurants require different items of equipment, naturally every number will not be found

on each of the three plans. A study of the location and size of equipment, as shown on the plans, may be instructive as indicating the necessity for arranging both space and equipment for greatest ease-in-use within the space available.

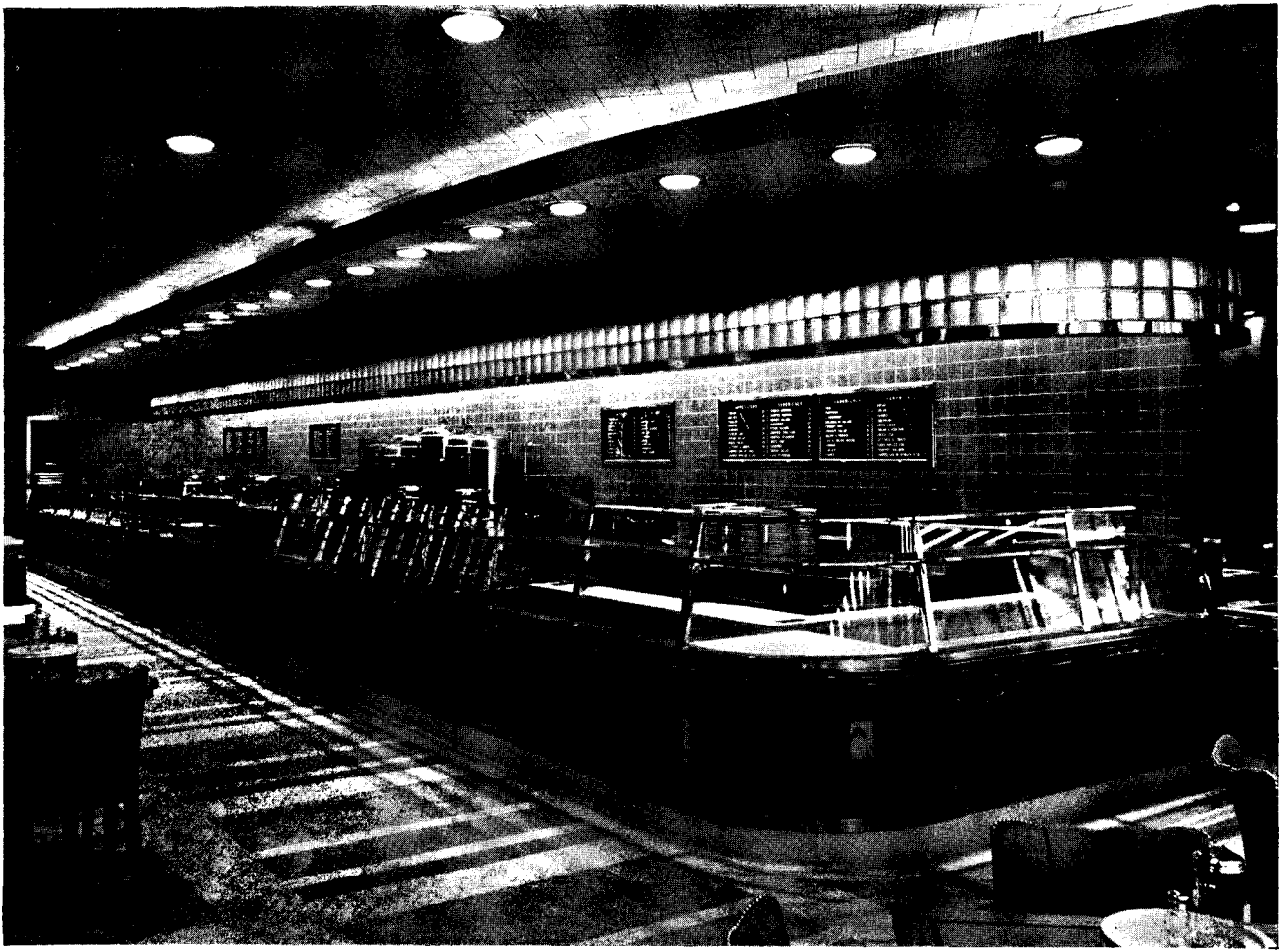
- | | | |
|-------------------------|---------------------------|--------------------------|
| 1. RANGE | 22. BROILER | 43. PLATE RECEPTACLE |
| 2. POT SINK | 23. URNS | 44. LINEN CHUTE |
| 3. HOOD | 24. MILK CABINET | 45. CLOTHES RACK |
| 4. SALAMANDER | 25. ICE CREAM CABINET | 46. SETTEE |
| 5. COLD PAN | 26. SET-UP TABLE | 47. CASHIER |
| 6. POT RACK | 27. WATER COOLER | 48. CHECK MACHINE |
| 7. WOODEN COOK'S TABLE | 28. TOASTER | 49. DOLE PLATE |
| 8. REFRIGERATOR | 29. DRAWERS | 50. ICED TEA |
| 9. WOODEN TABLE | 30. PANEL | 51. CREAM |
| 10. TELEPHONE BOOTH | 31. GLASS DISPLAY SHELVES | 52. 10-GALLON COFFEE URN |
| 11. DRAINBOARD | 32. DISHWASHING MACHINE | 53. 30-GALLON MILK URN |
| 12. SHELF OR SHELVES | 33. CLEAN TABLE | 54. 5-GALLON MILK URN |
| 13. SINK | 34. SOILED DISH TABLE | 55. HOT MEAT SANDWICHES |
| 14. DESSERT | 35. SOILED GLASS TABLE | 56. FOUNTAIN |
| 15. 4-GALLON COFFEE URN | 36. GLASSWASHING MACHINE | 57. FRYERS |
| 16. 10-GALLON WATER URN | 37. TABLE | 58. STEAMER |
| 17. URN STAND | 38. OVEN | 59. CHEF'S TABLE |
| 18. CUTTING BOARD | 39. STOVE | 60. SILVER SINKS |
| 19. STEAM TABLE | 40. BAIN MARIE | 61. SILVER TABLE |
| 20. SANDWICH UNIT | 41. WARMER | 62. BURNISHER |
| 21. GRIDDLE | 42. TRAY TABLE | 63. OYSTER BAR |



A MODERN CAFETERIA



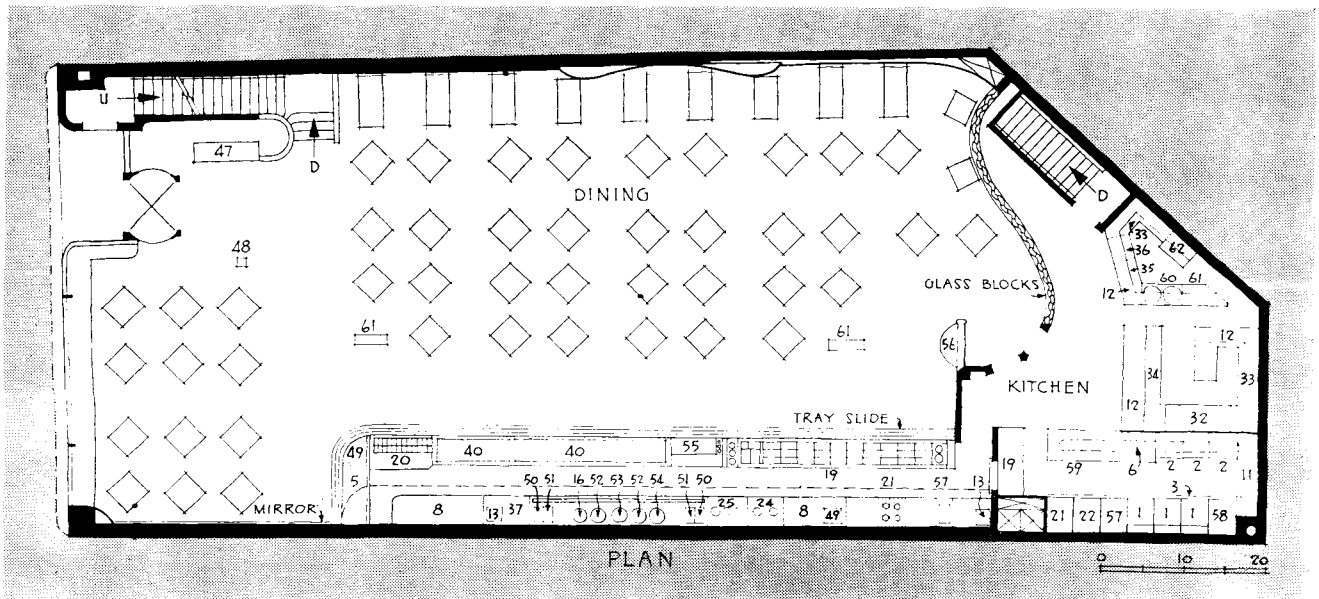
CAFETERIAS have outgrown the hospital-like white tile of the germ-proof age and now a pleasant environment is created by warm colors, interesting materials and glareless, diffuse lighting. Sanitary conditions of course must still be maintained and spotless cleanliness is essential to keep the trade. Smooth, uninterupted surfaces, impervious materials, rounded corners and coved bases make cleaning easier and quicker and therefore reduce maintenance costs. The familiar long counter displays intriguing dishes. The attractiveness of this display largely determines the size of the check and the margin of profit. The kitchen is well related to the counter space so that display counters can be quickly replenished. Customers



have access to any portion of the counter without being held to strict line by guide rails. This is possible only where punch-checks are

used, for guide rails are necessary if the price of the entire meal is added up at the end of a cafeteria line. The punch-check cafeteria is usually

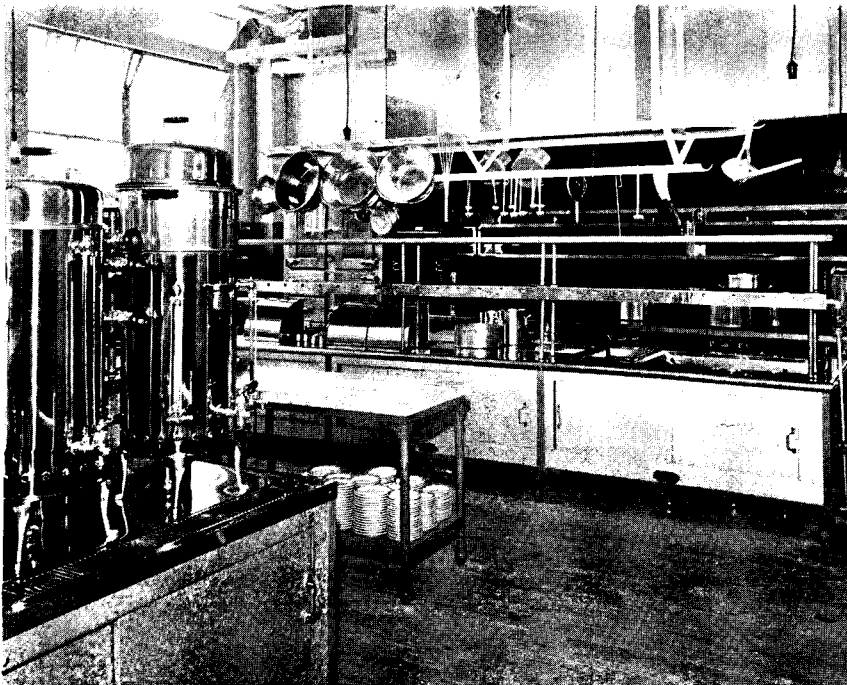
more profitable and gives quicker service than the straight-line type. (See page 77 for key to numbers on plan).





A SERVICE RESTAURANT

AND BAR



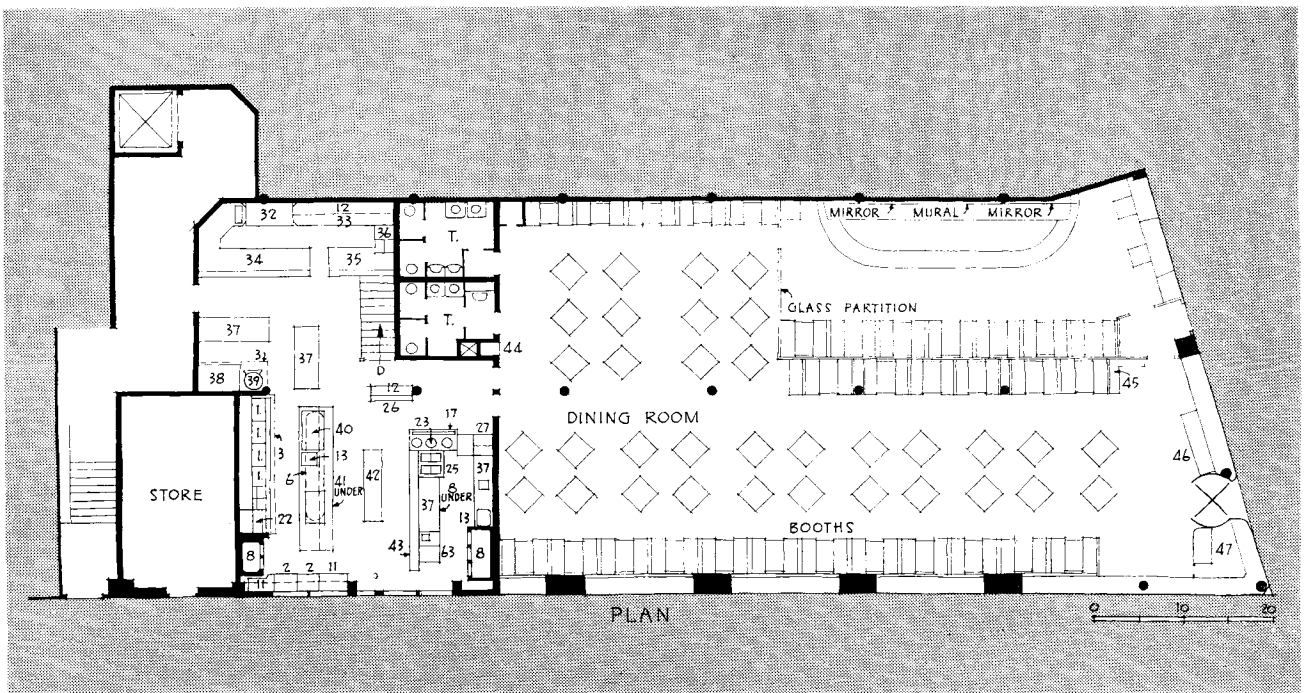
A MEDIUM-sized, medium-priced restaurant designed for quick and efficient service. Booths are placed along the side walls of the restaurant, with tables placed diagonally in a central area. The cocktail bar, or snack bar, has its separate entrance but is also connected to the restaurant proper. The same bar serves both, thus eliminating the necessity for a separate service bar. This also makes it possible to have the bar open at hours when the restaurant would naturally be closed. The apparent size of both the cafeteria and dining portions of the restaurant is increased by having the cove-lighted ceiling over both, the only separation being the low glass partition. A large wall mirror at



the service end of the restaurant also adds to the sense of spaciousness. Air conditioning ducts are concealed by the dropped ceiling at the columns which also provides for the deep cove for the lighting. The

kitchen is well planned and equipped for the type of menu and service required. Doors to the kitchen are operated automatically by the familiar and efficient "electric eye" which saves much in time, effort,

and breakage. Storage, refrigerators, and preliminary preparation areas are located in the basement, as well as lockers and toilets for the personnel. (See page 77 for key to numbers on plan.)



