Architects Find Clients Pleased with Celotex Efficiency, Economy and the Celotex Life-of-Building Guarantee

It's natural that an owner, making what is likely to be the largest single investment of his life, should be concerned with getting all he can for his money. That is undoubtedly one big reason for the current trend toward Celotex Vapor-seal Insulating Sheathing and Celotex Vapor-seal Lath.

These products, used together, provide rigid insulation on both sides of the studding—as tight, durable, and dependable an insulating job as science has yet devised. A special double thick Vapor-seal Lath provides adequate insulation at the ceiling line. Yet the net cost of such insulation is held to a minimum, because both the sheathing and lath do double duty—replace other materials—give the owner maximum value for his money.

And of course, with Celotex insulation, his investment is safeguarded by a written life-of-building guarantee! Please write for latest specifications to bring your files up to date!

Celotex Vapor-seal Lath and Vapor-seal Sheathing provide guaranteed protection for the entire life of this new home in Libertyville, Ill. H. B. Smith, Marengo, Architect. Chas. Judielda, Contractor.
FEBRUARY 1941

TRIBORO HOSPITAL FOR TUBERCULOSIS
New York's huge, new treatment unit.

BUILDING FOR DEFENSE
Headway and headaches—a report on progress and the lack of it . . . The Navy turns to steel and prefabrication to boost its housing program—T. C. I. and Stran-Steel take and deliver the biggest orders . . . A new approach to the low cost housing problem produces a new answer—steel igloos which are proof against everything . . . Architects in Boston shoulder the burden of civilian Defense, produce blueprints for action.

HOUSES
More case histories in the small house series. Interior-exterior photographs . . . floor plans . . . critical comment . . . cost data . . . construction outlines.

BURNHAM HOYT PORTFOLIO
Sound modern work is by no means limited to the two coastlines.

THE ARCHITECT'S WORLD
Current thought and argument, largely overcast by war and defense.

THE DIARY
Random observations, news, personalities and a few resolutions.

COMMUNITY CENTER, LOS ANGELES
Interesting ideas for this potentially active Defense building type.

BUILDING MONEY
A preview of what the "Monopoly Committee" is going to prescribe for Housing's ailments . . . Privately financed remodeling program puts a New York tenement in the spotlight, produces low rent housing . . . Operating equipment in the small house—a study of initial costs vs. monthly costs . . . With the USHA rounding the corner from construction to operation, its rental policies go under the microscope—a timely suggestion for improvement . . . A large dose of glass boosts the sales appeal of ten Toledo houses, ups their cost but little.

MONTH IN BUILDING

FORUM OF EVENTS

BOOKS

LETTERS
TRENDS. Although the volume of building permitted during November dropped from the booming October level, it compared favorably with the corresponding volume of 1939, raised the 1940 cumulative total 18 per cent above 1939's first eleven months (see tabulation, right). During the same month wholesale material costs jumped from 97.8 to 98.9 per cent of the 1926 average responding primarily to continued boosts in lumber and paint prices. Retail costs of a six-room frame house rose from 108.7 to 110.6 per cent of the 1936 average, reflecting sharply higher wages (from 111.3 to 116.8 per cent).

PARKCHESTER II & III. While Metropolitan Life Insurance Co.'s New York office is as mum as usual, details leaked out last month concerning its two large housing projects proposed for the West Coast. Moving forward under enabling legislation which became effective in December, the Met will invest some $12.5 million directly (no mortgage) in a same month the eleven months (see tabulation, right). During the same month that the mile-long site to be purchased from the University of California will be only 18 per cent covered by detached houses and two-story apartment buildings, the balance of the 175-acre tract will be covered with parks, gardens, 30 tennis courts, swimming pools and other recreational facilities.

COTTON. If a current experiment in the hands of the U.S. Housing Authority proves successful, Building may solve one of Agriculture's perennial and prime problems—the annual over-production of cotton. Thus, to test its insulation properties, cotton will be built into the roof of a USHA-financed, 369-unit public housing project now under construction in Washington.

INDUSTRIAL REALTY. Obviously essential to an intelligent industrial expansion program, a comprehensive survey of existing production plants, going as well as was supposed, was not missed until national defenders began to look for it. Also badly conspicuous by its absence was a listing of available industrial sites. Last month, however, two organizations began belatedly to compile these basic data. President Walter D. Fuller of the National Assn. of Manufacturers sent 50,000 questionnaires to manufacturers throughout the country, asked them to supply vital statistics concerning their plants and warehouses, small and vacant shops which might easily be overlooked. Answers to these questionnaires were due back in NAM's office January 25, which President Fuller has set aside as "Preparedness Through Production Day." Thence, they were to "be placed in the hands of the Defense Commission in Washington. Through this census of itself, Industry hoped to muster into service factories and facilities "even to every mountain, each valley, every machine shop, every obscure country foundry, every hole-in-the-corner shop."

Task of keeping this information up to date as well as providing similar surveys on industrial sites and warehouses assumed last month by the Society of Industrial Realtors, an offshoot of the National Assn. of Real Estate Brokers, created for this purpose. At its January organizational meeting, the industrial real estate specialists adopted an amendment to the constitution, in essence, that balance of the 175-acre tract will be covered with parks, gardens, 30 tennis courts, swimming pools and other recreational facilities.跑步机.

Industrial Realtor Walter S. Schmidt.

PULSE UP. At year's end, the National Assn. of Real Estate Brokers...
LIGHT AS A FEATHER

SNUG AS A DOWN QUILT

Masonite Cell-U-Blanket

TODAY'S NEWEST HOME INSULATION

MASONITE's new Cell-U-Blanket is among the most efficient of all standard insulations for home use. Yet it's so light in weight—and that means easy handling—that a roll sufficient to cover 125 feet of area weighs less than 30 lbs.

And that's just the start of Cell-U-Blanket's many superior advantages. The core of the insulation is Cellufoam, today's most sensational insulating material... already enthusiastically adopted by many manufacturers of automobiles, refrigerators and other products which require the finest insulation.

Cell-U-Blanket is water and wind proof... provides a positive vapor barrier... does not shrink, sag or settle... is very inexpensive to apply. It is termite-treated, mould-proofed and rot-proofed, and low in first cost.

Cell-U-Blanket is offered in two types: Standard, which has a brown vapor barrier; Silver Sheen, which has a reflective vapor barrier. Available in 1-inch thickness rolls covering 125 square feet and 3/4-inch thickness rolls covering 250 square feet. Let us send you a free sample and complete information. Mark and mail the coupon today.

MASONITE CELL-U-BLANKET
SOLD BY LUMBER DEALERS EVERYWHERE

Please send me FREE samples and all details about Masonite Cell-U-Blanket Insulation.

NAME ____________________________ ADDRESS ____________________________

CITY ____________________________ STATE ____________________________

Cellufoam Products Division, MASONITE CORPORATION, Dept. AF-2
111 W. Washington St., Chicago, Ill.

the pulse of the defense-dizzy building industry, month ago announced the return from its survey of member boards in 237 cities coast to coast. All trends point upward, some favorably, some unfavorably, but the net effect points to a still healthier year than 1940:

A greater volume of real estate activity is anticipated by 78 per cent of the reporting cities.

Substantiating The Forum's forecast of a 4 per cent rise in private residential construction, local realtors in 61 per cent of the cities believe that the dwelling construction trend is definitely up, while 88 per cent think 1941 will be at least as good a year as last.

Interestingly, this construction trend was predicted despite the fact that 89 per cent of the cities report that material costs are rising, median advance: 10 per cent. Prospects of a materials shortage "worried" about one-quarter of the correspondents.

Labor appears to be a still bigger problem. Wages are rising in slightly more than half the cities, and the labor supply has given one-third of them concern, has turned into a short age in one-fifth of the cities.

Logical in the face of these trends is the prediction from 64 per cent of the correspondents that sales prices for residential real estate will mount in 1941. Rents, however, are expected to remain close to present levels both for detached dwellings and apartments.

PLUMBING PROGRESS. Savings ranging up to $135 a house, depending on how severe (read "backward") are existing local plumbing codes, may be anticipated if Government's new standard requirements for plumbing installations are accepted. Developed by a group of technicians from the major Federal housing agencies working under the Central Housing Committee, the new code is reported to cut the weight of required plumbing roughly in half. And, even more significant for the builders of small houses, it is estimated that plumbing costs for a typical house with a single bathroom would average only about $100.

These economies are possible since the new requirements are based on actual working knowledge of the behavior of various types of plumbing layouts using pipes of different materials. Builders are no longer forced to make excessively safe allowances because of the hit or miss guessing which forms the framework for most local codes. Instead, by following the Government's recommendations which are founded on painstaking testing at the Bureau of Standards, plumbing systems can now be designed more in accord with the actual performance demands of particular building types.

Besides offering immediate economies, this functional and safety code is expected to bring about better transportation of sewage and a safer, more satisfactory operation in the long run, particularly in large buildings. Big problem, however, is to get the recommendations accepted generally. Since the Government does not see in itself the means to comply with its recommendations, it is a simple matter to apply the new performance standards in all Federally financed defense projects. Elsewhere private builders will be encouraged informally to ignore unreasonable local restrictions. If local enforcement agencies object, then Government is prepared to interfere, with expert testimony that requirements beyond those set by the Bureau of Standards are unnecessarily restrictive. In this way, it is hoped, tightly drawn, overloading local codes can be cracked.

PRIVATE SLUM CLEARANCE. Vetted last year by the Governor, New York's proposed Urban Redevelopment Corp. Law which would give private enterprise limited powers of condemnation for slum clearance purposes has had some of its objectionable kinks ironed out and will soon be reintroduced with amendments. By the State legislature. Chances of passage this year are better, for its sponsoring Merchants' Assn. has uncovered additional evidence that the law is essential.

Last month the merchants reported the results of an investigation into New York City property values and tax delinquencies. They disclosed that in one blighted area business assessed valuations had dropped $800 million since 1934, despite a general rise in values in other areas, and that in thirteen "sick" Manhattan areas tax delinquencies were two and a half times as serious as in the rest of the borough. While these areas contain only 10 per cent of Manhattan's assessed value, they account for more than 20 per cent of the tax delinquencies. Many millions of the city's present $146.2 million tax arrearage bill are due from these areas.

But, these tax statistics reflect only part of the city's loss. Through the single blighted area selected for detailed analysis by the merchants, assessed values rose from $68.4 million in 1939 to $83.9 million in 1940. Less than due to excesses in the booming Twenties, have declined ever since to a total of $87.9 million in 1939. Moreover, while the market value for the property was 124 per cent of assessed value in 1939, it has dropped to only 63 per cent in 1939. Argument is that, unless these blighted areas are cured by redevelopment corporations, these staggering losses to private investors and the city will continue.

Fact that New York's Sixth Avenue elevated railway structure has been taken down for more than a year without any substantial signs of property improvement indicates further that redevelopment corpora-
Theaters are made more attractive by Formica sheets used for surfaces. This plastic material is very hard and durable, easily cleaned and maintained, and extremely colorful and decorative.

There are more than 70 colors, and inlays in color and metal make the widest variety of decoration possible. So striking theatrical effects have been attained with it by leading theatrical architects.

Formica is not brittle and will not chip or crack. It is inert chemically and will not spot or stain with ordinary cleaning solutions. It can be washed with soap and water or cleaned with alcohol or other solvents if that is necessary.

Once Formica has been installed the surfaces do not need to be refinished and maintenance is practically nothing for many years. In hundreds of fine new and in remodeled theaters Formica has been used for many purposes.

The Formica Insulation Co.
4620 Spring Grove Ave., Cincinnati, O.
Low-cost, high-quality equipment co-ordinates management, production and man power... raises efficiency, cuts down lost motion and expense!

There isn't an industrial building or institution that will not be benefited by the installation of an RCA Victor Sound System for mass communication over large and small areas. It raises efficiency and lowers operating cost by saving in three important ways—time, money. It converts walking and waiting time into working time by making possible inter-building communication with the mere flick of a finger.

Custom engineered to fit all requirements, the RCA Victor Sound System enables you to give your clients a product of the widest experience in radio and sound—at surprisingly low cost. Write or send coupon for complete details—or, if you wish, one of our specially trained engineers will discuss with you the particular requirements of any sound coverage problem.

RCA Victor Industrial Sound Systems
Were Specified for These Modern Buildings

Commercial Sound Division (AE-2)
RCA Manufacturing Co., Inc., Camden, N. J.

Typical installation of RCA Victor Sound System in industrial plant. Provide communication with any or all suites simultaneously. RCA Victor Sound Systems are available for any desired number of loudspeaker suites.

HOW RCA VICTOR Sound System Saves Steps, Time, Money

1. PRODUCTION
Instant communication along production lines, between control positions, between floor and moving equipment, between receiving and shipping areas, and between accumulation points and distribution points. Efficiently instructs personnel of plant operations.

2. PERSONNEL RELATIONS
Safety talks, plant-wide morning and night radio hours, and to relay messages, etc. Instructive talks to improve efficiency. Management talks to entire personnel or separate groups. Recreational or social functions.

3. ADMINISTRATIVE CONTROL
Call and maintain system to locate executives, key men, and visitors. Fire and Safety Signals... Trade name "RCA Victor" Reg. U. S. Pat. Off. by RCA Manufacturing Company, Inc.

RCA Victor Industrial Sound System
RCA Manufacturing Company, Inc., Camden, N. J.
A Service of the Radio Corporation of America

IN CANADA: RCA Victor Co., Ltd., Montreal
LAYING THE SLABS—FAST
WORK IN ANY WEATHER!
Slabs are detailed to fit steel accurately—no field work.

CEMENTING THE JOINTS—
EVERY JOINT AN EXPANSION
J OINT.

TO GET UNDER COVER
FAST

USE A Featherweight
Precast Concrete
ROOF DECK
It's as simple as A·B·C

Save time. NOW, when time is more important
than ever. With Featherweight Precast Concrete
Roof Slabs, you can finish the roof deck, lay the
composition covering, and move in — all at the
same time and in any weather. Your client can
get into production quickly, and stay in production
continuously, without interruption or delay.

Put your faith in a FEDERAL ROOF — it is as
sound and permanent as American Industry itself.
Buy for the future as well as the present.

- LIGHTWEIGHT — PERMANENT — FIREPROOF — NO
  MAINTENANCE.
- CANNOT ROT, RUST OR DISINTEGRATE.
- NEVER NEEDS PAINTING, REPAIRS OR REPLACEMENTS.
- WILL OUTLAST SEVERAL SUCCESSIVE ROOF DECKS
  OF IMPERMANENT MATERIALS.

APPLYING
THE COMPOSITION
COVERING—IMMEDIATELY THEREAFTER.
No waiting for roof deck to dry out — no inter-
ference with other trades.

EMERGENCY BUILDINGS —
that are planned now for temporary service, are
frequently used later for permanent industry. A
FEDERAL ROOF installed now, will not only be safe and
economical for the present, but will be ready for per-
manent occupancy any time in the future, without
repair or replacement. This is fact, proven by experience.

THE COLD AND SNOWS OF WINTER AND THE
RAINS OF SPRING OFFER NO BAR TO THE EREC-
TION OF A FEDERAL ROOF. NO PROTECTION
REQUIRED DURING THE COURSE OF ERECTION.

FEDERAL-AMERICAN CEMENT TILE CO.
608 South Dearborn Street
Chicago, Illinois

For Over Thirty Years — Sales Offices In Principal Cities

FEBRUARY 1941
NEW FREEDOM IN DESIGNING

WITH

Miracle Walls

by

TYLAC

• TYLAC gives you abundant latitude for individual expression in interiors of artistic beauty and permanence...interiors personalized to meet each customer's particular tastes. Solid panels, vertical and horizontal designs, tile patterns and a wide array of lustrous colors for the dignified conservative or the swank modern. In new construction or remodeling—commercial or residential...from "budget" bungalows to millionaire mansions—TYLAC is the inexpensive way to create smart, colorful walls of luxurious beauty.

TYLAC in sheets 4' x 4' to 4' x 12' are easily applied over any surface—old or new—flat or curved. Eliminates painting and varnishing. The lustrous, scientifically applied surface needs only simple washing to retain its beauty...is not damaged by hot water, fruit juices, fats, oils, household acids, or alcoholic beverages. TYLAC will not chip, crack, or craze—the wall covering safe for shower specifications.

TYLAC has proven its superiority the country over for kitchens, bathrooms, game rooms, stores, offices, hospitals, lounges, restaurants, or any interior where beauty, permanence, and economy are prime requisites of a specification.

Sold by dealers everywhere. Mail the coupon for complete descriptive literature and specifications.

MAIL THIS COUPON TODAY

TYLAC COMPANY, Dept. t-2
Monticello, Illinois

Without obligation, I should like complete information about TYLAC.

Name...........................................

Address...........................................

TYLAC COMPANY, Monticello, Illinois
and builders, as well as home-
find that Eljer quality and Eljer
pay big returns in satisfaction
prise in ownership. Eljer plumbing
ces are streamlined in ultra-modern
igns—their colors are smooth, ap-
ling and harmonious. They grace any
ouse—large or small—and they get the
od of pleased approval from prospects
as well as owners. Many builders and
developers have found Eljer appeal
to be an asset of great value. Make a
date to see the Eljer line.

ELJER Co., Ford City, Pa.
ROYAL MEDAL COMES TO AMERICA

To Frank Lloyd Wright, on the recommendation of the Royal Institute of British Architects, H.M. King George has awarded the Royal Gold Medal for Architecture. For nearly a century it has been one of the world's great orders of merit. To the U.S. it has come only four times, to the men pictured on this page. France boasts fourteen, Austria, Germany, Holland four each, Italy and Sweden two, Canada one. Fifty-six times it has honored an Englishman. In commending Architect Wright to H.M. King George, the Institute noted that he had "developed an open planning method through quick response to the conditions of modern life. He has expressed himself through brilliant use of new forms of construction."

FRANK LLOYD WRIGHT
1940

RICHARD MORRIS HUNT—1891

CHARLES FOLLEN MCKIM—1900

THOMAS HASTINGS—1922
Just one of many interesting Kawneer store front mouldings!

STORE FRONT DESIGNERS find constant inspiration in the many useful Kawneer shapes available. Moulding No. 90-K, illustrated above and applied to store front design at left, is an example selected at random from the Kawneer line of Rolled Store Front Construction. With this decorative shape a striking feature can be introduced, and greater unity and simplicity secured in the design.

PROMPT SERVICE ON SUPERIOR COLD-ROLLED CONSTRUCTION

Luckily for the building industry, Kawneer is in a position to supply your requirements in rolled store front construction in what promises to be a banner store front year. And fortunately, too, Kawneer Rolled Construction leads the field with the most complete line and the finest, safest, fully resilient sash on the market.

If you are not now receiving "The Kawneer Front," write Kawneer today. New bound sets of f.s. details are also available on request. THE KAWNEER COMPANY, NILES, MICHIGAN. Branches: New York City, Chicago, Berkeley, California.
THOSE WERE THE DAYS

From "Architectural Wonders of Their Day," an exhibit at the Museum of the City of New York, come these memoirs of the past days and proud. We still are in the habit of thinking that the critics of earlier days, that our achievements will long remain unexcelled.

---

GRAND CENTRAL DEPOT (1871) — "Many came from far and near to see it and carry back tales of its grandeur. For a long time it ranked second only to the Capitol at Washington in national esteem." — Hungerford: "Men and Iron."

FIFTH AVENUE HOTEL (1859) — "In its internal arrangement it will be unsurpassed, ... All the rooms, besides being well lighted and ventilated, will have means of access by a perpendicular railway—intersecting each story." — Miller: "New York As It Is."

HOUSE OF MANSIONS (1855) at 42nd St. and Fifth Ave. — "Eleven independent dwellings, having from 12 to 15 rooms each. The pile is altogether unique in its character and plan, the eleven being combined in one palace, or massive edifice, thereby exhibiting a unity in mass not before attempted. ..." — From the original advertisement.

THE EQUITABLE BUILDING (1887) — "The architectural treatment of the exterior gives the impression that it is of five very stories, with an immense Mansard roof. ... Really, the number of stories is twice as many, as each space is divided by a line." — King: "Handbook of New York."
25 YEARS ON 200 LB. STEAM IS SOME SERVICE...

DON'T FORGET IT'S SUPERHEATED TO 500° F...and we're still going strong!

THIS ENGINEER CAN TELL YOU SOMETHING ABOUT VALVE COSTS

When plant engineers buy valves, it usually means there's an old valve going out of service. So before you specify a certain type of valves, wouldn't it be a big help to talk to an engineer who has them installed in his plant?

You could ask him how much the old valve cost since it was installed. And then find out how much the valve cost new. Now you are ready to figure Initial Cost plus Cost of Maintenance divided by Years of Service...the sound cost-per-year basis on which most Jenkins Valves are bought.

That's how Chief Engineer A. E. Rabuck (shown above) figures costs at Metropolitan Edison Co. Dock Street Plant—Easton, Pa. And if you check his figures on these Cast Steel Valves in the box at the right, you'll see why he specifies Jenkins.

JENKINS BROS., 80 White St., New York, N.Y.; Bridgeport, Conn.; Boston; Atlanta, Ga.; Philadelphia, Pa.; Chicago, Ill.; Houston, Texas; Montreal, Canada; London, England

"COST-PER-YEAR" of these Jenkins Steel Valves

Initial Cost (4 Valves) . $4,923.51

Annual maintenance . $12.00

Years of Service . . . . 25

Cost-per-year (per valve) . $14.92

and they're still going strong!

EN WHO BUY VALVES ON COST-PER-YEAR BASIS

Specify Jenkins
AN ENGINEER EXHIBITS HIS HOBBIES

Among the wall panels allotted last month to members of the Architectural League was one that stole the show from the architects, designers and decorators. Bassett Jones, electrical engineer, might have dazzled the audience with the water-steam-sound-light orchestra and other illumination in the New York Fair fountains, or some of his achievements with elevator transportation. Instead he exhibited his hobbies—commercial fishing, boat design, the literature of polar exploration, and pine trees. At the dinner which opened the exhibition he confessed that it was his hobbies rather than his professional labors which had produced nest eggs. His freezing of fish brought about the frozen food industry; his development of a tree for the "treeless island" of Nantucket may revolutionize coastal planting.

For half a century Jones and his father have been developing a strain of Japanese black pine which thrives in sand and salt spray.

Of Bassett Jones' hobbies the only one that even casually reflects his M.I.T. engineering training is the designing of seaworthy boats, and that was never learned in the naval architectural course.

His documents on polar exploration transcend the usual collection status, will one day join the treasures of some public museum.
Students living in Ohio State University's new men's dormitory have a good outlook on their campus world. All windows in the four upper floors are Aluminum Windows.

It doesn't require a student of architecture to recognize the extra value offered by Aluminum Windows. The greater glass area they provide, their easy opening and closing, weather-tightness and freedom from annoying rattles; these things add to the joy of living with Aluminum Windows.

The building maintenance-man adds his reasons for liking Aluminum Windows: Made of extruded Alcoa Aluminum shapes, there's no rusting or rotting to require expensive replacements of parts. No warping or swelling to require frequent adjustments and refitting. They never need painting.

DEFENSE COMES FIRST

To meet the needs of the National Defense Program, plus the normal demands of peace, a vast expansion of our already greatly increased production capacity is being speeded. When the emergency is past, there will be more Aluminum available than ever before.

Meanwhile, if you can’t get all the Aluminum you want when you want it, remember Aluminum is helping you by helping to meet the National emergency.
THE STORY OF COLOR, from Ancient Mysticism to Modern Science, by Faber Birren. The crimson Press, Westport, Conn. 339 pp., illustrated. 9 x 12. $7.50.

In practically all writing about color it has been taken for granted that we are dealing with either a science or an art, and there has been plenty to say on both. Faber Birren himself has written ten or twelve books dealing with one or the other phase, or both. Here, however, is the larger story—the place of color in man's religion, culture, social relationships. In this broader view the story of color parallels the story of civilization. From the dawn of history up to the fifteenth century A.D., Birren finds little evidence that man used color to indulge his senses. What hues he chose for garment or temple were dictated by a symbolism so deep as to be inextricably bound up with the mysteries of life itself. Our snug judgment that all that was very quaint may be merely sophisticated. "Science may substitute protons and electrons for red and blue, but man still reaches out for promising symbols of individual and universal world harmony." Here then is the story of color in the world of man, in his religion, his culture, his art, his health, his science, and his progress toward mastery of its aid.


In a plea for a return to reason in architecture, Mr. Lindeberg quotes Carlyle's remark that Wren's Greenwich Hospital looked "as though it had been designed by a gentleman." The phrase is apt. It characterizes everything Mr. Lindeberg has designed in the last 30 years. A setting for gracious living was invariably requirement No. 1 in every problem to which he has addressed himself, whether it was a Long Island country estate, the U.S. Embassy in Moscow, or a five-room dwelling. Five-room dwellings, it is true, have had little or no place among his commissions, but, in his zeal to demonstrate the possibilities in orderly design through the use of the module, he produced designs for houses down to the minimum size. This pictorial review of a design through the use of the module, he produced designs for entrances and his progress toward mastery of its aid.

What hues he chose for garment or temple were dictated by a symbolism so deep as to be inextricably bound up with the mysteries of life itself. Our snug judgment that all that was very quaint may be merely sophisticated. "Science may substitute protons and electrons for red and blue, but man still reaches out for promising symbols of individual and universal world harmony." Here then is the story of color in the world of man, in his religion, his culture, his art, his health, his science, and his progress toward mastery of its aid.

