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The Cemesto roof deck incorporates in one material both structural deck and insulation... can be pre-cut to needed size.

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### AUGUST



NEWS	5
LETTERS	36
FORUM OF EVENTS	78
General Motors competition for dealer estab- lishments is judged at Yale University.	
PROPOSED UNITED NATIONS CENTER A world capital in the San Francisco Bay area designed by William Wilson Wurster, Theodore C. Bernardi and Ernest Born.	97
<b>SECURITIES OFFICES</b> Two security company offices are proof that convenience and privacy need not be sacrificed to space limitation.	102
HEADQUARTERS BUILDING Administrative unit for Hershey Products Co., by Leo F. Caproni.	108
THOMAS CHURCH: HIS GARDENS use brick lawns and stone hedges to make gardening a hobby with a minimum of toil.	Ш
PLANNING WITH YOU Toledo displays a model by Norman Bel Geddes to arouse citizen interest in the city's future.	119
<b>REPORT FROM THE PACIFIC</b> Richard E. Saunders, The FORUM's Washing- ton editor, flies 20,000 bomber miles to see how Building has followed the fleet.	124
HOUSES	127
Another patio-type in California owner and architect collaborate for economy view, sun and wind dominate a hilltop home two pool houses in Connecticut and Massachusetts.	15
LIVING MEMORIALS Three designs for community recreation centers by Edgar Lynch of the Brunswick-Balke-Col-	141
CHEROKEE DAM The Tennessee Valley Authority adds another handsome structure to the TVA chain.	148
<b>G. I. JOBS</b> The FORUM's new employment service for dis- charged veterans.	164
BOOKS The City is the People The Builders of the Bridge Building or Buying a House Plastics, Scientific and Technological.	166
<b>PRODUCTS AND PRACTICE</b> Functional light walls meeting modern stan- dards of insulation, are needed to replace con- ventional construction in "heavy" building.	184
BUILDING REPORTER Pulverized coal Automagic Combination Washer-Dishwasher Lighting center Home freezer technical literature.	206

SEPTEMBER: Wholesale showrooms . . . Oklahoma University goes modern . . . L'Overture School . . . Detroit expressway system . . . Swiss architecture . . . Harris Armstrong portfolio . . . new concepts in structure.



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### TIME FOR SIGNALS

5

UILDIN

MONTH

From Manhattan's Harlem to San Francisco's Telegraph Hill, the nation seethed with building plans, laid aside building dollars. Big investors got the month's spotlight, but how big a stake Mr. and Mrs. Everybody have in the postwar building boom was underlined by West Coast reports of a sharp rise in sale of building lots, a big fall-off in recently booming sale of older homes. Bending an ear to the realty chest, the National Association of Real Estate Boards could find only one U.S. town with an oversupply of houses. Ninetveight per cent of all cities, NAREB said, are gripped by housing famine.

Housebuilding, Washington promised, was just around the corner. Although President Truman hoped that 400,000 houses would be started before next August, only 72,000 got official clearance for building's next three months of work. Lost in a thicket of price bottlenecks, labor lack, and a bewildering variety of rumored plans from a bewildering number of Washington sources, a perplexed industry thought it was time to draw up a clear-cut reconversion map. The Office of War Mobilization shared building's point of view, looked around for a strong-arm man to head an inter-agency committee that could knock down some of Building's problems.

While the road ahead was anything but clear, what lay at the end was alluring. General Motors led the month's bulging list of building backers, unveiling its plans for a 350-acre research center outside Detroit. Atlanta, Ga. toted up plans for \$100 million worth of industrial construction in its trading area, while the Department of Commerce said that U. S. Producers plan to spend a fat \$4.5 billion for new plants over the next 12 months. In Akron, Firestone Tire and Rubber pointed to what may be a major new building market, announcing that it had established 100 "Firestone aircraft dealers", all of whom will set up planeside service stations.

Cities, too, pushed their postwar works planning. Toledo pridefully floodlighted Norman Bel Geddes' 60-foot model of the plan which, municipal fathers boasted, would produce a city as "beautiful as old Athens, as modern as jet propulsion, as convenient as a hotel." Detroit looked at a plan to improve its seedy riverfront with a civic center, park drives, industrial zoning. New York took honors as Mayor LaGuardia gleefully exhibited a half-dozen low-rent housing developments, which savings banks and the New York Life Insurance Co. will back to clear Manhattan's slums.

While Building's backers, big and little, impatiently rustled a promising sheaf of projects, building men still waited for signals. Planning, Washington said, was the thing. But many an anxious builder muttered that to turn sketches into specifications in the face of present uncertainties was something like learning to walk backwards. So far, all the builder could plan from was an imposing list of unanswered questions. When would building labor be available? Big industry said that the nation was approaching an unemployment tide-mark, and 25,000 veterans a week joined the line-up for jobs-and for houses. At what price will building materials come on the market? OPA still mused over reconversion price ceilings. What, if anything, does the Federal Housing Administration and Congress expect to do about interest rates? How big a part will the government play in the postwar building picture? Will there be federal funds to join private enterprise in slum clearance? Hovering over the long-delayed birth of postwar housing legislation, each Congressional father forecast a different child. Almost everybody in Washington still had a hand in Building's affairs, and sometimes it looked as if they were all pulling in different directions. It was time, Building agreed, to call the signals for a team play.

### RECONVERSION

### OUTLOOK

The building upturn is here and by the years' end Building may start work again in earnest. That much was promised last month by three forecasters who spoke with authority.

War Mobilization Director Fred M.

### NEWS



**NEW FEDERAL HOUSING ADMINISTRATION CHIEF** Raymond M. Foley is sworn in by Justice Stanley H. Reed in his Detroit office. Foley has been FHA director in his state since 1934. Michigan builders and lenders, who once boomed Foley for governor, say: "He puts his cards face up on the table." Straight-talking Raymond Foley got a big welcome from builders glad to see the top FHA Job go to a man from the field who knows housebuilding headaches.

Vinson, just before leaving for his new job as Treasury head, said that the Controlled Materials Plan will be eliminated by the end of this year. "The rate at which construction activity can be accelerated will depend on the availability of lumber which is presently in extremely short supply, but it is anticipated that declining military requirements and increased manpower in the lumber industry will permit a considerable relaxation in lumber controls."

During building reconversion, Vinson said, "the government must be particularly careful not to compete with private construction. Public projects should be timed to fill in the lulls when private construction falls off."

Vinson's longest look at Building's future put the postwar job at "an annual level of at least \$15 million, if we are to fulfill our needs." He saw a possible trip-up:

"The construction industry seems to have lagged behind American business as a whole in technological advances and in progressively reducing the cost of its product to the public, thus increasing markets. There is a great need for a thorough examination of this important area in our economy, especially with relation to restrictive practices, whether they apply to materials, labor or financing." To which pundit Beardsley Ruml, who has called for a full-dress investigation of building, intoned a plump "amen."

▶ The Producers' Council measured Building's upturn at \$4 billion of new construction for 1945. Public construction is falling off sharply, but private construction is climbing to a rise of 42 per cent over its 1944 total, PC said. This is the way the year's building picture looks to PC market analysts:

**Public construction** will amount to about \$1.6 billion, a 22 per cent drop from last year's level. Big shrinkage in public war building will be offset to some extent by an increase of \$130 million in highway construction.

**Private residential construction** will reach \$700 million as compared with \$499 million last year. This would permit building of approximately 165,000 new dwelling units at an average cost of \$4,200 (not counting land).

**Industrial building** will amount to \$460 million, almost double last year's total of \$234 million.

Farm building will rise to \$230 million from last year's \$170 million.

Utilities construction will go up 16 per cent, amount to \$620 million.

Taking a longer look, PC saw an even brighter picture for 1946—when it expects new residential construction to boom to 300,000 units or a \$1.5 billion total.

▶ The Department of Labor concurred in the generally cheerful estimate of Building's future. But the Department thinks it will take Building five plugging postwar years to reach an output near Vinson's measure of its postwar job. The Department's outlook:

About 250,000 privately-built houses will be started during the final year of war 'against Japan. In the first year after war's end, 550,000 private units will get underway. Anticipated annual postwar average: 900,000 houses at a cost of \$3.4 billion (1940 prices).

Total construction volume in the fiveyear period after war's end will average about \$10.9 billion per year. In the first postwar year, volume will reach \$8 billion, climb steadily to a \$12 billion output in the fifth year. New public work will amount to about onethird the volume of private work, Principal type: highways, roads, streets.

Private industrial construction will average \$700 million per year (about three-fourths of its peak). Commercial construction will average \$1.2 billion annually (about 12 per cent of its 1929 peak). Labor's view. "This will be quite unlike pre-depression commercial construction, with new work overshadowed by modernization and with few if any of the monumental commercial buildings for which the previous period of active commercial construction is best known."

#### HOUSE FOR JOHN DOE

Unwrapped last month, WPB's muchtouted plan for "open-ending" housebuilding priorities got only glum looks from builders. Stripped of official verbiage, it meant that John Doe, who is not a war worker or a veteran, who does not live in a war production area or even in a community suffering from any noticeable housing shortage, whose house has not burned down and whose family has not increased, can apply immediately for a priority to build a house after October 1-if he does not demand one that costs more than \$8,000. It also meant that any builder with John Doe customers can apply immediately for October 1 building priorities.

At first glance, this looked like the start of uncontrolled housebuilding. But the joker was the size of the program: only 32,000 houses will be built over the whole country for customers of this kind. The "unrated" program, WPB said apologetically, will really get going by the beginning of 1946, when 106,000 "unrated" houses are planned for the first quarter, 119,000 for the second. Meantime, the National Housing Agency added, housebuilding in communities where shortage is acute-and that means almost all U. S. cities-is expanding. About 75,000 houses, NHA promised, will be started over the next three months.

In some ways, the new plan is tougher than the old. Until now, veterans and anybody suffering "personal housing hardship" have been able to get priorities to build a house, unrestricted by wartime cost limits. Believing that eager customers have trumped up "hardship" to build \$25,000 houses, WPB firmly shut the door on priority applications without price restrictions to all but veterans and buyers replacing a fire loss.

### JOBS

### **BIGGEST PLUM**

Last month's most appetizing postwar plum fell to Saarinen & Swanson, famed city planners commissioned by General Motors to design a technical center just outside Detroit. Biggest single building job so far on the boards, the center will cover 350 acres, providing ample and flexible space where engineers will tinker with tomorrow's automobiles, refrigerators, air conditioners.

Like the rest of the General Motors empire, the research center has been designed around the automobile. Preliminary plans unveiled late last month showed that, in effect, the designers have plotted a traffic flow system and strung buildings along it at appropriate intervals. Focal point of the plan is a central artificial lake around which are placed low buildings joined by driveways and planned for easy automobile access and parking. Functioning as a reservoir, the lake will provide water for an air-conditioning system insuring temperature stability during delicate experimental work. Excavated fill from the reservoir will be piled as an outer terrace at the building level. The slanted grade thus achieved makes it possible to incorporate ground-level parking space under the rear sections of the first floors without additional excavation.

Special embellishments:

Parabola-shaped ceiling in the Styling Center's auditorium (marked by blistered roof), designed to solve problem of how to display a car without glare. Light is located at one focus of parabola, car at the other.

Airplane-shaped building for air conditioning research. Noxious gas used in experiments will be carried off by suction through a tapering outer edge.

What the buildings might cost, G-M was not ready to estimate. To sage Eliel Saarinen, earnest son Eero, their able partner Robert Swanson and landscape architect Thomas Church (see page 111), it meant a job that had already overflowed their smallish Birmingham office. Last month, Saarinen and Swanson were hard at work behind paper-taped windows in an ex-automobile display room.

### WRIGHT'S SPIRAL

Conscientious gallery-goers have long gaped at the non-objective paintings hung in Solomon R. Guggenheim's small Manhattan gallery. Art patron Guggenheim fancies painting that makes a complete break with realistic form. Last month it was clear that Guggenheim also favors architecture that makes an equally complete break with the past.



**GENERAL MOTORS** 350-acre technical center groups flexible space for product development research around central lake, which supplies water for cooling. Inner ring of driveways is planned for brisk inter-building automobile traffic. Terraced site slopes toward reservoir. Roof blister marks Styling Section at lower right; Administration is at lower left. Saarinen water-tower signature can be seen in background.



**BROAD COVERED WALK,** rimmed by parking space (night view, above), surrounds central esplanade. Model shows Process Development Section. Administration Building (below) is main gateway to inner esplanade. Its impressive unbroken facade reminded some G-M executives of a "big corn-crib." Inner side of this building (lower right) is opened with ample fenestration.



### NEWS

To be built on Fifth Avenue not far from the staid Metropolitan Museum (FORUM, May '44), the gallery that will house the Guggenheim collection will look like no other building ever raised by man. Its circular top will project 24 ft. beyond the ground level building line. Built around a continuous ramp ascending by imperceptible degrees for three-quarters of a mile, the structure will have the shape of a true logarithmic spiral, which widens from the bottom. Wound with unjointed ribbons of steel and concrete and a two-inch strip

of glass tubing to admit daylight, the spiral will be topped by a huge glass dome.

Architect Frank Lloyd Wright, who makes his New York debut with the Guggenheim gallery, happily unveiled other details: Pictures displayed in three-foot recesses along the ramp will need no protection. All air entering the building will be washed and filtered, kept

8

at even temperature and humidity. Even the visitors will be vacuum-cleaned as they pass over the grilled floor of the entry. There will be an observatory and a globular room where films will be projected on the ceiling, viewed from reclining chairs. The spiral can be built in one year at a cost of \$1 million. It will, Wright promised, be "virtually indestructible by natural forces." *Life* 

### CITIES

### PLANNING DOLLARS

Roni

George Field had already begun to feel like Mother Hubbard. Busy dishing out planning dollars to all the cities who want them, he could see that the Federal Works Agency's cupboard, stocked only a month ago, would soon be bare again. Chief of FWA's Bureau of Community Facilities, Field has the job of

dividing \$171/2 million among all the cities who want federal aid to plan postwar works. Almost every city does. Their requests already add up to \$7 million of FWA's scant planning fund.

Most of the cities are making big plans, Field says, outlining a five- or ten-year building program. A lot of small towns surprisingly showed up in the first sheaf of

applications, most of which covered streets, sewage and water facilities. A dozen cities planned parks and recreation buildings as war memorials. Wheeling, Va. got planning money for a municipal building. Rockford, Ill. is at work on a tuberculosis sanitarium. Alert New York got the biggest single planning advance: \$750,000 to complete the plans for a \$42 million wholesale



food market, expected to end wholesalers' costly traffic tangles.

Lender Field is ready to hand over a planning advance to any state or local government which will be ready to start building within three years after manpower and materials become available. FWA makes half the loan immediately, turns over the other half when plans are finished, sets no limits on architects' or engineers' fees. Borrowers must pay loans back out of the first funds raised for construction.

First Congressional appropriation for federal aid for state and local planning, \$17<sup>1</sup>/<sub>2</sub> million is only a drop in the big national bucket of need for postwar works planning. When Congress gets back in September, FWA will ask it to provide \$75 million to make a real start on the job.

"Last month, a Maine judge decided that pigs deserve decent shelter and fined two men \$100 each for providing such a poor pig house that 16 of the animals died of pneumonia. Maine, however, is one of the eight remaining states which have never seen fit to enact basic enabling legislation permitting public housing slum clearance and low rent operations."

-National Public Housing Conference

### PATTERN UNCHANGED

How much has \$20 billion worth of war building reshaped the nation's industrial face? Taking its first comprehensive look, the War Production Board said that the national pattern of industrial location has been changed much less than many had supposed. In spite of early efforts to disperse war building dollars, no widespread relocation of industry has occurred. War plants mushroomed in already-rich manufacturing areas, WPB said, because labor and transport facilities were readily available and because it was easier and cheaper to expand existing plants than to start from the ground up.

One-third of all war plants went to ten urban areas: Chicago, Detroit, New York, Philadelphia, Los Angeles, Houston, Pittsburgh, Cleveland, St. Louis and San Francisco. Ninety-three per cent of all war plants went to 179 urban areas which even before the war had 84 per cent of all the country's manufacturing wage earners. The East North Central states kept their prewar rank as the country's richest manufacturing

THE ARCHITECTURAL FORUM



LENDER FIELD

area, while the Middle Atlantic states maintained their place as second. Measured against value of prewar plant, the West South Central region showed the biggest wartime growth. In volume of war building, Ohio led all states with 1,293 war plants amounting to \$1,677 million. Pennsylvania was a close second with 1,220 new plants amounting to \$1,675 million.

WPB figures that war building has increased U. S. plant capacity by \$2,600 for every wage earner. Ratio of plant expansion to prewar number of wage earners in manufacturing centers is a good gauge of the extent of wartime population shifts. On this basis, the ten localities which have had the biggest boom in population and payrolls are: Choteau, Okla.; Las Vegas, Nev.; Lawrence, Kans.; Herrin, III.; Listerhill-Sheffield, Ala.; Front Royal, Va.; Amarillo-Borger, Tex.; Cheyenne, Wyo.; Grand Island, Nebr.; Corpus Christi, Tex.

### PATIENCE AND FORTITUDE

Bristling with postwar buildings, New York took all planning prizes last month. From beaming Mayor Fiorello LaGuardia came the tip that seven big New York savings banks had plumped down the building dollars to start a 1,500-unit housing project in Harlem. First appearance of savings banks in Manhattan's postwar building picture (five Brooklyn banks had already declared slum clearance intentions for their own borough, Forum, June, '45), the \$71/2 million Harlem project climaxes the Mayor's long campaign to interest cautious bankers in direct housing investment. New York is the first state to amend its banking laws so that savings banks can form housing corporations to put their big capital resources to work on rebuilding. The Harlem housing will get the benefit of municipal aid in land acquisitions as well as tax exemption on improvements. Rents will average \$12.50 per room per month. The banks' investment will be protected by FHA-insurance.

The Harlem project was only a token of the kind of building enterprise that may become dominant in New York's housing prospects. Four more savings bank housing developments were also in prospect, while the New York Life Insurance Co., another newcomer, said it would launch a slum clearance project in lower Manhattan, had already named it Baruch Houses. Said the Mayor firmly: "I hope to have things tied up so that nobody coming after me can spoil it."

Also in the Mayor's brimming bag was a \$1,250,600,000 works program, big enough to keep all of New York's building trades workers busy for a year.



PARK AVENUE building site rents for \$555,000 a year

#### TREND?

First token of portended major rejuvenation of Park Avenue's Grand Central zone is the block-sized plan for a 35-story office skyscraper to replace the luxurious Marguery apartments built a quarter of a century ago. The postwar razing of the Marguery to make way for business may presage a wide-scale answer to the problem which has longer plagued Park Avenue's biggest landlord, the N. Y. Central Railroad: lush apartment buildings, although fully tenanted, are no longer profitable.

Webb & Knapp, Inc., realty traders sponsoring the project, have already signed a 63-year lease with New York Central on the Marguery block, which fronts on Park and Madison Avenues, 47th and 48th streets. Under the terms of this long contract, they have agreed to spend at least \$12 million for construction of the new building, which, rumor had it, would be tailor-built to the requirements of three big-league customers.

Present plans call for separate entrances and elevators for major tenants. On the Madison avenue side, space has been allotted for a large department store, while other frontages will provide for small shops. A central tower 300 ft. in width will rise without set-backs from the 16th to the 36th floor. To provide unbroken floor space in this tower, elevators will be placed in a "well" at the side rather than through the center of the building.

Although the blocks immediately below the Marguery are occupied by the 22-story Postum Building, the Park-Lexington office building and Grand Central Palace, construction above 49th street has remained consistently residential. The project now underway may well herald the transition of New York's mink belt into the city's newest business zone.

Scale of New York's public building intentions was best measured by the bill of materials which planner LaGuardia proudly toted up. Some of the items:

- 148 million bd. ft. of lumber
- 440 million bricks
- 22 million barrels of cement
- 1 million tons of steel
- 8 million sq. ft. of windows
- 15 million sq. ft. of roofing
- 30 million sq. ft. of flooring

"A nation-wide survey indicates that if the people who bought houses and lived in them for three years had to do it over again, not a single one would."

> -Elizabeth Gordon, editor House Beautiful

### BUILDING JURY

Looking hopefully toward a boomtide in public building, Columbus, O, took prudent steps to avoid a backwash of art and architectural eyesores. From now on, any municipal building or art acquisition will have to pass the careful scrutiny of an Art Commission, whose nine members were appointed by Mayor J. A. Rhodes from nominees proposed by a citizens' meeting. Following the plan pioneered by Philadelphia's Art Jury, the Columbus City Council gave the new Art Commission judicial as well as advisory power. Its members, all art and architectural specialists, will be able to veto a city hall or a garden statue with equal finality. Cleveland and Cincinnati watched with approval. made plans to set up similar guardians of the public taste.

### NEWS



FRENCH ARCHITECTS hope that war damage will not be repaired by patch-work methods, are already well-prepared with plans for rebuilding large areas. This model shows a plan by Andre Croize for an urban neighborhood that would combine apartments and commercial buildings around a central plaza.



**PREFABRICATED HOUSES** on a fairly luxurious scale are designed by Lionel Mirabaud and Jean Chemineau for a panel construction system. Planned for a small city in central France, houses are pleasantly related to rolling site, open on sunny terraces.



APARTMENT BUILDING whose many balconies overlook park is planned for a city neighborhood by G. H. Pingusson, may soon be built in Paris.

**PREFAB** sanitarium (left) and small house (below) are also Mirabaud - Chemineau designs. Houses will be built in groups of 24 in Paris suburbs.





### OVERSEAS

The workshop in the Rue de Sèvres, where many a young designer had first encountered the decisive influence of the "machine-for-living-in", was shuttered. In his velvet vest and rabbitlined straw boots, Le Corbusier sat in a heatless studio, working through the long winters of the occupation. There were no clients—Vichy had seen to that —but there was plenty of work to do.

There were the prefabrication studies and the modular studies—a "key of measures" to be applied to furniture design as well as to structural plans and land subdivision. There was *Sur les Quatre Routes*, the book that charted the path of reconstruction. There was the organization of a society for "architectural



LE CORBUSI

revolution" (which will be delayed at least until the society can get enough paper to publish its ten books now waiting at the printers).

What happened to LeCorbusier was what happened to most of France's noncollaborationist architects. Those who worked with Vichy were much better fed for a while; one of them was even commissioned to design a palace for Hitler in the Place des Invalides. Unluckiest of all were those who unwittingly fell under the suspicion of collaboration. There was, for example Eugène Beaudouin, one of the foremost French architects, who was at work on a slum clearance plan for Marseilles when the Germans entered the city. When the Nazis decided to raze the old portside section, Beaudouin, showing his plans, tried to save Marseilles' historic buildings. The occupiers gave him a red pencil and two hours to circle all the buildings he wanted to save. But Nazi wrecking crews leveled the whole port section. Accusing the architect of assisting in the destruction, the enraged people of Marseilles threatened his life. Beaudouin fled to Switzerland, where he is now teaching in Geneva.

Six months after the German army entered France, the Vichy government established a society of architects, which paralleled societies already set up for doctors and lawyers. Pretending to regulate the standards of the professions, these societies were actually devices for denying the right to practice

(Continued on page 12)

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### MONTH IN BUILDING: NEWS

#### (Continued from page 10)

to Jewish professionals and to political enemies of the collaborationists. Most of France's first-rate architectural talent was declared ineligible for membership —Auguste Perret and Le Corbusier led the distinguished list of those Vichy turned down.

Early in the occupation a group of young architects had organized as a part of the resistance movement. When Paris was liberated, a well-organized National Front of Architects stepped forward to back the establishment of the present Ministry of Reconstruction. Joining with all architects who had refused to work with Vichy, the resistance group formed the Union of French Architects which immediately went to work on reconstruction planning.

How well and how fast Union members had worked was apparent last month in the first substantial sheaf of French reconstruction plans to reach the U.S. (see cuts, p. 10). The Union had declared for a policy of large-scale rebuilding. The patchwork methods that had smoothed over the damage of World War I must, they agreed, be discarded. For the first time, French architects are collaborating closely with engineers in rebuilding plans. Aging (72), energetic Auguste Perret had formed the first and model cooperative association, in which 60 architects and engineers pool their skills and share the expenses of a joint workshop. Perret's group is at work on the reconstruction of Le Havre. Le Corbusier, who will soon visit the U. S. as one of a French building mission, was at work on plans for rebuilding La Rochelle.

### GERMAN JOB

From Nurnberg to Berlin, German cities were a rubble-marked graveyard. But in German warehouses, the Allies found "tremendous" stocks of steel and aluminum, ample stocks of almost every raw material but oil. The Germans scratched in their potato fields for something to eat. But even conservative estimates had it that less than 30 per cent of Germany's industrial plant had been damaged by bombs.

Into this tangled mess of the final damage of war and the first confusion of peace last month stepped a top-flight U. S. builder: Clifford S. Strike, head of F. H. McGraw & Co., a firm whose war building jobs have ranged from an aluminum rolling mill in Alabama to the Naval Air Station at Bermuda. Ahead of Strike was the biggest job he had yet tackled. Putting a temporary roof over the heads of 11 million Germans before cold weather was only part of it. The rest was on an even bigger scale and shot through with big, unanswered questions.

Germany must furnish both materials and labor for patching its shattered pieces together again. But before plants can start turning out materials, the Allied Group Control Council must rule on the ticklish question of what part of German industry is to be put back into production. Before materials can be hauled, shattered railroads and bridges must be repaired. Before Germans can do much work, the Allies must find a way to feed them. And against the question of how much and how fast to rebuild Germany loomed the angry ques-

Picture Features, Inc.



STRIKE: no sitdown

tion of every other war-torn country in Europe: how much materials can Germany send us for our own enormous reconstruction needs?

As chief of the building materials and housing branch of the economics division of the U. S. Group Control Council for Germany, Strike will sit in on the meetings which cautiously probe these explosive policy questions. As a builder who knows how to organize giant construction jobs, he went to work with bulldozer directness on what had to be done at once. There was plenty. Sewage and water systems must be restored, gas mains and electric systems must be repaired. Coal must be hauled to start the power plants and against the approaching winter. Prefab construction, Strike hopes, will quickly house the homeless Germans in the U.S. zone of occupation. He favors a steel prefab system which, he said, takes less skilled labor and time than wood and can be made in larger and more durable sections.

"I personally am against rebuilding such bomb-leveled cities as Nurnberg," Strike said, "first, because they were seats of Nazism and, second, because (Continued on page 16)

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### MONTH IN BUILDING: NEWS

#### (Continued from page 12)

bulldozers dredging out rubble would uncover millions of dead bodies which would start a typhus epidemic." On the other hand, Germans already planning for the rebuilding of Essen argue that, with electric conduits, gas and water mains already in the ground, it will be easier to rebuild on the present site.

Strike's chief adviser on housing problems will be Robert L. Henry, a onetime National Housing Agency specialist, now property consultant to Glenn L. Martin at Baltimore. Other members of his staff: engineers Edward V. Johnson, Frank J. Carew, and Harry A. Brinkerhoff, McGraw & Co. vice-president.

### ARCHITECTS' UNDERGROUND

The delegates in the crowded committee room at San Francisco had blinked at the sheaf of maps and plans which the Greek delegation brought to the session on Economic and Social Cooperation. It was not hard to see, instead of the careful figures, the faces of the 250,000 who had stood in Athens breadlines, the children who died in the streets, the smoking ruins of a thousand villages. The Greeks had carefully recorded the precise effect of every phase of their occupiers' policy of extermination: death of 13 per cent of the population, destruction of one out of every four buildings, decrease of cattle imports to less than 0.1 per cent of prewar levels, demolition of 75 per cent of all railroad lines, loss of 92 per cent of all rolling stock and 80 per cent of motor transport, destruction of onefourth of the forests. More important, they had used this data to prepare detailed plans for rebuilding their ravaged country.

When the Germans moved out of Greece, methodically destroying as they withdrew, 1,250 underground observors were at work mapping the destruction. In Athens, an underground planning staff of 250 was drawing the plans for rebuilding. Last month in New York, Constantio Doxiadis, director of the Department of Town and Country Planning in the Ministry of Public Works, told how starving Greece had worked through four years of occupation to prepare for liberation. The underground had established a planning school by the second year of occupation. In several cases, the price of tuition turned out to be facing a German machine gun, but the school went right on meeting twice a week. The plans that now constitute the government's reconstruction program were hidden in steel boxes under the ruins of Athens and smuggled on microfilm to Turkey.

Through the work of its architectural underground, Greece is better prepared than most war-damaged countries with the physical, economic, and social plans needed for reconstruction. But because Greece can produce few building materials, the reconstruction start must wait for an international plan that will permit exchange of materials. As technical adviser to the Greek delegation at San Francisco, Doxiadis' main job was to state the imperative need for international planning for reconstruction. "We must know," he said, "whether it is better for Greece to seek lumber in the world market or plants to start production of CBS



DOXIADIS . . the Greeks had a plan

gypsum board. If we can obtain the machinery to increase our production of gypsum, brick and tile, we can sell these materials in the Near East and be able to purchase steel, electrical and plumbing equipment from countries who can produce these more economically than we can.

"Unless all nations can rebuild on an equitable basis, international balance and security will be imperiled. Without help from the nations with ample productive resources, the countries who fought in the front line and suffered terrible devastation for the common cause will not be able to build even the small simple homes that are necessary for their survival."

Looking at U. S. war housing on his coast - to - coast trip, Doxiadis was amazed at the quality of the housing this country calls temporary. Unlike other European countries, Greece cannot plan to make use of prefab to speed its emergency housing. Shortage of transport, Doxiadis said, means that local building materials must be used wherever possible.

Even with the most favorable trade relations, it will take Greece seven years to accomplish rebuilding. But the work of the underground means (Continued on page 20)

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### ASPHALT ROOFINGS . SHIN

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MONTH IN BUILDING: NEWS

### (Continued from page 16)

that Greece will be rebuilt to a plan promising much better conditions for living and working. Many cities have been relocated by the national plan based on logical economic relationships. The Greek government is taking advantage of enormous wartime population shifts to put the city relocation plan into effect. Materials are promised to those who agree to build their homes in the new locations designated by the national plan. Most important implement in making the plans effective is shipment of food and relief supplies to designated centers, with voluntary movement of population following.

### PAN-AMERICA

### LABOR BOOST

House-hungry Canada last month gave labor for housebuilding and for production of building materials a higher priority than labor for war industry. Key construction workers may soon be released from the armed forces to speed Canada's start at a building backlog estimated at \$2½ billion. Channeling of labor to the building supply industry will help to relieve present acute shortages of bricks, dry lumber, piping, furnaces, bathtubs.

Some 150,000 doubled-up families applauded the news that an annual output of 50,000 houses may soon be reached. Most of them cheered even harder at the promise that one out of every three of these houses will be a low-rent house, built at a cost of not more than \$3,000. Some 1,200 veterans have already moved into the first batch of low-rent homes, while construction of an additional 2,-700 has been approved by the government.

### HOUSING PROMISE

Argentina, said its new vice-president Colonel Juan D. Perón, will build 20,000 houses a year over the next 20-year period. For 14 million Argentinians, settled sparsely from Cape Horn to the Andes, this sounds something like a 200,000 yearly public housing program would sound to the populous U. S. Labor-wooing Colonel Perón, who also holds the office of Secretary of Labor and Welfare, said the big public housing program was an "example of the high aims of social betterment pursued by this government since the June 4 revolution."

Setting up Argentina's first National Housing Administration to replace ineffective existing agencies, the government's decree promises that the Administration will build both individual (Continued on page 24)



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### MONTH IN BUILDING: NEWS

### (Continued from page 20)

houses for sale and rent and large-scale developments. It also promises technical, financial and administrative assistance to local building groups ranging from public authorities to "responsible individuals." Properly administered, the program could mean enormous improvement of Argentina's scant supply of housing. But many a politic-wise Argentinian saw the promising plan as merely another flamboyant Perón bid for labor's support.

### MATERIALS

### ALUMINUM AHEAD

Aluminum, it was clear, had come out of Building's kitchen to stay. Named by many an Army engineer to substitute for steel and plywood, aluminum would soon see housing service in the Pacific. Last month an even bigger housing future for this once-costly metal could be discerned in \$1 billion dollars worth of war-weary bombers and fighters already piled on the scrapheap. The Surplus Property Board thinks aluminum can be salvaged from the scrapped planes, put into prefab houses, roofing, household appliances, fencing. The aluminum industry spoke a cautionary word: Big transportation and processing charges may boost the cost of reclaiming metal from war planes beyond feasibility. To make the salvage plan work, disposal depots for the spent planes must be located near aluminum smelting plants.

### PRICE BOTTLENECKS

Low-priced building items are not coming back on the market. Higher-priced hardware is being produced, but not inexpensive types. Brick manufacturers are busy turning out face brick and other products for which they can get satisfactory prices, while stocks of common brick are dwindling. Gypsum wall board is reappearing in dealers' stockrooms, but not gypsum lath. Shouted the National Association of Home Builders, "We believe Congress should investigate the price bottlenecks which are preventing the manufacture of gypsum lath and the production of many types of lumber. Wage levels which are keeping men from the brick and lumber industries should be reviewed."

What looked like reconversion bottlenecks to some looked like a wall against inflation to the Office of Price Administration, still hopeful that most civilian goods can come back on the market at prices not exceeding 1942 levels. But manufacturers made it clear that they will not produce items at a loss if they (Continued on page 28)

### Standard tions for Douglas FIR DOUGLAS FIR DOORS

FACTRI-FIT sizes: Doors prefit to exact net book standard stock sizes listed in the U. S. Commercial Standard 73-43. This means, for instance, that a 2'8" x 6'8" Factri-Fit Door is furnished exactly the specified width and length. Factri-Fit doors are scuff-stripped for protection. Grade-marked for easy identification. Included in the line are basic 3-panel layouts, adaptable to all types of building.

## 2

FACTRI-FIT Gaining: 7" from top of door, 11" from bottom. Standard butt on 1.3/8" doors is  $3\frac{1}{2}$ " x  $3\frac{1}{2}$ "—on 1.34" doors, 4" x 4", square corners. Center gaining, recommended for heavy construction, is equi-distance between other two. In routing, lips are left on to be knocked out by carpenter for right or left hand swing.

## 3

FACTRI-FIT lock Bore. All boring for locks to center knob 36" from bottom of door. Machining specifications that will be standard for all completelymachined Factri-Fit doors unless otherwise specified: Diameter of bore-in, 15/16": length of bore-in, 334" from edge; face plate. 1" x 21/4" x 1/16" square shape: cross bore, 5/8" diameter on 23/8" center. Virtually all nationally-distributed bored-in type locks will fit these specifications. Trend today is to bored-in locks. Doors can be ordered mortised, or machined to other specifications, on special order.



Shows complete line of Douglas fir interior doors, Tru-Fit entrance doors, and new specialty items. Sent free to any point within the United States.

### PRECISION-MADE TO REDUCE DANGER OF ON-THE-JOB MARRING AND "BUTCHERING"!

• Prefit . . . scuff-stripped . . . grade-marked. Assure better installations every time!

• Offered in basic, all-purpose, 3panel designs adaptable to all types of building!

• Easy to specify . . . made to fit standard hardware!

• Available for essential jobs today—for all jobs the moment war restrictions are lifted!



THE NATIONAL ASSOCIATION OF FIR DOOR MANUFACTURERS



LARGE HOME: Janitrol Gas-Fired Winter Air Conditioner provides greater space for basement recreation room. Cleanliness of gas heat permits it to be placed with laundry and water heater in one section of partitioned basement.



BUNGALOW: Basement may be eliminated to keep down costs. Janitrol equipment requires no fuel storage, can be installed in a small utility room. For basement installation, a Janitrol Gravity Furnace is recommended.



APARTMENT: Janitrol heating unit built into living room wall of each apartment allows each tenant to choose his own temperature, pay for his own heating. This materially lowers apartment house operating costs.



TWO-FAMILY DUPLEX: Basement divided to give each tenant privacy and separate loundry facilities. Separate Janitrol Winter Air Conditioners provide automatic gas heat, adjustable to each family's needs.

# Heating systems that fit all plans



• Whatever types of homes you may have planned, there's a Janitrol Gas-Fired Heating System to fit each type. Thousands of successful installations big community projects, private homes and apartments . . . in basements, attics, closets, kitchens, utility rooms, or walled up out of sight in living rooms—have shown that Janitrol's unexcelled *flexibility* makes it adaptable to practically *every type* of heating requirement.

But in all these installations, Janitrol is doing far more than merely meeting Btu specifications. Compactness, cleanliness, automatic operation all add up to the kind of performance and solid heating comfort we like to call *long lasting liveability*.

There's economy, too. Quickly responsive temperature control wastes no fuel in overheating. Highly efficient burners squeeze maximum heat from a fuel which in itself is relatively cheap in most areas. Building costs can often be lowered—or more living area provided—because Janitrol requires no basement or fuel storage space.

So specify Janitrol Gas-Fired Heating Equipment to fit every housing plan, and to assure your clients of the *long lasting liveability* that brings customer satisfaction. For further data, write Surface Combustion, Toledo 1, Ohio.



## How New Coleman Floor Furnaces Will HELP YOU SELL MORE HOMES



See How This Plan can be adapted for economical area heating, using two Coleman Floor Furnace units. This design won first prize for Todd Tibbals and Associates of Columbus, Ohio, in a contest conducted by the National Association of Home Builders, and was featured in American Builder.



**Builders Find The Coleman** Automatic Floor Furnace especially well adapted to virtually every type of home in the great "under \$10,000" mass market. Experience of builders and contractors proves it sells homes faster. It's a space saver, too, for it sits in the floor itself, as shown above. No basement required!

Write for descriptive catalogs of gas, oil, or butane models, with specifications and advantages to builders. The Coleman Company, Inc., Dept. AF-545, Wichita 1, Kansas. Homes Equipped With Coleman Floor Furnaces are more acceptable to home buyers—easier sold. Buyers want the luxury of warm floors which Coleman gives them. Coleman is designed for healthful living—performs miracles of comfort—engineered to meet the demands of millions for low-cost, automatic heat for postwar homes. Easy to install; low in cost. And they've been pre-sold to 20 million families through Coleman's dynamic "Warm-Floors" promotion. They'll be a strong selling point for your houses!



### Special Features In Coleman "Move The Heat"

- 1. Patented streamlined bottom (exclusive with Coleman) speeds up warm air flow 35%!
- 2. 80% open register-permits free flow of heat!
- 3. Big heat radiator gets most heat out of fuel! Keeps warm air in circulation!
- 4. Pulls cold air off the floor-keeps floors warm!



Exterior View of Floor Plan shown above. Low-equipment cost, plus automatic ease and cleanliness, will fill the needs of thousands who will demand automatic heat when building gets under way.





### Sand-Blasting Opens NEW VISTAS of Decorative Utility for BLACK SERPENTINE

The wide range of decorative possibilities in sand-blasted ALBERENE Black Serpentine is demonstrated in the spandrels, designed for Catholic Seamen's Institute, Brooklyn, N. Y., by Henry V. Murphy, Architect. These are typical of the many new treatments and interesting finishes that ALBERENE has developed for the enrichment of current and post-war buildings.

Wherever a design calls for stimulating contrasts or accents, Black Serpentine is preeminent . . . a most practical choice from the standpoints of economy and availability for spacing, bulkheads, panels, spandrels, façades. So dense and tough is this stone that it may be cut as thin as 7/8", and its durable polish is lustrous but non-reflective.

A request on your business letterhead will bring samples, conveniently boxed, of Black Serpentine, Tremolite Green and our mottled blues and greens. Please address Alberene Stone Corporation of Virginia, 419 Fourth Avenue, New York 16, N. Y. Quarries and Mills at Schuyler, Virginia. Sales offices in principal cities.



PERMANENT, NON-REFLECTIVE, ECONOMICAL

### MONTH IN BUILDING: NEWS

### (Continued from page 24)

can put labor and materials into other products on which price ceilings happen to be more favorable. Low-priced building equipment and materials, they warned, will not be in good supply until OPA reverses its policy of forbidding price increases for a loosing item if the plant as a whole is making a profit.

In late July OPA briskly assured manufacturers that "good profits" would be forthcoming, at the same time promised consumers that the dam against inflation would hold. Straddling this paradox, OPA told manufacturers how to apply for price ceilings higher than those in effect when they dropped their peacetime output. OPA promise: "Where certain costs have gone up to such an extent that to maintain existing ceilings would delay production, we are ready to take immediate steps to remove the price impediments."

### **RESEARCH BOOM**

From two universities came a promise of big additions to Building's research plant. New York State's Department of Public Works said it would build a \$756,000 materials and soil research laboratory at Syracuse University. Here the steel, concrete, asphalt, cement and all other materials that will go into some \$800 millions of postwar works construction will be carefully tested. War-developed building methods will be explored for their application to the state's mammoth works program. Soil testing alone, the Department said, will save taxpayers thousands of dollars.

Expanding its 25-year-old housing research program to a neighborhood scale, the University of Illinois said it will build a \$400,000 demonstration center and production yard. There will be three blocks of test houses, where researchers can take a scientific look at everything that goes into a house and its neighborhood. Some of the test houses will be occupied by families cooperating in the University's typical use studies. Others will be built with cut-away sections or without roofs for demonstration purposes. There will be a farm home and auxiliary buildings. The location is adjacent to the University's power plant and close to a railroad, offering an opportunity for research to improve living in a typical industrial surrounding.

The University plans to make its research available to the building industry and to building customers through short courses demonstrating new methods and materials. The house testing center will be operated by the University's Small Homes Council, headed by architect William H. Scheik.

## From COLD Boiler to STEAM in less than 30 minutes

## Compact STEEL HEATING BOILERS

TITUSVILLE

"The proof of the pudding is in the eating"—and by the same token, the true test of any boiler is in its performance when operating.

Titusville Compact Boilers prove their steaming qualities by generating steam from a cold boiler in *less than 30 minutes*  —proof positive of a well designed and properly proportioned boiler. Titusville Compact Boilers are destined to set new records for saving fuel—giving greater operational satisfaction and longer life. New bulletin—just off the press is yours for the asking.

### Division of

STRUTHERS WELLS CORPORATION THYUSVILLE, PENNSTLVANIA Plants at Titsaville, Pa. and Warren, Pa. Offices in Principal Cities



### **Office Problem:**

Paper work volume increasing but errors increasing, too! Management question-how can work be handled with fewer errors?

### Indicated Solution:

Better lighting . . . but . . .

### Limitations:

Rewiring difficult or impossible because of reinforced concrete ceilings. Outlets inadequate in number. Heavy beams that complicate structural changes.

### How It Was Solved:

Wakefield was asked to make recommendations for better lighting. You see the result above. Continuous rows of GRENADIERS (PG2488) provide more light on work and better light throughout the office. (Properly lighted walls and ceilings, plus light on work, mean greater eye comfort, less eyestrain.) GRENADIERS make it easy for existing outlets to handle the job without a "forest of rewiring" because they provide their own wireway to carry feed wires. Wakefield's adjustable hangers facilitate installation; make small ceiling irregularities no problem. Result: six months later an average of 35 footcandles on desktops.

Perhaps there's a suggestion in this for you and your customers. Wakefield will be glad to work with you on lighting for office or drafting room. The F. W. Wakefield Brass Co., Vermilion, O.