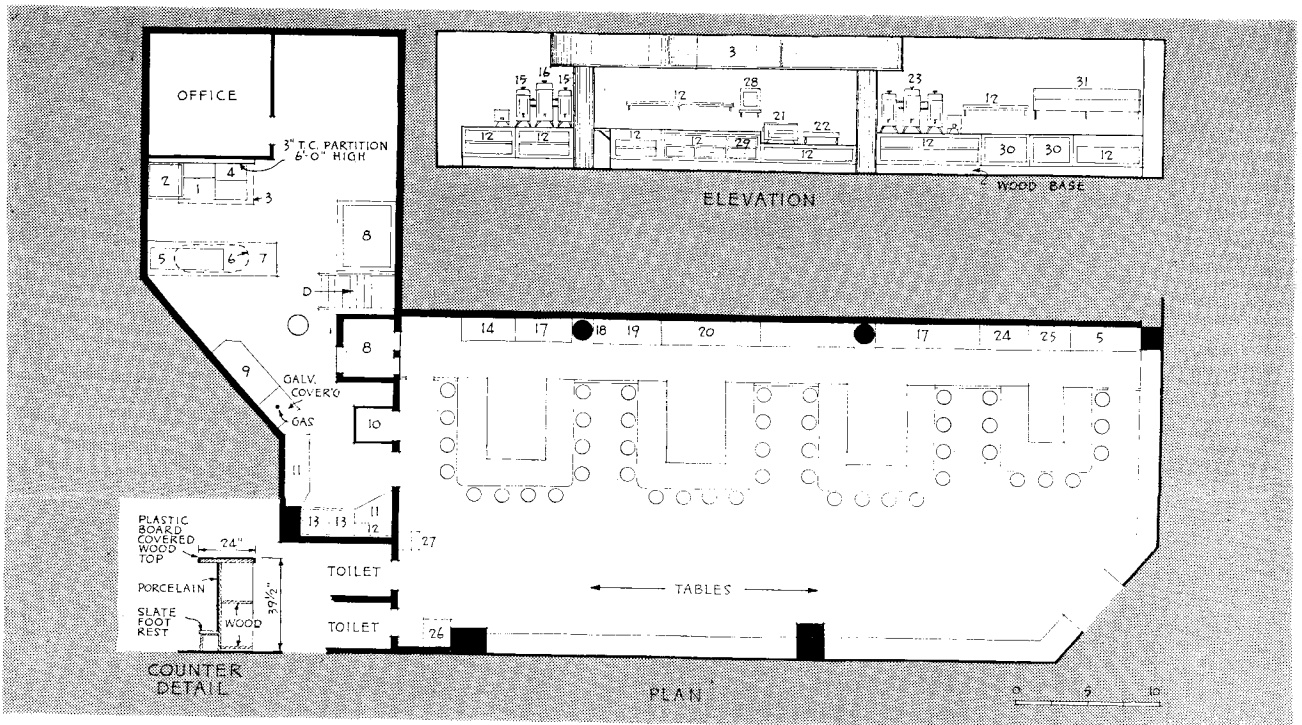


G. Edward Lynch

A CORNER SHOP

Maximum seating capacity, maximum serving speed, and maximum "seat turnover" are necessary for the success of the popular-priced lunch counter restaurant. Counter service provides these maxima with the minimum of operating personnel. The short-order cooking is done at the back bar while the main

kitchen is primarily for food in bulk preparation as well as for dish washing. Porcelain enamel is used for wall and ceiling finish, for cleanliness, ease of maintenance, and low cost. While this restaurant is efficient, it is pretty well standardized in design and materials to cater to a particular trade. Better design and color can be introduced without increasing cost or alienating the clientele.



RESTAURANT SEATING

W. J. Ward, Jr.

These Time Saver Standards are designed for use in preliminary restaurant layout. More detailed or final planning can only be done in consultation with the restaurant owner and his equipment specialist.

The unit of dining area planning is the table plus its chairs. Typical standard dimensions for these units are shown at quarter scale for use in transferring to plans by dividers

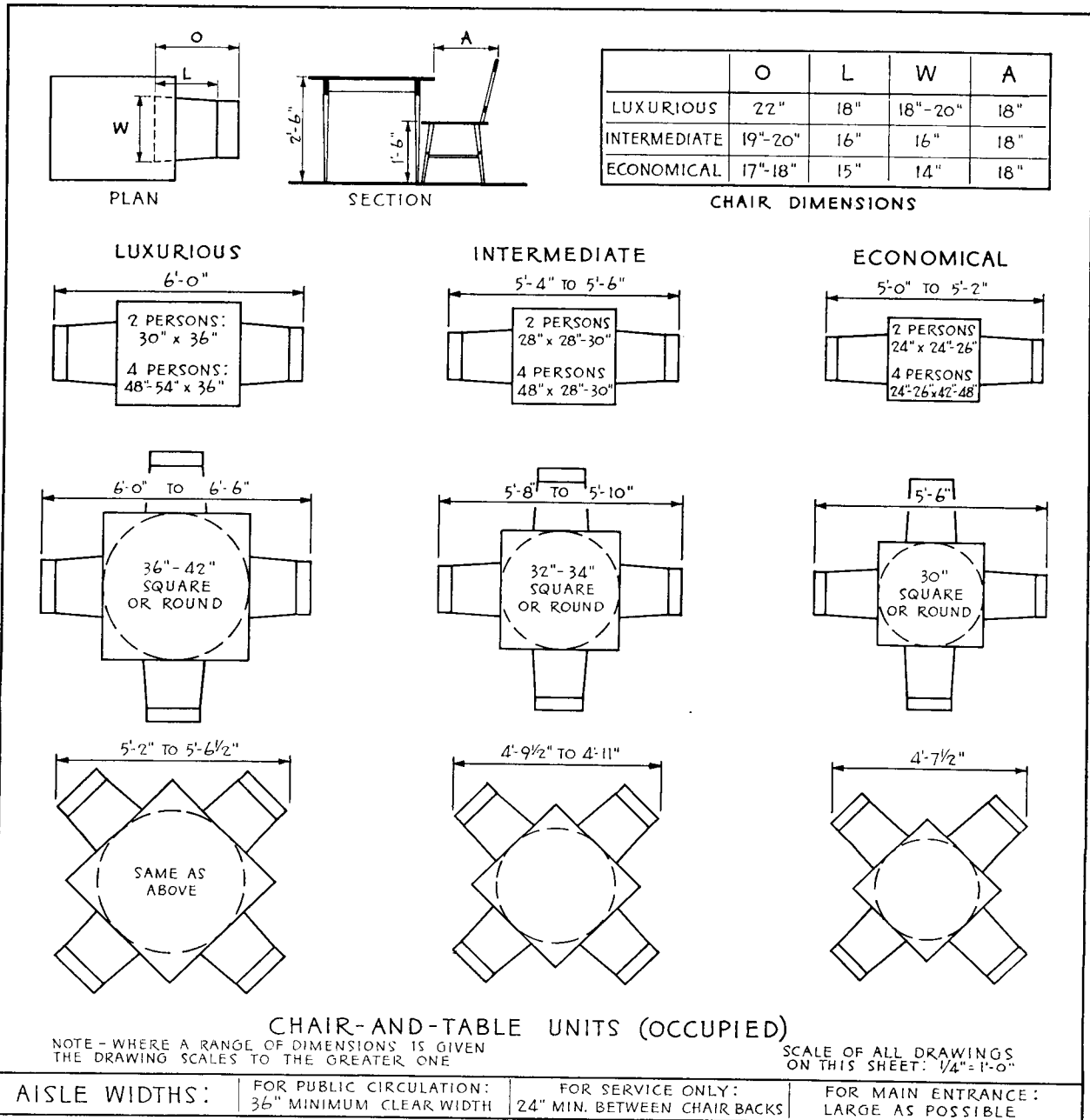
or tracings. For convenience they have been arranged under headings—"Luxurious," "Intermediate," and "Economical"—but the user should realize that there are no hard-and-fast classifications.

In the diagrams, 18 in. are allowed from table edge to chair back. In actual practice this varies with the size of the person.

Seating capacities for any dining

area may be estimated by this rule-of-thumb indicating the number of sq. ft. to allow per person: Luxurious, 15; Intermediate, 12; Economical, 10-12; Banquet hall, 9-10.

Aisle widths are given at the bottom of this sheet but, as one restaurant equipment specialist said, "Aisles are the space that remains after all the chairs and tables possible are on the plan."

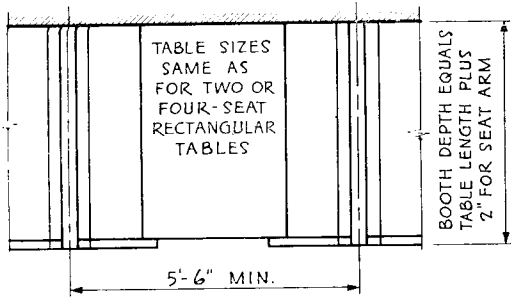


RESTAURANT SEATING

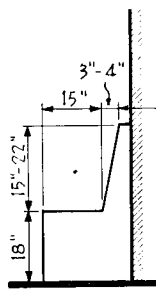
Booths, Banquettes and Counter Seating

ARCHITECTURAL RECORD
TIME-SAVER
STANDARDS

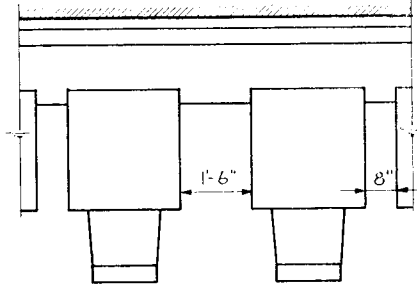
AUGUST, 1943



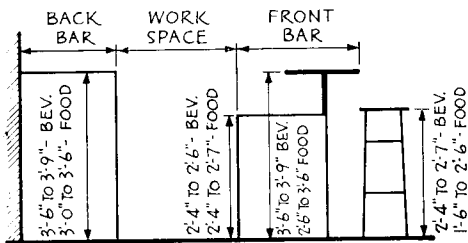
PLAN
BOOTHS



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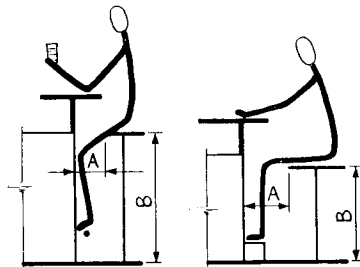


PLAN
BANQUETTE AND SMALL TABLES

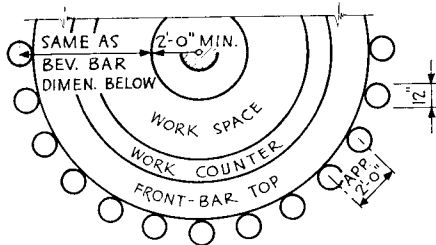


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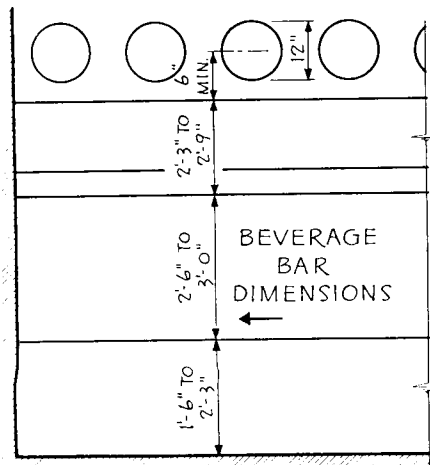
REQUIRED KNEE ROOM (A) DEPENDS ON STOOL HEIGHT (B):
A MUST INCREASE AS B DECREASES.



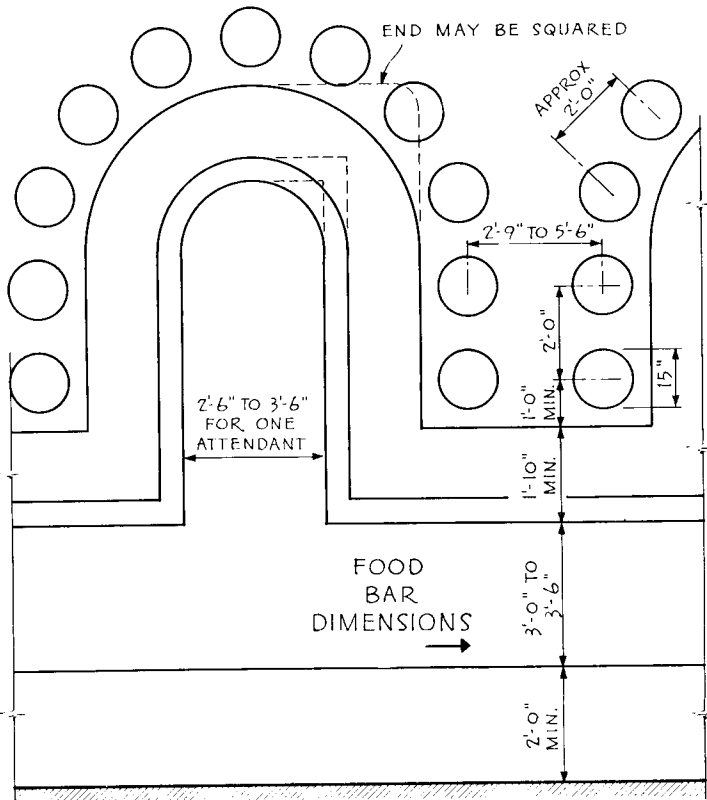
LOCATION OF STOOL AT BAR



CIRCULAR BEVERAGE BAR
SCALE 1/8" = 1'-0"



STRAIGHT LINE



MULTIPLE HORSE SHOE

BEVERAGE AND FOOD BARS

SCALE 1/4" = 1'-0" EXCEPT WHERE OTHERWISE NOTED

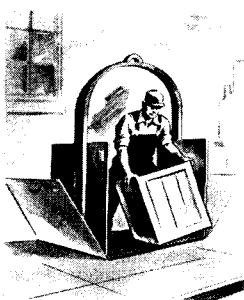
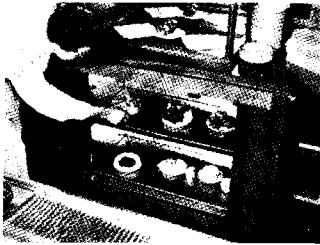


DEFINITELY...

SEDGWICK WILL BE READY

WITH ADVANCED DESIGNS OF LIFTS
FOR HANDLING FOOD AND SUPPLIES

IN POST-WAR RESTAURANTS



TODAY—Sedgwick Ammunition Hoists and Galley Dumb Waiters for Navy and Maritime vessels, together with giant Elevators for Aircraft Carriers are commanding the output of our plants.

TOMORROW—the same Sedgwick patented ROTO-DRIVE principle which is so clearly demonstrating its efficiency in war lift equipment, will be made available for food service and supply handling in the restaurants of tomorrow.

The ROTO-DRIVE principle of lift operation is distinctly a Sedgwick achievement. It makes possible many improvements in handling food, accessories and supplies between floors and between sidewalk and basement.

Newly designed Sedgwick equipment—Dumb Waiters, Sidewalk Elevators and Conveyors—will be right in step with post-war needs.

As you plan for Tomorrow's Restaurant, be sure to check with Sedgwick engineers on all matters pertaining to food handling between floors. Our long experience of 50 years and our advice on your new problems will prove most helpful.

SEDGWICK MACHINE WORKS

159 WEST 15th STREET

NEW YORK

Established 1893

Sedgwick

DUMB WAITERS • ELEVATORS • CONVEYORS

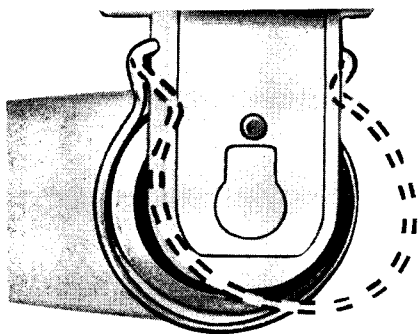


Figure 1

LAMP LOCK

A patented safety lamp lock is an integral part of each socket of the new Miller Aero-Designed fluorescent fixtures. This device is said to prevent accidents and save both time and money by minimizing the risk of lamps falling from sockets. Simple in construction, it is so arranged as not to interfere with fixture relamping and cleaning. (See Figure 1.) The Miller Co., Meriden, Conn.

RUBBER COMPOUND

Development of a compound made from Ameripol, the synthetic rubber created in its laboratories, which will remain so flexible at -70° Fahrenheit that it can be bent at an angle of 90° around a $\frac{1}{2}$ in. rod, is announced by The B. F. Goodrich Company.

The new compound is being used in the construction of bolted tanks for storage of the high octane gas and aromatic fuels used in military aircraft. In the construction of these tanks, made from sheet metal, sealing strips of the synthetic rubber $1\frac{1}{4}$ in. wide and $\frac{3}{32}$ in. thick are placed at the points where the sheets are bolted together. Synthetic rubber of the highest solvent resistant type must be used in the construction of these seals, since the solvenizing attack on ordinary rubber compounds by the fuels is so severe. The B. F. Goodrich Co., Akron, Ohio.

METAL PLATING OF PLASTICS

Announcement has been made of a new process by which plastics, glass or any non-conductor is perfectly plated with any of the plating metals.

The plating goes on the plastics as perfectly and as permanently as the best in any plated metal, it is reported, and convex and concave surfaces, convolutions, corners and recesses are as thoroughly plated as flat or simple round surfaces. The metal plating is said to be permanent, not cracking, chipping or peeling off in long and severe service.

Both rigid and pliable types of plastic tubing and pipe fittings can be plated. The uses of the process extend into all electrical and mechanical manufacture. Precision Paper Tube Co., Special Products Division, 2023 West Charleston St., Chicago 47.

CORRUGATED METAL SHEET

A new sheet metal offered as a substitute for galvanized metal is produced by combining sheet steel with stearine-cottonseed pitches and pulverized slate. Recommended by the manufacturers for counterflashings, metal roofs, gutters, etc., these metal sheets are said to resist corrosion and most acid conditions, and to be fire retardant. Cheney Metal Products Co., Trenton, N. J.

INDUSTRIAL FLOOR

Said to be especially resistant to the penetration of acid, water, oil and grease, a new industrial floor product by the name of AWOG (the name comes from the four substances which the floor is resistant to) has been developed to meet conditions prevalent in machine shops, boiler rooms, dairies, and other plants requiring a "super floor." The manufacturers claim that it facilitates cleaning and sanitation, is smooth and dustless, and will withstand the heaviest traffic. Flexrock Co., 2800 Manning St., Philadelphia.

WATER HEATERS

The entire line of Crane Gas Water Heaters has been reduced and standardized to conform with present war-time restrictions, it has been announced. The present line consists of three models in a total of seven sizes. Wherever possible, critical metals have been replaced by non-critical materials: cast iron to a great extent replacing

brass; steel instead of copper; and a hard, fireproof fiber board instead of the pre-war steel outer casing. Bastian-Morley Co., Inc., La Porte, Ind.