WILLIAMSBURG TODAY AND YESTERDAY. By Grace Norcross Rosé, with drawings by Jack Manley Rosé. G. P. Putnam's Sons, New York. 78 pp. 9 x 12. $3.

What F. S. Lincoln did with photography to record the Williamsburg restoration, Jack Rosé has done with pencil and brush. Thirty full-page drawings and numerous supplementary details are reproduced in offset from a technique perfected to record the intricate detail of the highly sophisticated architecture, and to bring it into three-dimensional reality with monochrome wash. As an effective means of preserving architecture to the layman it is worth careful study. Mrs. Rosé's text is informing and well authenticated. Incidentally, it is good to see that Bruton Parish Church has finally come the restoration fold.


The conventional treatment of period furniture embodied in countless books on the historical styles is given a new and thoroughly practical twist in this useful guide for the layman. The new approach consists of the author's eminently reasonable assumption that the great majority of people, who prefer the traditional types of furniture, are more interested in its usability in their own homes than its value as potentially material for museums. The popular furniture styles, Sheraton, Hepplewhite and Chippendale, are discussed in considerable detail, and not only are the applications in modern rooms with quite fully but a great deal of valuable information given on which types are the least expensive and where the least can be found.

For the protection of untrained buyers, there are a number of very good drawings of typical pieces and descriptions of common characteristics. There is also a chapter on tricks in counterfeiting old pieces and ways of recognizing them. Photographs which supplement the text and sketches are the most part well selected and show rooms in which pieces of various periods have been combined.

While published in England and dealing naturally with British materials, the book covers types of which there is no dearth in this country and its usefulness to the American reader is consequently unimpaired.

THE STORY OF COLOR, from Ancient Mysticism to Modern Science, by Faber Birren. The crimson Press, Westport, Conn. 339 pp., illustrated. 9 x 12. $7.50.

In practically all writing about color it has been taken for granted that we are dealing with either a science or an art, and there has been plenty to say on both. Faber Birren himself has written ten or twelve books dealing with one or the other phase, or both. Here, however, is the larger story—the place of color in man's religion, culture, social relationships. In this broader view the story of color parallels the story of civilization. From the dawn of history up to the fifteenth century A.D., Birren finds little evidence that man used color to indulge his senses. What hues he chose for garment or temple were dictated by a symbolism so deep as to be inextricably bound up with the mysteries of life itself. Our snug judgment that all that was very quaint may be merely sophisticated. "Science may substitute protons and electrons for red and blue, but man still reaches out for promising symbols of individual and universal world harmony." Here then is the story of color in the world of man, in his religion, his culture, his art, his health, his science, and his progress toward mastery of its aid.


In a plea for a return to reason in architecture, Mr. Lindeberg quotes Carlyle's remark that Wren's Greenwich Hospital looked "as though it had been designed by a gentleman." The phrase is apt. It characterizes everything Mr. Lindeberg has designed in the last 30 years. A setting for gracious living was invariably requirement No. 1 in every problem to which he has addressed himself, whether it was a Long Island country estate, the U.S. Embassy in Moscow, or a five-room dwelling. Five-room dwellings, it is true, have had little or no place among his commissions, but, in his zeal to demonstrate the possibilities in orderly design through the use of the module, he produced designs for houses down to the minimum size. This pictorial review of a design through the use of the module, he produced designs for entrances and his progress toward mastery of its aid.

What hues he chose for garment or temple were dictated by a symbolism so deep as to be inextricably bound up with the mysteries of life itself. Our snug judgment that all that was very quaint may be merely sophisticated. "Science may substitute protons and electrons for red and blue, but man still reaches out for promising symbols of individual and universal world harmony." Here then is the story of color in the world of man, in his religion, his culture, his art, his health, his science, and his progress toward mastery of its aid.

WILLIAMSBURG TODAY AND YESTERDAY. By Grace Norcross Rosé, with drawings by Jack Manley Rosé. G. P. Putnam's Sons, New York. 78 pp. 9 x 12. $3.

What F. S. Lincoln did with photography to record the Williamsburg restoration, Jack Rosé has done with pencil and brush. Thirty full-page drawings and numerous supplementary details are reproduced in offset from a technique perfected to record the intricate detail of the highly sophisticated architecture, and to bring it into three-dimensional reality with monochrome wash. As an effective means of preserving architecture to the layman it is worth careful study. Mrs. Rosé's text is informing and well authenticated. Incidentally, it is good to see that Bruton Parish Church has finally come the restoration fold.


The conventional treatment of period furniture embodied in countless books on the historical styles is given a new and thoroughly practical twist in this useful guide for the layman. The new approach consists of the author's eminently reasonable assumption that the great majority of people, who prefer the traditional types of furniture, are more interested in its usability in their own homes than its value as potentially material for museums. The popular furniture styles, Sheraton, Hepplewhite and Chippendale, are discussed in considerable detail, and not only are the applications in modern rooms with quite fully but a great deal of valuable information given on which types are the least expensive and where the least can be found.

For the protection of untrained buyers, there are a number of very good drawings of typical pieces and descriptions of common characteristics. There is also a chapter on tricks in counterfeiting old pieces and ways of recognizing them. Photographs which supplement the text and sketches are the most part well selected and show rooms in which pieces of various periods have been combined.

While published in England and dealing naturally with British materials, the book covers types of which there is no dearth in this country and its usefulness to the American reader is consequently unimpaired.
WHEN the M. M. Cohn Company selected Goodyear Wingfoot Rubber Flooring to cover approximately 9,000 square feet in its new store, its decision was based on experience.

This flooring had been used on one floor of the company’s old building and, according to company officials, had proved “highly satisfactory.”

“The beautiful appearance of Goodyear Wingfoot Rubber Flooring, its resilience, durability and the general housekeeping satisfaction it furnishes, as well as its relative economy, influenced our selection,” the company reports.

What’s more, since its installation it has measured up in every way to the expectations of those who selected it.

Architects who are looking for a floor covering that provides an attractive and durable surface will find that Wingfoot Rubber Flooring holds the answers to their needs.

Its colors do not “walk off.” It retains its fresh appearance despite heavy traffic. It is always comfortable and quiet underfoot and it can be installed in both sheet and tile form.

For complete specifications, see Sweet’s Catalog or write to Goodyear, Akron, Ohio — or Los Angeles, California.

Wingfoot—T. M. The Goodyear Tire & Rubber Company
Of Course— you don’t air-condition a porch

BUT THIS PHOTO DEMONSTRATES HOW KoolShade* SUN SCREEN KEEPS ROOMS ASTONISHINGLY COOL!

Look twice at the picture shown below! It is a most unusual photograph—entirely unretouched—that gives you a perfect visual demonstration of KoolShade Sun Screen. See how the strong, hot sun pours through the open doorway... while the KoolShade Screen completely stops the direct sun heat, allowing only cool, glareless light to enter!

NOTICE THESE FIVE SURPRISING POINTS:

1. This KoolShade Screen is completely stopping the full blast of the sun! Hard to believe? Yes, but—
2. Here the door was left wide open—
3. So you can see the force of the sun that streams in!
4. The view is beautifully clear—with full ventilation, full insect protection and smart appearance.
5. Sun Glare is killed, while a flood of cool diffused light enters.

KOOLSHADE STOPS THE SUN HEAT OUTSIDE OF THE WINDOW GLASS . . . REDUCES SOLAR LOAD AS MUCH AS 80% TO 85%
It is a fine bronze fabric, made like a tiny Venetian blind. Framed and installed like ordinary window screens.

KOOLSHADE SUN SCREEN
Ingersoll Steel & Disc Division, Borg-Warner Corporation, Dept. F2

Here’s the solution for rooms and offices “too hot to live in” on torrid summer days

Since solar heat entering through windows often makes up from 50% to 75% of the cooling load, it is easy to understand why non-cooled rooms may become completely unbearable under a pitiless sun on heat-wave days. KoolShade Sun Screen offers an entirely new way to stop this discomfort... a method which, for the first time, gives the highest efficiency in sun heat protection... plus welcome relief from sun glare... without shutting off light, view or ventilation... and without spoiling appearance.

Send for our new Brochure showing practical installations of KoolShade under many different building conditions... and you will soon make KoolShade your standard specification for summer comfort.

DISTRIBUTORS IN THE PRINCIPAL CITIES
In Eastern Canada, Distributed by Cresswell-Pomeroy, Ltd., Montreal

Ingersoll Steel & Disc Division, Borg-Warner Corporation, Dept. F2

Please send your new brochure of KoolShade Sun Screen Installations in residences, commercial, industrial and institutional buildings.

Name ___________________________________________
Firm ___________________________________________
Address _______________________________________
City ___________________________ State ___________

*Trademark . . . Property of Ingersoll Steel & Disc Division, Borg-Warner Corporation

Residence of W. H. Wilkes, Dallas . . . Thompson & Luman, Architects

It’s cooler in the shade!...
TO PREVENT WEEPING JOINTS and EFFLORESCENCE

Illustrated above are the two enemies of masonry construction—weeping joints and efflorescence. Many an architect has seen his beautiful work disfigured by one of these two evils.

Weeping joints are those long dark stains originating at the bottom of a vertical joint between blocks or slabs of facing, and often extending horizontally across the course. They are caused by moisture absorbed at the surface of the joint or leaching through from the back, carrying with it soluble ingredients from the mortar or the stone itself, which are deposited when the water dries out.

At the right is a living example of efflorescence, that white, powdery disfiguring deposit of soluble salts left on the brick wall's surface by the evaporation of water in which alkali salts have been previously dissolved.

Weeping joints and efflorescence can be prevented! Specify all ornamental stone facing and face brick be set up in mortar made with Medusa StoneseT, the non-staining waterproofed mortar cement. Because StoneseT is waterproofed, it repels all water at the surface of the joints so that it cannot possibly enter and absorb disfiguring soluble alkalies, thereby causing weeping joints and efflorescence. StoneseT has minimum shrinkage. It is inexpensive and can be used for mortar in the backup wall. Send the coupon below for detailed information on StoneseT.

Gentlemen: Please send me detailed information on Medusa StoneseT.

MEDUSA PORTLAND CEMENT COMPANY
1013 Midland Bldg. Dept. A • Cleveland, Ohio

Name: ___________________________ Address: ___________________________
City: ___________________________ State: ___________________________

February 1941
Advertising at work! The new bigger-and-better program by Kohler will go to work for you, right in your own backyard. Readers of home service magazines are selected prospects, actively interested in building and remodeling. Kohler advertising reaches also selected groups of architects, engineers, realtors, builders and plant managers.

And, with The Post, Kohler taps a tremendous new market—able and ready to buy, numbering many more than the many millions shown by circulation figures!

And that's not all! In addition, Kohler has prepared interesting point-of-sale helps: Colorful booklets . . . folders . . . posters . . . window transfers . . . counter cards . . . outdoor building signs . . . and more. Also, as usual, a useful mat service to help you prepare effective local advertising.

Kohler means business this year—big business for you! Write today for complete details of the new program.

Kohler Co. Founded 1873. Kohler, Wisconsin.
OF ARMCO PAINTGRIP Sheets

protect this terminal investment

The new $400,000 Pier A at Long Beach, Calif. ARMCO Ingot Iron Galvanized PAINTGRIP Sheets were used for cornice, coping, monitors, louvers and siding. Contractor: Tom Quinn.

This seacoast terminal represented a big investment in sheet metal and paint. A major problem was to select a metal that would withstand the corrosive action of salt air and help preserve the life of the paint.

For this severe service, ARMCO Ingot Iron Galvanized PAINTGRIP Sheets were specified. The durability of ARMCO Ingot Iron as a base metal has been borne out in seacoast installations that have endured for many years. The paint-holding qualities of ARMCO Galvanized PAINTGRIP Sheets have been demonstrated under similar seacoast conditions.

ARMCO PAINTGRIP Sheets have a special bonderized coating that permits immediate painting. And exposure tests have shown that good paint lasts at least 150% longer than on ordinary galvanized metal because PAINTGRIP's bonderized surface is neutral and prolongs the elasticity and life of paint.

You can use ARMCO PAINTGRIP Sheets to advantage whenever you need the accepted protection of galvanizing and the extra protection and beauty of paint. Write for illustrated folder. The American Rolling Mill Company, 321 Curtis St., Middletown, Ohio.
That's just common sense in painting as well as in building. You can build a better paint job on a durable "foundation" coat, one that does more than "fill the pores."

That's why Aluminum House Paint, a durable first coater, has come so rapidly to the fore. It helps topcoats fight off moisture and sunlight. Another thing, it does not permit the wood to rob oil from the topcoats. By retaining more of their oil, they stay tough and elastic longer.

Exposure tests and actual use on thousands of jobs bear out the fact that Aluminum first coater materially lengthens the life of paint. Repainting is not needed so soon.

GET A SAMPLE! Discover for yourself how easy it is to apply Aluminum House Paint. Write for a free pint can and for literature giving full proof of the value of Aluminum House Paint first coater. ALUMINUM COMPANY OF AMERICA, 1917 Gulf Building, Pittsburgh, Pennsylvania.

DEFENSE COMES FIRST
To meet the needs of the National Defense Program, plus the normal demands of peace, a vast expansion of our already greatly increased production capacity is being speeded. When the emergency is past, there will be more Aluminum available than ever before.

Meanwhile, if you can't get all the Aluminum you want when you want it, remember Aluminum is helping you by helping to meet the National emergency.

ALUMINUM HOUSE PAINT
FIRST COATER FOR WOOD
EXTRA THICK and EXTRA TOUGH
FOR SUPER SERVICE ON
FLOOR OR ROOF

Carey Elastite Asphalt Tile

For commercial or industrial floors, or usable roof areas, specify this extra tough, extra thick surfacing material that can stand the gaff—CAREY Elastite Asphalt Tile.

This vastly superior product has the inherent stamina to withstand the punishment of pounding feet or heavy duty wheel traffic. It is fire safe; weather resistant. While relatively hard, it is resilient. Customers and workers alike appreciate its comfort under foot; its quiet, nonskid surface; its pleasing appearance.

Available in black and red, in 1/4" thickness, in sizes 12" x 12" and 12" x 24". By combining the sizes and colors, numerous attractive and distinctive designs are easily developed. For real service without costly maintenance—for maximum economy over a period of years—specify CAREY Elastite Asphalt Tile. . . Write for catalog and samples—address Dept. 20.

Approved by Underwriters' Laboratories for "Class A" built-up roofing, when applied in accordance with their instructions, on slopes up to and including 1" to the horizontal foot.
Best Yet
Forum:
I note in the article on page thirty of the January issue of The Architectural Forum, that your magazine states, "Elaborate buck-passing is now developing between PBA and the Army as to responsibility for the delays."

As far as the Army is concerned, the PBA is doing a fine job and the only delays that have occurred are due to the inability to get land in some cases, which would be so, no matter what organization did the construction. The Army could do no better itself.

ARTHUR R. WILSON
Lt. Colonel, General Staff Liaison Officer for the War Department, WPA
Washington, D.C.

Colonel Wilson's praise of PBA appears generous. Latest statistics available in the press at closing time show that of the Army's 40 large camps which were from two to ten weeks behind schedule in December, now must be added seven others which dropped behind last month. Meanwhile, the Navy is only 2.6 per cent behind its requirements. If "the Army could do no better itself," perhaps it should borrow the Navy's landing force.

Enrochment Trend
Forum:
A number of complaints against the architectural profession must be answered. Among other things, the public offices have come to this office from architects who resent the intrusion of such construction firms into the professional field. In such cases, I refer particularly to the Austin Co., which uses registered firms and individuals. I refer to the law in the field of brokerage and who in many cases are dealt with directly, without their knowledge. The latter phase of this work of a firm which is practicing in this State at least questions the professional practice to maintain prices, markets, territories and affiliations, institutes and what not, organized to maintain prices, markets, territories and the conscientious withdrawal of efficiency. We are mired in a bog lined with service slogans written by soothsayers with capacious pockets to line their pockets.

ROWLAND A. BEENS
Grand Rapids, Mich.

Incomplete is Reader Beens picture. True there are dealers who perform the non-toe-useful function of brokerage and who in such cases collect a disproportionate income. However for each such parasite is a dealer who is indispensable in the currently complicated building routine: dealers who not only are the focal point and initiators of local activity but who finance dozens of small builders who lack the cash to do their work. That building is beset with extra costs no one questions. But if Builder Beens wants to correct this situation he must turn his ire in more than one direction, not forgetting to include many inefficient builder colleagues in his purge.

Design Enrochment
Forum:
Your November issue—Building for Defense number—is a fine production, and will be appreciated by every architect who received it.

While all the material published in this issue has merit and value, the profession in this State at least questions the propriety of your devoting space to illustrate the work of a firm which is practicing architecture and engineering, and construing buildings regardless of the Michigan State law, and those of other States, which limits such professional practice to registered firms and individuals. I refer particularly to the Austin Co., which uses the title Engineers and Builders.

A number of complaints against the publicity have come to this office from architects, who resent the intrusion of such construction firms into the professional field, and who are interested also in upholding the law. The latter phase of this matter is now being investigated by legal counsel for this Society.

It is our opinion that the interests of the architectural profession, and also your publications, will be better served if you refuse to publish any work which is done by other than registered architects and engineers. We also believe that the continued support of the two professions will be assured by your observance of such a rule. We realize that it is difficult to eliminate all such activity as we are objecting to, but we believe that such action will receive the general approval of properly registered architects and engineers.

B. V. GAMBER, President
Michigan Society of Architects
Detroit, Mich.

Forum editors attempt to select from the new buildings in America those examples which will advance our knowledge of how to build. This choice is the personal selection of an editorial group—no more can be claimed for it. Were publication of material circumscribed not only by editorial opinion, but by considerations of local laws, the influence of the editors would be increased, and the important, work merit publication omitted. This Forum fully agrees that any architectural profession must defend itself against encroachments, legal or illegal, pressuring us with a convincing argument by Albert Kahn against the enrochment trend in its December page 301—Eo.

Radiant Heating (Cont.)
Forum:
I thought that my experience with a radiant heating system in my residence (ARCH. FORUM, Sept. 1940, pp. 149-150) would interest you, especially since the reactions of visitors to the house have been quite interesting.

Although we turned the heat on about December 10, 1939, the house was not completed and we do not live in it until early spring. The weather was cold one and we kept the floor and ceiling coils operating during the winter, which was only partially finished, with the thermostat set at around 60° to 65°. As the weather became mild, however, when we were occupying the house more and more, I turned the floor coil off in the spring weather. Operating under the heating panels alone we found that we could reset the thermostat upward considerably until we reached a setting of around 75°.

My wife and others assumed from this that the system was more or less a "flop," they not being aware that what they were living over a cold floor and the higher air textures were necessary only to overcome the effects of that cold floor.

Last fall as the weather turned cool, I turned on the floor coils again, but the weather was mild there was no constant demand for heat. Consequently the floor cooled down intermittently and we found it necessary to keep the thermostat set at around 66° to 68° for comfort.

When the cold snap came, however, the floor circulator was kept in action most of the time, so that the floor became warmer, the local demand for heat. Consequently the floor cooled down intermittently and we found it necessary to keep the thermostat set at around 60° to 65° to keep the thermostat the most favorable.

This letter may read as though I have had a lot of fussing around the heating system, but in reality I have been very little of that, and have not what I have done been not so much because it was necessary as because I was playing around trying to learn something about this new toy. Were I ever to build another house, I would certainly use radiant heat in it.

JAMES H. HAND
Redding, Conn.
"After 9 months' mill operation, IVANHOE Fluorescent Lighting paid us specific profits..."

1. Increase in weaving efficiency on one type automobile fabric from 81% to 84%, with a decrease of 22% in mending costs.
2. Increase in weaving efficiency on another type of auto fabric from 83% to 87.7%, with a decrease of 25% in mending costs.
3. Increase in illumination in many departments to 50 foot candles and more, at a surprisingly low increase in cost.
4. Increase in mill operatives' earnings through easier, quicker and better production.

"50 FOOT CANDLER" CAN PAY YOUR CLIENTS NEW LIGHTING PROFITS, TOO!

The "50 FOOT CANDLER" is the first RLM Continuous Fluorescent Lighting System providing 50 foot candles of general illumination. Outstanding feature is its "built-in wireway" (each fixture contains its own wireway channel, complete with wiring and all operating auxiliaries) making possible reductions up to 50% in the wiring system—cutting installation costs from 30 to 50%.

For full details about this new and better lighting system which does not eat up too great a proportion of total building costs, we suggest you send for "50 Foot CANDLER" Bulletin IC, and let us make an early appointment for you with a Miller Lighting Engineer.

THE MILLER COMPANY
MERIDEN, CONN.
Pioneers in Good Lighting Since 1844

"50 Foot CANDLER"

Only "50 FOOT CANDLER" can give you these lighting benefits:

Higher illumination at no increase in cost.
30% to 50% lower installation costs—with minimum relocation of wiring outlets and reductions up to 80% in plant wiring system... because fixtures contain own wireway.
Easier, faster installation—with use of part of new lighting system while remainder is being installed.
Uniform light distribution—complete freedom to move production equipment without changing lighting.
Clean-cut, modern appearance, no gadgets—consistent-day-to-day "best-seeing" conditions.
Simplified, less expensive maintenance—easy-to-clean porcelain-enamed fixtures, reflectors completely removable without disturbing wiring.
Allowance for future growth—increases in illumination as high as 45% practical to meet changed lighting needs; lowest possible obsolescence factor.

RLM Continuous FLUORESCENT LIGHTING SYSTEM

FE B R U A R Y 1 9 4 1
When you equip their homes with the

**Mueller Series 50**

oil-fired winter air conditioning furnace

Not a luxury for the few, but a practical possibility for either large or small homes . . . that's what automatic heating has become, through Mueller's extensive program of engineering design.

A simple principle underlies this program: Each Mueller furnace is specifically designed to burn one particular fuel. This results in maximum efficiency and remarkably low cost of operation . . . bringing the comfort, convenience, and healthfulness of modern heating — with winter air conditioning — within reach of even modest budgets. Each Mueller “package” is designed as a complete unit, to operate as a unit.

Unbiased as to fuels . . . offering the industry's most complete range of sizes, types, and prices . . . Mueller is the logical place to turn for information about heating — either forced air or gravity — for homes of any size.

Specify “Mueller” for any job — and you can depend on Mueller performance to back up your judgment. 84 years of heating specialization assures you of that. Mueller's handsome designs make your installations attractive as showplaces for prospective clients.

Send for Mueller's illustrated literature.

---

**SERIES EPS Gas-fired Winter Air Conditioning Furnace. Thrifty comfort for all homes—and a simple installation.**

**SERIES FB Cast Iron Furnace with Winter Air Conditioning. Modern styling. Dependable, economical performance. Also available in gravity style.**

---

Mueller Milwaukee

Heating and Air Conditioning
Engineering the proper filter system for cleaning the air in heating, ventilating or air conditioning installations is of primary importance in obtaining the highest efficiencies. The volume of air to be cleaned, degree of cleanliness required, maximum allowable resistance, space available for installation, maintenance facilities and cost of operation are the determining factors on which the American Air Filter Company is prepared to furnish you complete engineering data.

Among the many AAF filters available for use in commercial and industrial building ventilation and air conditioning is the Electro-Matic which collects air borne dust, soot and smoke electrically and mechanically. How it works, construction blueprints, efficiency tables, and the interesting story behind its development and application are given in the new Electro-Matic bulletin just issued. A copy will be sent you free, without obligation. Please write American Air Filter Co., Inc., 191 Central Ave., Louisville, Ky.
In this example of an all cedar shingled American Colonial home is the feeling of architecture that had its roots in early Colonial days... as American as America itself.

Perhaps no other exterior material can do this quite so well as Red Cedar Shingles. Certainly no product can provide such care-free service, charm and protection from weather.

Address Red Cedar Shingle Bureau, Seattle, U.S.A., or Vancouver, B.C., for your copy of the Certigrade Cedar Shingle Handbook.
To assure the practical success of your store front design, it is essential to use a construction of mature and experienced manufacture.

BRASCO CONSTRUCTION offers you the safety and the assurance of 30 years' experience in this single field—a thoroughly modern, perfected product, proven successful on thousands and thousands of stores of every type and size all over the country.

This vast experience is your safeguard in providing a store front that not only stimulates trade, but maintains its brilliant and powerful sales appeal permanently—assures dependable glass safety, always.

The Brasco line is complete and unified, with all essential members from sidewalk to coping—in both Rolled and Extruded Constructions—in all modern metals and finishes—to fit every budget.

THERE IS NO SUBSTITUTE FOR EXPERIENCE.
MiLCOR Metal Trim

offers you a satisfactory solution to modern interior design problems

[Now furnished with Insulmat Sound Deadening]

...Satisfactory to you, because Milcor designs represent the greatest fund of metal trim experience. Only Milcor offers interior metal trim with a sound-deadening insulmat lining. (Standard on Milcor Chalk Trough.) ... And satisfactory to your client, because this new development is added to the enduring beauty, fire-safety, durability, sanitation, and low maintenance costs of Milcor Metal Trim... Discover the versatility of this medium for interior design in the modern tempo — illustrated by the use of Milcor Corkboard and Blackboard Trim in the schoolroom above. Write for free Milcor Metal Trim Manual showing complete line, with construction details.

Ask for bulletin on Milcor Insulmat Sound Deadening.