### We advise these practical floors for





Standard Asphalt Tile provides a good-looking floor —durable and easy to clean—for arts and crafts rooms, shops, and teachers' rooms. It's also especially recommended for entrance halls and basement cafeterias and laundries, because it is not harmed by moisture.

Greaseproof Asphalt Tile answers the need for a floor that will not be affected by spattered grease or oil in kitchens and food-serving areas. Also because it is alkali and acid resistant, it is ideal for chemistry laboratories. Like Standard Asphalt Tile, it can be installed either on or below grade, or on suspended floors.

Linoleum, a companion material, is a resilient floor which is often used for school classrooms and hallways. It's available in a variety of attractive patterns and colors. Ease of maintenance, long wear, and comfort are other advantages which have made this a desirable material for suspended floors in school buildings.

Linotile (Oil-Bonded) combines distinctive appearance with especially high resistance to denting and wear and is ideal for principal's office and general school offices. Armstrong's Linotile comes in a wide range of colors and sizes, offering unlimited design possibilities. For use on suspended floors only.

**P.S.** For full information about the complete line of Armstrong's Resilient Floors—including Armstrong's Conductive Asphalt Tile, a floor that prevents the accumulation of static electricity, and Armstrong's Industrial Asphalt Tile, a rugged, low-cost floor for factories and workrooms—consult Sweet's or write to

Armstrong Cork Co., Resilient Tile Floors Dept., 2308 Duke Street, Lancaster, Pa.



### ARMSTRONG'S RESILIENT TILE FLOORS

ARMSTRONG'S CORK TILE AND RUBBER TILE CURRENTLY ARE NOT AVAILABLE

CONDUCTIVI

ASPHALT THE

INDUSTRIA

ASPHALT TILE

LINOTILE

(OIL-BONDED)

GREASEPROO

ASPHALT TILE

STANDARD

ASPHALT TILE

## Bathe in clean running water

The modern shower bath provides clean running water ... soothing ... restful ... leaving the body pleasantly relaxed ... giving it a feeling of cleanliness ... freshness. Shower bathing is becoming more popular every day.

In the new Tiletone Shower Cabinets careful consideration has been given to all of the elements that make it possible to enjoy a good shower in comfort. They're steel, of course, with a handsome baked enamel finish and equipped with proper fittings . . . a combination of streamlined beauty and utility.

Several new Tiletone models will be ready for delivery soon. We believe you'll be interested in them, particularly if you intend to use shower cabinets in projects now being planned.

THE TILETONE COMPANY, 2323 North Wayne Avenue, Chicago 14, Illinois





### to give it the Highest Rust-Resistance of All Ferrous Materials in its Price Class

You'll immediately recognize the rust-resisting qualities of the second ingredient of Toncan Iron. It's Copper (Cu)—and there's twice as much of it in Toncan Iron as in copper-bearing steel.

That's another reason why Toncan Iron—well and favorably known for more than 35 years—has the highest rust-resistance of all ferrous materials in its price class.

Toncan Iron fights rust better, too,

because it is made from highly refined open-hearth iron.

The rust-resistance of Toncan Iron is further improved by alloying *molybdenum* with the copper. This important element makes the copper more effective and helps produce in Toncan Iron a rust-resistance that is unaffected by various methods of fabricating.

From the commercially pure openhearth iron and the special processing operations, Toncan Iron derives another outstanding quality high ductility. This makes it one of the easiest materials to work.

Get the full scale account of why you should specify Toncan Iron. Write for Booklet No. 406, "A Few Facts About Toncan Iron for Architects and Engineers."

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SEE SWEET'S FILE or write us for detailed information on these Republic Building Products Pipe—Sheets—Roofing Enduro Stainloss Steel Toncan Enameling Iron Electrunite E.M.T. Fretz-Moon Rigid Steel Conduit Taylor Roofing Ternes Berger Lockers, Bins, Shelving, Kitchen Cabinets Truscon Steel Windows, Doors, Joists and other building products



### CHECK MODERN 4-WAY CIRCUIT PROTECTION

### ... AGAINST YOUR NEEDS ... AGAINST OLD-STYLE, 1-WAY PROTECTION

Formerly, circuit protection meant one thing only - that too great a current opened the circuit.

But today - Westinghouse AB "De-ion" Circuit Breakers work for you in at least 4 ways. The available special features add many more (shown in the chart). The 4 basic kinds of protection found in all types are:



MORE POSITIVE PROTECTION for circuits and machines. AB "De-ion" breakers "calculate" both current and time, to give greater safety. They give accurately calibrated, production-tested, automatic protection against severe overloads and short circuits.

PROTECTION AGAINST TIME LOST is a double benefit. First, AB "De-ion" breakers do not trip out for brief, harmless overloads-hence, cause no unnecessary stoppages. Second, when they do trip out, machinery goes back into operation faster-by simply flipping a handle. No waiting for replacements . . . for special maintenance attention-to waste manhours needlessly.



PROTECTION OF PERSONNEL. Completely insulated enclosures are sealed to protect workers . . . to prevent tampering. Breakers cannot be bridged with nails or coins ... cannot be blocked closed.

PROTECTION AGAINST FURTHER COSTS. One in-



vestment is the final cost-for one interruption, or 1000. There is nothing to be destroyed . . . nothing to be replaced.

For facts and figures on Westinghouse AB "De-ion" Circuit Breakers, ask your Westinghouse representative for Descriptive Data 29-060. Or write for it, to Westinghouse Electric Corporation, P. O. Box 868, T-60610 Pittsburgh 30, Pennsylvania.

N" CIRCUIT BREAKERS


	W	ESTINGHOUSE C	IRCUIT BREAKE	ERS GIVE	YOU 4	I-WAY PROTECT	FION - PLUS M	ANY ADDITIONA	L FEATURES
			QUICKLAG (1 pole)	E FRA		F FRAME (2-3 pole)	G FRAME	K FRAME	L FRAME
		CIRCUIT BREAKER	Ø	(1 pole)	(2-3 pole)				
-	A	mpere Ratings	10-50	10, 15*, 20*, 25, 35, 50	10-50	15-100	35-100	70-225	125-600
	v	A-C oltage Ratings	125	125	250	250 & 600	250 & 600	250 & 600	- 250 &s 600
	D-C Voltage Ratings		None	125	125/ 250	125/250 & 250	125/250 & 250	125/250 & 250	125/250 & 250
- L	Underwriters' Labora- tories Interrupting Rating (Amperes)		5000	5000	5000	5000 & 10,000	5000 & 10,000	10,000	10,000
Ŀ	NEMA Interrupting Capacity (Amperes—a-c)		5000	5000	5000	15,000	15,000	15,000	23,000
		Quick-Make Quick-Break Mechanism	0			0	Ø	0	
	f Trip	Thermal Only		Ø					•
FEATURES	Type of Trip	Both Thermal & Magnetic	0			0	Ø	Ø	0
	Type of Trip Unit	Interchangeable					Ø	0	0
DARD	Type of	Noninter- changeable	0	Ø	0.10	Ø			
STAN		Adjustable Magnetic Trip		-relation of			Ø		
		Nonadjustable Magnetic Trip	0			$\odot$		Ø	0
		Magnetic Trip Only				Ø	O	Ø	Ø
AVAILABLE		Non Automatic Features		Ø		O	0	O	0
		** Shunt Trip Attachment	An Alland	N. M.Y.			Ø	Ø	0
s		** Indervoltage Re- ease Attachment		S. Miles			Ø	O	Ø
FEATURE	S. Mary	** Bell Alarm Switches				Ø	Ø	0	Ø
-		** Auxiliary Switches	in the second			O	Ø	Ø	Ø
PECIAL		Electrically Operated						Ø	0
S		Mechanical Interlock		Ø		Ø	0	Ø	Ø

\*The 15 and 20-ampere 1-pole E-frame breaker is approved by Underwriters' Laboratories for 277 volts a-c. †Magnetic trip only—thermal omitted. \*\*These devices are mounted inside the breaker case, and require no additional space.

## LETTERS

Architectural education postwar . . . Living-kitchen libeled . . . Allen on Mondrian . . . Architectural editors blasted . . . the case of the One Horse Chez . . . Letter from Berlin.

## EMBRYO ARCHITECTS

#### Forum:

... If the FORUM would make a survey of the postwar educational system, I'm sure it would prove invaluable to us embryo architects and of interest to other readers. We want to know if there are any radical changes being made, what the general trends are, how much formal education is advisable, specifically what programs are being offered by the schools, what part acceleration, night and summer schools will play, and so on....

ENS. ALLAN BALLOU, U.S.M.S. c/o Postmaster, New Orleans, La.

Radical changes in the architectural curriculum are already under way at many colleges. When these programs take definite shape, the FORUM will make a complete report on new developments. Until that time, information can be obtained from individual institutions.—ED.

## THE LITTLE HOUSEWIFE

#### Forum:

Congratulations on your living-kitchen. A clever, usable idea, and I'm all for it except for a couple of minor points. First, what is that "thing" doing in the middle of the kitchen floor? I realize that a living-kitchen must necessarily have a few suggestions of the kitchen activities present but must these activities be advertised with a row of skillets and a butcher's block? It seems to detract from the smoothness and usefulness of the entire unit. To quote my 16 year old "the kitchen floor would be swell for dancing if that thing weren't out there in the way." And, incidentally, can't you see the little housewife as she goes to chop a bit of celery and bashes her head on the frying pans above. I notice there is a space under the stove to the left of the oven. Could this space not be utilized as a drawer to hold the skillets, etc? As for chopping blocks, what's wrong with a bread board?

All of which brings my second point to mind. The garbage can under the sink—I'm surprised. The garbage disposal unit (electrical) is no new thing —and it's a certainty that most postwar homes will have them. The living-kitchen is certainly one new innovation which will require garbage disposal equipment. Again picture our little housewife as she excuses herself from her family circle every Monday and Thursday night to unlash the can and take it out for the collectors. Or perhaps architect Fordyce thought the kids could earn their weekly allowance doing the job....

Mrs. M. C. BANTA

Pasadena, Calif.

## **GOLF TEES AND MONDRIAN**

#### Forum:

This is in the nature of a bread and margarine letter to thank you for permitting me to look out of your office window on my recent visit to New York. From your 50th floor eyrie I could see a lot of New York. More than I could handle, in fact. I find I do better if I take New York a block at a time.

There are a few little matters concerning the conduct and appointments of the FORUM office that I wish to take up with you. First, the routine your highly decorative receptionist goes into when I give her my name: "Not the FAMOUS Mr. Allen?" I understood her to say. I might be wrong; it could have been "infamous," as my attention was distracted by the tacking board on your walls consisting of perforated transite sheets on which drawings are attached by the brilliant expedient of placing golf tees in the holes to support mounted pictures. This is an admirable idea from two angles: It supports the drawings and it gives you, at long last, something you can do with a golf tee that does not involve cursing.

Abstract or non-representational painting is now my favorite dish since visiting the Museum of Modern Art and viewing the work of the late Piet Mondrian. Up to that time I was not an art expert although, to borrow an expressive phrase, I was able to tell Picasso from a hole in the ground. Mondrian made me a different man, but fortunately my own clothes fit this new guy. I am all out for abstract painting because of the freedom it gives an artist, of whom I am now several. Obviously if you paint an arrangement of black, green and orange lines that has some resemblance to a map of the Interborough subway system and label it Nude French Lady Notary Public Stamping a Grape to Death who is going to prove it ain't. (Before any pro-Mondrians write any letters proving I am a dirty old decadent Fascist may I state that I have just dispatched \$3.70 to the print department of the Museum for a Mondrian print, which is just a series of rectangles to the unthinking, but to me represents Allen turning his Earphone on Full Blast in Case a Fellow Architect Offers to Buy Him a Drink at a Chapter Meeting, or in my softer moments, Portrait of a Lady with Blue Hair Exclaiming "Mummy" as she lights a Rameses cigarette. Mondrian is my favorite painter and don't you forget it.)

Mondrian's Victory Boogie - Woogie, left unfinished at his death is what I wish to discuss. It consists of bits of Scotch tape and colored paper pasted on the canvas. "When the arrangement of these bits of paper finally satisfied him," says an explanatory leaflet, "he would peel them off, one by one, painting in the color which he would gradually refine until he felt the whole picture was complete." Here is an idea that could be applied to building facades; merely paint different facades on Scotch tape of gigantic size, apply to the facade, station the client across the street and peel off layers until he either faints or nods. This type of structural strip tease is an idea that will revolutionize the industry or don't you think so? The idea of associating Gypsy Rose Lee on Margie Hart with me as a consultant or unveiling is strangely fascinating. ROGER ALLEN

Grand Rapids, Mich.

## AGAINST THE EDITORS

#### Forum:

... The working architects of the US need a commercial architectura magazine of the highest quality. They do not need THE ARCHITECTURAL FORUM in its present form.

Howard Myers is not a practicing architect, he is not, in New York State at least, a registered architect, he is no a member of the American Institute of Architects, and he and his staff show little notion of what a practicing architect does. During fifteen years of comparative inactivity in the private building industry he and his staff of nonarchitects have become intoxicated wit

(Continued on page 40)



Good News for Architects

-BUILDERS -MERCHANTS -OWNERS!

> So that you may know more about our plans for new Kawneer store-front services and products which will soon be available through 250 Kawneer distributors, we have prepared an illustrated booklet. Available on request.

Write for your copy today and learn more about how the Kawneer man in your territory plans to help you obtain and handle worthwhile store-front work.



MACHINES FOR SELLING!

THERE'S NEW OPPORTUNITY FOR ARCHITECTS IN THE STORE-FRONT FIELD!

## ILLUSTRATED BOOKLET REVEALS SIGNIFICANT PLANS FOR THE FUTURE-

THE KAWNEER COMPANY, 208 Front Street, Niles, Michigan Please rush my copy of your new illustrated booklet.

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# **OTTON'S SLOAN FLUSH VALVES**



As in the case of the Hotel Cotton, Houston, thousands of Sloan Flush Valves have been giving excellent service for over a third of a century.

And Sloan Flush Valve "excellent service" means dependable operation—greater water economy—and maintenance costs as low as 1/4 of 1c per valve per year... small wonder that Mr. Moffatt can say "Our Sloan Flush Valves have paid for themselves many times over."

These unequalled records of *Sloan* Flush Valve performance assure you the best and most dependable Flush Valves that money can buy for your postwar building.

That's why—there are more SLOAN Flush Valves sold than all other makes combined.



Sloan Valve Company has been awarded the Army-Navy "E" three times for excellence in production.

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# add the mark of distinction!

Look at the two pictures above; one shows ornate metal work in the entrance of a large mid-western skyscraper; the other, simple, dignified metal work in a modest residence.

Side by side these pictures quickly demonstrate the great versatility of architectural metals—both ferrous and non-ferrous. They show how architectural metals lend themselves readily to architects' thinking, how they can be used to achieve whatever effects you want.

As you plan tomorrow's buildings, use archi-

tectural metals in the entrance, in stairways, doors, windows, grilles and for all other types of exterior and interior decorations. Use them, too, for structural and protective building devices, in stairs, fire escapes and hundreds of other service equipment items.

Architectural metals will be available for immediate use when building construction starts again. Include them in your plans now. Write today for a Directory of Leading Architectural Metal Fabricators who are anxious to serve you. Address your request to Dept. F-8.

ORNAMENTAL METAL MANUFACTURERS

209 CEDAR AVENUE

TAKOMA PARK

WASHINGTON 12, D.C.

## **POST WAR** BUILDING and PAVING PROGRAMS are being planned in great

are being planned in great quantities and are awaiting the word GO! *Para-Olastic* 

JOINT - SEALING COMPOUND is now in production having been greatly accelerated through heavy use by the Government for defense projects as— EXPANSION JOINTS in concrete runways for Army & Navy Airports

Thousands of tons of Para-Plastic have been installed in all types of concrete construction work insuring the Contraction & Expansion Joints in Highways, sidewalks, curbs, tanks, and swimming pools etc. against infiltration and disintegration.



Para Plastic

is also used in great quantities for roofing maintenance by Factories, Public buildings, homes, farms, etc., particularly for critical points around chimneys, coping, flashing, and skylights.

New Premolded Forms of—Para-Plastic are now available for vertical joint seams in Tunnels, Subways, & Retaining Walls.

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SERVICISED PRODUCTS CORP.

LETTERS

## (Continued from page 36)

a specious brand of architectural propaganda and have strayed far afield.

THE ARCHITECTURAL FORUM and Architecture, whose right you own\* have a glorious heritage, but the arrogant bigotry of the magazine in its present form is a sorry compliment to a great profession. Might does not make right even if TIME Inc. is behind it. You alone can help your magazine, the architectural profession and the nation.

The bizarre architecture which THE ARCHITECTURAL FORUM features exclusively finds little acceptance outside of the commercial field and southern California, where possibly it belongs. Only in isolated instances will the prospective architect's client accept the product shown here; its only merit is that it has no Georgian pediment, that it lacks this or that or something else, all frugal comforts at best. And it is not cheap, it only looks cheap. The architectural press would have the prospective client believe that this is all that is being built, which is by no means the case. There are plenty of prospective clients who would build fine buildings, but demur before the architectural magazine's unqualified negativism.

The architectural magazines which served the nation with honor and distinction have for some time been moving in celestial orbits where architects and architecture are the anomalous anachronisms of an innocuous antiquity. The practicing architects who still subscribe more often do so, simply to keep informed of what is being published and not from any desire for the editorial content.

A great profession, ready and willing stands ready to serve the nation as it has in the past. Even if you do not feel that a professional journal should be an aid and inspiration to all who build, at least a little tolerance will go a great way in preventing it from being a deterrent and a source of trouble to its patrons in the construction industry.

If President Truman is inaugurating an Era of Good Will, one of the surest ways to extend it to THE ARCHITECTURAL FORUM and its public would be to consign Howard Myers to innocuous desuetude.

And I would not be curt, clear, and

\* The title to Architecture, once published by Scribners, was acquired by Hearst's American Architects The merged title later became and remains the property of F. W. Dodge Co.'s Architectural Record. -Eu. complete if I did not say that unless the present architectural magazines give the working architects of the US what they need and have a right to expect, they will turn to another that does.

The article on "The Architectural Editors," in the June issue of *The Journal of the American Institute of Architects* is respectfully submitted for your attention.

GUY H. BALDWIN

## Buffalo, N. Y.

Of FORUM'S present 24 editorial men and women (of whom 5 are in the armed services) 10 are graduate architects.—ED.

Forum:

In your April issue, an article called "Let's Look Ahead," quotes Mr. Pratt of the Ladies' Home Journal as saying, "I hope to be Architectural Editor of the Ladies' Home Journal until the gable roof is gone," then mentions that under his tenure no Journal house has even blushed beneath a gabled roof.

We know that in certain lands people are only allowed to read what the editor, or the controller of the editor, thinks is good for them to know. If Mr. Pratt in his own taste, has ruled out all houses with sloping roofs, does he feel that it is only good for his readers to see houses with flat roofs? Is this true editorship? Is it possible that such an attitude is founded on fear—fear of their forming their own judgments?

This instance is wrapped up with a more important consideration. Is his ar attitude possibly adopted by most of the architectural magazines? In their zea for putting something across, are they afraid to let their readers have the whole of the news? I have pondered over Mr Pratt's comment and wonder if it does not reflect a certain kinship to the Fa scist point of view.

This, incidentally, was written before coming upon Mr. Guy H. Baldwin's ar ticle, "The Architectural Editors," in the June *Journal* of the A.I.A. which I feel all editors should read.

GREVILLE RICKARI

New York, N. Y.

Newsworthiness in architecture and buildin, is rarely found in warmed-over versions o period designs which were news 200 or morvears ago.—ED.

## SON OF A PUP-TENT

A member of the Signal Corps recalls the trials of army housing in France.

## Forum:

There's nothing like a pup-tent for making you want a house. The pup-ten (Continued on page 44)

Since January 1, 1943, TIME, LIFE, FORTUNE and THE ARCHITECTURAL FORUM have been cooperating with the War Production Board on conservation of paper. During the year 1945, these four publications of the TIME group are budgeted to use 73,000,000 lbs. (1,450 freight carloads) less paper than in 1942. In view of the resulting shortage of copies, please share your copy of the FORUM with friends.

One of the many 104 ft. bolted barges. Fabricated and packed for export. 106 Tons in each barge.

STRUCTURAL STEEL

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Plant built for Bohn Aluminum and Brass Co. 9000 Tons structural steel.

## "AI.I.I.ED cooperates with our Architects and Engineers on our structural fabrication plans and specs"...

Intensive study for a quarter century in the language of blueprints enables Allied engineers and layout men to interpret and create structural steel in close harmony with architects, engineers, contractors, and erectors... everywhere.

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Put the Allied name on your list to quote on your fabricated structural steel requirements.



Bridge over Des Moines River designed by Iowa State Highway Commission, 678 tons of structural steel.







One of thousands of aluminum spandrels cast by Alcoa and now on the Rockefeller Center Buildings, New York City

## Let's look behind Alcoa Aluminum Spandrels and discover another advantage

Obvious reasons for the popularity of aluminum spandrels are their richness, the unusual and interesting effects possible, and the durability of aluminum.

But let's look behind and discover other reasons: Anchoring ribs cast integrally with Alcoa Aluminum spandrels simplify both the designer's and erector's job. Slotted holes in the anchors allow adjustment for the normal variations in construction dimensions and give a truer fit all over. Such an anchorage permits placing the spandrel after exterior pilasters or jambs have been completed.

The lighter weight of a complete aluminum spandrel makes handling easier, erection faster. It cuts installation costs.

For details on aluminum spandrels, write ALUMINUM COMPANY OF AMERICA, 2166 Gulf Bldg., Pittsburgh 19, Pa. Rear view, snowing anchoring lugs cast integrally with the spandrel











A RECENT survey among architects, widely experienced in school design, discloses a number of interesting trends in flush valve applications for schools.

For example, it shows that concealed and top spud flush valves continue to be preferred for most installations, while foot-action flush valves seem to be gaining in popularity. Silent-action flush valves are preferred 3 to 2. These and other trends are discussed in the booklet offered below.

Of course, a primary consideration in the selection of any flush valve combination is dependable, trouble-free *performance* — characteristic of all Watrous Flush Valves.

Very important also is *economy*—here the simple Watrous Water-Saver adjustment makes possible savings of many thousands of gallons of water each year.

Maintenance is another factor. This has been simplified by the convenient, single-step servicing feature of Watrous Flush Valves.

Noise reduction, gained through the use of Watrous "Silent-Action" Flush Valves, is becoming increasingly important.

Combine all these qualities in the flush valves for your new school or modernization program by choosing Watrous Flush Valves a selection that will be a constant source of satisfaction over the years to come.

Chicago South Side Vocational School is Watrous Flush Valve equipped throughout, John C. Christensen, Architect. Dvorak & Gazin, Plumbing Contractor.

Wyandotte High School, Kansas City, Kans., Watrous equipped. Hamilton-Fellows & Nedvid. Chicago, Architects. J. W. Radotinsky, Kansas City, Kans., Assoc. Architect. Interstate Heating and Plumbing Co., Kansas City, Mo., Plumbing Contr.

Lake Placid High School, Lake Placid, N. Y., equipped with Watrous Flush Valves. H. O. Fullerton, Albany, N. Y., Architect. A. J. Eckert Co., Inc., Plumbing Contractor.





[NUMBER TWO OF A SERIES]

## Standards of Design

THE IMPORTANCE of combining extreme utility and artistic treatment in the electric chime has been recognized by the Rittenhouse organization since the inception of the first models.

▶ In the design of Rittenhouse Chimes there has always been evident the influence of the professional stylist, to a degree fully comparable with that of the finer products in the home furnishing group. Now, as an added acknowledgement to the good taste of the American public, the new Rittenhouse models have been enhanced in beauty and character by the artistry of a nationally accepted styling authority.

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▶ These, too, are vital elements among those "standards of leadership" which dictate the making of a fine product. To which standards Rittenhouse will continue to subscribe as it makes ready for production of the finer and better chimes to come, in the months just ahead.



THE A. E. RITTENHOUSE COMPANY, INC., HONEOYE FALLS, N. Y.

## LETTERS

## (Continued from page 40)

begets houses as the heathen begets missionaries. Besides the obvious factors of warmth, dryness and comfort, there's the not inconsiderable reason that you can *find* your house, which is more than you can say for a pup-tent.

Take for instance the night we got here. Being naturally lucky, I drew guard duty. I was relieved at 2 a.m. and what with the rain, a night a trifle blacker than the inside of my pocket, a little nearsightedness in my right eye, and the fact that the Quartermaster didn't go in for individuality when he designed our snuggle-ducky, it was a good three-quarters of an hour and several unpleasant remarks before I even found the inquisitor's cage to onehalf share of which I was entitled. I began the snake-like process of wriggling into the blankets and got half way down when I hit an obstruction. I was the victim of the army's most hideous form of humor, the short sheet, or in this case the short blanket. The practical joke, it turned out next morning, was not played by my tent-mate, but by myself. That's what happens when you make a bed in a pup-tent. Then and there the decision was reached that more luxurious quarters were needed.

I started by entering negotiations with the cooks of the company we were relieving, on the sound notion that in the field cooks usually have the best quarters because they have more time off in which to build them. Fortunately for us, the Signal Corps handles one item which is very large, very heavy and very expensive. It's packed like the crown jewels in a case about 7 ft. by 14 ft. by 6 ft. with a floor of hard wood and corners braced with 4 by 4's. The whole shebang, including the roof, is lined with waterproof paper. It was this that we bought from the cooks, who knew a good thing when they saw it.

Thus, for 500 francs, \$10, I secured a house for four, and we moved in, a New Jersey dairy farmer, a young University of Chicago economist, a Chicago musician and myself, an embryo corporation lawyer from Washington, D. C. Our house had four built-in bunks in the ends, a door in the center of one side and in the other side a window with hold your hats—a venetian blind. Why or whence the venetian blind I shall never know; cooks are temperamental souls and given to curious flights of fancy. The mansion was promptly named the One Horse Chez.

At last we were under a roof and had a reasonable assurance that we would not awake with a river in bed with us and also that we could find our joint on (Continued on page 48) Standard Crawford Door designed for modern service station application. Upper four sections glazed for maximum light and attractive appearance. Lower section solid panels for protection. Easy to install, easy to operate. Built for service.

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545

KV/IC1:

When motoring comes back into its own the volume business will naturally gravitate to those places where the motorist finds the maximum of convenience and service. In this, as all experienced service station operators know, the public is largely guided by appearance. That means there will be many brand new service set-ups—and many more where existing buildings will undergo "face-lifting" operations.

Important in all of these will be doors—and the answer will be ready in Crawford Doors engineered and designed for the job. Substantial in construction, simple and trouble-free in operation, splendid in appearance—Crawford Doors will fill the bill. It's not too early now to get in touch with Crawford. Your inquiry will have our prompt attention.

Crawford Door Company, 401 St. Jean, Detroit 14, Mich.

on doors to step up service station traffic and profits

UPWARD - ACTING

**Residential Garage Doors** 

**Commercial & Industrial Doors** 

Hand or Power Operated Doors
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# Robertson Vertical Lift Door

Contemporary industrial buildings have increasing need for a wall that is a door-and a door that is a whole wall.

The Robertson Door is, to all practical purposes, unlimited in height or width. Though it be a whole wall in itself, no matter how many leaves high, the Vertical Lift Door can be made to open in seconds. Its leaves nest into a pocket directly above the door opening, detracting not one inch from clear door height. The doors shown open in less than 10 seconds.

This is the door originated under the name Firguson. The original engineering talent is combined with Robertson engineering and management. The door is completely variable in architectural design. Controls can be engineered to comply with a wide variety of requirements. Robertson engineers are glad to work with other engineers or consultants adapting details. A Robertson representative can furnish all data, or you may write for Robertson Door literature.



2403 Formers Bank Building, Pittsburgh, Penna.





World-Wide **Building Service** 



e Any height. Any width. Can be opened in

e Maximum floor and ceiling area of building retained: overhead equipment-lights, monorail, cranes, etc.-can come up to door. e Not obstructed by sand or snowdrifts.

• Fully counterbalanced : electrically or manually operated. All leaves reach peak at same time. May be stopped at any point, saving heat. Safety device available to halt descent if door touches e Door may be divided into independent sec-

tions, still leaving an unobstructed opening. Lowest leaf can conform to ground slope.

 Skin may be of various materials to suit architectural design: fenestration, sliding pilot doors, heat and sound insulation available.

We Want	Kitchend Say American Housewives
*Modern	RECOMMENDED EQUIPMENT
TYPICAL HOTPOINT ELECTRIC	KITCHEN

FOR A \$ 8,500 HOME



## **Take Advantage of This Powerful Advertising**

Here is some of the power that is increasing the desire for modern, electric kitchens:

1. Over a million and a half dollars have

HOTPOINT REGIONAL SALES OFFICES EASTERN: 570 Lexington Ave., New York City 22, Plaza 3-9333. SOUTHERN: 304 Red Rock Bldg., Atlanta 3, Walnut 2959. CENTRAL : 1456 Merchandise Mart, Chicago 54, Superior 1174. WESTERN: Western Merchandise Mart, 1355 Market St., San Francisco 3, Underhill 2727. been spent by Hotpoint in national advertising during the war to promote the trend to all-electric kitchens.

- 2. Scores of articles in leading magazines and newspapers have focused on the modern kitchen as the No. 1 room in the postwar home.
- 3. Nearly two million booklets "Your Next Kitchen" by Hotpoint, have been ordered.
- 4. Leading utility companies and dealers have promoted electric kitchens in their communities.

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## range makes the planned, all-electric kitchen both probable and possible.

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Write today for details of the "Hotpoint Kitchen Planning Service." Hotpoint's expert staff of kitchen designers will help you take advantage of this profitable market.

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112 of the Postwar Home Buyers are Electric Kitchen Prospects! 'More than seven out of ten postwar homes will cost \$3,000 or over" predicts the United States Chamber of Commerce. That price

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Franch .

gottel.

FDISON GENERAL ELECTRIC APPLIANCE CO., INC.

UTILITY CABINET

WALL CABINET

DISPOSALL

WIDE 24"

15

18"

21'

24

15

2.4

ENGINEERING DIVISION

DATE 2-16-45

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REFRIGERATORS . RANGES . WATER HEATERS . HOME FREEZERS . WASHERS AND IRONERS CLOTHES DRYERS . DISHWASHERS . GARBAGE DISPOSALLS . CABINET-SINK . STEEL CABINETS

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Practical features in design and construction developed through twenty-five years' experience in building shower equipment are incorporated in the Zephyr door. For example—the water deflector with gutter prevents water dripping on the floor when door is open after taking shower, full length piano hinge, bullet type catches that eliminate possibility of door binding, and offset handles are features found only in the best type of shower door construction.

Economical manufacturing methods and volume production enable Fiat to offer to the trade a shower door of high quality at a moderate price.



## CONSTRUCTION FEATURES

Frame: One-piece heavy aluminum alloy. Jambs: Heavy aluminum alloy.

Hinge: Specially constructed, continuous aluminum piano hinge.

Lock: Two bullet catches, prevent door binding.

Glass: Clear glass, set into a heavy rubber "U" channel.

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• The standard size (24" x 72") door is built to fit an exact opening 24 inches wide by 72 inches high. All other opening sizes require a specially built door. When ordering a door, state the size of the opening, model, hinging (either right or left when facing), and whether for tile, structural glass, marble or FIAT shower cabinet.



CONSTRUCTION DETAILS

The water deflector with gutter prevents water dripping on the floor when door is opened,

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205 Rescue St., Chicage 13, Illinois orden Ave., Long Island City 1, New York - Gabriel Bivd., Posadena B, California

## LETTERS

## (Continued from page 44)

a dark night. But the soldier of today is not content with simple pleasures, and we were hardly established before the musician (he probably has a name, but is known as "Wool Knit" by reason of the particularly revolting wool cap issued for wear under a helmet liner which he keeps on his head at all times, even in his sleep) was at work on a radio. After some days of experimenting, a one-tube set was constructed that would pick up the AEF program of the BBC as well as every other station in Europe. Uniquely, it picked all of them up at the same time. Ultimately Wool Knit impressed the radio with the desirability of being choosy, and we could lie in bed at night and listen to excellent music with earphones beside each bunk.

The final touch is the wall decoration. Not so much as a single pin-up. The living room is hung with, if you please, reproductions of works by Renoir, Cezanne, Matisse and Derain that Wool Knit picked up at the Louvre when he got to Paris for a couple of days. Proving that cooks aren't the only crazy people in the Army.

BUZZ ULMAN, A.U.S.

c/o Postmaster, New York, N. Y.

## LETTER FROM GERMANY

This description of Berlin's ruins was sent us by a former FORUM writer who was in the first group of US Army men to enter the German capital after its capitulation.

## Forum:

Our party was not readily recognized by the Russians. We were among the first Americans they had seen, and though our peep was familiar to them, our uniforms and helmets were not. We had no American flag, so we made ourselves known by signs and by answering "Amerikansk" whenever questioned. This released a stream of obviously benevolent greetings, endless handshakes and everything else including embraces. In the middle of Unter den Linden a Russian officer treated us to a large-sized glass of excellent rum. Everyone was genuinely happy to see us, and we found no mistrust or unfriendless. However, it is suggested for all future trevellers' benefit that an American flag, as large as possible, be flown from their peep. The Red Army soldiers like the sound of small arms fire . . .

We first entered along the Hamburger Chausse, which showed the usual damage and wreckage, then found that we could not cross the bridge into Berlin (it was blocked by dozens of wrecked trolley cars) and took the Charlotten-(Continued on page 52)

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'N grandmother's day, a bride's proudest possession was a modern L&H range—just like mother's. "Isn't it a daisy!" expressed the deeprooted satisfaction and pride in owning such an excitingly beautiful and useful range. Among L&H-traditioned families, time never changed this eye-brightening enthusiasm ... and the L&H penchant for being constantly modern is convincingly reflected in the striking, feature-full models for postwar. Tomorrow's L&H owners can say with conviction, "It's orchids for L&H."

The "packaged" homes you build and furnish will bear an unmistakable mark of careful planning when you make L&H ranges your choice. The 70-year-old L&H symbol identifies an old, trusted family friend. Plan now . . . write now . . . and learn how snugly L&H Kitchen Ranges fit into the picture you've had in mind during these dreaming years.



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In the kitchen...to keep it clean and odor free. In the recreation room...to keep it fresh and smoke free. In the bathroom...to keep it free from "steamy" fog.

> MANUFACTURERS OF VICTRON DESK AND PEDESTAI FANS -- VICTRON VENTILATORS -- VICTRON

## and you can say that A MILLION TIMES!

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Yes, for in a million homes that are and are to be, electric automatic ventilation is and will be an established necessity. Here is an appliance free from cluttered competition, tested and proved through 20 years in thousands of homes. At war's end Victron Ventilating Fans will command a wanting, waiting market...a potential average of 3 units to every home. Nationally advertised...demanded by homeowners...appliance dealers will find it profitable to put Victron Ventilating Fans at the top of their list of postwar appliances. New, improved models will be available when restrictions are lifted. The time to get set is NOW. Write today.

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Plan a maintenance-free... permanent "one-piece pipe line" with...

## THREADLESS SILBRAZ\* JOINTS

Joodbye Trouble

on Copper tube or Brass Pipe Runs

Where shock, vibration, high pressures or temperature extremes must be met on I.P.S. copper tube or brass pipe, Walworth has the answer. Specify threadless Silbraz joints made with Walseal\* valves, fittings, flanges and piping trouble can be avoided ... indefinitely.

These modern patented joints won't creep or pull apart under any force which the pipe itself can withstand. They remain tight and leakproof under punishment far greater than that to which copper and brass pipe is normally subjected.

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For full information on THREAD-LESS Silbraz joints made with Walseal products — as well as Walworth's complete line — write today to Department 84 for a free copy of Catalog 42.



(patented) FITTINGS FLANGES VALVES

Make it a "one-piece pipe line" with WALSEAL



Copper is Free-

we're ready to go — ample stock for immediate delivery



Slick-surfaced metal flashing is slipped-in protection against leakage. WASCO rough, fabric surfaced, sheet-copper centered flashing is built-in protection against leakage. The impregnated fabric forms a perfect bond with the mortar, free of seepage-inviting, hait-line cracks. Electrolysis will not destroy its sheet-copper center because the impregnated fabric and asphalt binder are effective insulation against electrolytic action. May we send our A.I.A. folder?

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Please wri	te. Many	territories	still open.

WASCO Flashing Company 86 Broadway, Cambridge 42, Mass.



## LETTERS

#### (Continued from page 48)

burger and Spandauer Chaussee instead. From the moment we entered Berlin proper we found ourselves in a tremendous pile of rubble. Every single house, without exaggeration, had been first bombed, then shelled and finally machine-gunned.

We continued through toward the Grosse Stern Square, and into the Tiergarten. The Central Park of Berlin is a battlefield with heavy and medium artillery pieces strewn around grotesquely and remnants of pillboxes smashed and adorned with twisted reinforcing rods.

We were now directed by a woman police guard in Red Army uniform to take a right turn and passed down the residential and embassy section of the Tiergarten. (Traffic control, while poor on country roads, was excellent within Berlin, where these Red Army Policewomen gesticulated with yellow and red flags, directing us firmly to wherever they wanted us to go. However, we were in no sense "made to see only certain things." We could go anywhere we pleased, and did.)

On reaching the former Hermann Goering Strasse we again turned north and came to the Brandenberger Gate. It is shell-marked and the Pariser Square beyond it is completely gone. The Adlon Hotel—former Waldorf Astoria of Berlin—is a burned out shell, half smashed, the rest blackened with smoke.

We had now reached Unter den Linden, which had become a large parking area for Red Army vehicles.



**EHRENMAL:** shot to pieces

The entire complex of government buildings along this street is no more. Neither are the Linden trees. Goebbels' Propaganda Ministry has gone the way of all propaganda. The broad square in front of the "Ehrenmal"—a kind of German Cenotaph—is destroyed and the

(Continued on page 56)



LARGE ITEM in the operating costs of high buildings . . . or any buildings of more than one story . . . is the vertical transportation of passengers and freight. Peak efficiency can be obtained at lower costs with Montgomery Elevators. Not only is their original cost generally lower than other comparable makes, but for years Montgomery Elevators have been giving such dependable service in thousands of buildings that practically no major repairs have ever been required. For post-war construction or modernization, whether the building plans call for two stories or 42, you can depend on Montgomery for assistance in designing and engineering an efficient vertical transportation system.

**MONTGOMERY MANUFACTURES** a complete line of passenger and freight elevators, electric dumbwaiters and special equipment for vertical transportation. If you are planning a specific project, Montgomery Elevator Company invites your elevator problems.



JUST A MINUTE, MADAM....

## (it shouldn't happen to you!)

Maybe a lot of merchandise *doesn't* stay on some store shelves long enough to gather a coating of store-dust. Even so, we'll bet our bottom dollar that a lot of stores have lost many sales because they simply couldn't do a *thorough* housekeeping job!

Air-borne dust settles everywhere. Although most annoyingly noticeable on displayed goods, it is also harmful to fixtures, walls and furnishings causing frequent painting, cleaning and redecorating. It costs a lot of money that *needn't* be spent!

For, there's a sure way of getting rid of dust and dirt and other particles floating around in the air-Westinghouse Precipitron.\*

This remarkable Westinghouse development *collects* dust and dirt electronically. It operates 5 to 10 times more efficiently than mechanical air filters. Precipitron is the most effective answer science can provide to solve the problem of unclean air.

You can find out more about Precipitron by calling any Westinghouse Office. Or write Westinghouse, P. O. Box 868, Pittsburgh, Pa.

## WHAT PRECIPITRON DOES

Ordinary mechanical filters permit varying sizes and kinds of dust and dirtro pass through the circulatory system—but, PRECIPITRON electronically cleans air, even eliminating tobacco smoke particles!

The result of the "Blackness Test," shown at right, indicates clearly what PRE-CIPITRON can do. Here are actual photographs of the test—where 2500 cubic feet of air, in each instance, was drawn through a cloth area for a 60-minute period!

The effectiveness of PRE-CIPITRON, demonstrated here, will save thousands of dollars resulting each year from damage by air-borne dust and dirt in the home, store and factory.





PLANTS IN 25 CITIES...OOFFICES EVERYWHERE



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Conservation of space is a very important construction especially in large public buildings and hotels. The more space that can be utilized for rentable apartments, the more income produced. Since STREAMLINE Fittings are not connected by flaring or threading, no room is required for wrench play to tighten the Fittings into place, nor need any allowance be made for protruding valve stems, which on threaded pipe, must be swung in an arc to secure. Valves and fittings are installed in a minimum of space, they are located exactly where required, and soldered.

The installation of STREAMLINE Copper Pipe and Solder Type Fittings under normal water conditions assures many, many years of trouble-free, efficient service at low cost. Copper and bronze do not rust. STREAMLINE Pipe is made from pure copper. STREAMLINE Fittings are manufactured in copper and bronze.

Copper Pipe loses less heat by radiation than ferrous piping, particularly if the surface is kept polished, although copper itself is a very rapid conductor of heat. Therefore, it naturally follows that there is considerably less loss when the heated follows that there or steam, is being conveyed from the point element, water or steam, is being conveyed from the point of generation to the points of distribution through copper pipe of uniform, unclogged, internal conducting area.

Plan on specifying and installing STREAMLINE Copper Pipe for your postwar construction—or for replacement. STREAMLIN PIPE AND FITTINGS DIVISION MUELLER BRASS CO PORT HURON, MICHIGAN

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# A BUILDER ASKED THIS QUESTION

"Will the use of Aluminum Windows increase my labor costs?"

And this residence in Illinois answers . . . . "Definitely not!""

Two carpenters started to unpack the eighteen aluminum windows for this house (this is a prewar story, of course) at 10:30 one morning. At 2:30 that afternoon, with a half hour out for lunch, all eighteen windows were set, anchored and lined up, ready for the plasterers. day, their good appearance, their easy operation, greater glass area and low upkeep continue to make living with them a joy.

Windows made of Alcoa Aluminum will again be available, from a number of manufacturers, just as soon as aluminum and manpower are available. ALUMINUM COMPANY OF AMERICA, 1866 Gulf Bldg., Pittsburgh 19, Pa.

That's been nearly five years ago. To-







There is not much variation in the original cost of grass seed. So you must look behind the seed to the seedsman's service.

When you plan for grass . . . You Leave Engineering, and You Deal with Botany

Here are typical questions that Woodruff's service helps you with:

What's the best method of preparing the seed bed for a particular field? What varieties will best endure under given circumstances? How should they be mixed? What method of care should be followed?

What is the most satisfactory procedure for grass feeding?

Because of this service many of the outstanding lawns in America have been seeded with Woodruff mixtures. These include:

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Fort Hancock Parade Grounds Williamsburg Restoration N. Y. World's Fair

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In seven different sections of the United States. New planting problems, new strains of grass, new methods of weed and pest control are investigated under actual growing conditions. One outstanding product of this research has been the commercialization of . . .



By introducing this semi-tropical grass to temperate climates, Woodruff has made it possible to build grass landing strips instead of hard surface runways. It does work never before considered possible with grass.