FLAT RIM SINKS

Two new sizes of Perma-Gloss non-metal sinks (see ARCHITECTURAL RECORD, Jan. 1943, p. 88) have been announced: the 30 by 18 in. Flat Rim Sink, and the 32 by 18 in., two compartment Flat Rim Sink. These larger sizes are designed for roomy kitchen installments, and are said to be particularly suitable for mounting in kitchen cabinets with linoleum tops. General Ceramics Co., Metuchen, N. J.

WHITE PENCIL

TRACING CLOTH

A new white pencil tracing cloth known as Whitex features moisture resistance on both sides. The fine-tooth surface is said to assure jet-black pencil lines. The Frederick Post Co., Box 803, Chicago.



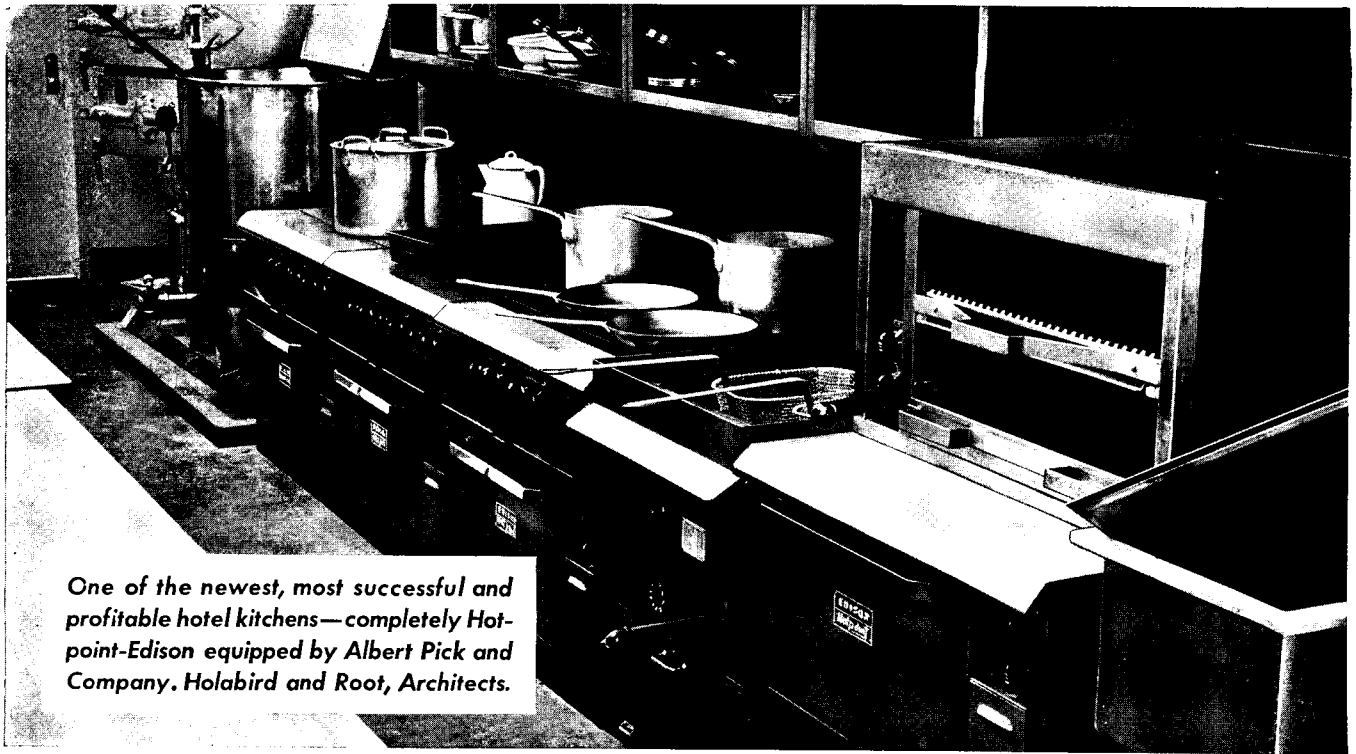
Figure 2

GLASS KITCHEN

The "kitchen of tomorrow" as conceived by H. Creston Doner, chief designer of the Libbey-Owens-Ford Glass Co., Toledo, Ohio, and shown in a full-scale model available for inspection at that company's plant, not only is largely of glass, but also is virtually an around-the-clock room. All equipment is so designed as to allow it to be closed when not in use, and the several cabinets have a natural wood finish to harmonize with the other furniture in the house.

Spacious and airy, this imaginative kitchen has walls of colored Vitrolite glass, offset by translucent panels and

(Continued on page 88)



One of the newest, most successful and profitable hotel kitchens—completely Hotpoint-Edison equipped by Albert Pick and Company. Holabird and Root, Architects.

Architects See Growing Trend to ELECTRIC Kitchens in Post War Building

BEFORE THE WAR, leading hotel and institutional architects saw the trend to all-electric kitchens. And now, with electric cooking gaining such wide popularity for its wartime performance, they foresee a great post war acceleration of that trend... right in step with modernizing plans.

On today's Naval, Coast Guard and Maritime Ships and stations 'round the globe, thousands of cooks and bakers in the armed forces are discovering the efficiency of Hotpoint-Edison Electric Cooking Equipment... its compactness, coolness, cleanliness and rugged streamlined durability. With no flame to use up oxygen no extra ventilation is needed. Economical too, for the accurately controlled temperature reduces food waste.

Sturdy QUALITY is built into Hotpoint-Edison. Quality in every vital part—heating units, switches, wiring and connections.

In post war projects, architects and owners will appreciate the simplicity and saving of bringing in only one fuel—electricity—for lighting, power, cooking and air conditioning.

As the oldest and largest makers of electric cooking equipment, we are headquarters for information on kitchen planning. Our kitchen specialists will be glad to consult with you regarding efficient layout of equipment for the *kitchen of tomorrow*.

Edison General Electric Appliance Co., Inc.
5625 West Taylor Street, Chicago 44, Ill.

For outstanding achievement



in War Production

**THE KITCHEN
OF TOMORROW
WILL BE
ALL-ELECTRIC**

Hotpoint Edison

COMMERCIAL ELECTRIC COOKING EQUIPMENT

RANGES • BAKE OVENS • ROASTING OVENS
DEEP FAT FRY KETTLES • BROILERS • GRIDDLES

**OLDEST AND LARGEST
MANUFACTURERS OF
ELECTRIC COOKING
EQUIPMENT**

FOR VICTORY — BUY U. S. WAR BONDS AND STAMPS

(Continued from page 86)

large picture windows. Both the kitchen and the adjoining dining alcove have indirect lighting built in as a component part of their glass-fronted cabinets. Separating the two rooms is the refrigerator, built horizontally, with one end serving as a convenient counter and the other supporting a glass-shelved china cabinet. Both refrigerator and cabinet have sliding glass doors on

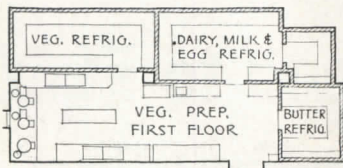
each side, making them accessible from either room.

The cooking unit covers an area of about one-third that of the conventional stove. The cover lifts up and slides back, its white Vitrolite-lined under-surface forming a splash panel. A hooded lighting unit illuminates the working area. Specially designed cooking vessels are recessed into the stove

for maximum heat utilization. Any one of these vessels can be removed and replaced by a shallow baking or pie plate, the opening then serving as a small individual baking oven. The oven proper, raised to a convenient working height, roasts, broils or barbecues, and is covered with a heat-tempered glass hood which permits full visibility. (Figure 2.)

KITCHEN PLAN NO. 2: Second of a series of successful mass-feeding kitchen plans.

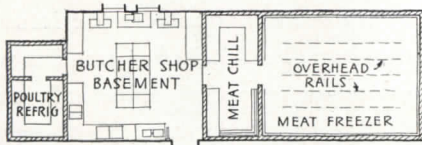
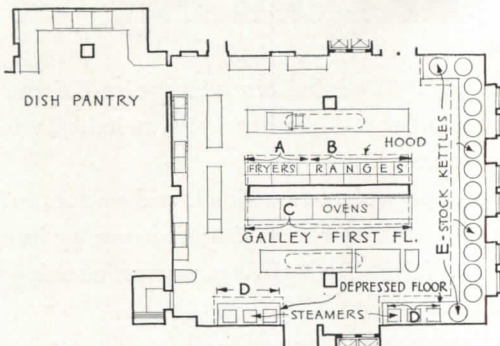
This NAVAL GALLEY feeds 5600 WAVES and SPARS at each meal and is capable of handling considerably more.



KEEP FOR HANDY REFERENCE!

COOKING EQUIPMENT USED:

- (a) 5 Fryers
- (b) 6 Griddle-top ranges
- (c) 5 No. 959 BLODGETT OVENS
- (d) 6 Vegetable steamers
- (e) 14 Stock kettles (1080 gals.)



DESIGNED BY J. CINI of NATHAN STRAUS-DUPARQUET, INC., FOR THE UNITED STATES NAVY.

THE FIVE NO. 959 BLODGETT ROASTING OVENS in this galley provide fifteen chambers, ten of which are 7" high and five of which are 12" high, a total of 140.1 square feet of shelf area. More than 2500 lbs. of meat can be roasted at one time. Meats, fish, vegetables, puddings, etc. are prepared in them. For details and specifications of Blodgett Ovens consult any equipment house or write

The G. S. BLODGETT CO., Inc.

53 Maple Street, Burlington, Vermont

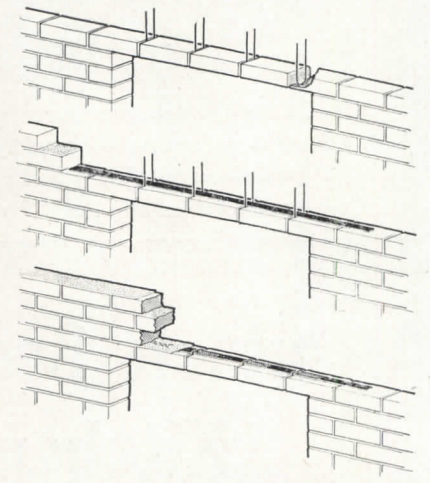


Figure 3

STEEL-SAVING LINTEL

Designed to conserve steel by eliminating the usual angle or T-irons, this invention, recently patented by John J. Klaber, architect, substitutes a rectangular steel (or strap-iron) reinforcing bar. The bar is placed in the joint above the first tier of bricks over an opening, (see cut above). Wire ties in the vertical joints support the first row of bricks when the centering form is removed. The reinforcing bar is figured for sheer rather than for bending stresses and assumes the rigidity of the triangular mass of bricks above the opening. For openings supporting no other loads than the brickwork, the following table indicates the appropriate width of a flat bar, 1/8" thick, required for each 4" of wall thickness: (stress 10,000 lbs. per sq. in.)

Span (feet)	3'	4'	5'	6'	7'	8'	9'
Width of bar (inches)	.036	.064	.100	.144	.196	.256	.324

The invention may be manufactured and used for the Government of the United States, for governmental purposes without a payment of any royalties thereon, in accordance with the provisions of the Act of April 30, 1928.

(Continued on page 90)

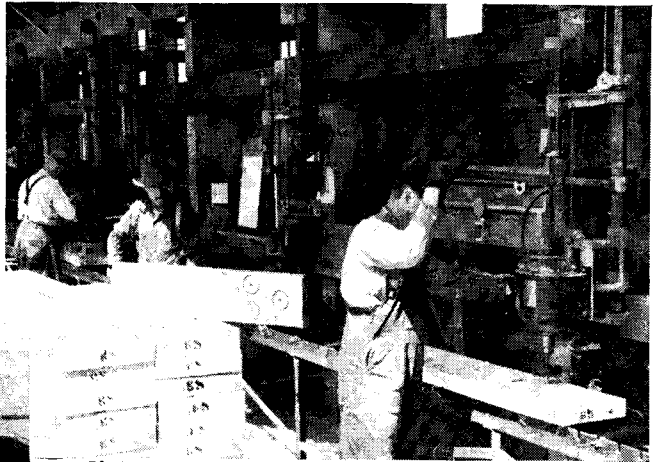
PREFABRICATED TIMBER

*... precision cut
and quickly assembled ...
economical and permanent*

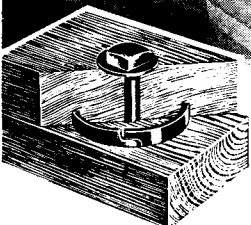
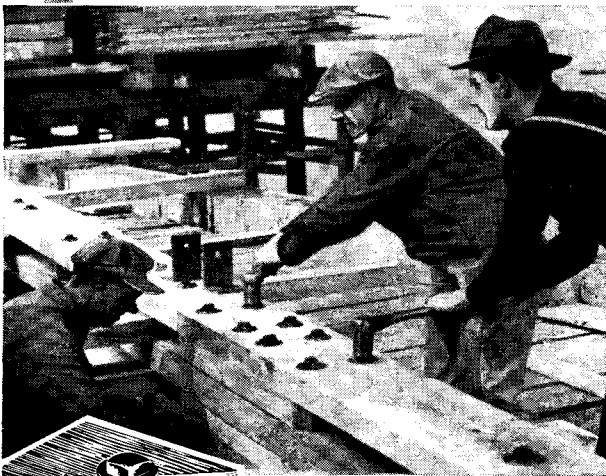
Timber trusses engineered under the TECO Connector System are trim, efficient, and serviceable.

Power tools pre-groove the timbers to precise dimensions to receive the TECO Connectors which are imbedded in the joints.

The pre-grooved timber members are assembled. The invisible TECO Connectors assure strong and rigid joints.



Photos courtesy Henry Mill & Timber Co., Tacoma, Wash.



The TECO Ring Connector spreads the load on a timber joint over practically the entire cross-section of the wood ... brings the full structural strength of lumber into play.

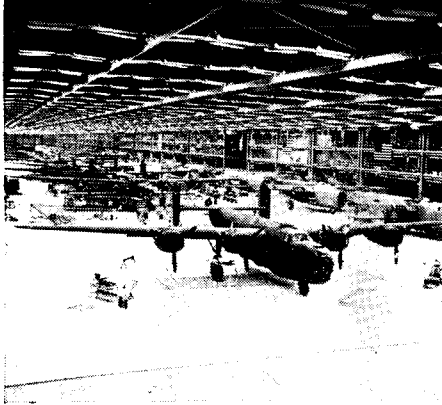
The TECO Connector System of timber prefabrication makes it possible to employ timber successfully in heavy structural engineering. Many great war plants, shipyards, docks, warehouses, hangars, bridges, and towers have been built entirely of timber under the TECO Connector System. Scores of them have been Army or Navy installations. From the raw lumber to the finished truss, every step in modern prefabrication is controlled by sound engineering practices and precision methods. A high degree of speed and economy have resulted. Write today for our literature, using your firm letterhead.

TIMBER ENGINEERING COMPANY
NATIONAL MANUFACTURERS OF TECO TIMBER CONNECTORS AND TOOLS
WASHINGTON, D. C. PORTLAND, OREGON

FREEDOM IS NOT FREE--IT IS PRICELESS ★ BUY WAR BONDS

LIGHT FROM FLOORS

speeds
war production



DARK FLOORS waste light by absorbing it. White cement floors save light by reflecting it. The advantages of making giant reflectors of your factory floors are shown by installations at Boeing, Consolidated, Douglas and North American aircraft plants. In the Consolidated plant at Fort Worth, tests by General Electric show that the white cement floor which adjoins a gray cement floor in the same plant reflects 61% more light to under side of wings and 20% more light to vertical work surfaces.

Light-reflecting floors made with Atlas White cement have many other advantages. They encourage cleanliness, are easy to maintain, reduce disturbing shadows, give workers better and more comfortable light, improve morale, increase production, and reduce accidents, errors and spoilage.

Send for new book, "Light From Floors." It tells the complete story of light-reflecting floors made with Atlas White cement. Write today. Universal Atlas Cement Company (United States Steel Corporation Subsidiary), Chrysler Building, New York City.

8-F-20

ATLAS WHITE CEMENT

For Light-Reflecting Floors

FOR BETTER BUILDING

(Continued from page 88)

GYPSUM FORMBOARD

Essential wartime construction and lumber shortages have fostered the development of another replacement for scarce lumber: Gypsum Formboard for scarce lumber: Gypsum Formboard for use in concrete molding forms.

Formboard is gypsum board specially coated to prevent the adhering of the concrete to the paper surface of the gypsum board. It does not have to be oiled. National Gypsum Co., Buffalo.

CORK SUBSTITUTE

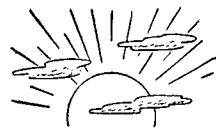
From Capetown, South Africa, comes news of a newly developed cork substitute made from soap, cement, glue and water. According to the description ("Soap, Perfumery and Cosmetics" 15: 586), the soap and glue are dissolved in water and agitated to form many fine bubbles. Cement is mixed with this mass and allowed to set in molds. On hardening, a block resembling pumice stone is obtained. It floats in water, has the heat insulating qualities of cork, and has the added advantage of being strong enough to permit construction, with cement and plaster, of an inside wall by itself.