THE ARCHITECTURAL FORUM

Milcor Metal Trim

Satisfactory to you, because Milcor designs represent the greatest fund of metal trim experience. Only Milcor offers interior metal trim with a sound-deadening insulmat lining. (Standard on Milcor Chalk Trough.) ... And satisfactory to your client, because this new development is added to the enduring beauty, fire-safety, durability, sanitation, and low maintenance costs of Milcor Metal Trim... Discover the versatility of this medium for interior design in the modern tempo — illustrated by the use of Milcor Corkboard and Blackboard Trim in the schoolroom above. Write for free Milcor Metal Trim Manual showing complete line, with construction details.

Ask for bulletin on Milcor Insulmat Sound Deadening.
MAN OF THE MONTH ... to house Defense at last a boss (page 82)

BUILDING OF THE MONTH ... Design for classes on wheels (page 113)

PROJECT OF THE MONTH ... from Turkish quakes this prefab stems (page 87)
The trend toward the treatment of tuberculosis at its point of origin, rather than at high altitudes, receives its final approval with the completion of this huge (550 beds) unit serving New York's boroughs of Brooklyn, Queens and the Bronx and situated almost at sea level in midst of the area which it serves.* Built on an unoccupied portion of the grounds of the older Queens General Hospital, with which it shares enlarged power, laundry, food and some administrative facilities, the new building is nevertheless largely self-contained, with its own medical, pharmacy, offices, social service department, x-ray and laboratory. These facilities, in addition to the in-patient, admitting, and operating departments, occupy the basement, first and second floors; patients' wards the upper seven stories.

The general plan of the building is the result of a compromise between an awkward site, which faced west, and the needed length and desirable southerly orientation of the wards, producing a modified T shape with extending wings tilted forward. All of the patients' rooms—except those in the admitting department—are located at the front of the building and provided with continuous, cantilever balconies for sun bathing, the latter terminating in generous set-back terraces on the eighth and ninth floors. Above the second floor, the plan is exactly symmetrical, and it is probable that the two halves of the building will be used, respectively, for male and female patients.

Based almost entirely on the use of wards, the scheme of the building depends for a psychological atmosphere conducive to recovery on maximum openness, light and air, and generous dimensions throughout. Story height is 13 1/2 ft., corridors are 10 ft. wide, with large windows opening on the wards, and the wards themselves divided with glazed partitions. In addition—an unusual feature in a city-owned institution, free use has been made of color in all parts of the building to produce a cheerful effect.
CLINIC AND OPERATING
As in every institution of its type, the out-patients' clinic is an important functional division, warranting a special entrance and waiting room. These, together with their own x-ray and treatment facilities, are located in the right half of the first floor, balanced by an administrative section in the left wing and the admitting department at the back. On the second floor, directly over the out-patients' department and connecting by way of a staircase and an elevator, are additional clinical facilities; in the opposite wing are the dental clinic and the hospital laboratories, while the back is taken up by the operating suite. One of the operating rooms (shown on the opposite page) is fitted with a complete "Sterilamp" installation—tubular ultra-violet lamps surrounding the operating light and suspended from various points on the ceiling which kill germs in the surrounding air. As elsewhere in the building, generosity is here the rule, extending even to the instrument sterilizing rooms and other service facilities.
TYPICAL FLOOR

Patients' facilities are largely in the form of wards—40 per cent in 6-bed units, arranged in banks of three and separated by glazed, floor to ceiling partitions, and 40 per cent in almost identical 24-bed units where the division is by head-height glazed screens. Except for the admitting department, the remainder are in 2-bed isolation rooms, four to a floor, which are reserved for the critically ill, post operative cases, and patients who for other reasons must be separated from their fellows. Nurses' stations, adjacent to the 2-bed rooms and between the wards, have a full view of all patients under their control through glazed partitions. Every patients' floor has, at the back, a complete unit for pneumothorax, so that patients need not go down to the clinic for this periodic treatment. The ninth floor is devoted to ambulant patients' recreation, and includes a patients' cafeteria and two unique "day camps" for recently discharged patients who return to the hospital during the daytime for supervised relaxation, spend their nights at home.
BED WARD

UTILITY ROOM

PNEUMOTHORAX
The main kitchen is located in a one-story extension at the back of the basement, permitting abundant monitor-type lighting throughout, with bakery, butcher, diet kitchen, and food storage adjoining. The balance of the basement space is taken up by staff dining rooms, locker rooms, general storage, and the lower part of the pharmacy, which is connected to the first floor by a dumbwaiter. Soiled linen is picked up at three points, taken through a connecting tunnel to the laundry; sputum cups are destroyed, and cup holders sterilized, on the premises.
CONSTRUCTION OUTLINE


STRUCTURE: Exterior walls—12 in. brick, 1 in. air space, terra cotta and furring and plaster. Interior partitions—terra cotta and metal and glass, Faber-Brandin Co. Columns—steel, Fort Pitt Steel Co. Floor construction—Shuster 2-way system, Eureka Fireproofing Co.

ROOF: Covered with quarry tile and slag, Koppers Co.


INSULATION: Roofs—corkboard, United Cork Co. Sound insulation—Sanacoustic tile, Johns-Manville.


WALL COVERINGS: Plaster generally, some Flexwood, U. S. Plywood Co.


PAINTS: By Reading Hardware Co. Metal cabinets—Interior Steel Equipment Co. Clothes chutes—Haslett Chute & Conveyor Co.

ELECTRICAL INSTALLATION: Fixtures—Cassidy Co.


1. BAKERY
2. CART WASHING ROOM
3. NURSES' DINING ROOM
STATE OF THE PROGRAM
At year’s end, “bottleneck” gave way to “delay” as most overworked word in the national defense vocabulary. Manufacturers of Garand rifles was behind schedule, bomber production was lower than anticipated, tooling of munitions plants was taking more time than expected, and the flow of a host of other defense essentials was disappointing. Suffering from labor, material and weather troubles and in common with most other industries, over-optimistic schedule-setting, defense construction was no exception. Herewith a brief report on the progress of the program, the lack of it and the recent developments which should accelerate it:

At the end of November the total defense construction program was about 8 percent behind schedule, according to latest available statistics from the Labor Department. The delay amounted to about four days’ work.

With most of its $8.1 billion under contract, the Army had 4.1 percent of its construction complete—3.1 percent less than the November 30 goal. Bucking the general trend were 90 Southern projects which averaged two-thirds complete instead of the scheduled one-third.

Boding ill for the uncompleted balance of the program were the cost comments of Austin Co., builder for industry, which has seen a price jump and foresees another.

“Hopeful, however, was the attitude of Labor which patriotically promised no more strikes (p. 54, col. 3).

To the 25 of the Army’s 40 large camps which were from two to ten weeks behind schedule in December (Arch. Forum, Jan. 1946, p. 21) must be added seven others which dropped behind last month. Reason: torrential rains, a shortage of vital building materials (at Fort Lewis, Wash.) caused directly by labor difficulties in the lumber industry and “other conditions over which the War Department had no control.”

Navy building (excluding ships, etc.), which will cover a much longer period than the Army’s program, was only 11.6 percent complete but only 2.8 percent shy of expectations at November’s end.

The 80 new manufacturing plants for which the Army and Navy at year’s end had let contracts totalling about 8700 million, many small additions were made last month and several sizable ones: a $10 million plant to be operated by Trojan Powder Co. at Sandusky, Ohio; a $115 million small arms ammunition plant by Western Cartridge Co. at St. Louis, Mo.; a $14 million shell loading plant by Proctor & Gamble Defense Corp. at Milan, Tenn., a $23 million addition to the $51 million smokeless powder plant now building at Charlestown, Ind., for operation by Du Pont. The latter is now by far the largest single plant under construction.

The total of these figures (they include equipment costs as well as building costs) will get a terrific upward jolt if Congress takes kindly to the War Department’s plans for the construction of a dozen “shadow plants” (p. 83, col. 2).

To step it up, Charles F. Palmer was made Defense Housing Coordinator in fact as well as fancy (below), and

The Treasury Department’s Clifton Mack bought directly from manufacturers at bargain prices $42 million worth of bathtubs, lavatories, water closets, cabinets and other household equipment. He still has $45 million worth to buy.

Meanwhile, to help private builders push their part in the housing program, FHA prepared an important amendment for immediate submission to Congress which would create a special $10 million defense insurance fund (p. 83, col. 5).

HOUSING COORDINATION
Six months ago Charles Forrest Palmer (see cut, p. 73) made the mistake of his life; last month he was rewarded for it. The mistake: his acceptance of President Roosevelt’s invitation to serve as housing chief of the National Defense Advisory Commission without the necessary power to execute the herculean task of coordination expected of him. The reward: his elevation by the President to the Division of Defense Housing Coordination within the high and mighty Office for Emergency Management whose best known branch is the Office of Production Management, co-ordinated by Messrs. Kaudson and Hillman. Today, after the non-Navy defense housing program has sunk six months deep into a bog of Government red tape, inter-agency competition and petty jealousies, “Chick” Palmer is coordinator in fact as well as fancy and, for the first time, has the authority to see that housing is built.

Heretofore, Palmer could only determine and measure the need for housing of his findings or, with the President’s cursory approval) to Federal Works Administrator John Carmody who holds the non-Navy defense housing purse string. Jealous of Palmer’s rank, Carmody not followed his recommendations with the time-consuming arguments and pettiness cropping back sometimes concerning the type of housing needed.

With an over abundance of bosses, defense housing program has thus suffered from divided authority. Hereafter, Palmer alone will be responsible for the action delays and mistakes, and chances are with control vested in one man, action and more houses will be seen. While under the new set-up, Palmer still has no punitive powers with which to crack down on recalcitrant housing agencies and their officials, he is now, in charge of an agency competition and petty jealousies, “Chick” Palmer alone has the power to make his housing mark, the fact that he will, he has a housing trusty in Palmer who will keep them in line.

Other important duties assigned Palmer include: 1) determination of federal housing policies, including NDAC’s Elliot, Hillman and Hendrick; 2) coordination of all housing research data which all housing agencies, although they have held back, as a rule, are now required to make available to him; 3) review of all proposed housing legislation and the recommendations of whatever additional legislation is himself may deem necessary.

Looked at in another light, Palmer’s elevation to a position just shy of Roosevelt’s is a tremendous vote of confidence by the President—a vote which indicates that usually well-informed Roosevelt is now determined to disbelieve many of the criticisms leveled at Mr. Palmer. Columnist Washington’s Times-Herald have called him “ministrations . . . one of the biggest” of the defense program,” and New York Post has rebuked him for his desire to upset the private building industry. Hope is that this commendable desire now be reflected in more defense housing jobs for private architects. The future article was probably inspired by NDAC’s Elliot, who dislikes Palmer (one of both Hillman and Elliot would probably have to have the defense housing under wings) and the latter, by professional housing in USAH who do to date
(29) but building Weinfeld as a reward for his notable direction of another committee. Thus, a week earlier, Weinfeld and a dozen other members of the National Association of Housing Officials had submitted to Elliot (at her request) a comprehensive report on the "Maintenance of Fair Rents During the Emergency." On Weinfeld's findings is based the fact that NDAC is not recommending a general policy of rent control. "Such control," the Consumer Commissioner holds, "is undesirable from the point of view of both landlord and tenant. It should be resorted to only when new construction is not sufficiently rapid and extensive to meet the need and where local communities can find no other means to check a disastrous rise in rents." And even in these localities, adds Elliot wisely, "cooperation of landlords ... is preferable to legislation."

**SHADOW PLANTS**

As a reserve to be called into service as needed, a dozen or more new munitions plants will soon go before Congress for approval and thence to the Middle West for construction. Dubbed "shadow plants" by the Army because they are not immediately required, they would cost close to $300 million and would provide enough ordnance—explosives, arms, etc.—for an army of 4 million men. (Estimated strength as of July 1, 1941: 1.4 million.) Pending their use by the U.S., the Government-owned shadow plants might be broken in by the filling of some British war material orders which have been variably rapped, they would cost close to $500 million. As a reserve to be called into service.

**DEFENSE HOUSING**

Proof of the need for last month's shake-up in Federal defense housing procedure (p. 82, col. 2) is the miserable record to date of the Navy's defense housing. While location of 101 projects totaling 31,384 dwelling units had been approved at mid-January—up to that time, Defense Housing Coordinator Palnner's powers had been limited to approval—only 20 projects involving 5,173 units had gone into construction. And, sixteen of this number were projects financed with U. S. Housing Authority funds which would have gone ahead without the defense program to which purpose they have been temporarily sidetracked. Under contract but still tied up in Government red tape were 28 other projects which will eventually house 9,069 families.

Sharply contrasted to this part of the program is the record of the Navy's defense housing which is in a class by itself on two counts: 1) While the Army entrusted its $45.8 million program to the Federal Works Agency which is also handling the $140 million Lanham Act housing, the Navy has spent its own money, built its own defense housing. 2) Last month, all of the Navy housing—46 projects containing 28,538 dwelling units—was under contract to the tune of $84.3 million, and all but three small projects were under construction. (Prefabrication has been called upon to help speed the Navy's program for prefabricated units of Navy defense housing, see pp. 84-86.)

But all was not quiet on the non-Navy defense housing front last month. Between mid-December and mid-January, 20 contracts were let (nineteen by FWA's construction subsidiary, the Public Buildings Administration; one by a local housing authority under the guidance of another FWA child, USHA). PBA also notified four contractors to start work and actually broke ground for two other projects. USHA put still another under construction.

To date, FWA has allotted 69 projects to PBA which, in turn, has negotiated the usual cost-plus-fixed-fee contracts for 33 of them but has pushed only four projects ($880 dwelling units) into construction. All PBA projects are being designed and supervised without private architectural service.

To USHA, whose local agencies will let contracts to the lowest bidders and solicit private architectural services, FWA has assigned only nine projects. At mid-month none of these had progressed to the contract letting stage. With its own funds USHA had nineteen "defense housing" under contract and under construction, and had asked the Navy to build two others in communities which could not muster local housing authorities (Oahu, T. H., and Mare Island, California).

Of the two remaining approved projects, FWA had entrusted one to the Navy and one to itself. Col. Laurence Westbrook, one of FWA Administrator Carmody's staff members and a one-man construction agency, will build the latter project, a prefabricated cooperative guinea pig, for Camden (N. J.) shipyard workers.

To many a job-hungry architect who for months has had his pipe dreams of building a "war-front" project sidetracked, the balance of the program and thus gain speed and quality and, at the same time, keep alive private architectural firms for further defense and post-emergency service.

**FHA JOINS THE RANKS**

Under the administration of Stewart McDonald, FHA was a national defense slacker. For fear of imperiling its mutual mortgage insurance fund, FHA has steadfastly refused to take a large share—indeed, a very small one—of the defense boom housing market. But since the end of continuing after the emergency. Result: operative builders, like private architects, have played a small part in defense.

However, under the administration of Abner Ferguson who took office in December (Arch. Forum, Jan., 1940, p. 2), FHA and the operative builders may join the defense ranks in a big way. Thus, secretly scheduled for submission to Congress is an amendment to FHA's National Housing Act which would establish a special defense housing insurance fund (probable (Continued on page 54)
BUILDING FOR DEFENSE

Only success story appearing thus far in the five-month history of the defense housing program is the chapter written by the Navy. At mid-September it was given close to $50 million for housing families of married enlisted men, civilian personnel and employees. Unlike other defense housing dollars, these were not entrusted to Government's regular housing and building bureaus; instead a Special Section was added to the Bureau of Docks and Yards to handle the funds, lay out the sites, design the buildings and, through local commandants, manage the projects. Result: while the regular housing bureaus month ago had only five projects (880 dwelling units) under construction exclusive of those financed by U. S. Housing Authority, the Navy had 43 projects (about 23,500 dwelling units) underway. Including three other small projects totaling 150 units, Navy contracts awarded came to about $48.3 million.

One secret of the Navy's success is the reliance it has placed on the prefabrication industry. While other defense housing agencies were still deciding who should participate in their "prefabricator's field day" at Indian Head, Md. (where the merits of the various systems will be tested preparatory to the selection of prefabricators for the non-Navy defense housing program), six leaders in this field were already supplying pre-assembled house parts to contractors on at least nine different Navy sites coast to coast. Leading the leaders were the Tennessee Coal, Iron and Railroad Co. and Stran-Steel who together are producing steel framing panels and roof sections for more than 3,800 houses. Past performances alone were apparently proof enough for the Navy that these companies could satisfactorily handle its two biggest projects as well as several others.* And, the progress photographs on these pages indicate that the Navy made a good bet.

T. C. I., a subsidiary of huge U. S. Steel Corp., is filling the Navy's biggest individual assignment, the production of parts for 100 twelve-family two-story apartment buildings to house shipyard employees at Newport News, Va. Also under its wing are 50 two-family twin houses for enlisted men at the Marine Corps Base in Quantico, Va. (see illustrations, p. 85).

While neither of these projects is prefabricated in the true sense of the word, they are long steps in that direction. From T. C. I.'s Alabama cold forming plant come all the structural parts: wall frames 4 ft. wide which are secured to the concrete

*For past performances, see Arch. Forum, Jan. 1939, p. 68; March 1939, p. 93; Jan. 1938, p. 107; Feb. 1938, p. 166.

The Navy turns to steel and prefabrication to boost its defense housing program. T. C. I. and Stran-Steel lead the field, frame 3,200 dwelling units.
Wall panels go up at the end of a Quantico house after they are tied together in a horizontal position. Note that only two men are needed to manoeuvre the entire section. Cross-braced panels reinforce the corners. Floor is concrete. There is no basement.

Roof panels are slid in place atop gable end framing and prefabricated trusses. Once in place the reinforced galvanized iron roof panels require no added finish, are watertight and fireproof. A wrench is the only tool required to assemble and demount the steel work.

Black insulting board is clipped to the frame, covered with light gray asbestos shingles. Interior finish is of wall board nailed to wood strips inserted in the steel frames. Windows are covered, then cut out with a power saw. All Quantico houses are alike.

A 4 ft. module, 3) a door panel, 4) a cross-braced wall panel used at all corners for added strength, 5) a roof panel viewed from the underside. Headed out of the plant is a truck load (lower right, opposite) of panels and second floor joists for New York News. Steel work at Quantico (above) is similar, except that the panels are only one-story high. Viewed to the right is a nearly complete group of the 100 Quantico houses with their steel casement windows and steel chimneys in place. Concrete floors finished with 1/8 in. asphalt tile.
slab ground floor and bolted together, joists for the second floor (at Newport News) or ceiling rafters, roof trusses and sheet steel panels which comprise the roofing. Balance of the construction is quite traditional: the exterior is sheathed with large sheets of insulating wall board and finished with asbestos shingles; interior finish is insulating board nailed to wood strips secured inside the steel panels.

Since construction of the Quantico project was awarded to Baltimore's Contractor John McShain, Inc. on a cost-plus-fixed-fee contract of $356,876, it follows that each of the 100 T.C.I. houses will cost about $3,260. But, from the accompanying photographs of the project it is apparent that much of this estimated unit cost will be allocated to site preparation, foundations and floors. (Contract cost of the T.C.I. apartments at Newport News: $2,414 per dwelling unit.)

Stran-Steel, a subsidiary of Great Lakes Steel Corp. which, in turn, is a unit of National Steel Corp., is supplying steel framing members for the Navy's No. 2 defense housing development—a 1,042 unit apartment project at the Naval Operating Base in Norfolk, Va. (right). Like the T.C.I. houses, these also are only partially prefabricated. Stran-Steel in its huge Ecorse, Mich., plant turns out steel studs, joists, plates, other structural framing members and fittings; welds some of them together to form wall panels and roof trusses; ships them to the site where they are erected on a concrete slab foundation and secured to one another with special self-threading screws.

With the complete framing of the two-story buildings, Stran-Steel's participation in the project ceases. Insulation board sheathing is nailed to the steel studs which are designed to receive and crimp the nails. Plywood sheathing covers the roof. Atop these surfaces go asbestos and asphalt shingles, respectively.

Contractor for the Norfolk project is the Byrne Organization of Dallas, builder of numerous steel apartment projects, detached houses and industrial buildings and undoubtedly Stran-Steel's major consumer. (Byrne's biggest are: Subdivider Hugh Potter's River Oaks Garden Apartments in Houston and Ford Foundation's Springwells Park garden apartments in Dearborn, Mich.) Negotiated with the Navy on a cost-plus-fixed-fee basis, the Norfolk contract totals $2.3 million or $2,192 per dwelling unit—a significantly low figure.

Stran-Steel's Norfolk defense houses for the Navy are long rows of two-story flats. Looking down the second story of one of these rows, the top view shows the extent of the steel work. In addition to all framing members, the forms for the poured concrete second floor are of metal, the latter being corrugated galvanized in the center view shows insulating board being nailed into the crimping slots in the Stran-Steel studs. Roofs are sheathed with plywood, covered with asphalt shingles. Bottom view shows building finished with asbestos shingles, complete except for doors and landscaping. Noteworthy is the use of large steel casement windows. Navy-designed floor plan (left) shows a typical combination of one-bedroom and two-bedroom flats. The one-story flat is sometimes added to the end of a two-story building as seen in the center view above.
A FRESH APPROACH TO HOUSING

leads to steel prefabrication, flexible size and igloo-like design. Martin Wagner's house offers protection against most everything, including air raids.

FEBRUARY 1941

87
etc., which would be inter-connected by 4 ft. enclosed "halls." Later as the children marry and the family shrinks in size, the second- and third-hand markets thus created would provide housing for the progressively lower income groups much as used cars broaden the transportation market.

**OBJECTIONS**

Without considering its unique construction system which can be tested only by practical application, several major criticisms of the MW house naturally occur to the casual observer; but Inventor Wagner is ready with thought-provoking rebuttals. In the first place, to be commercially successful, prefabricated houses must suit consumer tastes, and the public is not interested in igloo houses. Counters Wagner: Taste is easily changed; moreover, such an argument holds true only for the comparatively few families who can afford to enter the present housing market. The large majority of families will buy a house of radically different design and appearance if it is technically equal to a conventional model and is half-priced.

Criticism No. 2: Large scale production of MW houses would disrupt the housing industry, put most manufacturers, dealers, builders, designers and laborers out of work. Rebuttal: Since the MW house is aimed at low income families, its production would supplement existing production channels. As such, it would create much new work, and the short life span of MW houses would increase the turnover of the building market, promote continual employment.

Criticism No. 3: Low income families could not afford the land cost, and it would not be economical to put a $670 house on a lot big enough for the eventual addition of three or four room units.

(Text continued on page 90)
Innovation of the basic units with interconnecting "hall" will produce a house of any size, but will boost it to the point where there is no price advantage over conventional design and construction (see text, p. 90, 1). Obvious conclusion: the MW house best serves purpose when limited in size to the one basic room. Over, the house above measures about 55 x 40 ft., and require a larger lot than the average conventional room house which measures only about 25 x 30 ft. Never, the MW house's decentralized layout affordsased privacy and air raid protection and permits house to be expanded and contracted in line with ages in family size. Bird's-eye view of the model (4) shows a subdivision of four-room MW houses and fabricated cocoon-like garages on diamond-shaped lots.

February 1941
For military use the MW house holds interesting but costly possibilities. Providing private quarters for a corporal and semi-private facilities for eight buck privates, the "barracks" above is luxurious to say the least. Less luxurious and costly is the one-room unit (right) for the same number of men. However, mass production economies notwithstanding, its cost would probably still be well above the budget of the Army which now accommodates at least five men in a "winterized" squad tent costing next to nothing. While a squad tent could only about 150 sq. ft. of floor space, the four-man MW room costs about 250 sq. ft. And, the MW housing would provide all the advantages of air conditioning, natural light, private bathroom facilities, abundant closet space, etc. Below: a sketch of an MW subdivision viewed from the driver's seat of a passing automobile. Note the resemblance between the streamlined automobile front and the housing.

(FHA now frowns on a lot which costs more than 16 per cent of the value of the house.) Wagner's rebuttal entails another untried proposal: the lot would be owned by a limited dividend company which would lease it to the home owner.

Criticism No. 4: If the basic unit is estimated to sell for $870 (around 44 cents per net cubic foot) and if additional rooms without bathroom facilities cost an estimated $500 each, a four-room MW house would cost $4,400, assuming that bathroom facilities at $170 would have to be connected to the second bedroom and that the three connecting "hall" units would cost $50 each. Since this price is close to that for conventional small houses, it appears that the major reason for the low cost of basic MW houses lies in its small size rather than in its unusual design, construction and production. Rebuttal: Dimensions and qualities are greater than in a conventional house. Moreover, second- and third-hand units could serve low income families.

COMMENDATIONS

The house does, however, boast many other undeniably commendable features:

- Site labor accounts for only 5-10 per cent of the total cost. Three men can assemble the basic unit in eight hours.
- Its bolted panel construction atop cast iron footings and steel grate flooring permits close to 100 per cent salvagability. And, once demounted, the two-and-a-half-ton basic unit may be loaded on one truck.
- Besides being proof against most everything, the MW house, being conoidal and "decentralized," casts a minimum of shadow, is easily camouflaged and is less vulnerable to bomb blast and splinters than conventional houses. Like snow, incendiary bombs would slide down the conoidal steel skin, do no harm.
- Electrical equipment built into the pinnacle of each room permits individually controlled heat and ventilation. Since the range is also electric and gutters and leaders are unnecessary, only three utility lines are required: electricity, water and sanitary sewer.
- The house is universally suited to all climates and all countries (with the possible exception of the tropics) and therefore could become exportable.
- While its primary function would be the housing of low income urban and suburban families, the MW house is readily adapted for use at military camps (see above), children's summer camps, water and week-end retreats, farms, military workers' camps, etc.

> Most important, Martin Wagner's projected solution to the housing problem gives the industry plenty of foot thought which, when digested, may be new energy.