For further information, write to

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MILFORD, CONN., TOLEDO, O., DALLAS, TEXAS, BELLEROSE, LONG ISLAND, N.Y., ATLANTA, GA., SACRAMENTO, CALIF.

## LETTERS

## (Continued from page 52)

little memorial building itself where the Nazis had their elaborate parades and goosestepped to the sound of drums and guns and planes, is grotesquely shot to pieces, its columns knocked out from under its roof. The Berlin Dome beyond it has lost its cupola and Red Army recruits are doing close order drill in front of the Kaiser Wilhelm Palace-or what remains of it. Somewhere along the road lies a bronze statue which appeared to be Frederick the Great, though since his nose was in the dust identification was difficult. We turned back and made for the Wilhelm Strasse. Hitler's old Chancellory, is burned out and wrecked, but the fantastic new one is relatively unharmed. It merely lost a



**REICHS CHANCELLORY: Russian barracks** 

couple of wings and its interior seems burned out, but Russian soldiers were using parts of it as an aid station and for barracks. The golden eagles in front of the building have been partly shot off their pompous pedestals, and the balcony from which the Fuehrer surveyed his cohorts is hanging from the merest of supports, with its center, where Hitler once stood, knocked out by a shell.

The Reichstag has a red flag flying from the top of its cupola and down along the Charlottenburger Chaussee, some two hundred yards west of the Brandenberger Gate, Red Army soldiers were building a tremendous reviewing stand. They said that they expected a parade and hoped Marshall Stalin would be present. German civilians were sweeping the streets in front of the new structure.

PETER BLAKE, AUS c/o Postmaster, New York, N. Y.



Already Back The Trend Toward



The swing is distinctly upward! An extensive survey made for the National Electrical Manufacturers Association, shows that 35% of today's home owners who plan to replace their present water heaters, intend to buy an electric water heater. WHY?...Because the electric water

WHY?...Because the electric water heater is

SAFE-Flameless, fumeless.

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Give home-builders and buyers what they want. Include an electric water heater in every home you build. Then you'll be in line with the times.

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Architects and Builders who take a long look into the past, can find a formula for quick postwar home sales. Homes that are *already wired* for electric ranges will *move faster* —just as homes already wired for electric lights sold more readily in a past era. For, make no mistake, the *electric range is the coming thing!* 

### HERE ARE THE FACTS!

In the pre-war period of 1933 to 1941, electric range sales increased by more than *nine bundred percent!* The trend is rapidly toward electric cooking! THE WOMAN'S HOME COMPANION study (1944) shows that among women who plan to buy a new range after the war, more intend to buy an *electric* range than any other kind. The *electric* range was the choice of practically half of all who specified the kind of new range they plan to buy.

The large and rapidly growing swing to electric cooking is also shown in surveys made by HOUSEHOLD MAGAZINE, McCALL'S MAGAZINE, OFFICE OF CIVILIAN REQUIREMENTS, and others.

The additional cost of wiring for an electric range adds less than 12c a month to payments on a 20-year F.H.A. Loan! Get all the facts—now! Write for free booklet, "WIRE AHEAD." Address —

Electric Range Section, NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION, 155 East 44th Street, New York 17, New York



War has interrupted production of Milcor Super-Ex because of the heavy weight of this bead.

The rigidity of a solid wing . . . the added plaster reinforcement of expanded metal!

> Strong, straight nose, reinforced and held true by two solid flange sections.

Corrugations in solid sections add rigidity. Bead practically plumbs itself.

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- Expansion flange, integral with rest of bead, makes a perfect plaster bond and simplifies erection.

Recognized as an outstanding advance in corner bead design ... and it's coming back!



As you write your specifications for post-war construction include the exclusive advantages of Super-Ex — widely accepted just prior to the war as the only major improvement in corner beads in 15 years! . . . Again available when present shortages of materials and manpower are a thing of the past. . . . Combines the rigidity of a solid wing bead and the plaster reinforcement of expanded metal. The expansion edge protects plaster beauty, by eliminating the possibility of plaster cracks along the edge of the bead. Ease of erection helps provide economy on the job. . . . Milcor Super-Ex Corner Bead is not available now.



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VERTICAL PANELS prevent moisture and y dirt accumulation and add further to structural strength.

CROSS BRACING prevents sagging or warping...makes York Doors structurally strong...rugged.

SELF-ADJUSTING hinges and latches maintain constant and even gasket pressure. Hardware is streamlined... built for heavy duty...rust resistant.

KICK PLATE takes the bumps and reinforces the door against damage from shavings, ice or other obstructions that may be swept into the doorway.



YORK Cold Storage Doors keep temperatures and operating costs lower. The special advantages shown above reduce spoilage hazards and provide the structural strength to withstand almost limitless opening and closing. York Cold Storage Doors are specialized for every refrigeration service. Doors for all applications are available to your clients through a York factory branch or distributor nearby. York Corporation, York, Pennsylvania.

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**DOUBLE ROLLER SEAL** with two water and grease-proof, wear-resistant gaskets insure perfect, enduring seal and prevent sweating and deterioration at the base.



Send for the "Architects' and Engineers' Manual York Cold Storage Doors." It gives complete information—plus valuable tables and dataf or refrigeration plants.

AIR CONDITIONING

SINCE

HEADQUARTERS

FOR

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# HOSPITALS stay modern with SNEAD MOBILWALLS

Change is as inevitable in hospitals as in the science of medicine. Snead Mobilwalls enable a hospital to keep pace with the ever-changing needs of the times, quickly, easily and inexpensively.

Snead Mobilwalls are the outstanding movable steel wall for modern hospital interiors. They combine the privacy, permanent appearance, and soundproofness of fixed masonry walls with instant mobility, flexibility, low upkeep, and complete reusability.

The Memorial Hospital, New York City, provides a significant example of the value of flexible interiors. This modern hospital for the treatment of cancer is equipped throughout with Snead Mobilwalls. The medical and business staffs operate in complete privacy and quiet with easily rearranged flush steel Mobilwalls. This extreme flexibility has already served the hospital many times when rearrangements had to be effected overnight. Small clinic operating rooms, dressing rooms, and exami-



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nation rooms are of similar construction. Semi-privacy is obtained for ward patients with Snead Mobilscreens. The entire installation was made with 3-inch thick flush Type RF Mobilwalls, fiinished in a light cream color enamel.

Let us send you complete details and photographs of Snead Mobilwalls and Mobilscreens for hospitals. Our engineers will gladly cooperate in preparing plans and specifications, without obligation.

> MEMORIAL HOSPITAL New York JAMES GAMBLE ROGERS, Architect VERMILYA BROWN & CO., Builders

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Not available until our wartime obligations are fulfilled

Truscon "O-T" Open Truss Steel Joists were especially developed to meet the widespread need for economical, light weight, fire-resistant floors and ceilings. They are designed and manufactured in accordance with the specifications of the Steel Joist Institute and the Simplified Practice Recommendations (S.P.R. 94-30) on Open Web Steel Joists, as issued by the U. S. Department of Commerce, Bureau of Standards.

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Ask an experienced Truscon engineer to help adapt Truscon "O-T" Open Truss Steel Joists to your postwar building needs.

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Truscon Open Truss Steel Joists in Factory Installation.

Truscon Open Truss Steel Joists in Loading Platform Area. HOME TO GET YOU ON THE HOOK ... ... here's a money-saving tip!

IF YOU DON'T WANT YOUR POST-WAR



• No matter how attractive a home may be, no one wants to be "hooked" by a house that costs too much to heat. Not only is it a "headache" to own-but often a problem to sell or rent.

One way to guard against that is to make sure the home you build or buy has an adequate chimney. That means a chimney with a flue big enough to handle efficiently not only the expensive fuels-but also Bituminous Coal, which is the most economical of all home-heating fuels.

Then, even if you now plan to burn some other fuel-you'll always be free to switch to Bituminous Coal at any time in the future. And the cost of that "insurance" is only about \$16 extra for the average 7-room house!

Today, better than 4 out of 7 homes in the U.S. use coal. It gives the steadiest, most uniform and dependable heat. And, when used in a modern stoker, Bituminous Coal is also an "automatic" fuel, as well as clean, smokeless, and odorless.

Why not talk this over with your architect or builder? It will pay you to do so!



AN ADEQUATE CHIMNEY - with a flue efficient for burning Bituminous Coal -is also efficient for any other fuel you might choose. And, when you consider that today's costly fuels may be even more so in the future, you see why it's so sensible to provide for being able to burn Bituminous Coal, which will always be plentiful and economical, because America has a 3,000-year supply!

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(This is one of a series of advertisements now appearing in home-makers' magazines)

THESE HOMES you will design or build are going to be talking about you for years.

watch out for your reputation at these

NGER

SPOTS

If decay works destruction on porches, millwork, trim, etc., if beetles attack flooring, if termites attack joists, plates and other structural members . . . your reputation will suffer, no matter how much good design or craftsmanship are otherwise shown.

To meet the needs of wood preservation, Monsanto offers highly toxic Santophen\* 20 (pentachlorophenol). Proper formulations based on this chemical enable clean treatment of wood, no obnoxious odors to linger in the building and a surface that can be painted, varnished or puttied. Special formulations of Santophen 20 containing water-repellents control dimension change.

It costs only a few dollars to add Santophen 20 protection in building the average home. Formulations of Santophen 20 have been offered as preservatives for wood in the past. After the war there will be more.

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## **Flagg Fittings include:**

Here's the Answer

MALLEABLE IRON FITTINGS Standard—A.A.R.—Extra Heavy Refinery

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No special skill is required for installing Flaggseal fittings. Anyone, after a few minutes' instruction, can make a perfect joint every time. Why? Because every Flaggseal fitting has a ring of silver brazing alloy incorporated in each port. This alloy, when heated with an oxyacetylene torch, makes a Silbraz\* joint that is stronger than either the pipe itself—or the fitting. No guesswork—the right brazing alloy, in the right quantity is assured at all times. Simple ... easy ... quick—just assemble and heat.

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# Offices out in the plan

Typical of J-M Unit Construction is this efficiently designed factory office. Clean-cut, projection-free Transite Walls have the solidity of permanent construction, yet are flexible to meet the unpredictable needs of the future. Note that the Acoustical Ceiling is extended throughout the entire factory area. This helps eliminate all unnecessary noise, increases efficiency. Note also that the factory floor is of Asphalt Tile—resilient, comfortable, easy underfoot.

# Johns-Manville Unit Office Construction WALLS · CEILINGS · FLOORS

## Johns-Manville Unit Offices WALLS · CEILINGS · FLOORS

Kible.

provide new efficiency and flexibility, with all the qualities of permanent construction

Yes, with Johns-Manville Unit Office Construction, you can design quiet, efficient factory offices that have *complete flexibility*, yet are an integral part of the building.

They can be enlarged, made smaller, rearranged, or relocated easily and economically, to meet ever-changing industrial requirements.

The System incorporates three Johns-Manville building elements—all combined in a single specification . . . under a single manufacturer's responsibility:

- Movable Walls . . . 100% salvageable. Made of Transite sheets, they are difficult to mar, highly resistant to shock and abuse.
- 2. Acoustical Ceilings . . . reduce distracting office noise, increase accuracy, can be taken down and relocated as desired.

3. Resilient Floors of Colorful, Asphalt Tile . . . stand up under heavy traffic, yet provide restful resilience underfoot. Small units permit easy extension of the floor to meet changing conditions.

You can use these same materials throughout the factory too—to keep shop areas flexible . . . to quiet machine operations . . . provide better working conditions.

All the constituent parts of J-M Unit Construction are durable . . . hard to mar . . . shock-proof . . . easy and economical to maintain. And their attractiveness helps to convert any factory area or office into a "good place to work," with pleasant, cheerful surroundings, promoting the highest working efficiency and employee morale.

Write for a free copy of our new brochure, "Unit Offices." Address: Johns-Manville, 22 East 40th Street, New York 16, New York.

3 elements are combined to form Johns-Manville Unit Office Construction

## **1. MOVABLE WALLS**



The keystone of flexibility in Unit Construction is the J-M Transite Wall. It can be disassembled and relocated whenever business requirements call for a change in plant or office layout. Made of fireproof asbestos and cement, practically indestructible materials, the movable panels are used to form rigid, doublefaced partitions 4" thick. They can also be used to finish the interior of the outside walls as well.

## 2. ACOUSTICAL CEILINGS

Helping to overcome the handicap of excessive noise, Johns-Manville Acoustical Ceilings are beneficial to workers and employers. They help eliminate the unnecessary fatigue produced by reverberating noise in offices or plant areas. An exclusive J-M patented construction system permits interchangeability of flush-type fluorescent lighting and acoustical ceiling units.

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## 3. DURABLE, RESILIENT FLOORS

J-M Asphalt Tile Flooring completes the Unit Construction System. Made of asbestos and asphalt, the units will withstand the kind of hard wear and abuse that must be expected in any factory building. Not only are they durable, J-M Asphalt Tile Floors are

comfortable and restful underfoot, and their resilience frequently reduces damage to articles accidentally dropped. Individual units permit easy alterations or repairs. Made in a wide variety of plain and marbleized colors.



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Waterproof aircraft glue applied under heat and pressure

Solid core of seasoned softwood blocks

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> Welded to solid core with waterproof glue

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Check the Roddiscraft features briefed above. See for yourself why Roddiscraft doors meet the most exacting specifications. There is no substitute for the enduring beauty of flush veneer doors as produced by Roddiscraft.

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soil waters in the country.

One of the worst of these troublemakers, for instance, is tannic acid. It attacks ferrous metal and forms a bluish-black ferrous salt

that acts like ink or dye in most heaters . . . but never in Permaglas, because it's fortified to resist tannic acid and all the other troublemakers. Hot water as free from tints and taints as the original water source itself is always assured from Permaglas, the sparkling blue, mirrorsmooth, glass-fusedto-steel of SMITHway Permaglas Automatic Storage Water Heaters.

Write for "The Inside Story of Permaglas." Your clients will thank you for specifying this long-life, corrosion-proof bot water beater.



Buy an Extra War Bond This Month



HEAT

## A LETTER FROM THE PUBLISHER

Life photo : William Vandivert



## **ANDERSON** and art

Dear Reader:

It was a fine feeling to send out \$55,000 to the winners in the General Motors Competition. A few of the blasé regulars got checks, but in the main, the money went to newcomers, including two Canadians — a new threat to the Californians who so often divide competition prizes.

Two FORUM men made news on the war front: Captain Harry V. Andersen, who left us to start his own magazine a few years ago, proved to be a triple threat. No doubt due to his FORUM training, he recognized a Renoir when he saw one, and that led to finding the now renowned Goering art collection. He quickly followed his first success by uncovering the Nazi gold hoard and a few days later popped up with der Fuhrer's sister. If the old devil himself is still around, Andersen will catch him, say we.

Peter Blake, whose front-line letters continue to enliven these pages, turns out to have been one of the first Americans in Berlin on V-E Day. Peter, who stalked these haunts as a boy, had difficulty in recognizing the former capital with most of the landmarks demolished. Blake reports that the new national drink is vodka.



**BLAKE** and friends

The serious young man who is frequently detected these days holding a moistened finger out of our 50th

G1. 1085





Jimmy feels right at home in these stratospheric quarters, having put behind him experience with the REC-ORD, FHA and the Tennessee Planning Commission, following studies at Alabama, Tulane and with Henry Wright whose son of the same name managing-edits this journal.

\* \* \* \*

Our office window commands a fine view of the Hudson. Every time a deck-jammed transport moves up to dock, we look for a visit from old friends in uniform. Latest arrival was Major Walter B. Sanders, concealed behind a fine row of service



ribbons. But often as not, it's "goodbye" instead of "hello." Latest to leave for the Pacific was Frank Gina, one

more Marine anxious to finish the Jap and get back home. Hugh Pom-

eroy, the Executive Vice President of the National Association of Housing Officials, appeared undefeated by the humidity.



Still up to his tubes in war work, Kurt Versen hopes soon to be back in the lighting business. The man who is doing second most to put Albany on the map came in full of new promotions for Mayfair, its proprietor, owlish Ted Simpson. Not everyone could paint the right murals to go with Hazel Scott's piano or Jimmy Savo's pantomine or Zero



## Mostel's antics, but Anton Refregier did, as well as design the sharpest painting show in town this summer. Anton, on

a recent visit, had a glint in his eye, as well as a new bow tie worth anyone's attention. Most demanding delegation of the month was the General Motors Competition jury, which arrived en masse and, praise the Lord, left ditto but not before unloading a barrage of insults, for which such dubious characters as Hugh Potter, Timothy Pflueger and Alfred Shaw have been endowed by nature and improved by practice.— H. M.




PERU, INDIANA

## FOR REAL HOME COMFORT ....

H. A. THRUSH & COMPANY .

Summer - Winter Hot Water Heat!

LIVING ROOM

In Tomorrow's Blueprints PUT THRUSH FORCED HOT WATER HEAT



ARE you telling the home owners of your community about forced circulating Thrush Summer-Winter Hot Water Heat? Now is the time to lay the foundation for a profitable post-war heating business. Thrush System provides uniform heating and real home comfort combined with fuel economy . . . and year 'round domestic hot water supply. You can recommend it not only for the homes of tomorrow but for modernization of old heating plants right now! If not familiar with Thrush equipment, see your wholesaler today or write Department H-8.

House Statist

S CONTRACT

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Thrush Water Circulator

As a Nation

we have

## THE TIMBER THE MILLS THE FACILITIES

to produce Quality Lumber for all our normal needs

You can count on the lumber industry to take on the tremendous postwar building job with the same energy and effectiveness that has characterized its service in the war effort.

You can count on lumber because as a nation we have the timber, the mills, and the facilities to produce quality lumber for normal domestic needs.

The war-time scarcity of lumber for civilian consumption is easily understood. War needs come first. And these needs are taking the best and very nearly all the lumber being manufactured...just as they are taking the best of everything for our fighting men.

In spite of the enormous lumber footage produced for the war, we still have available for our peace-time needs vast stores of timber resources, made up not only of mature timber ready for harvest, but also of constantly growing supplies of young trees.

You can count on lumber because Timber is a Crop, and because modern forest management, with proper forest harvesting practices, is making significant strides toward the goal of sustained timber production, where timber growth equals the harvest. You can count on lumber again, our great renewable natural resource.

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4% to 36% Greater in Insulating Efficiency

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Far More Effective in keeping winter heat in—summer heat out.

**B**y actual government and private tests, cotton exceeds other materials 4% to 36% in insulating efficiency. Moreover, cotton is the lightest in weight of all commercial insulations—requiring 20% to 25% less bulk reducing the structural load factor 40% to 90% under equal thicknesses of other materials. With these basic advantages—in addition to its flexibility and ease of handling—its resistance to vermin, rot and moisture all at no extra cost—small wonder that modern-minded architects are recommending Lo-"K" almost exclusively.

> For full information on this amazingly better, more scientific insulation, MAIL YOUR COUPON TODAY.



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## THE FORUM

Ernest Born, who with Wurster and Bernardi, dreamed up the United Nations Center (p. 97), does not design a building — he has an affair with it. Immersing himself in his subject, he loses all sense of time and emerges with an intimate knowledge of its every aspect. Sent to Brazil by the Rubber Administration, he returned an expert on Brazilian history, economics and politics. Com-



missioned to design a tiny wineshop, he spent six glorious months learning to taste with the best of them. That the latest project was completed in only four weeks smacks, therefore, of the miraculous.

**Donald Deskey**, designer with Edgar Lynch of the Living Memorials (p. 141), is a man given to splitsecond decisions, not always well considered. Sweatily traversing 5th Ave. with Architect Edward Stone during a heat wave, he spotted a display



of seersucker suits, charged into Saks dragging his friend behind him. Since Stone protested that he was broke, Deskey magnanimously staked him to an outfit

and they parted, happy in cool and tasteful raiment. When, months later, Stone suddenly remembered his debt, Deskey quipped sourly: "That makes you the seer and me the sucker."

Julius Gregory, who designed Elizabeth Gordon's house (p. 135), started his working life as an inventor. Fired with righteous zeal, he proposed to thwart racketeers who split round trip railroad tickets, reselling at a profit. The idea was to photograph the purchaser on the nether side of

the ticket, thus inseparably ' binding ticket to rightful owner —but meanwhile the railroads thoughtlessly c h a n g e d the ticket system. A disillusioned Gregory turned to architecture ' which has paid off in dollars instead of dreams.



Norman Bel Geddes whose Futurama stole the show at the World's Fair, has now turned his world-encompassing enthusiasm toward real city planning. This spectacular stage and industrial designer ran true to



form in his latest venture. A request for several drawings of postwar Toledo turned miraculously into a replanning job and a giant model of the proposed changes (p. 119). To display his 180 sq. ft. colossus, Bel Geddes nonchalantly tore a stage and seats from Toledo's Zoological Park Auditorium, built instead a ramp from which each day 3,000 impressed citizens view their future city. \*Cabinet fronts of Nairn Wall Linoleum supply color and beauty ... "carry out the scheme" of the rest of the room.

\*Ceilings of Nairn Wall Linoleum provide a crack-proof, permanent finish.

mean

business

like this

## **V** Bathrooms like this

• Homemakers are "sold" by the beauty the durability, the easy-to-care for advantages of Nairn—the quality linoleum. Installed by expert workers, walls and floors of Nairn Linoleum hasten completion . . permit immediate occupancy. Nairn Linoleum 15 fully guaranteed when installed in accordance with manufacturer's specifications. Nairn Linoleum, Kearny, N. J.

\*Satin-smooth floors of Nairn Inlaid Linoleum are quiet, resilient . . . require a minimum of maintenance. They offer unusual opportunities for individual decorative effects. \*Even where surfaces get the heaviest wear, Nairn Linoleum retains its colorful beauty year after year.

For modern walls and floors

\*Splash-proof walls of Naim Wall Linoleum are easy to keep spick and span.



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Your hospital-of-tomorrow will strike a new high in efficiency of layout, lighting, medical and surgical equipment. Will its communicating system also take advantage of all that is new, better and proved?

Over the next five months, we will present a series of messages on the important subject of modern communications. Each will deal with a problem which can be solved with Connectacall two-way, nursepatient communicating systems.

The immediate result of a Connectacall installation is better nursing with fewer nurses. The permanent result is lowered hospital running expense, which far outweighs the initial investment ... Because of the importance of these Connectacall contributions, we believe you will find each advertisement of interest and help.

Our free advisory planning service is also available to hospital executives and their architects at all times. Twenty-five years of hospital communications and signalling experience enables our engineers to render authoritative assistance, if required. For information on the complete line, write for Bulletin 102.



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## FOR SMALL HOMES!

57

FOR REMODELING TODAY!



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The National No. 1 Series Heat Extractor Boiler\*

This compact and efficient boiler offers the features you've been seeking for small home installations. It's designed for coal, oil or gas firing and easily convertible from one to the other.

Water legs extended to the bottom make it easy to install on wooden floor of utility room or kitchen without expensive fireproofing. Minimum floor space and head room requirements.

Another feature, unusual in small boilers, is the availability of a copper coil water heater assuring delivery of an adequate supply of hot water, winter and summer.

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\* Furnished with jacket when WPB permits.

## WHAT WINDOW ADMITS THE MOST LIGHT?

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# WHAT WINDOW HAS THE TIGHTEST WEATHER SEAL?

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## WHAT WINDOW COSTS THE LEAST?

**STEEL!** In steel casements the initial cost is the *final* cost. In other windows there are hidden costs you are likely to overlook—hardware, accessories, additional labor costs, etc. So save on window cost...specify Ceco Steel casements!

Concrete Engineering Division: Meyer Steel forms, adjustable shores and clamps, reinforcing bars, fabric, etc. Manufacturing Division: steel windows and doors, metal lath, metal weatherstrip, metal frame screens, steel joists, steel roof deck. Highway Products Division. Sheet Steel and Wire Division.

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AMERICA'S STRENGTH IN WAR AND PEACE-THE PARTNERSHIP OF MAN AND WOMAN



## SHE sees that he gets it

DAY did not lessen the need for paper. Indeed, the turn-around for the intensified war against Japan has actually increased the need for paper. Millions of items must be protected for the long trip to the Pacific Theater by double and even triple wrapping.

That is why patriotic women are continuing to cooperate with the Paper Troopers or other local salvage organizations to get every scrap of waste paper, periodicals and newspapers back into the fight. Women also help by using their own

shopping bags, by carrying purchases home unwrapped and by reusing paper bags and cartons as long as they will last.

#### **McCall's Inspires Women** in .3,500,000 Homes

In approximately 3,500,000 homes women look to McCall's for guidance in the adjustments and responsibilities of wartime living. Thus, they know that paper is still America's No. 1 Critical War Material. and they continue to do their part to help meet the shortage.

(Magazines use only 4% of all paper and much of that is salvaged for re-use. McCall Corporation, along with other publishers, has instituted practices which are saving thousands of tons of paper. Because there are not enough McCall's to go around, readers help, too, by sharing their copies with friends.)



THREE MAGAZINES IN ONE

# Protect the future valu with Servel All-Yea



# of your post-war homes Gas Air Conditioning

## It keeps homes "modern" longer, financing agents agree

You can make sure your post-war homes maintain a high re-sale value for many years by installing Servel All-Year Gas Air Conditioning.

Financing agents state that homes so equipped will stay "modern" longer. They agree that the Servel Air Conditioner increases the value of any home far more than any other new idea that may be developed. For this reason, you'll find most banks, building and loan organizations, etc., prepared to extend larger loans, offer better terms, on homes containing this new Servel equipment.

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Find out today how easily and inexpensively you can protect the future value of your post-war homes with Servel *All-Year* Gas Air Conditioning. Get full technical details and complete installation data from the trained application engineer at your local Gas Company. Or write direct to Servel, Inc., 2508 Morton St., Evansville 20, Indiana.



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SUMMER COOLING • WINTER HEATING • IN ONE SIMPLE UNIT Made by the maker of the servel gas refrigerator

## FORUM OF EVENTS

### General Motors competition for dealer establishments is judged at Yale University.



ugh Potter Chairman Pflueger Alfred Shaw Wallace Harrison Robert Dowling Richard Bennett William Wurster (not shown)

Awards amounting to \$55,000 have been announced by the FORUM for one of the most important architectural competitions of recent years. The program presented five individual problems calling for various types of sales-service establishments for General Motors dealers. Competitors were free to choose one or more of these projects.

On the seven-man jury were the following outstanding building authorities: Robert W. Dowling, vice president of Starrett Bros. & Eiken, New York builders; Wallace K. Harrison, architect, New York; Richard Bennett, professor of architecture, Yale University; Timothy L. Pflueger, architect, San Francisco; Hugh Potter, president, River Oak Corp., Houston; Alfred G. Shaw, architect, Chicago; William W. Wurster, dean of architecture, Massachusetts Institute of Technology.

allace Harrison Alfred Shaw Advisor Nelson



Chairman Pflueger Hugh Potter Richard Bennett



#### PRIZE WINNERS

Program No. 1. FIRST, Robert T. Coolidge and D. C. Byrd, Cambridge, Mass. SEC-OND, Basil Yurchenco and Edward F. Catalano, Cambridge, Mass. THIRD, I. M. Pei and F. G. Roth, Princeton, N. J. FOURTH, C. C. Briggs, Great Neck, N. Y.

Program No. 2. FIRST, Read Weber, Jay S. Unger, Tania Waisman, Sidney L. Katz, Victor Elmaleh, New York, N. Y. SECOND, Lester C. Tichy, New York, N. Y. THIRD, C. C. MacDonald, Cambridge, Mass. FOURTH, Lt. (J.g.) E. Stewart Williams, USNR, Tiburon, Calif.

Program No. 3. FIRST, L. B. Hockaday and T. J. Prichard, Cambridge, Mass. SECOND, Charles A. O'Grady, Los Angeles, Calif. THIRD, Lawrence Laguna, Vincent D. Luongo and Percy C. Ifill, New York, N. Y. FOURTH, John E. Pekruhn, Swarthmore, Pa.

Program No. 4. FIRST, J. B. Langley, Ottawa, Ont. SECOND, Seymour R. Joseph, New York, N. Y. THIRD, R. A. Willgoos, Alexandria, Va. FOURTH, Francis Newell, Glastonbury, Conn.

Program No. 5. FIRST, J. Gordon Carr, New York, N. Y. SECOND, Read Weber, Jay Unger, Victor Elmaleh, Sidney L. Katz and Tania Waisman, New York, N. Y. THIRD, Percival Goodman, New York, N. Y. FOURTH, Kazumi Adachi, New York, N. Y.

#### HONORABLE MENTIONS

Program No. 1. Stephen J. Alling and George F. Schatz, Cincinnati, O. Dahong Wang, Washington, D. C. Lt. Comdr. Samuel E. Homsey, USNR, and Victorine Homsey, Washington, D. C. John Schurko, Pittsburgh, Pa.

Program No. 2. George F. Schatz and Stephen J. Alling, Cincinnati, O. Louis C. Simmel, Jr., Douglas McFarland and Wallace C. Bonsall, Los Angeles, Calif. John T. Ridley, Bellingham, Wash. Harry S. Baines, Birmingham, Mich.

Program No. 3. Arthur Paul Hoppe, Salisbury, Md. Ellen Bovie and Nizak A. Jawdat, Cambridge, Mass. Alfred Clauss and Jane West Clauss, Knoxville, Tenn. Edward H. Riedmaier, Uniontown, O., R. C. (Continued on page 82)

JURY CHAIRMAN Pflueger flanked by Comp Followers St. Aubin and Lewellen of General Motors, FORUM's Myers and Nelson on the ends.



## HUNDREDS OF MAKES

TO CHOOSE FROM...YET EVERY EIGHTH OIL BURNER IS AN OIL-O-MATIC





A speedy victory depends on what you do today. Buy War Bonds and keep them.

## plans a home

MEET the American giant who has right now, ready for spending, some 10 billion dollars in savings, not counting 4 billion in War Bonds . . . who enjoyed last year an income of close to 28 billion dollars.

The American Farmer!

Come peace, he'll be ready and eager to buy all the things that wartime conditions have denied him. Especially, a new home!

A new survey\* of the nation's better-able-to-buy farm families, just completed for Country Gentleman, reveals that 17% plan to build all-new homes—and almost ½ of these have already set aside the funds. 72% plan to repair or remodel their present homes. 74% expect to repair or build other farm structures. And 68% intend to spend an average of \$271 on household appliances. When you consider what this all means in terms of plumbing, wiring, paint, glass, wallpaper, hardware, fixtures and a hundred-odd other homemaking items, you get a glimpse of a colossal consumer market that is absolutely vital to postwar employment and prosperity.

Maybe colossal is too puny a word to describe this giant who is going to have a better home. For, in addition, he is the purchasing agent for six million farm businesses while supplying the wherewithal to satisfy all the other needs and wants of his family of 30,000,000 people.

Is it any wonder we keep reminding you: The biggest farm market in all history lies ahead !

> \*Full report available to any responsible executive requesting it on company letterhead. Address Country Gentleman, Independence Square, Phila. 5, Pa.



What business can ignore the farmer's strength?

Colossus



## from the CARDOX case record

Out of actual on-the-job fire experience comes evidence of the ability of Cardox Fire Extinguishing Systems to protect tough fire hazards . . . large or small. For example, consider File S-37 covering a tricky and vicious gasoline fire in an airplane engine test cell:

"Fire was caused by breakage of No. 8 cylinder exhaust stack at the flange. Flame burned through hose connection of gasoline intake pipe. Fire started within the "barrel." Consequently it had a good start before it was noticeable.

"The Cardox System was put into opera-tion by means of the push-button station located in the control room. Loss due to fire was held to the engine fuel and oil lines, thermocouple leads, tunnel hose and the leather cowl.

"Members of the fire department who were in the immediate vicinity when the fire occurred were impressed by the speed and effectiveness of the Cardox System. Their reactions, no doubt, partly in-fluenced by the fact that during the previous week, fire in a test cell not protected by a Cardox System had

completely ruined the cell and the engine under test.

The danger spots in your plant may not be similar to the one described in File S-37. But, if, for example, they involve flammable liquids or electrical equipment of any kind, Cardox offers maximum protection with fastacting, non-contaminating carbon dioxide . in pounds for small fires . . . and tons for large ones!

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This characteristic is the distinctive Cardox method of control and engineered applica-tion of liquid carbon dioxide, stored at 0°F. and 300 p.s.i., in a single storage unit con-taining from ¼ to 125 tons of fire-destroying Cardox CO2 . . . enough to handle large fires

EXTINGUISHING SYSTEMS CO2 FIRE

in single or multiple hazards and leave an ample reserve for new emergencies!

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Cardox CO<sub>2</sub> is 500 pounds to 125 tons at controlled low temperature of 0°F. and 300 p.s.i.

### FORUM OF EVENTS

#### (Continued from page 78)

Nowling, Akron, O., George W. Schofield, Akron, O., and Bob Mavis, North Randall, O.

Program No. 4. Robert A. Deshon, Fort Worth, Tex. E. C. Vallee, Montreal. Frederick Hodgdon, San Marino, Calif. Robert Halley, Jr. and E. L. Freeland, San Diego, Calif.

Program No. 5. John Schurko, Pittsburgh, Pa. George F. Schatz and Stephen J. Alling, Cincinnati, O. Hans Oberhammer, New York, N. Y. Lt. Comdr. S. E. Homsey, USNR, and Victorine Homsey, Washington, D. C.

#### SPECIAL AWARDS

Edward J. Toole, Hingham, Mass. Joshua D. Lowenfish, New York, N. Y. William C. Suite, Washington, D. C. Oscar Nitzschke, New Haven, Conn. Patricia Marshall and Edgar Bartolucci, Chicago, III. Alfred J. Friday, Columbus, O. William Boedefeld, Collingswood, N. J. J. R. Sproul, Princeton, N. J. Bernard Wagner, Pittsburgh, Pa. C. N. Chau, Chicago, III. Lt (j.g.) John R. Howard, Norfolk, Va. Ralph J. Sherwin, Toledo, O.

Arthur A. Fisher and Alan Fisher, Denver, Colo. Ralph H. Burkhard, Seattle, Wash. Kazumi Adachi, New York, N. Y. J. Gordon Carr, New York, N. Y. Percival Goodman, New York, N. Y. Stewart S. Kissinger, Dearborn, Mich. and Ted Ornas, Birmingham, Mich. Francis L. S. Mayers and Harold E. Lindstrom, New York, N. Y. Janet and Milton Caughey, Los Angeles, Calif. (Continued on page 86)



#### POSTWAR DESIGN OF THE MONTH

Definitely a one-passenger bath, this prefabricated model designed by Frank Zavada converts conventional floor space into a bath tub. An unusually high sill forms the back of the tub. The closet is built into the door. As a space saving device, this bathroom meets the minimum requirements of a small family. This is one case, however, where the danger is falling into the tub—not out of it.



A request on your business letterhead will bring you complete technical data. Address C. A. Dunham Company 450 East Ohio Street • Chicago 11, Illinois

## flexibility is fundamental in good heating

Just as flexibility makes the caterpillar tread the key to modern tank warfare, so flexibility is the key to performance in Dunham Differential Heating.

No more overheats, as with on-and-off control of hot steam. Instead, the *flexible* Dunham System utilizes sub-atmospheric steam (vapor) at varying temperatures, as called for by fluctuating outside temperatures and room heat losses. Insures comfort-level room temperatures, with minimum supervision and maintenance, at all times, under all conditions. Best of all, it does this with fuel savings ranging from 25% to 40%, of the fuel consumption of ordinary systems.



# Suggestions for the man who is planning tomorrow's hospital

Hospital authorities and architects are taking a progressive viewpoint n choosing materials for tomorrow's hospitals.

They're selecting materials for unction—for their ease of cleanng, for their durability, for the permanence of their finishes, for nany other practical characteristics.

The result? A definite trend to class. There are many ways you can use glass—soundly and economically—to make your hospital an fficient building. For the right class, see your L•O•F Distributor. Libbey•Owens•Ford Glass Combany, 1585 Nicholas Building, Coledo 3, Ohio.





1. DAYLIGHT ENGINEERING—the use of glass to achieve better daylighting and more pleasant environment—has been given new impetus by the development of Thermopane, the Libbey•Owens•Ford windowpane that insulates. Thermopane is a double-glass unit with a hermetically-sealed, insulating air space between the panes.

With Thermopane you can make your windows far larger-"open" the walls to cheerful sunshine and pleasant views, without causing excessive heat losses. Full information-including sizes, weights, and types of glass with which it can be fabricated —is given in our new Thermopane booklet. Write for your copy.

2. TRANSOM AREAS. These glass panels, placed high to permit full use of wall space, transmit borrowed light into the hall. Made of decorative glass, their clean, horizontal lines lend architectural beauty to the hallway.



**3.** WINDOW SILLS. L-O-F Vitrolite, a structural glass of colorful beauty, is ideal for this purpose. Sills are often dirt-catchers, but when they are glass you can clean them to a sparkling luster every time, without harm to their finish.



## IF IT'S WORTH BUILDING . IT'S WORTH SAVING!



The Farmers and Mechanics Savings Bank of Minneapolis, McEnery & Krafft, Architects. HYDROCIDE COLORLESS used on outside stonework.

Continual exposure to changing weather conditions is eventually as hazardous to a brick, concrete, masonry or stucco structure as to a human being. Treating exterior walls with the proper water-repellent coating-Hydrocide Colorless-will help keep them healthy through rain and snow, heat and cold.

Hydrocide Colorless is not affected by extremes of temperature . . . remains fluid at low temperatures and will not show separation and precipitation. Since it forms a transparent film, the walls retain their original beauty and appearance. Absorption of dust, soot and stains is checked. Application is easy — by brush or spray.

As a further weatherproofing measure, Hydrocide Mortar Admixture is recommended for increasing the workability and bonding strength of mortar and for reducing shrinkage.

For details, address Department AF.

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See our Catalogs in SWEET'S

No matter what your weatherproofing problem — from foundation to roof, there is a Sonneborn product for the job. For example: SONNEBORN'S CAULKING COMPOUND. Airproof, non-shrinking, water-resistant, and plastic. Cures to a tough film on the surface, but remains pliable and elastic underneath, expanding and contracting with changes in temperature.

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• The number of materials capable of making active contributions to the establishment of great artistic traditions is indeed limited. But mahogany is one of them . . . as witness the mid-eighteenth century, when it was first imported to England. Then the strength, workability and beauty it introduced provided the great craftsmen of that era with the properties they needed to realize the light and elegant designs on which their fame is founded.

Similarly in this, the mid-twentieth century, it is again mahogany which is making one of the active contributions to progress. For mahogany's availability in unusually large, clear pieces makes it ideally adaptable for the simplified surfaces of current design. Mahogany, too, is especially suited to the new woodworking techniques developed during the war. Qualities which are helping the gifted designers and architects of our time feel their way to a new tradition . . . one as well suited to our way of life as that of the Georgians was to theirs!

> Write for your copy of the informative 74-page "Mahogany Book."



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YOU'VE MET MAC before. He's the man who has grown up with this organization, and knows every detail of production so thoroughly that it is practically impossible to stump him on any question about electrical wires and cables. He's the man who has made "Macsimum" a common word around PARANITE.

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Working together, Mac and Jack combine all the advantages of long experience and sound judgment with scientific knowledge and creative ability. That's why there has never been the slightest need for a Complaint Department at PARANITE.

Wholesalers, everywhere, sell PARANITE with confidence; architects, builders, contractors, engineers, manufacturers, accept PARANITE with confidence. They know...

If it's PARANITE it's right!

PARANITE WIRE AND CABLE Division of ESSEX WIRE CORPORATION Fort Wayne 6, Indiana

ELECTRICAL WIRES AND CABLES "BETTER THAN CODE REQUIRES"

### FORUM OF EVENTS

(Continued from page 82)

#### AWARDS

Prizes for the annual competition of the Beaux-Arts Institute of Design went to M. Zambrano, First Medal and ARCHITEC TURAL FORUM prize, J. M. Barrow and W. R. Pesci, Second Medal. The program, which was laid out by William L. Pereira, Los Angeles architect, called for a motion picture theater and commercial recreation center. C. Dale Badgeley, William L. Bottomley, A. F. Brinkerhoff, Wm. Gehron, Robert S. Hutchins, William Leppin, James W. O'Connor and Benjamin Schlanger made up the jury.

#### DIED



J. ANDRE FOULHOUX, nationally known architect, one of the designers of the Theme Center (Trylon and Perisphere) at the New York World's Fair and of Rockefeller Center, on June 20, at the age of 65, in what is believed to have been a fall from the roof of one of the buildings of a Brooklyn housing development which he designed. Mr. Fouilhoux was born in Paris and received degrees from the Sorbonne.

J. Andre Fouilhoux

He was graduated as a civil and mechanical engineer from the Ecole Centrale des Arts et Manufacteurs. Mr. Fouilhoux, a partner in the architectural firm of Harrison, Fouilhoux & Abramovitz, came to this country in 1904 and went to Portland, Ore. where he formed the architectural firm of Whitehouse & Fouilhoux in 1908. After serving with the army in France during World War I, Mr. Fouilhoux was associated with the late Raymond M. Hood in the firm of Hood & Fouilhoux until 1934. From 1935 to 1941 he was a member of W. K. Harrison & J. A. Fouilhoux. A few of the well-known structures which he designed or helped to design were the McGraw-Hill Building, the Daily News Building, the Chicago Tribune Building, Fort Greene Houses, a housing project in Brooklyn; also the Rockefeller Apartments and the American naval submarine and air bases at Coco Solo and Balboa, in the Canal Zone. Mr. Fouilhoux was president of the New York Building Congress and of the American Relief for France, vice-president of French Hospital, treasurer of the Beaux Arts Institute of Design, a trustee of St. Vincent de Paul Institute and a chevalier in the French Legion of Honor. He was a member of the Architectural League, the AIA and the American Society of Civil Engineers.

JOHN REYNARD TODD, builder and manager of the twelve buildings in the \$250 million Rockefeller Center development, on May 12, in New York City, at the age of 71. At 17 he entered Park College, Parkville, Mo. and after two years went to Princeton, graduating from the latter with a B.A. degree in 1889. Before entering the New York Law School, Mr. Todd taught for two years in Beirut, Syria, at the Protestant College. In 1894, after being admitted to the bar, he formed a law partnership with Henry Clay Irons. Before they began practicing, the young lawyers were by accident,

(Continued on page 90)

# *Two* lines of PITTCO METAL with the same rich finish

PITTCO DE LUXE

No. PX 117F

PITTCO PREMIER

No. 1027

**PITTCO DEFINITE** Pittco DeLuxe Store Front Metal has a satin-smooth finish, rich in tone and gloss, which has delighted both architects and store owners. They like it because it harmonizes perfectly with any material or color combination. And the Pittco De Luxe line also has rugged, sturdy strength and clear, sharp profiles as-

sured by its extruded method of manufacture. Imaginative styling and the wide variety of bars, mouldings and sash in the De Luxe line permit the architect many effective combinations. For symmetry, strength and perfect finish, Pittco De Luxe is the ideal choice for impressive, distinctive store fronts of high quality.