UTILITY BUILDING

The Navy Department reports that a new type of galvanized steel semi-circular utility building 40 ft. wide by 100 ft. long, has become a "jack-of-all-trades." Many hundreds of them are being erected at scores of points overseas. Capable of seating 600 men each when used as recreation buildings, and of accommodating every type of machine shop or repair operation, these buildings serve a multiplicity of uses, the Navy points out.

Exclusive of the time taken for laying a concrete floor, these structures can be erected in about 300 man-hours each. The arched ribs are made of strip steel, which is not a critical form of the metal. The ribs are manufactured in sections, can be laid on the ground and bolted together. Except for raising the first couple of ribs, it is unnecessary to have a scaffolding, and heavy lifting equipment is completely avoided. The construction crew can raise these ribs, once they are bolted together, merely by pulling them into place with a rope. The corrugated steel cover is painted an appropriate camou-

(Continued on page 92)



Better Heating

-Today and Tomorrow.

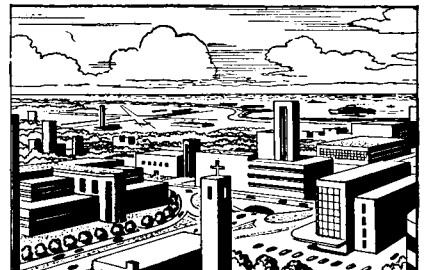
For fifty years, America's best heated buildings have used steam as a heating medium—steam harnessed and brought under control with Webster Systems of Steam Heating.

Today, when excessive fuel consumption is not only wasteful but unpatriotic as well, the building equipped with a Webster Moderator System is assured of heating comfort with minimum fuel consumption. "Control-by-the-Weather" is provided by an Outdoor Thermostat, which automatically adjusts the basic rate of steam delivery with every change in outside temperature.

Architects, engineers, contractors and building owners who are planning building construction or modernization, for both now and after the war, are demanding economy as well as comfort in heating. That is why controlled steam heating plays such an important part in the planning being done today.

Unique in comfort, economy and trouble-free operation, the Webster Moderator System is continuing to gain the approval of men who are planning ahead.

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

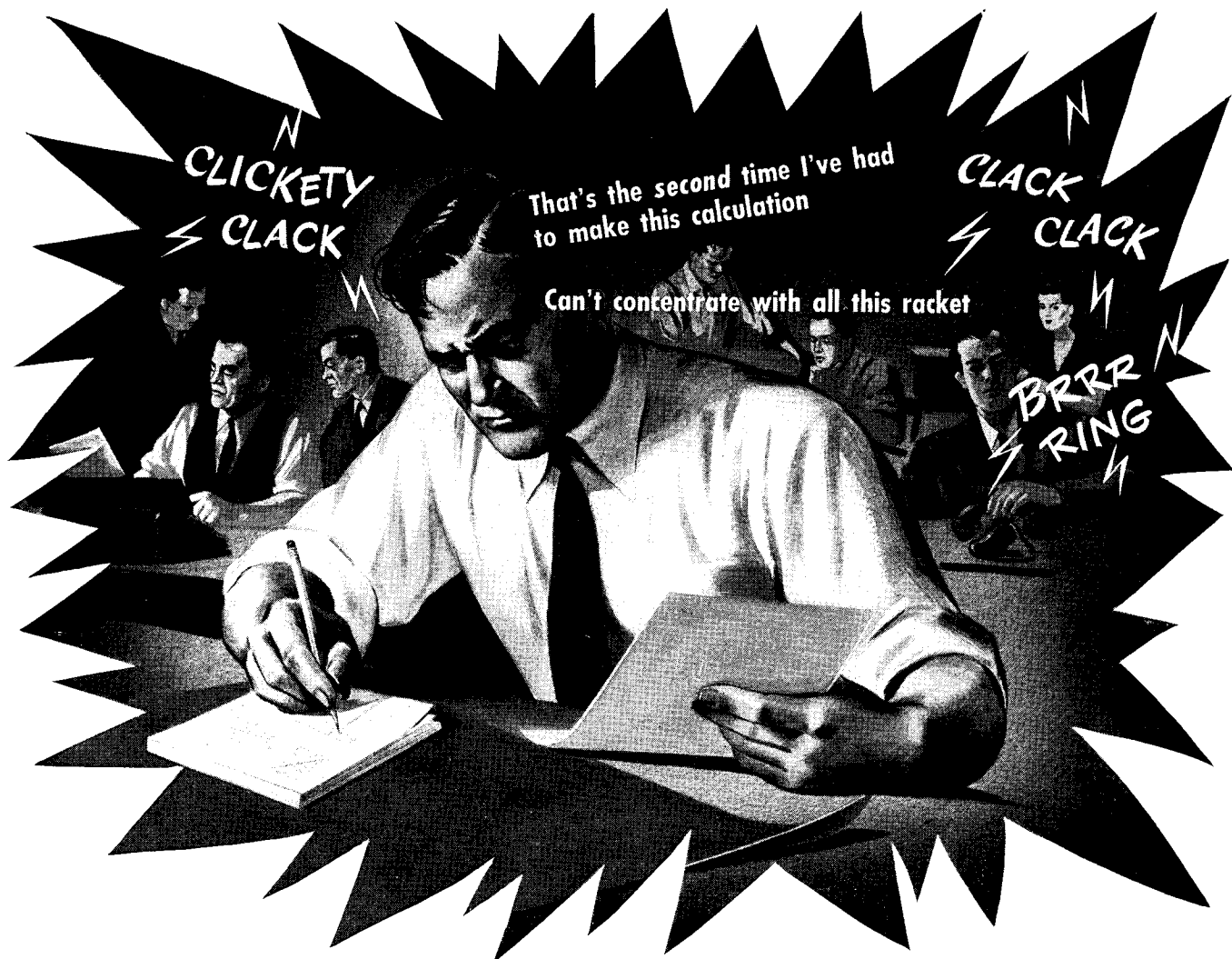


We have a book that gives performance information about the Webster Moderator System of Steam Heating in buildings of every type. It will help you in planning new construction or modernization of existing buildings. "Performance Facts" is yours for the asking. Write for it today.

ARMY
NAVY

Webster

Steam Heating



Don't let **NEEDLESS NOISE** slow up the production of your clients

IN DEPARTMENTS where engineering specifications are written, shipping orders are typed, and accounts recorded, distracting noise can cause costly errors . . . can even hamper the war effort. Guard your client's business against the noise menace by specifying Johns-Manville Acoustical Materials for these and other vital spots.

J-M Acoustical Materials are economical in cost, attractive in appearance. They keep noise below the disturbing level by scientific control. The result is increased efficiency, continuous higher-quality work, satisfied clients.

For free copy of our Sound Control Brochure, write: Johns-Manville, 22 E. 40th St., New York 16, N. Y.



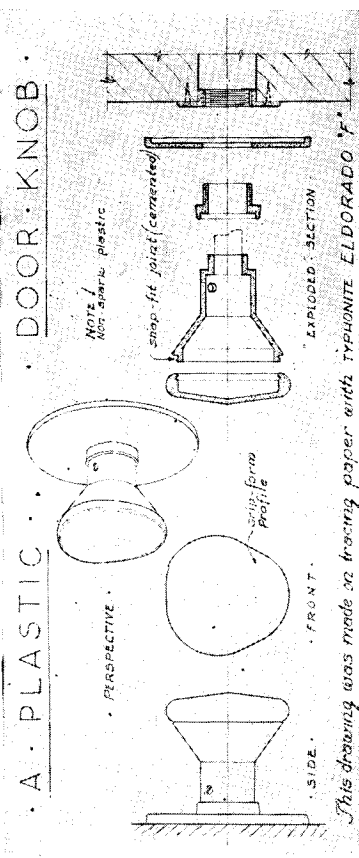
Johns-Manville

Acoustical Materials

BIG IMPROVEMENT IN A SMALL THING

This door knob is in the shape of a warped, flattened sphere. It won't slip, even in a wet hand. It is made of non-spark plastic. In cold weather, it won't create a static spark when you touch it. It can be made in colors to match any scheme.

For drawings that will blueprint clean and sharp, draftsmen depend upon the



uniformity, strength and opacity of Typhonite ELDORADO.

* * *

Blueprint available if requested on company letterhead within 30 days.

TYPHONITE

ELDORADO

Pencil Sales Department 225-J8, Joseph Dixon Crucible Company, Jersey City, N. J.

FOR BETTER BUILDING

(Continued from page 90)

flage color before shipment.

These units, which weigh some 25,000 lb. apiece, can be packed conveniently in crates occupying only 369 cu. ft. The crating takes a minimum of space and is designed for quick handling on and off ships. The buildings fulfill needs met by nothing else, the Navy reports, because of their portability, cheapness and wide utility.

LINOLEUM

Smooth, durable linoleum and printed floor coverings are being produced in substantial quantities despite prevailing manpower problems, increasing war demands for some of the essential ingredients, and import difficulties, according to the War Production Board.

Except for occasional regional shortages, there have been enough smooth surface floor coverings to meet the greatly increased demand. Patterns are still diversified, but the industry is concentrating on the simpler ones and discontinuing those in least demand in order to save manpower, materials and machines. Practical colors compose the pattern picture for the duration. Blues, certain shades of green, and some of the brighter colors have been virtually eliminated, since the chemicals needed to make them are in more urgent demand for explosives, pharmaceuticals and other war goods. Almost all the linoleum now produced has a felt-base, made of paper and rags, and saturated with asphalt.

HARDWARE

Plans for making more adequate provision for essential civilian needs were discussed at the meeting of the War Production Board's Hardware Industry Advisory Committee held recently in Washington. Difficulties are encountered in making deliveries on low-rated orders, Committee members stated, and the industry is faced with a possible loss of long-established trade channels.

Government officials suggested several ways of meeting this problem and stated that the Building Materials Division is considering the possibility of directing a proportion of production—depending upon the type of business—to fill low-rated orders. Dealers would then have dependable quantities of supplies on hand for delivery at any given time.

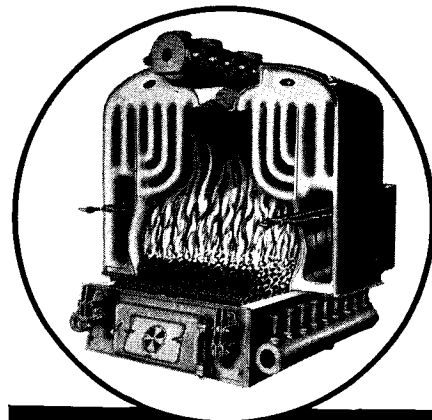
3 "Musts"

THAT DICTATE THE CHOICE OF H. B. SMITH BOILERS FOR

● RETAIL STORES
● RESTAURANTS
● HOTELS and INNS

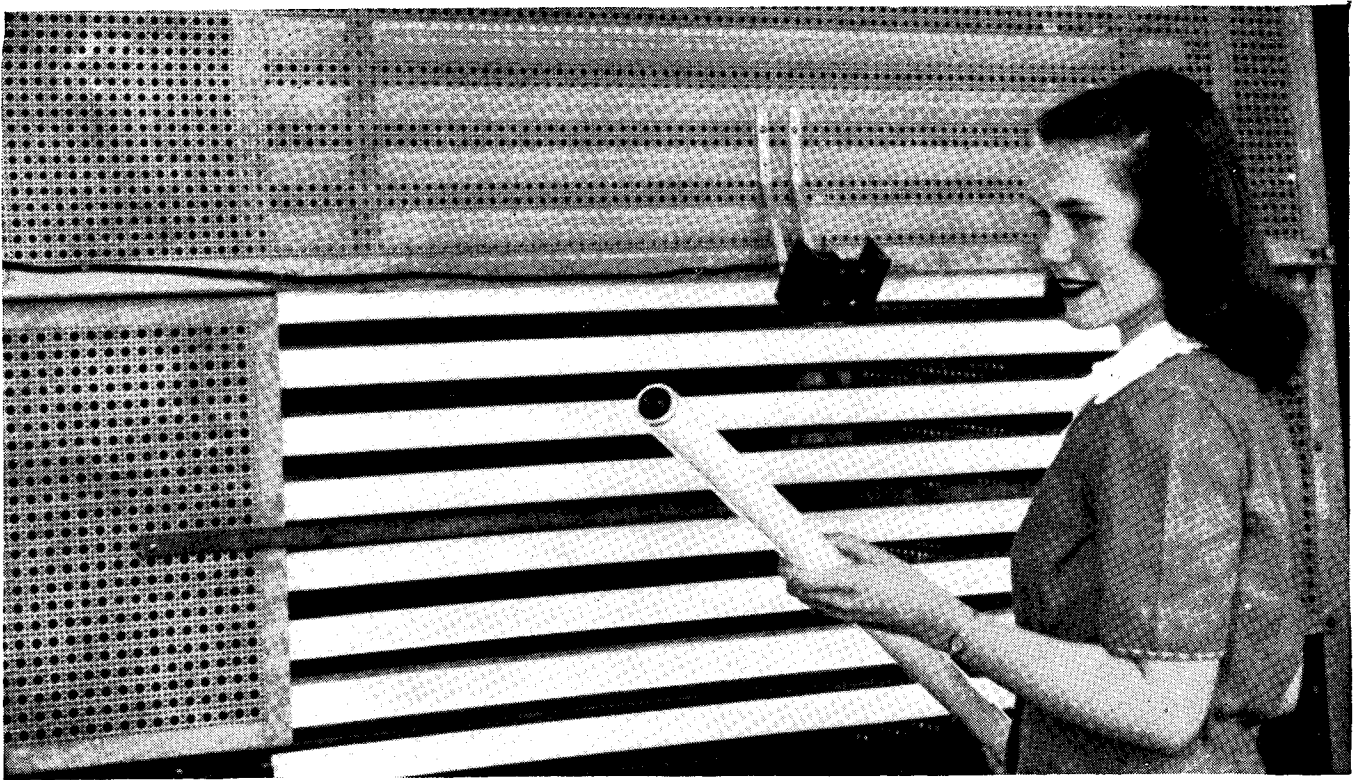
Heating . . . important to any building . . . is trebly vital for enterprises that depend on an uninterrupted stream of consumer traffic each business day. Surely the architect or engineer will be judged by the boiler that he selects to meet these three exacting conditions.

1. *Comfort for Customers.* H. B. SMITH "header type" boilers not only operate efficiently with any fuel but the possibility of a mid-season breakdown is minimized as each section is in fact an independent boiler which can be disconnected with no interruption of service should an accident occur.
2. *Comfort for Employees.* A vital consideration as employee efficiency depends no little on comfortable working conditions.
3. *Steam for Kitchen Use.* H. B. SMITH boilers, being of vertical water tube design, show fastest possible response to steam requirements of kettles, bottle washers and other kitchen equipment. There is no slowdown or interruption in service where a SMITH boiler supplies the steam.



H. B. SMITH
BOILERS

The H. B. SMITH COMPANY, Inc., Westfield, Mass.
BOSTON NEW YORK PHILADELPHIA



AGE BEFORE DUTY..

● When properly "aged" or seasoned, fluorescent lamps remain more constant than daylight throughout their entire life. This is important in lamps that illuminate precision work in war plants.

At Sylvania there is a special "age before duty" machine that lights and re-lights fluorescent lamps for carefully regulated time intervals. This mellowing process prepares all the elements that make up a lamp for a life of uni-

form light output. It is also a final precaution taken to weed out an occasional substandard lamp which may have filtered through dozens of painstaking inspections.

That is why a Sylvania Fluorescent Lamp can be counted on for consistent light output every minute of its life.

"Aging" is one of many Sylvania methods of safeguarding fluorescent quality. Lamp efficiency is perfected and main-

tained at its highest peak through continual research by Sylvania engineers who have years of specialized experience with incandescent lamps, radio tubes, ultra-violet lamps and other electronic devices.

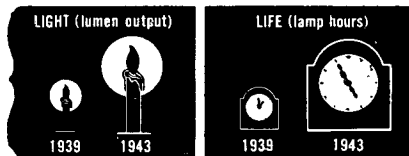
Today Sylvania's research is providing the best and most economical lighting known for war industry. When victory is won, the same independent research will bring the advantages of fluorescent lighting to postwar homes.

For more light output, longer life and uniform color, specify Sylvania Fluorescent Lamps in new installations and replacements.

FAR MORE LIGHT AND LIFE FOR YOUR MONEY

Compared with 1939, a dollar invested today in Sylvania Fluorescent Lamps buys more than four times the lumen output and approximately five times the lamp life.

SYLVANIA
FLUORESCENT
DOLLAR
BUYS:



(Based on decreasing price and increasing efficiency and durability of Sylvania 40-Watt White Fluorescent Lamp)

Even on existing circuits, a change-over to fluorescent—Sylvania Lamps, Fixtures and Accessories—will probably more than double the light you get for the same wattage.



SYLVANIA

ELECTRIC PRODUCTS INC.

Formerly Hygrade Sylvania Corporation
Salem, Mass.