It may take more than a new housing pattern, however, to spark this new energy. Thus, Inventor Wagner last submitted his proposals to a top automobile manufacturer, received a discouraging reply: "I have held from very beginning . . . that there was one solution (to the housing problem) that was economically possible: viz., putting the job in a factory on a mass production basis . . . . I think it is one of the most interesting opportunities that has been done to discourage the opening of new frontiers of enterprise, especially when it involves the broadening of responsibilities of those already engaged in big enterprise . . . . Yet, . . . according to my belief, those are the only ones who are in a position to carry the burden.


**Building for Defense... Blueprint for Civilian Defense**

is drafted and followed by Boston architects. Result: professional prestige and activity; a timely pattern.

To Government's ill-advised domain of the defense design field and to the profession's lack of gumption, the architect's part in the national defense program has been sadly small. Most of the leaders have fought for their rights to hammer arguments, not with.direct military force. Meanwhile, however, a group of architects has quietly developed plans by which their profession will achieve a major role in the civilian defense of Massachusetts and the whole of New England. It had it officially blessed and endorsed, and has drafted a set of blueprints to guide their multifarious activities and serve as a pattern for the rest of the country. And, thanks to the voluntary cooperation of this Committee of Architects, Engineers and Planners for Civilian Defense, the prestige, responsibility and activity of these technicians have been upped.

Having expounded his theories for the longest time, Architect Chester Wyndham Churchill was rewarded with the membership of a committee to formulate a plan which architects could help implement and accomplish the State's share of the defense program. Its thesis is that defense in a military sense must be conducted in the civilian field and accomplished by cooperation among a coordinated network of sub-committees. Covering thinline the defense organization from U. S.'s President Roosevelt down to Podunk's solitary architect, the master chart appears below. On the following page are detailed how the program was being translated from paper into action despite the absence of funds. Having outlined the entire program for the State, the Architects Committee via its nine sub-committees is now assuming the nine duties assigned to itself:

- Protection: a survey and classification of existing structures; study, location, design and planning of structures for special use; preparation of map data; preservation of historic buildings, etc; coordination with Army on traffic and patrol.

- Camouflage: preparation of all black-out details; study of enemy deception by glare; research in paint and color as they pertain to camouflage; disguise of objects by camouflage.

- Construction methods, contractors and labor: use of new materials and construction techniques toward greater permanency, economy and safety; consultation with contractors concerning new construction, debris removal and rebuilding; study of labor problems.

- Housing: survey of types, densities, relation to industry and utilities; study of available outlying housing for use during evacuation; plans for locating and building new housing; guidance of Government.

- Information and survey: study of availability of building professionals, contractors, labor and materials; correlation and reporting of work contemplated by Government; cataloging of printed data on defense; recommendations as to availability and qualifications of building professionals and contractors.

- Planning and zoning: long-range planning of new construction with respect to defense, safety and community life.

- Public relations and coordination: publicity and education to inform the public on better self-protection and to create an awareness of the problem of protective

---

**On Architects' Blueprint of National Defense Organization**

**Judicial**

**The President**

**Legislative**

**Military Establishment of the Commonwealth**

**State Guard**

**Mass. Government Departments**

**War and Navy Deps. in Mass.**

**Other Federal Deps. in Mass.**

**Massachusetts Committee on Public Safety**

**Other State Agencies**

**Regional Divisions of Massachusetts Committee on Public Safety**

**Local Branches of Massachusetts Committee on Public Safety**

---

**Other Federal Agencies**

**Mass. Committee on Public Safety**

**New England Council of State Cooperation**

**Other National Conference of Governors**

**American Legislators' Association**

**Council of State Governments**

---
planning; coordination between the Committee and public and sub-committees.

- Organization and ways and means: preparation of research surveys and charts; consultation with State and district organizations; obtaining of objectives and improvement of organization.

- Rehabilitation: study of rehabilitation processes and possibilities; preparation of plans for repair and rebuilding of structures demolished by disaster.

While its many surveys and recommendations were quietly in the making last month, its existence and purpose were dramatically brought home to the Boston public, 1) by bold headlines which forced a Dies Committee scoop into light-faced type, and 2) by a mock air-raid by dozens of droning bombers which the Army dispatched to Boston skies and which an army of women spotters aided in "defeating." Architect Churchill's committee cooperated with the attack and the defense, in an effort to awake the city to the meaning of total national defense. The Committee is now stumping for a State appropriation of $350,000.
Designed for a steeply sloping plot embraced by a hairpin bend in the approach roadway, the single-story house has its garage located beneath a portion of the bedroom wing which projects over the low side of the site. A similar project at the opposite downhill corner is occupied by advantage by dropping the living room three steps below the rest of the house, thus producing a somewhat higher ceiling for this room. Formal entrance is by a set of steps from the down frontage, service entrance from the continuation of the same roadway on the uphill side, from which it is also possible to reach living and dining rooms by way of the dining terrace. 

94
ERT TRASK COX, DESIGNER

ING-DINING

12 INCHES

3 PLY ROOFING—MOPPED DOWN

1x4 CEILING JOISTS

WIRE SCREEN

BED KM

E B R U A R Y

Y

19 4 1

E A V E S E C T I O N

0 3 6 9

12 INCHES
exterior treatment is a straightforward expression of the plan; the interior, due mostly to the inset terrace, extraordinarily light and open. Details throughout have been studied with great care and considerable ingenuity, especially the screening and sheltering of the terrace (page 93 and above), and the built-in bookshelves, desk, radio cabinet and magazine rack shown in the picture of the living room on the opposite page. The unique arrangement for garbage disposal, shown in the drawing below, seems a simple and practical solution of an otherwise annoying household problem.
CONSTRUCTION OUTLINE


FIREPLACE: Damper—Superior Fireplace Co.

SHEET METAL WORK: Flashing and leaders—Armco galvanized iron, American Rolling Mill Co.


FLOOR COVERINGS: Living room and halls—Chinese matting. Bedrooms, kitchen and bath—linoleum, Armstrong Cork Co.


PAINTS: By Duro-Tone Co. and General Paint Co.


PLUMBING: Hot and cold water pipes—galvanized steel, Bethlehem Steel Co. Pressure regulator—Mueller Brass Co.

Rarely do so-called “traditional” houses so accurately recapture the charm and spirit of their stylistic prototypes and rare, indeed, are designs which, like this one, couple this quality with such sound and straightforward planning. By boldly turning the service end of the house to the street, and facing the principal entrance on a driveway bouncing the north side of the lot, the architect has managed to place all of the principal rooms on the south side, overlooking a generous garden. An awning covered terrace, at the rear, enjoys the ideal south-and-east exposure as well as an unobstructed view of the boat inlet.

**CONSTRUCTION OUTLINE**

**STRUCTURE:** Exterior walls—studs, T. & G. sheathing, cedar clapboards; inside—U. S. Gypsum Co. rocklath and plaster. Floor construction—T. & G. sub-floor, red oak finish. ROOF: Covered with red cedar shingles.

**FIREPLACE:** Damper—H. W. Covert Co.

**SHEET METAL WORK:** Copper throughout. Chase Brass & Copper Co.


**FLOOR COVERINGS:** Kitchen and bathrooms—linoleum, Armstrong Cork Co.

**WALL COVERINGS:** Bathrooms—Linowall, Armstrong Cork Co.

**WOODWORK:** Cabinets and doors—Curtis Co.

**HARDWARE:** By P. & F. Corbin Co.

**PAINTS:** By Benjamin Moore Paint Co. and Minwax Co.

**ELECTRICAL INSTALLATION:** Wiring system—BX. Switches—General Electric Co. Fixtures—Mutual Lighting Fixture Co.

**KITCHEN EQUIPMENT:** Range—Smooth-top, Standard Gas Equipment Corp. Refrigerator—Electrolux, Servel, Inc.

**BATHROOM EQUIPMENT:** All fixtures by Crane Co. Cabinets—Charles Parker Co.

**PLUMBING:** Hot and cold water pipes—copper, Chase Brass & Copper Co.

**HEATING:** Hot water system with circulator, boiler, radiators, and water heater. Crane Co. Thermostat—Minneapolis-Honeywell Regulator Co.
A carefully studied plan in which the furnishings have been made an integral part of the design and interior finishes selected on the basis of a planned decorative theme for each room. Especially interesting is the use of the characteristic pattern of rotary-cut Douglas fir plywood (often considered something to be concealed, or at best, modified) to establish the dominant note in the study (lower picture, opposite page).
Ingenious use of staggered floor levels here provides conformity with a sloping site, more height for the living room, and a generous second floor sun deck. Living room and music space are a few steps below the entrance; a low ceiling in the latter portion makes possible an intermediate bedroom at the stair landing; two more bedrooms, with the bath, are placed a full story above the entrance and open onto a sun deck on the living-room roof.

**CONSTRUCTION OUTLINE**

**FOUNDATION:** Granite masonry, Portland cement concrete. Waterproofing—integral.  
**STRUCTURE:** Exterior walls—flush cypress, T. & G. plank, studs; inside—Johns-Manville insulation board. Floor construction—sub-floor, oak finish.  
**ROOF:** Covered with built-up 6 ply mineral surface. Deck—covered with canvas, William L. Barrett Co.  
**FIREPLACE:** Damper—Donley Bros. Co.  
**SHEET METAL WORK:** Flashing and leaders—copper. Gutters—fir.  
**WINDOWS:** Sash—wood casement. Glass—single strength.  
**STAIR:** Treads—oak. Risers and stringers—redwood.  
**FLOOR COVERINGS:** Living room and halls—oak. Kitchen—inoleum, Armstrong Cork Co. Bathrooms—marble; some inoleum.  
**WALL COVERINGS:** Main rooms—insulation board, Johns-Manville. Kitchen and bathroom (upstairs)—Homasote Co.  
**HARDWARE:** By P. & F. Corbin Co.  
**PAINTS:** By U. S. Gypsum Co.  
**ELECTRICAL INSTALLATION:** Wiring system—BX conduits. Switches—Arrow, Hart & Hegeman.  
**BATHROOM EQUIPMENT:** All fixtures by American Radiator-Standard Sanitary Corp.  
**PLUMBING:** Soil pipes—cast iron. Hot and cold water pipes—brass.  
**HEATING:** Warm air, gravity, coal fired system. Water heater—American Radiator-Standard Sanitary Corp.
Built in the most economical fashion from easily obtained materials, this painter's studio has distinction. Particularly interesting is the way in which local tradition has been utilized as the basis of the scheme without in any way dictating the ultimate design.
Frankly an adaptation of Frank Lloyd Wright’s design for the Jacobs house (Arch. Forum, Jan. 1938, pp 79-83), this scheme embodies a number of concessions to conventional taste while retaining much of the spirit of the original, especially in regard to the plan. Added are a hip roof in place of a flat one, windows for the kitchen—which in the original was lit from above—and a workshop wing. Other changes: bath is closer to the bedrooms, a built-in seat is provided next to the fireplace, and substitution of a third bedroom for the study. Most notable loss: extra living room ceiling height provided in the original has been sacrificed to a uniform roof line.

**CONSTRUCTION OUTLINE**

**STRUCTURE:** Exterior walls—cypress and redwood, special interlocking siding, 15 lb. saturated felt, white pine planking, splined; inside Philippine mahogany plywood, open joints lined with copper armored Sisalkraft, Sisalkraft Co. Floor construction—concrete.

**ROOF:** White pine plank, splined; wall and roof one unit with continuity of stresses; Insullte Co. planking finish.

**WINDOWS:** Sash—steel casements, David Lupton.

**FLOOR COVERING:** Kitchen and bathrooms—linoleum, Congoleum-Nairn Co.

**WALL COVERINGS:** Bathroom—Sealex wall linoleum, Congoleum-Nairn Co.

**HARDWARE:** By Schlage Lock Co.

**PAINTS:** By Pittsburgh Plate Glass Co. and Minwax Co.

**ELECTRICAL INSULATION:** Wiring system—Romex, General Cable Co. Switches—Hart & Hege- man.

**BATHROOM EQUIPMENT:** All fixtures by Elwood Co.

**PLUMBING:** Soil pipes—cast iron. Hot and cold water pipes—copper tubing.

**HEATING:** Steam system. Entire floor slab heated by pipe coils under slab; composed of 1½ in. A. M. Byers wrought iron pipes welded. Water heater—General Electric Co.
CONSTRUCTION OUTLINE

FOUNDATION: Reinforced poured concrete.

STRUCTURE: Exterior walls—studs, wood sheathing, paper, asbestos clapboards; inside—plywood on plywood strips glued to studs. Floor construction—sub- and finished flooring with cross furring. Ceiling—plywood, U. S. Plywood Corp.

ROOF: Covered with slate.


INSULATION: Outside walls and attic floor—rockwool.


LAUNDRY EQUIPMENT: Washing machine—Bendix Home Appliance Co.

BATHROOM EQUIPMENT: All fixtures—American Radiator-Standard Sanitary Corp.

A striking example of the use of ultra-modern planning technique with a modified colonial exterior, this house has all of its first floor rooms, except the study over the garage, located in line and connected on both sides by dual circulation. Both sidewalls are almost entirely open; entrance is from a lower level, alongside the garage. An especially interesting feature is the unusually compact, U-shaped kitchen, divided from the breakfast-utility room by glass-faced shelving. This arrangement, together with the dining room which adjoins the kitchen on its other side, seems a highly successful effort to solve a modern problem in a modern way. Considerably less understandable is the positioning of the fireplace between the two main openings to the living room, and the fenestration of the second floor, where the desire to achieve unity on the exterior has resulted in the central bedrooms having an abundance of window area while that in the end rooms is somewhat limited.
An unusual, L-shaped living room and exceptionally small bedrooms here combine to provide a great deal of "house" in a relatively small shell, while the rectangular plan results in maximum space for minimum cost. The exterior is straightforward and direct, the garage frankly placed in its most convenient location at the front. Since the house is located near the front of the plot, a generous rear yard is thus left free for living purposes.
OUSE IN FRAMINGHAM, MASS.  GORDON ALLEN, ARCHITECT

Deceptively small in outward appearance, this design manages to provide four bedrooms, two baths, a study, living room and kitchen within a cottage-like exterior through the common—but here expertly handled—device of a rear shed dormer. Authentic both as to detail and general lines, it even provides a fireplace or Franklin stove in practically every room.

CONSTRUCTION OUTLINE


SHEET METAL WORK: Flashing—copper. Gutters and leaders—wood.

INSULATION: Outside walls and roof—Alfol insulation, Alfol Insulation Co. Ground and attic floor—Cabot's Quilt, Samuel Cabot, Inc.

WINDOWS: Sash—double hung wood.


BATHROOM EQUIPMENT: All fixtures by Kohler Co. Cabinets—Hall-Mack, Hallschield & McDonald.


Large house, once again demonstrating this architect's exceptional talent for providing a maximum number and variety of thoughtfully designed features for comfortable living within an almost standardized structural shell, this house has been planned with a lavish hand and evident care. Particularly noteworthy is the master's suite on the second floor, with its separate sleeping and dressing areas, studied storage facilities, and generous bath; and the huge den, supplementing an already large living area on the ground floor. As always in Mr. Neutra's work, the window area is tremendous, and in this instance made to seem still taller by the use of a large mirror on the solid end-wall of the living room.
CONSTRUCTION OUTLINE


ROOF: Covered with Pabco composition roofing, Paraffine Cos. Inc. Deck—reinforced with movable grille over roofing.


WALL COVERINGS: Living rooms, bedrooms, kitchen and halls—Sanitas, Standard Coated Products Co. Bathrooms—Mariite in aluminum, Marsh Wall Products Co.


HARDWARE: By Schlage Lock Co.

PAINTS: By National Lead Co., E. L. Brand and Aluminum Co. of America.


PORTFOLIO OF RECENT WORK BY
BURNHAM HOYT

At 54, Burnham Hoyt of Denver, Colorado is doing as much as any other American to bring about the renaissance of institutional architecture. His Children's Hospital, in 1936, was among the first to abandon completely the untenable thesis that modern therapy could be efficiently carried on behind the facade of an overgrown Georgian mansion; his School for Crippled Children, included in this portfolio, unquestionably sets a new high for the articulation of design and structure in educational buildings.

Born and raised in Denver, Hoyt received his architectural training in the Beaux-Arts Institute of Design and the offices of New York architects George B. Post and Bertram Goodhue. After practicing for a time in Colorado in partnership with his brother, he returned to New York to work in the office of Pelton, Allen, and Collins, taught design for a time at New York University, and finally, in 1932, opened an independent office in his native city.

His architectural practice, while general, has been outstanding in the institutional field, and it is that portion of his recent work which is illustrated in this portfolio. His theory of design, so far as he has been able to express it in words, is that "architecture is simply a dramatization of a system of construction." It is this theory which these buildings—especially the School for Crippled Children—so admirably illustrate.
Built on a long, narrow plot facing a traffic street (picked for its proximity to the Denver Children's Hospital*), this modern school for "conditioned" children has all of its classrooms on one floor at the back of the building away from the noise of the street. A small library is provided at one end, a kitchen and cafeteria at the other, while rooms which do not require large windows and those where quiet is not important, such as the auditorium and playroom, are located at the front. A ramp and elevator connect the main floor with a basement tunnel to the hospital, and extend upward to rest rooms used in conjunction with the latter's Hydrotherapy pools and provided with generous sun terraces. Constructed throughout of reenforced concrete, an I faced with exposed-aggregate, precast, concrete slabs, both interior and exterior design emphasizes the structural system—round concrete columns and exposed roof and floor beams affording the basic decorative note in all parts of the building.

*ARCH. FORUM. Dec. 1936, pp. 311-16.
Because of an alleyway flanking the back of the building, classrooms are arranged in separate pairs, divided by light courts which may also be used as outdoor classrooms, and the back wall of the building built solid. These courts also admit an abundance of light to the main corridor, the end wall as well as the sides being entirely of glass (above, plan at right). The interfloor ramp (below and opposite page), necessitated by the special function of the school, adds an exceedingly attractive design feature to the main corridor, while its open construction gives an effect of spaciousness at just the point where it is most needed.
CONSTRUCTION OUTLINE


ROOF: Concrete, cork insulation and Barrett Co. 20-yr. tar and gravel. Decks—hollow tile insulation, membrane and quarry tile.

SHEET METAL WORK: Flashing—copper. Ducts—galvanized iron.


WALL COVERINGS: Library—Flexwood U. S. Plywood Co., Inc.

FURNISHINGS: By American Seating Co.


HARDWARE: By. P. & F. Corbin, Oscar C. Rixson Co. and Vonnegut Hardware Co.


GENERAL CONTRACTOR: Brown & Schrepferman.
This new unit replaces an old building built in 1889 and combines with two existing buildings of recent construction to form a complete, senior high-school "plant." Constructed of brick, steel and concrete in the form of an L, it consists of a ten-room classroom wing (twenty-four more classrooms, as well as a gymnasium, shops, and shop classrooms, were provided in the existing buildings), and a main body including a large auditorium, library, general offices, and a cafeteria. Band and choral practice rooms, and three additional specialized classrooms, are also provided in a connecting link to the existing classroom building. The new building provides the principal entrance and administrative headquarters for the entire group, and, combined with this, separate public entrance to the auditorium for community use in out-of-school hours.
COLORADO SPRINGS HIGH SCHOOL

CONSTRUCTION OUTLINE

FOUNDATION: Concrete.
ROOF: Concrete, Pabco 20-yr. tar and gravel, Paraffine Companies; Celotex Corp. Traffic Top on decks.
SHEET METAL WORK: Flashing—copper. Ducts—galvanized iron.
INSULATION: Roofs and sound insulation—cork.
STAIR: Terrazzo, aluminum surface.
FLOOR COVERINGS: Asphalt tile.
WALL COVERINGS: Auditorium—imitation leather.
FURNISHINGS: Auditorium seats—American Seating Co.
PAINTING: Lead and oil throughout.
ELECTRICAL INSTALLATION: Wiring—concealed conduit.
GENERAL CONTRACTOR: Piatt Rogers, Inc.
The windowless auditorium, seating 1,500, is built on two levels, and so arranged that 600 seats on the upper level can be shown by a steel curtain for smaller functions. The seats are supported by a double row of columns, the inner row on each side being exposed for decorative effect. A large and fully equipped stage with a proscenium opening 44 ft. wide provides for every type of entertainment activity.

Location of the 500 person cafeteria at the rear of the auditorium is explained by the fact that it affords an excellent view of the neighboring mountains and by the desire to provide accommodations for outdoor eating in all weather. For this purpose a sunken roof to the same level as the cafeteria floor affording equal space for dining, is provided. Surrounded on all four sides by glass, the race is protected from the wind but open to the sun, and may therefore be used the greater part of the year.
ALBANY HOTEL, DENVER, COLO.

TYPICAL ROOMS

VATE MEZZANINE LOUNGE DINING ROOMS

BEDRM. BDRM. DIN-RM. BDRM.

COFFEE SHOP AND TAVERN

STAGE ROSE ROOM CATHEDRAL ROOM

FOYER

ORGANIZATION

EXISTING BUILDING

NEW BUILDING

THE ARCHITECTURAL FOR
While entirely new, this hotel building (like Colorado Springs High School) replaces a older structure built for the same purpose on the same site, and adjoins a later addition which is still in use. The exterior is an outstanding example of the architect’s approach, in its emphasis on sober, workmanlike analysis of a particular problem and construction method, rather than reliance on any of the established design-clichés—modern or traditional—which masquerade under the name of Style. The public interiors, while not so original as the exterior, are admirably suited to a medium-sized hotel building—and outstanding in a field where bizarre taste is the rule rather than an exception. The main stairway (above) leads to a mezzanine lounge (right), located a floor above the street to serve valuable ground-floor space.
PRIVATE ROOMS are exceedingly colorful and attractive, with carefully integrated finishes and furnishings. Drape-like panels at sides of windows are actually a splendid form of fabric-covered trim which covers the ends of the venetian blinds.

CONSTRUCTION OUTLINE

FOUNDATIONS: Reenforced concrete, Dampproofing—Western Elaterite Roofing Co.

STRUCTURE: Fireproofed steel column and panel building, junior steel sub-beam, concrete slabs, 8 in. brick, 8 in. insulated duct space; inside—6 in. tile and plaster. Structural steel—Bethlehem Steel Co.

ROOF: Covered with 2 in. cork, Armstrong Cork Co. Western Elaterite Roofing Co. rolled roofing.

SHEET METAL WORK: Flashing—copper. Ducts—galvanized iron, Cork Insulation Co.

INSULATION: Walls, roofs and sound insulation—cornice cork.


HARDWARE: By Yale & Towne and Oscar C. Rixon.


GENERAL CONTRACTOR: Mead & Mount Constr. Co.
BUILDING FOR DEFENSE

By William Lescaze

We are building barracks and cantonments, manufacturing engines, tools and arms. All these in a great hurry. All these—buildings and arms—are parts of our defense. Necessary parts. But to be really useful these parts must make a whole. In accordance with a plan. How many of us do see that whole? Must it be kept altogether as a military secret?

An official prophesied not long ago that our building effort would necessarily be followed by "the largest possible kickback" as soon as we returned to normal conditions. Aren't we going to do something about it? It's certainly not enough to just announce it. Granted that there is always an inevitable let-down after an emergency is over; a tremendous effort is made; materials in large quantities are manufactured, shipped, delivered, installed; thousands of men are busy in the factories, on the building sites. And then all of a sudden it stops.

That's just it: It doesn't have to stop. Building construction is pre-eminently a useful industry, while—on the whole—building armaments is an economic waste. It is not like making TNT and DNT. When the emergency is over we don't need TNT and DNT; but we always need construction. For years construction has been lagging. Construction of all kinds: Highways, bridges, dams, power plants, airports, hospitals, schools, houses, houses, houses. New construction because the needs are greater, or new construction to replace the rotten cores of our cities, or new construction because the needs are new.

There is no need for dislocation in the building industry. There is no excuse for it. But then we must have aggressive and farsighted leadership. Now is the time to plan.

Let us make haste. Let us enlist immediately all of our technicians. Let us make sure that in each field, in each area, the right people be put to do the right job. There are men right now capable of thinking out and preparing such a plan. What are we waiting for? There has got to be a PLAN... I am sure that our Navy has a big job on its hands; just in order to keep abreast of developments, to remain the strongest battle fleet in the world. Why should they be burdened with the entirely different problems which construction of buildings present?...

Clearly the Navy can't do everything. Let construction be done as it should be, by our trained technicians: architects and engineers—under a comprehensive plan of Defense Architecture. . .

We hear of changes in the tactical structure of our Army. Obviously the lessons taught on the European battlefields are not lost to our army chiefs. An enormous effort has to be made to revamp, augment, arm, and mechanize our Army. How can we afford to burden our generals, in addition, with the manifold problems of building construction?...

But what the Army and Navy can do, and are equipped to do, is to establish:
1) Clear and detailed standards of their building requirements.
2) Schedule of needs in terms of types, quantities and time limits.

At the present time several Departments, Agencies, Administrations and Authorities all have, somehow, something to do with construction. Each one has assembled its own little or large technical staff. Each duplicates the research and the experimentation of the other in the field of construction. Each buys materials and hires labor, thus competing against the other, at times competing against the other. Needless to say, confusion, duplication, wastefulness, inevitably ensue and, just as inevitably, higher costs. . .