PREATER Pittco Premier, although lighter in weight and more moderately priced than Pittco De Luxe, has the same rich, smooth finish. And into the Premier line, too, has gone the same careful planning which has made the De Luxe line so popular. All Premier members were styled at one time so that perfect harmony would be inherent in the line ... each Premier unit complementing the beauty of other pieces used with it. Pittco Premier construction can be set quickly and easily ... a simple outside procedure that effects a substantial savings in setting time. In Pittco Premier architects will find a lightweight, economical metal with which to create pleasing, appealing store fronts.



PITTSBURGH PLATE GLASS COMPANY

"PITTSBURGH" stands for Quality Glass and Paint

## A preview of the Window that Has Everything!



\*U. S. and Foreign Patents Applied For-

THE CROFT WINDOW WALL UNIT\* IS COMPLETELY PREFABRICATED TO **INCLUDE EVERYTHING FROM CORNER** BEADS TO VENETIAN BLINDS. FULLY ASSEMBLED AND PACKAGED. NO FITTING OF PARTS. NO EXTRA COSTS.

Window, screen and storm frames are made of aluminum. Wall sides and sills are steel with a permanent, satin-finish, aluminum plastic coating.

Extremely narrow window frames, allowing maximum light, produce the effect of glass wall panels rather than windows. This appearance is highlighted by the fact that the plaster opening IS the daylight opening.

The outer frame is complete from interior plaster wall to outside wall. Hence the designation - "window wall unit".

All working parts are concealed. No fittings, bulky hardware or screws are visible.

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trim	Caulking
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"THE architect will have a lot of new and knotty problems to solve in designing postwar homes," says Roy Norman Thorshov, prominent Minneapolis architect.

"The walls of postwar homes can't be built as in the past. Airconditioning and new methods of heat control will put new demands upon walls. Unless forestalled in construction, vapor condensation within walls will be a headache to the owner and to the architects.

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 On outer-walls, Insulite Bildrite Sheathing builds a wind-proofed, weather-tight wall of high insulation efficiency, superior bracing strength, a wall free from open cracks and knotholes.

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 Lok-Joint Lath, with asphalt barrier against the studs, retards vapor travel.
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### FORUM OF EVENTS

(Continued from page 86)

started in building activity. They had on their hands a half-completed apartment building, which they completed and rented successfully. Encouraged, they remained in the business. As a partner in the engineering firm, Irons & Todd and later Todd, Robertson, Todd, Mr. Todd built the Cunard Building, the Equitable Trust and Brooks Brothers Buildings. For many years he was a director of the National Horse Show and was known for such phrases as, "life consists principally of four things: selling, dogfights, romance and horse trades."

#### ANNOUNCEMENTS

MILES COLEAN, housing and building expert consultant to the FORUM has been appointed Building Advisor of HOUSE BEAU-TIFUL Magazine. Mr. Colean was Housing Research Director of the Twentieth Century Fund, and previously Technical Director and Assistant Administrator of FHA. He is the author of the book, *American Housing*, and was largely responsible for FHA housing standards. Mr. Colean has also engaged in private practice, and was associated with Holabird & Root, and Starrett Brothers & Eken.

HORACE GINSBERN AND ASSOCIATES, architects, New York, announce that Marvin Fine and Jules Kabat have become members of the firm.

THE AUSTIN COMPANY, engineers and builders, announce the establishment of a new Austin Aviation Division, with headquarters at Cleveland. The division will be headed by W. R. Engstrom, Austin vice president, who has been district manager in the Pacific Northwest since 1933. The new division will handle the specialized needs of airlines, municipalities and governments, here and abroad.

WALKER & GILLETTE, architects, announce that William N: Gillette, son of the late Leon N. Gillette, has become a member of the firm.

#### **OPENING OF OFFICES**

HENRY SCHRAUB KELLY, architect, has opened an office for the general practice of architecture at 282 York St., New Haven, Conn.

JUAN E. O'BOURKE, architect, Calle 15 entre 14 y 16, Almendares, Marianao, Havana, Cuba, would like issues of THE ARCHITECTURAL FORUM from 1930. Prices should be quoted.

GEORGE E. LOWE, architect, announces the opening of his office at 220 Albany Ave., Kingston, N. Y.

NEIL J. CONVERY, AIA, architect, announces the reopening of his office at 27 Washington St., Newark 2, N. J.

W. EARLE ANDREWS announces the formation an engineering partnership with Ernest J. Clark. The firm, to be known as Andrews & Clark, is established at 1 E. 57th St., New York 22, N. Y.

THOMAS GREER COLES, AIA, architect, has established his office at 101 Park Ave., New York, N. Y. (Continued on page 94)



## with doors and windows of Ponderosa Pine

Doors that save steps—that create better traffic flow within the home and provide extra storage space. Windows that help make daily living more cheerful, more convenient. They're all described in "Today's Idea House," new Ponderosa Pine 32-page idea book that treats doors and windows in terms of their *functions* in making home life more comfortable and more enjoyable. You'll want a copy of "Today's Idea House" for ready reference—and it is yours for the asking.



MORE CONVENIENCE FOR BEDROOMS—Every door in this picture serves a useful purpose! All the bedrooms are connected by the door to the right. Wardrobe and storage closet are located between the ballway door and the bathroom door. Note the excellent proportions of these stock Ponderosa Pine doors.





MORE CONVENIENCE FOR STORAGE — The mirrored doors of Ponderosa Pine make possible a combination dressing room and closet, utilizing space which might otherwise be wasted. This is only one of the many ways in which mirrored doors can increase home convenience.



MORE CONVENIENCE FOR DINING ROOMS — See how the louvered stock design doors of Ponderosa Pine permit the dining room to be shut off—yet, when opened, permit uninterrupted traffic flow. Such doors, available as stock designs, also add extra interest and character to the home interior.

#### SEND NOW FOR YOUR FREE COPY!

"Today's Idea House" contains ideas and suggestions for every room in the home. Profusely illustrated with photographs and diagrams. Your free copy is waiting—mail the coupon.

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## Speed Inefficiency OUT of Industrial Buildings by Swartwout AIRMOVER "Open Roof" Ventilation

Wise industrial management knows that thousands of dollars worth of lost time, lost motion and spoiled work are saved by keeping employees comfortable. AIRMOVER provides speedy removal of excess heat, smoke, fumes and fog without power, without maintenance. Covers most of the roof, if needed, or areas most seriously affected. Installs on any type of roof without complicated construction — looks



### FORUM OF EVENTS

(Continued from page 90)

RALPH R. CALDER, architect, has resigned from the firm of Malcomson, Calder and Hammond, Inc. and has opened an office for the practice of architecture at 1212 Kales Building, 76 Adams Ave. West, Detroit, Mich.

OSCAR G. JOSEPH, PAUL B. FLETCHER and GRAEME JOSEPH announce the opening of their office for the practice of architecture and mechanical engineering at 728 North Highland Ave., Los Angeles 38, Calif.

JAMES M. SPAIN and BOYCE H. BIGGERS announce the formation of a partnership for the general practice of architecture and engineering under the firm name of Spain & Biggers, Deposit Guaranty Building, Jackson, Miss.

MATT L. KUJALA, architectural engineer, announces the opening of his office at the Harbor Post Office Building, Ashtabula, Ohio.

HAL ZAMBONI, announces the opening of new offices at 40 E. 49th St., New York, N. Y., as consultant art director. He will conduct a service for advertising and industry that will include supervision of all problems related to promotional, publication and three dimensional design.

JEDD REISNER, formerly of Harrison, Fouilhoux & Abramovitz, announces the opening of an office for the practice of architecture and allied design, at 26 E. 55th St., New York, N. Y.

BENJAMIN L. WEBSTER, formerly associated with Lee Simonson, Henry Dreyfus and Norman Bel Geddes, announces the opening of his own industrial design office, in the Squibb Building, 745 5th Ave., New York, N. Y.

MALCOLM GRAEME DUNCAN, architect, has established his office at 101 Park Ave., New York, N. Y.

WALTER DORWIN TEAGUE, industrial designer, announces that the services of his organization are now extended to the Pacific Coast with the opening of offices in the Title Guarantee Building, Los Angeles.

PETER MULLER-MUNK, announces that he has resigned from the faculty of Carnegie Institute of Technology and has taken offices in the Clark Building, Pittsburgh 22, Pa. He will work on product design for leading manufacturers.

#### CHANGE OF ADDRESS

CHURCHILL - FULMER ASSOCIATES, announce the removal of their office from 56 W. 45th St., to 19 W. 44th St., New York 18, N. Y.

JOSEPHINE VON MIKLOS, industrial designer, has moved her studio and work-shop from 200 W. 57th St., New York City, to New Canaan, Conn.

MORRIS ROTHSTEIN & SON, architects, announce the removal of their offices to, 186 Joralemon St., Brooklyn, New York.

# Ranch house Roundup

#### A PICTURE-STORY PRESENTATION

#### OF A PICTURESQUE AND TRULY AMERICAN MODERN



This is a western Ranch House. No European importation, it is a product of the so-called prairie school of domestic architecture. As such, it is "of the earth, earthy" . . American and functional from the word go. A true modern, this low-lying, free-flowing, beautifully functionalized house born of our 19th Century West was just beginning to come into its own at the outbreak of World War II.



This is living . . . rancher-style . . . with the family's central gathering place completely open to air and sun. Beneficial as sunlight and soft breezes are to humans, they are not nearly as kind to hardware. So if you would preserve the beauty of your new home against wear and



weather: (1) fix your hardware allotment at 2% of the total cost of your home; (2) settle on handsomely and durably finished Russwin Brass or Bronze Hardware for every door, window, and cupboard.

Entrance Door Mono Design This is the terrace extension of the social center . . . living room

. . of a typical Ranch House. Usually this unit is equipped with large, full length glass panel doors to encourage unhampered out-

door-indoor living. The hardware treatment of these doors calls, of course, for something modern in design, faultless in performance - a dual something Russwin's streamlined Mono Design certainly possesses.



This is a woman's paradise - a "form follows function" work center showing Ranch House styling at its logical best. Simple as the door hardware is, for example, it is distinctive and eminently practical . . . pat for the purpose. And equally pat for your purpose - no matter what type of

postwar house you're planning - is Russwin's authoritative booklet, Residential Hardware. Write for it today. Russell & Erwin Manufacturing Company, New Britain, Connecticut.



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FOR ENDURANCE ... WROUGHT OR CAST BRASS AND BRONZE

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## NOW! GOLD BOND STORM SEALED GYPSUM SHEATHING APPROVED FOR USE WITHOUT BUILDING PAPER

Read how this strong, fireproof material saves Lumber, Labor and Cost!



T'S real news for the building business when you can eliminate one whole operation in construction. Yet that's what this new ruling means. So long as each panel of Gold Bond Storm Sealed Gypsum Sheathing is marked "water repellent"—and it is—you no longer have to apply building paper or asphalt felt. (Certain types of mortgage loans require building paper under masonry veneer.)

But that's only one advantage to Gold Bond Storm Sealed Gypsum Sheathing. In addition, it provides fire protection for wood framing and adds greater structural strength. There is no such thing as "green" or unseasoned gypsum sheathing. Every panel is of the same uniform high quality. T and G edges for windtight joints with no danger of expansion or contraction to cause open gaps at the seams.

The big panels do the job in a hurry, reducing labor—in fact with Gold Bond Storm Sealed Gypsum Sheathing the actual cost is even less than with old-style inflammable sheathing. This is one of over 150 Guaranteed Gold Bond Building Products manufactured by National Gypsum Company. You will find the full line described in our section in Sweet's. National Gypsum Company, Buffalo 2, N. Y.





## PROPOSED UNITED NATIONS CENTER

A world capital in the San Francisco Bay Area designed by William

Wilson Wurster, Theodore C. Bernardi and Ernest Born.

mulua

To reaffirm San Francisco's hope to be chosen as the permanent center for the World Peace Conference, the delegates were given a preview of a proposed building group hastily contrived by three well-known architects. With little but their own ingenuity to guide them, these designers established their own program and then proceeded to solve it. Ernest Born's striking drawings aroused widespread interest among the delegates and served to crystallize favorable public opinion, strongly supported by the local press.

The site selected is a 1,000-acre tract, now a part of Stanford University's vast campus. Located on a peninsula in the northern part of San Francisco harbor, it commands a dramatic bay view, is protected from the prevailing west wind by Marin County's richly molded mountains.

Two secretariat buildings, an auditorium and office buildings to house individual peace organizations constitute the working nucleus of the plan; the library, museum and archives, its reference-research facilities. Several impressive courts and plazas provide a spacious and dignified setting.

Traffic and circulation are served by approach roads which sweep past the entrance gates, and lead to a parking area located under the central court, connected by elevators to the principal buildings of the center.

- I. Auditorum
- Library
   Museum
- 2. Archives Building
- 3. Library Court
- 4. Press
- 7. Outdoor Museum
  - 8. Secretariat Building

- 9. Court of Flags
- 10. Outdoor Exhibitions
- 11. Restaurant



12. Entrance Court Plaza

D

a n n n

- 13. Peace Organizations
- 14. Harbor for Small Craft
- 15. Seaplane Landing Base

98

GOLDEN

FRANCISCO





	400'		400'		400'	
TYPICAL	BASIC UNIT				BALCONY-7	
		• • •		. : : :		

PLAN OF OFFICE BUILDING SHOWING ELEVATOR AND STAIR LOCATIONS. RECEPTION ROOMS OPPOSITE ELEVATOR BANKS

PHYSICAL REQUIREMENTS

1.1.1.1.1

#### SECRETARIAT

Facades of the two secretariat buildings are executed in a grid permitting a free pattern of glass and opaque material. Wide balconies project on the southwest side. Elevators are located so that the maximum walking distance in the buildings does not exceed 200 ft.

#### AUDITORIUM

The round conference hall, freed from the rectangular pattern of the other buildings, becomes the focal point of the plan. Its large dome, balanced on a ring of columns, consists of lozenge shaped panels between thin structural members. The retaining ring at the base of the dome is raised above foundation level to form a foyer-promenade deck.





TARIAT, A SHALLOW BUILDING OPEN ON BOTH SIDES, APPROXIMATE THOSE OF A TYPICAL OFFICE BUILDING



ATED BY PARALLEL BUILDING STRIPS WHICH ALLOW FOR ORGANIZED LATERAL EXPANSION TO THE NORTH AND SOUTH


## SECURITIES OFFICES Albert McGann's new one-room office is proof that

### convenience and privacy need not be sacrificed to space limitations.

MAURER & MAURER, Architects

KETCHUM, GINA & SHARP, Consultants

When this small securities investment firm in South Bend, Ind. was forced to vacate its former offices, the only space available was a corner office, 40 ft. by 22 ft. Size was a perplexing problem since this one room would have to provide work areas for the president of the firm, a salesman and four girls, plus seating for clients and generous storage facilities. By skillful use of this limited space, however, the architect has provided a compact office which does not look overcrowded.

Dividing the room into three specialized areas greatly increased its efficiency. The front section becomes, at left, a private office for the president of the firm; at right a small reception area. The rear of the room from wall to wall is a general work space equipped with desks for the salesman and typists. By substituting a flush entrance for the former recessed door and window showcases, some floor area was gained. In addition, the door itself was shifted off center to the right, providing the unbroken wall space necessary for the president's cubicle. This office is hidden from exterior view by a halfheight partition, the rest of the facade being made of glazed panels. Thus, from the street, the divided room gives the appearance of being one spacious area.





ACADE IS REPLACED BY OPEN FRONT. OFFICE PARTITION BECOMES A SIGN PANEL



Photos: Gottscho-Schleisner

PO" METAI THRESHOLD

A PLATE GUASS

SECTION THROUGH DOOR.

+11/2 - 25-



STORAGE IS PROVIDED IN WALL CABINETS AND CUSTOMER COUNTER SEPARATING THE RECEPTION AND WORK





ORIGINAL SPACE WAS UNPLANNED CUBICLE



RECEPTION AREA: NOTE MAGAZINE RACK



## Adroit planning gives a feeling of space to the small interior of this securities office.

Two of the most important requirements for a brokerage office are privacy and storage space. In this room the architect has provided both in the simplest possible manner. The president is shielded from waiting clients by a plywood partition, but retains visual control of the work area through glazed panels. Acoustical treatment effectively deadens the noise of typewriting and interviewing in the general office space, giving a feeling of privacy where actually there is very little.

Organized storage is provided by a series of cupboards and bookshelves in the rear and side walls. Here are kept letter transfer files, teletype and electrical equipment, and office supplies. Moody's, Standard and Poor's and Fitch's records, accumulated over the years and used constantly for reference, are conveniently placed in the bookshelves. The counter space beneath this "library" is an added advantage, since the filing of new reports and the checking of old ones can be done without carrying the heavy books to a desk.

The burglar and fire-proof vault, a necessary part of a securities office, has been built into the wall at the rear. Thus, it is both accessible and inconspicuous.





VIEW FROM FRONT OF STORE SHOWS THE LARGE INFORMATION DESK, SELLING DESKS AND MOVIE AREA AT



MOVIES ARE USED TO EXPLAIN TECHNICAL POINTS AND ADD INTEREST TO SALES TALK





Reversing the custom of locating insurance companies in offices above the ground floor, Liberty Mutual's new office faces directly on the street. This is in line with their startling theory that customers would rather shop for insurance than be highpressured into buying it by salesmen who call at home. Their office, therefore, is staffed with experts who are always available to explain insurance and to answer customers' questions without obligation. To accommodate the greatest number of "shoppers" at one time, a long narrow space was chosen and desks angled along its length to provide relative privacy of discussion. A general information desk handles prospective customers who merely want to pick up explanatory leaflets.

One of the most interesting features of the office is a space at the rear where motion pictures and sound slide films are shown to simplify insurance for the layman. Ceiling height curtains on a track can be drawn to shut out the light and noise of the outer area. Although completely modern in design, this space is called the "Colonial Room" because of a mural depicting a house raising in colonial times. More appropriate as decoration are the recessed photographic murals illustrating the benefits of insurance, which are used in the outer room.

Since the opening of this ground floor office last January, business has increased 65 per cent over the corresponding period in 1944. Believing it has hit upon an improved formula for insurance merchandising, Liberty Mutual has already opened a similar shop in Atlanta, Ga., plans a third for fall opening in New Haven, Conn.



OPEN FRONT ATTRACTS CUSTOMERS FROM STREET



AUGUST 1945





## HEADQUARTERS BUILDING

for Hershey Metal Products Co., Leo F. Caproni, architect

This building successfully avoids the arbitrary planning and dull monumentality usually found in headquarters buildings for industrial groups. It was constructed during the war to provide additional offices and worker facilities for an older factory group. As the plant is located near worker homes, an attempt was made to improve the appearance of the whole group by unity in architectural and landscape design.

The general office on the second floor is the dominant plan element, to which a wing for executive offices has been added to the east. A cafeteria occupies the space directly below the general office, and is accessible to employes throughout the plant. The space below the executive offices is devoted to lockers and wash rooms for the factory workers. The use of the women's toilet room as a passage to their locker room, and the lack of direct access between toilet and locker facilities for the men are inconvenient arrangements.

Large windows produce excellent natural light for all work spaces. The brick of the older buildings has been painted to match the color of the new structure, which in turn has been designed to harmonize with the simple masses of the whole group. Separate parking facilities for workers and temporary visitors are provided, and a landscape plan makes good use of existing trees.

FUSCO AMATRUDA CO., General Contractors





RIATE DESIGN AND MATERIALS MAKE THIS STRUCTURE A PROPER FOCUS FOR A MEDIUM-SIZED INDUSTRIAL GROUP







Photos: Gottscho-Schleisner

#### HEADQUARTERS BUILDING

#### CONSTRUCTION OUTLINE

STRUCTURE: Exterior walls — face brick, cinder block backing, Hamden Building Tile Co. Interior partitions — cinder block and gypsum tile. Structural steel — Bethlehem Steel Co. Floors—concrete slab. ROOF—4ply. SHEET METAL WORK: Flashing and gutters—lead. Ducts—Toncan iron, Republic Steel Corp. SOUND INSULATION: Ceilings —Acoustone, U. S. Gypsum Co. WINDOWS:

steel casement, Truscon Steel Co. Glass-Mississippi Glass Co. Large front and rear sash by Pittsburgh Plate Glass Co. Glass blocks - Pittsburgh - Corning Corp. FLOOR COVERINGS-linoleum, Armstrong Cork Co. WALL COVERINGS: President's office-walnut squares splined with maple strips; remainder - plaster. WOODWORK: Trim—pine. Doors—birch and pine. Garage doors—Overhead Door Co. HARDWARE— Russell & Erwin Mfg. Co. ELECTRICAL INSTALLATION: Wiring — Romex, Rome Wire & Cable Co. Switches—Arrow, Hart & Hegeman. Fixtures - Greybar Electric Co. PLUMBING: Fixtures - Crane Co. Soil pipes-cast iron. Vents and water pipes-galvanized iron. Kitchen equipment-Ershler & Krukin, Inc. HEATING-hot water system, Vulcan tubes, Vulcan Rail & Construction Co. Boiler - Fitzgibbons Boiler Co., Inc.



BIG WINDOWS FORM TWO WALLS OF GENERAL OFFICE







**CEILINGS** of all major rooms are of sound-absorbent material. Efficiency of illumination is enhanced by providing the lighting fixtures of the general office with individual plaster reflector domes recessed in the ceiling, and additional storage space obtained by use of two-level, sliding door closets in east end of general office and along executive offices corridor. Structural glass blocks in south wall of cafeteria give privacy from the public parking court without reducing interior light.



# **THOMAS CHURCH:** his gardens



use brick lawns and stone hedges to make gardening a pleasant hobby with a minimum of toil.

It might surprise the modern architect to learn how much turmoil he has caused the landscaping field by reversing the house on its lot. When he put the service area on the street and the living room across the back, he did more than scrap a lot of his own prejudices. He also forced the landscape architect to scrap a lot of his. Actually, both were part of the same process. As a result of designing a house on the basis of what the family needed rather than on what the passerby would see, the sharp and arbitrary distinction between front and rear has disappeared. With it, obviously, must go the old frontyard-backyard concept. Grass plots on which the children dared not step, and which only the people across the street could see, must be reorganized into useful areas which the entire family can enjoy.

Thomas Church is at once the product and the leading exponent of this garden revolution. His work, largely concentrated in the San Francisco Bay Area, has won a wide and growing attention. There is good reason for this, for the qualities which mark his gardens are identical with those of contemporary architecture: simplicity, informality, usefulness, economy. These are not accidentally achieved, since Church designs and builds his gardens in much the same way the architect does his houses. In fact, his gardens can best be described as outdoor rooms-logical and intimate extensions of the house itself. As in modern architecture also, regional peculiarities are a controlling factor in both the plan and construction of Church's gardens. Thus the intensive development of the plot is a reflection of a mild climate, in which people spend much of their time outdoors: while the small size and simple planting is a recognition of a sevenmonth dry season, during which all watering is artificial.

Though Church is nowadays identified with the West Coast, he was born east of the Rockies and received much of his training there. He did not even start out as a landscape architect. When he entered the University of California in 1918 he planned to be a lawyer, and only took a course in landscape design as a two-unit filler. He liked it so much that he switched and in 1922 graduated as a major in landscape architecture. From there he went to Harvard, where he supported himself through the three-year course by hashing in the Black Cat Cafe in Cambridge and working in the Boston offices of Stiles and Van Kleek, who were busy just then designing golf courses and hotel grounds for the Florida boom. He graduated with a Master of Landscape Architecture degree and stayed East to compete for the Prix de Rome: instead, he won the Sheldon Travelling Fellowship which took him to Europe for a year. He studied the gardens of Italy, France and Spain and wrote a thesis on their application to California conditions. He did not get back to the West until 1929, having taught for two years at Ohio State. But when he did get back, he stayed. He has practiced there ever since.

Despite this highly orthodox background, Church's work is today anything but orthodox. There is little of the derivative in his designs. He abandons the axial for the asymmetric and the right angle for the free curve. The classic divisions lawn, terrace, rose garden, etc.—have disappeared. Yet there is precious little whimsy in his work. His compositions are as highly disciplined, his areas and massing as carefully controlled, as those of a Chinese garden. Two factors probably figured in this transformation: the move back to the spectacular terrain of the Bay area and the crash of 1929. The first posed problems of steep grades, a peculiar climate and clients who had already discovered the outdoors; the second, the need for the sharpest economy in construction and maintenance. Landscape design in the grand manner offered few answers to either problem. Church had to evolve his own.

Church's approach is refreshingly direct. "We've been awfully hidebound in our thinking about gardens," he says, "worried about getting in all the things that every garden 'must' have—plots of grass and lots of flowers—instead of taking the logical way of planning for whatever we want. If you don't want flowers, then don't have flowers. If you want sun-bathing, then build a sun-trap. There is no rule which says you have to *have* fish ponds or sundials."

Surprisingly enough, this line of reasoning falls on fallow ground, according to Church. "Most people hate formal gardens even though they may be ashamed to admit it," he says. "They constantly ask me for something informal. My plans get over because they aren't full of parallel lines and square plots."

The key to successful gardens for the average home is, according to Church, control. Many people work so hard trying to keep ambitious landscape schemes afloat that they have no time to enjoy them. Control, in this sense, has two aspects: conception and maintenance. Church conceives his gardens in full scale-ready to move into, so to speak-and likes to build them that way. If a terrace calls for a full-size tree of a certain species to shade it, he believes it worthwhile to plant a full-size tree at the start. In the long run this proves cheaper than a rapid-growing makeshift, which in five years will have to be either pulled out or constantly pruned to preserve the original design. From the standpoint of maintenance, control implies such devices as the use of paving to replace a large percentage of grass; walls instead of hedges; continuous paved strips as edgings for flower beds and lawns instead of tricky stepping stones which have to be barbered each time the lawn is mowed.

Church can present cogent reasons for each of his radical ideas. "In our part of the country, for instance, it costs almost as much to install a lawn as it does to tile a bathroom —from 14 to 16 cents per sq. ft. including sprinklers." Most home owners are amateur gardeners, he thinks, too much in love with their hobby to see it clearly, and consequently apt to bite off more than they can comfortably chew. Like the architect—with whom, incidentally, Church has a long and successful record of collaboration—it is the landscape architect's task to find out what they actually need and then produce it in its simplest, most effective form.

Though most of Church's work is at a domestic scale, his formula has obviously much wider applications. He has done several housing projects, including the new Metropolitan Life project in San Francisco; and his office is presently at work on the site planning and landscaping of the new General Motors technical center near Detroit, as well as a large midwestern realty development.



## ARBORS AND TRELLISES The conventional

trellis supports an undifferentiated mass of foliage, in which both the design of the trellis and the essential structure of the vine are lost. Things are quite otherwise in Church's gardens: here the arbor or trellis is itself an important part of the design and the plants are selected and pruned to emphasize their special character. This technique brings into sharp focus a rich variety of natural forms—the tendril of the grape vine, a single spray of pear blossom, the muscular trunk of the wisteria—usually lost in the conventional garden. It is characteristic of his attitude toward plants that in greatly reducing the number in any given garden, he at the same time provides a happier background for their display.

Church rarely relies upon trellises for a completely functional task, such as protection against undesirable winds or screening of undesirable views. For such purposes he uses walls since, as he observes, it takes a long time to get vines up where you want them and they are always out of leaf when you need them most. Thus vines and espaliers are employed mostly for pattern. The same thing may be said of most of his arbors, which suggest enclosure rather than provide protection.



**Despite its small size**—approximately 40 ft. by 50 ft.—and profuse elements, there is no sense of confusion in this backyard city garden. So compactly organized that maintenance is reduced to a couple of hours a week, it nevertheless provides most of the things most gardeners want—flower bed, pool, sunny terrace, lawn and view. Note simplicity of trellis and arbor, which suggest enclosure but do not obstruct sunshine.



W OF CHURCH'S TRELLISES: RECTANGULAR WIRE MESH, HORIZONTAL WOODEN RODS, VERTICAL WOODEN FRAME



CURVING BRICK WALLS ACCENT NATURAL CONTOURS







CORRUGATED ASBESTOS ZIG-ZAG NEEDS NO FRAME



# WALLS, unlike hedges, never require barbering, watering or feeding; with modern materials, there is no limit to the forms they may assume.

Although all of Church's gardens are suitable for modest houses and restricted plots, many of them are actually part of fairly large estates. The reasons for this are fairly simple. On the one hand the climate dictates holding intensively developed areas to a minimum; on the other, is his conviction that garden areas should be in the closest possible relation to the interior of the house. The limits of most of his gardens are sharply defined by walls, and he often uses them like screens to isolate special areas inside the garden. This serves to give his designs a marked architectural firmness but is largely a by-product of purely practical considerations. Walls of various sorts are the most effective means of protection against the cold off-shore winds which are a peculiarity of the region; of providing sun-traps; of screening off undesirable views and of providing privacy.

Extraordinary ingenuity marks Church's selection and handling of wall materials. Perhaps nowhere is the freshness and vigor of his approach more evident than here. Typical is his use of corrugated asbestos board, bolted together in zig-zags and buried endwise in the ground. The material is permanent and needs no frame: none is provided. The zigzag, and a sinusoid line reminiscent of Jefferson's famous serpentine, are a reappearing device in his designs. Far from seeming to crush the space they enclose, they serve to free it—at the same time providing ideal backgrounds for planting material.

Church has a very deft sense of contour and topography. There are few arbitrary modifications of the natural grade, although where it is necessary for the efficiency of the plan, he does not hesitate to cut and fill. Here again he makes a canny use of walls—this time as retainers with bold lines emphasizing his plastic modeling of the terrain. These retainers nearly always serve the dual function of supporting planting beds at a convenient working height.

The use of wood construction, especially in retaining walls, might strike some observers as risky. His defense is that creosote-impregnated redwood is good for twenty years and by that time clients can afford to replace it with masonry.



White-washed brick retaining wall is paralleled by a wide planting bed below, topped by an ivy-covered slope above. Church's problem here was to handle a differential of some 12 or 14 ft. between two parallel terraces. An unusually positive solution, the zig-zag 8 in. brick wall is obviously more effective against the thrust of a new fill than a straight wall normal to the slope. Low stucco wall in easy curves separates this garden area from a heavy planting-screen, behind which lies a work area flanked by a street. His larger gardens always include such work areas with seed beds, cold frames, slat houses and potting sheds. Here the paving is a weathered wood block, set on a cinder fill at same level as lawn; thus wall is separated from lawn, maintenance made easier.





REDBROWN GRAVEL, WASHED AND COMPACTED, FORMS BACKGROUND FOR WHITE AND GREYGREEN GRASSES AND HER

EACH MATERIAL HAS OWN COLOR AND TEXTURE. SHOWN HERE: WOOD BLOCK, FLAGSTONES, CORAL AND CREAM BE





L BRICK IN BASKETWEAVE PATTERN PAVES THIS SITTING TERRACE. NOTE HANDLING OF GRASS PLOT AND TREE

DETAIL: WOOD BLOCK EDGED IN CREAM TILE



### SURFACING

**DURTALINU** "It is amazing how small an amount of planting, when carefully selected and organized, will give an effect of lush and colorful foliage," says Thomas Church. A basic principle in old Chinese gardens, he brings it thoroughly up-to-date by establishing the design with bold, freely formed areas in which grass and ground covers are subordinated to permanent control materials—i.e., brick, concrete, gravel, wood block, asphalt, stabilized earth. Planting spaces are then carved out of these areas for grass, flowers and for trees where required. These hard materials furnish Church an important new source of color and texture which, in conjunction with grass and ground covers, he uses almost as an artist does paint.

Where he does use grass, he is always careful to carry it on the same plane as the surrounding paving, so that no hand trimming is required. Nearly all his planting areas are framed with strips of paving: these serve the dual purpose of coping and all-weather access. And where he does use ground covers, it is always with an eye to color and texture as well as to hardihood and long life.

Clients, Church finds, are understandably surprised at the installation cost of permanent control material but soon learn that it can be written off against low maintenance and greatly increased serviceability.



An entrance court which is protected from undesirable winds here does double duty as a secondary sitting terrace. The concrete paving, dyed a dark grey, has 2 in. redwood expansion joints laid in 3 ft. diagonals on cinder fill. There is no other reinforcing.

**Redwood log** sections form steps and paving in a naturalistic rock garden.





Stone steps, dry-laid and interplanted with alpines, show Church's versatility.

#### PLANNING WITH YOU To transform city

planning from blueprints into actuality, wholehearted citizen support is necessary. Without public backing any scheme, no matter how good, is doomed to failure. With this in mind, Toledo, O. is concentrating on an elaborate program of public enlightment as a prelude to completion of its master plan.

### TNIFNN A model of proposed changes in the transportation pattern arouses citizen interest in planning the city's future.



SKETCHING IN THE GUIDE LINES

One of the most ambitious exhibits ever staged to win public support for city planning is the \$250,000 scale model of postwar Toledo now on display in that city's Zoological Park auditorium. Since its opening on July 4th, approximately 3,000 fascinated citizens per day have packed the exhibit, drawn partly at least by the magic name of Norman Bel Geddes, under whose direction the miniature city was designed. Such capacity crowds are testimony to the initial success of a campaign that has transformed public apathy into interest and action.

This publicity, which delivered a long-needed shot in the arm to Toledo's city planning, began not as a project of the plan commission but under the sponsorship of the Toledo Blade, local newspaper which paid for the model's construction. Realizing the importance of a guided development to Toledo's future prosperity, Paul Block, publisher of the Blade, looked for a dramatic method of arousing public interest in planning. He it was who first approached Geddes and who welded the members of the planning commission and important city officials into one vigorous organization-the Toledo Tomorrow Committee-giving both impetus and official sanction to the evolving program.

In addition to its presentation as a model, the study itself is unique in that it was limited mainly to a solution of the city's transportation problems. Railroads, highways, airports and docking facilities were replanned by industrial designer Geddes with the specialized help of the country's foremost engineers: Maj. Alexander de Seversky, aviation authority, Col Henry M. Waite, railroad expert and W. Earle Andrews, highway engineer.

Major features of the study as it now stands include:

A central passenger terminal in the heart of the city for rail, bus and air transportation facilities.

Adjoining landing strip which eliminates inconvenient trips to an outlying field.

Consolidated freight and marshalling yards, relocated away from business and residential districts.

Express highways through the city minus stop lights and cross traffic.

Segregation of heavy industry on the outskirts of town.

These changes are at least a first step toward the solution of pressing problems. Like many cities throughout America, Toledo's growth over the years has been centrifugal. Home owners have consistently moved from decaying downtown areas to the outer edge of town, and business has displayed a similar tendency to move to outlying neighborhoods, leaving the core of the city a prey to decreasing land values and other concomitants of blight. But this city of 350,000 inhabitants is the third largest port of the Great Lakes and the world's largest shipper of bituminous coal, Strategically located on the Maumee River near the westernmost tip of Lake Erie and not far from the great industrial cities of Detroit, Cleveland and Chicago, its water traffic has become inevitably one of its most important assets. In addition, 24 railroads converge on the city, making it a center of both freight and passenger transport. Industries such as the manufacture of automotive parts and glass have logically developed here. These assets could insure Toledo's future prosperity if steps were taken to stop the beginnings of decay.

The river, so important to the city's life is one cause of this decay. Cutting through the center of town, its shores are lined solidly with wharves, warehouses, factories and railroad yards which belch smoke and dirt on surrounding neighborhoods. Here, and in the once fashionable residential areas now encroached upon by business es-



PAINTING THE ROADS AND RIVERS



ASSEMBLING THE MANY BUILDINGS



tablishments, obsolescence has really set in. It becomes obvious, therefore, that Toledo's problem is not so much one of expansion as it is of rehabilitating present areas and facilities.

With this picture of Toledo in mind, Geddes' first premise was the need for consolidation of railroad lines to include both a common passenger station within the city and a common freight depot and marshalling yards on the outskirts of town. Col. Waite, who assisted him on this aspect of the plan, had done a similar job in Cincinnati, bringing 17 railroad lines into one terminal without breaking their operations schedule. Together, the two men worked out a scheme using the existing Toledo Terminal Belt Railway as the nucleus. All railroads entering the Toledo area would be connected with this beltline, using its facilities in common. Marshalling yards would be consolidated in an area on the outskirts of town and the freight depot would also be outside the city proper. Thus freight not originating in Toledo would by-pass the city rather than going directly through it.

The new passenger train terminal would be located within easy walking distance of the downtown area, but to eliminate noise and smoke the tracks connecting with it would be depressed. This station is designed to service not only rail transport, but to be a combined terminal for bus and air transportation. Such improvements in both freight and passenger railway networks would remove one of the greatest causes of blight within the city and offer the opportunity for beautifying a large portion of river frontage.

After completing the initial task of railroad redesigning, a concordant system for vehicular traffic was planned. Highway expert Andrews worked with the new railroad patterns to establish an integrated transportation system. A large area including Chicago, Cleveland, Detroit and Akron was also studied in order to connect express highways with existing routes to these cities. The result was an efficient network of throughways on which traffic would be able to move at full speed with no intersections and without interruption by stop lights. This system serves both traffic by-passing Toledo and city traffic at limited points. In general, through traffic has been routed away from the downtown area, but one expressway cuts through the center of town, encouraging travelers to stop in Toledo for shopping, business and entertainment. Estimates reveal that such a system would reduce traveling time from Toledo to other cities by approximately 50 per cent.

Within the city a system of inter-



#### TRANSPORT NETWORK

Plan (above), used as a guide in making the model, shows new transportation system and shifts in industry which were dependent on these changes. Detail view of model showing central area of the city (below) reveals major expressways connecting directly with the new transportation terminal. The lower portion of the picture shows the new airport, a part of the terminal, serviced by the same roads. Area of river front adjoining this section is landscaped to provide park and recreational space.





VIEW OF TOLEDO AS IT IS TODAY SHOWS CONCENTRATION OF RAILROADS ON RIVER, OVERCROWDED CITY BLOCKS

DEL OF FUTURE CITY REVEALS SHORELINE PARK, OPEN BLOCK PLAN, HIGHLY EFFICIENT EXPRESSWAY SYSTEM



connecting and feeder roads was worked out based on existing streets, which were extended, enlarged or redirected to provide a more efficient network for intra-city traffic. Directly connected with this part of the plan is the anticipated development of Maumee Bay and the lower portion of the river. A great deal of the traffic congestion at the present time is caused by the constant opening of bridges to allow the passage of boats. Under the new plan port facilities would be placed in the lower part of the river and the bay, thus eliminating heavy river traffic and consequent tie-ups of cars at these strategic points. Coal and ore docks, oil refineries and grain storage elevators would be removed from the center of town and the space thus gained utilized for a park and small quay for passenger boats.

Jointly with the development of integrated rail, motor and shipping systems, the problem of air transport was worked out. Maj. Seversky, consultant for this study, checked the practicability of all proposed schemes. Most important development was a centrally located airport for passenger, mail and express services, part of the common terminal for rail and bus connecting directly with the through highway system. Thus, convenience of interchange among three methods of transportation is provided.

A separate port for air freight would be located at the mouth of the river in that section reserved for future industrial and shipping development. This area, too, is well served by important roads. Toledo's three present airports would in the future be used for private planes and flying trade schools.

Almost automatically, these changes in the transportation system bring about shifts in the entire city structure. Heavy industry would be removed to the outskirts of town where its noise and dirt could not blight the city. The central business district would be relieved of present congestion and traffic hazards. Outlying residential districts divided by new traffic arteries would become separate communities with their own shopping centers, schools, parks and churches.

Thus, a broad general outline for city improvement has been laid down by the preliminary study now completed. Many of its aspects coincide with former plans and data which were utilized in its development. City Plan Commissioners, who will eventually work out a detailed program from this spectacular beginning, view the plan with mixed emotions. Parts of it they consider visionary, but all agree that it has served the primary purpose of arousing public enthusiasm to a high pitch.



#### INDUSTRY

Grain terminals and storage warehouses at present located on the shoreline in the center of town are moved outside city, nearer the bay. Railroad and truck traffic reaches them without entering the city proper.

#### RECREATION

Small boat basin, easily reached h press roads from Toledo, is place the outermost tongue of land when Maumee joins Lake Erie. A resta overlooks the water and footpaths between green trees.



#### RESIDENTIAL

Proposed residential development Maumee River features apartment l ings at rear overlooking lower family dwellings. Simplified stree tem serves community needs, inco park space.



Toledo's projected Civic Center will provide new parklike surroundings for the existing city hall (right). An auditorium (left), also a postwar project, will be an important part of the development.





#### TERMINAL FACILITIES

Single terminal services bus, rail and air transport. Underground train approach is shown in foreground of picture, roads in rear accommodate auto and bus traffic. Airport extends out of sight at upper left.

#### BUSINESS

In downtown Toledo, new building limited to a height of three stori order to relieve congestion in this c ed section. Most tall buildings an exist. Trees are brought into the ness area.





### REPORT FROM THE PACIFIC Richard E. Saunders, the FORUM'S

Washington editor, flies 20,000 bomber miles to see how Building has followed the fleet.

When you fly westward across the Pacific, the word "distance" takes on a new meaning. It ceases to be just a term of measurement and becomes a solid dimension — something you can almost feel. This was the way it seemed to me as I headed out to sea in a converted Liberator bomber, on the second leg of our trip to ådvance Naval bases in the western Pacific. We had spanned the continent from the banks of the Potomac to the Golden Gate in one hop.

As I saw the California coast fade in the distance, I couldn't help thinking that Honolulu was some 2,400 miles ahead—and there was not even a roosting place between. I knew both the Navy and Army had been operating transport planes across the Pacific with trolley-car regularity. Still it was a bit jolting to realize what an inflexible factor that amount of mileage could be. You had to cover it, or else. This statement sums up one of our major problems in the war against Japan. To bring the war home to the enemy we must travel a long way with everything.

The Navy knew about these distances. Three years of unremitting labor had produced a vast machinery to cope with them. By making our trip possible, the Navy was saying in effect to the American building industry: "Come out and see for yourselves what it's like out at the advance bases 10,000 miles from home. You will discover that construction follows the fleet, that the men, materials, and equipment diverted from civilian building are doing an incredible job in carving whole new communities out of the jungle."

#### CALIFORNIA BASES

We saw the story unfolding at San Francisco, where the land supply train moving from Eastern plants and warehouses puts on its water wings. At the huge Oakland Supply Base, largest Naval installation of the kind in the world, an escorting officer proudly informed us that the volume of business handled was larger than the combined operations of Sears Roebuck, Montgomery Ward, and J. C. Penney Company. One of the things that impressed me was a box factory consuming 4 million board ft. of lumber a month-a small but graphic illustration of why civilian housing has had to mark time. Yet this efficient little plant, built solely to produce off-size boxes essential for certain shipping purposes, met only a small part of the Navy's needs.

New buildings spring up overnight as the Oakland Supply base expands. A particularly interesting one houses a coffee plant—complete from blending to roasting and packaging. Its output for the Pacific fleet is sufficient to produce 5 million cups of the beverage a day. Just about everything must be stocked at this base, and in the right amounts. If someone miscalculates, operations at points thousands of miles away are affected.

As we went through the bustling bay communities on our way to the Mare Island Navy Yard, we saw at close range the thousands of war housing units provided by the government and private industry for the workers at this largest West Coast naval establishment. Our Wave conductor knew everything about the yard worth knowing. She seemed to take special pleasure in the fact that 22 per cent of the 40,000 workers were women. The ladies have proved they can handle almost any task. The large sewing loft, a feminine specialty, can turn out 80,000 flags and pennants a month.