INCANDESCENT LAMPS, FLUORESCENT
LAMPS, FIXTURES AND ACCESSORIES,
RADIO TUBES, CATHODE RAY TUBES,
ELECTRONIC DEVICES

(Continued from page 12)

preparation programs of public municipal improvements. The proposed bill has been referred to the House Ways and Means Committee.

CONSTRUCTION GUIDE

Requirements for construction projects should be in line with the revised version of the "Critical Construction

Materials Design Guide" prepared by the Conservation Division, WPB has announced.

Formal instructions to this effect are incorporated in Form WPB-617, formerly PD-200 (ARCHITECTURAL RECORD, July, 1943, p. 12).

Outlining the items of construction which are permitted by WPB for proj-

ects approved as essential to the war effort, the Guide is designed to assist engineers and architects who are responsible for planning proposed projects. If the policies as stated in the Guide are maintained in the selection of materials, the work of processing the applications will be greatly reduced and final action will be expedited.

Excepted from the scope of projects to which the Guide applies are the following classifications: housing projects, which are governed by the War Housing Critical List; command construction projects, which are certain military projects ordered by the Chief of Staff, U. S. Army, or by the Chief of Naval Operations, U. S. Navy, and construction projects for which the Army, Navy and Maritime Commission are the claimant agencies under the Controlled Materials Plan. Both of the latter types of construction are governed by the Army and Navy Munitions Board "List of Prohibited Items for Construction Work."

Copies of the Guide may be obtained from the Regional or District Offices of the War Production Board or from the WPB Conservation Division, 1100 H Street, N. W., Washington 1, D. C.

FPHA REPORT

More than \$360,000,000 in contract agreements with private construction companies for publicly financed war housing projects were closed by the Federal Public Housing Authority in the first five months of 1943, FPHA Commissioner Herbert Emmerich has announced.

These awards are part of a total of more than \$1,808,285,000 representing 1,900 prime contracts for war housing entered into between the federal government and private contractors since July, 1940, Mr. Emmerich said. Contracts during this period have called for the construction of 607,843 dwellings, comprising family, dormitory and trailer accommodations for workers in war industry centers.

Federal war housing contracts are let on a competitive basis to responsible private bidders. The growing interest of the private construction industry in such contracts is emphasized, Mr. Emmerich pointed out, by the greatly increased number of bids received in recent months.

WANTED:
ARCHITECTS
ENGINEERS
for interesting, important war work

If you're a graduate engineer or architect... if you're not now devoting all of your capabilities to vital war work... probably you can qualify for interesting, important work at Bell Aircraft. Machine design or mechanical drawing experience is highly desirable.

This is a sound, progressive,

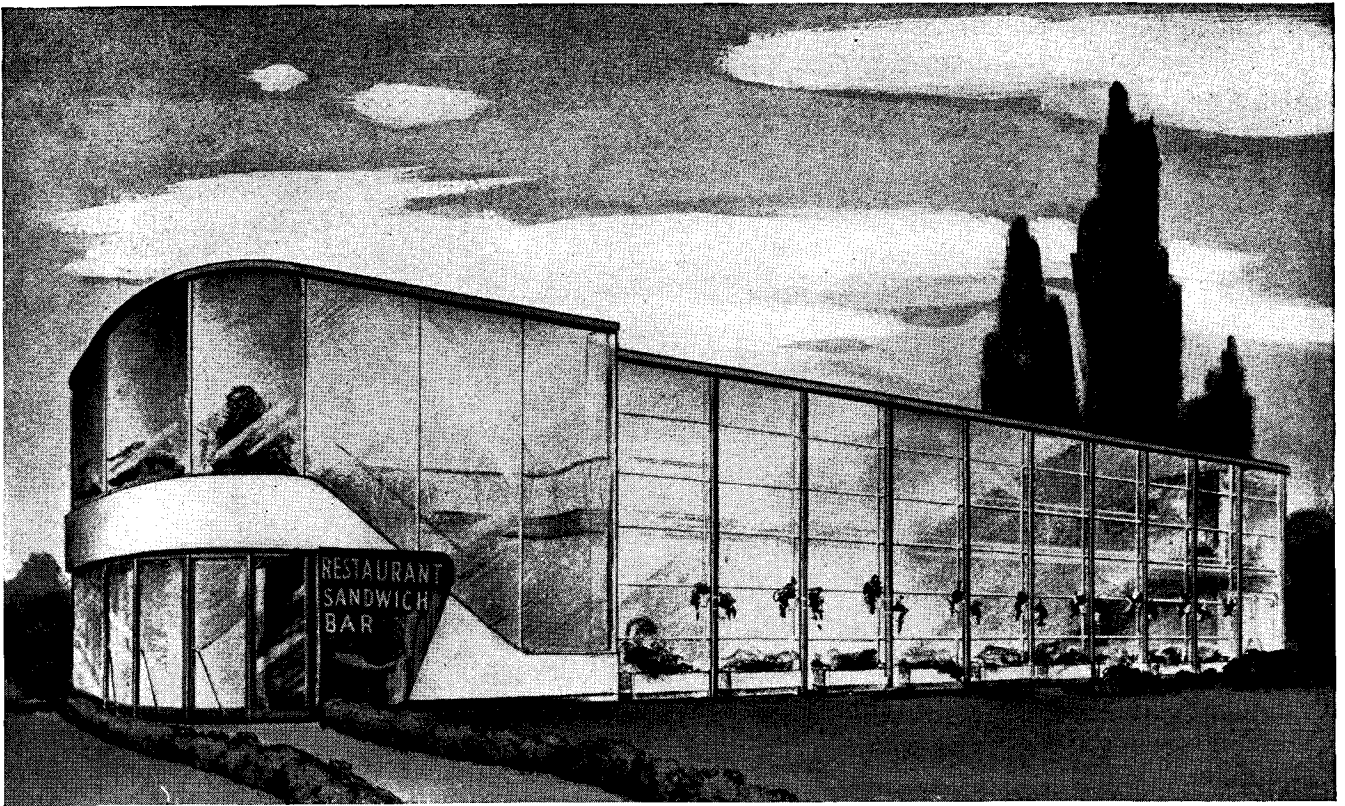
fast-growing company. It has a splendid record of achievement in design and construction of military aircraft. Working conditions are excellent. We're located near a metropolitan area, yet out far enough to permit living in the country if desired.



Just send a brief outline of your education and experience to

ENGINEERING PERSONNEL DEPARTMENT

BELL AIRCRAFT CORPORATION
 NIAGARA FALLS, NEW YORK



Walter Hesse, of the firm of Bloch and Hesse, well-known New York architects, is the designer of many famous restaurants and stores in New York and other eastern cities. A restaurant sandwich bar similar to the one shown above was designed by Bloch and Hesse for Cimbels Bros. New York store.



Preview of the Restaurant of the Future: with Special Attention to

DINING IN AIR-CONDITIONED COMFORT

What will the restaurant of the future be like? Here is how Walter Hesse visualizes it. "Everything will be planned with the comfort and convenience of the customer in mind. Hence, functionalism will receive chief consideration.

"Air conditioning will of course be one of the most important features. Quiet—absolutely noiseless, gentle air conditioning. Providing an invigorating, comfortable atmosphere. Without any trace of food odors. Tempting patrons to more enjoyment — happier meals and bigger checks."

Restaurateurs know from experience that air conditioning—that is dependable and efficient air conditioning—is a guarantee of getting

more business—and holding it.

In the past, competition has been between the air conditioned restaurant and the restaurant without any air conditioning. With practically all restaurants of the future air conditioned, the advantage will be held by the restaurant with the better type of installation. Thus the selection of equipment takes on greater importance.

More attention will be given to cooling capacity and the location and type of grilles so that the circulation of conditioned air will be gentle and even. Smooth, silent operation without pulsation or noise will be a definite requirement.

Restaurateurs who have had experience with Carrier equipment

know that it meets these requirements and offers many other advantages in economical, trouble-free performance. Architects have found the cooperation of Carrier engineers to be most helpful in planning, estimating and installing air conditioning systems.

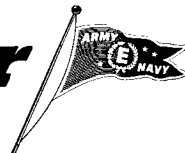
Air conditioning equipment offering features never before available is now being planned on the drafting boards of Carrier designers. This equipment will be ready for the restaurateurs of the future as soon as peace comes.

Architects and restaurant owners are invited to discuss now, how this improved equipment can be adapted to their post-war plans.

CARRIER CORPORATION, Syracuse, N. Y.

AIR CONDITIONING

Carrier



REFRIGERATION

(Continued from page 30)

place within a short time, otherwise there would be confusion of uses as one building at a time would be changed. How can we "offer leeway for organic growth"? By leaving vacant land around each different use zone so that each use can expand?

Is there an example in the United States which approximates an organically decentralized city? Would the proposed decentralized city be subdivided into separate political units or would

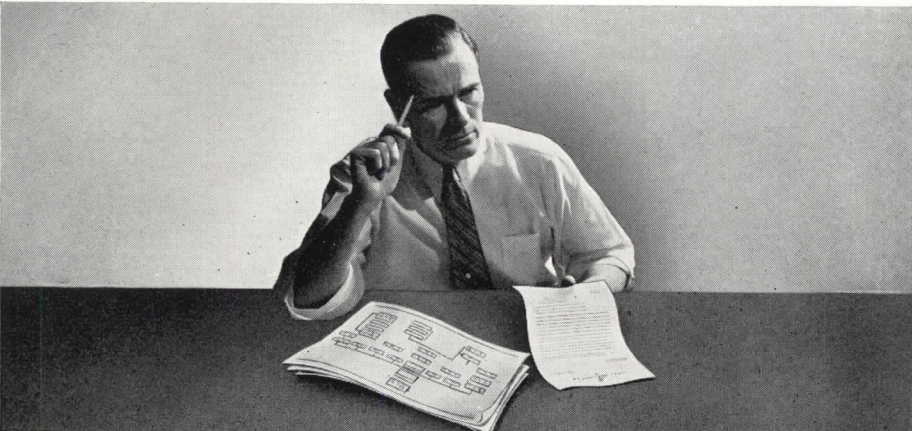
it be necessarily one large political unit? If subdivided into separate political units will it not be impossible to obtain agreement on necessary regional planning? The suggestion that legislation should be enacted which would allow land areas needed for decentralization to be brought under the jurisdiction of the central authorities of planning is not easily carried out in metropolitan districts made up of many contiguous cities and towns with no un-

incorporated areas between them. Anybody who has had experience in this country in attempts at state building codes or metropolitan planning knows how our insistence on home rule complicates problems.

As to housing, in every large city there are thousands of people who do not need the same kind of living conditions as does a family with children. Thousands never marry. War employment of women may greatly increase this number. Thousands of couples have no children. Thousands have only one child, and during that child's infancy it does not need the same surroundings as larger children. Thousands of couples want simple housekeeping accommodations near city facilities because their children have grown up and left them. Thousands of people prefer movies and bright lights to gardens and mosquitoes. The proposed Stuyvesant Town may be exactly what thousands of people prefer. Is it not better for policyholders and taxpayers in general for the insurance companies to invest their money in the equity of large housing projects than for the government to build subsidized housing with a few less people per acre and then expect the insurance companies to invest in government securities at a low rate of interest, the rest of us getting reduced returns on our policies and increased taxes to provide the government subsidy? There are so many white collar workers who are glad to live in apartment houses near their work that private enterprise should be encouraged to supply the need. It is beside the point to talk about what would happen if the whole of Manhattan were built up to the proposed density of Stuyvesant Town. Large areas in the borough do not have the large employment opportunities which require such a density.

Is a business district made up of buildings so scattered as to give "ample" light, air and parking spaces an efficient district? Is there any example of a large city in the United States which approximates such conditions? After all, or before all, "unless one is able to make a living in the city, one cannot exist there," as Mr. Saarinen says. Would such a sprawling development cost too much for

(Continued on page 98)



Are You Working on Post-War Plans?

When the war is over will your organization — your product — your service — readily adapt itself to post-war conditions? Have wartime developments revealed the extent to which new designs and methods must be considered?

We at White-Rodgers cannot answer these questions for you. But, if the control of temperature and pressure is essential to the successful application of your product or service, we will be glad to tell you about the White-Rodgers Hydraulic-Action principle of temperature control and the advantages it offers.

To assist you in setting up your post-war plans we have prepared a "Post-War Planning Checklist." We will be glad to send you a copy upon request.



WHITE-RODGERS ELECTRIC CO.

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**FROM A FOXHOLE IN NEW GUINEA
PVT. HOUSTON DREAMS OF**

Home



"OH, BOY, when I get out of this jungle, I'm going to build me a sweet little cottage in California and stay there the rest of my natural life. It won't be big but it'll have every convenience I can cram into it . . . a shower with *hot and cold* running water for each bedroom . . . a handy little kitchen . . . and a certain girl named Sally who knows how to make a juicy steak sit up and say papa."

What kind of homes will the boys want when they get back from the wars in 194X? They've been fighting for a memory of home—a home better than anything else they've found in foreign countries. They'll be tired of strange

places—and they'll want something not *too different* from the home they left behind.

One thing you can be sure of, this mechanized war has given our fighters a healthy respect for the value and versatility of steel.

For post-war houses, steel will be increasingly important. Because it lends itself to mass production methods, steel windows, steel kitchen cabinets, pressed steel bathtubs, sinks and lavatories can be made cheaper and will cost less to install.

Prefabricated steel stairs, clothes closets, shower cabinets will reduce costs. Steel roofing, gutters, and downspouts will give the most economical service obtainable over a period of years.

Porcelain enamel, in a variety of colors, will give the architect something new to work with. It can be made into attractive paneling for bathrooms and into colorful maintenance-free shingles for roofing and a host of other products.

The war has speeded development of new steels, many of which will be available when the fighting is over. Our new booklet, "85 Ways to Make a Better Home" will show you what's new in steel products. Write for a copy.

**U.S.S
BUILDING STEELS**



CARNEGIE-ILLINOIS STEEL CORPORATION, *Pittsburgh and Chicago*

COLUMBIA STEEL COMPANY, *San Francisco*

TENNESSEE COAL, IRON & RAILROAD COMPANY, *Birmingham*

United States Steel Supply Company, *Chicago, Warehouse Distributors* · United States Steel Export Company, *New York*

(Continued from page 96)

construction, supply and maintenance of municipal public utility services? Would it allow convenient personal contacts between business men? Is it not more convenient to transact business in the high office building districts of Broadway-Wall St. or Fifth Ave.-42d St. in New York, than in the low government buildings in Washington? It is not necessary, however, to build to the New York heights.

Just what people need to walk to what kind of work and how far will they walk? How wide a green belt would they like to walk through to reach a factory? If people are to walk to their work in large cities there is no other practical solution than apartment houses. The Fifth Ave. and Park Ave. apartment houses provide in part for the 42d St. business area, the tenement districts adjacent to the midtown gar-

ment centers provide for that industry, and the proposed Stuyvesant Town provides for the Union and Madison Square business areas. Is it not better for the workers to live near their business areas than to commute from Brooklyn, the Bronx or New Jersey?

We need to be sure of the causes of slums before we prescribe remedies. The statements that a large part of the buildings of medieval times have resisted deterioration because their forms arose from an honest search for expressiveness and not through superficial imitation of obsolete forms, and that the latter part of the nineteenth century was a slum-breeding period par excellence because of incredible architectural fallacies, are open to question. Many of the urban and rural slums of the United States were built in the simplest and most straightforward manner with no knowledge whatever of "obsolete forms" and no sign of "architectural fallacies." The principal cause of slums is poverty, not congestion, as is proved in the case of rural slums, and not copying of historic architectural forms, as is proved by most urban slums. If the poor man is to live in the large city near its center he must live in second-hand houses except for the relatively small fraction which may have been provided for by subsidized housing projects. To house any large numbers on the financial schemes so far used would lead to taxation of astronomical magnitude in the future. The present accumulation of federal debt leads responsible people to doubt if a continuing policy of great subsidies is desirable if private enterprise can be encouraged to do more housing even if the result may be only 95 per cent perfect instead of 100 per cent. "Without vision the people perish." They also perish if all of their income is taxed away from them.

The thesis of this book is that organized decentralization is the sine qua non, and that the radical legislative changes required to allow it are obtainable. United States examples, if existent, which illustrate even an approximation to these accomplishments would be a very welcome encouragement.

Obligatory planning is suggested as being needed. Such planning would be entirely useless if the community

(Continued on page 100)

Big Doors...



...for a Big Job

Barcol OVERdoors Make for Efficiency in War Production Plants

EASY operation, weathertight closing, minimum maintenance requirements — these are the features of Barcol OVERdoors that save time and trouble, thus contributing materially to greater efficiency in plant operations. The picture shows three Barcol OVERdoors each approximately 20 feet wide and 14 feet high recently installed in the receiving and shipping building of a war production plant. In addition to a full line of standard and specialized overhead type doors, we furnish electric operators for most all sizes and types of doors and gates. Write for specification data.



FACTORY-TRAINED SALES and SERVICE REPRESENTATIVES IN PRINCIPAL CITIES

BARBER-COLMAN COMPANY

102 MILL ST.

• ROCKFORD, ILL.