We are about to make a great building effort. Unless we plan it in advance, unless we organize it right now, we will be confronted ten years from now by a chaotic collection of useless and meaningless buildings. What a frightful and costly waste! We must demand that our building effort be planned. We must make a gigantic effort to stop once and for all every form of haphazard, unscientific construction activities. To that end, a new Department of Defense Architecture must be estabished without further delay.
At the present time the tendency is to take for granted that the needs of war and those of peace are in every way opposed. Maybe—maybe not. This should be carefully investigated. Is it not conceivable that at least in certain instances the needs of war and those of peace be not so diametrically opposed that they might not yield to dual-purpose buildings and dual purpose layout of buildings; or that buildings built now to serve our defense be so built that after the war they can become useful additions to our peaceful communities?

It would be folly to disrupt at the present time such agencies of our Federal, State or local governments which have been doing housing. On the contrary, it should be recognized that the continuation of their work has gained added significance since it contributes so definitely to our civilian morale. By all means these agencies and authorities should be given the necessary help—financially and otherwise—to pursue further the valuable work they have been doing in the field of low cost housing.

But defense housing is in itself an entirely different matter. Defense housing is a part of Defense Architecture, and as such should be handled—with all the allow types of construction required for our defense—by the new Department of Defense Architecture.

All funds previously allocated to the Army, the Navy, and to other agencies for construction purposes intended for defense should be re-allocated to the Department of Defense Architecture.

Instead of five, seven, or nine agencies—as the case may be—all doing building construction for the one and only purpose, defense, there should be only one agency: this new department. With power to control all existing building resources, and power to estimate future building requirements, to plan and to expand resources to supply them.

Obviously if we are to have efficient production of construction there must be a single authority, and that authority—the Department of Defense Architecture—must have the power to obtain a complete record of all buildings, resources and materials as of, say, January 1; to decide all priorities; to obtain an approximate list of proposed construction for a year ahead from all who intend to build; to take measures so that both materials and labor are ready for each of these projects as they are scheduled; to undertake research into substitute materials and standardization and to enforce the use of such results.

Obviously the number of buildings which we need is very large, the types many and varied. How will all this work be handled?

In some cases the Department of Defense Architecture will commission a private architect to head a group of say ten architects in several cities of one region, who in turn will assign work to each of them in their respective localities, direct them, assume the responsibility for all of their work with the Department of Defense Architecture, thus simplifying the administrative procedure of the Department. In still other cases, the Department will direct any of the existing Government agencies engaged in construction to undertake, with the collaboration of one or several private architects, one or several projects under the direction and control of the Department. In other cases, the Department may evolve still some other procedure, in order to have the work done speedily and efficiently. But in all cases the Department of Defense Architecture will initiate the work, will give it direction and purpose; each project fitting into the whole, each project a work of sound, economical and modern construction, each project conceived and carried out with regard to the others.

Such a Department of Defense Architecture may eventually have to be headed by a Secretary; for the duration of the emergency, a Secretary of Defense Architecture who, later on, would become a Secretary of Public Architecture.

For many years the need of such a post has been growing. The present emergency makes it more acute; the efficient operation of our huge building industry demands that a single, powerful authority be put in charge. In times of unemployment to plan and direct the construction of useful projects. In times of crises to direct the construction needed for our defense. At all times to allocate existing resources, forecast future demands and prepare resources to meet those demands.

In consultation with the Army, the U. S. would divide the country into twelve or fourteen regions in a manner somewhat similar to the seven regions which were established by the PWA; or more simply—if these are practicable—there might be fourteen regions following the pattern of the fourteen arsenal districts into which the States are already subdivided. Regional Architects' Defense Councils would be established in these—one for each region.

Cities and municipalities should not lose their identities, but it is obvious that this kind of problem and this kind of totalitarian warfare are best met on the broader basis which a Region allows...  

In each of our Regions then a Regional Architects' Defense Council would be organized. It would consist of architects, engineers, and builders who had voluntarily banded together in order to serve their communities and the whole Region containing such communities. The council would assign to each of these technicians specific tasks to be performed with the collaboration of as many interested local groups or individuals as possible.

The Department of Defense Architecture would first establish a model of types of surveys desired. All the information obtained from every one of the Regions would thus become immediately comparable. From such information again in consultation with the Army and Navy—locations of new manufacturing facilities or development of existing types of shelters could be plotted with just consideration of all relevant factors such as availability of resources, of labor, of housing facilities, of transportation, etc.

In addition to these surveys of factual, survey of means of transport must be begun. Again with the collaboration of other groups of citizens whose in certain cities, may be later formed. The Regional Architects' Defense Councils will in advance the necessary surveys which will permit an efficient scheduling of possible evacuation schemes.

Then also in particularly exposed localities, plans are drawn up for the protection of existing key buildings. As little as possible should be left to be improvised in the last minute. Now is the time to plan...

It is entirely possible that we may need air raid shelters. On the other hand it is folly not to examine thoroughly if we may not have to have them; and it is found out that there is some possibility that we may, at one time or another, in one form or another, this is still greater folly not to accumulate information about those shelters which have been submitted to a severe and prolonged test, and to organize now our thinking about our own solutions...

How much do we know about our hospital units? About Rest Centers? About the Information Bureaus for the families of men whose homes have been destroyed? Have our manufacturers developed a method to protect glass against the effect of bombs? Is wired glass the best? What surface applications to existing glass have any value? Have we developed a safer method of holding glass inside of its frame?

There also are the questions of evacuation. Then those of transportation, for a review and probably a revision of our cities' vital arteries.

All these and many more our Regional Architects' Defense Councils must work out, must patiently and in detail proceed under the guidance of a properly functioning Department of Defense Architecture.

A single authority, as the one vested in the Department of Defense Architecture, does not necessarily imply centralization. On the contrary, to be effective it may even stimulate individual initiative scattered far and wide across our country. Problems of climate, resources vary greatly with the region. Talent and ability too. But because of the ultimate goal—our Defense and the urgency of the emergency, a single authority must direct and coordinate all of these initiatives and abilities.
The past year I have traveled 10 miles and have taken 4,000 photographs which illustrate parking conditions in various types of parking facilities in many of our large cities. In the process of this work I have found that conditions in these cities have become so serious in most cities that it may even be the final bottleneck of congestion, with the limiting factor, in cities, of the automobile and its valuable contribution to a system of transportation. Lack of adequate parking facilities places limitations on the extent of development of elevated highways and other roadway improvements. Indeed, the parking problem has become so serious that it is no longer just a matter of inconvenience and frustration to the motorist but has actually become an economic problem involving losses to business establishments located in congested areas, losses of property owners in that area, and consequently losses to the city government through related property values.

In order to reduce these losses, it will be necessary to create new parking facilities within the inner core of the central business districts. Available sites within inner core area have placed certain limitations on the type parking design that can be used. Sites in central core districts have high property values, they are well occupied by building developments and the lands available for satisfactory parking developments have relatively small plot sizes.

Retention of this inner core area of all business districts can only be done by multiple floor parking structures. That penetration can be made has already been established. Our studies reveal that the economic justification for the retention of these facilities. We believe it to be quite difficult to determine the present time location and price, motorists will choose an open parking lot in preference to a closed garage.

The rapid expansion of parking lots has proven true the lack of parking facilities. The new parking businesses are expected to have a tendency to stabilize values... First, the phenomenon which has been demonstrated over and again, where new transportation facilities are created: an induced new load invariably results... Second, all other things being equal, such as location and price, motorists will choose an open parking lot in preference to a closed garage.

The advent of the automobile acting in combination with new methods of communication and distribution is today giving great flexibility to buying power in its selection of a place to transact business. Some years ago Dr. Miller McClinton developed a technique to measure the accessibility of selected business establishments to the motorist trade. It is amazing to note the actual time losses which take place in the central business districts of our cities when they are reduced to cold facts. Much of these time losses result from time spent searching for a suitable parking space (either at the curb or off-street). A sizable proportion of the delays appear directly by inadequate parking facilities because of the "parking cruiser."

It has been shown in a number of studies in various cities that shoppers will not walk much over 500 feet from parking place to destination. . . .

Almost twenty years ago Dr. McClinton predicted that if steps were not taken to improve the accessibility of business districts through improved facilities for serving the automobile, decentralization of business was certain to result. Adequate steps have not been taken and today cold facts support the accuracy of that prediction... In Los Angeles census data show that in 1939 central business district transacted 34 per cent of the retail sales in the country. In 1933 the central district did only 25 per cent. . . .

We believe that it is possible to estimate within reasonable limits the probable success of a parking facility. Based upon facts we now have, the general requirements for success of an inner core area are as follows:

1) The parking units shall be small in capacity, ranging from 100 to 300 stalls (mechanical can be less).
2) The rate structure should be geared to attract short-time parking even to the extent of discouraging all-day parking.
3) The location should be strategic with respect to generators which create the demand...
4) Speed of dispatch geared to handle fast service.
5) Simplified layout so that motorists can be encouraged to drive to storage floor.
6) Building height where manual parking is used should not exceed five stories except in most unusual cases. Where mechanical parking is utilized the controlling factor is speed of dispatch rather than actual story height.
7) Design must be pleasing to the eye, be attractive to motorists and add to the general appearance of the neighborhood.
8) Require less than 15,000 square feet of land area.
9) Meet city building ordinances without having to conform to unnecessary building regulations which greatly in-
It is heartening to be assured that the deplorable destruction caused in London by the raiders will be repaired by finer things, but often the spirit of places is fragile and very hard to recapture. The spiritual environment of the two universities and of parts of London, particularly the Inns of Court, has so far proven inimitable. Many have tried to reproduce it by copying details without any understanding of what makes it unique. The important fact is not superficial but a fundamental expression of a manner of life, produced by careful development through generations. It is endangered because we accept it either as a matter of good fortune or as some special quality of antique things. We think of architecture in terms of individual buildings and not as related units in the broad pattern of environment.

There are four Inns of Court in London—Lincoln's, Gray's, Inner and Middle Temple. There were others years ago but now they are only names. The Inns were originally ecclesiastical. Large groups of buildings arranged in a medieval manner about a great hall and surrounded by gardens. In early times certain of these Inns became associated with the legal profession and are still used in that manner. Now they are exclusively legal institutions. Barristers belong to one or other of the Inns where they may live and practice. Students reading for the bar examinations must join one in order to associate with others in their profession.

The affairs of the Inns are administered by the Master, Treasurer and certain other senior members who are called Benchers. The four Inns are said to have agreed among themselves that they share equal antiquity. Though this may not be based upon any historical fact, it saves quarrels over precedence.

Gray's Inn is the more complete architectural entity of the four. Most of the buildings are Georgian, brick and stone. Gracious structures symmetrically grouped about squares or in rows flanking wide gardens where there are broad walks between tall plane trees. The hall is medieval. The Library is modern. As the other Inns, it is walled round, making a complete little world within the whirling city.

Lincoln's Inn is partly Tudor and partly Georgian with some distinguished Victorian buildings. It is more picturesque than Gray's because of its predominant medieval plan and the variety of its buildings. The gardens are smaller and in summer they overflow with flowers.

The Inner and Middle Temple Inns adjoin south of Fleet Street on the western border of the old city. Their gardens run down to the Thames Embankment. Passing along Fleet Street one would never suspect they were there. Tall narrow buildings with shops front along the street. In one there is an Elizabethan gateway, barely wide enough to admit a motor car; it is the Inner Temple door. Through another rather soty building a gateway opens on to Middle Temple Lane. Weekdays the gates are open but evenings and Sundays the gates are shut and one has to call a porter to get in. The Inn porters are impressive figures. They wear silk hats with black or gold rosettes and frock coats with shiny buttons. Inside the gates there is an atmosphere of calm. It is quiet in the Temple. The environment is primarily

THE TEMPLE

By John Bland

ACTING HEAD OF THE ARCHITECTURAL DEPARTMENT, MCGILL UNIVERSITY, MONTREAL

Abbeviated from the Journal, Royal Architectural Institute of Canada, November, 1946

The remaining buildings in the Temple contain offices and small flats called Mess. They are four to five floors high, usually in brick. Very nicely detailed and the entrances lead to the stairwells. On the landings there are doors to the chambers both right and left and a window over each entrance below. The chamber doors are usually double. The outer one is of black or gold rosettes and frock coats with shiny buttons. Inside the gates there is an atmosphere of calm. It is quiet in the Temple. The environment is primarily

aural. The narrow passage from the garden widens. The space expands. There are trees. The buildings are geometric perfection, superimposed upon the free pattern of the parks. There are courts, terraces, pleasant rows of buildings. The flights of steps, arcades and pools, are not composed to give emphasis to any pretentious feature. The arrangement is complementary to movement, leads one on. There is no architecture. The Temple is more than a place.

It is a civilized group of buildings where men may work and move about in safety in quietness among trees and flowers with the visual satisfaction of order.

In the twelfth century the Knights Templars built the little circular Temple church. It is supposed to be a model of the oblong chapel of the Holy Sepulchre in Jerusalem. In the fourteenth century it was extended to the east by the addition of a large oblong chapel with tall pointed windows. The early church and the addition made a delightful composition of cylinders, arches and prism. On fine days art students used to draw it.

Middle Temple Hall stands on the north side of Fountain Court. It is a building with a wonderful hammer-beam roof. Shakespeare played Twelfth Night there. Beyond the Hall there is an English garden with paved walks, magnolia trees and sunny places to sit. Early in the morning it is fragrant with hyacinths and roses. Later on in the season there are red and white roses that have made the garden famous. Near the Thames Embankment there are wide lawns and courts and avenues of plane trees.

* Recently damaged by bombing.—Ed.
THE DIARY

Friday, December 17.—New York Chap­
ter, 2 R.I.B.A., was called together today for
a discussion of the subject which its officers thought
most necessary to bring to the attention of the public.
A committee of four was appointed to prepare a
report to be submitted to the executive board.

Saturday, December 18.—Good news from
St. Louis, Adler & Sullivan's Wainwright
Building, finished in 1901, instead of bow­ing
to the current principle of obsolescence—a
useful life of 35 years only—and giving way to something new, is being
modernized. No facelift process this,
but rather for an inviting wall
covering, a treatment of a difficult basement location.

Monday, December 20.—J udgment of a
Beaux-Arts competition of mural paintings by
four architects might in itself have suggested the question,
"What's wrong with this picture?" The program, however,
as written by Perry Coke Smith for Julian
Garney's department of mural decoration,
called for sketches indicating the Decora­tion
of a Cafeteria and for a letter to the
architect explaining the contestant's qualifications
for the job. Frederick Frost, Jr.,
Henry Hofmeister, Otto Langman and I
were looking, not for an enlarged easel
treatment of a difficult basement location.
Unagnile in shape, filled with columns,
tables lining the walls and covering much
of the floor, the cafeteria was to
have an inviting wall treatment,
thought first and paint afterwards.

Tuesday, December 21.—To an accom­pan­
iment of Christmas cards sung with
a gusto that made up for deviations from
key, Julian Levi announced today the first
Awards from the Arnold W. Brunner Fund.
As in several years past, the Architectual
League was jammed to the walls with Fine
Arts in the flesh, come to the Christmas Luncheon.
The Brunner Awards were a surprise
and an occasion for loud cheers.
I gather from unofficial sources that these
Awards are planned to parallel in our field
the Pulitzer Prizes. Not solely, however,
in recognition of outstanding merit, they
will aid the recipients to carry forward
some special project.

To Leon V. Solon came an Award for
the further preparation of material for a
book tentatively called "The Science of
Design and Color Composition" and for a
public lecture on the subject. Just in the
privacy of this column, I hear that the
book was to have been called "The Physics of
Efficiency," a roundabout way for many of
his friends transposing the two nouns.

To Hugh Ferriss, a Brunner Award "for
the preparation of about 40 drawings to
constitute a visual record of constructions
of outstanding importance, particularly
American origin and characteristic of the
years since 1929." Well, the selection of
the 40 best jobs may cut down a wide circle of professional friends, but he will
have 40 left.

Back to our own office where Forum
held its annual open house for the staff
and nearby friends. More evidence that
the alleged singing of carols is coming to
be something in the nature of a national
safety-valve.

Wednesday, December 22.—Echoes of the
old argument as to what, if anything,
subsidized housing should pay towards
the city's public services still reverberate.
Complete tax exemption was asked by
the housers, full sharing of municipal costs
was urged by city treasuries. Middle ground
has been, as usual, the meeting place.
Houston, Tex., asked 68 cities what they
were doing about it. Half of the 56 who
replied receive payments in lieu of taxes.
Eight of these 28 collect from their local
housing authorities a flat annual fee.
Eleven cities of the remaining twenty get
2 per cent of the rents. Of the other nine
cities the rents also form the basis of fees,
but in percentages varying from 1/2 to 5.
Houston figures that if she could get 5
per cent of the rentals from her own hous­
ing authority, it would approximate the present losses through complete tax exemption of the projects.

Saturday, December 28.—Prof. Charles W. Killam of Harvard, a perennial crusader who attracts many to his militant banner, sounds a new note in the war on Federal, State and municipal bureaus. Instead of choking them to death, Prof. Killam would make them tell all they know. In his report of the A.I.A. Committee on Structural Service, he says: "Federal bureaus with experience gained from constructing and maintaining great numbers of buildings ought to publish . . . the results of their experience . . . their failures as well as their successes of materials, mentioning the materials by name." He belittles the fear of legal attack from producers, citing the experience of American Medical Association in publishing reports on proprietary preparations. Cooperation of the great body of reputable producers might be anticipated. A strongly organized cooperative movement of A.I.A., A.S.T.M., National Bureau of Standards, Producers' Council, engineering societies, labor, financial institutions, and various civic and technical bodies having a logical interest, would be an irresistible force for better and more economical building. What it could do to obsolete building codes offers a rosy prospect in itself.

Monday, December 30.—Interests of Canada and the U.S. continue to coalesce. Engineering Institute of Canada has become the eighth participating body of Engineers' Council for Professional Development. E.C.P.D., if its aims should still remain unknown to some of the architects, is "organized to enhance the professional status of the engineer through the cooperative support of those national organizations directly representing the professional, technical, educational and legislative phases of an engineer's life." One of its important jobs has to do with engineering schools. While the American Institute of Architects is still discussing the possibilities of accrediting architectural schools, E.C.P.D. has accredited 457 engineering curricula after examining 791.

Wednesday, January 1.—I do not recall ever having kept any resolutions made on New Year's Day, but it is a pleasant indoor sport to make them. Therefore be it resolved: That I will no longer hold the public entirely responsible for not knowing how good an architect I am.

That I will not longer postpone my normal efforts to make a living in waiting for the Government to pass me out a job. That I will continue assiduously in trying to understand what the hell most modern painters are trying to do.

That I will endeavor earnestly to restrain myself when contemplating "mobile" sculpture.

That the efforts of the decorators to recreate pre-Victorian beauty, if any, are among the mysteries that must remain inscrutable to me.

That my ingrained tendency to re-use the forms established in time-tested architecture must be continuously checked against the changing needs of today and tomorrow.

That the temptation to leap ahead of the needs of today to prove that tradition cannot dominate me is merely an invitation to stick out my neck.

That I must periodically look back at the architecture that was considered smart in 1900, 1910, 1920, 1930 and enjoy a shudder.

That when I am in doubt as to the excellence of that which I have built I will engage a really great photographer.

That I will try to develop a spirit of tolerance toward all my fellow men who have made some of the above resolutions.

Monday, January 6.—Ask any ten persons how much defense housing we need, and the answers will probably have little significance, either to each other or to the facts. Question is, does anyone know the facts? C. F. Palmer seems to have had the best chance of getting at them, in his job of housing coordinator of the National Defense Advisory Commission. He says we need $700 million worth. Government has made available $290 million, which leaves, at the moment, over $400 million worth to be done by private industry. The job could be sized up more clearly if it meant adding that much more housing to match the distribution of our population, but it doesn't mean that. The population hasn't grown that much; it has merely redistributed itself, and will do so in larger numbers as we get into real defense production. Workmen cannot move their houses with them, we could save a lot of time and have more money to spend on planes and munitions.

The portable house seems a logical answer. In one form it is already in use—floating barracks improvised from river and coastwise steamers. Railroads have long used boxcar housing for mobile construction gangs; the idea could be brought up to date for bachelor quarters. It is the married man and his family—chiefly his family—that balks at living in these makeshifts. Here's a job for the architect—before Government works out its own solution. Martin Wagner and others are already at it (see page 67). Bucky Fuller expects to tell us next month about a new scheme of his. Who's got the answer?

Thursday, January 9.—Once again the Architectural League's monthly dinner, to mark the opening of another Panel Show, Evans, Moore & Woodbridge; Harrison & Fouilhoux; and Archibald Manning Brown are showing their architecture this month; Gustav Jensen, his typographical and package designs; Leon Solon, some book illustrations and color studies; Nancy Morland, interior decoration; and Bill Jones, his hobbies. The latter engineer, rather stole the show with a big glass globe full of polar exploration literature, photographs of commercial fishing boat drawings of boat design, and some seeds of various ages from a strain of Japanese pine he and his father had raised half a century as the trees fitted to the Nantucket sandy, salt-pebble soil. (See p. 14.) The man who is corresponds with the teaming together of water, sound and light to produce the 1933 World's Fair lagoon fountains, takes pride in his pine trees as in a career that fascinated many millions of the evening visitors.

Saturday, January 11.—National defense is certainly putting a mark on the architectural practices. Names of shells and widely known partnerships sink beneath the surface of a spate of impersonal construction effort. The Trinidad group of Army bases, for instance, is being designed by "Caribbean Architect," a freshly minted corporate term, which, before winter combinations of Voorhees, Walker, Foley & Smith, Mann, Byers, and Parsons, Klapp, Brincker, and Douglas, engineers. A whole floor of offices will bear the new name and a growing drifting force. There will be 150 men in it in time, for the whole city to be built—houses, schools, hospitals, cinemas, stores and all the rest. The drafting room will not be one in which you apply for a job, are hired, and then up your coat within the hour; Government is going to scrutinize the application until his past before he becomes part of the machinery of National Defense.

Chester Lindsay Churchill in front, telling us of the progress being made in his city's civilian defense program is the best pattern revealed to date for mobilization of the technicians. (See p. 91.) The function of planning seems to be getting back into the hands of people trained to plan. Nor was the job limited to the architects and engineers—the job is out and took it.

Tuesday, January 15.—Roger Allen has become a columnist. He can now spend all of his time writing funny words instead of designing funny architecture. No, I've never seen any of his architecture; with humor oozing out of him almost pour (stet), it seems as if it must have a life of its own, a life on its own. Here's what he says about the work of Gustav Jensen, his typographical and package designs; Leon Solon, some book illustrations and color studies; Nancy Morland, interior decoration; and Bill Jones, his hobbies. The latter engineer rather stole the show with a big glass globe full of polar exploration literature, photographs of commercial fishing boat drawings of boat design, and some seeds of various ages from a strain of Japanese pine he and his father had raised half a century as the trees fitted to the Nantucket sandy, salt-pebble soil. (See p. 14.) The man who is corresponds with the teaming together of water, sound and light to produce the 1933 World's Fair lagoon fountains, takes pride in his pine trees as in a career that fascinated many millions of the evening visitors.
entirely in light-weight steel and on the outside with cement plaster. This neighborhood recreation center for underprivileged children was designed for a sloping site, has its entrance and main rooms on the second floor. The assembly hall, at the front of the building, is under a raised portion of the roof which permits a high ceiling and unusually large windows for this room. A school play area, adjoining the building on the side, is at an intermediate level in floors; committee rooms, toilets, combined music rehearsal and crafts room are on the first floor.
Interiors are sleek and impersonal, seem particularly appropriate to the function of the building. Modern materials and techniques have been utilized throughout, with an emphasis on natural light, cleanliness, durability and easy maintenance which should contribute much to the success of the project.
HOUSING'S AILMENTS ARE DIAGNOSED

The industry's deepest probe. TNEC's Stone and Denton prescribe research, standardization and five other pills to cure high costs and low production.

A select committee to make a full and complete study and investigation with respect to the concentration of economic power in, and financial control over, the production and distribution of goods and services—such are the high sounding phrases with which Congress has defined the temporary National Economic Committee. In layman's lingo, its purpose is to find out what is the trouble with U. S. industry and business. To this illusive end, TNEC's nineteen Governmental trouble shooters, chairmained by Wyoming's Democratic Senator Joseph C. O'Mahoney, spent considerably more than $1 million put hundreds of industrial and economic bigwigs on the mat during the past two years, have peppered them with questions and sometimes embarrassing accusations, have obtained expert testimony on what makes the wheels of the economic machinery go round and brought one of the New Deal's pet problems, Housing, was long on the back of the mat. Its representatives talked frankly and bluntly until the stenographic shorthand bulged with housing facts and figures. But, in its existing form, the report was too voluminous, too disorganized to assist TNEC in the preparation of its long-awaited recommendations which must be submitted to Congress this spring. Therefore, to put its findings in usable form, TNEC borrowed Chief Peter A. Stone from WPA's Construction Analysis Unit and Housing Analyst R. Harold Denton from the Commerce Department, dumped the testimony in their laps, asked them to resolve it into a systematic analysis of the factors impeding home building.

Printed this winter for TNEC's use, the Stone-Denton report is a document as is in Housing's library. More than a clear cut diagnosis of the industry's ailments, it makes many a remedial recommendation for both public and private action. Hence its title: "Toward More Housing." Chances are that, when TNEC writes its specifications for the improvement of industry and business in general, it will lift bodily the Stone-Denton recommendations for its chapter on housing.

Herewith, a preview of the probable lines of attack on four major fronts (research, standardization, trust-busting and building code revision) and three minor ones (scientific management, mechanization and amendment of FHA's rental housing legislation).