We soon discovered that Mare Island does a lot more than just grooming the war vessels that come in and healing the battle scars-a job certainly important enough in itself. Housing and recreational buildings, including bowling alleys, gymnasiums, and theaters, arc provided at the Yard for ships' crews. Barracks have been built for the enlisted men, with attractive permanent houses for the officers. Other structures run the gamut from mess halls to nurseries. The restaurants, in fact, perform the biggest mass feeding job west of the Mississippi. There is a paint factory producing a secret paint which repels barnacles and undersea growths (thanks to this product our war vessels can spend a longer time at sea) and a huge 30-building hospital that specializes in

amputation cases. There is even a training school for wardogs and their gentler "seeing eye" brethren. That was Mare Island — a sprawling bundle of war muscles.

#### CHICAGO OF THE PACIFIC

Despite our concern about the distance involved the long all-night hop from California to Pearl Harbor was achieved with ease. Within the jagged peaks that rim it, Pearl Harbor was a welcome sight as it took form through the heavy morning mist.

We had a personal encounter on landing with one of the thousand-odd building industry products that has gone to war, when the inside of the plane was sprayed with DDT to exterminate any insect stow-aways. Freon gas, which previously had found wide usage as a refrigerant gives this new disinfectant potency.

With most of its war wounds newhealed. Pearl Harbor looks like a tropical replica of a "States-side" U. S. Navy Yard. Some of its buildings may be of a more temporary nature, and the faces of many of its workers bear an unmistakably Oriental look, but otherwise it is about the same. The nerve-tingling anticipation of possible attack always present in the early days of the war is gone. We made a trip around the water front to observe where the Japs had gotten in some of their worst licks but there were few visible signs of damage left. Pearl Harbor is now a rear base but still a mightly important one, commanding as it does the whole Central Pacific.

To see what makes Pearl Harbor tick, we spent four days on the island; trudging through buildings, interviewing administrative officers and technicians, talking to civilian workers and men



GUAM GOT ITS FIRST LOOK AT PREFAB WHEN SEABLES SET UP JIG TABLES

from the ships. The increase in the supply and repair load at Pearl Harbor has more than made up for the loss of "staging" activity now handled at front bases.

Honolulu is, in fact the Chicago of the Pacific for the water-borne supply and troop trains we saw leaving the West Coast. The volume of repair work at Pearl Harbor has mounted as the fleet steadily increased its activity. Battle damage such as that inflicted by the Jap suicide bombers is only part of the load. In maneuvering around in landing operations, units of the fleet-particularly the smaller ones-are bound to rub elbows a little and sustain minor damage. And, there is always a certain amount of wear-and-tear when naval vessels are stalking the ocean day and night in all kinds of weather.

#### BULGING PEARL

A policy of "no Japanese" is followed by the Navy in respect to Pearl Harbor employment. The Navy is strict about this. It simply cannot afford to take chances, even though many of the Hawaiian-born Japanese may be beyond reproach in their loyalty to America. What puzzled me no end was how the hiring officials could spot a Japanese every time, and could even detect applicants of only partial Japanese ancestry. The population of Honolulu and the island of Oahu is extremely mixed. Native Hawaiian stock has received a generous infusion of Chinese blood, as well as Malayan, Korean and Portugese, While the Japanese settlers have not mixed quite so freely as other groups, they have done some inter-marrying. In such a motley assortment, you can't always distinguish a Japanese by facial appearance. I was told that the Navy never makes mistakes in this matter because it is invariably tipped off by native families if a Japanese applies for a job in the yard under false colors.

Building people don't need to be told that housing is just as important to the functioning of Pearl Harbor as men and machines. A stroll along any of the principal streets of Honolulu gives visible proof that this war-congested community has burst its seams. Everything is crowded. Long lines of servicemen and civilians wait more-or-less patiently for tables at eating places. Movies display signs announcing the sale of reserved seats several days in advance. You are constantly reminded of the housing shortage by newspaper headlines about the local drive to secure some Lanham Act projects and by tales of personal hardship.

To relieve the transportation shortage, someone had the happy inspiration of sending to New York for some of the old cars of abandoned elevated lines. These relics of Gotham's Gay Nineties are now assigned to the steam railway that hauls workers to the Navy Yard. They look strangely out of place as they rattle along behind the fierce chugging little engines, against a background of palm trees. Yet this final chapter in their lives is probably the most important one.

The problem of how to expand Pearl Harbor became a "vicious-circle" because both the workers and the materials to build housing had to be imported from the mainland. It was a logistic nightmare. The Hawaiian Islands do not abound in skilled mechanics, electricians, blacksmiths and pipe fitters-to mention a few of the trades needed. Neither do they produce any building material worth speaking of, except a small amount of wall-board made from sugar cane fiber. In view of still another complicating factor-the shipping shortage - the Navy decided that the smartest solution was to obtain the maximum use of building material by putting up barracks and by carving up some of the existing units.

#### GUAM: 10,000 QUONSETS

From Pearl Harbor, we took off for the forward areas of Guam, Saipan, and Iwo Jima. We broke the hop for a night's rest and a tankful of gas for our thirsty

plane at Kwajalein. On the way to Kwajalein we skirted the island of Wotje. It looked peaceful enough from our cruising plane, but we were told it was a good place to avoid because some by-passed Japs still lurked on it. The Navy doesn't think the Nips stranded on various islands in the central and western Pacific are enough of a menace to bother about. However, it keeps them from getting troublesome by dropping a few bombs every once and a while. These bomb runs have the further benefit of providing a kind of post-graduate course for flyers fresh from advance training schools.

Our first view of Guam made us rub our eyes. Except for the palm trees and the blue-green Pacific it might have been the industrial outskirts of a large metropolitan center back home. Circling for a landing we zoomed over highways teeming with traffic, and acre upon acre of barracks, storage sheds, and machine shops. We could see the busy harbor dotted with shipping and Admiral Nimitz's headquarters perched on a ridge. Agana airport where our plane finally came to rest, is said to handle more flights than New York's La Guardia field.

If any proof were needed that construction follows the fleet, Guam is it. The Japs hardly scratched the surface during their stay on the island after seizing it from us early in the war. But it was a different story after we took it back last August. Since then battalions of Seabees and Army Aviation Engineers, backed up by the tools that typify American construction genius - huge trucks, power shovels, and the peerless bulldozers - have changed the Guamanian landscape for keeps. They hacked landing strips out of the jungle, built 300 miles of paved highways, put together nearly 10,000 Quonset huts of all sizes, constructed thousands of other buildings, developed a water supply system that services the entire Pacific fleet as well as the island population, and deepened and enlarged the harbor.

AND FLOOR PANELS FOR NATIVE HOUSES. NATIVE CHAMORROS BUILDERS CONTRIBUTED THE THATCHED ROOF



#### REPORT FROM THE PACIFIC

Construction started on Guam as soon as the initial fighting was over. In fact, we were told that much of the roadbuilding work was reminiscent of early days of railroad construction across the Western states when pick and shovel frequently had to be exchanged for rifles. Armed guards had to accompany working crews on Guam to protect them from remnants of the Jap garrisons. Job Number One was the improvement of the harbor—to which Congress had turned a deaf ear before the war.

Among the many Quonsets in the Apra Harbor area, I noticed an unusual looking unit. It was a Super-Quonset made by hooking three of the large 40 ft. by 100 ft. huts together. The Engineer officers who had us in tow explained that this structure housed a welding and shipfitting shop. The work handled here involved large Naval equipment, so plenty of elbow room was needed. It is not often that three Quonsets are seen joined abreast, but dual hook-ups of this sort, called "Mae Wests" are quite common. Seabees show considerable ingenuity in arranging Quonsets in different patterns for various purposes. The easiest operation is to tack the end of one into the side of another as this requires little alteration in the framing.

Up at CINPAC headquarters a group of double-deck Quonset has been contrived as dormitories for officers and correspondents. The method of construction was to mount the larger hut on a rectangular framing enclosing the first floor. With cement floors and plywood linings they make very comfortable quarters.

#### NATIVE FPHA

But the Navy had more than military construction problems confronting it when it came ashore here. For the first time during this war, excluding the barren Aleutian island of Kiska, American territory was being liberated. People who had been under the protection of the American flag had been made homeless by bombardments, shoved aside to make room for airfields and other facilities. It was obvious to our Naval leaders from the start that we had an obligation to provide decent housing for them.

Sheer necessity dictated that Agat, the first native village to be rebuilt, follow the Guamanian architectural style. Naval engineers could supply only enough dunnage lumber for the floors. Otherwise, the houses were just like those the natives had always built, with walls and roofs of woven coconut leaves. However, badly needed water taps, public showers, and scrubbing decks for clothes washing were provided in each block. Pit latrines were also installed.

Second on the reconstruction list was

the village of Sinajana. Here we saw a captivating combination of American and native building techniques—a prefabricated house with a thatched roof! While enough wood could be found for the walls and floors, shipping space to bring in roofing materials was lacking. The wooden panels are constructed on a jig table at the building site, using power-driven saws to cut the wood into proper lengths. The Sinajana houses cost close to \$200 each to build.

The natives furnished most of the labor, and for various reasons they were not required to pay any rent for these houses. In the first place, it was felt that some kind of restitution was due them since they had been deprived of living quarters through no fault of their own. Further, we could not have them getting underfoot, living anywhere they could put up a shack from wrecked buildings. But most important of all, the free housing has paid rich dividends in getting us in solid with the island population. The Chamorros, as the natives are called-a stock springing from a mixture of Spanish and Filipino troops and the original inhabitants-appreciate what is being done for them, and are truly glad to return to life under the American flag.

#### BOMB RUN: TWO DAYS TO TOKYO

Stopping off at Saipan, we saw an example of how supply problems can arise. This one involved the operations of B-29's based on the island. When early supply needs were being planned, it was estimated that the Superforts could average at best only about seven missions per plane a month. It was soon found, however, that they could make five trips to Japan every ten days -and with a bigger bomb load than the original calculations called for to boot. Moreover, more of the B-29's could be kept operational than had been expected. All this meant, of course, that a given number of B-29's used up more gasoline, bombs and other supplies than had been planned on. Supply chiefs were glad to be proved wrong in this case, but they had to make heavy changes in shipping schedules as a result.

#### **BULLDOZERS CLIMB SURIBACHI**

On bleak Iwo Jima, Construction Battalions have worked perhaps their biggest miracle. Airstrips, roads and buildings have appeared almost overnight on this tiny fly-speck of an island. Burrowed-in Japs who are still being captured can hardly believe their eyes as they are brought down to the prisoner stockade. One major jabbered excitedly—"Impossible!"

Thanks to the Seabees and their trusty bulldozers, we rode in jeeps to the top of Mount Suribachi where the epochal flag-raising picture was taken. The Japs never ventured to build a road up this mountain. In all the time they had the island, they left things pretty much as they were. When you see Iwo, you understand why-It's in the most uninviting looking place imaginable. Fine volcanic dust blows everywhere. There is a smell of sulphur in the air. Nothing grows in the blackish volcanic soil. I watched a power shovel digging up fill for a runway extension. With each bite into the earth, it released clouds of steam. The engineers explained that this was due to volcanic action close to the surface. Further proof of the thinness of the earth's crust at this point was the aftermath of a well-digging experiment. Water was reached, all right, but its temperature was 140°F!

#### AIR-CONDITIONED DRYDOCK

Everywhere in the western Pacific area we saw examples of what the building industry is doing to aid the war effort. On one tiny atoll near the equator, sweating Seabees who proudly pro-claiming that they had been building workers before the war were installing new plastic screens in a Quonset hut that served as a "hotel." A huge floating drydock (almost worth its weight in gold because of the long trek it saves damaged fighting ships) made good use of an air-conditioning system. Its inner rooms have no windows. Incidentally, this huge device can accommodate practically any member of the fleet. Towed out in sections, it was assembled in 53 days.

Of all the new products and materials developed since the last war, few have contributed more to morale than electric refrigerators. The Navy calls them reefers. In recreation tents set up on one small coral island, refrigerators provide cooling soft drinks for the crews of many ships. In this particular area, the only water available must be distilled from the sea. Compact mobile generating units make such refrigerators feasible almost anywhere.

Next to wanting to get back home as soon as possible, most of the men in the Pacific theater share one major concern. They don't want the folks in the States to get the idea that war in the Pacific is a pushover affair and accordingly let up on production. Apprehension seemed quite general that industry and the public at large may discount the tremendous job still to be done; that Americans may be too accustomed to looking toward Europe and don't realize what Pacific distances mean. However, we found some of the highest officials optimistic as to the time needed to finish the Japanese if there is no letdown in production. One version was that it might be over by Christmas.

**HOUSES** Another patio-type in California (p. 127)... Owner and architect collaborate for economy (p. 132)... View, sun and wind dominate a hilltop home (p. 135)... A Connecticut playhouse (p. 138)... Massachusetts gets a new cabana (p. 140).



HOUSE IN REDWOOD CITY, CALIF., William W. Wurster, of Wurster and Ber

Here is an interesting solution to a frequent problem: designing a home for a family of normal size and wealth, to fit a normal building site.

The house is located in a suburban development, and oriented to get sun in as many rooms as possible. The ancient H plan again proves of service, with living and sleeping wings joined by a central gallery. The living wing includes a compact arrangement of the service elements, with the exception of the heater which opens off the gallery for more central heat distribution. The guest room is in the living wing where it can be used also as a study. A change in floor level provides the intimacy of a lower ceiling in the sleeping wing and adds to its privacy. The gallery is perhaps the "luxury" feature of the house, being wider than required for adequate circulation. Sliding glass and screen doors open it to the patio. Here the outdoor living season is extended by the windshield and sunpocket effect of the surrounding house.

The flat roof repeats the horizontal lines of the surrounding landscape. A second level is introduced over the garage and the dining alcove, and a generous roof overhang prevents the intense summer sun from entering the windows. Exterior boards and battens are of redwood protected by a coat of clear creosote, a process which enhances the beauty of the natural wood. **Owner's Comments:** The gallery we now wish had been made at least three feet wider. If it were wider we could furnish it somewhat like an outdoor living room and would get a great deal more use out of it. At present it is just a glorified passageway.

I think the best feature of all is that when you are inside you are never completely removed from outdoors, and vice versa.

The eating area in the kitchen is too small. One of our postwar plans is a greatly expanded kitchen area, complete with barbecue fireplace, dishwasher, deep freeze unit, etc.

I suppose no one ever built a house that he would not like to change a bit after living in it awhile.

The living room we find a bit difficult to arrange furniture in. Generally speaking, however, we find it a very enjoyable and much used room. The large windows acomplish what we want them to, namely, bringing the outdoors inside.

ENTRANCE FACADE REFLECTS BASIC ELEMENTS OF PLAN



SLEEPING AND LIVING WINGS SHELTER OUTDOOR LIVING





## titects, features a glass-enclosed gallery in a direct solution of the suburban dwelling.

Roger Sturtevant



RIOR BOARDS AND BATTENS ARE CONTINUED AROUND GALLERY WALLS AND OVER CEILING OF ENTRANCE PASSAGE





HOUSE IN REDWOOD CITY, CALIF. The extremely pleasant living and dining room presents a vari

The walls of the living room are covered with wide redwood planks placed horizontally, as opposed to the vertical boards and battens in the gallery. Brick used in the exterior chimney and patio paving is repeated about the fireplace opening. The large corner window does not extend to the floor; it is opened by sliding one-half over the other. Privacy within the confines of the suburban lot is enhanced by keeping the large windows on the patio side of the living room.

Furnishings of several periods have an unselfconscious charm, and blend well with the simple architectural background. Two groupings express the major functions of the room: conversation, music and games in one end, dining in the other. Provision for night illumination is perhaps inadequate in the dining area.

FOUNDATION—reinforced concrete. STRUCTURE: Exterior walls —redwood boards and battens, building paper, studs, plaster. Floors —terra cotta tile on concrete slab. ROOF—tar and gravel. INSU-LATION: Roof—rockwool. FIREPLACE: Damper—Superior Fireplace Co. SHEET METAL WORK—galvanized iron. WINDOWS: Sash—clear sugar pine. Glass—quality A and B, single strength. FLOOR COVERINGS: Kitchen and bathrooms—linoleum. HARD-WARE—Yale & Towne Mfg. Co. ELECTRICAL INSTALLATION: Wiring—rigid conduit and knob and tube. Switches—General Electric Co. BATHROOM EQUIPMENT—American Radiator-Standard Sanitary Corp. PLUMBING: Soil and vent pipes—cast iron and lead joints. HEATING—forced warm air system, Aladdin Heating

CONSTRUCTION OUTLINE

Corp. Water heater-Hoyt Heater Co.

WILLIAM W. WURSTER, Architect EDMUND P. ERWEN, Contractor



LIVING WING HAS CORNER WINDOW TOWARD PATIO

DINING ALCOVE EXPANDS BASIC LIVING AREA, INCREASES OUTLOOK. NOTE BUILT-IN CABINETS AND SHELVING



e theme of redwood, tile and plaster used elsewhere in the house.



2 SYMMETRICALLY LOCATED FIREPLACE SERVES AS THE FOCUS FOR LIVING ROOM CONVERSATION GROUP



3 LIVING ROOM ENTRANCE IS AT END OF GALLERY



HOUSE IN MELROSE PARK, PENN. Provides spaciousness in a compact plan

It is rare when architect and client are lifelong friends and find that they think alike on most of the questions that arise in the building of a house. But such was the case here, and the unity of design may well have stemmed from such mutual agreement.

The site is a wooded slope in an estate recently opened for development near Philadelphia. The house has been placed to let the sun into the windows of the principal rooms, and high enough to allow a basement garage with a terrace level on the southern facade. Economy demanded that the plan be compact and the house two-stories high, but interior spaciousness has been achieved by throwing many of the family functions together, as in the living room, and by expanding important areas and contracting the less important, as in the wide stairs and narrow corridors. The emphasis on outdoor living is expressed by the kitchen door opening directly on the dining terrace, and by the big outdoor fireplace on the terrace itself.

Warmth and friendliness is achieved in the living room by the conversation group about the tile-faced chimney. The tans of the gum wood cabinets are repeated in the small tiles, placed backside-out to expose an unusual matte texture. Living equipment everywhere has been given specially designed cabinets.

The essentially box-like appearance of the house, inevitable where strict economy dictates maximum cubage at minimum cost, is somewhat relieved by the projecting living room and deck.

**Owner's Comments:** We feel that to the architect goes all the credit for giving us a house that cost no more than a ready-made design, yet one that met our individual tastes and specifications.

Our first problem was one of keeping within a budget and at the same time building a house large enough for our needs but avoiding a cramped feeling.

The idea of minimum upkeep is reflected in many details such as oiling instead of painting the exterior clapboards, window sills of polished black slate and waxed interior wood work. Photos: Gottscho-Schleisner

LOUIS I. KAHN, Architect

MASTER MASONS CONSTR. CO., Cont



DINING ROOM OVERLOOKS THE TE



Ebstel

Multi-purpose room: guest; maid, play, study Laratory Prvacy assured

opaque glass



IONAL DESIGN IS SHOWN IN BUILT-IN CABINETS FOR DINING AREA AND TILE-FLOORED ALCOVE FOR FIREPLACE



LOUIS I. KAHN, Architect



Seasonal shade for terrace ROOF DECK ADDS OUTDOOR SPACE TO SECOND FLOOR MASTER BEDROOM Setback over living room provides, deck Variable shelves and poles for growing children. BED RM. BED RM. BED RM. B 0 BED RM.

0' 3' 6'

12



LIVING ROOM PROJECTION FORMS UPPER DECK

#### CONSTRUCTION OUTLINE

STRUCTURE: Exterior walls - stone, furring and plaster; frame walls-studs, sheathing, Celotex Corp. Vaporseal over building paper and clear grade cedar siding. Ceiling — plaster on rocklath, U. S. Gypsum Co. ROOF—4-ply, The Barrett Co. Decks—Traffic Top, The Celotex Corp. WINDOWS: Sash - metal casements, Michael Flynn Mfg. Co. Weatherstripping —Chamberlin Metal Weather Strip Co. Glass-double strength and plate, Libbey-Owens-Ford Glass Co. FLOOR COVER-INGS: Living room-oak and hand made tile, Moravian Pottery & Tile Works. Halls and kitchens-linoleum, Armstrong Cork Co. LIGHT FIXTURES-Kurt Versen. KITCHEN EQUIPMENT: Range and refrigerator - Norge, Borg-Warner Corp. Washing machine - Bendix Home appliances, Inc. BATHROOM EQUIPMENT-Kohler Co. HEATING-forced warm air system, Chrysler Airtemp Co., Inc. Grilles -Hart & Cooley. Water heater-Motor Wheel Corp.

WRITING DESK IS LOCATED IN LIVING ROOM NEAR BASE OF STAIRWAY



Photos: Gottscho-Schleisner



FACADE HAS VAGUELY CLASSICAL FEELING MARBLE - CHIP ROOF REPEATS WHITE TRIM

The design of this house is the result of over a year and a half of collaboration between the architect and the owner, who is herself a writer and editor of long experience in the building field. An historic hilltop site, the former location of the Villard mansion, had an embarrassment of riches: a truly magnificent view of the Hudson valley, handsome trees of full growth, and definite prevailing winds, plus, of course, the sun's rays which are always available to those who will use them.

The house was carefully planned and oriented on the lot to allow a maximum of sunshine to enter the main rooms in winter but not in summer, to shield a number of outdoor living places from wind, and to present others to breezes, while using the trees and views to the best advantage. The dwelling resulting from such considerations has been frankly expressed on the exterior, with an occasional bow to tradition.

#### HOUSE IN DOBBS FERRY, N. Y. Integrated interior and exterior planning provides a variety of

In plan the house is only one room deep in almost its whole extent, resulting in better daylight distribution and natural ventilation. This openness on both sides is particularly useful in the living room, where the north window admits the main view up the Hudson and the south window brings in the sunshine on winter days. The stairway is centrally located, its two-story window serving to light the connecting corridors on both floors. Throughout the house closets are especially designed to store living equipment in places most convenient for use. Note particularly the compact organization of the dressing and bath section of the owner's suite.

There is no plaster in the house; plywood is used for sheathing beneath the exterior clapboards, and for interior subfloors, ceilings and walls. All interior plywood is both glued and nailed to nailing strips attached to the studs or joists. Wall paper or paint is applied over the plywood where a different finish is desired. Double glazing of most window openings, coupled with proper orientation, makes possible the use of large glass areas without adding to heating costs. Roof overhangs and vine-covered trellises shade the southern windows from summer sun.

The house is a tangible embodiment of the owner's philosophy of contemporary design: "The function of modern architecture, without the look of modern."

**CONSTRUCTION OUTLINE:** STRUCTURE: Exterior walls—studs, plywood sheathing, cedar siding; interior—plywood. Floors—Zenitherm, Tile-Tex, Tile-Tex Co. and maple. ROOF—5-ply tar and felt. Decks—canvas. INSULATION: Outside walls and attic floor —Ferro-Therm, Ferro-Therm Co. WINDOWS: (Sash steel)—Croft Steel Windows, Inc.; (wood)—Andersen Frame Corp. Glass—Thermopane, Thermopane Co., Div. of Libbey-Owens-Ford Glass Co. HEATING AND AIR CONDITIONING—vapor vacuum, except living room which has special unit with air conditioning, Abbey Heating Co. Grilles—Ferro Co. Boiler—National Boiler Co. Convectors —National Radiator Co.

TWO DECKS, PORCH AND TERRACE INVITE OUTDOOR LIFE



LIBRARY IS DESIGNED FOR A WRITER



JULIUS GREGORY, Architect JANET DOWLING, Landscape Architect MINIAN JAMIESON, General Contractor



WINDOWS OPEN NORTH FACADE TOWARD



each taking advantage of a particular season and the natural beauties of the dramatic site.

Photos: Maynard Parker



L LIVING ROOM IS FURNISHED TO EMPHASIZE A CROSS-COUNTRY VISTA, SEEN THROUGH LARGE BOW WINDOW



A CONSERVATORY WINDOW PARALLELS STAIRWAY



GUEST HOUSE IN GREENWICH, CONN. A collaborative design by arc



GUEST ROOMS ARE ON CONCRETE SLAB OVER PORCH. NOTE FREE STANDING CANTILEVERED STAIR


MARCELLO MEZZULLO, INC., General Contractor

NORTH FACADE INDICATES THREE-LEVEL PLAN



ROOF TERRACE HAS VIEW OF ALL PLAY AREAS



POOL BORDER REPEATS BLUESTONE OF PORCH



The original desire of the owner of this guest house was that it should repeat the traditional style of the main house on the estate, but the designers held out for a more modern approach.

The guest house is located between a handsome swimming pool and tennis court, and approached from the main house down a series of levels and steps at a right angle to the pool. The plan permits easy circulation between the court and pool: the porch serves as a connecting link while the studio has windows that open upon each area. The guest bedrooms extend above the porch to provide shade and to allow use of the studio roof as a terrace overlooking all play areas. Advantage is taken of the sloping site in a level below the studio, from which direct access may be had to the skeet field to the east. The handling of the entrance to this lower level seems unnecessarily awkward.

All interiors of the guest house have been styled by Mr. Aitken about a collection of primitive African sculptures. The porcelain enamel panels on the exterior west side were also executed by him. The bedroom wing is of rived cypress siding painted graybrown; trim is white.

#### CONSTRUCTION OUTLINE

STRUCTURE: Exterior walls — stone, furring, metal lath and plaster. Interior—brick and wood, wire lath and plaster. Floors wood beams, plywood and Zenitherm. ROOF — 5-ply built-up. Decks—flagstone. SHEET METAL WORK: Flashing and gutters —copper. Ducts—galvanized iron. INSULATION: Roof—mineral wool. WINDOWS: Sash—steel, Croft Steel Windows, Inc. Glass —plate. WALL COVERINGS: Main rooms—plaster. Bedrooms— Weldtex, U. S. Plywood Co. Bathrooms — tile. HARDWARE — Schlage Lock Co. ELECTRICAL INSTALLATION: Wiring system —box and rigid conduit. Switches—toggle. BATHROOM EQUIP-MENT—Kohler Co. PLUMBING: Soil pipes—cast iron. Hot and cold water pipes—brass.



### CABANA IN WILLIAMSTOWN, MASS. Edward R. Tauch, Jr., architect.

A central loggia, open on the pool side and flanked by dressing room and service wings, forms the plan of this simple pool house. The dressing room wing does not project as far toward the pool as the service wing, and thus affords a clear view of the diving board end of the pool to those seated in the loggia. A large fireplace invites open-air cooking.

The dressing room wing is arranged with entrances on opposite sides, an aid to the conventions. The service wing contains a kitchen to back up the outdoor fireplace and to store dishes, linen, food and equipment. There is a walled drying yard for bathing suits and towels. The built-in exterior bench about the dressing room wing is an unusual feature. Construction is of wood, with exteriors of painted plywood.



CEILING REPEATS OPEN TRELLIS PATTERN





POOL HOUSE AND SERVICE WALL FORM WINDBREAK TO NORTH; SHADE FOR SPECTATORS IS NEAR DIVING BOARD



### LIVING MEMORIALS

". . . the war memorial may best commemorate the group sacrifice by increasing the group welfare."

Man's need to memorialize epic parts of his experience is older than the pyramids. The monuments that he has built to his gods, to his emperors, and, finally, to himself stand as a reliable index in which we can read the dominant patterns of many civilizations. From this broad perspective, current discussion in the U. S. about how best to memorialize World War II tells us several important things about our society.

One of them is that we are no longer much interested in building monuments to specific military leaders and prefer to commemorate instead the sacrifice of all who fought. When Roman emperors raised triumphal arches and when Napoleon built his Arc de Triomphe, the part that the multitude of common soldiers played in victory was overlooked or taken for granted. Even as late as the memorial building that followed the Civil War, monumental homage to Grant and Sherman seemed to fill the need of the times better than a tribute to thousands of uncelebrated heroes.

It was not until the large-scale memorial building following World World I that a democratic interest in memorializing the group rather than the leaders clearly emerged as a dominant trend. It was also during this period that the "living memorial" became an important part of monumental planning. Never before had cities and states planned auditoriums, community centers, capitol buildings, and university chapels in commemoration of war heroes. With the recognition that the price of victory had been paid by the group came a correlative feeling that the war memorial might best commemorate the group sacrifice by increasing the group welfare. From Cedar Rapids to San Francisco, cities built civic centers planned around memorial buildings. This kind of monument seemed to serve well the common need first put into words by Abraham Lincoln: "It is for us the living, rather, to be dedicated here to the unfinished work which they who fought have thus far so nobly advanced."

Another revealing aspect of current planning for war memorials is that it is primarily a community job. Architects, artists, their professional magazines (FORUM, Sept., Dec. '44), and government officials have initiated national discussion of considerations in choosing a memorial expression. An American Commission on Living War Memorials works in cooperation with the Federal Security Agency to provide data as a basis for planning recreation projects as memorials. The National Sculpture Society and the American Institute of Architects have both had more than a word to say about the commemorative function of memorial building. But, in the end, it is the community itself that makes the choice. This means that the memorials that will commemorate the war effort of a great democracy will be the product of the most democratic kind of decision: a decision made by the community-and sometimes by the neighborhood-backed by local funds and executed by local designers and builders.

This in itself is the best possible answer to the whole dis-

cussion of what kind of memorial shall be chosen. Obviously, a national shrine will have a purpose different from the memorial planned by a neighborhood. An expression considered suitable by a whole state may turn out to be quite unlike that judged appropriate by a city. A community's own sense of its memorial purpose is likely to be much more accurate than any that might be handed down by the experts. The war heroes have come from the communities, and the war sacrifice is, perhaps, sensed most keenly on a community and neighborhood scale. Many a U.S. city has already made up its mind about a memorial choice, and it is probably more important for designers to equip themselves to meet these community purposes than to try to formulate them from a specialist's point of view. Community choices cover a wide range. Blytheville, Ark., for instance, chose to build a house for the mother of a soldier killed in action. Chattanooga plans a park and recreation center on a bend of the Tennessee river. Detroit will build an American Legion headquarters including an auditorium and recreation rooms. Cleveland is considering a memorial fountain.

From the dozens of memorial plans already announced, it is possible to discern a new planning trend. After World War I, those interested in "memorials that live" placed major emphasis on public buildings, auditorium and ampitheaters. Current plans show that a very large number of communities are interested in parks and recreation centers. These range in scale from the swimming pool planned in Kaukauna, Wis. to the cultural and recreation center planned in Omaha. Comparatively few U. S. cities have adequate community recreation centers; even fewer have had the experience of developing them as a single unit. Most public recreation facilities represent the accumulation of years of gradual additions to the municipal park system, and there has been little comprehensive study of what it means to design a unified recreation center from the ground up.

Sensing this planning need, the Brunswick-Balke-Collender Co., which manufactures recreation equipment, asked its architect, Edgar Lynch, to make detailed studies of play and sports centers to serve communities of varying sizes. Working in cooperation with industrial designer Donald Deskey, Lynch developed a set of plans notable for precision estimates of space needed for every popular type of recreation and for skillful integration of indoor and outdoor facilities.

The Lynch-Deskey space allotments are made on the basis of Federal Security Agency recreation studies. In every case, the necessity for meeting the recreation interests of all age groups on a year-round basis has been a paramount consideration. The various facilities have been related in an efficient and pleasing pattern that provides for easy access and a continuous flow of pedestrian traffic. In each plan, the commemorative intent of the community center is signalized by a monumental tablet dominating the approach.







#### Second Floor

Sun bathing Deck games Table tennis Offices

Main Floor

Dining

Billiards

Club meetings

Tournaments

Library

Nursery

Theater

Swimming



#### Basement

Bowling Veterans' meetings Squash Handball



Central building group successfully blends memorial intent and recreational function.





Approach to this large community center focuses interest on a memorial tablet inscribed to war heroes, dramatized by a reflecting pool and by the broad paved avenue leading to its terraced site. The colonnaded court opening through the community building emphasizes the feeling of monumentality and at the same time achieves an easy transition from the outdoors to the building interior. This juncture of indoors and out is increased by extensive use of solar windows and by a roof terrace. The projecting recreation wing seen in the drawing (left) holds dining and club rooms, veterans' headquarters, a nursery, designed for supervised play, overlooking the gardens and tot lot. The physical fitness wing houses swimming pool, gymnasiums, locker rooms, showers, courts for table tennis and handball, stage and movie equipment. Wings are connected by an underground passage. Division of the building into two major use areas separates the noisier and brisker activities from the rooms set aside for quiet relaxation.



### Medium-sized project fits a variety of indoor and outdoor recreational facilities to a 20-acre site.



Intended to serve a modest-sized community, this recreation project is designed for a suburban site adjoining a main highway. The community building is set well back from the highway to achieve privacy and plenty of room for entering and parking. A pavillioned approach, flanked by a memorial tablet, as well as plenty of fenestration relates the building to the outdoors. Children's play areas, conveniently close to the women's recreation space, are separated from the main sports facilities by a covered pergola, which connects the main building and the field house. A sand beach for sun bathing adjoins the swimming pool, while an outdoor children's theater is a notable feature. Building setbacks provide various play decks for shuffleboard and deck tennis as well as a men's sun roof.

### Eight-acre plan is intended to serve a small suburban community with room for expansion.



This plan groups basic recreational facilities on a minimal site, with room for later addition of a swimming pool. A covered walk leads from the ample parking area to the community building, which is shielded from traffic by massed planting. Drawing shows rear of the community building, connected with garden and wading pool by a balcony and stairway. In this smaller building, the auditorium doubles as a gymnasium while a roof terrace for outdoor dining supplements indoor restaurant space. Although space is limited, no one sport or age group has dominated the plan.





Designed and constructed by the engineering and architectural staff of the Tennessee Valley Authority.

Five miles above Knoxville the Holston and French Broad Rivers converge; like the time of a huge fork, to form the Tennessee River. Cherokee Dam is located on the Holston, the north tine, 52.3 river-miles above this junction. As a part of TVA's first wartime emergency program, it began storing water in December 1941, only 16 months after the start of construction. The first of two power units was placed in operation in April, 1942. the second in June 1942. Its ultimate capacity, with four units, will be 120,000 kw.

Like others in the TVA's distinguished chain, Cherokee relies for architectural impact upon a strict analysis of the special problems it was designed to solve. It is notably free of extraneous matter. The absence of trivial detail, the adroit yet honest massing, the masterly scale are all the marks of a disciplined, creative design. Typical is the deceptively simple crane, its twin rigid frames emphasized by a handsome skintight housing; and the guard rails along the top of the dam, matched in size and scale to the horizontal joints along the dam face.

Although by no means the tallest of TVA structures, Cherokee impounds a reservoir 59 miles long, with a total volume of 1,566,000 acre ft.

SPILLWAY SEEN FROM GENERATOR ROOM ROOF



# CHEROKEE DA



Tennessee Valley Authority adds another handsome structure to the TVA chain.





THE SOARING BUTTRESSES OF NINE SPILLWAY GATES INTERRUPT THE DAM'S STRONGLY HORIZONTAL MASS



WEATHERPROOF CRANE TOPS OUTDOOR TYPE POWERHOUSE

POWERHOUSE FROM LEFT BANK



### HYDRO POWER STATION DESIGN

No one can handle it alone and no

group of designers, working in isolation from each other, can achieve a satisfactory solution. Mario Bianculli, Constant R.

Marks and Osborn H. Graves-three specialists who ought to know\*-point to the solution: the team approach.

Nowhere is the role of postwar architectural design more sharply defined than in the hydro power station. Here, in extreme form, are the technical, esthetic and professional problems which will confront the postwar architect in all but the simplest buildings. For the design of the hydro station cannot, from its very nature, be a one-man job. It requires the closest collaboration among a wide range of specialists —engineers, planners and architects—each of whom is essential to its success. In this respect, the hydro station does not differ much from a department store or a housing development. And if the high architectural quality of recent stations is widely recognized, it is largely because the now generally accepted technique of group design got its start in hydro station work.

In the application of this technique, a design team of engineer, architect and site planner is assigned to the project at its inception and carries it through to completion. All of the members of the team are designers, and all work as equals. Many of the group's decisions will necessarily affect the architect only indirectly; and to many phases of the design process, he can contribute only a general knowledge. Yet for the architect no problem is more fascinating than the design of a hydro station, no method of work richer in opportunity than the group or team method. Here is a problem in production involving many applications of advanced engineering: mechanical, hydraulic, civil, structural. Each represents a whole field of knowledge in itself yet they will not automatically arrange themselves into architectural order. They must yield an honest and dignified structure, built of the proper materials, easy to look at and easy to maintain. They must provide good solutions to problems of sequence, lighting, ventilation, safety and comfort. And all this, in turn, must be related to environment: a system of approach and service roads, parking spaces, land use and ground treatment.

In the simplest terms, the hydro plant is a factory for the straight-line production of electric power. Every step in this process is part of a purposeful, tightly related sequence. With mountains to be moved and rivers deflected, the plant has grand scale. All the elements of size, durability, form and purpose are there, born with the problem. It is a dynamic combination assembled to exploit equally dynamic forces. The end product, if intelligently handled, will be architecturally dynamic.

While this has always been true in theory, it has not always been recognized in fact. Too many of the early hydro plants show evidence of patchwork design — unimaginative solutions embellished at the last moment with "architectural details," shrubbery tragically out of scale with its surroundings, lawns trying to cover borrow pits and construction scars. Such defects were largely the result of the way the design process was arbitrarily broken up and parceled out to isolated designers who could have no over-all concept of the process, nor of their mutual problems. With the team approach, organic unity returns to the whole design. The hydro station is, of course, only a part of the project This project may include many features other than those involved in the actual transformation of waterhead into electrical energy. Some of these, notably the dam and reservoir, either create or increase the ability of the power station to function. Others, such as spillway, lock and shore protection, become necessary because of the development. Still others, such as those aiding flood control, recreation, etc., are incidental to it. In all these areas a design team is often able to produce much happier results than would otherwise be the case. But the greatest opportunity lies in the plant itself.

Practically every one of the functions of a power station involves some kind of flow: that is, the movement of water, electricity, men and equipment. It is therefore imperative that, in layout and structure, the design secure these flows easily and economically, without internal conflict, and consistent with the limitations imposed by the character of the station and the peculiarities of its site. To understand how this is accomplished by the team, it is necessary to understand each phase of the process of energy conversion.



A power station must provide for the flow of water from the reservoir into the penstocks, where its energy is transmitted to the turbine. This ensemble must be housed within a structure giving protection against all conditions of headwater and tailwater. The requirements of these waterways and their approaches are the basic factors which determine the outline, location and elevation for the substructure and thus for much of the station.



**Coupled with the turbine is the generator** which transforms raw energy into electrical current. This current flows through conductors to the transformers and thence into the switchyard, where it passes into the different transmission lines.

\* The authors are, respectively, Principal Architect, Senior Civil Engineer and Senior Civil Landscape Architect for the TVA. This paper is based upon their experience in collectively designing many TVA projects; but the ideas expressed imply no concurrence by any official agency.

### HYDRO POWER STATION DESIGN

In laying out this function, a decision must be reached as to the location of the transformers—up- or down-stream from the powerhouse, on its roof or on the river bank. This decision is affected by site conditions and the size of the powerhouse and will basically affect all subsequent design.



Gates or valves at several points control the flow of water into and through the powerhouse.

Water is admitted to the turbine through wicket gates which operate on vertical axes. These gates are operated by a piston, actuated from a flyball governor so as to adjust quickly the input of hydraulic energy to changes in demand for electrical energy. The governor cabinet must be near the turbo-generator, and is often placed in the generator hall.



**Operation of the station** is electrically controlled at many points. The nerve center of this apparatus is usually a control room. From here conduits radiate to all parts of the station in such numbers as to require cable tunnels or large duct banks.



**Quick and easy access** to the turbo-generator is essential. It must be possible speedily to dismantle, repair or erect all internal parts. This requires a large crane, an erection space and usually a machine shop.



A large number of auxiliary electrical and mechanical facilities is required for service and maintenance equipment. Some of these, together with the local unit controls, are repetitive for each turbo-generator and are logically located near it. The rest of the facilities serve the entire station: these along with control room, erection and machine shop space are often located in a service bay separate from the units. If the station has three or more units, this sort of division is often the only way to make all units similar without creating waste space, particularly if some are future units.

Finally, the station must provide facilities and space for the

comfort of the personnel: ventilation, air conditioning, toilets, lockers, offices, stairs and elevators. There may also be the need for providing for visitors: lobby, toilets, access to points of interest. Facilities for both employes and visitors can usually be planned as part of the station-wide service area.

If architect, engineer and site planner work as co-equals from the first, choices made at each stage can be discussed more intelligently. Fewer plan errors will later appear as construction proceeds. And the final form will be far more satisfactory than would be the case if each specialist worked independently.

Provision for the flow of water will usually determine the location of at least the generator hall portion of the powerhouse—usually within the river channel. If space at suitable levels for physical access and electrical connections is available close at hand, the entire station may be a compact unit, arranged to yield the shortest flow lines for electricity, men and equipment. However, site topography, tailwater levels and other project features may necessitate radical changes in floor levels or even in the location of portions of the station. If the structural cost of a compact arrangement runs too high, features such as switchyard, control room and employe and public facilities may be located at some distance from the generating units, providing that their cost is sufficiently reduced to compensate for longer electrical connections and reduced operating convenience.

The exact degree of operating convenience desired will naturally influence many features of the design. This will vary with station capacity, number of units and the relation of the project to the rest of the system. But to secure a good layout it is imperative that during the early stages of design the team have a clear understanding of the values to be assigned by the management to operating convenience. These should be defined in respect to switchyard and control room, maintenance and employe facilities, and provisions for receiving visitors.

Provision for flow of men and materials into the powerhouse may have a decisive influence upon choice of superstructure types. If tailwater conditions and topography permit the main entrance to be at generator floor level, either an indoor or an outdoor type of powerhouse may be used.



**INDOOR POWERHOUSE** at TVA's Fontana Dam. Here all facilities are grouped in one large handsome structure.

In an indoor type, one large enclosure houses all the main elements, as in the TVA's Fontana Dam (above). In the outdoor type, the superstructure proper is kept to a minimum by roofing (Continued on page 154)

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### HYDRO POWER STATION DESIGN

(Continued from page 152)

the lower spaces at the level of the substructure and relying upon removable covers to protect the equipment projecting above deck level (below). In such cases, station service areas are housed in a separate structure.



**CUTDOOR ENCLOSURE** is kept to minimum, generator units are accessible through hatches and crane is outdoors at TVA's Wheeler Dam.

Choice between these types will again depend upon the value assigned to operating convenience as against economy of construction. The indoor type unquestionably provides better operating conditions and protection for equipment; and —unless there are several units—the outdoor type will not show much saving.

If tailwater flood levels above the generator are to be expected, the indoor type of superstructure may still be used, either by introducing a mezzanine entrance level or by use of a hatch in the roof or wall with an outside crane to lower equipment. However, as such arrangements may be awkward and costly, a third intermediate type, the "semi-outdoor," has been developed. This is particularly adaptable to locations with high flood levels. Here the generator hall need be only high enough to provide headroom over the generator (below). A gantry crane handles equipment through hatches in the roof for both the units and the erection area. The main access road is at roof level.