Some **BLACKOUTS**
are not necessary

POSSIBILITY of enemy air invasion is real reason for practice blackouts . . . but, untimely blackouts caused by power failure, create a constant hazard. Power and lighting failures can always be disastrous in factories, hospitals, schools, stores, and other important buildings. Despite all precautions of utility companies, circumstances beyond their control may cut out electric power and light at unforeseen moments. Storms, floods, fires, and street accidents are just a few examples of this . . . but Exide Emergency Batteries stand ready to take up the lighting load.

Users of Exide Emergency Batteries know well their complete efficiency, and will want to help keep that efficiency high. Four simple steps will add to the lives of long-lasting Exide Batteries . . . and save metal for war industries, besides. Follow these rules to protect your batteries and remember, Buy to Last and Save to Win.

CARE OF BATTERIES IS EASY

- 1** Keep adding approved water at regular intervals. Most local water is safe. Ask us if yours is safe.
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If you wish more detailed information don't hesitate to write to Exide. Ask for booklet Form 3225.

THE ELECTRIC STORAGE BATTERY CO.
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Exide
EMERGENCY BATTERIES

(Continued from page 98)

were indifferent. Planning can be worth anything from 30 cents to many millions. You can lead a horse to water but you can't make him drink. No federal or state government can oblige a local government to plan adequately and then to carry out the plans unless the local government is bribed by federal subsidy, as in some bills recently introduced in Congress to advance money for local planning. To set up

federal and state subsidizing agencies to grade the competence and rewards for local planners seems a poor way for democracy to function.

Broadened jurisdiction is declared to be essential, but the author admits that it has not as yet been brought into such a state as to be fully adequate to the demands of organic decentralization. If city planning is not to be limited by existing political boundaries

then suburban cities and towns must be persuaded to give up their autonomy. Why should they? They will insist that they have, in general, better government than the large cities. The central cities, on the other hand, will complain that men who earn a good living in the central city should not live and pay taxes on their high-value residences in suburbs. The city official wants well-to-do business or professional men to pay their residence taxes in the city in order to help support the urban districts which pay less in taxes than they cost in city services. A municipal income tax on salaries and wages may best reach non-residents.

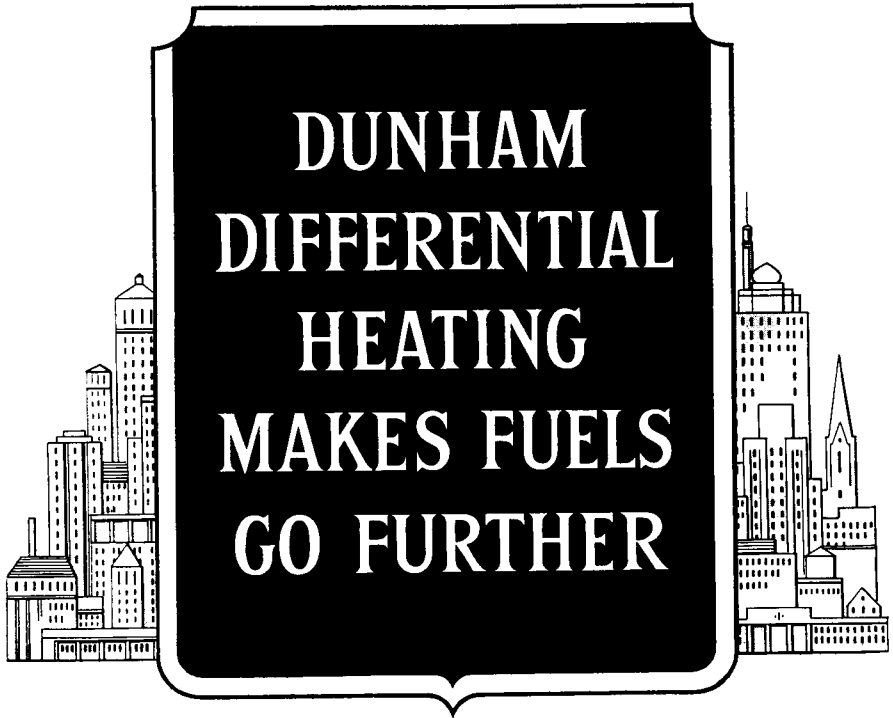
Control of land price is given as one of the essentials with the land-use-value as the basis of price to be fixed by the governmental unit, but no way of overcoming the obvious constitutional objections is offered.

Reliance upon the transference of property rights is declared to be essential. Should such transference be compulsory? No explanation is given as to whether such transfer should be managed by handling one or a few parcels at a time, thus requiring a considerable period of transition, or by handling several blocks at once in a short period. Is it assumed that the city could manage this transfer without subsidy? Would an owner in a near-in blighted district be willing to swap his property for a parcel further away?

Protective green belts are suggested, but it is difficult to see how these can be provided in built-up areas, where land is at all valuable, without requiring the expenditure of large public funds. It is unfair to confiscate part of the cost price of such properties by taking them over at prices below what the current owners paid for them. The current owners are not the only ones to blame for existing conditions. Separating traffic ways from residences by zones of protection calls for more tax exempt land through which municipal and public utility services must be constructed and maintained. Widening traffic ways across green belts would not solve the problem of street widening where it is most needed (built-up areas where parked cars reduce the available lanes.)

Is it practicable to leave enough va-

(Continued on page 102)



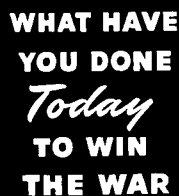
**DUNHAM
DIFFERENTIAL
HEATING
MAKES FUELS
GO FURTHER**

A fuel economy plan that requires no priority

As a means of marching in step with National Fuel Conservation, can building managers and operators change to Sub-atmospheric steam heating this summer? Yes—and, no! Because of war needs in critical metals, the full complement of a Dunham Differential Heating System is not currently available, but—the War Production Board has made materials available for the manufacture of the controls which are an integral part of it and, within certain limits, no priority is required. Installation of available Differential equipment on existing heating plants, in good workable condition, will result in a fuel saving sufficient to give an annual return of 25% on the investment.

Why not investigate the Dunham System for your own properties? We will gladly work with you and your architect. The heating contractor of your choice can do the work. Simply write us.

Dunham Differential Heating stretches the heat values of steam and advances fuel economies far beyond ordinary concepts.



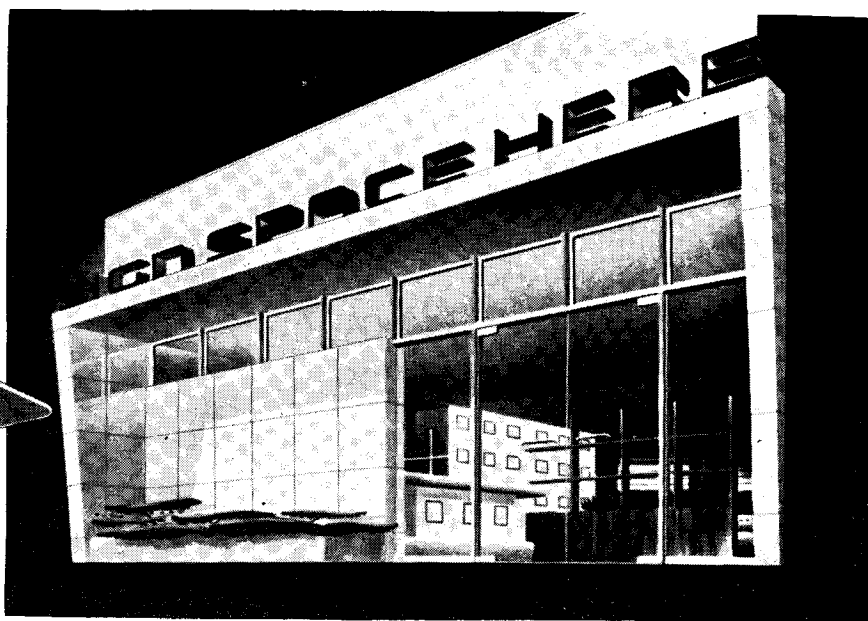
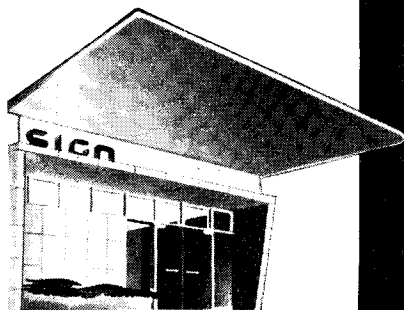
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YOU DONE
Today
TO WIN
THE WAR**

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DAYLIGHT ENGINEERING

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Restaurant of Tomorrow

Today's crowded restaurants highlight the need for daylight engineering in tomorrow's restaurants. An atmosphere of spaciousness and light will add materially to the comfort and satisfaction of the dining guests.

To achieve these surroundings, rooms do not necessarily have to be large. Through use of larger window areas, translucent decorative glass walls and plate glass mirrors any room can be made to appear spacious, cheerful and inviting.

The translucent and transparent qualities of glass can also play an important part in the design of other

restaurant features. The sanitary, acid-resisting surfaces of glass make possible entirely new and different work surfaces. Vitrolite walls or wainscoting will find increased acceptance and use because of its easy-to-clean, easy-to-look-at finish.

Libbey-Owens-Ford Glass for windows, mirrors, wainscoting and work surfaces, and Blue Ridge Glass for partitions, are available in a wide variety of types and colors. Be sure your records of this glass are complete. May we send you complete information? Libbey-Owens-Ford Glass Company, 2383 Nicholas Building, Toledo 3, Ohio.



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A GREAT NAME IN *Glass*

(Continued from page 100)

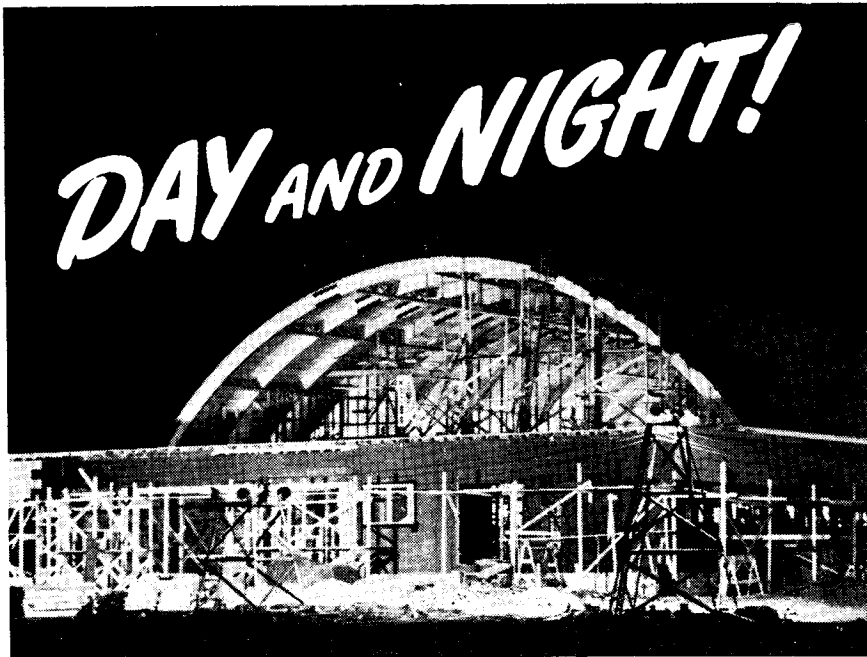
cant land around each group of urban activities to allow them to expand without encroachment upon other use districts? Is it practicable to acquire valuable urban land, demolish the buildings, and leave it as idle land so that in the future some new need may be provided for? Even in portions of a metropolitan district with lower land values it is difficult to imagine provision for a number of nuclei each with a zone of protection of proper size to

fit it when the nucleus has grown to the proper size for a satellite community. And what is the proper size? Examples of organic growth by continuous accretion can be found if we feel the need of promoting urban development by copying organic processes, but why should we? Spattered drops from a water spout seem to be even less helpful as a guide. It would be interesting to plot green belts for an existing city of, say 300,000 or 400,000 pop-

ulation like Jersey City, Oakland, Atlanta, Portland, Ore., Columbus, Louisville, Denver, Rochester, N. Y., Seattle, Houston, Indianapolis or Kansas City, Mo., and see how much it would cost to buy the land, lose the taxes on it, extend municipal and public utility services through them and construct and maintain them as parks and playgrounds. The common assumption of green belts as a must of planning might well be postponed until such practical research has publicized their costs. That is one kind of research that the late National Resources Planning Board might well have carried out. Some properly implemented successor to that board is needed to carry out basic research of this kind.

Control of building design is suggested. How can "expression" and "correlation" be defined as applied to the modern city? Building uses are far more varied than in a medieval city, and expression of these different uses in the design of adjoining facades makes unity impossible unless one street is devoted altogether to churches, one to movie houses, one to filling stations, one to funeral parlors, etc. A movie or a chain store cannot coyly refuse to use illuminated signs and stay in business. They want people to find them. That was not so essential in the houses in the medieval town. Constitution Ave. in Washington is one of the few examples in this country where the long frontage of government buildings gave an opportunity for unity, expression and correlation. It would be very instructive, by the way, if some modernist would redesign that much criticized street with the proper form of expression, correlation, light, air and ample parking spaces.

Mr. Saarinen urges design of the community so as to make it culturally a healthy place to live in, and is disrespectful in his treatment of practical men. But a healthy cultural expression is *too narrow* a platform to arouse the enthusiastic backing of all of the people who must be enlisted to rebuild our cities. Most of them want, first of all, an economically healthy and physically healthy place to work in efficiently and to live in comfortably. The kind of practicality which will produce that kind of a city is not to be put in second place. Without vision the people perish. Without bread they also perish.



Navy Auditorium being speeded to completion on \$50,000,000 Sampson Naval Training Station

... On through the night

THE JOHN A. JOHNSON CONTRACTING CORP. RUSHES HIGH-SPEED CONSTRUCTION

When the U. S. Government has a war construction job to be done no time can be lost. That is why the John A. Johnson Contracting Corporation has already completed approximately 130 million dollars' worth of U. S. Army and Navy war-construction contracts.

The Johnson Corporation has been recognized by the Government as an organization capable of competently handling large-scale, high-speed war-construction contracts and satisfactorily finishing them within time limits agreed upon.

\$86,000,000.00 in Two War Projects

The Sampson Naval Training Station at Sampson, New York, costing \$50,000,000.00 and Camp Kilmer in New Jersey, costing \$36,000,000.00 are but two examples of war contracts that the John A. Johnson Corporation completed well

within the specified time allotment.

Many other projects such as army hospitals, civilian war-housing, farm security housing, barracks, dormitories, temporary dwelling units and industrial construction keep a large staff actively engaged.

Mustering 10,000 to 20,000 Men

The Johnson Organization at the present time is equipped to handle the largest construction jobs, to muster 10,000 or 20,000 men, to set up field offices and start operations practically over night.

Send for descriptive brochure No. 34.

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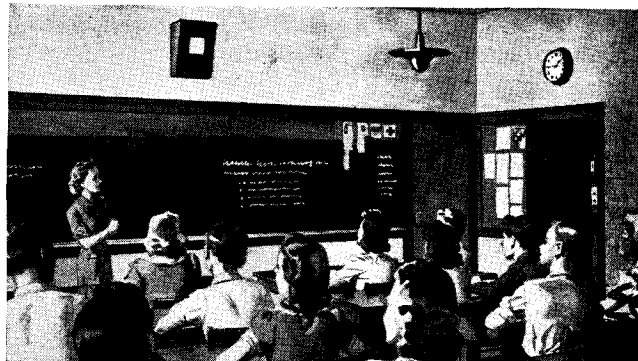
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BROOKLYN • PHILADELPHIA • WASHINGTON • ATLANTA

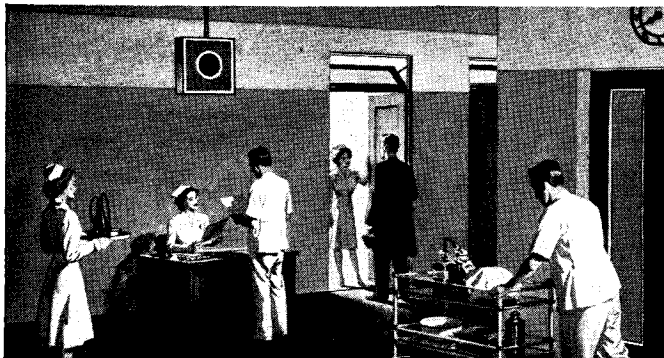
Can a building be really Modern without sound?



FACTORIES NEED SOUND: War has proved that sound-equipment saves time, and—through music—improves employee morale, reduces fatigue, and cuts down “rejects.”



SCHOOLS NEED SOUND: Experience shows that mass communication shortens routine, improves cooperation with authority. And *education* through sound is a big step forward.



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STORES NEED SOUND: Used to announce special sales features, *sound* has boosted sales volume. For communication, *sound* locates lost children, packages, etc. And an RCA sound system to distribute music improves the store’s “atmosphere.”

SOUND HAS DONE A JOB—in war, and in peace! But it has only started.