Market vs. production. Before analyzing the action recommended on each front, however, it is logical to look first at the reasons for such action. According to Experts Stone and Denton, basic reason is that, despite its steady climb from depression depths, house production for more than a decade has failed to keep step with the market. Thus, while production has averaged only about 260,000 non-farm dwelling units annually during the past ten years, the market calls for some 600,000 units per year—$40,000 to accommodate population growth, 45,000 to replace those purposely demolished and 215,000 to replace those units which are now suitable but which will wear out with time. The latter is based on a conservative replacement rate of 1 per cent per year and an equally conservative dwelling unit "life" of 100 years. And, these figures do not take into account the number of units destroyed each year by acts of God (guesstimate: 30,000) and the desired replacement of the nation's 4 million presently substandard units.

Last year, the U. S. produced about 550,000 non-farm units, but, as in the past, few of them were built for the families who need them most. Of the 550,000 production only 19 per cent cost less than $750 (see pictorial chart, p. 136). On the other hand, 55 per cent of the units, costing more...
than 86,000 each went to the 9 per cent of
of the families who earn more than $8,000.
Houses in this group have a "life span" of
only seventeen years, for it would be
necessary for families in the same group
to acquire a new house every seventeen
years to maintain this rate of building.
Below the $4,000 cost level and the $2,000
income level the "life span" is about 135
years.

As reiterated many times in the TNEC
hearings, cost reduction by one means or
another is the only salve for these sore
statistics. But, how? Extension of the
mortgage amortization period is
undoubtedly the easiest way to shave
monthly housing costs, but it adds to the total
interest bill (and would be vetoed by
Congress ... for . . . comprehensive lal)­
atory research directed at the immediate
development of materials and methods for
low cost housing . . . Only through such a
program . . . can costs of housing be
substantially reduced within a realistic
period of time." Several experts of TNEC that adequate industrial re­
search would cut costs in half.

Standardization is the second major
factor. Lower costs and increased volume
would make it possible to accomplish a single
assembly of materials and methods that
would cut costs in half.

Thesestudies have revealed that the use of not less
than 56 different sizes of casement windows of
19 different varieties of interior doors with hundreds of molding designs. A
single manufacturer to the site for each type of door. Coop­

Research is Housing's "most important"
need, according to Denton. "Directed at
the development of entirely new building
materials and methods, the improvement of
existing materials and the perfection of
scientific production management tech­
niques (it) offers the greatest immediate
promise for substantially increasing pro­
ductivity . . . thereby reducing costs to
the levels necessary for adequate hous­
ing." Products of the laboratory might
be new machinery to replace handcraft
assembly methods, reliable production
standards for the crafts, efficient methods
of performing each site operation, sched­
ules and planning techniques for use by
builders, standardization of materials and,
most important, new building materials
and methods.

Among the most needed items is a
material that alone will satisfactorily re­
place the ten individual layers of materials
which now comprise the conventional ex­
terior wall. The answer may be found in
the field of plastics. It is felt that present
labor and building code restrictions against
new materials and methods would dis­
appear through the pressure of public de­
mand if the innovations entailed sizable
cost reductions.

Recommends Stone: "Certainly the
Federal Government might well spend at
least as much for housing research as it
does for aeronautical research." And Den­
ton: "In agriculture the Federal Govern­
ment has for many years conducted the
essential laboratory work. A total of more
than $800 million was appropriated annual­ly
by Congress for this purpose in 1937 and
1938 . . . . It is recommended that
adequate funds should be provided by
Congress . . . for . . . comprehensive lab­
oratory research directed at the immediate
development of materials and methods for
low cost housing . . . Only through such a
program . . . can costs of housing be

substantially reduced within a realistic
perod of time." Several experts of TNEC that adequate industrial re­
search might cut costs in half.

Standardization is the second major
factor. Lower costs and increased volume
would make it possible to accomplish a single
assembly of materials and methods that
would cut costs in half.

Thesestudies have revealed that the use of not less
than 56 different sizes of casement windows of
19 different varieties of interior doors with hundreds of molding designs. A
single manufacturer to the site for each type of door. Coop­

Research is Housing's "most important"
need, according to Denton. "Directed at
the development of entirely new building
materials and methods, the improvement of
existing materials and the perfection of
scientific production management tech­
niques (it) offers the greatest immediate
promise for substantially increasing pro­
ductivity . . . thereby reducing costs to
the levels necessary for adequate hous­
ing." Products of the laboratory might
be new machinery to replace handcraft
assembly methods, reliable production
standards for the crafts, efficient methods
of performing each site operation, sched­
ules and planning techniques for use by
builders, standardization of materials and,
most important, new building materials
and methods.

Among the most needed items is a
material that alone will satisfactorily re­
place the ten individual layers of materials
which now comprise the conventional ex­
terior wall. The answer may be found in
the field of plastics. It is felt that present
labor and building code restrictions against
new materials and methods would dis­
appear through the pressure of public de­
mand if the innovations entailed sizable
cost reductions.

Recommends Stone: "Certainly the
Federal Government might well spend at
least as much for housing research as it
does for aeronautical research." And Den­
ton: "In agriculture the Federal Govern­
ment has for many years conducted the
essential laboratory work. A total of more
than $800 million was appropriated annual­ly
by Congress for this purpose in 1937 and
1938 . . . . It is recommended that
adequate funds should be provided by
Congress . . . for . . . comprehensive lab­
oratory research directed at the immediate
development of materials and methods for
low cost housing . . . Only through such a
program . . . can costs of housing be

substantially reduced within a realistic
perod of time." Several experts of TNEC that adequate industrial re­
search might cut costs in half.

Standardization is the second major
factor. Lower costs and increased volume
would make it possible to accomplish a single
assembly of materials and methods that
would cut costs in half.

Thesestudies have revealed that the use of not less
than 56 different sizes of casement windows of
19 different varieties of interior doors with hundreds of molding designs. A
single manufacturer to the site for each type of door. Coop­

Research is Housing's "most important"
need, according to Denton. "Directed at
the development of entirely new building
materials and methods, the improvement of
existing materials and the perfection of
scientific production management tech­
niques (it) offers the greatest immediate
promise for substantially increasing pro­
ductivity . . . thereby reducing costs to
the levels necessary for adequate hous­
ing." Products of the laboratory might
be new machinery to replace handcraft
assembly methods, reliable production
standards for the crafts, efficient methods
of performing each site operation, sched­
ules and planning techniques for use by
builders, standardization of materials and,
most important, new building materials
and methods.

Among the most needed items is a
material that alone will satisfactorily re­
place the ten individual layers of materials
which now comprise the conventional ex­
terior wall. The answer may be found in
the field of plastics. It is felt that present
labor and building code restrictions against
new materials and methods would dis­
appear through the pressure of public de­
mand if the innovations entailed sizable
cost reductions.

Recommends Stone: "Certainly the
Federal Government might well spend at
least as much for housing research as it
does for aeronautical research." And Den­
ton: "In agriculture the Federal Govern­
ment has for many years conducted the
essential laboratory work. A total of more
than $800 million was appropriated annual­ly
by Congress for this purpose in 1937 and
1938 . . . . It is recommended that
adequate funds should be provided by
Congress . . . for . . . comprehensive lab­
oratory research directed at the immediate
development of materials and methods for
low cost housing . . . Only through such a
program . . . can costs of housing be

substantially reduced within a realistic
perod of time." Several experts of TNEC that adequate industrial re­
search might cut costs in half.

Standardization is the second major
factor. Lower costs and increased volume
would make it possible to accomplish a single
assembly of materials and methods that
would cut costs in half.

Thesestudies have revealed that the use of not less
than 56 different sizes of casement windows of
19 different varieties of interior doors with hundreds of molding designs. A
single manufacturer to the site for each type of door. Coop­

Research is Housing's "most important"
need, according to Denton. "Directed at
the development of entirely new building
materials and methods, the improvement of
existing materials and the perfection of
scientific production management tech­
niques (it) offers the greatest immediate
promise for substantially increasing pro­
ductivity . . . thereby reducing costs to
the levels necessary for adequate hous­
ing." Products of the laboratory might
be new machinery to replace handcraft
assembly methods, reliable production
standards for the crafts, efficient methods
of performing each site operation, sched­
ules and planning techniques for use by
builders, standardization of materials and,
most important, new building materials
and methods.

Among the most needed items is a
material that alone will satisfactorily re­
place the ten individual layers of materials
which now comprise the conventional ex­
terior wall. The answer may be found in
the field of plastics. It is felt that present
labor and building code restrictions against
new materials and methods would dis­
appear through the pressure of public de­
mand if the innovations entailed sizable
cost reductions.

Recommends Stone: "Certainly the
Federal Government might well spend at
least as much for housing research as it
does for aeronautical research." And Den­
ton: "In agriculture the Federal Govern­
ment has for many years conducted the
essential laboratory work. A total of more
than $800 million was appropriated annual­ly
by Congress for this purpose in 1937 and
1938 . . . . It is recommended that
adequate funds should be provided by
Congress . . . for . . . comprehensive lab­
oratory research directed at the immediate
development of materials and methods for
low cost housing . . . Only through such a
program . . . can costs of housing be

substantially reduced within a realistic
perod of time." Several experts of TNEC that adequate industrial re­
research might cut costs in half.

Standardization is the second major
factor. Lower costs and increased volume
would make it possible to accomplish a single
assembly of materials and methods that
would cut costs in half.
D. C.'s requirement that a house's walls be at least 8 in. thick. As often as not, however, the trouble lies more with the unintelligent or biased administration of the code than with the code itself. Thus, most codes leave considerable discretion to local building inspectors and other officials as to whether or not new materials and techniques meet the general code requirements for public health and safety. Many officials will require that an expensive test be made each time a new material is used, despite the fact that previous tests have already demonstrated the product's merits. Result: it is cheaper to use an old, accepted material than to introduce a new one which is actually more economical.

Recommendation by Denton: "Under the leadership of . . . the National Bureau of Standards, standard building codes should be formulated for residential construction in the various regions into which the U. S. is naturally divided . . . Until such ideal codes have been devised, methods of direct attack should be adopted by the FHA, the Department of Justice, the FHA, and the Defense Housing Coordinator to secure revisions of the most serious restrictions contained in existing codes of the larger cities."

Scientific management has more than doubled the productivity of many industries and permitted higher wages and lower total costs at the same time. There is no reason why much the same results would not be achieved in the housing industry. In fact, in the isolated projects where smart management has been tried, it has achieved signal results. To wit: between 1920 and 1937 the Michelin Low-Cost Dwelling Corp. built houses for some 3,000 employees of the Michelin Tire Factories in France. Responsibility for preparing and organizing the work on the first houses was entrusted to construction foremen and labor supervisors, and production required 11,645 working hours per house. By 1937 these functions were assigned to engineers in a planning department and the working hour per house dropped to 5,548. On the West Coast of the U. S. under engineered planning and production, the last of 30 houses in a project for Southwest Portland Cement Co. workers required about half as much time as the first. Electric wiring took only one-fourth the original time; excavations, less than one-third. (Arch. Forum, Mar. 1939, p. 230.)

While admitting that its principal benefits can be gained only on large scale projects, the TNEC report recommends that FHA, USHA and the Commerce and Labor Departments make "every effort . . . to encourage the use of scientific management methods on housing projects, both public and private and, that a detailed study of building operations and the preparation of production standards for each craft and type of work in the residential building field in representative localities be included as an essential part of the comprehensive research program."

Mechanization of the house building industry goes little further than the bricklayer's 820 tool chest, the painter's overalls and putty knife and the contractor's few power tools and other equipment. In 1920 the average residential contractor's operating plant entailed an investment of only $1,276, or about $17.5 per employee.

The house building industry has much to learn from its sister industry, highway construction, whose contractors in 1920 had an equipment investment of more than $1,000 per employee—a figure which has since increased to the extent that the same expenditure that would have then built 100 miles of highway will now build more than 160 miles. And, this despite a general increase in highway workers' wages. While house builders usually operate on too small a scale to justify a large investment in "plant," the opposition of organized labor to labor-saving equipment is a big factor behind the lack of mechanization. AFL members in many communities have barred effectively the use of spray paint guns, mechanical pipe threaders, plaster guns, power saws, mortisers, power planers and even large paint brushes (Wilkes-Barre, Pa. maximum width: 4 in.). To remove this opposition, organized labor must be taught the fallacy in its strong belief that there is only a limited amount of available work. Mechanization would reduce costs, expand the housing market, create more work.

Amendment of FHA's legislation to raise the maximum 80 per cent mortgage-to-value ratio on its insured rental housing projects to 90 or 95 per cent and a reduction (Continued on page 34)
REVAMPED TENEMENT BLOCK
pulls 100 per cent occupancy in short order. Enterprising
architects, builder-owners and a bank turn a financial
flop into a profitable investment, give industrial families
comfortable apartments at only $10 per room per month.

Besides setting a shining example in architectural reclamation, a blockfront of modernized old tenements in the Bronx section of metropolitan New York lays claim to distinction as a noteworthy piece of financial salvage. With an outlay of $110,000, the seven erstwhile decrepit and outmoded four-story walk-ups, lacking all modern conveniences, have been transformed into an attractively unified group of up-to-date apartments boasting even a landscaped rear garden. In the process they have also switched from virtually 100 per cent vacancy to 100 per cent occupancy, and a major real estate headache has become a “highly satisfactory investment” for all concerned.

Foreclosed during the depression’s depths by the Broadway Savings Bank, the row of buildings stood empty save for the proprietors of a small grocery and a combination bar-grill who kept going in the corner store. Two years ago the derelict flats were spotted by Builder Max Rosen, whose 32 years of contracting experience in New York and Long Island assured him of their structural soundness. Sensing a strong market demand for more modern living accommodations in this light manufacturing neighborhood, Rosen and his sons, Maurice and Harold, together with Co-Investor Samuel Chase, purchased the buildings for their Casro Properties, Inc., by plunking out $19,000 in cash and negotiating a $31,000 seven-year loan at 3 1/2 per cent from the bank.

Architect F. P. Platt and Brother were commissioned to prepare alteration plans, which were then turned over to the Herbert Rosen Construction Co.—another family enterprise—for execution at a cost of $80,000. Within six weeks after modernization was complete, the 30 new apartments were all occupied, have continually fetched rents ranging from $34 for 3-room units to $100 for 4-room units. (Business note: the original two storekeepers are now paying $38 and $50 a month for their new surroundings—a substantial increase over the earlier $50 and $30 payments which gives a good index of the lift in the block’s property values.)

In remodeling, interiors were combined so that a single stairway serves each pair of building units. Thus, additional space was gained, permitting the old railroad flat pattern, wherein rooms are reached by traversing other rooms or long corridors, to be revised into more efficient suite combinations. Each apartment now has its own kitchen and bathroom, neatly wrapped around the existing light wells wherever feasible to take full advantage of interior ventilation.

With the exception of the corner building units, all ground floor stores were changed into ground floor apartments, the fronts of which are recessed inside the line formed by the old store columns. This gives the facade a paneled effect reinforced architecturally by recessed spandrels in the brickwork and by small panes in the windows. The facade was also stripped of its heavy scrolled cornice and painted a pleasant gray white. Other changes include a central steam heating system, new wiring and new plumbing throughout.

Modernization of old tenements is profitable, say the Rosens, if 30 or 40 units are handled at a crack. Consider also that housing for the lower middle class means high stability of rents, and many of the tenants are now seeking other realty without waiting for a more suitable opportunity.
builders and buyers of small houses say it is not worth the additional cost of high quality equipment.

SUMMARY OF INITIAL AND OPERATING COSTS

<table>
<thead>
<tr>
<th>INITIAL COSTS</th>
<th>MONTHLY COSTS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>House A</strong></td>
<td><strong>House B</strong></td>
</tr>
<tr>
<td>Lot, structure, etc.</td>
<td>$4,000</td>
</tr>
<tr>
<td>Furnace and water heater</td>
<td>$350</td>
</tr>
<tr>
<td>Wiring</td>
<td>$100</td>
</tr>
<tr>
<td>Kitchen cabinets</td>
<td>$60</td>
</tr>
<tr>
<td>Sink, dishwasher, garbage disposal</td>
<td>$60</td>
</tr>
<tr>
<td>Cooking</td>
<td>$75</td>
</tr>
<tr>
<td>Refrigeration</td>
<td>$115</td>
</tr>
<tr>
<td>Kitchen fan and clock</td>
<td>...</td>
</tr>
<tr>
<td><strong>Sub-total</strong></td>
<td><strong>$4,760</strong></td>
</tr>
</tbody>
</table>

**Total monthly outlay** | **$61.80** | **$58.42**

This tabulation is a statistical summary of GE's argument for the inclusion of high quality equipment—and lots of it—in a house whose basic cost is as low as $4,000. Equipment of average quality in house A raises the total cost to $4,760, while better equipment raises B's cost to $5,380. However, the difference amounts to only $20 when measured in cash down payments, to only $3.49 in monthly mortgage costs. Moreover, B's better equipment is claimed to cost A's: insurance, maintenance and mortgage interest and amortization on the more expensive property, of more than $8 per month. Meanwhile, the cash down payment would jump only $20—see tabulation above.

**Wiring** of a house may be inadequate on two counts: 1) insufficient outlets which will cause inconvenience and 2) copper wire of too small a diameter which will cause a voltage drop and increase electrical consumption anywhere from 4 to 20 per cent. Since adequacy in both respects adds but little to wiring costs during the construction of a house, a differential of only $15 appears in the accompanying tabulation. A 15 cent differential in monthly costs (in favor of house B, of course) is based on an average electric bill of 83 for lighting, radios and small appliances in house A and inadequate copper wiring is conservatively assumed to account for 5 per cent of the monthly electric bill.

**Kitchen cabinets** of steel usually cost more than their wood counterparts ($90 vs. $60 in this example) but they do not require the same refirning, repair and replacement allowances. If the latter runs to $24
every four years (the usual repainting period), the wood cabinets' "operating cost" is 50 cents a month. Maintenance of steel cabinets is assumed to be nil.

Dishwashing and garbage handling by conventional methods seem to cost more than the average observer would guess. Thus, GE researchers claim that they involve 40 cents more per month for garbage cans, dishpans, sink strainers, etc., than do mechanical means; 75 cents more for twice-a-week garbage collections instead of once-month pickups of paper, bottles, cans, etc.; 20 cents more for dish breakage; 33 cents more for dish towel investment and laundering—soiled dishes may be stored out of sight in a mechanical dishwasher, making washing but once a day practical; 75 cents more for beauty treatments to repair the damage done by manual dishwashing; and 81 more for doctor bills—the mechanical means are said to be that much more hygienic. Exclusive of their estimated time-saving values (55 min. per day at 30 cents an hour equals $8.25 per month), the two kitchen robots claim a total monthly saving of $3.25 over the conventional means and would consume only 40 cents worth of extra hot water and 25 to 30 cents worth of electricity each month. Thus, opposite the $60 cabinet sink in house A goes a monthly operating cost of $3.75, while house B's $57.50 "electric sink" is charged only 68 cents.

Cooking. Choice of either a flame or a flameless range will depend upon local gas and electric rates. GE naturally assumes that, if the rates compare favorably, house A would be equipped with a flame range type (at $75); house B, an electric one at $130 and that the gross monthly operating cost of each would be the same $8.46. But, house A's monthly cost is added 30 cents for redecoration expense and 10 cents for cleaning powder, scouring pads, etc. Also added, but with seemingly less justification: 20 cents to reflect the cost of outside meals which would be cooked at home on an electric range. Total estimated monthly costs: $3.30 vs. $2.40 in favor of house B.

Refrigeration efficiency may vary as much as 25 per cent between two pieces of equipment of the same general type. Having reasonably assumed that the $135 unit in house B costs 81 per cent to operate, this ratio is applied to the cheaper ($115) unit in house A, resulting in a monthly cost of $1.40.

Ventilating fan and clock were installed only in house B and at costs of $33 and $5 respectively. Good guess is that these conveniences will add only about 5 and 7 cents to this house's monthly electric bill, bringing its total monthly operating expenses (all of the foregoing items up to $3.35, as compared with $2.40 for house A.

All told, these items of operating equipment have hiked the initial cost of house A to $4,760; house B, to $5,380. As these sales prices fall under $8,000, both properties are eligible for FHA-insured, 90 per cent, 25-year mortgages which, since they must be in multiples of $100, could not exceed $4,200 for A and $4,400 for B. Cash down payments of $560 and $890 would, therefore, be required for the balances of the property valuations. Note the comparatively small difference in these two figures.

Ownership of the house itself, however, involves readily estimated monthly costs in addition to those for the equipment:

Mortgage payments on the loans mentioned above covering interest, FHA insurance and amortization would come to $24.40 for house A, $27.89 for B.

Taxes, insurance, maintenance. If equal to the 1938 average in 374 cities, taxes would take $11.19 per month on house A. And since the inclusion of higher quality equipment in house B would probably not affect its assessed value for tax purposes, its monthly tax bill is assumed to be the same. Fire insurance, based on a national average rate of $2.50 per $1,000 of house valuation, would come to 85 cents per month for house A, 96 cents for B. (The lot valuation in both cases is assumed to be $800.) Maintenance and depreciation at 2 per cent per year, total $3,200 valuations of the structures would add another $3.35 per month to each house. (Insurance and depreciation of operating equipment are included in the foregoing estimates of their monthly expense.) Altogether, these three items total $17.35 for A, $17.40 for B, account for but little of the difference in the two total operating costs.

If all these assumptions and estimates held true, house B with its higher quality equipment which was purchased at a cash down payment premium of only 80 cents could be owned and operated at $28.42 per month—$8.38 less than the operating cost of the cheaper house. Interestingly, if the three most important individual savings (for furnace and water heater, range and mechanical dishwasher and garbage disposal unit) were, as big, as claimed, the argument for the installation of the higher quality equipment would be equally valid. House B would still lead house A in the race for lower operating costs—by 83 cents a month. Moreover, no account has been taken of the values of comfort, convenience, time-saving and salubrity which an abundance of high quality equipment adds to any house but which cannot be translated into dollars and cents.

* If a municipality foists the garbage collection bill—and it frequently runs to 83 cents per month—large scale use of house disposal units might contribute to tax reductions.
* Basic: 80 kw/h at 3 cents. The former rate is the four-family consumption average and the latter, a rate favorable to electricity.

* See Arch. Forum, Sept. 1939, p. 212 and 213.
Committee recommends that public housing projects adjust their rents to family needs, particularly to income, instead of fixing the rent subsidies in accordance with the size of a project's dwelling units. The committee argues that existing USHA projects would better serve their purpose if such units were called "adjusted rents" and that the responsibility for future projects to rehouse the families they replace would, for the time being, be possible of fulfillment. Public housing critics will do well to examine the Committee's findings and conclusions.*

Poor or rich. Since New York City suffers from the biggest housing headache in U.S. and has given the biggest tip pill ($50 million of Federal funds to date), the local Community Service Society's Housing Committee has observed the problem at its worst. Including heat, light, and gas, subsidized rents in New York City USHA projects run about $8.40 per person per month. A family can afford such a rent if they earn a little over two-thirds of the average for a three-and-a-half room unit at $8.22 per month if it earns at least $815 per person.

Of the 523 wage earners in self-reporting slum families recently displaced, the construction of USHA's Vladeck Houses, 131, or about 29 per cent, earned more than $815 per week. Moreover, close to 5 per cent of the surveyed slumites do not belong to the income group eligible because their annual incomes were above the $8.40 limit set by local housing authority.