SEMI-OUTDOOR TYPE, such as this at TVA's Watts Bar Dam, has minimum enclosure to protect generators but crane is wholly outdoors.

The power station has the right to an architectural handling all its own. It has size and character; monumentality is implicit in it. It is an important (Continued on page 156) Well, the U. S. Government picked Kentile for the largest office floor area ever laid down-the entire Pentagon Building

### Yeh? Which commercial office buildings have used it?

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### 4

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### HYDRO POWER STATION DESIGN

(Continued from page 154)

landmark, conspicuous among its surroundings and presumably destined to stay there for a very long time. It is seen from the water, from the banks, from the air. In its most compact form, the power station is by nature dramatic. And when conditions require that it be split into separate elements, these should hang together in distance, sequence and mass—a system of harmonious parts.

Yet the architecture of the powerhouse, as in any other complex building, cannot be derived from the architect's preconceived ideas of what it should look like. For example, the exterior mass will be largely determined by the layout within. Those portions housing auxiliary facilities may usually be studied and organized to give the best result, but those for the generator hall proper are closely fixed by engineering decisions made long before. Here length and breath are established by substructure proportions or by working space around the generators. The height of crane rail and roof are governed respectively by the working clearance for turbogenerator erection and by the clearance of the crane itself. Tailwater conditions will determine the levels of the draft tube platform and the top of the substructure. These form strong horizontals-draft tube platform, top of substructure, crane girder and roof-which need only honest expression.

Fenestration will also be largely a result of site conditions and interior layout. For the semi-outdoor type, windows are usually impossible; they are also less needed because the interior cubage is relatively small and lighting and ventilation problems correspondingly simple. In the indoor type, high tailwater levels or unit surface areas may limit windows to a clerestory treatment. Otherwise, operation and comfort favor ample fenestration for the generator hall and elsewhere, except for special areas where conditioning of light and air is desired. In any event, the fenestration, like the massing, should form a coherent expression of the interior layout.



**RIGID FRAME'S** effect is evident in TVA's Chickamauga powerhouse. Technique is equally suitable to minor structures.

A structural development of great significance to the architecture of the powerhouse is the rigid frame, whether in steel or in reinforced concrete. This element has freed the interior from cumbersome and intricate trusses, and has greatly reduced the problem of maintenance and upkeep. Thanks to the rigid frame it is now possible to reduce the overall height substantially, thus improving both interior and external appearances and offsetting the increased cost of the frame itself. The principle of the frame is not only applicable to roof trusses, wind bracings and *(Continued on page 158)* 

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### HYDRO POWER STATION DESIGN

(Continued from page 156)

crane girders but also to minor structural work such as stairs and platforms. Such refinements will more than pay for the effort in the added elegance and simplicity of the structure.

Durability, toughness and ease of maintenance are naturally controlling factors in the selection of structural and finishing materials. This may limit the designers in their choices; but that it is no excuse for poor design is apparent in the many very handsome powerhouses which have been done in concrete, brick and limestone in combination with other materials. Prefabricated walls of protected cellular metal, internally insulated, offer great design possibilities. And metal alloys for trimming doors, rails and even minor structural parts have a more than fair chance of displacing other materials requiring more upkeep and repair.

In the field of equipment there is also wide room for creative work. The problem has been complicated by the general acceptance of stock equipment produced by various manufacturers in different materials, finishes and colors. When assembled in one room, these disparate units leave much to be desired. However, the average manufacturer will go a long way to make reasonable modifications, even adopting as his own standard a successfully re-designed item. This is true in mechanical as well as electrical equipment—e.g., actuator cabinets, control planels, machine shop equipment, etc.



**INTEGRATION** of diversified equipment into pleasant and efficient control room is apparent at TVA's Gunterville Dam.

Such integrations have, indeed, made possible the modern control room and offer convincing proof of the effectiveness of the design team. This is the nerve center of the power station. Here the electricity is channeled into the switchyard and to the generating units, under the ever variable conditions of the system as a whole. The equipment is complicated, costly and sensitive. A great number of colored, continuously flickering lights must be watched, control handles operated, dial positions observed, records examined. The human work going on is thus highly responsible and very monotonous.

Consideration of this human factor has led to much research and experimentation, so that control rooms are a far cry from those of a few years ago. The one shown above is typical: it is self-contained, including equipment room, file room for records, toilet facilities and even a kitchenette for operators who cannot leave their posts while on duty. The space is air conditioned. (Continued on page 160)

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### HYDRO POWER STATION DESIGN

(Continued from page 158)

Every effort has been made to eliminate vibration and noise, as well as to obtain the most comfortable distribution of glareless light. The ceiling, of parabolic section with acoustical surfacing, acts as a reflector for indirect light. The source is concealed in a carefully studied cove, so located as to be out of the operators' range of vision as well as to minimize reflections in the glass covered dials. Even the color of the dial faces has been studied to minimize eye strain. Spot illumination, where necessary, comes from sources invisible from the operators' stations. All equipment and walls, including doors and trim, are painted a neutral grey developed in cooperation with equipment manufacturers; the ceiling is a special off-white. In this sort of room delicate work can proceed efficiently and comfortably. Such integration can be achieved only by the closest collaboration between architect and engineer.

When conditions of location and policy warrant, the planning of a powerhouse is also influenced by the need for providing for crowds of visitors. This, to be sure, is an accessory function, independent of the primary purpose; but it is a very important consideration where the need exists. Planning techniques have been developed which permit the routing of visitors along predetermined continuous lines of travel, leading past points of interest but laid out so as to avoid interference with plant operation or with any groups going in the opposite direction. Obviously, the points of greatest interest to the visitor are the generator hall and the control room. The first can be viewed from balconies overlooking it, the second through soundproof windows on the same floor.

The ground treatment around the power station should be as direct and purposeful as the building itself, and the planting should be restrained and unpretentious. Exotic material has no place here: it adds a costly and capricious element. Planting around the powerhouse should prevent soil erosion, conceal objectionable construction scars, provide shade and reduce glare from large paved areas.

The site development of the power station should include adequate parking spaces for the cars of both plant employes and visitors; curbs to direct traffic into parking areas without confusion; parapets or guard-rails for safety; walks and paths for easy access to interdependent areas; overlook points to enable the public to enjoy the interesting features of the project. A clean, honest and rational design of the grounds and related facilities will thus create an attractive approach and background for the station, whose performance can be measured in reduced costs of operation and maintenance.

Beyond the immediate problem of the design of the powerhouse and its grounds lie other secondary but fruitful areas for the talents of the architect-engineer-site planner team. The hydro plant is frequently located in an isolated spot. The construction of a dam creates problems and presents opportunities of regional importance. Highways must be relocated; men and material must have access to the site; housing, electric power, water and other services must be provided for construction purposes; borrow pits and rock quarries must be opened up. A sparsely populated region may thus suddenly become the center of considerable activity and the entire region affected, if not radically changed, in the process. Many of the problems created by construction can actually be converted into useful and productive developments in the hands of a skillful design team instead of being left, as they once often were, to take care of themselves.



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### BOOKS



Review this page



THE CITY IS THE PEOPLE. By Henry S. Churchill. Reynal & Hitchcock, New York. 187 pp. Illustrated. 51/2 in. by 8 in. \$3.

City planning may have its foot wedged firmly in the jamb of the American door but it has yet to be sold to the vast majority as a vital, living force. Almost no one resists the theory of city planning. Almost everyone approves it but in the same way that they approve county poorhouses and state insane asylums-magnanimously and impersonally. One reason for its lack of appeal lies in the fact that city planning has generally been presented from one or the other of two extreme approaches: the over-simplified pamphlet that intrigues, but fails to hold the interest of the thinking reader, or the highly technical reference book, incomprehensible to anyone but an economist or professional planner. There has been a longfelt need for an all around work somewhere between-one that would do justice to the intelligence of the interested, if uninformed, layman. Mr. Churchill's book not only answers this need but stands on its own merit as a thoughtful and unambiguous study of broad scope.

The antecedents of present day city planning make up the first portion of the book. In this review the author's profound interest is felt not only as a professional planner but as a warm and sensitive individual. The ancient city forms, as he explains them, are as alive, logical and comprehensible as though he had lived in them. It is perhaps because of this intimate, personal identification of the individual with the city that Mr. Churchill is able to say: "Another reason why city planning has largely failed in accomplishment is that the planners themselves have been too preoccupied with statistics and the dry bones of their work. They have failed from lack of imagination. Their plans are soggy and lacking in fire, they have neither guts nor gusto. Planning consequently has failed to fire public imagination and, failing that, has not been able to obtain the necessary legislation and administrative support. ... There have been notable exceptions: the Lakefront development in Chicago, the East River Drive and Moses' Parkways in New York for example-spectacular affairs like Haussman's Boulevards, circuses and cake, but no bread, leaving the great living areas of the cities virtually unaffected. They are grand accomplishments but mean nothing in actual betterment to New York's Lower East Side or to Chicago's hundred square miles of slums and slime, or to the people of hundreds of cities that are in need of bread but cannot



Review page 180 C. SUMA PROC SELEXTIFIC AND SELEXTIFIC AND TELEMOLIFICAN

Review page 180

afford circuses. What has been done in the amelioration of living conditions has been sporadic and planless, and has not been done as a part of a City Plan . . ." But Mr. Churchill deceives no one on the numerous and serious problems that have and continue to threaten the success of city planning as a correlated and widespread practice. He believes that economic planning and the legal and cultural adjustments that should precede it are sadly retarded in comparison to present day physical planning techniques because, "We have vet to reconcile in our thinking and consequently in our political action, public effort and private enterprise. We have yet to subordinate immediate private gain to public interest and long-range private benefit. We have yet, in the broad field of physical planning to establish workable objectives which are neither so limited by immediate compromise as to be nearly worthless if not, indeed, harmful, nor so far outside the present framework of society as to be doubtful of even (Continued on page 170) eventual accomplisment."

"Finis . . ."



### HERE TRAFFIC IS HEAVY RUT **BEAUTY AND COMFORT COUNT**



urious comfort practical on your heavy-duty pieces, to take the word "impractical" out of your color vocabulary. The secret is Foamex cushioning covered with Velon fabric-together they form Firestone's wonder combination of cradling comfort and luxurious beauty, both virtually indestructible.

T 1945

See the fascinating color possibilities in Velon (pronounced Vel-lon) ranging from palest pastels to deep, glowing gem tones, in an infinite variety of patterns, textures, weaves and styles. Use Velon upholstery fabric in even the most delicate color on chairs and sofas that get the hardest wear, and know that it will never fade or discolor, never snag or scuff, never lose its bright freshness. For grease and dirt cannot cling to Velon's non-porous threads, acids and alkalis cannot stain it. Just a mere wipe with a cloth dampened in water or cleaning fluid brings Velon back, beautiful as new. Feel the floating comfort of Foamex cushioning

and know how delighted your patrons will feel, buoyed up on millions of tiny air-and-latex bubbles. Muscles relax in the deep, soft resiliency of this Firestone latex foam. Tired bodies are gently cradled by countless breathing air-cells, ever cool and fresh. And Foamex can take the heaviest pounding without packing, shifting or lumping out of shape because it replaces bulky, old-style upholstery. innards with one simple welded-together material-now electronically processed for even longer wear!

Foamex and Velon proved themselves practically.

wearproof in years of wartime use on transportation seats. While most Foamex and Velon are needed for military uses, you can plan with them now, for new vistas of comfort, style and design.



You can use Foamex and Velon separately, of course; either one is a vast improvement. Together they are the perfect combination for

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### ORDERED . INSTALLED . OPERATED AS ONE COMPACT UNIT

Here is a new heart for your building's power distribution system—the Westinghouse Close-Coupled Air-Cooled Power Center. It saves time in ordering, installation and operation. It eliminates piecemeal assembly on the job! It can be installed anywhere indoors without a vault—because it is completely air-cooled. It's lighter, too. Install it anywhere in the building with complete safety.

This complete station assembly results in substantial savings in materials and labor, and cuts service interruptions. It permits location of the Power Center at or near the centers of load.

The Westinghouse Air-Cooled Power Center is only one item of the complete equipment Westinghouse can supply. Others are: motors, control, circuit breakers, panelboards, lighting, elevators, Precipitro and air conditioning—in fact, all the apparatus neede for any building's electrical system. By ordering fro one supplier, you place responsibility in one place . save time in ordering, installation and co-ordination for operation.

Complete specifications on all equipment are ava able to help you PLAN NOW for postwar constrution. Phone your Westinghouse Office, or wri Westinghouse Electric Corporation, P. O. Box 86 Pittsburgh 30, Pennsylvania. J-940



500 Kva Dry Type Air-Cooled Power Center with a 13,200-volt incoming line, oil circuit breaker, a 500 Kva Air-Cooled Transformer and 120/208 volt draw-out load feeder and main air circuit breakers. 100 a 3 62 0 3 9 -0 1 9 0 0 Ø 0 -REMEMBER 9 Q 0 MAIN INCOMING OIL CIRCUIT BREAKER -24 AIR COOLED TRANSFORMER MAIN SECONDARY BREAKER LOAD FEEDER CIRCUIT BREAKERS Lemember This: Westinghouse Air-Cooled Power Centers pay for themselves by Eliminating fireproof vaults Reducing installation costs

- Saving floor space
- Permitting location at center of load
- Providing better voltage regulation
- Safer operation and lower maintenance



Call your Westinghouse representative today for advice and practical help in laying out your postwar power and lighting distribution systems. It pays to blueprint now for tomorrow's needs.

## IR-COOLED POWER CENTERS FOR BUILDINGS



Long continuous lines of light, possessing all the recognized advantages of Colovolt Cold Cathode Fluorescent illumination, come to you in these "Simplicity" assemblies. Distinctive in design—easy to install—simple to maintain—no gingerbread attachments—no dust collecting areas— "Simplicity" units give balanced illumination with comfortable, easyto-look-at light for every commercial installation. Units available to make individual 8 foot fixtures or continuous line lighting in multiples of 8 feet. Colovolt 93" 10,000 hour lamps (1) are guaranteed for 1 full year except for failure due to breakage, (2) require no starters—do not flicker, (3) are practically free of intermediate burn outs.

Contact your electrical wholesaler or jobber, or write us for full details and prices.

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PLANS - SPECIFICATIONS - COST DATA

### FRIES & SON

Steel Construction & Engineering Co. Second & Madison Sts. Covington, Ky.

### BOOKS

### (Continued from page 166)

In his study of public versus private interest, Mr. Churchill gives as lucid and as impartial an account as has ever been given by a city planner. In both, he finds assets and pitfalls. He discusses at length the theories of decentralization and urban redevelopment but has no axe to grind and no lot to sell. If he stacks his chips on any practice, it is on that of neighborhood development. But his main effort is to point out the quicksands and the attributes of previous efforts and contemporary trends in the field of city planning.

Important as this message may be, Mr. Churchill's greatest service is one of public relations for planning. He injects into his writing a vitality and purpose that cannot help but captivate the reader's imagination. Still more unusual is the fact that he, an architect and planner, not only writes vividly, but at times extremely well. Thus, the theme of *The City is the People* is best summed up in the author's own words, "A city plan is the expression of the collective purpose of the people who live in it, or it is nothing. For in the last analysis, planning is not just yielding to the momentary pressure of fugitive groups, nor is it even the making of beautiful maps encompassing future hopes. It is something far more subtle: something inherent and ineluctable—the unspun web in the body of the spider."

THE BUILDERS OF THE BRIDGE. The Story of John Roebling and his Son. By D. B. Steinman. Harcourt, Brace & Co., New York. 456 pp. Illustrated. 51/2 in. by 81/4 in. \$3.50.

Even before that May morning in 1883 when the Brooklyn Bridge was opened to the public, there were men who realized that John and Washington Roebling were great designers. But with the Bridge's completion, their genius became the property of the American people. No structure has been better known or better loved. It was viewed by millions, bought by hayseeds, described in song and story. The Bridge became to America what the Crystal Palace is to England and the Eiffel Tower to France. But what sort of men the



Roeblings were, and what sort of environment produced them, has never been so apparent. There has long been the need not only for a competent analysis of their technical development, but also for a biography which made them intelligible as real men. In very large measure, Dr. Steinman has accomplished both in his new book, *The Builders of the Bridge*.

Material ...

The Roeblings could have scarcely asked a better biographer. For Steinman, in addition to being one of the nation's leading specialists in suspension structures and thus their lineal descendant, has proved himself a thoroughly competent historian. From Steinman's treatment, both Roeblings emerge as flesh-and-blood people, believable despite the passionate intensity with which they pursued their investigations of suspension structures—investigations which killed the father and permanently injured the son. Of the two, John Augustus Roebling develops as the most fully rounded of Steinman's heroes. Here was a man whose life had all the qualities of a fable, a sort of magnificent (Continued on page 174)



Look at the small, inconspicuous instrument on the wall. Think of the constant, watchful service which it performs. A Johnson thermostat, in each room, commands the operation of the heating system, which is far away in the basement. Here is another modern wonder of science!

"For twenty years," says Mr. Brandriff, managing agent of the Rittenhouse Plaza Apartments in Philadelphia, "tenants have enjoyed the comfort of individual room heat control... The automatic control has functioned with a minimum of maintenance. In addition to the comfort, we enjoy a considerable fuel saving, by eliminating the overheating always experienced when radiators are controlled manually."

That is why 561 Johnson "Room-by-Room" Thermostats were installed in Rittenhouse Plaza. The fact that even more than the expected comfort and fuel saving have been experienced, in this building, is another reason why Johnson is called upon, time after time, to solve the next automatic temperature control problem for the same people. The Johnson organization—designing, manufacturing, engineering and installing—is well known as a corps of temperature control experts.

Johnson control may be installed in either existing or new buildings. Ask for a Johnson engineer from a nearby branch office. With no obligation whatsoever, he will make a survey and recommendations, in cooperation with your heating contractor. JOHNSON SERVICE COMPANY, Milwaukee 2, Wisconsin, Direct Branch Offices in Principal Cities.

automatic Temperature and air Conditioning CONTROL





IN creating a kitchen that is attractive, convenient, and pleasant to work in, first quality plumbing is an essential aid to the Architect. It is an important key to health and comfort of which home owners are keenly aware. A Kohlerequipped kitchen makes a home more desirable, and more readily saleable, because it carries assurance of recognized first quality.

Green

The Wilshire sink, in the kitchen above, with its two compartments, double drainboard and handy ledge, fulfills the Architect's requirements for distinguished and thoroughly practical design. The rigid cast iron construction is finished with a pure white, lustrous enamel surface, easy to clean and acid resistant. Precision and reliability are assured in all working parts.

Contraction of the second

The high quality of all Kohler products is safeguarded by the fact that they are made in one plant, under one supervision, backed by 72 years of manufacturing experience. If you do not have catalog K-41, write Kohler Co., Dept. AF-8, Kohler, Wisconsin. Established 1873.



For you can be sure that fixtures labelled Fleur-O-Lier are RIGHT! Right . . . for top performance.

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CERTIFIED

And right for trouble-free operation.

#### Here's why:

- 1. This label on a fixture means that it is built to definite *authoritative specifications* . . . to provide the best in lighting and lamp performance, together with dependable service.
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Certified Ballasts and Starters are an important part of Fleur-O-Lier Certification.

WHEN FIXTURES WEAR THIS LABEL

you can specy with complices

3. It brings you the knowledge and research of many of the finest technicians in fluorescent lighting.

And in addition—this label lets you choose from a wide variety of fluorescent fixtures designed to appeal to the taste and style needs of your customers—and be sure about quality!

#### \* \* \*

Remember over 30 leading fixture makers build Fleur-O-Liers; so when you're planning for tomorrow's fluorescent lighting, he sure fixtures marked Certified Fleur-O-Lier are part of your plans.



Participation in the FLEUR-O-LIER MANUFACTURERS' program is open to any manufacturer who complies with FLEUR-O-LIER requirements





DE LUXE MODEL

Illustrated is the heart of the WATERFILM BOILER—the efficient quick heating generator. The candle test proves this—the greatest heat is directed at surfaces above the combustion and at right angles to the heat travel.

Extensive plans are being made for remodeling and for building post-war homes and first on the list of essential items is a heating unit that can give economical heating com-



ECONOMICAL

QUICK HEAT

fort. The smartly jacketed KOVEN WATERFILM BOILER, the choice of leading architects and builders, combines both these necessary features. The patented construction of this fast steaming boiler incorporates all the newest scientific improvements...giving quick heat, even room temperature and a plentiful supply of domestic hot water. All WATERFILM boilers are made for automatic firing with oil, stoker or gas... in a variety of models suitable for large or small homes, apartment houses or industrial plants. For more detailed information write to:

### WATERFILM BOILERS, Inc.

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EVEN ROOM TEMPERATURE THROUGHOUT THE HOUSE

### BOOKS

### (Continued from page 170)

Horatio Alger. An idealist fleeing the stupid cruelty of Prussianism, he came to this country as the organizer of a utopian community. He was a mortal enemy of slavery and so settled in the North. When the war to settle the issue came, Roebling, himself too old, sent his son off to the Army, put his plant to war work and travelled down to offer his services to Mr. Lincoln. At the same time, he was canny in business, making a financial success of an operation which he regarded as merely a necessary pre-condition to his bridges. He was



a magnificient administrator, forcing through to completion projects which lesser men would have abandoned. Finally, his was one of the most luminous intellects of nineteenth c e n t u r y engineering, displaying a rare balance between precision and imagination. As few builders before or since, he was master equally

Method . . .

of material, method and design.

If, as Steinman makes clear, there was nothing accidental in the achievements of John Roebling's Spartan consistency, it is all the more remarkable that his son was so well equipped, by temperament and training, to carry on his father's work. Washington Roebling appears somewhat less vividly in the book-perhaps because he lived so literally for the Bridge during the 15 years between his father's death and its completion that it is hard to separate the man from his project. He collapsed from caisson disease and for 11 years thereafter supervised the construction by field glasses from his bedroom window: such evidences of his stubbornness are fairly well known. But we are indebted to Dr. Steinman for much new material showing how much deeper than that his determination ran: his concern for the welfare and safety of the workmen; his extraordinary technical ingenuity in solving new problems of submarine construction; his endless patience in repairing the damage of fire, flood and explosion.

American recognition of the significance of the Roeblings' work was quick and sure. It even burns through the flowery Victorian prose of the dedication day ceremonies. Said the Hon. Abram S. Hewitt: "The Bridge is more than an embodiment of the scientific knowledge of physical laws. It is equally a monument to the moral qualities of the human soul . . ."

Dr. Steinman's prose may at times be stodgy but it never prevents his communicating the drama of the Roebling's growth and final flowering. (Continued on page 178)

... and design


\*ALZAK AT WORK TO MAKE IT WORK FOR YOU

> Alzak-finished aluminum reflectors, naturally, get the job for final inspection of Alcoa aluminum reflector sheet before it goes to the reflector manufacturer.

> Maximum efficiency, long life and low maintenance cost are the advantages of Alzak-finished lighting reflectors. Year after year they retain their high reflectivity. The glasslike, hard oxide coating guards against chipping and makes the surface easy to keep clean.

> Alzak reflectors can be finished for indoor and outdoor work, for spot illumination and diffuse. Your reflector manufacturer can furnish you with the type of Alzak finish for any special lighting job.

> ALUMINUM COMPANY OF AMERICA, 1944 Gulf Building, Pittsburgh 19, Penna. \*Registered trademark



## the answer is still

THE 400 SERIES Sizes 400 to 680 sq. ft. steam, including domestic hot water load.

THE FAMOUS OIL-EIGHTY AUTOMATIC Sizes 1300 to 2600 sq. ft. steam, including domestic hot water load.

SHIPMENTS FROM STOCK These two famous boilers are now in production and it is believed that at the time you read this advertisement it will be you read this advantisement if whit we possible to make shipments of nearly all types and sizes.

BUY and HOLD U. S. WAR BONDS and STAMPS MORE COMFORT PER FUEL DOLLAR is the yardstick of home heating value. Fitzgibbons steel boilers still measure up, as they always have. For the large and medium-size residence where quality is first consideration, the Fitzgibbons Oil-Eighty Automatic is the first choice. For the small home, of modest appointments, where the budget dollar is watched carefully, the Fitzgibbons 400 Series of past-proven fuel economy is paramount.

These boilers have new features, but there is nothing experimental about them. Nor is there any substitution in materials or construction methods, upon which their high reputation is solidly based. With a Fitzgibbons steel boiler you take no chances.

MR. DEALER, your oil burner will "do itself proud" in either of these boilers. Consider this when you suggest boiler replacements, and make sure of the lasting goodwill of your customers by recommending a quick-heating, sensitive Fitzgibbons steel boiler.

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# THE SHOW-ROOM HOMES of the Nation

T HE GOVERNMENT has begun to relax wartime controls of building materials. Soon we'll see more and more new homes going up all over the land.

The owners and builders of a great many of these homes will borrow ideas and features from the homes of TIME subscribers—from homes like Mr. Robin's, shown below. For, by and large, the homes of TIME families are the "show-room" homes of the nation.

TIME readers are looked-up-to members of their communities. They have the habit of progress, of wanting new things and better things—and they have the incomes (more than twice the U.S. average) to indulge that habit.

Did you know that nearly 600,000 TIME families own their own homes?—that they own nearly 150,000 additional summer or winter homes?—that a testsurvey shows that almost 3 in 10 of TIME's more-thana-million families already have plans to build or remodel after the war?

Sell these families first—and thousands of your other prospects will see your building products on display in homes they admire and copy.



TIME Subscriber 10-75-HH-859-847—Philip Robin owns this hillside home at Winston-Salem which has been selected by the editors of Architectural Forum as one of the recently constructed U. S. homes most likely to influence new trends.



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ADVERTISING OFFICES



# OF THE FUTURE!

YOU may expect great things of the Lawson Line to come! As the world's largest manufacturer of bathroom cabinets, we shall maintain our position of leadership by superior designs, improved manufacturing processes, and by that tested 129-year Lawson policy of customer relationship.

In smart styling, sound construction and "convenience" features, the Lawson Line of the future will be outstanding. And this line will be priced to meet every homemaker's budget.

We hope the day is not far distant when we can offer you the new Lawson Line. It will set the pace for the industry!



#### BOOKS

(Continued from page 174)

BUILDING OR BUYING A HOUSE. By B. K. Johnstone & Associates. Whittlesey House, McGraw-Hill Book Co., Inc., New York. 154 pp. and index. 71/2 in. by 101/4 in. \$2.75.

As the postwar building boom draws closer, guide books for the prospective home owner are appearing in ever-increasing numbers. One such road map to a happy home is *Building* or *Buying a House*, by B. K. Johnstone & Associates—a professor of architecture and members of the architectural staff at Pennsylvania State College.

This book is written expressly to steer the bewildered layman through the maze of pitfalls he will encounter in financing, planning and locating his new house, and discusses in detail such technical problems as selection of a mortgage, the concomitants of a desirable site, cost analysis, contracts, material and construction requirements and the services to be expected from architect and contractor. A special feature is a "buyers check list" covering every detail which should be inspected before buying a ready-built house.

What undoubtedly will interest the future homeowner more than these technical aspects of building however, are the chapters devoted to planning the house itself. Here, sketches of specific rooms showing their functional relationship to other parts of the house and numerous floor plans illustrating good and bad planning give the layman a concrete knowledge of design principles. The examples used emphasize good circulation, a relationship of the rooms to the out-of-doors, wall storage and convenient closet space, integrated work areas, flexibility of rooms for a variety of uses and smooth surfaced walls and furniture to reduce cleaning time.

In spite of the sometimes excellent planning ideas presented and in spite of the thoroughness with which the authors delve into every aspect of building or buying a house, the book as a whole remains extremely dull. In addition it is written in a paternalistic vein which manages to reduce the reader, in a few pages, to a state of uneasy inferiority, and in a few chapters to a feeling that perhaps it would be better to just go out and rent an apartment. Overlooked by B. K. Johnstone and his associates, unquestionably upright and serious men, is the idea that building a home might also be fun.

PLASTICS, SCIENTIFIC AND TECHNOLOGICAL. By H. Ronald Fleck. Chemical Publishing Co., Inc., Brooklyn, N. Y. 534 in. by 9 in. \$6:50.

If you want to know about isobutylene, vinyl acetyline and the flexibility of elastomers at low temperatures then this is your book. If you are looking for a glamorized picture of the plastics industry you will not find it here. The title Plastics, Scientific and Technological, is not misleading-the book is not popularized for the lay reader. To use the description written by the author it is-"a critical survey of the literature (plastics) and a correlation of the scattered data . . . of value both to chemists in the industry and to those whose professional duties necessitate a knowledge of the science of plastics." To an industry struggling to calm the over-enthusiasm of the copy writers' plastic-dream-world the book is a sober steadying hand. An intelligent understanding of it requires a sound knowledge of organic chemistry. The book is well illustrated with molecular diagrams, chemical formulae and drawings of industrial processes.



# When does a Stretch become a St-rain?

**R**EVERE RESEARCH, intent on investigating every phase of sheet copper construction, used sensitive dial gauges to magnify the motion which takes place in a copper gutter with changes in temperature. A beam of sunlight, a passing cloud, a light shower of rain, could make the metal expand and contract like mercury in a giant thermometer.

We found that when a gutter expands it must be able to slide on the supporting structure so that the motion can reach the expansion joints instead of setting up excessive strains in the metal. From this and other experiments came the principle of columnar strength, from which Revere has developed new and simple methods that reduce sheet copper construction to a matter of engineering design. These will be described and illustrated in a booklet now being prepared. Upon request we will place your name on our list to receive a complimentary copy when issued. Write the Revere Executive Offices.

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isten to the Human Adventure on the Mutual Network every Wednesday evening, 10 to 10:30 p. m., EWT

11/1/

Air Conditioning and Refrigeration in These Famous Pharmaceutical Laboratories

... another model for the future

Shaded outline at right shows location of the many air conditioned departments of the Parke, Davis & Company laboratories and offices at Detroit, Michigan.

BACK IN 1907 Parke, Davis & Company, world-famed manufacturer of quality pharmaceuticals, installed its first air conditioning system. Today, compressors producing close to 400 tons of refrigeration for air conditioning, processing and low-temperature storage serve this huge plant. It is a model of planning for the future.

As new buildings and additions are constructed, they are planned for air conditioning. And as the structures built prior to 1907 were remodeled, they were air conditioned and lowtemperature processing equipment installed where desirable.

Positive control of temperature, relative humidity and refrigeration is vitally important in the production of pharmaceuticals. For example, whole blood for lifesaving plasma, contributed by thousands of American citizens, is at one stage processed in freezing cabinets at a temperature of -56°C. Later, before drying, it is stored and preserved at temperatures far below zero. Several Carrier Compressors totaling 33 tons do these jobs.

Other installations include four 40-ton Carrier Compressors which serve the Research Department. Building No. 4 houses chemical and building No. 13 the biological and ampoule departments where nine compressors of over 100 tons total capacity provide both conditioned air and the refrigeration required. Recently, conditioning and refrigerating facilities of more than 75 tons for the production of penicillin and the cooling of alcohol were installed. "Freon" safe refrigerants are used exclusively throughout the plant.

Whether the job calls for new building, alterations or complete modernization . . . you can help your clients by reminding them of the advantages and benefits of air conditioning and refrigeration. Write for data on "Freon" refrigerants for your files. Kinetic Chemicals, Inc., Tenth and Market Streets, Wilmington, Del.

#### IMPORTANT

"Freon" refrigerants are freely available for comfort cooling and all other applications.

WAR BONDS HELP BRING VICTORY NEARER





AUGUST 1945



# A Tonic For Hard-To-Rent Hotel Rooms

Chrysler Airtemp "Packaged" Air Conditioners are well suited to the large or small hotel, especially where limited capital does not permit air conditioning the entire building at one time. Hard-to-rent sections or low-revenue wings or floors frequently mean the difference between profit and loss to any hotel. With dust, dirt, and street noises shut out, many hotel operators have found that air conditioned rooms meet competition and command premium rates which more than pay for the improvement. Chrysler Airtemp "Packaged" Air Conditioners, with the hermetically sealed compressor, provide clean, cool, properly dehumidified and gently circulated air – a boon to tired travelers. Flexible and easily installed, timetested, trouble-free and dependable "Packaged" Air Conditioners, pioneered by Chrysler Airtemp, can be used singly or in multiple-with or without a duct system. Specify Chrysler Airtemp "Packaged" Air Conditioners to increase profits in hotels. • Airtemp Division of Chrysler Corporation, Dayton 1, Ohio.

Invest in Your Future-Buy War Bonds! You'll enjoy "The Music of Morton Gould," Thursdays, CBS., 9 p.m., E.W.T



## "Slick bathroom! . . . let's snitch a few ideas!"

"Pretty swank . . . that business of having two wash bowls. And darn practical, too . . . with our houseful of kids. The long wall in our bathroom would take 'em nicely!"



"PLAN FOR TOMORROW - BUY MORE WAR BONDS TODAY"

"That safety bottom bathtub with shower would be swell in the bathroom we're planning. I'd put my dressing table across from the lavatory and build closets on each side of the door as you come in. And that Briggs Beautyware in blue is a happy thought for the pink and blue color scheme I have in mind!"

"My problem is to modernize an old bathroom. And I can't think of a quicker, slicker way to do it than with Briggs Beautyware! It's so smartly styled and is so easy to keep clean . . . bet you I'd never be ashamed of my bathroom again!" FREE BOOKLET-"Planning your Bathrooms and Powder Room." Write for yours today!



Whether you're planning a bathroom for a new home or modernizing an old bathroom . . . Briggs is working hand-in-hand with you! Our designers have done wonders with those formed metal plumbing fixtures you already like so much. When you see them again, they'll be the last word in style and convenience . . . and, as always, built to last!

BRIGGS Beautyware

BRIGGS MANUFACTURING COMPANY, PLUMBING WARE DIVISION, DETROIT 11, MICHIGAN

This advertisement, in full color, appears in: Better Homes & Gardens, August American Home, August

Copr. 1945

# PRODUCTS AND PRACTICE

### FUNCTIONAL WALLS of light construction, meeting modern standards of insulation, are needed to replace

#### conventional construction in "heavy" building.



FUNCTIONAL ANALYSIS of all of the forces a wall is designed solar radiation, wind, sound and vapor. Year-round airto resist is needed to create improved barriers against rain, conditioning demands two-way resistance to heat and vapor flow, while modern living demands sound reduction on the interior and special surface characteristics of light absorbtion or reflection.



**BREATHING WALL** composed of Truscon panels and Fiberglass used in Vultee's Fort Worth plant. Vaporseal is protected against dew-point condensation on both sides by insulation. Steel panels provide air-flue action to evaporate any moisture and dissipate solar heat. Expanded metal lath on interior creates sound absorbent finish. Creation of an artificial climate-a different set of atmospheric conditions inside from those outside-has been a fundamental goal of building from prehistoric times. To achieve it various types of walls and roofs have been developed to meet varying climatic conditions. Recent developments in heating, ventilating and refrigeration have given us new tools to use in climate control but in doing so have changed the technological requirements of the shelter enclosure. For example, winter humidification and more effective insulation have made necessary a vapor barrier on the warm side of the wall. In the winter the warm side of the wall is. of course, the inside. However, this position becomes reversed in summer air-cooling. For this reason walls, today, must be considered as much a part of the air-conditioning system as the enclosure on a range or refrigerator is considered an integral part of the appliance.

The most important functions of a modern wall, aside from structural considerations, are 1) thermal resistance, 2) sound reduction and 3) resistance to atmospheric penetration Confusion still exists in the use of curtain and bearing walls and there is a public notion that only a massive masonry wall is safe and effective. Actually, heavy walls are frequently inferior to a light, well insulated wall of articulated construction. Curtain walls of great carrying capacity have never been justified in steel and concrete frame buildings because the loads are carried by beams and columns. In wartime construction many bearing walls, even in one-story structures were replaced by a quickly assembled skeleton with non-bearing curtain walls. Freed of the need of transmitting vertical loads such walls can be made of any material that meets the technological requirements of an enclosure. Traditional materials as well as new ones are suitable tosuch construction. The brick industry, for example, has successfully developed thin (4 in.) curtain walls of reinforced! brick masonry. It is claimed that this construction, for ger-tain types of buildings, is cheaper than corrugated asbestos. on steel girts or a 6 in. reinforced concrete wall. The main stress-function of an exterior curtain wall is its resistance towind loads and the transmitting of these loads to the frame of the structure. Severe impact also can be a determining factor in the design of a curtain wall as in the instance of ramp garages. In house construction insulation brought economic and health benefits in the reduction of heat loss in winter. More recently, these benefits have been extended to some industrial structures. There remains, however, a whole class of structures-apartments, office buildings and hotels-to which insulation has never been applied. Economically, present practice in wall construction in these fields is absurdly wasteful. To bring it up to the standards which now obtain in light construction new walls must be developed to reduce radiant and normal heat transmission.

#### THERMAL RESISTANCE

One of the most important functions of a wall is its resistance to the steady heat flow in winter and resistance to solar heat radiation in summer. Internal heat (winter) is transferred (Continued on page 188)

# **School Doors**

#### HART & RUSSELL · ARCHITECTS · LCN DOOR CLOSERS NO. 206 SPECIFIED



Lever arm slides on a metal track in top of the daor. As door is aponed, arm slides toward hinge, increasing door leverage as spring is tightened, and making door easier to open. LCN Overhead Concealed Door Control provides finger-tip-easy opening for these doors, and fully controlled closing. This control is never too much in a hurry, however, to latch the door firmly, and quietly • North Nashville High School, Nashville, Tennessee • NORTON LASIER COMPANY, CHICAGO.



Overhead Concealed Closer No. 206 is suitable for either interior or exterior single-acting doors - LCN two-speed closing action, easily adjustable, gives a controlled closing swing, and a firm, quiet latch · Because the closer is up out of the dirt, it lasts longer · "The lever arm, the only part ever visible, disappears into a recessed stop as the door closes · This complete concealment permits full appreciation of the design of the doorway.



Good Building's Deserve Good Hardware

# THE P. & F. CORBIN Builders Hardware Merchandising Program includes these Elements of Specific interest to Architects:



Responses to the above ad, in July magazines, indicate the wide-spread interest in the Corbin Program.

Simplification . . . of designs and construction . . . and of catalogs.

- 2 Application of "war-precision" manufacturing methods . . . to assure deliveries of highest quality builders hardware on schedule.
- 3 Continuing Research . . . as to trends, architects' requirements, product improvement, packaging.

Co-ordination ... from architects' specifications ... through dealers' purchases ... through factory production ... to contractors' installation.

- 5 National Consumer Advertising ... to families interested in buying, building, or modernizing homes.
- Completely informing Corbin salesmen and dealers to qualify them to serve architects and their staffs most intelligently.



P. & F. Corbin

THE AMERICAN HARDWARE CORPORATION, SUCCESSOR

NEW BRITAIN, CONNECTICUT • SINCE 1849



# Why wait 'til the HORSE IS STOLEN?



Planning NOW—and that certainly includes elevator entrance design and construction will save a great deal of grief when building becomes an avalanche of work in your offices and ours. Right now we have the engineering and design facilities available which you can utilize to the fullest. In that way, you can have at least one problem settled and shelved until needed.

and trim for better than forty years. During that time we have furnished elevator entrances for many of America's finest buildings from coast to coast. Write us now and let us submit full-color design sketches and estimates to your specifications. Naturally there is

is we have been manufacturing elevator en-

trances, as well as hollow metal swing doors

Why come to Dahlstrom? One reason



no obligation on your part.

Illustrated above, Dahlstrom first floor elevator entrances in the Suffolk County Court House, Boston, Mass. Desmond and Lord, Architects. Bronze doors with formed fluting.





Four colorful folders, which include many striking examples of Dahlstrom elevator entrance installations and details will help you plan new elevator entrances. Write for your copy.

DAHLSTROM METALLIC DOOR COMPANY, JAMESTOWN, N. Y. Branch Officeri NEW YORK, CHICAGO, PHILADELPHIA, BOSTON, CLEVELAND, ATLANTA, SAN FRANCISCO

Representatives in Principal Cities

#### PRODUCTS AND PRACTICE

(Continued from page 184)



VENTILATED WALL construction may be applied to conventional site assembly as in upper diagram, or exactly the same principles applied to homogeneous factory-made panels, as shown below. Air-space in both walls breaks possibility of rain suction, solar heat transmission and sound transfer.



COPPER WALL panels for exterior use can be erected on wood sleepers (Steinmetz Building, N. Y. World's, Fair) or on steel-sheathed building as shown above. On steel sheathing a layer of building paper must be installed to stop galvanic action. Steel sheathing with insulation on the inside resembles a refrigerator in construction. Excellent for summer aircooling conditions, the wall is fireproof, verminproof and quickly assembled.



to and through a wall by radiation and conduction. In the summer radiant heat is an important factor when the sun's rays impinge on the wall. This radiant heat load drops suddenly at sunset. Thus, the effect of such heat is cyclical and it can sometimes be absorbed before fully penetrating the wall. Thick whitewashed walls in tropical climates are sensible because the white reflects a high percentage of the solar energy and the thick wall acts as a blotter soaking up the portion of the heat absorbed by the surface of the wall. A difficulty with this system is that the walls retain their heat after the sun goes down and continue to give off radiant heat and heat by conduction to the air. In certain climates where day and night temperatures are extreme this is an advantage and has been recognized as such in traditional building forms. Heat transmission through a wall may be counteracted in two ways, one, by reflecting the heat waves at any of the wall surfaces with a substance of low emissivity, and another by slowing down the flow of sensible heat by introducing a material of low conductivity. Besides insulation, an air space helps to stop both forms of heat. If this space is vented to the outside it will serve to dissipate most of the solar energy penetrating the outer surface.

Thus heat flow in either direction through a wall can be minimized by any of four methods: insulation, reflection, absorbtion or ventilation. Steady heat flow from within a heated building in winter, or into an air conditioned building in summer, can be controlled by insulation (low-conductivity materials) and reflection. Intermittent heat flow, such as summer solar heat, can be controlled by reflection, absorbtion or ventilation. Which of these methods is best is a matter of climate and convenience, but every wall construction should be analyzed from all points of view before deciding upon the method to be used.

Least understood of all four methods is the method of reflection. Where the source of heat is a high-temperature radiator, such as the sun, reflection on the outermost surface of the wall is obviously highly effective, although dissipation of such solar heat by ventilation within the wall is almost equally effective and may be more practicable. Within the wall, reflection is almost as important as low conductivity, since heat transmission across a cavity is usually about half and half by radiation and convection. (Where heat flow is downward, as in a floor, reflection is even more important; where the heat flow is upward, it is somewhat less so.) On the inside of a wall, reflective finishes have an important, though as yet unexplored part to play because of their direct effect on human comfort, resulting in comfortable interiors at lower temperatures in winter and higher temperatures in summer, as in radiant heating and cooling.