RCA—with a well-rounded line of sound equipment for all kinds and sizes of installations—is ready to help you use this important electronic tool.

You can get full information on RCA Sound Systems through the RCA Sound Specialist near you. Or write to Radio Corporation of America, Dept. 5-7, Camden, N. J.



RADIO CORPORATION OF AMERICA

70-6



(House of the Future. Continued from page 14)

reproduction. I find nothing in the editorial which precludes normal progress in the development of sound, contemporary homes. I hope that it will lend no encouragement to the colonial revivalists and the designers of pseudo-English manor houses.

—RALPH E. WINSLOW, Dept. of Arch.
Rensselaer Polytechnic Institute

Record:

After carefully reading Mr. Stowell's editorial, I wish to say that it is an excellent article and, though concise, covers the subject thoroughly. In my humble opinion, there will not be the abrupt change in the design and construction of future homes, as some of the extremists seem to think. Of course,

there will be many innovations in materials and construction, particularly in mechanical lines. The use of plastics and other substitutes for wood and steel will be greatly developed. Increased and diversified use of electricity will take place. There is much room for the improvement of heating in homes, as the present methods are far behind the times. Eventually electricity will play a large part in heating, with local controls.

—OSSIAN P. WARD, Architect & Engineer

Record:

My opinion of the editorial by Kenneth Stowell is that it is straight from the shoulder, reflects very definitely my own opinion and those of our company, as regards the house of the post-war period and that it should go a long way to clear up a lot of hallucinations that have been encouraged to develop by statements being made quite generally that someone is going to wave a magic wand and develop an entirely different type of house than has ever been known before, ready to be produced immediately after the war is ended.

—C. R. RAQUET, Vice President
Detroit Steel Products Company

Record:

Predictions of rather fantastic changes may be justifiable as attracting reading and attention and may stimulate more ingenuity in industries like my own where more ingenuity would help. But I think much of it is deluding in the sense that it forecasts, if not promises, something which is not at all likely to happen. One would almost think that men and women after the war were going to be either longer or shorter, or more nearly round or more nearly square, or at least of considerably different shape and size than they actually are, otherwise they would scarcely fit some of the more fantastic of the predicted houses.

—WILSON COMPTON
Nat. Lumber Mfg. Assoc.

Record:

The editorial was delightful and very salutary. I am relieved to know that I am living in a house and shall prob-

(Continued on page 106)

What the Architect should know about STEAM KETTLES for the RESTAURANT OF TOMORROW

Quantity cooking in the Restaurant of Tomorrow will call for kitchen equipment especially designed to perform specific mass cooking operations with maximum speed and economy.

HUBBERT STEAM KETTLES are such equipment. They are specifically designed for high-speed, low-cost preparation of soups, stews, vegetables, etc.

Today's new industrial restaurants are the operating laboratories of the restaurant industry for tomorrow. Rapid service and rough use characterize these establishments, which serve as many as 15,000 people in less than two hours. For this type of service hundreds of Hubbert Seamless Steel Kettles

are now in use. Designers and operators of these mass feeding units have chosen Hubbert Kettles because they possess these extraordinary features:

SEAMLESS DRAWN kettles are stronger. The walls are not stretched, thinned or weakened. Cannot develop pinholes. No leaks. No blow-ups. No contamination.

STAINLESS STEEL used in Hubbert Kettles—18-8—lasts a lifetime. No plating to wear off. Permanent immunity to corrosive action of heat.

SANITATION features of Hubbert Kettles are not found elsewhere. Cleaning of Hubbert Kettles is a simple and easy sanitary matter.

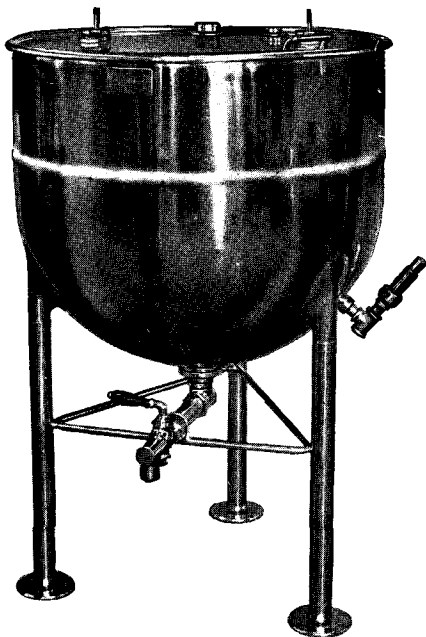
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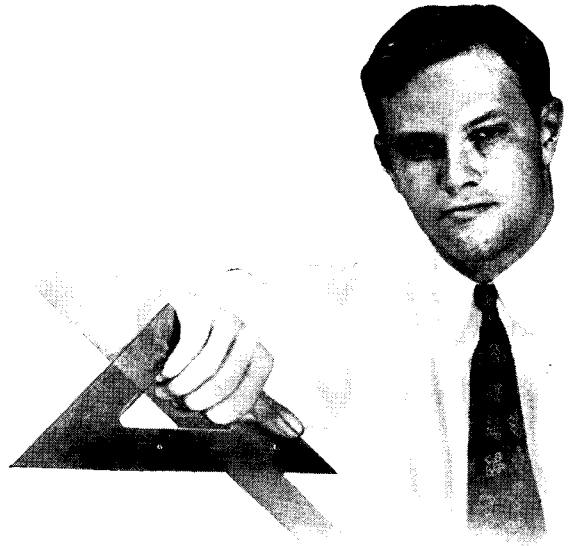
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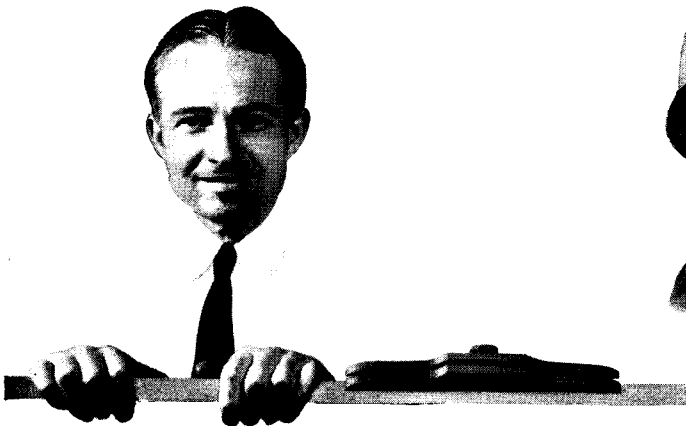


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LETTERS FROM RECORD READERS

(House of the Future. Continued from page 104)

ably continue to do so. It would be a good thing to get this idea across to some of the people who are planning to build many nobler mansions for the soul, when most of us would be quite satisfied to be living in a house.

—VIRGIL JORDAN, *President*
The Conference Board
Nat. Industrial Conference Board, Inc.

Record:

This note should be only one of many expressing appreciation of your editorial in the current issue of the ARCHITECTURAL RECORD.

Years ago, I used to live in Chicago (South Side). With the passage of time, I have outgrown a certain reticence, common in Chicago. I can and

will admit that, at times, one could not ignore the stockyards. At such times too, it would sometimes happen that a vagrant gust would blow in—fresh and clean, off Lake Michigan. But such clean fresh breezes were exceptional—like this sane common sense editorial.

—W. M. MC ROSTIE, *President*
Architectural Book Pub. Co., Inc.

Record:

There has been entirely too much lifting up, so to speak, of the Post Victory home owner's hopes that he is going to get something new and magic for a home. In our first issue of the OWN-YOUR-OWN HOME CLUB NEWS, copy of which was sent to Kenneth Stowell, we say: "We want to issue a serious warning. Don't be taken in by news of fabulous changes and innovations to be expected the day after the war is over. Remember, our great industrial plants will have to convert back to peacetime activities, reversing the process that occurred when they all 'went to war'. Remember that this can't be done overnight. That even if it could, engineers and designers have been too busy on war projects to experiment fully with ideas for homes they may have had. Remember also, that it is not likely that everything in our homes will change overnight to the point where you push a button, or ring a bell, and all your household duties are accomplished! It simply isn't in the cards. Change and innovation take time!"

—F. VAUX WILSON, JR., *Vice President*
Homasote Company

HUDNUT ON HOUSING

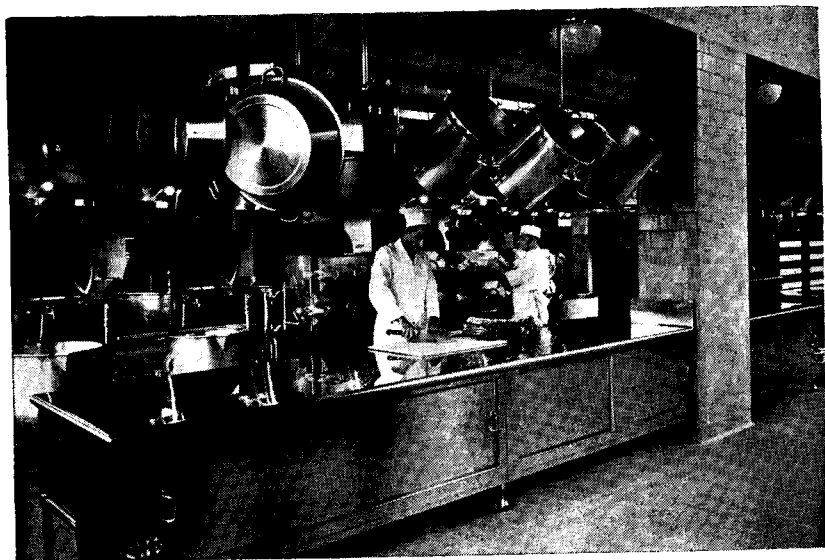
Record:

Well, I have been waiting quite a while for the opportunity to commend something in the current architectural press, and now, at last, the opportunity has come. I refer to the very literate and human essay by Dean Hudnut, which you published in the RECORD for June.

Permit me to congratulate you and the RECORD, and thus make obeisance to the author. With kind regards and renewed hope,

—LOUIS LA BEAUME
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RELIGHTING PROBLEMS?

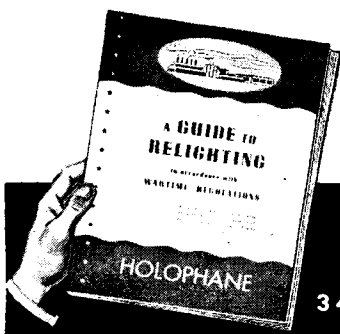


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342 MADISON AVE., NEW YORK HOLOPHANE CO., LTD., 385 YONGE ST., TORONTO, CAN.

(Continued from page 66)

throughout the northeastern states which are controlled only by ordinary line-voltage room thermostats hooked to the circulator. No owner has experienced discomfort from a lack of heat during drops in exterior air temperature. Some overheating has resulted, however, when bright morning sun enters a liberal bank of south windows after a cold night. "Airing the house" to a moderate degree solves this in a way most owners consider desirable.

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The choice of control may be affected by the human factor where hand-fired coal is used as fuel. The higher cost of accurate control equipment would hardly be justified when its function is so easily affected by foresight, or lack of it, on the part of the owner in tending his fire.

COST. Even those whose mania is operational costs need not apologize for the first cost of the floor type heating system we have described.

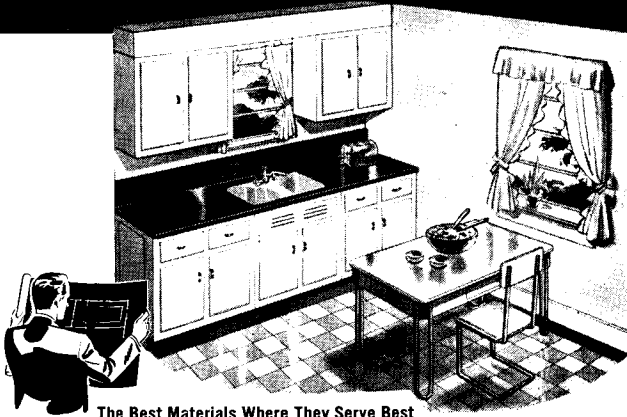
The cost of the complete system varied in the year 1941 from \$72 to \$136 per room, excluding baths and attached garages, depending on type of fuel, controls, etc. These systems have represented from 7.2 per cent to 9.6 per cent of the total construction figures.

To summarize the results we may expect from a well-designed radiant heating system, your attention is invited to the following points:

1. Cooler air-room temperatures consistently 5 to 10 degrees lower than obtained conventionally.
2. Even distribution of heat—a temperature variation within 6 in. of walls, floors and ceilings of 1 degree to 3 degrees.
3. Warmer feet and ankles. A maximum of heat is supplied where the body is most sensitive to cold, thus encouraging the use of lower air temperatures.
4. Very slight convection currents—eliminate drafts; reduce dust carried by air; less dust deposits on furnishings.
5. Fresh air. Gently warmed air retains the natural qualities which the human body is designed to use. No need for additional moisture to replace that lost by violent heating methods.
6. Less colds. Less indoor-outdoor temperature differential equals less shock to nasal membranes when going in and out of doors. Also see points 2, 4, and 5 above which are all important elements bearing on the subject of respiratory irritation.
7. Lower operating costs. Appreciable saving in expenditures for fuel, repainting interior surfaces and cleaning of furnishings.
8. And the owners like it—letters in our files from pleased clients bear this out.

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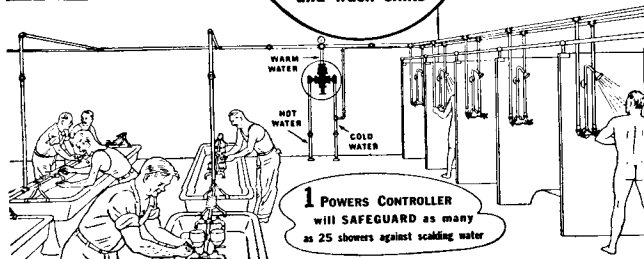
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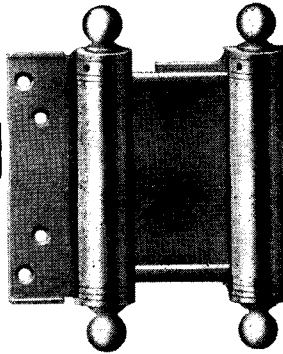
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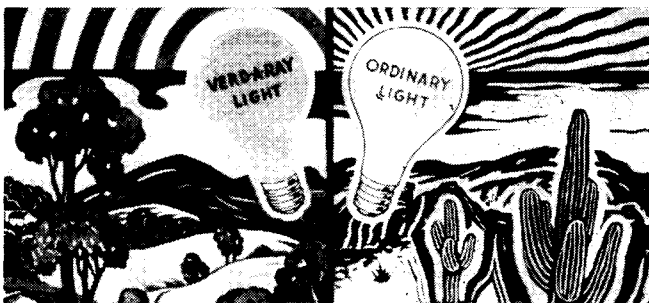
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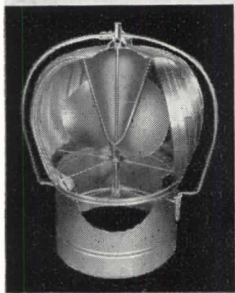
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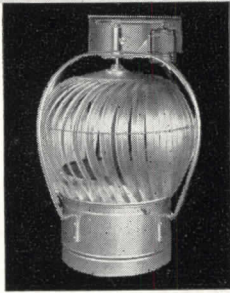
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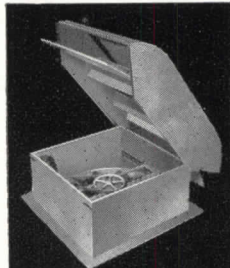