Recovering similar information for 56 of the 72 slum families displaced last year from USHA's South Jamaica Houses, the committee found that one-quarter of them had to pay more than 30 per cent of their income, the rent, and thereby exceeded the maximum for accommodations in the project and were thereby forced to move to elsewhere. About one-third of them were above the eligible income level, while it has less public housing than New York, Pittsburgh has more comprehensive information on the problem. The City's Housing Authority and the National Housing Association have surveyed 28,828 families living in standard dwellings, on the basis of family incomes and USHA's local rents and national eligibility rules (maxima: to one family per month with three and less; otherwise, six to one) to have had that less than 31 per cent of the ill-housed families of benefit to Government housing, thus:

<table>
<thead>
<tr>
<th>Family Income</th>
<th>Interior</th>
<th>$800 - $999</th>
<th>$1000 - $1099</th>
<th>$1100 - $1199</th>
<th>$1200 - $1299</th>
<th>$1300 - $1399</th>
<th>$1400 - $1699</th>
<th>$1700 - $1899</th>
<th>$1900 - $1999</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under $400</td>
<td>$3.33</td>
<td>$3.33</td>
<td>$3.33</td>
<td>$3.33</td>
<td>$3.33</td>
<td>$3.33</td>
<td>$3.33</td>
<td>$3.33</td>
<td>$3.33</td>
</tr>
<tr>
<td>$500 - $599</td>
<td>$10.40</td>
<td>$10.20</td>
<td>$10.00</td>
<td>$9.50</td>
<td>$9.00</td>
<td>$8.50</td>
<td>$8.00</td>
<td>$7.50</td>
<td>$7.00</td>
</tr>
<tr>
<td>$700 - $799</td>
<td>$14.50</td>
<td>$13.75</td>
<td>$13.33</td>
<td>$12.50</td>
<td>$12.00</td>
<td>$11.50</td>
<td>$11.00</td>
<td>$10.50</td>
<td>$10.00</td>
</tr>
<tr>
<td>$900 - $999</td>
<td>$17.50</td>
<td>$17.00</td>
<td>$16.66</td>
<td>$16.00</td>
<td>$15.25</td>
<td>$14.60</td>
<td>$14.00</td>
<td>$13.50</td>
<td>$13.00</td>
</tr>
<tr>
<td>$1100 - $1199</td>
<td>$21.25</td>
<td>$20.50</td>
<td>$20.00</td>
<td>$19.00</td>
<td>$18.00</td>
<td>$17.00</td>
<td>$16.00</td>
<td>$15.25</td>
<td>$14.60</td>
</tr>
<tr>
<td>$1300 - $1399</td>
<td>$24.16</td>
<td>$23.66</td>
<td>$23.33</td>
<td>$21.50</td>
<td>$20.75</td>
<td>$20.00</td>
<td>$19.00</td>
<td>$18.25</td>
<td>$17.50</td>
</tr>
<tr>
<td>$1500 - $1599</td>
<td>$27.50</td>
<td>$27.00</td>
<td>$26.66</td>
<td>$25.00</td>
<td>$24.00</td>
<td>$23.25</td>
<td>$22.50</td>
<td>$21.75</td>
<td>$21.00</td>
</tr>
<tr>
<td>$1700 - $1999</td>
<td>$34.00</td>
<td>$33.33</td>
<td>$33.33</td>
<td>$31.00</td>
<td>$29.75</td>
<td>$28.25</td>
<td>$27.00</td>
<td>$25.75</td>
<td>$24.50</td>
</tr>
<tr>
<td>$2300 - $2399</td>
<td>$46.00</td>
<td>$45.00</td>
<td>$45.00</td>
<td>$43.50</td>
<td>$41.50</td>
<td>$39.50</td>
<td>$38.00</td>
<td>$36.50</td>
<td>$35.00</td>
</tr>
<tr>
<td>$2700 - $2799</td>
<td>$55.00</td>
<td>$54.50</td>
<td>$54.50</td>
<td>$53.00</td>
<td>$51.00</td>
<td>$49.50</td>
<td>$48.00</td>
<td>$46.50</td>
<td>$45.00</td>
</tr>
<tr>
<td>$3100 - $3199</td>
<td>$59.50</td>
<td>$59.00</td>
<td>$59.00</td>
<td>$57.50</td>
<td>$56.00</td>
<td>$54.50</td>
<td>$53.00</td>
<td>$51.50</td>
<td>$50.00</td>
</tr>
</tbody>
</table>

Prepared by the Community Service Society's Committee on Housing as an example of the way current public housing rental procedure may be improved, this rent scale is adjusted to family income rather than dwelling unit size. Under present practice, a large average family would be forced to live in a small apartment or to remain in the slums, while under this proposed "adjusted rent" scale the larger the family the smaller the rent at a given income level.

Base rent is $8.33 per month per dwelling unit or $100 per person, irrespective of size. In no case does income exceed five times the adjusted rent for families of three or less; 15 times this figure, for families of five or less and six times for larger families — the present USHA maximum. An approach toward the principal of adjusted rents is the current policy of some local housing authorities 1) to obtain as wide a range of rents (and, therefore, incomes) as possible by assigning different rents to dwelling units of the same size in accordance with their amenities (location, fenestration, etc.) and 2) to accommodate large low income families by limiting to a minimum the rent differential between dwelling units of different sizes. Thus, sometimes an extra room raises the rent only $2.
Heralding a nation-wide program to make houses more salable by using more glass, a group of ten smartly designed dwellings has just been completed by Builder Dale M. Garnsey in Homedale, a subdivision on Toledo's outskirts. All ten are distinguished by a lavish use of glass—good-sized windows, glass insulation, glass walls, mirrors galore. And, as Builder Garnsey's scorecard shows, the program gets off to an auspicious start—all ten FHA-insured houses have been sold before they were finished at a fixed price of $8,900 —$400 down plus $27 a month. The standard unit contains a living room, kitchen, bath, two bedrooms and an attic-installed gas heating system and graces a 50 x 120 ft. lot. Moreover, Homedale itself, originally planned as a subdivision for higher-priced houses but dormant for the past decade, has been stirred into a buzz of activity: some twenty houses are currently being built by other operators. To top things off, pace-setting Builder Garnsey has meanwhile moved on to another Toledo area to begin construction of eight similar glass-laden dwellings.

Behind the news of this local boomlet in glass lies the story of a shrewd promotion idea on the make. Product of the Libbey-Owens-Ford sales department, the idea is not only to demonstrate that greater utilization of glass makes houses more appealing to prospective buyers, and therefore more salable, but also to prove that this goal can be achieved at surprisingly little extra cost. The means: a "glass package," consisting of mirrors and interior glass items, to be sold through dealers to local builders at a price about $75 in lots of ten or more.

Advertisements, a barrage of public service announcements in trade and consumer magazines, Sunday afternoon broadcasts on a nation-wide hookup, and an FHA-sponsored television color movie, "Design for Happiness," the company's four-point approach for propagandizing the glass packages, addition, company representatives for the past three months have been touring the country, preaching better housing and the effectiveness of glass "extras" to gatherings of builders and lumber dealers. No stock plans or specifications are offered; each builder is expected to have his subdivision designed by a local architect.

As the first convert to the glass package evangelism, Builder Garnsey became the first to demonstrate its potency in salable houses. Although tagged "Design for Happiness" Houses, the ten Homedale houses bear scant resemblance to the models in the movie—or, for that matter, to each other. Designed by Toledo's architectural quartet of Mills, Rhines, Bellman, Nordhoff, Inc., they all follow a uniform plan but vary considerably in the size arrangement of windows as well as in exterior treatments and roof colorings. Variety, lot placements are also stage.

Each house boasts full use of the glass package:

- Polished plate glass mirrors appear in every room. In the living room, a 38...
Packaged glass "extras," promoted as the nub of a merchandising program to make houses more salable by using more glass, find their first application in this Toledo subdivision. Included in the glass package are (1) mirrors for every room, (2) colored structural glass walls around bathtub, (3) decorative glass panels for kitchen door and kitchen cabinets. The glass package costs only about $75.

Stock plan, varying only in the placement of windows and doors, is used for all ten houses. Its central feature is a space-saving, gas-fired furnace which is installed in the attic of each basementless house. Suspended from the roof rafters, with protective insulation above and below, the heater supplies warm air to wall registers in each room. Floor grilles and ducts return the air to the heater via the partition between kitchen and utility room. In summer the system's blower may be reversed to eject hot air through attic and to pull in cool night air.
CONSTRUCTION OUTLINE


ROOF: Covered with asphalt saturated felt and asphalt shingles, Philip Carey Co.

WINDOWS: Sliding sash, storm sash and copper screens—Andersen Corp.

GLASS: Windows—single strength, quality A; decorative glass (Louvrex) and mirror glass, Libbey-Owens-Ford Glass Co.


HEATING: Forced warm air; Janitrol gas furnace, Surface Combustion Corp.; blower can be reversed to exhaust air through attic for night cooling. Water heater—gas fired.

Increased livability is afforded by the many glass "extras." Although not part of the standard glass package, window areas in the bedrooms as in other rooms are logically large for light and ventilation. Wing mirrors attached to bathroom cabinets give shavers ample visibility. In the bedroom they are mounted on closet doors which open to form a "salon" dressing area.

In panel placed above the built-in bookcase catches a fine view through the bank of windows opposite, makes the room appear larger. In the kitchen, a 16 x 20 in. vanity mirror permits the housewife to check quickly whether she has cinnamon on her cheek or smudge on her forehead before answering the doorbell. In bedroom No. 1, front of the two closet doors are covered with 14 x 38 in. mirrors and the space between with a 14 x 68 in. panel to form a "salon" dressing area where the doors are opened, a full length triple view may be had. In bedroom No. 2, space ordinarily occupied by a dressing table is saved by attaching a large 18 x 38 in. mirror to the inside of the closet door above a curved shelf—when the door is closed the "vanity" is out of the way. In the bathroom, two 16 x 29 in. wings alongside a mirrored medicine cabinet afford ample visibility for shavers. Total mirror area of the house: 42 sq. ft.

• Jade green panels of structural glass, 24 in. high, extend round the three walls above the recessed bath tub, provide an easily cleaned, sparkling surface. Total: 30 sq. ft.

• The kitchen acquires a distinctive effect with horizontally glazed, polished glass panels in the cabinet doors and in the door opening into the utility room. Total: 10 sq. ft.

Not all the Toledo "Design for Happiness" features are glass, however. Nationally advertised building materials are erected with union labor, appear throughout. And in the attic-installed gas furnace, prospective home owners find a well-constructed space-saver which, in combination with the kitchen's utility room, eliminates the need for an expensive basement.

Increased livability is further evidenced by the treatment of windows. Although not a part of the package, their area in each of Toledo Builder Dale M. Garnsey's houses totals about 170 sq. ft.—more than twice that usually found in an ordinary house of the same size. Actually this amount is again doubled as each opening is fitted with both a sliding sash and copper screens. The larger windows assure well-lighted, cheerful interiors; ample cross-ventilation in every room. All cases horizontal sliding sash are reversed.

Glass insulation is also used. Blanks of spun glass are laid in the whole ceiling area and under the sub-flooring of basementless houses. Combined with storm windows at all openings, this insulation provides weather protection calculated to cut fuel bills from 30 to 40 per cent.

Not all the Toledo "Design for Happiness" features are glass, however. Nationally advertised building materials are erected with union labor, appear throughout. And in the attic-installed gas furnace, prospective home owners find a well-constructed space-saver which, in combination with the kitchen's utility room, eliminates the need for an expensive basement.

Temperature is controlled by a thermostat.

With the Toledo subdivision blasting off in a hurry, a spate of other "Design for Happiness" houses are expected soon to be built in the country over. L-O-F officials also report that builders in 35 cities have specified their intention to build from 30 to several hundred such houses each by the year runs out. All will make use of the glass package.
"Now is the time to get in touch with Grinnell"

"... They can help us plan fire protection as a blended part of the building's design."

Today's alert architect anticipates the need for automatic sprinkler fire protection in the new structures he is planning. Whether they are commercial or industrial buildings, institutions or airplane hangars, Grinnell engineers can provide real help to make this necessary protection a part of the building's functional design, rather than a visible piping job to be added later. There is a Grinnell system to meet every building requirement.

Your client will appreciate this suggestion of built-in protection, making the building safe from the start. You will appreciate the ingenuity with which Grinnell can help you conceal it within the structure.

Over fifty years of intensive fire protection engineering experience enables Grinnell engineers to work with a complete understanding—of both your plans and your client’s needs. There is a Grinnell office as near as your telephone. Grinnell Company, Inc., Executive Offices, Providence, R. I. Branch offices in principal cities.

GRINNELL
Automatic Sprinkler Fire Protection

A BLENDED PART OF YOUR BUILDING’S DESIGN
A Roof With a Future -

...long life assured by the CZC Factor of Safety

Roofing problems in most textile mills are acute, because of the high humidity prevalent in the mill. But in this Southern textile mill, that problem has been solved. This roof is protected against decay...its nail holding power is assured...and thus resistance to wind storms and heavy loads. It's a roof with a future, because it's treated with Du Pont Chromated Zinc Chloride.

Lumber treated with Du Pont CZC is multiplied in life from 3 to 10 times because it is decay resistant and termite repellent. And this treatment gives the plus advantages of lumber that's fire retardant, resistant to abrasion, and clean, odorless, paintable.

That's what we mean by the CZC Factor of Safety: the full strength of lumber is extended over a long life—not just until rot or termites arrive. Plants equipped to render this service are located throughout the country. E. I. du Pont de Nemours & Co., (Inc.), Grasselli Chemicals Department, Wilmington, Delaware.

SPECIFY LUMBER TREATED WITH

Du Pont CZC

CHROMATED ZINC CHLORIDE

PILLS FOR HOUSING

(Continued from page 137)

in interest rates would swell the value of rental housing. Supporting evidence: Similar changes in another part of the program boosted the production of houses. Comments TNEC's Stone: "A 3 per cent loan may be just as safe from an insurance point of view as a 75 per cent loan carrying a higher interest rate."

Another Stone suggestion which they may wisely champion: Instead of allowing the return on a rental project's equity investment to 6 per cent, FHA should limit the rents that may be charged. "The act should be amended accordingly, so that reward to the ingenuity which can achieve the low rent goal not be restricted."

All seven recommendations to TNEC Messrs. Stone and Denton, it has noted, involve Government cooperation in the formulation of rents that are sensible, and financially poor to complete the colossal job that must be done; and that facturers, the only wealthy component of the industry, have thus far concentrated their research on the improvement of their own products rather than the improvement and promotion of cost housing.

Thus, to Government, which has time, money, facility, and responsibility and no axe to grind, is entrusted the task for a continuing program of housing research—the foremost finding of TNEC's thorough investigation. Concludes Stone: "The most important single approach to the problem (of excessive building costs) is through the immediate expenditure upon an adequate scale of scientific trial research under the leadership of the Federal Government." And, Stone adds: "The fact that the Federal Government has either constructed or supervised the construction of approximately 100,000 dwelling units since 1935 and is committed to the financing of (180,000 more, including the defense housing program) is itself sufficient justification for the appropriation of a substantial sum for the purpose of finding methods of lowering costs."

THE ARCHITECTURAL FOR
Comparisons of this kind remind us of the man who was buying a piano for his daughter, and wanted the best he could buy.

In the first store he asked for the best piano. The clerk said: “Here it is — the new ABC concert grand. It is absolutely unexcelled. And it costs less than many more expensive makes, but it is as good as a Steinway any day.”

The customer thanked the salesman profoundly for his help and said he wanted to do a little more shopping around before he decided.

The next place he went the clerk said: “We sell the DEF line of pianos. It is undoubtedly the best buy for your money. We have had many musical experts claim that it equals the Steinway in tone and performance.”

“Thank you,” said our customer. “I’ll be back later if I decide to buy a DEF piano.”

So into a third store went Mr. Customer and there he met a salesman who said: “Of course. I know exactly what you want. It’s a GHI grand piano. In tone and other tests it has been claimed equivalent to the Steinway. What more could you ask in a piano?”

“That’s all I want to know,” said our friend. “Where is the Steinway dealer in this town? That is the piano I want.”

Whether it’s a piano or a building material, the one that is used as a standard of comparison is the best. When a salesman for a substitute for Floor and Wall Tile says: “Our product is as good as Tile,” he is saying that Tile is tops.

THE TILE MANUFACTURERS’ ASSOCIATION, INC.

50 East 42d Street  New York, N. Y.
If you want to hear women praise the houses you design for them, keep one fact clearly in mind. Women want windows that can be raised or lowered in a jiffy, especially Mother when she wants to call little Johnny in out of the street . . . when she wants to send Jane to the grocery . . . or just wants to gossip with Mrs. Brown her next door neighbor.

**YOU CAN'T BLAME THE LADIES**

They want finger-tip control. They don't want to tug and wrestle with a window every time they try to raise or lower it. They want it to literally GLIDE up and down. That's why they're so partial to windows weatherstripped with MetaLane.

For MetaLane is the only weatherstrip material that gives positive assurance of finger-tip control. That's because MetaLane is the only weatherstrip material with that spring-like quality of self-adjustment. And MetaLane retains that quality throughout its amazingly long life.

MetaLane is the only weatherstrip material that won't corrode, oxidize or change color . . . that won't stain paint, stone or woodwork . . . that is not affected by salt atmosphere, coal smoke or alkalis. It's the one weatherstrip material you can specify with confidence when you want to make sure of windows that open and close easily.

*For complete filing data on Monarch Metal Weatherstrips, write today to Monarch Metal Weatherstrip Corporation, 6405 Etzel Avenue, St. Louis, Mo. It will be sent promptly, without cost, without obligation.*

RENT SUBSIDIES

(Continued from page 141)

Rent rebates in England. In search of a possible solution to this U. S. problem, the Community Service Society's Committee took a careful look at England's long housing experience, found that much the same problem existed from public housing's beginning in 1919 until 1931. During that period, Government subsidies were applied to the dwelling units as in the U. S. rather than to the dwellers, and the program catered in general to the upper brackets of the low income group. In 1930 slum clearance was legally linked to low rent housing and local authorities were required to rehouse all displaced families. As in the U. S., the really low incomers could not afford the established rents, and rent reductions or rebates proved necessary. Result: adjusted rents.

While rent rebate plans vary from one English community to another, they usually involve a minimum rate from which no reduction may be made and frequently are limited only to tenants who have been displaced by the slum clearance program or who are tubercular. Under other plans, rebates are made to all families in accordance with their needs. Families who can afford it may be required to pay more than the project's "standard" or basic rent.

*Adjusted rents for the U. S.* Although still in the experimental stage after more than two decades of operation, some rental policies of the English public housing program have been successful enough, in the opinion of the Committee, to merit their adoption by U. S. housers. Recommended as a starter is a simple rent adjustment procedure recognizing only the two most important factors controlling the rent a tenant is able to pay—family income and family size. Other factors could be incorporated once the new program becomes understood and accepted.

Suggested as a pattern for the adjusted rent tables which would implement the program is the abbreviated illustration shown on page 141. Covering families of from two to seven persons with incomes ranging up to $8,100, this tabulation is based on a minimum rent of $8.23 per apartment and U.S.A.'s present five-to-one and six-to-one income-to-rent limitations.

Note that, unlike present conditions, the size of the apartment has nothing to do with the rental; in fact, the larger the apartment the lower the rental at all income levels above the minimum. By virtue of this fact, a large low income family may be accommodated in a large apartment while it otherwise would be forced to double up in a small one.

Claim is that some such system of rent adjustment might solve the four...
What's G-E got that other furnaces ain't got?

Here is the combination of features developed for G-E Winter Air Conditioning that has earned General Electric such an enviable reputation:

- The G-E heat-trap design and G-E impact-expansion atomization combine to create high operating efficiencies, low operating costs. Owners of G-E Oil Winter Air Conditioners report savings of 25 to 50% on fuel costs.
- A ten times faster control system with the famous five-second Flame Detector, the built-in safety controls, and the exclusive Flue Pressure Switch means better, more positive, safer action at all times.
- Only G-E offers the motorized, timed and positive control system, the two-try restart control, the non-clog nozzle, the self-oil motor compressor.
- G-E makes a complete line of Gas Fired Winter Air Conditioners too!

Give your clients years of trouble-free service and satisfaction. Get the details on the complete G-E line of heating and air conditioning from Sweet's Catalog #, or write to General Electric, Div. 213, Bloomfield, N. J.

GENERAL ELECTRIC

... for the complete line of Heating and Air Conditioning

G-E Oil Furnaces—steam, hot water, vapor) seven different sizes for various heating capacities. Year-round domestic hot water coil optional. Also a complete line of G-E Gas Furnaces.

G-E Winter Air Conditioners—(oil or gas fired) circulate warm, clean, moistened air. Highly efficient. A single switch provides circulation in summer. Cooling equipment can be added.

Compact G-E Units—for cooling a single room, a group of rooms, for conditioning the whole house ... or commercial buildings. Unusually quiet in operation. Also a complete line of Air Circulators.

G-E Unit Air Conditioners—for low-cost air conditioning in shops, restaurants, offices, etc. Complete range of sizes. Low in cost. Easily installed, little or no duct work needed.
When the boss says, "Put 'er there!"

ALZAK aluminum REFLECTORS

"Light, lots of it, right there." The lighting engineer chooses Alzak Aluminum reflectors for the job because they direct light more efficiently than any other reflecting surface. And Aluminum is shaped exactly as desired; no cobbled the design to suit limitations of a material.

Alzak Aluminum reflectors take a long time to "grow old." You'll find that, year after year, they retain their youthful reflectivity to a degree that invites comparison. They're no trouble to keep clean; simply wash with soap and water. There's no chipping, because the smooth oxide coating, glass-like hard, is an integral part of the metal.

Where diffuse reflecting surfaces, or a combination of diffuse and specular, are required, you can get them too. Some Alzak Aluminum reflectors are intended for indoor use. Others are able to withstand out-of-door exposure and many other corrosive conditions. Whatever your use, be sure and specify the right Alzak finish for each job.

You can identify a genuine Alzak Reflector by a label affixed to it by the manufacturer. This lists the patents protecting the processes that assure uniform, high quality workmanship. Look for that label when you are buying reflectors.

DEFENSE COMES FIRST

To meet the needs of the National Defense Program, plus the normal demands of peace, a vast expansion of our already greatly increased production capacity is being speeded. When the emergency is past, there will be more Aluminum available than ever before.

Meanwhile, if you can't get all the Aluminum you want when you want it, remember Aluminum is helping you by helping to meet the National emergency.
Five sound Mechanical Improvements and Refinements back up your judgment in recommending Ro-Way Doors . . . without adding a penny of extra cost to the finished job.

Today, more and more Architects are going a step beyond recommending "Doors of the Overhead Type". They are now specifying Ro-Ways, to bring their clients these five extra values . . . "Crow's Foot" Outer Bearing Support . . . "Ro-To Live" Spring . . . "Zip-Lock" Adjustment . . . "Tailor Made" Springs . . . and Parkerized and Painted Hardware.

Modern Residence with attached Garage, equipped with Ro-Way "Two-Car" Overhead Type Door.

One of the many "Cemo" Filling Stations equipped with Ro-Way "High Lift" Doors.


Your clients get these 5 extra values when you specify Ro-Way OVERHEAD TYPE GARAGE DOORS

When you write the specifications for any building that houses family cars, or buses or trucks, may we suggest that you add one extra word. Instead of merely saying "Doors of the Overhead Type", go a step farther and say, "Ro-Way Doors of the Overhead Type." Remember that marked improvements recently have been made in Garage Doors just as they have been made in motor cars, and that Ro-Way has set the pace by contributing five most valuable refinements. Be sure your clients get the benefit of these improvements available in Ro-Way Overhead Type Doors without one penny of extra cost.

Get Your Free Copy of Ro-Way's 72-page "Time-saving Specification Book"—fully describing these advantages. Have you sent for it? If not, may we suggest that you do so now.

Authorized Ro-Way Overhead Type Door Representatives in all principal cities, are prepared to render prompt cooperation and service.

ROWE MANUFACTURING CO.
916 Holton Street
Galesburg, Illinois, U.S.A.

Rowe Manufacturing Co., 916 Holton St., Galesburg, IL.

Gentlemen: Please send me free copy of your 72-page "Time-saving Specification Book" for Architects, as advertised in Architectural Forum.

Name

Address

City

State

There's a Ro-Way for every Door way!
RENT SUBSIDIES

(Continued from page 36)

major public housing problems outlined above: 1) Small families earning as little as $330 a year could economically afford the minimum rent—under the existing set-up New York's public housing is above the reach of all families earning less than about $775 per year. 2) Large families earning as much as $3,200 would be eligible— the present limit is $1,400 irrespective of family size. 3) Thanks to the stretching of these two limits, it would be possible to rehouse a much greater proportion of slum families displaced by the construction of new projects. 4) The possibilities of a tenant being evicted due to increased earnings would be materially decreased, and the incentive to low wage earners to better their positions would not be stifled—their "means" would be periodically reviewed, and their rents would be adjusted upward in proportion to wage increases.

Although it believes that the heavily outweigh the cons, the Committee is mindful of the many thousands of families whose rent will be raised to its adjusted rent program has fortified its report with counter-arguments:

- "There is nothing in law to prevent adjustment of rents in public housing from this country to family income."
- In no English case history has there been a number of families whose rent is adjusted below the "standard" rent been so high that it has been necessary to offset it by packing the balance of the project's "high incomeers" able to pay the economic rent.
- One comparatively "rich" tenant not pay a poorer tenant's rent, for no circumstances would a family's income exceed the economic rent of the dwelling.
- Periodical examination of a family's financial status, on which any adjustment program would necessarily be based is already required for the present program.
- "The increase in administrative personnel in order to conduct a rent adjustment system...may be estimated at a minimum of 5 per cent. . . ."

In the use of adjusted rents the Committee sees a means of rectifying a situation coming of the current program which, it describes in no uncertain terms: "...a family in the U. S. should be considered ineligible for a subsidized public housing project merely because of arbitrary income restrictions unrelated to the needs of the family. The pressing need is to adjust this program so that the anomalous situation of families too poor to live in public subsidized housing not be continued and so that families will not be excluded in appeals for public support for a clearance project which, when put into effect, excludes them." A timely footnote to this argument is the Committee's recognition that "the systematic adjustment of rent and subsidies to income will faculty the greatest usefulness of (the defense housing) program."

To this footnote, famed Housing Administrator Catherine Bauer last month added "Amen." But, with conclusions and recommendations of the Committee she voiced less agreement. While Houser Bauer believes that adjusted rents would serve a useful purpose in defense projects built to house families from a wide range of income levels, she holds that the potential difficulties of administration and management would offset any advantages that might be obtained by adjusted rents in regular public housing projects. To settle the controversy, which will undoubtedly increase in intensity as more projects are opened to the public, it appears prudent for the Government to launch a large scale adjusted rent experiment in its defense housing program, a small one in its regular US program.
The copyrighted Steel Sash Merit Meter gives you the one right answer to which steel sash is best. It compares the quality of all leading makes...gives you only the cold, hard facts. It proves Mesker quality is best by a wide margin. That's important to you, for despite far better quality, you pay no premium for Mesker products.

Study the Steel Sash Merit Meter for a moment. Check Mesker quality...point by point....FACT BY FACT. See for yourself that Mesker Steel Sash gives you at least 55% more quality. The Merit Meter, while detailing only Industrial Pivoted Sash features, is indicative of the extra value built into all Mesker products.