#### SOUND REDUCTION

Masonry walls have one advantage over light wall construction in the reduction of sound because of the straight line relation between the logarithm of weight of the material per sq. ft. and the sound reduction factor measured in decibels. This advantage may be overcome in light construction by the use of air spaces or suitable cushioning materials. Sound transmission in structures is a tricky thing. For example, in a building where all the interior walls were well insulated the sound from a radio was heard on the other side of the building. The outside wall transmitted the sound vibrations which were then amplified by a panel whose vibration frequency was in the same range as the vibration eminating from the radio. Wall panels insulated top and bottom *(Continued on page 192)* 



In this apparel store the Visual Front allows the eye to see all the color and motion inside the store, night and day. Interior and exterior decorations are co-ordinated so that there is no definite line to be seen between the inside and outside.

The advantages of this clear plate glass front can now be had without worry about excessive heat losses in cold weather. Use Thermopane, the L-O-F windowpane that insulates. This double-glass insulating unit is a practical answer to the problem of providing clear visibility, together with comfort in cold weather. In this Mansfield front, the framework behind the show window is glazed with Thermopane. It provides visibility, plus insulation to

Architect: Morris Lapidus, New York City

keep the heat from show window lighting from burdening the air conditioning system.

In this suggested storefront, even the doors are clear glass, being Tuf-flex, the L·O·F tempered glass of amazing strength. Pilasters are colorful Vitrolite structural glass which washes clean and never needs refinishing. A Blue Ridge patterned glass is used as a decorative background for the show window at the left.

Glass can put merchandising power in your storefront. Our new Visual Front booklet is packed with ideas and facts about the many types of modern glass you can use. Write for your copy today. Libbey Owens Ford Glass Company, 7185 Nicholas Building, Toledo 3, Ohio.





THE CRANE TWENTY is new in design, possessing such fuel-saving advantages as enlarged ceiling heating surface and the Crane patented water travel. Comes in seven sizes for steam or hot water heating. THE CRANE FOURTEEN possesses new compactness, high efficiency. The wet base design permits it to be installed on a wood floor—without insulation. For steam or hot water heating.

Two Boilers FROM THE NEW CRANE LINE

Here are the CRANE TWENTY and CRANE FOURTEEN -two new boilers just released by Crane heating engineers to bring greater comfort-better heating-less fuel consumption to home owners.

Possessing many features that every home owner will appreciate and representing the latest thinking in heating design, these boilers are ideal for either new construction or remodeling. Check with your Crane Dealer or Crane Branch for complete information.



CRANECO., 836 S. MICHIGAN AVENUE, CHICAGO 5, ILL. PLUMBING • HEATING • VALVES • FITTINGS • PIPE

NATION-WIDE SERVICE THROUGH BRANCHES, WHOLESALERS, AND HEATING DEALERS

Temporarily these boilers will be supplied without jackets. Jackets may be installed later without disconnecting piping.



#### now serves small buildings, too

The gearless elevator machine, first designed by Otis Elevator Company, was the result of a demand for faster and more efficient vertical transportation in tall buildings.

During the past 43 years, the smooth, quiet performance, and the economical operation of this machine have earned it universal recognition and acceptance. For these reasons, many Architects and Engineers today specify Otis Gearless Elevators for smaller buildings – whenever performance of outstanding quality is required.

Stores, Hospitals, Hotels, and many other buildings—whether of a few stories or many — can now benefit by the lifelong operating smoothness and efficiency of Otis Gearless Elevators.

Otis representatives are ready now to cooperate with Architects and building owners... to recommend the equipment best suited to individual needs. For the finest in vertical transportation tomorrow, call your Otis representative TODAY.



# LIGHT-REFLECTING CONCRETE FLOORS BECOME PART OF THE LIGHTING SYSTEM

**FLOORS** made with Atlas White cement boost the efficiency of a lighting system. They reflect 60% more light than floors made with standard gray cement. Compared with still darker floors, the increase is much greater.

Such light-reflecting floors are helping to maintain fast, efficient production in various industrial plants today!

For full information and your copy of the book, "Light from Floors," write to Atlas White Bureau, Universal Atlas Cement Company (United States Steel Corporation Subsidiary), Chrysler Building, New York 17, N. Y.



#### PRODUCTS AND PRACTICE

(Continued from page 188)

have been found to eliminate much sound vibration and this may provide a means of commercial acoustical correction by placing gaskets at the floor and ceiling.

#### VAPOR PENETRATION

The problem of vapor penetration in walls is not new but more apparent today due to the introduction of insulating materials without proper protection from humidity with suitable vapor barriers. Vapor penetration may be solved in three ways, 1) by reducing the relative humidity of the inside air, 2) the use of a vapor proof barrier on the warm side of the wall, and 3) sufficient ventilation on cold side. The maximum amount of water vapor that can be contained in a given space depends directly on the temperature. For this reason the vapor barrier should be located on the warm side of the wall to prevent the relatively high vapor content air from permeating the wall and condensing on the cold outer-wall surface. Summer air-cooling introduces the reverse of this problem where the warm side of the building becomes the outside. This difficulty is an old one and has been experienced in the construction of ice houses. Warm, high-vapor-content air permeated the sawdust filled walls and then condensed on the cold inner wall creating an undesirable moisture condition in the sawdust packing. The problem was solved by placing an impervious vapor barrier on the outside of the wall.

#### VENTILATED WALLS

Experiments indicate that the ventilated wall accomplishes a number of things that point to its use as a solution to modern wall problems. One, it breaks the suction (see FORUM, Oct. '44) that occurs when air pressure within a wall is lowered causing rain to be sucked through the wall because of the difference in air pressure. Two, it dissipates solar heat. And three, an air space creates an effective means of deadening sound transmission through a wall. The importance of ventilating walls can be seen in the difference between the bulb temperatures in the shade and in the sun. The US Weather Bureau statistics for the month of August, 1940, in New York, show a mean dry bulb temperature of 99°F. in the sun and 75°F. in the shade. This is daily average of 24°F. difference. This does not mean that the difference between two surfaces in a wall will register a 24°F. difference but it does mean that a natural advantage in cavity wall construction is being wasted especially in view of the need to make summer cooling economical in small houses. Experiments on some walls constructed of two panels with a 2 in. air space, show an increase in the sound reduction factors ranging from 30 per cent to more than a 100 per cent over that recorded for one thickness of the same material.

#### CURRENT DEVELOPMENTS

How some of these considerations can be applied to practical, everyday problems is illustrated by several recent developments.

The prefabricated metal wall construction employed at Consolidated Vultee's Oklahoma City plant is, of course, the best example of this. Here cellular metal panels were used to form the outside of the wall, providing a ventilated exter-(Continued on page 196)





Sylvania Electric's exclusive rotating base for circular fluorescent lamps allows 360° movement of base, as indicated. Translucent plastic base "picks up" light from lamp, completing the ring of light.



To be made in three sizes (nominal outside diameters:  $8\frac{1}{2}$ ", 12", 16"), Sylvania circular fluorescent lamps will be readily adapted for a great many commercial uses—a few of which are illustrated here.

## EXCLUSIVE FEATURE MAKES CIRCULAR FLUORESCENT LAMP MORE ADAPTABLE

Another "first" by Sylvania Electric comes to the forefront - the circular fluorescent lamp with *rotating base*.

This exclusive Sylvania feature gives a mobility to these attractive and practical "rings of light" that goes far in making them more applicable, more decoratively useful. (Architects will find this particularly true.)

As shown in the adjacent photograph, the Sylvania rotating base enables the base to move in an arc of 180° from the left dotted line position, up and over to the right dotted line indication. By simply turning the lamp over it can be rotated another 180°, affording complete 360° movement.

Another advantage is that this base is made of a translucent plastic which allows "pick-up" of light from the lamp, (forming a *complete* ring of light), without revealing the electrical connections.

Architects are invited to ask for further information about these circular fluorescent lamps—Sylvania Electric Products Inc., Salem, Massachusetts.



Architects will be interested in noting attractive ceiling fixture, made by combining all three sizes of circular fluorescent lamps — especially suitable in bedrooms, for cool, diffused lighting.





#### DON'T BLOW IT

Oh, workman or scholar, Hang on to your dollar And do not spend it soon, For every cent Unwisely spent Inflates the price balloon.



#### IT MAKES SCENTS

To market (black market) to spend lots of jack Careless of how many ceilings you crack, To market (black market) where prices are dear, —Gosh, there's a terrible smell around here.



If you can keep your head and calmly ponder How silly spending drives the prices high; If you can save the cash you'd like to squander And only buy the things you need to buy;

If you can do your part to fight inflation By simply being thrifty with your pelf, You'll do a vital service to the nation

And-furthermore-you'll benefit yourself.

Bonds you buy with payroll earnings. Help fulfill your future yearnings.

#### NO GAMBLE

- When the war is over, will the prices rise or fall?
- We do not know the answer, and
- nobody does, at all. But this much we *can* prophesy—
- whichever way they go:
- You will find it more convenient if you've saved a little dough.



Money in your pocket, Take it out and sock it Into War Bonds, which Help to make you rich.

#### DOUBLE AND NO QUITS

When you boost your paycheck quota and allot it To another bond—it's pretty soft for you! For, although you've spent your money—you have got it, And the Interest is interesting too.



by Berton Braley

Here is wisdom by the peck Versified to save your neck!



#### WHO? ME?

There was a little dope with a fat pay envelope And she spent every cent that was in it. \* And she wondered, by-and-by, why the prices rose so high, But she didn't blame herself for a minute.

#### INFLATIONARY MARY

Inflationary Mary spills This silly kind of chatter: "My little teeny-wee bills And spendings do not matter.

"And if I cheat a little bit On rationing and ceilings The Nation's welfare isn't hit By my small lawless dealings!"

Inflationary Mary's wrong. For she'd be much to blame If people in a mighty throng Should say and do the same.

Small spendings, in the aggregate, Reach sums extraordinary, So let's not try to imitate Inflationary Mary.

#### \* \* \*

#### ADVERTISERS, PUBLISHERS-NOTE:

You are welcome to use all or any part of the material on this page to aid the fight against inflation.



#### SNAKE IN THE GAS

There was a crooked man and he lived in crooked style, He dealt at crooked markets with a smugly crooked smile. He viewed himself as clever with his crooked ration book, But everybody knew him for a crooked little crook.



#### THE GANG'S ALL HERE

You may ask, "Why should my spending Cause inflationary trending Though I squander every penny I have got?" —If you're joined by sixty millions Of civilians blowing billions, You'll discover that it matters quite a lot!



#### YOU CAN LAY TO THAT

As the best egg for a nest-egg Buy a War Bond—buy a batch. But you gotta keep 'em settin' Or they ain'ta gonta hatch!

#### Save your pay

Here's a way— Bonds and savings and insurance Give your future more endurance. Mrs., Mister, Brother, Sister, Don't compete in buying things That is whence inflation springs.



#### ONE PERSON CAN START IT!

#### You give inflation a boost

-when you buy anything you can do without -when you buy above ceiling or without

- giving up stamps (Black Market!) —when you ask more money for your services
- or the goods you sell.

**SAVE YOUR MONEY.** Buy and hold all the War Bonds you can afford—to pay for the war and protect your own future. Keep up your insurance.

A United States War message prepared by the War Advertising Council; approved by the Office of War Information; and contributed by this magazine in cooperation with the Magazine Publishers of America.

## Factories you might see!

Factories tomorrow will utilize to full advantage the new lighting techniques—the advancements in air conditioning, ventilation and design. The light metals—aluminum and magnesium—will play a prominent part, both in construction and for decorative effect, as they will in the things these factories produce. If you plan on re-designing your products to gain the manifold advantages . these light metals make possible, our organization will be glad to discuss your plans with you.

BOHN ALUMINUM & BRASS CORPORATION GENERAL OFFICES—LAFAYETTE BUILDING • DETROIT 26, MICH. Designers and Fabricators ALUMINUM • MAGNESIUM • BRASS • AIRCRAFT TYPE BEARINGS



Clay Pipe was used for all sewers and drains in the Parkfairfax development which has 285 buildings, 1,684 apartments.

## Specify LOW COST FREEDOM FROM TROUBLE ... IN MODEST HOMES OR HOUSING PROJECTS

No material you can specify for a home, large or small, pays such worthwhile returns on the investment as Clay Pipe and other Clay Products. They provide matchless, lowcost insurance against trouble—*permanently!* For sewers and drains Clay Pipe leads all other materials in specifications because Clay Pipe is *permanent* pipe . . . does not rust, corrode, crumble or decompose . . . never wears out. This means permanently dry basements, permanently safe sewers.

Permanence is assured, too, with truly fireproof flue linings . . . durable, attractive wall



#### PRODUCTS AND PRACTICE

(Continued from page 192)



**PREFABRIGATED** concrete panels, 21/4 in. thick are hung from the reinforced concrete frame of the Star Parking Plaza in Washington, D. C.

nal layer to dissipate solar heat. Behind this covering, several inches of glass wool insulation are held in place by an inside finish of expanded mesh, factory sprayed to reflect light. This open internal "skin" permits the insulation to breathe on the cool side and also affords a high degree of acoustical absorbtion within the plant. In a similar factory built after steel became a high priority material, the same principles of construction were worked out in terms of masonry, using a combination of brick, hollow tile and glass fiber board insulation.

Both of these constructions were designed specifically for summer air conditioning, and are therefore not applicable, without some modification, to buildings in which winter heating is the primary problem. A recent study by Fred N. Severud, New York structural consultant, however, shows how a similar approach might be applied to the latter problem.

In the Severud study a typical housing project wall is compared with a proposed prefabricated cavity wall construction. The Severud wall consists, basically, of two walls with or without insulating material between. The outer wall is made of 2 in. thick lightweight concrete tongued and grooved planks, with a seal coat of "gunite" applied after the building is complete. In exterior design a monolithic effect can be obtained by placing the concrete wall planks with the outer face of the floor beams. The inner wall consists of 4 in. thick cinder blocks painted to match the interior partitions.

The advantages of the hollow wall construction are obvious in a comparison of heat transmission factors. The proposed wall consisting of one layer of 2 in. plank, a 2 in. air space and 4 in. of cinder concrete hollow block has the same thermal insulation as a standard 10<sup>1</sup>/<sub>2</sub> in. wall made up of 4 in. of brick and 6 in. of hollow tile back-up. The greatest advantage comes in the use of insulation in which the thermal conductivity of the wall is reduced from ...274 for the brick wall to .068 for the proposed construction and the cost per sq. ft. is still below that of the housing standard wall. The *(Continued on page 200)* 



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4587

# in floors, too... IT'S THE Junior







Architects' reputations are made and maintained by plans and specifications that reflect their sound construction principles, good design and good judgment. When these extend through the smaller but no less important details of construction, there is no question about the home owners' acceptance and pride in your ability.

It is a mark of good judgment to specify—"at least 2% of the contract price for hardware"—a small part of the total, yet a sufficient amount to guarantee enough hardware of the proper quality and design to bring complete and lasting satisfaction.

Then you, as well as the home owner, will be sure that the hardware will be adequate, permanent and a matching touch of beauty to carry out your creative ideas.

Specify "at least 2% of the contract price for hardware" —and insist that selection and purchase be made within a week after the contract is awarded. Also, suggest selection from the McKinney styled lines. All of this is good reputation insurance.



#### PRODUCTS AND PRACTICE

(Continued from page 196)



LIGHT REINFORCED concrete panels reduce bulk of parapet and basement walls and serve as exterior half of cavity wall.

cavity wall construction with or without insulation has a better sound reduction factor than a sound wall.

The bulky roof parapet is replaced by a 2 in. thick concrete plank placed between 8 in. by 8 in. concrete posts 8 ft. on centers. This construction meets the requirements of the New York multiple dwelling law and eliminates the costly 12 in. parapet now used. In some instances the solid masonry parapets have been the cause of cracks in the wall and leaks.

At pipe spaces and in partially excavated spaces, the inner wall and the insulation are eliminated as the 2 in. plank has a higher thermal insulation value than the 8 in. wall normally used. In cases where full cellars exist the 8 in. concrete walls below grade are recommended to resist earth pressure.

The thermal resistance of the proposed wall is almost four times as great as the standard brick and tile wall. This high thermal resistance will result in a great reduction in the cost of the heating installation, i.e., smaller radiators, smaller boiler plant and a yearly saving in the cost of fuel. It would also make air-cooling less expensive because of the wall's resistance to normal and radiant heat transmission. Care is needed in choosing insulation because of condensation.

An advantage in the proposed construction is the considerable saving in dead weight. Constructing the inner wall of cinder blocks and the exterior wall of concrete panels the wall assembly would weigh 36 lbs. per sq. ft. compared with 80 lbs. per sq. ft. for the standard construction. This will result in a great saving both in concrete frame construction and foundation work. For example, in a six-story building constructed on poor ground Severud claims a saving of \$1.50 per lineal foot of wall in the cost of the piles alone.

Neither the Severud study nor the aircraft-plant wall is applicable to all types of heavy construction, but taken together they show that a considerable improvement in this class of structure is overdue. Modern insulating materials and prefabricating techniques, which have been used with such success in house construction, have much to offer the commercial building as well. With increasing recognition of this fact plus the current reappraisal of functional problems of wall construction, further developments in all phases of heavy wall construction can confidently be expected.

#### THINK IN TERMS OF

# STRAN STEEL

## Look beneath the surface for the mark of the progressive builder

That framework of Stran-Steel, with its nailable studs and joists, sets any house apart from others of comparable design. For it imparts an inner value . . . permanence, firesafety, freedom from warp, sag and rot . . . that safeguards the housing investment and enhances the builder's reputation.

Progressive architects and contractors are thinking in terms of Stran-Steel . . . shaping their building plans around this uniform precision material. Its ease of use and speed of erection have been demonstrated in tens of thousands of "Quonsets" and other military buildings framed with Stran-Steel during the war. Improved and simplified for postwar use, Stran-Steel is ready to take its place as the framing material of a new era in building.

STRAN

ODA

## GREAT LAKES STEEL CORPORATION

Manufacturer of the Famous Quantet Hut for the U.S. Navy STRAN-STEEL DIVISION • 37th FLOOR PENOBSCOT BUILDING • DETROIT 26, MICHIGAN

TIONAL

## How UP-TO-DATE are you on ALUMINUM?



## will help make tomorrow's shops lastingly beautiful

ALUMINUM has come of age architecturally! Already the use of aluminum in today's advanced architectural ideas has become a practical reality.

To shops, homes, hospitals, offices and industrial buildings, these new lightweight, high-strength, corrosion-resistant aluminum alloys developed by Reynolds metallurgists to meet the exacting tests of war, bring added beauty, new freedom of design and a structural strength greater than many types of steel.

See catalog in Sweet's or write for catalog No. 104, "Reynolds Aluminum —Its Important Role in Architecture." *Consider Aluminum... Consult Reynolds.* Reynolds Metals Co., 2528 So. Third Street, Louisville 1, Kentucky.

Keep your dollars fighting . . . Buy More War Bonds

To aluminum's recognized beauty, R303 now adds greater strength. Reynolds famous aircraft alloy R303 has a typical tensile strength in certain forms of better than 80,000 p.s.i. Developed primarily for extrusion and forging stock, it is available also in sheet form. High corrosion-resistance.



# Not enough!

**Looks like everyone** with a hammer and saw is planning to cash in on the postwar demand for homes.

But hammers and saws are not enough if the home is going to *sell*!

Your postwar prospects will want well-built homes, designed for "better living"! And they'll expect them to be completely equipped, electrically, with the best in home appliances included as basic elements in the home.

- They'll want adequate wiring and proper lighting.
- Automatic heating and air conditioning.
- An automatic water heater for plenty of hot water.
- An all-electric kitchen with refrigerator, range, dishwasher, garbage Disposall, exhaust fan, clock, and steel cabinets.
- An all-electric laundry with washer, dryer, ironer.

#### Most People want G-E Equipment

In a recent survey of women all over the country, 53 out of every 100 said General Electric makes the best electrical appliances for the home!

This preference, more than twice that for the next most popular brand, is why so many builders and architects are planning to include all the dependable C-E appliances in their postwar homes.

#### It Can Cost Less To Live Electrically

One of the strongest selling points for a fully equipped home will be its *lower cost*!

The initial cost, with complete equipment included in the mortgage, will be *less* than if such equipment had to be bought separately. Savings in operation, maintenance, and through longer life of dependable G-E appliances, will more than offset the slight increase in monthly payments.

For figures and facts on these savings, send for your free copies of the two G-E booklets, "Your New Home And Your Pocketbook," and "Castles In Foxholes."

General Electric is ready with a complete technical service to help you in designing homes for better living, electrically. Home Bureau, General Electric Co., Appliance and Merchandise Department, Bridgeport, Conn.

FOR GOOD LISTENING: Don't miss Art Linkletter, in "The G-E House Party," every afternoon, Monday through Friday, 4 p. m., E.W.T., CBS. "The G-E All-Girl Orchestra," Sunday, 10 p. m., \*E.W.T., NBC. "The World Today," News, Monday through Friday, 6:45 p. m., E.W.T., CBS.

FOR FINAL VICTORY-BUY AND HOLD MORE WAR BONDS

GENERAL & ELECTRIC



# WHAT IS WEATHER-BOMBING DOING TO YOUR BUILDING EXTERIORS?-

# Raincoat Your Structures Now with Waterfoil

The Horn Research Laboratories took ten years to develop and test Waterfoil. It is unlike any other masonry protective coating. Waterfoil is manufactured of irreversible inorganic gels. These gels bond chemically and physically to concrete, stucco, or brick, to form a dense hard integral protective outside layer. The Waterfoil "raincoat" has a microscopic porosity which lets the masonry breathe outwards and at the same time impedes water penetration inwards to prevent reinforcing bar rust, spalling or disintegration. Send today for the Waterfoil literature. It's important.

Horn Products and Methods Protect Millions of Square Feet of Surface Throughout the Nation





A. C. HORN COMPANY Established 1897

Manufacturers of Materials for Building Maintenance and Construction • Long Island City 1, N. Y. Houston, Texas • San Francisco, Calif. One of a series of informative advertisements on Radiant Warmth

"Invisible home heating, with neither conventional radiators nor registers in a room is the most recent development from research activities of the University of Illinois and the Institute of Boiler and Radiator Manufacturers. The new development is known as a "Radiant Baseboard" and has several advantages over conventional heating arrangements . . . By spreading its warmth low-down in the coolest part of the room—the bottom of the outside wall—and providing a room-long source of heat, the radiant baseboard provides the most even floor-to-ceiling home temperatures from a University of Illinois News ever achieved. Release (4/12/45) on Baseboard

Heating.

# Better Heating - Better with Taco



#### NEW RADIANT BASEBOARD HEATING AT ITS BEST

The new INVISIBLE HEAT-unobtrusive radiant baseboards as conveyors of room heating-is assured its best performance when a circulator is used to pump warm water through the system. The Taco Circulator, teamed with Taco Venturi Fittings, provides speedier, more uniform, better controlled radiant warmth. As a result home owners obtain maximum satisfaction from this new, revolutionary house heating method when Taco Circulators, Taco Tankless Heaters and other Taco specialized accessories for warm water radiator systems are installed in the famous "Taco-One" Venturi System.

Consult your wholesaler or write Taco Heaters, Inc., for additional information.



# BUILDING REPORTER



The fuel container, like an oiltank, can be located in any convenient place in the basement.

PULVERIZED COAL-plus a device to burn it-is a new domestic rival to oil, gas and solid fuels and may be a permanent answer to low cost heating. The phenomenal claim is made that through this development, small house heating costs can be lowered at least one-third under the most economical heating methods now in use. The basic principle, known to industrial combustion engineers for years, of burning a mixture of pulverized coal and air in a forced jet is made practicable for heating installations of any size by a device invented by Walter J. Porteous, of Seattle, Wash. The secret of burning an air-coal mixture in small combustion chambers, a puzzle to experts for years, is a heart-shaped fire chamber fed by two inlet nozzles. The nozzles placed at the end of the heartshaped receptacle force the fuel streams around the inner walls until they converge into one ball of flame at the center of the fire box. The fuel is lighted automatically by an electric spark at the end of each nozzle. In industrial installations where the diameter of the inlet nozzle is large and the size of spark needed creates a problem, the fuel is ignited by a gas flame. The burner as-sembly consists of a fuel tank, a mixing pipe and a motor that blows the fuel mixture into the combustion chamber. The fuel tank need not be attached to the burner assembly but can be placed in any convenient location. The Engineering Fuel and Equipment Corp., of Seattle, Wash., has developed a domestic burner and hot air furnace for small house use that weighs only 80 lbs. for the complete installation. Larger units will also be made including air washing and dehumidifying equipment.

combustion chamber

blower

The fuel, pulverized bituminous coal, resembles talcum powder in texture. For commercial installations 80 per cent to 85 per cent of the processed fuel must pass through a 200 (to the inch) mesh and for smaller installations the mesh range is 250 to 300 to the inch. Attractive to conservationists and economists is the fact that the fuel is not limited to bituminous coal but cannel, lignite and peat can be used efficiently.

A remarkable feature of the fuel is that it burns with practically no ash into a hot gas in what is virtually perfect combustion. This is possible because the bulk of the non-combustible volatile materials are removed as byproducts without affecting the Btu. output of the pulverized fuel. The small amounts of solid residue from combustion are also by-products and are used as the base of polishing compounds. Danger of dust explosions in the fuel are removed by extracting all moisture from the processed coal. Deliveries will be made by tank truck with the dust being piped directly into a closed tank, or, the fuel can be "packaged" in metal containers and specially manufactured bags. One of the problems was to eliminate the caking-over of the pulverized coal allowed to stand for long periods without agitation. This was overcome

by using a tank with a greater diameter at the bottom than at the top. The fuel does not cling but drops away from the sloping sides and a knife-blade rotary device, churning automatically in the tank, insures an even flow of fuel to the air mixing pipe. The burner is operated by a thermostat control connected to the electric motor that blows the fuel into the combustion chamber. It has been estimated that two and one-half to three tons of pulverized fuel is enough for the average small house per heating season. Units are adaptable to any type of boiler or furnace now manufactured. In addition to the wide possibilities in the domestic field the pulverized coal burner can be used in annealing, heat treating, melting and refining of metals. Development was interrupted by the war but WPB recently lifted restrictions for the manufacture of demonstration models. Test models are now in operation in Seattle, Portland and New York.

AUTOMAGIC COMBINATION washer-dishwasher manufactured by Thor is a double-duty time and labor saving machine for the kitchen. Constructed of enamelled steel with a porcelain enamelled interior the new appliance is 36 in. high, 24 in. wide, 26 in. deep weighing approximately 200 lbs. and is powered by a 1/4 hp. motor. A combination rotating and oscillating shaft makes the double duty use possible. The upper section which is the central shaft



PARTS, left to right, are clothes unit, spinner bowl, dishwasher and drying rack.

oscillates at a rate of 54 per min. while the lower shaft rotates at a rate of 600 rpm. The dishes are washed by water ejected upward from the two orifices hitting the dishes with an impact of 35 (Continued on page 210)

# GENERAL BRONZE PRESENTS ITS NEW LINE OF PERMATITE WINDOWS

## for hospitals, schools and commercial buildings

DETAILS OF PERMATITE ALUMINUM DOUBLE HUNG WINDOW SERIES DHA-3

IF you would like a complete set of details of this and other new PERMATITE windows for your files, write us today on your letterhead. Address Dept. F-7





Detailed above is the first of a series of new and improved PERMATITE windows. It embodies all the patented and exclusive features that have made the name PERMATITE representative of the finest in window design and construction.

GENERAL BRONZE CORPORATION 34-17 TENTH STREET LONG ISLAND CITY 1, N.Y.



# LIFT YOUR OFFICE TO A Higher Plane

LIFT your office to a higher plane of efficiency and production with Goodform Aluminum Chairs. Freeing you from "office fatigue", they help you do more work and better work. • Goodform adjustable aluminum chairs are scientifically designed to furnish maximum working comfort. The light weight and enduring strength of sparkling aluminum frames, the luxury of deep cushioning and handsome upholstery, combine to give you a lifetime of low cost service.

Write for a Goodform aluminum office chair catalog and the location of your nearest G-F dealer or branch.



YOUNGSTOWN 1, OHIO

METAL DESKS-GOODFORM ALUMINUM CHAIRS-METAL FILING CABINETS-STEEL SHELVING-FILING SUPPLIES-STORAGE CABINETS

The chief is no different from the thousands of men all over the globe who never met electricity until the demands of war brought Laytex-insulated Wire to their backyards.

The Chief Wants

Lights In His Palace!"

These new friends of Laytex see this wire perform in freezing weather, in moist jungle heat,—and under the shock and impact of battle. No wire was ever meant to withstand such tough wear, yet Laytex comes through again and again.

Laytex Wires and Cables are at present supplying only military needs. One day Laytex will again be ready to fill a long list of civilian needs...Buildings, Police and Fire Alarms, Communications, Signalling, Power, Control, and many more. **Rubber Insulation at Its Best** 



ELECTRICAL WIRES



Serving Through Science

# UNITED STATES RUBBER COMPANY

#### BUILDING REPORTER

(Continued from page 206)

Life photos: Gordon Coster



CLOTHESWASHING unit weighing 12 lbs. is lowered into position.

WASHING complete, soapy water is expelled by centrifugal force. DISHWASHING tub weighing 10 lbs. is lowered over spinner. DISHES are dried in about five minutes by spinner fan action.

mph. The dishes are dried by a current of air set in motion by the fan action of the spinner pole. Assuming hot water is used the dishes dry in about five minutes. All action is controlled by a dial and is fully automatic. The only thing the housewife does besides loading the appliance is to fasten a plastic locknut. For hygienic reasons two separate compartments are supplied with each washer so that dishes and clothes are never cleaned in the same compartment. Soapy water is expelled by centrifugal force set up by spinner motion at 600 rpm. Dishwashing over, the housewife removes dish unit and replaces it with the laundry unit stored under the sink. A 14 lb. balancer prevents vibration. Final rinsing of clothes is accomplished by filling the tub with water and setting the oscillator in motion for three or four minutes. Clothes are dried efficiently by centrifugal force in about eight minutes, eliminating the separate operation of a wringer.

(Continued on page 214)

STORED under the sink, laundry unit is replaced by dishwasher.



## EFFICIENCY-in Design and Construction .



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- INSTALLATION

Architects, Engineers and Owner-Managers desiring to make postwar plans now, are invited to consult with our engineering staff.

POLHEMUS engineers employ modern up to the minute ideas against a background of half a

century's experience in the kitchen equipment field. With this sound practical approach, fads and fancy yield to facts and performance. Consult us in your planning of commercial and institutional food serving strategy. We are prepared to cooperate in problems of design, manufacture and installation.

1010 VERMONT AVENUE N.W. WASHINGTON; D.C. P. B. POLHEMUS CO., INC. ROSELLE, NEW JERSEY ENGINEERING • MANUFACTURING • INSTALLATION

11 PARK PLACE NEW YORK 7, N.Y.


# When it's a Mueller Climatrol System, you are sure of delivering True Indoor Comfort ...with results that reflect credit on your choice

When you specify "Climatrol," you know that you are providing equipment which is up to the heating standards of today and tomorrow. Up to the standards of today, because Mueller has long been a leader in the improvement of warm air heating toward the goal of true indoor comfort. Up to the standards of tomorrow — because the Climatrol System is basically designed to handle and condition *air*, and every one of the major "Comfort Factors" is dependent upon conditioning of air. Therefore, as engineering makes further advances, features can be added to provide additional "Comfort Factors." . . . Mueller's 88 years of progress is your assurance of satisfied home owners. The complete Mueller line enables you to select the *correct* furnace or winter air conditioner especially designed for the chosen fuel — gas, oil, or coal — for old or new homes of every size, type, and price range. Specify "Climatrol by Mueller." Write for bulletins. L. J. Mueller Furnace Co., 2001 W. Oklaboma Avenue, Milwaukee 7, Wisconsin.

REG. U. S. PAT. OFF.

B-24





# They'll lend

You can plan smart-looking, colorful bathrooms for any home—regardless of price—when you specify *Formed* Iron fixtures. Their beauty reflects modern functional design. Your imagination will suggest unlimited possibilities for the post-war home.

The modern styling of these fixtures has instant appeal. They can be specified in ever-popular white or in a wide range of attractive colors. They assure long, trouble-free service, for their glassy, acid-resisting finish resists wear and stain. Most important, they are scientifically designed to reduce weight. They weigh only a third as much as other types, with no loss of strength and serviceability.

new smartness

Many of these beautiful *Formed* Iron plumbing fixtures will be porcelain enameled on ARMCO Enameling Iron —the *original* enameling iron and the most widely used metal base for this exacting purpose. Formed Iron fixtures have a place in your post-war plans. They'll give your clients lasting satisfaction, and widen your reputation as an architect or builder who keeps right up to the minute. The American Rolling Mill Company, 2151 Curtis St., Middletown, Ohio.

to your post-war designs

EXPORT: THE ARMCO INTERNATIONAL CORPORATION

THE AMERICAN ROLLING MILL CO. Special-purpose sheet steels





# Thousands in use and every owner pleased

During the ten years preceding Pearl Harbor this company built an impressive total of Parsons

Pureaire Kitchens. Thousands of these Kitchens are today in use in all sections of the United States and in foreign lands.

So far as we know, every Parsons Pureaire Kitchen sold is still in active use.

Every Pureaire owner we have succeeded in contacting is satisfied with his investment.

Each year a larger proportion of our product has been sold to former Pureaire customers.

These facts are PROOF that Pureaire gets and

holds tenants—that it increases profits per dollar of investment—that is ADDS TO THE PRES-TIGE OF RECOMMENDING ARCHITECTS.

Plan Parsons Pureaire Kitchens into every postwar small-apartment multiple you work on. They will cost little if any more than old-style kitchens.

Save room, save money, build profits with this exclusive, high-quality product.

ARCHITECTS:—Your Sweet's Catalog carries full Pureaire specifications. Or write us.

#### THE PARSONS COMPANY

15000 OAKLAND • DETROIT 3, MICHIGAN



## BUILDING REPORTER

(Continued from page 210)

LIGHTING CENTER opened recently in New York by the Sylvania Electrical Products Inc., serves the company as an experimental laboratory and the public as a three dimensional exhibit of home lighting. The group of roomsliving room, bedroom, study, kitchen and bathroom - was designed to take into consideration such things as the way people sit and the actual way a room is used. One of the outstanding features of the center is the successful blending of fluorescent and incandescent lighting with color and decoration. A distinct advance in lighting merchandising, fixtures are displayed as they will be used against decorated backgrounds. For instance, the study is illuminated by a louvered fluorescent fixture directly over a study table providing good general illumination and sufficient working light on the desk itself. When special effects are desired a fluorescent strip throws a soft light on the drapes. One corner of the study is decorated with glass block and the directional effect of sunlight is simulated at night by a fluorescent strip mounted at the ceiling in front of the glass panel. The over-all design avoids flat panels, boxlike fixtures and an over-



# "FUEL-SAVER" BOILER that can be carried thru a Door or Window

Type KD heating boiler is shipped "knocked down" permitting the parts to be carried through a door or window. This eliminates costly cutting and patching of building walls, reduces boiler outage and speeds reconversion.

The Type C, twin section, is a heating boiler in halves, for installation where Type C one piece cannot be carried through existing passages. The only erection work is the bolting together of the two halves.

For years, International's "Fuel-Saver" Type C heating boilers have fulfilled the requirements for low cost heating in office and apartment buildings, hotels, schools, theatres, industrial plants, etc.

"Fuel-Saver" Boilers have cut heating costs in thousands of installations. They are especially suitable for post-war heating requirements providing-

QUICK STEAMING: Due to rapid and positive internal water circulation. MAXIMUM HEAT ABSORPTION: Due to effective distribution of heated gases. EASE OF CLEANING: Due to accessibility of heating surfaces.

Complete range of standard sizes rated in accordance with S.H.B.I.-15 lb. A.S.M.E. Standard-for hand, stoker, oil or gas firing.



Every International Representative is a competent boiler man able to assist in solving heating problems.





Kitchen work center

emphasis on efficiency and provides an excellent example to correct the unfortunate attitude formed in the early days that fluorescent is suitable only for commercial lighting. All of the fixtures displayed are within the price range of the average family.



Fluorescent desk fixture

#### HOME FREEZER Has reach-in convenience of a domestic refrigerator.

Upright home freezers for city and farm use with front-opening doors and sectional inner doors for easy storage and removal will be manufactured by Westinghouse Electric shortly after appliance production is resumed. The upright design of the home freezer will be similar to the household electric refrigerator in size and finish, and will provide the same reach-in convenience. Like the domestic refrigerator it will also have an hermetically sealed mechanical system. Covering no more floor space than a conventional refrigerator of comparable size it can be located in the most accessible space. The freezer will be produced in three models starting with a 6

(Continued on page 218)

AIR-CONDITIONING ELECTRIC RANGE ELECTRIC DISHWASHER DEEP-FREEZE CABINET POWERED HOME WORKSHOP TELEVISION CLOTHES DRYED

# There's a LONG LIST of Reasons for <u>Full Comfort</u> Wiring!

• Post-war homes of all sizes, authorities predict, will have electrical features far beyond pre-war installations. Built-in or installed as furniture, these appliances will require larger electrical capacity than present standards allow.

Inadequate wiring is a basic weakness of 95% of present-day homes . . . and it will be a future short-coming unless home builders are counselled against it.

*Full-comfort* wiring should be a major concern of the architect planning homes for construction now or in the near future. Correct wiring now will anticipate future needs and prevent costly re-wiring later.

The Square D Multi-breaker is an important part of *full-comfort* wiring. It provides modern convenience and protection . . . makes it easy to add circuits as needed.

Get the complete Multi-breaker story from your electrical contractor. It's one you'll want to pass along to your clients. The MULTI-BREAKER eliminates fuses completely. When a short circuit or dangerous overload occurs, the circuit is cut off automatically. A simple movement of the lever restores current after the cause of the overload has been removed. There are no delays—nothing to replace.





National Broadcasting Studio, San Francisco, Calif. Architect-Albert F. Roller, San Francisco, Calif.

# INSULUX puts up a good front

I NSULUX Glass Block is being used today in hundreds of buildings throughout America. In theaters, stores, offices, restaurants, factories and public buildings!

And no wonder! Lustrous, lightflooded panels of Insulux add to the attractiveness of any building.

But – that's not all! Insulux is a *practical* building material, with unique characteristics.

Panels of Insulux diffuse light better than ordinary windows yet provide privacy along with light. They lock out dirt, dust and noise. They do not rot, rust or corrode. And they're easy to clean and to keep clean.

Furthermore – due to their high insulating value, panels of Insulux cut down the cost of air conditioning.

OWENS-ILLINOIS







Insulux Glass Block is a functional building material—not merely a decoration. It is designed to do certain things that other building materials cannot do. Investigate!

For technical data, specifications, and installation details, see our section in Sweet's Architectural Catalog, or write: Insulux Products Division, Dept. B-23, Owens-Illinois Glass Company, Toledo 1, Ohio.

Normandie Theater, New York City, N. Y. Architect-Rosario Candela, N. Y.





The White Turkey Inn, New York City, N. Y. Architects-Cross & Cross, New York.



# TAKE THEM THROUGH

THE Kitchen Door

Many successful new home salesmen began taking their prospects "through the kitchen door" when builders changed over to Youngstown Kitchens.

Until the last shot is fired buy bonds — give blood—salvage fats and paper—work for Victory. en do your part to .



They saw that the prospective purchaser was immediately impressed by the imposing, Youngstown

Kitchenaider. It was a startling improvement over the old style sink the prospect had expected to see.

The streamlined utility of the kitchen ensemble made a valuable first impression and paved the way to an early sale right at the start.

Send for the "Builder's Kitchen" catalog and see how costs can be lowered and sales appeal raised with Youngstown Kitchens. See how you can profit by taking prospects THROUGH THE KITCHEN DOOR.

WARREN, OHIO	MULLINS	MANUFACTURING	CORPORATION	I
		WARREN, OHIO		

Design Engineering Service \* Large Pressed Metal Parts \* Porcelain Enameled Products



the second s			
YOUNGSTOWN KITCHE	NS		- HEARING OF
MULLINS MANUFACTU	RING CORPO	RATION	
Dept. AF 845, Warren, Ohio			
Please send me book Duilder 🗌 Contra			
Nome	A CONTRACTOR	and the second	a line
Street			
City & Zone	County	State	

## BUILDING REPORTER

(Continued from page 214)

cu. ft. size, to meet both urban and farm requirements. The functions of freezing and storing foods will be done separately in all models, 0° being maintained in the storage compartments, and temperatures ranging from  $10^{\circ}$  to  $20^{\circ}$  on the freezing surfaces. Sectional inner doors and shelves will aid in selection of specific foods without disturbing food or temperatures in other sections. Defrosting will be easy without the necessity of removing foods from the storage





Friendly—warm and safe and dry, though you step on it barefoot in bedroom or bathroom.

Friendly—resilient and non-tiring, though you walk on it endlessly in offices and shops, or throughout your home.

Friendly—lovely patterns of golden tans and nutty browns blending gracefully with every decor, with all that's fine and beautiful.

Kencork is the friendly floor you'll always be proud of, always be thankful for. For thirty years these wonderful cork tiles have been proving that no other material can match the comfort, beauty and durability of cork underfoot. Kencork isn't available today but will be made again—we hope soon. Meanwhile, plan for tomorrow by studying the interesting Kencork folder issued by the company that introduced cork floor tiles in 1899. Write to David E. Kennedy Inc., 69 Second Avenue, Brooklyn 15, N. Y.



sections, and need not be frequent. Manufacturer: Westinghouse Electric Corp.

#### PLASTIC UPHOLSTERY

#### Waterproofing and flameproof fabric for outdoor use.

Naugahyde, a new line of waterproof and flameproof plastic upholstery material will be available for civilian use in a wide range of light and bright, clear decorative colors and two-tone effects as well as in a variety of grains. Resistant to exposure, it can be used successfully for lawn furniture, automobiles, boats and other outdoor installations as well as theaters, railroads, restaurants, nightclubs, etc. It is not affected by perspiration, salt water, alcohol, gasoline, oils, greases, most acids and alkalis and can be cleaned with soap and water. It can be easily tailored since it is flexible and can be formed around curves, corners and edges. Other advantages are that it will not get hard or crack and will resist edge-wear, abrasion, scuffing, flexing and wrinkling.

Manufacturer: United States Rubber Co., Rockefeller Center, New York, N. Y.

#### ELECTRONIC AIR FILTRATION

Collects oil mists from high speed cutting tools or welding fumes.

The Electro-Mist is a self-contained, demountable electronic unit designed to collect oil mist. An axial flow fan mounted on top of the unit (which



serves as a hood for the operation) draws air through piping or flexible tubing into the base of the unit. When used with cutting operations, mist laden air passes through a permanent unit filter to remove metallic dust or large

drops of oil, then enters the ionizer in which the mist or smoke particles receive an electrical charge before passing into the collector unit where they are precipitated on the plates. Collected oil mist accumulates and drips off edge of plates through a filter into a reservoir. As much as 2 or 3 gals. of oil a day can be salvaged, and can be piped back into the machine tool or drained off. A removable panel gives access to all removable parts without tools, and the operator is protected from any possibility of electrical shock since turning the latches to remove this panel shuts off the current to the power pack and all charged parts are short circuited to remove any residual static charge. The filter and ionizing units slide out of the casing and the (Continued on page 222)



# Three to make ready — and four to grow!

Once, there was a dream in the minds of architects, builders, and building-supply dealers, of better-built buildings with flexibility of design that would still require profitable planning and erection.