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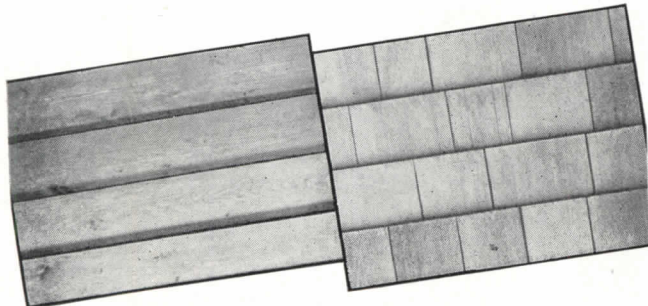
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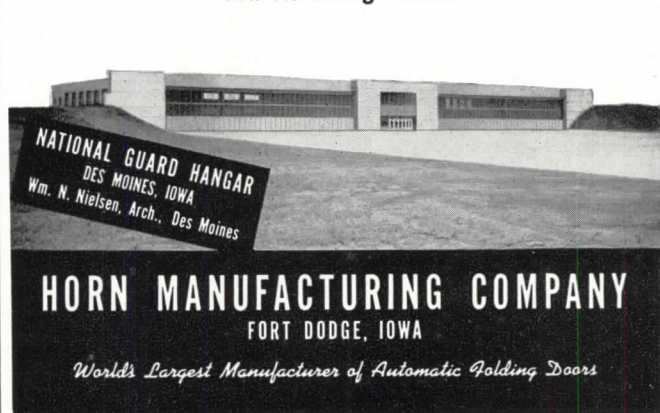
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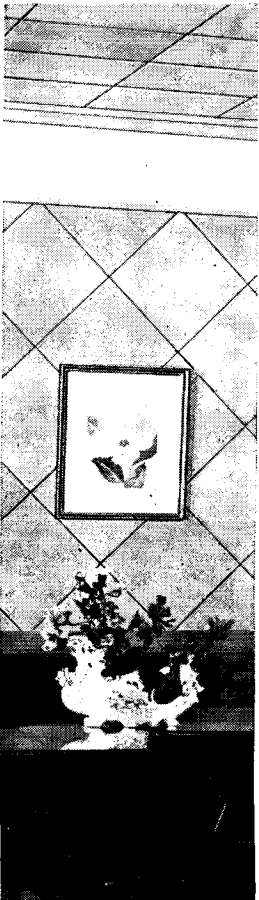
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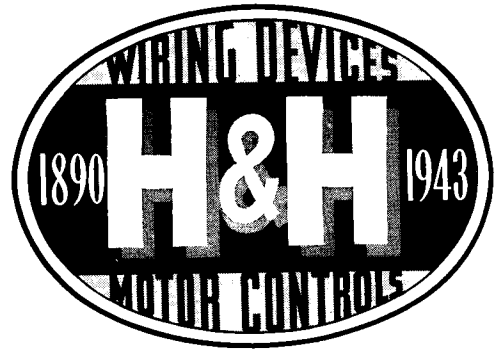
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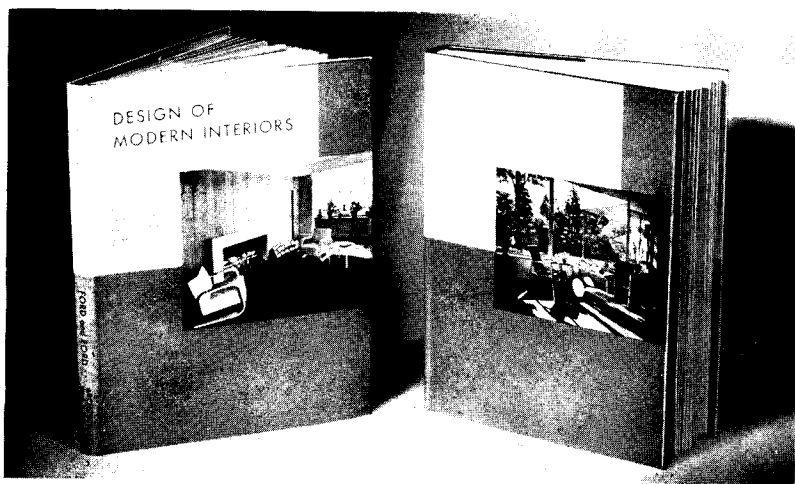
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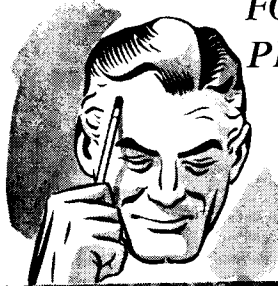
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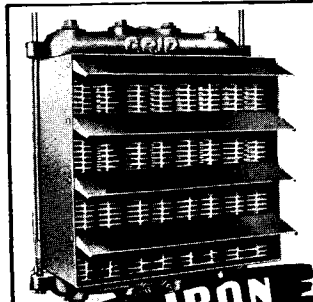
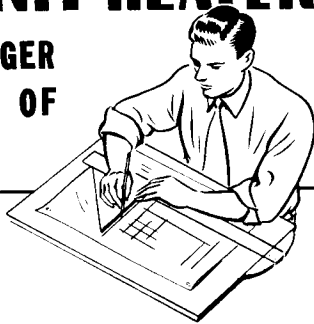
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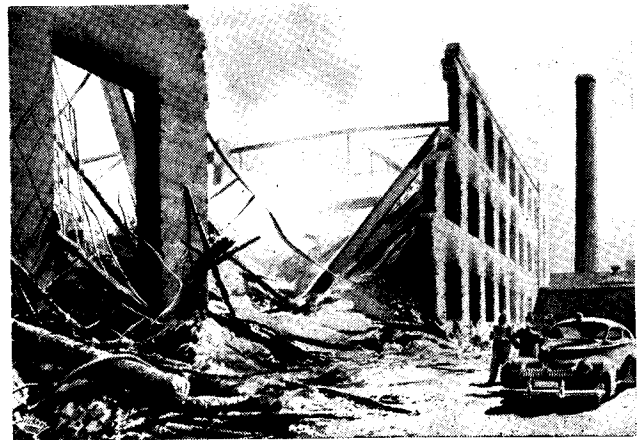
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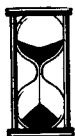
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INDEX TO ADVERTISEMENTS

Catalogs of concerns marked (s) are filed in Sweet's File (1943)

	Page		Page
ABESTO MFG. CO.	112	s KITCHEN MAID CORPORATION	108
ADJUSTABLE CASTER CO.	114	Agency: Carter Jones & Taylor	
Agency: Roche Williams & Cunningham		KOH-I-NOOR PENCIL CO., INC.	109
ALLEN CORPORATION	110	Agency: Roeding & Arnold	
Agency: Whipple & Black		s KOPPERS COMPANY & AFFILIATES	35
s ALUMINUM COMPANY OF AMERICA	33	Agency: Ketchum MacLeod & Grove	
Agency: Fuller & Smith & Ross, Inc.		LCN DOOR CLOSERS	34
AMERICAN PENCIL COMPANY	36	Agency: J. R. Hamilton Adv. Agency	
Agency: Doremus & Company		s LIBBEY-OWENS-FORD GLASS COMPANY	101
s ARROW HART & HEGEMAN ELECTRIC CO.	112	Agency: Fuller-Smith & Ross	
Agency: Norris L. Bull		LINTERS PENCIL COMPANY	27
BARBER-CULMAN COMPANY	98	s LOCKWOOD HARDWARE MFG. CO.	23
Agency: Cummings, Brand & McPherson		Agency: Wm. B. Remington, Inc.	
BELL AIRCRAFT CORPORATION	94	s MILLER COMPANY	2nd Cover
Agency: Addison Vars, Inc.		Agency: J. M. Hickerson, Inc.	
s BETHLEHEM STEEL COMPANY	105	s MILWAUKEE STAMPING COMPANY	109
BLODGETT, G. S., CO., INC.	88	Agency: Morrison Adv. Agency	
Agency: Townsend Adv. Service		s MINNEAPOLIS-HONEYWELL REGULATOR CO.	115
s BRIGHT LIGHT REFLECTOR COMPANY, INC.	28	Agency: Addison Lewis & Associates	
Agency: Tracy, Keal & Company, Inc.		s MINNESOTA & ONTARIO PAPER CO.	21
s BYERS, A. M., COMPANY	4	Agency: Erwin Wasey & Co.	
Agency: Ketchum, MacLeod & Grove, Inc.		MONSANTO CHEMICAL COMPANY	13
s BYRNE DOORS, INC.	3rd Cover	Agency: Gagner Advertising Co.	
Agency: Ralph L. Wolfe & Associates, Inc.		s MUELLER BRASS CO.	17
CABOT, SAMUEL, INC.	110	s MURRAY, D. J., MFG. CO.	114
Agency: Harold Cabot & Company, Inc.		Agency: R. C. Breth	
CARNEGIE-ILLINOIS STEEL CORPORATION	97	NATHAN STRAUS-DUPARQUET INC.	106
Agency: Batten Barton, Durstine & Osborn		Agency: Redfield & Johnstone	
CARRIER CORPORATION	95	OKONITE COMPANY	115
Agency: Chas. Dallas Reach Co.		Agency: Doyle, Kitchin & McCormick	
s CELOTEX CORPORATION	22	OSALID PRODUCTS DIVISION	1
Agency: MacFarland, Aveyard & Company		Agency: Young & Rubicam, Inc.	
CONSOLIDATED VULTEE AIRCRAFT CORP.	111	s PETROLEUM HEAT & POWER COMPANY	117
Agency: Young & Rubicam, Inc.		PITMAN, J. C., & SONS, INC.	30
CRANE COMPANY	110	Agency: Cory Snow, Inc.	
Agency: Buchen Company		s PORTLAND CEMENT ASSOCIATION	112
s CURTIS COMPANIES SERVICE BUREAU	114	Agency: Roche Williams & Cunningham, Inc.	
Agency: Buchen Company		s POWERS REGULATOR COMPANY	108
DIXONS TYPHONITE ELDORADO PENCILS ..	92	Agency: Earle Iudgin & Co.	
Agency: Federal Advertising Agency		s PROPELLAIR, INC.	18
s DODGE REPORTS	38	Agency: Erwin Wasey & Co.	
s DUNHAM, C. A., COMPANY	100	RADIO CORPORATION OF AMERICA	103
Agency: Western Adv. Agency		Agency: Kenyon & Eckhardt, Inc.	
EDISON GENERAL ELECTRIC APPLIANCE		s REVERE COPPER & BRASS, INCORPORATED ..	2-3
CO., INC.	87	Agency: St. Georges & Keyes, Inc.	
Agency: Maxon Inc.		s RIC-WIL COMPANY	31
s EDWARDS & COMPANY	20	Agency: G. M. Basford Co.	
Agency: Ferry Hanly Company		s SAMSON CORDAGE WORK	115
ELECTRIC STORAGE BATTERY CO.	99	Agency: Callaway Associates	
Agency: Geare-Marston, Inc.		SAVE ELECTRIC CORPORATION	109
FABER, A. W., INC.	115	Agency: Gere Burns	
Agency: Advertising Associates		s SEDGWICK MACHINE WORKS	85
s FITZGIBBONS BOILER COMPANY, INC.	24	Agency: Roeding & Arnold	
Agency: Peterson & Kempner, Inc.		SLOAN VALVE COMPANY	4th Cover
s FORMICA INSULATION CO.	29	Agency: Reincke, Ellis, Younggreen & Finn	
Agency: Chester C. Moreland Co.		SMITH, H. B., COMPANY, INC.	92
GENERAL ANILINE & FILM CORPORATION.	1	Agency: Bordeaux Company	
Agency: Young & Rubicam, Inc.		s STANDARD GAS EQUIPMENT CORP.	8-9
s GENERAL ELECTRIC-HOME BUREAU	32	Agency: Hixson-O'Donnell Adv., Inc.	
Agency: Maxon, Inc.		s STRAN STEEL DIVISION	40
GENERAL ELECTRIC PLASTICS DIVISIONS.	19	Agency: Campbell-Ewald Company	
Agency: Leighton & Nelson		STRAUS-DUPARQUET INC. NATHAN	106
s GRAND RAPIDS HARDWARE COMPANY	36	Agency: Redfield & Johnstone	
Agency: Stearns, Inc.		s STREAMLINE PIPE & FITTINGS DIVISION ..	17
s GREAT LAKES STEEL CORPORATION	40	s SWEETS CATALOG SERVICE	118
Agency: Campbell-Ewald Company		SYLVANIA ELECTRIC PRODUCTS, INC.	93
s GRINNELL COMPANY, INC.	114	Agency: Arthur Kudner, Inc.	
Agency: Horton-Noyes Company		s TIMBER ENGINEERING COMPANY	89
s HART & HEGEMAN DIVISION	112	Agency: Campbell-Ewald Company	
Agency: Norris L. Bull		UNITED STATES AIR CONDITIONING CORP.	16
HOLOPHANE CO., INC.	107	Agency: Alfred Colle Adv. Agency	
Agency: William G. Seidenbaum Adv. Agcy.		s UNITED STATES STEEL CORPORATION	
s HORN MANUFACTURING CO.	110	SUBSIDIARIES	12-90-97
Agency: Cary-Ainsworth, Inc.		Agency: Batten, Barton, Durstine & Osborn	
HUBBERT, B. H., & SON, INC.	104	s UNIVERSAL ATLAS CEMENT CO.	12-90
Agency: Hubbert, B. H. & Son, Inc.		Agency: Batten, Barton, Durstine & Osborn	
s IMPERIAL BRASS MFG. CO.	6	s WALLACE & TIERNAN COMPANY, INC.	25
Agency: Kreicker & Meloan, Inc.		Agency: G. M. Basford Company	
s INSULITE DIVISION	21	s WEBSTER, WARREN & COMPANY	90
Agency: Erwin Wasey & Co.		Agency: Elman Jenkins Advertising	
JAMISON COLD STORAGE DOOR CO.	112	s WESTINGHOUSE ELECTRIC & MFG. CO.	15-30
Agency: Charles Blum Adv. Corp.		Agency: Fuller, Smith & Ross	
s JOHNS MANVILLE	91	WHITE-RODGERS ELECTRIC CO.	96
Agency: J. Walter Thompson Company		Agency: Frank G. Japha	
JOHNSON JOHN A. CONTRACTING CORP.	102	WIREMOLD COMPANY	111
Agency: Ruthrauff & Ryan		Agency: Edward W. Robotham & Co.	
s KAWNEER COMPANY	37	s WOOD CONVERSION COMPANY	111
Agency: Carter, Jones & Taylor		Agency: Buchen Company	
		s WORTHINGTON PUMP & MACHINERY CORP.	11
		Agency: Moser & Cotins	

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Restaurants—Post-War

Early in 1942, in these pages, an architect and an engineer expressed the opinions quoted below. What they said about proper heating of pre-war restaurants is just as pertinent to the successful restaurant of the future, and Petro will be ready for them.

Joseph Watterson, of Mineola, Long Island, has designed many fine residences, restaurants, and small commercial buildings on Long Island. Mr. Watterson has this to say about Petro:

"From my experience I know that an architect can safely specify Petro for the smaller commercial structure as well as for the bigger jobs. In the restaurant where the basement is planned for use by customers, this area is rendered free from noise and dirt where oil systems are used. Overhead is cut down because a janitor is not needed to check an oil burner, and I believe that oil heating systems provide the clean, quiet, pleasant surroundings which add comfort for the customer and guest. The Petro System has proved highly dependable and economical in restaurants. Owners and guests are well-pleased, and I can endorse them one hundred per cent."

Alfred L. Jaros, Jr., is a member of the well-known New York firm of Jaros, Baum and Bolles, Consulting Engineers. For more than a quarter of a century, this firm has acted as designing engineers for over a thousand buildings of all types. Mr. Jaros speaks here of his experience with oil heating systems:

"For over twenty years we have used oil burning systems in many types of buildings. Where Petro equipment was installed, we have found that it has lived up to its qualities of sturdiness, economy and efficiency. Particularly in the era ahead of us, such efficient operation and absolute dependability will be essential requirements. I can speak highly of the Petro equipment and the Petro service organization, and my recollection is that Petro was the first oil burner we installed. This installation is still operating, and has given satisfaction to our clients and to us."



Joseph Watterson



Alfred L. Jaros, Jr.

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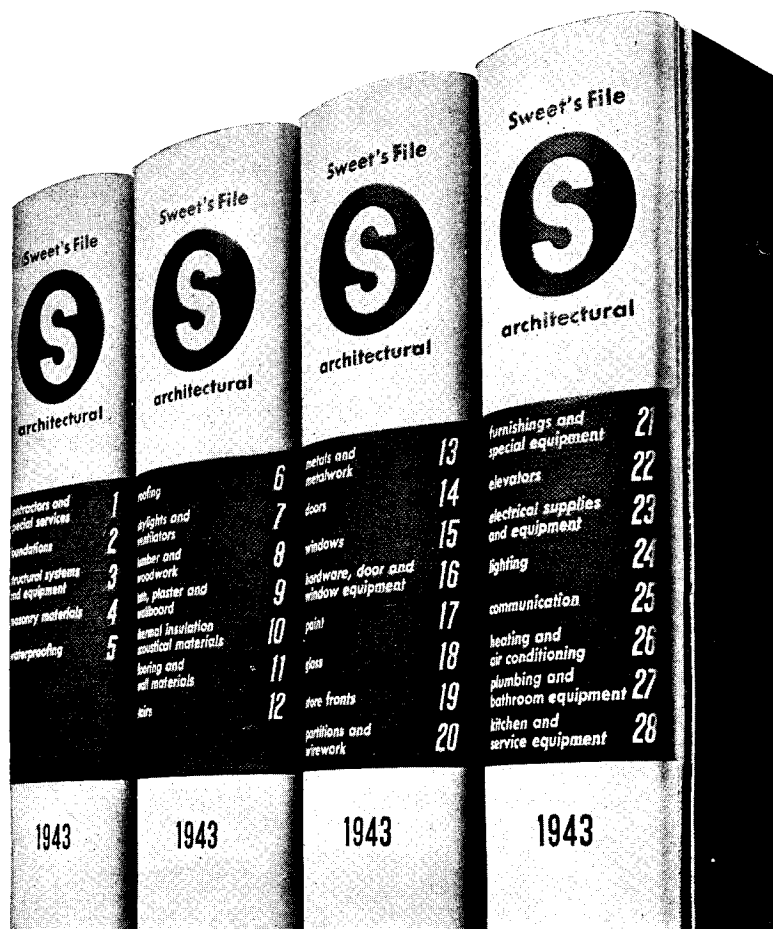
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