The reality of that dream is the thousands of buildings of EVERWEAR Steel-Frame Construction proved in use by our armed forces. Now, "Southern States" is ready to show you the possibilities of its new development. This simplified method of building-construction uses patented welded-steel channels in the form of quickly erected steel panel-frames in standard arrangements to accommodate wall-surfaces, dooropenings, or window-spaces.

When post-war production gets the "go-ahead" signal, prefabricated Steel Frames will be made available to your plans by SOUTHERN STATES IRON ROOFING COM-PANY which, for 30 years, has been one of the largest in the building-materials industry with its famous EVERWEAR "Lock-Tight" interlocking galvanized Steel Roofing, Steel Shingles, Asphalt Roofing, and Paints.

Check these advantages for your particular purposes:

1. Steel-Frame Construction means better-built buildings. 2. You can use any conventional building materials over the Steel Frames. 3. Hammer, wrench, and screwdriver are the only essential tools needed for assembly. 4. You can build additions to buildings economically, even though Steel Frames were not originally used. 5. Greater flexibility in design—not limited to standard lumber lengths. 6. Foundations and framing are termite-proof. 7. Permits better insulation. 8. Compares in cost to conventional construction-methods.

Does Steel-Frame Construction strike a responsive chord with you? Write today for our new booklet: "Prefabricated Steel Buildings."

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IRON ROOFING COMPANY

General Offices: SAVANNAH, GA. FACTORY-WAREHOUSES IN PRINCIPAL SOUTHERN CITIES

# 5 Messy Jobs Get the "go by"!



BLOW HOTI BLOW COLD! Careyduct will deliver the load with minimum change in temperature.



40% TO 50% QUIETER. Careyduct carries higher velocities ... means greater capacity

#### THE PHILIP CAREY MANUFACTURING CO. LOCKLAND, CINCINNATI 15, OHIO

Carey duct takes the "mess" out of installing air conditioning in old buildings . . . minimizes noise and interference with daily routine.

It comes in prefabricated units that eliminate 5 out of 7 major installation operations. No cutting of plaster for furring . . . no insulating . . . no acoustical treatment . . . no erecting supporting framework or fussing around with lath and plaster.

And, being asbestos from core to cover, Careyduct is also fireproof . . . can't rust.

For quiet, efficient air conditioning systems in new buildings or old, specify Careyduct-the prefabricated acoustical, insulated duct. For details consult your nearest Carey Branch or write-



INSTALLED FASTER than ordinary duct ... by any qualified sheet metal worker.



GOOD LOOKING. No unsightly joints. Takes any finish or looks good unfinished.



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Asphalt Shingles and Roofings Asbestos Shingles and Siding . **Pipeline Felt**  Asphalt Tile Flooring Corrugated Asbestos Roofing and Siding \* Miami-Carey Bathroom Cabinets and Accessories

# can be duplicated in many industrial plants

What electronic air Filtration

has done for "dial stations"

PROVIDING SUPER CLEAN AIR for dial stations where automatic telephone switch board equipment operates, is a job made to order for AAF Electronic Air Filters-and they are performing this exacting service, with complete satisfaction, in cities throughout the country. The same clean air requirements are present in many industries today where materials in process must be protected against spoilage by dust, soot or smoke and where worker efficiency is impaired by air contamination. AAF has developed the first complete line of Electronic Air Filters, making super clean air available for every industrial and commercial need. Write for copy of booklet "The Magic of Electronics in Air Filtration" just off the press.



### BUILDING REPORTER

#### (Continued from page 218)

collector unit tilts forward permitting the removal of the collector plate assemblies for washing or inspection. The 7 in. diameter intake can be turned so as to enter from any side of the casing. The floor support may be omitted with overhead or wall mounting. The unit is 2834 in. by 2034 in. by 70 in. high. The power pack operates from nominal 115v. 60 cycle single phase, on multiple installations one large power pack will handle up to 10 Electro-Mist Collectors. *Manufacturer*: American Air Filter Co., Inc., 215 Central Ave., Louisville 8, Ky.



The Ames Lettering Instrument, made of Lumarith plastic, assures the proper



C Abel Sorensen design Collaboration with leading designers and architects en-ables us to make a direct con-tribution to home planning. associates G. KNOLL ANT MADISON AVE. N. Y 0

lettering of diagrams and blueprints. It provides for the spacing of guide lines for the three different systems of letters most commonly used by commercial draftsmen. It provides a means of drawing guide lines for letters of any height from 1/16 to 1½ in. and for the guide lines required by students learning to letter. The instrument provides a means of drawing, without adjustment of parts, the two slope lines most commonly used for notes on drawings.

Manufacturer: O. A. Olson Mfg. Co., Ames, Iowa.

#### **BENCH VISE**

# Has instant ratchet screw closing and trigger release.

This quick action, manually operated machinist's vise eliminates running in or out the screw to close or open. This new tool can be set and closed in a hurry by



simply pushing on the body of the free jaw which slides in on ratchet screw and two precision guide rods, and tightens with a turn of the handle. It is equipped with a trigger release pawl with <sup>3</sup>/<sub>4</sub> in, of thread which

holds the hardened screw under spring tension. The vise is said to open instantly to 3 ins. by pressure of finger on trigger release after tension has been eased by a single turn of the handle. Made of alloy-steel, the Quikcet vise has a balanced precision grip at all points, with polished, serrated and hardened jaws integral with the body, thus eliminating jaw plates which may come loose. Described as spatterproofed for welding use, with copper plating on all working parts, it is priced at \$7.95, slightly higher on West Coast and Canada. Manufacturer: Grand Specialties Co., Grand Ave. at Troy, Chicago 22, Ill.

#### EXTERIOR MASONRY PAINT

Has exceptional adhesion and is unaffected by temperature extremes.

Mason-Cote is a simplified and improved method of coating exterior masonry surfaces and may be safely applied over damp brick, concrete, cement, stucco, cinder block, etc. Available readymixed, this oil paint penetrates powdery surfaces and maintains its protective and adhesive qualities in spite of heat, sun and weather. Supplied in white only, it can be easily tinted with limeproof oil colors. It resists lime and alkali action and is self cleaning because it weathers white by chalking.

Manufacturer: The Wilbur & Williams Paint Corp., 55 St. James Ave., Boston 16, Mass. (Continued on page 226)



Explanation: Bird Master-Bilt asphalt shingles are noted for their mineral granules, colored under Bird's exclusive method of Controlled Production. The variety of colors and blends enables the home designer to select a roof exactly in keeping with the set-



ting and the style of the house. Add massive appearance and deep shadow lines, created by Master-Bilt's extra-thick butts, and you have a distinctive, durable roof.

#### Master-Bilt SHINGLES

These shingles, in a wide range of colors and blends, meet all FHA requirements and are approved as fire-resistant by Underwriters' Laboratories, Inc. For full details consult Sweet's File, Architectural, catalog 8 b/l, or write for descriptive folder to Bird & Son, inc., East Walpole, Mass. Dept. CD-58.

P. S. Bird makes many quality products for building, repairing or modernizing homes and industrial structures. Consult Sweet's File, Architectural, 8 a/3 for data on Bird Built-Up Roofs, or 9 b/l for Bird Neponset Black Building Paper, used as vapor barrier with insulation.

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Men who know

the best know

#### TIME-SAVING SPECIFICATION DETAILS FOR BIRD Master-Bilt SHINGLES NAILING

Use 1" nized nails to over er 1½" fr plied in

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INSULATED SIDINGS

WALLBOARDS

RUBBERLIKE FLOOR RUNNERS . INDEX PRESSBOARDS . SHIPPING CONTAINERS SHOE CARTONS . BUILT-UP ROOFS . BIRD-FIBRE WOOD FRAME CASES



See.

Use 1" or  $1\frac{1}{8}$ " gauge, galvanized roofing nails, four nails to each shingle, one over each cut-out and one  $1\frac{1}{2}$ " from each side, applied in the thick-butt portion and not less than  $5\frac{1}{2}$ " from butts. Make sure of solid nailing. In high wind areas use additional nails. Instead of one nail directly over each cut-out, set nails  $1\frac{1}{2}$ " to either side of cutout, giving six nails to the shingle against four in standard nailing.

INSULATION BOARDS

BUILDING PAPERS

BIRD & SON, inc., East Walpole, Mass. . NEW YORK . SHREVEPORT, LA. . CHICAGO, ILL.

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ASPHALT SHINGLES .

FLOOR COVERINGS

# Now is the time to check this challenging statement.

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Pre-war Murphy Cabranettes were the finest kitchens in all the world.

They were the only *porcelain* kitchens . . . beautiful to look upon, washable as china, durable as the kitchen sink, required no re-decorating, were almost wholly free from maintenance cost.

They were marvels of compact convenience. More than forty thousand were installed. We believe every one is in service today.

Production of Murphy Cabranette Kitchens was limited; not all areas knew of them. Now, with enlarged facilities, we are set for increased production when peace arrives.

Experiment and experience have taught us to make things better. Our post-war products will excel those we formerly made.

Architects, who will be responsible for the design of America's postwar living, will be the first to learn of our new products.

I.P. DwyE

Dwyer Products Corporation Michigan City - Indiana

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6



## A TEAM THAT'S

ard to Beat.

#### MERITS OF ALLEGHENY METAL

- \*Unaffected by any food or fruit acids.
- \*No staining, no tarnishing, no off-tastes.
- \*Lustrous, handsome, sanitary, strong.
- \*Easy to form, weld, machine.
- Easy to clean, lowest maintenance and depreciation costs.

WHEREVER you find food in the course of preparation in homes, restaurants, hotels, hospitals, railroad trains, ships, service bases, or the shining dairies, canneries and packing plants of the nation—you're pretty sure also to find Allegheny Metal, America's pioneer stainless steel.

Food and Allegheny Metal supplement each other like Motherand-daughter; they're a *team*, just about inseparable. That's because Allegheny Metal isn't stained or attacked by any food or fruit acid because it's easy to clean and keep clean, and has a high sanitation factor—because it's tremendously strong, and for all we know, doesn't even wear out! The first installations made of it are about 20 years old now, and they're still as good as ever.

What's more, Allegheny Metal forms and welds easily, and is highly uniform and dependable in quality—a great virtue to any fabricator. There may be a lot of places where stainless steel can fit profitably into your future. Let us lend a hand in your planning.

Allegheny Ludlum Steel Corporation Brackenridge, Pa.



ALSO HANDLED AND STOCKED BY ALL JOSEPH T. RYERSON & SON, INC. WAREHOUSES

## BUILDING REPORTER

(Continued from page 222)

#### DUST COLLECTOR

#### Specially adapted to buffing, polishing, and grinding operations.

Applying the principle of reducing the ratio of air volume to filter surface area, the new Tubular Dustex dust collector has proven its efficiency in collecting and retaining any type of dust or lint. The unit, available in three sizes, is portable and self contained. It is designed as an efficient and economical means of removing any kind of dangerous and obnoxious dusts from the air arising from any type of dust producing operation. Filter surface area of the tubular collector is 20 times larger than standard units. This large surface area lessens the volume of air drawn through any portion of the filter at one time, thus preventing minute particles from filtering through. It also diminishes the static pressure loss usually brought about by the impingement of the surface area by large quantities of dust. Filter surfaces are tubular and bottomless. Dust filtered through them is collected in a pan at the bottom of the unit. The filters are shaken periodically by a hand-shaker,



Sedgwick elevators are designed to give an extra measure of service. Believe us? We hope you don't. We hope, instead, that you're skeptical - that you want to see for yourself. Let's take a look at a Sedgwick Electric Freight Elevator.

#### Many Safety Features

At the top of the hoistway is a worm geared V-groove traction machine with internal spur gearing — special steel gear and sheave shafts — and an electro-magnetic brake to stop the car if the current is interrupted from any cause.

A centrifugal speed governor operates the car safety which stops the car should it descend at excessive speed or should the cables break.

#### Self-Aligning Motor Cuts Costs, Simplifies Installation

An efficient single speed, reversible type motor, designed for heavy duty service, provides the power to operate the elevator. Its high starting torque and low starting current help cut operating costs. And the self-aligning motor mounting facilitates installation.

#### Made in Any Size to Lift Any Load

Sedgwick makes five standard freight elevators with capacities from 2500 to 8000 lbs. Eut Sedgwick designs and manufactures elevators to lift any load. Fact is, today, on many aircraft carriers, fighting planes are lifted from hangar deck to flight deck on Sedgwick elevators -capacities, 85,000 lbs. and more

#### Sedgwick Line Offers Wide Choice

The complete line of Sedgwick Elevators and Dumb Waiters includes Electric and Hand Power Freight, Passenger, Hospital, Residence, Invalid and Sidewalk Elevators-Electric and Hand Power Dumb Waiters - Electric Stair-Travelors - all designed to solve "man" handling and materials handling problems through greater operating efficiency.

#### New Elevator and Dumb Waiter **Specification Book Available**

If you have not yet reserved your copy, write now for this easy-to-read, 24-page booklet, "Sedgwick Standard Specifications for Eleva-tors and Dumb Waiters," compiled to assist the architect and engineer in the specification-writing phase of his work.



DUMB WAITERS

SEDGWICK MACHINE WORKS, 140 W. 15th St., New York 11, N. Y. ROTO-WAITERS SPECIAL LIFTS ELEVATORS . .

thus eliminating the opening of the machine for cleaning. Filtered air is discharged through a large muffler to deaden air noise, but with minimum resistance. The collector maintains a static air pressure of more than 4 in. at a velocity of over 5000 LFM. Units are 36 in. to 48 in. high, motors are AC 3/4 and 11/2 hp, 3 phase, 60 cycle. Manufacturer: Dust Filter Co., 160 North La Salle St., Chicago, Ill.



#### LUMBER CALCULATOR

Transforms lineal feet into board feet. This simple and easy-to-use Lumber Calculator instantly determines the number of board feet in any size stock from 1/4. in. thick to a beam 20 in. by 30 in. Of the slide rule type, it is made of wellseasoned wood with white lacquered face, is carefully machined, finely calibrated, and has easily read figures. This calculator will prove a dependable aid and time saver to those handling and estimating lumber. Single calculator sells for \$.50, set of three \$1.00.

Manufacturer: Lawrence Engineering Service, 103 Blake Street, Peru, Ind.

#### LUBRICANT

#### Hard-to-open windows and doors made movable.

Eezall is an easily applied semi-liquid lubricant which is used on ordinarily movable surfaces which have become friction bound due to climatic conditions. It can be applied to either painted or unpainted wood or metal surfaces. Particularly well suited for use on hardto-open windows it prevents physical injury and premature wearing of the sash cord, weakening of the sash andthe loosening of glass panels due to constant tugging, banging and straining. Eezal has also proven useful on drawers, gates and latches. It is available in 41/2 oz. to gal. size jars, priced respectively from \$.29 to \$4.00.

Manufacturer: Eezall Products Co., 1447 Boston Road, New York 60, N. Y. (Technical Literature, page 230)

# **For Capacity Control PRE-ROTATION VANES**



# **The YORK Allis-Chalmers Turbo REFRIGERATION Compressor**

Capacity control to extremely low limits-approximately 10% of load-is achieved by the incorporation of Pre-Rotation Vanes in the construction of the York Allis-Chalmers Turbo Compressor. Such control is accomplished by changing the direction of the rotation of the suction gas entering the first stage wheel. Each change produces the same results as would be obtained from a separate machine of smaller size.

York Corporation, York, Pennsylvania.

# Other outstanding features:

- 1. Low center of gravity of compressor-permitted by trough type cooler-cuts vibration, provides accessible operation.
- 2. Stainless steelsmypeller blades resist erosion and corrosion" assuring perfect wheel balance. Blade rivet heads are eliminated to provide unobstructed gas flow.

SINCE

- 3. Balance piston to equalize wheel thrust makes necessary only a positioning thrust bearing, and results in less bearing friction losses.
- 4. Simplified refrigerant shaft seal.
- 5. Permanently silver-sealed condenser joints.

COOLING

RATION AND AIR CONDITI D QUARTERS FOR

ECHANICAL

1 8 8 5



#### Specify Boosey No. 1612 Gasoline and Oil Separator for High Operating Efficiency, Installation Economy and Low Maintenance

Especially designed for airports, large garages, dry cleaning plants and similar buildings, the Boosey No. 1612 Gasoline and Oil Separator is adaptable for installation in any type of commercial or industrial building where floor drains receive waste water containing oil or volatile liquids. The No. 1612 is made in one size only, suitable for the average installation, as the oil is not retained in the

separator, but is discharged to a separate storage tank an added protection against fire hazard. The flow capacity is 25 G.P.M. with proven efficiency in excess of 90%. Where flow requirement exceeds 25 G.P.M. one or more additional Boosey No. 1612 units should be added to meet the job flow requirement. All parts, waste and vent connections are easily accessible. Plan with safety by specifying a Boosey Gasoline and Oil Separator.



There are several other Boosey models designed to fit special commercial and industrial installations. Write for complete Boosey Gasoline and Oil Separator information—no obligation



General Sales Offices: 420 North La Salle St. Chicago 10, Illinois

AMERICAN SKEIN and FOUNDRY COMPANY

## jan we make the city a place to live in? With astringent wit and scant patience for many of today's city planners, Churchill looks at our mountains of concrete and steel and indicts them as centers of frustration and inconvenience. An architect prominent in public housing and city planning, he emphatically points the way to happier, healthier communi-Illustrated \$3.00 ties. The CITY is the PEOP

by Henry S. Churchill REYNAL & HITCHCOCK



# Architects Design New Kitchen-Laundries for Greater Working Ease

Plan by L. Moryan Yost A.I.A.

## Here's How a Bendix Fits Into a Typical, Modern Plan

In a kitchen-laundry designed by architects for maximum ease of accomplishment and step-saving—like the popular type illustrated above — the Bendix automatic Home Laundry is now considered indispensable.

Put in clothes, set the switch, add soap! That's all the Bendix requires. Automatically it washes, rinses, damp dries, cleans itself and shuts itself off. (Hands never touch water with a Bendix.)

The gleaming white finish and trim lines are in perfect harmony with other equipment. It takes but four square feet of floor space. And it is eligible for financing in certain states under F.H.A.

Ask your Bendix distributor or dealer for further facts. His name is listed in the classified section of your 'phone book. Or write us direct.

BENDIX DELUXE MODEL: 26" wide; 36" high work surface, 38" high to top of control panel at rear; 223/4" deep.

BENDIX STANDARD MODEL: 251/4" wide, 35" high, 223/4"deep.



BENDIX HOME APPLIANCES INC., SOUTH BEND, INDIANA The people who pioneered and perfected the Automatic "washer"

## TECHNICAL LITERATURE

#### (Continued from page 226)

HEATING. Plan to Be Comfortable, 24 pp., 9 in. by 6 in.

This non-technical guide, designed to help home owners in the selection of heating systems, presents a variety of questions concerning fuels, summer and winter air conditioning and the importance of central heating systems. Typical boilers and heating units manufactured by the company are briefly described and illustrated, and many ways of distributing heat in a conventional residence are reviewed. The National Radiator Co., Johnston, Penn.

SIMPLIFIED DESIGN OF STRUCTURAL STEEL. By Harry Parker, John Wiley and Sons, Inc., N. Y. C. \$2.75.

The fourth addition to the growing list of Harry Parker's "simplified" design books is a valuable aid to the beginning designer. The popular first volume, Simplified Engineering for Architects and Builders briefly explained structural problems in timber, steel and reinforced concrete. The present volume greatly expands the subject of steel construction and explains the design of steel members and problems encountered in building construction. The solution of many structural steel problems. is difficult but it is shown that by care-

# INTERES IS INDUSTR A SEMI-CIRCULAN BENCH LOCKER 5-IN-A G 54 DIA CIRCULAR SHOWE ASHFOUNTAINS BENCH LOCKE BENCH **IN** Reconverting

# EMPLOYEE WASHROOM FACILITIES

Employee facilities and conveniences are receiving current attention with priority given to remodeling of washrooms. Experience has convinced wide-awake management that good, modern, clean washrooms encourage employee efficiency, win goodwill and boost morale. Furthermore, prominent architects and building engineers have long recognized the unusual merits of a Bradley Washfountain installa-tion. That is why so many Bradleys are being in-



stalled NOW.

Sanitary Bradley Washfountains serve up to 10 persons simultaneously with clean, running water from a central sprayhead. Each Bradley replaces 8 to 10 "single-person" wash basins, eliminating 16 to 20 faucets and numerous piping connections. Water consumption is cut, space is saved, employees' health protected.

#### Some Recent Installations

Some recent Bradley Washfountain installations are: 35 more for two Westinghouse plants; 11 more for C. M. & St. Paul R. R.; 14 for Benrus Watch; 19 for National Carbon; 17 for Alameda

Air Station, Alameda, Calif.; 15 for American Viscose; 11 for Ponemah Mills.

Bradley Washroom Consultants are ready to make practical suggestions – but first write for Catalog 4308 and Special Washroom Survey Sheet. BRADLEY WASHFOUNTAIN CO., 2235 W. Michigan Street, Milwaukee 1, Wisconsin.



Send today for latest Catalog 4308 and Washroom Survey Sheet



ful analysis they can be reduced to simple, solvable terms. The blind use of tables and formulae in design is a dangerous procedure. For this reason the underlying principles of statics are carefully explained and the derivations of the most common formulae are given so that the designer may comprehend fully why certain formulae are appro priate in the solution of specific prob lems. The book, of special use to archi tects and builders, also makes an excellent text book with its "problem and answer" treatment.

BRICK ENGINEERING, Handbook of Design 437 pp., 61/4 in. by 91/4 in. \$4.50.

Until this volume was written by Harr Plummer and Leslie J. Reardon no at tempt had been made, in recent years to correlate and evaluate the most ad vanced information on brick and rein forced brick construction. Extensive research was conducted but, unfortunately the literature of these investigations ha been available only in individual pan phlet form. Brick Engineering as a authoritative and comprehensive refer ence book should fill a gap on th library shelves of architects, engineer and builders. Particularly useful to de signers are the chapters on Beams, Lin tels and Slabs and R-B-M Columns an Piers, in which design theory and cor struction procedure are fully discussed The book is well illustrated with cor struction details and is complete wit design tables, estimating tables an standard specifications. Structural Cla Products Institute, Washington, D. C.

CONCRETE. Corrosion-Resistant Concret for Dairies and Meat Packing Plants, pp., 81/4 in. by 103/4 in.

Concrete floors, drains, and machiner foundations which resist the corrosio action of dairy and meat-packing plan wastes are described in this booklet. I lustrations show plant floors which have been in use for years. Detailed info mation on aggregates, proportions of mix and methods of placing Lumnit concrete is included. The Atlas Lumnit Cement Co., 135 E. 42d St., New Yor 17, N. Y.

WOOD. The Forest Industries Blaze Ne Trails, 36 pp., 8% in. by 11% in.

Wood research projects are adequate covered in this booklet with illustration and descriptive text. It includes impo tant developments such as plastics from impregnated sawdust, chemical bendin and seasoning of wood, molded product production of ethyl alcohol and othe chemicals from waste wood, dowels for furniture, and tests of flat timber truss under longtime loading. Timber Eng neering Co., Washington, D. C. (Continued on page 236)

# ARE O.K. IN KOKOMO?

## LOOK TO

John Watts Electrical Contractor

Which

#### FOR THE "LOW-DOWN" ON LOCAL CODES

NTRODUCTION of new types and varieties of wiring supplies places more importance than ever on the interpretation of local electrical codes and building ordinances. What does "raceway" mean in Kokomo or Newark or Yuma, for example, when available raceways may be metal or plastic, rigid or flexible, round or rectangular?

When you're faced with electrical details like these, particularly on out-of-town jobs, you can count on "John Watts" - a qualified electrical contractor - to be familiar with the meaning of local codes as applied in practice. Look up the local "John Watts" early, while plans are still in the formative stage. You'll find that his knowledge of regulations and working conditions will speed planning and avoid time-consuming delays after construction has begun.

Also you'll find "John Watts" a reliable, upto-the-minute source of the latest product information. His organization is ready with the most modern tools and installation "know-how" for wiring, lighting, signaling, electric drives, and drive controls.

You can count on the newest and best in everything electrical when you call on "John Watts", for well-informed contractors everywhere get their electric equipment and supplies via Graybar. Graybar Electric Company, Gray-4568 bar Building, New York 17, N.Y.



PRINCIPAL OVER 80



# DIVIDENDS FROM DOORS!



Gentlemen: Please send full infor-mation on Stanley Magic Doors for ( ) Commercial ( ) Industrial Use.

To open door

30 sec...X 100 Times daily = 50 min.X 300 days year

= 250 krs. @

60\$ =

\$150

The trade-mark that appears on highest quality Butts, Hinges and other Hardware Equipment for commercial, industrial and residential buildings.

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STANLEY

Stanley Magic Doors Open at Approach . . . **Close After Passage ... Completely Automatic** ... Save Working Time ... Eliminate Damage and Repair . . . Quickly Repay Their First Cost!

Stanley Magic Doors for stock and shipping rooms, warehouses and industrial plants, have outstanding advantages. Each of these affects such economic items as worker time-saving, accelerated traffic, reduced accidents, heat-saving, and door repair costs.

In time-saving alone, simple figuring shows that seconds saved many times daily at hour rates may well add up to an amount far above cost of the doors. Stanley Magic Doors, actuated by "electric eye", are modern as tomorrow. Yet, their simple, trouble-free streamlined performance has been amply time-tested in industrial and commercial use.

Make Stanley Magic Doors a selling point in your early discussions of building plans. They'll be a credit to your foresight. Stanley will cooperate with you in preparing plans and W E) WANTS specifications. Fill-out and mail the coupon now.

DOORS

REQUIRE NO HAND TO OPEN

G

The Stanley Works,

Magic Door Div., New Britain, Connecticut

Firm Name

Name.

Street. City

## Another Triumph in Adaptability...

to get the set



No-Sag\* Springs have been accepted everywhere by designers and construction engineers as the springs adaptable to practically every requirement. Here you see how they have even been adapted to metal furniture for shipboard use by the DOEHLER METAL FURNITURE COMPANY. And yet these are the same No-Sag Springs that go into the finest of living-room furniture as well as into automobiles, airplanes and trucks. To this unique adaptability, add these other No-Sag features:

- Because No-Sag Springs are Self-Conforming, they create luxurious comfort.
- Because No-Sag Springs are Self-Supporting, they eliminate perishable materials like webbing and twine-ties, thereby adding years of serviceability.
- Because No-Sag Springs function in a minimum of space, they are especially adaptable wherever durability and comfort in a limited space are essential.

\*Patented and Pats, Pending

#### **ARCHITECTS!** PLEASE NOTE!

You can see that without No-Sag Springs, spring comfort would be impossible in furniture of this type.

**OUR ENGINEERING DEPT.** is available for consultation. We will even spring up, free of charge, any sample frame you send us.

Write to Dept. for No-Sag Progress Booklet.

NO-SAG SPRING COMPANY . KAY MANUFACTURING CORP. Executive Offices: Executive Offices: Foot of Warren Street, Brooklyn, N. Y. 21590 Hoover Road, Detroit, Michigan

Permanent Display Quarters: American Furniture Mart, Chicago

Executives! SHOW YOUR APPRECIATION TO OUR EX-GIs ...

WIN GOODWILL OF 13,000,000 **Display** This

Handsome **Bas-Relief** 



\* This attractive 3-dimensional plaque your amazingly

simple way to demonstrate your friendliness to those who have served ... your opportunity to make them proud to be back . . . proud of your reception of them.

Put this distinctive, goodwill-building tribute where every-one can see it. Beautifully made of %" durable Masonite presdwood, 24 by 24 inches, deep rich brown. Discharge em-blem design in 4 gold tones thru halftone, on Masonite presdwood, edges finished and mounted 1 inch in front of background panel. Lettered strips in gold color. Be FIRST in your locality to welcome returning Servicemen and women. Single units **\$8.75**-3 or more, only **\$8** each!

SEND NO MONEY - just order on your letterhead with your name and title TODAY!



IT'S A CELLAR FIRE ESCAPE TO BILCO Copper Steel CELLAR BULKHEAD FOR ACCESSIBILITY PERMANENCE SECURITY

You give the home cellar real utility when you provide a direct-to-the-yard cellarway. And in modern cellars with game rooms and workshops, safety de-mands a second exit. BILCO Hatchway Doors provide a modern, trouble-free and attractive outside entrance. Copper steel lasts a lifetime. Leak-proof, warp-proof, fire-proof, termite-proof and burglar-proof. Can't be blown or knocked shut.

	RI	CO ales	mariali	Tos in		Auton	and sur	
BUL	CHEAD D	DORS .	STEEL RO	OOF SCI	JTTLES . SI	DEWAL	C DOORS	
FILI	OUT	AND	MAIL	THIS	COUPO	N TO	DAY!	
1	The BILC	O Manu	facturin	g Comp				+
1	Please se cellar bul	nd me kheads	specifica for hom	tions a es and	nd prices other strue	of Bilco ctures.	copper	steel

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Most asphalt shingles *look* pretty much alike, on the surface ... but underneath – that's a different story.

It starts with the felt. In fact actually it starts with the fibres used to make the felt. To produce the long-fibred, crack-resisting felt that helps to give Flintkote Asphalt Shingles their long life, these fibres are especially selected. Next, this felt must be saturated with a special asphalt compound, and here again you find an unseen quality, exclusive with Flintkote. It's called *supersaturation*.

This process fills over 95% of the felt pores, instead of leaving 20% of them empty, as ordinary methods do. It puts *pounds* more weather-proofing on to every Flintkote roof, adds *years* of life. Physical "extras" like these, plus Flintkote's skill and special knowledge...decades of research ... constant testing ... and an unchanging adherence to the ideal of quality—they all combine to cut costs and safeguard the investment.

The Extra Years of Service Cost No More !...

THE FLINTKOTE COMPANY - 30 Rockefeller Plaza, New York 20, N.Y. Atlanta - Boston - Chicago Heights - Detroit - East Rutherford - Los Angeles - New Orleans - Wace - Washington



## TECHNICAL LITERATURE

(Continued from page 230)

**BUILDING INSULATION,** A Treatise on the Principles and Application Of Heat and Sound Insulation for Buildings, 328 pp., 6 in. by  $8\frac{1}{2}$  in. Price \$3.50.

This is the second edition of one of the most complete and informative books on heat and sound insulation ever published. The author, Paul D. Close, is now Technical Secretary of the Insulation Board Institute and was formerly Technical Secretary of the American Society of Heating and Ventilating Engineers. The book is designed to be a reference volume for architects, engineers and manufacturers and would also serve as a practical text book. Revised in this edition is the useful and comprehensive listing of insulating materials manufacturers with a brief description of each product. American Technical Society, Chicago, Ill.

ESTIMATING. Simplified Carpentry Estimating, 288 pp., 5 in. by 734 in. Price \$3. Written as an aid for the ambitious carpenter this book can be useful to architects, builders, lumber dealers or to anyone engaged in a business where carpentry estimating for dwellings is an important factor. It is a practical text cov-



ONE of the greatest conveniences for comfortable, healthful living is "spot" ventilation. Riddance of unwanted air, of greasy, smelly cooking vapors, bathroom and laundry steam, gameroom smoke and liquor fumes is a recognized "must" for tomorrow's homes.

Blo-Fan "Spot" Ventilators...installed directly over the source of undesirable odors ... are twice as effective as sidewall fans of similar size across the room. Blo-Fans combine both blower and fan principles. They have volume plus power. They scoop up and whisk away the vapors before they can be spread by cross drafts.

When your specifications call for Blo-Fans, the home of your clients will be free from unwanted air.



ering the estimating of rough lumber, finish lumber and hardware, in which the parts of a house are analyzed under six main divisions. Material lists, short cut rules and tables supplement the text. One chapter is devoted to information on making of labor-time estimates. There are numerous illustrations and diagrams that make the book an excellent reference for shop, school or office. Simmons - Boardman Publishing Corp., 30 Church St., New York 7, N. Y.

#### **REQUESTS FOR INFORMATION**

CAPTAIN CHARLES F. MERRIGAN, HQ<sup>°</sup>7th Fighter Wing, APO 958, c/o Postmaster, San Francisco, Calif., wants to receive literature on products and equipment for the postwar house.

PRODUCTS FROM SWEDEN, INC., 932 Broadway, New York 10, N. Y. Attention of Karin E. McNeil. This company is interested in obtaining manufacturers' literature and material costs for transmission to the Swedish Cooperative Wholesale Society on industrial plants and their equipment, floor materials, acid resistant paint, office, dining room and cafeteria equipment, heating equipment, and insulation.

W. J. LEWIS, FRIBA, Cranbrook House, Cranbrook Road, Ilford, Sussex, England, is interested in receiving literature pertaining to electronics, particularly electronic cooking and other devices used around the home.

HENRY C. JOHNSON, kitchen designer, 18 Camp St., Norwalk, Conn. is interested in receiving catalogs on equipment and material for kitchens.

#### **REQUESTS FOR CATALOGS**

H. B. ROARK, designer and builder, Route No. 8, North Kansas City 16, Mo.

ERICH GNANT, 718 North Atkinson Ave., Milwaukee, Wis.

LEROY DEANE, 12439 Magnolia Blvd., N. Hollywood, Calif.

JOSEPH, FLETCHER & JOSEPH, architecture & mechanical engineering, 728 N. Highland Ave., Los Angeles 38, Calif.

NEIL J. CONVERY, architect, 27 Washington St., Newark 2, N. J.

HENRY SCHRAUB KELLY, architect, 282 York St., New Haven, Conn.

EDGAR G. CALAHAN, builder, 1050 So. Josephine, Denver, Colo.

THOMAS GREER, architect, 101 Park Ave., N. Y. C.

MALCOLM GRAEME DUNCAN, architect, 101 Park Ave., N. Y. C.

GEORGE BOLOTIN, 512 32d Ave., Seattle 22, Wash.

## WITH PROVED FEATURES FOR POSTWAR BUILDING



BOR-LOC

The Lockwood Bor-Loc is the simplest and least expensive of all mortise locks to install. It requires only two bored holes, as shown, and a shallow recess to receive the face plate.

#### UNIFAST

The Evidence

Designed primarily to simplify and strengthen the application of "sectional trim" to thin door stiles. The rose and key plate are joined by a slender band, in the center of which a Phillips Machine Screw extends through the thin wood wall of the stile into a tapped hole in the lock case, eliminating the ten small wood screws formerly required . . . saving 15 minutes installation time on every lockset . . . insuring permanent security and fine appearance. SHELTER will top the list of *units* to be constructed after the war... shelter in the form of detached and multiple homes, in all of which the detail of interior doors must be repeated, standardized....

One important detail is Builders' Hardware, in which Lockwood offers outstanding examples:

> UNIFAST is designed for thin doors, to provide a graceful, pleasing and permanently secure mortise lock with the appearance of sectional trim with decreased installation expense.

> BOR-LOC is a simple tubular latch, available with locking feature and emergency key.

Lock to LOCKWOOD for full co-operation on these and many other items ready after Victory for your postwar jobs.

You will find Lockwood hardware specifications simplified in Sweet's Architectural File 17 b 1, 1945 edition. A few additional copies are available. Write for yours if interested.











# HOT WEATHER PROBLEMS VANISH

with the use of AEROFIN STANDARDIZED COILS

"Cleanable Tube" units with removable headers permit easy cleaning of tube interiors where cooling water presents a sediment or scale problem. Also permit complete drainage during winter season.

"Continuous Tube" coils for water and other liquid refrigerants give counter-flow cooling with a minimum of space requirements.

"Direct Expansion" coils for all types of volatile refrigerants designed to give uniform refrigerant distribution and efficient heat transfer.

AEROFIN is the choice of consulting engineers, architects and contractors, for over twenty years, where long life and stability of performance are desired.

Insist on AEROFIN for your installation. Ask our home office or any district office for complete data or consult them on your particular requirement.





### THIS IS THE PRODUCT:

- 1. A sheet metal for all
- exterior work. Guaranteed not to rust
- 2. or corrode.
- 3. Soft and ductile, easy
- working yet strong. 4. An insulator elimi-
- nates ordinary condensation.
- 5. No electrolysis when in contact with steel. Does not stain light 6.
- colored masonry.
- Has a pleasing ap-7. pearance and does
- not require painting. Unaffected by coal or oil burning fumes.
- 9. Unaffected by salt air conditions.
- 10. Resistant to tropical heat, rain, hail, snow, ice.
- 11. The 22 gauge standard sheet is 25% than 16 ounce sheet copper.
- 12. Made by combining Stearin Cottonseed Pitches, Pulverized Slate and Mica under high temperature and pressure.
- 13. A proven product, thoroughly tested for thousands of hours on accelerated weathering machines and in salt spray baths.

This new metal represents the further development of 20 million square feet of metal serving all over the world. It has proven its durability under every conceivable climatic and can be counted upon to • Each contestant may enter one or more atmospheric condition and open up vast new possi-bilities in the building field. Sold through authorized AVAILABLE sheet metal distribu-NOW! tors only.



## CONTEST \$1000 War Bond FOR WINNING NAME

ENTER THIS

#### CONTEST RULES

- The contest is open to those people who are directly connected with the construction business. No other entries including those from our own employees, our advertising agency or their relatives will be accepted.
- thicker yet costs 27% less . Give your business address or the name and address of your employer with your entry.
  - sheet aluminum with . Entries must be posted before midnight August 31, 1945.
    - · Address all entries to Contest Editor, Cheney Metal Products Co., Post Office Box 818, Trenton, N. J.

 All entries became the property of Cheney Metal Products Co. and the decision of the judges will be final. Judges will be Edwin A. Scott, Publisher-Sheet Metal Worker; A. E. Micklewright, Micklewright & Mountford, Architects; J. E. Muller, Vice-President, W. F. Potts Son & Co., Inc.

- the Cheney Process that has proven itself in over anied by a short statement of not more than 25 words describing this new metal. In case of a tie, awards will be given to person making best statement.
  - The name entered should be as short and descriptive as possible, preferably of eight letters or less.

The winner will be announced in this magazine as soon as possible after the contest closes. Read the description of our new metal in this ad carefully, then give us your idea for a name. You may help yourself and help us too, so do it now.

#### CHENEY METAL PRODUCTS CO. TRENTON, NEW JERSEY

# SPECIFICATION AN

The advertising pages of FORUM are the recognized market place for those engaged in building. A house or any building could be built completely of products advertised in THE FORUM. While it is not possible to certify building products, it is possible to open these pages only to those manufacturers whose reputation merits confidence. This FORUM does.

Aerofin Corporation	239
Air Reduction	162
Airtemp (Division of Chrysler Corporation)	182 28
Allegheny Ludlum Steel Corp	225
Allied Structural Steel Companies	41
Aluminum Company of America	175
American Brass Company, The	197
American Rolling Mill Company, The	212
Amaniaan Shain & Faunday Company	228
Andersen Corporation.	2, 3
Angier Corporation Arce Company, The	12
Armstrong Cork Company	
Aviation Corporation, The (Spencer Heater Division)	23
Bathe-Rite Division (Milwaukee Stamping Company) Bell & Howell Company.	158
Bendix Home Appliances Inc.	229
Bileo Manufacturing Company, The Bird and Son, Inc	234
Bird and Son, Inc	223 63
Bituminous Coal Institute Bohn Aluminum and Brass Corporation	195
Boosey, Norman Mfg. Co. (Division American Skein & Foundry)	228
Bradley Washfountain Co	230
Briggs Mfg. Company Bruce Co., E. L	100
B & T Metals Company, The	232
Cabot, Samuel, Inc	232
Cambridge Tile Mfg. Company, The Cardox Corporation	101
Caray Philip Company The	220
Carr. Adams & Collier Company, Inc	164
Carrier Corp	103
Ceco Steel Products Corporation	III
Celotex Corporation TheCove	r II
Changy Metal Products Co	241
Chrysler Corporation (Airtemp Division). Coleman Lamp and Stove Company, The	182
Congoleum Nairn, Inc.	71
Congoleum-Nairn, Inc. Connecticut Telephone & Electric Co. Division (Great American Industries,	
Inc.)	72
Corbin, P. and F Country Gentleman.	180
Crane Co	190
Crawford Door Company	45
Croft Steel Products, Inc	88
Dahlstrom Metallic Door Company	107
Danistrom Metallic Door Company	82
Dunham, C. A. Co., The DuPont, E. I. de Nemours & Co., Inc. (Grasselli Chemicals Dep't.)	90
Dwyer Products Corporation	224
Edison General Electric Appliance Company, Inc Eljer Co	47 21
Empire Bronze Essex Wire Corp. (Paranite Wire & Cable Divis.)	238
Essex Wire Corp. (Paranite Wire & Cable Divis.)	86
Estate Stove Co	24
Fiat Metal Manufacturing Company	48
Fir Door Institute	
Firestone	167
Fitzgibbons Boiler Company, Inc	176
Flagg & Company, Stanley G., IncOpp Fleur-o-Lier ManufacturersOpp	173
Flintkote Company, The	235
Flyin, Michael, Manufacturing Co- Ford Roofing Products Co.	20
Fries & Son	170
Gar Wood Industries, Inc	61
General Bronze Corporation	207
General Electric Company	208
General Luminescent Corporation	170
Convert Materia Componentian	15
Georgia Matble Company, The (Alberene Stone Corporation of Virginia) Grasselli Chemicals Department (E. I. DuPont de Nemours & Co., Inc.)	28 90
Graybar Electric Company	
Graybar Electric Company. Great America Industries, Inc. (Connecticut Telephone & Electric Division)	72
Great Lakes Steel Corporation (Stran-Steel Division)	201
Homasote Company	154
Horn, A. C., Company	204
Imperial Brass Company	43
Insulite Company, The International Boiler Works Co	214
Alternational Donot works Governments even even even even even even even eve	
Johns-Manville Bet. 64 (	
	\$ 65
Johnson Service Company	
	171
Kawneer Company, The	171 37
Kawneer Company, The	171 37 234
Kawneer Company, The	171 37 234

# JYING INDEX

Kennedy, David E., Inc	157 180 222
Larson Co., Karl O Lasier Company, Norton	185 64 178 189 49 238 70 237
Milwaukee Stamping Company (Bathe-Rite Division) Monsanto Chemical Company Subsidiary (I. F. Laucks, Inc.)	228 75 200 58 158 64 52 54 211
National Clay Pipe Manufacturers, Inc National Door Manufacturers' Association	160 57 96 73
Ornamental Metal Manufacturers, National Association of	191 IV
Paranite Wire & Cable Co. (Division of Essex Wire Corp.)	213 165 , 87 210 91 159
Republic Steel Corporation	179 228 202 44 46 .65
	238 93 226 77 40 38 66 60 84 219 23 215 233 225 233 224 201 29 26
Taco Heaters, Inc	32 177 29
United States Gypsum Company	19 209 192 192
Victor Electric Products, Inc	50
Waco Flashing Company. Waterfilm Boilers, Inc. Westinghouse Electric Corp. Weyerhaeuser Sales Company. Williams Oil-O-Matic Heating Corporation. Wood Conversion Company. Woodruff, F. H. and Sons, Inc. Wood Treating Chemicals Co. 1	52 174 169 69 79 181 56
York Corporation	



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