### STEEL SASH “MERIT-METER”

<table>
<thead>
<tr>
<th>Steel Sash</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
<th>17</th>
<th>18</th>
<th>19</th>
<th>20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mesker</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>Sash-A</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>Sash-B</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>Sash-C</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>Sash-D</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>Sash-E</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
12 Big Reasons why men who know

**Prefer MESKER STEEL SASH**

**PATENTED RUST-PROOF BRONZE BEARING MALLEABLE CUP-PIVOTS**
A Mesker exclusive! Two square inches of never-rusting bronze-iron bearing that assure perfect alignment, smoother action, tighter weathering. Never wears out!

**ALL-WEATHERING MEMBERS HOT-ROLLED 3/8" ANGLES**
Exclusive double-thick weathering bars, solidly riveted on, preserve original factory fit. The extra strength means more rigidity and durability. Will not bend nor spring out of shape.

**VERTEX CORNERS ON ALL WEATHERING MEMBERS**
Eliminates all springiness, makes weather bars more durable, rigid. Vertex corners guard against bending or warping of weathering bars during life of window...a Mesker exclusive.

**FRAME BARS A MINIMUM OF 1 1/2 INCHES DEEP**
Heavier frame bars give greater strength, increased durability, resistance to high wind pressure. Also minimizes shipping damage...keeps window in alignment during installation.

**VENTILATOR CORNERS RIVETED AND WELDED**
The exclusive double joining of ventilator corners (we rivet and weld) makes each ventilator as strong as the entire window...keeps all ventilators in perfect alignment and square.

**MUNTING BARS MINIMUM OF 1 1/8 INCHES IN WIDTH**
Extra deep Muniting bars contribute much to the reputation Mesker windows have for "take it" ability to give all-round, true, pure, & greater...

**VENTILATOR BARS MINIMUM OF 1 1/8 INCHES IN WIDTH**
Deep ventilator bars assure freedom of vents, freedom from distortion or give greater strength & preserve factory fit of the...

**ALL FRAME CORNERS ARE RIVETED AND WELDED**
Two methods of joining at every frame corner means freedom from damage while in transit; a lot more strength...and, very important, the sash stays true during installation.

**MUNTING JOINTS INTERLOCKED AND WELDED**
MESKER's interlocking and welding gives added rigidity...deflection from pressure. No or loose joints mean a MUSKR Sash isn't...

**CAM LOCK IN ADDITION TO THE PUSH BAR**
Cam lock permits tight closing of the window, enabling you to take advantage of the protective fit of Mesker ventilators. Both Lock and Push Bar are standard equipment.

**MINIMUM 5/8" ANCHORAGE IN MAS**
Large windows, especially, benefit by MEWER'S 5/8" age! There's more for caulking, more gripping of window against wall...gives a tighter job all around.

**ONE PIECE HOT ROLLED FRAME SECTION FOR OUTSIDE GLAZING**
An outstanding feature developed exclusively for MEWER! Her outside putty glaze does not shift. No two-built-up outside...

**CASEMENT WINDOWS**
**DETENTION WINDOWS**
**INDUSTRIAL WINDOWS**
**INDUSTRIAL DOORS**
**METAL SCREENS**
**MONUMENTAL WINDOWS**

**SINCE 1879**

**Mesker Brothers**
424 South 7th Street
St. Louis, MO
TENANTS because it stays silent...

"I have been using Servel Electrolux for four years. I can honestly report that the operating cost is just as little today as it was when I moved in. Another thing I like about the gas refrigerator is its silence. You never hear a thing."—Mrs. M. A. Chemnitz, 2459 E. 21st Street, Brooklyn, New York.

BUILDERS because it lasts longer

"I am an apartment house owner and builder, and our experience with another type of refrigerator decided us on Servel Electrolux. Freezing with no moving parts seems almost too good to be true."—Mr. Herman Johnson, 2301 No. Beechwood Drive, Hollywood, California.

Servel Electrolux Gas Refrigerator

- NO MOVING PARTS in its freezing system
- PERMANENT SILENCE
- CONTINUED LOW OPERATING COST
- MORE YEARS OF SATISFACTORY SERVICE
- SAVINGS THAT PAY FOR IT

Stays silent...lasts longer

Servel Electrolux Gas Refrigerator
BUT There Is a Block Floor
that Won't Warp, Buckle or Cup

Yes, there is a wood block flooring that is practically inert to the humidity changes that play such hob with ordinary block floors. So, if you've been compromising on your specifications because of past sad experiences with block... if you're specifying composition or other less desirable flooring no matter how loudly design or purpose cry out for wood block... Haskelite deserves your immediate investigation.

Here are the facts: In breaking from tradition, and producing a block compounded of three inseparably bonded veneers, Haskelite has been spectacularly successful in eliminating the shortcomings found in solid wood flooring. Even when subjected to abnormal moisture conditions, the cross-grained plies cancel out the natural tendency to expand or shrink. Warping or buckling are eliminated, shrinkage cracks are a thing of the past. When laid in accordance with Haskelite instructions floors can safely be laid in asphalt cement directly over concrete slabs in contact with or below grade... or over green concrete. Expansion joints are unnecessary, even over large areas.

In short, there'll be no kick-back headaches and no post-installation worries with this "successor to solid wood floors."

For full details, consult Sweets, Sec. 11, Catalog No. 84. Free samples, technical data, etc., sent on request.

HASKELITE MANUFACTURING CORPORATION
Dept. A412, Flooring Division
208 W. Washington St. Chicago, Illinois

FORUM OF EVENTS

(Continued from page 14)

AWARDS
To FRANK LLOYD WRIGHT the Royal Gold Medal for Architecture by King George of England on the recommendation of the Royal Institute of British Architects. (See page 10.)

To GORDON J. WISE of Brooklyn, N. Y., the Boring Medal of Columbia University's School of Architecture for excellence in Design.

To HUGH FERGUSSON of New York and to LEON V. SOLOM of Jackson Heights, N. Y., Arnold W. Brunner Awards of $1,000 each, by The Architectural League of New York as Trustee of the fund. (Page 131.)

To THE UNIVERSITY OF PENNSYLVANIA, the gold medal of the American Group of the Societe des Architectes Diplomes par le Gouvernement Francaise as "the American University whose School of Architecture has the best record of accomplishment in the teaching of architecture during the past year."

To H. L. STULF of Princeton University, a gold medal and $800, bestowed annually upon the student obtaining the greatest number of values in the national competitions of the Beaux-Arts Institute of Design.

COMPETITIONS
The SECTION OF FINE ARTS, Public Buildings Administration, F.W.A., invites competition for one mural painting for the War Department Building, Washington, to be executed in fresco or tempera. Amount to be paid for the mural $12,000. Closing date April 1, 1941. Full details may be had from the Section of Fine Arts.

The SECTION OF FINE ARTS, Public Buildings Administration, F.W.A., invites competition for models for two sculpture groups flanking the main entrance, and a large sculpture relief over the main entrance on the east facade of the War Department Building. Amount to be paid for models of each of the two sculpture groups is $15,000; for the model of the relief, $15,000. Closing date May 1, 1941. Full details from Section of Fine Arts.

EDUCATIONAL
American Institute of Architects, Until March 1, 1941, the Institute will receive proposals of candidates for Edward Langley Scholarships for the year 1941. These scholarships are awarded annually to residents of the U.S. and Canada for advanced work in architecture, for study, travel or research. Any architect in the

(Continued on page 43)
U.S. or Canada may propose a candidate for an award in Group 1. The Faculty or head of any architectural school in the U.S. or Canada may propose any teacher or student as candidate for an award in Group 2. Forms and further details may be obtained from the A.I.A., 1741 New York Avenue, Washington, D. C.

PRINCETON UNIVERSITY announces the Lowell M. Palmer Fellowship in Architecture to enable a student of unusual promise to undertake advanced study at the School of Architecture. The Palmer Fellow is exempt from tuition fees and receives a stipend of $700. He is also entitled to all the privileges of a Fellow of the University, including residence in the Graduate College. All applicants must be citizens of the U.S., less than 37 years of age. Application blanks may be had by addressing the Secretary of the School of Architecture, Princeton University, Princeton, N. J. Applications together with supporting documents must be received not later than March 1, 1941.

CALENDAR
March 29-April 6. Tenth Annual Pilgrimage to Natchez, Miss.

DIED
CHESTNUT HOMES ALDRICH, architect, 69, in Rome. Mr. Aldrich was born in Providence, R. I., and was graduated from Columbia with the degrees of Bachelor of Philosophy and Doctor of Literature. After a period in the office of Carrere & Hastings, he went to the Ecole in Paris. In 1903 he and William Adams Delano founded the well known firm of Delano & Aldrich, among whose best known work are Post Office Building and Japanese Embassy in Washington, the American Embassy in Paris, the Colony, Union, and Kips Bay Boys' Clubs and Miss Chapin's School in New York, the Otto H. Kahn chateau at Huntington, John D. Rockefeller's home at Pocantico Hills, chapel and dormitory for the Hotchkiss School at Lakeville, the LaGuardia Airport. For the last five years Mr. Aldrich had directed the American Academy in Rome, having been one of its trustees since 1926. During the World War he was Director General of Civil Affairs, American Red Cross Mission in Italy. His work there earned him the Order of St. Maurizio e Lazzaro, the Order of the Crown of Italy.

Get an Entirely New Slant on Plank — Look Into HASKELITE

- Like the block described on the opposite page, Haskelite Plank is unaffected by constant ups and downs of temperature and humidity. And its low installed cost makes its use practicable even in many interiors where the cost of fine plank floors previously ruled out their use. Haskelite Plank, for example, eliminates the need for wood subfloors when laid over concrete floors and saves the usual expense and labor involved in preparing the base with sleepers, fill, etc. Over wood subfloors, it is laid by blind nailing or in asphalt cement.

Available in selected oak with a penetrated finish that holds down maintenance expense...finished in medium or dark with or without plug effects...backed by a two year guarantee...Haskelite is plank you can recommend without reserve wherever this type of floor is indicated.

HASKELITE MANUFACTURING CORPORATION
Dept. A412, Flooring Division
208 W. Washington St. Chicago, Illinois

1. Forming a slab... Slabs are cast face down. The 1' thick face is concrete made with Atlas White cement and white quartz aggregates of various definite gradations. Reinforcing mesh is placed over the white concrete and normal portland cement concrete is added. Note the returns of the slab. See also that the concrete is being vibrated in the form.

2. Backbone of a slab... Reinforcing mesh consists of spot-welded galvanized heavy steel mesh on 4' centers. Steel anchor clips and lug cages (shown in Fig. 1) extend from and are welded to the mesh. These are used for anchoring, bonding and handling slabs, when being installed.

3. Removing the wood form... The slab remains in the mold for 16 hours or more. Before it has hardened thoroughly, it is removed for the final surface texture treatment.
...Beauty and structural strength of Architectural Concrete Slabs on Naval Testing Basin prompts U.S. Navy to specify their use on new Medical Center

LITTLE MORE THAN a year ago, the U.S. Navy used Architectural Concrete Slabs for the Naval Testing Basin, Carderock, Maryland, requiring about 125,000 square feet of these thin precast slabs. Their beauty, economy and great structural strength prompted the Navy to again specify their use for the monumental buildings of the Naval Medical Center in Washington, now under construction. About 400,000 square feet of exposed aggregate Architectural Concrete Slabs made with Atlas White cement and graded, glistening, quartz aggregates are required for this project.

A year ago there were two manufacturers of slabs; today there are twelve. A year ago Architectural Concrete Slabs were unknown to most architects and engineers; today these thin, precast slabs are being designed and specified for new construction and modernization work, for exterior and interior walls in many sections of the country. Architects recognize the freedom of design which this new material offers.

Accompanying pictures show high spots in modern slab production and establish three basic facts:

1. Architectural Concrete Slabs are factory-made units carefully following architect's design, ranging up to 100 square feet in area, 20 feet or more in length—and usually about two to two-and-one-half inches thick.

2. High structural strength comes from factory fabrication, scientific proportioning, low water-cement ratio, vibration, reinforcing with adequate galvanized steel fabric, and careful curing.

3. Permanent, unfading color effects are the result of exposing selected aggregates, colored or white, such as crushed, graduated quartz, marble, granite, ceramics, or vitrified enamels—in a matrix of Atlas White Cement.


Slab detail showing shape, size and reinforcing. Slabs are cast in almost any desired shape and in sizes exceeding 100 sq. ft. This slab exceeds 30 sq. ft. The returns are integral with the slab—a monolith. The reinforcing mesh helps to give the thin slab high structural strength. Note the anchor clips, welded to the reinforcing, projecting from the back of the slab. These are used for handling and anchoring the slab, during installation. The horizontal lug at the bottom functions as a bond with the wall.

4. Color and texture treatment . . . Face of the finished slab is mechanically brushed to remove surface mortar. It is then lightly etched with a weak acid solution to remove remaining mortar and expose the beauty of the facets of the quartz aggregates embedded in the matrix of Atlas White cement.

5. Slabs ready for shipment to the job . . . . Thin, precast slabs are produced in curves, angles and all architectural shapes. Notemonolithic units forming deep corner returns—spandrels and parapets cast with lintel and sill or coping—these eliminate many mortar joints thus reducing moisture infiltration hazard to the minimum. Photos taken in plant of Federal Seaboard Terra Cotta Corp., Perth Amboy, N.J.
Planning the National Defense

When architects are called upon to plan new buildings for the production of essentials for the national defense program they realize that one of the most vital departments is that of food service for industrial workers.

Because of long experience in this highly specialized field, our engineers are uniquely qualified to assist architects and industrial executives in planning and equipping plant restaurants in a manner that assures the same efficiency as that of the production line. We list only a few representative plants in which John Van kitchen equipment is rendering “heavy duty” service.

Caterpillar Tractor Company
Tennessee Eastman Corporation
E. I. DuPont de Nemours
American Can Company
General Motors Corporation
The Procter & Gamble Company
Cincinnati Milling Machine Company
National Distillers Products Corp.
Jeffrey Manufacturing Company
American Enka Corporation
Elit Lilly & Company
Link Belt Company
Celanese Corporation of America
Ford Motor Car Company
Packard Motor Car Company
Inland Manufacturing Company
Frigidaire Corporation
Western Electric Company

The services of our engineers are available without charge or obligation to architects having food service problems on their boards.

FORUM OF EVENTS

(Continued from page 43)

and the medal of honor of the Italian Red Cross. Mr. Aldrich was a Fellow of the A.I.A. and an Associate National Academician, a member of the National Institute of Arts and Letters, and of the Société des Architectes Diplômés par le Gouvernement Francaise.

PHILIP Hiss, architect, 83, in New York. Born in Baltimore, Mr. Hiss received his early education there, traveled abroad and studied in Paris. In 1899 he returned and founded the firm of Hiss & Weeks. Among the buildings designed by this firm were the Gotham Hotel, New York; Church of Bethesda by the Sea, Palm Beach; and a number of private houses in New York, Pittsburgh and Long Island. During World War I Mr. Hiss was chairman of the housing section, Council of National Defense, and a special assistant for housing to the Navy Department. He served as chairman of the committee on Housing of the National Civic Federation, in 1926. He was a member of the American Institute of Architects.

ERNST C. PEIXOTTO, mural painter and illustrator, 71, in New York. Born in San Francisco, Mr. Peixotto was educated there and in Paris. He exhibited in the Paris salons many times and in the leading American exhibitions. One of his paintings, “A Woman of Rijsouord,” attracted wide attention. He is represented in the National Gallery in Washington, the Hispanic Society of America, and in many public buildings throughout the country.

Mr. Peixotto lived abroad for many years, painting, writing and illustrating. Among his better known mural works are “La Mort d’Arthur” in the Public Library in Cleveland; murals in the Seaman’s Bank for Savings, the Bank of New York, and the Embassy Club.

During the World War he served as official artist with the A.E.F., and directed the atelier of painting under the Armistice as a part of the Army educational system.

After returning home he became director of the Department of Mural Painting, Beaux-Arts Institute of Design, serving until 1928. In later years Mr. Peixotto’s energies were largely devoted to public service. Mayor LaGuardia appointed him painter member of the city’s Art Commission. He also had much to do with the city’s WPA art projects. To the Board of Design of the New York World’s Fair he served as consultant on murals and color. Mr. Peixotto wrote a number of books, chiefly on travel: “By Italian Seas,” (Continued on page 50)
If, as Ruskin said, "Architecture is frozen sound", the auditorium shown above is a soul-stirring symphony caught and held by the harmony of color, scale, design and lighting. Pale striped Guatemalan Prima Vera Flexwood, in mis-match, was used for walls and balcony facing in the huge auditorium. In the more intimate spaces, such as the Chamber Music Hall, Zebrwood and East Indian Rosewood were used for their striking color and grain characteristics. Foyers, lobbies and stairways, also, were Flexwood-treated; 33,000 sq. ft. being used. Only with Flexwood could such large areas be given a wood treatment within the limits of the normal budget. The ease and speed with which Flexwood is applied makes it a logical choice when the luxury, beauty, and color of real wood is desired.
THINK OF CARPET...THINK OF BIGELOW

Don’t many of your jobs nowadays include the designing of interiors and the planning of furnishings? Then the choice of the right carpet for your space has become as lively an issue for you as any involved in the job.

Carpet Counsel puts expert advice and years of experience at your service. Bigelow carpet has earned an enviable reputation through installation in hundreds of buildings—hotels, theatres, stores, specialty shops, schools—and in such varied interiors as restaurants and bars, de-luxe trains, ships, and air-liners.

Let Carpet Counsel help you select the right Bigelow grade for your spaces from among the many famous grade names displayed above. Special designs, special weaves, too, can be created to meet your special requirements.

Carpet Counsel is available at no extra cost per yard. Simply consult your dealer who will bring you to the nearest Bigelow office...Bigelow-Sanford Carpet Co., Inc., 140 Madison Avenue, New York, N. Y.

CARPET COUNSEL by BIGELOW WEAVERS

THE SERVICES OF CONTRACT SPECIALISTS ARE AVAILABLE IN BIGELOW BRANCH OFFICES IN:

ALBANY, N. Y. • ATLANTA • BOSTON • BUFFALO • CHICAGO • CINCINNATI • CLEVELAND • COLUMBUS • DALLAS
DENVER • DES MOINES • DETROIT • GRAND RAPIDS • HARTFORD • HIGH POINT, N. C. • INDIANAPOLIS • KANSAS CITY, MO. • LOS ANGELES
MEMPHIS • MILWAUKEE • MINNEAPOLIS • NEW YORK • PHILADELPHIA • PITTSBURGH • SAN FRANCISCO • SEATTLE • ST. LOUIS

48
GOOD PAINTERS SAY THE LEAD WE MINE MAKES LONG-WEARING PAINT

Clients are interested in lasting good looks—and that, of course, depends on the paint you specify. The best way to be sure of long-wearing paint is to check its white lead content.

For as good painters will tell you, the greater the white lead content, the more enduring the paint. And you can't get a more weather-resistant paint than one containing 100% pure white lead.

Fact is, white lead is derived from lead—one of the toughest, weather-fightingest of all metals.

And like lead, it seeks no quarter from the seasons. Come heat or cold, rain or snow—white lead jobs never crack and scale. They wear evenly—look neat and trim.

But remember, white lead paint doesn't necessarily mean white paint. White lead can be tinted to almost any shade you desire.

White lead costs no more than regular quality paints. But when you consider how much longer it last, how well it protects your work against the attacks of time and weather—here indeed is one case where the best is really cheapest.

LEAD INDUSTRIES ASSOCIATION
420 Lexington Avenue, New York, N. Y.

"WHAT CAN I DO WITH COLOR?"—You'll find the answer to this and other interesting paint questions in a booklet. "WHAT TO EXPECT FROM WHITE LEAD PAINT?"—It's free. Send for it now.

NEW FORM FOR OLD FAVORITE. In addition to the regular paste form, pure white lead, ready mixed and ready for work, can now be obtained at better dealers everywhere. Your builders and contractors will find this new paint a grand timesaver.

He was decorated as a Chevalier of the French Legion of Honor in 1921, and made an Officer in 1924. He was an Associate of the National Academy, an honorary member of the A.I.A., a past president of the National Society of Mural Painters, a past president of the School Art League, and a vice president of The Architectural League of New York.

Charles F. Whittlesey, architect, 73, in Los Angeles. Born in Alton, Ill., Mr. Whittlesey served his apprenticeship under Louis Sullivan, beginning his own practice at the age of 24. He was at one time chief architect for the Santa Fe RR, and designed many of their railway stations. Among other buildings for which he was known were the Alvarado Hotel and way station at Albuquerque, the El Alvarado Hotel at the Grand Canyon, the Huntington Hotel in Pasadena, the Philharmonic Auditorium in Los Angeles, the Foshay Building, San Francisco. After the 1906 earthquake and fire in San Francisco in 1906, he established an office there and aided in reconstruction.

ORGANIZATIONS

AMERICAN GROUP OF THE SOCIETY OF ARCHITECTS DIPLOMÈS par le Gouvernement Francais for 1941. Julian C. Taylor of New York has been elected president. Dean Leopold Arnaud of Columbia University, vice president; Seth Taliesin, New York, secretary; and Alexander Morgan of New York, treasurer. An executive Committee for three years: Edward Denby and Henry O. Millikin of New York, and Professor Shepherd Stevens of Indiana.

DESIGNERS FOR INDUSTRY. The Society of Designers for Industry was formed to promote better understanding between manufacturer and designer; to establish a forum where subjects of interest relating to design for industry may be discussed; to promote ways and means to make sign more productive of profit for industry; to protect and advance the standard of professional interests of industrial designers; to sponsor exhibits; to recognize reward meritorious services. Officers: Martin Ullman, president; Frank McDonald, vice president; George Biewer, treasurer; and William O'Neil, secretary.

ROCKEFELLER PLAZA, New York.

THE NATIONAL TERRAZZO AND MOSAIC ASSOCIATION

BUILT FOR CHAIN STORE TRAFFIC

5 Reasons for Using Terrazzo

1. ECONOMY. Initial cost plus no repairs...no replacements...minimum upkeep over a period of years, for Terrazzo equals—usually is less than—initial cost plus repairs...and replacements...and higher upkeep for other types of floors.

2. COMFORT. Finished Terrazzo is easy to walk on. It is less slippery than gay waxed surfaces. Furthermore, Terrazzo can save you enough money to amortize your ceiling, thus giving you a very low lease level.

3. CLEANLINESS. Terrazzo can be sealed so as to be practically nonabsorbent. Its smooth, jointless surface cleans easily...certainly...never harbors any accumulation of macroscopic or microscopic germs. It is aseptic.

4. COLOR AND DESIGN. Terrazzo is made to order for chain stores. Its unlimited possibilities for design and color combinations make it easy to use your own distinctive floor design. There's hardly anything you can't do with this modern floor to help make your store more attractive. And when you have TERRAZZO your upkeep costs practically vanish. It's magically easy to keep clean. Initial cost is soon more than balanced by lower maintenance. See your local TERRAZZO contractor and learn for yourself the amazing qualities of this modern floor material. Or write The National Terrazzo and Mosaic Association, 1420 New York Ave., N.W., Washington, D.C.

FORUM OF EVENTS (Continued from page 46)
Another outstanding housing project, the Mulford Housing Project in Yonkers, N.Y., recently opened for occupancy, represents an interesting example of intelligent modern planning, successfully carried out. It is designed to provide moderate cost homes for 552 families, with the maximum of air, light, and recreation facilities. An important element of upkeep cost is heating, and the care with which this factor was considered is shown by the selection of four Fitzgibbons Steel Boilers of R-Z-U type, oil fired, to supply the 170,000 sq. ft. of steam rating which the project requires.

An unusual circumstance is the location of the central heating plant housing the boilers, at the highest point on the grounds approximately 80 feet above the lowest apartment building. Condensate return is effected by pumps.

As in various other large housing projects in or near metropolitan areas, Fitzgibbons steel boilers are developing the required radiation with most satisfactory overall economy. The Fitzgibbons R-Z-U Catalog will give you some reasons why architects and heating contractors entrust their reputations to these boilers. Write for a copy.

Fitzgibbons Boiler Company, Inc.
101 PARK AVENUE, NEW YORK CITY
Branches and Representatives in Principal Cities

For STEEL BOILER ECONOMY
ON LARGE JOBS and SMALL
THE planning of the Mahonoy Township High School required consideration of the only available site safe from underground mining operations. This site was a long, narrow bench on the side of a mountain adjacent to Mahonoy City, formerly occupied by the original high school, which was destroyed by fire.

A modern, streamline design was adopted as suitable, using a golden buff mat faced brick, trimmed with aluminum entrances, glass block entrance tower, and surfaced cast stone copings and sills. Typical windows are double hung steel, painted in a neutral green.

Included in the P&L decorative materials used, were Lyt-all, the Universal Wall Coating, "61" Quick Drying Floor Varnish, Outside White, and Okene Preservative. The Pratt & Lambert Architectural Service Department is ready at all times to render prompt, practical aid in helping architects achieve the maximum decorative results.

PRATT & LAMBERT-INC., Paint & Varnish Makers
NEW YORK • BUFFALO • CHICAGO • FORT ERIE, ONTARIO

Pratt & Lambert Paint and Varnish
IT'S THESE **DOUBLE BENEFITS**

That Make **BALSAM-WOOL**

the Preferred Insulation

in 250,000 Homes

**THERE** is one insulation you can recommend without "doubt's," "if's," or "maybe's." It is Balsam-Wool, applied by the famous Minnesota System...proved by 19 years of perfect performance in the most rigorous climates...providing **DOUBLE** advantages to assure lasting comfort and low fuel bills. Here are the reasons why Balsam-Wool has proved, in more than 250,000 homes, that it meets every insulation requirement:

**DOUBLE Sealing**—The Balsam-Wool mat is completely sealed—on all four sides—in tough, protective liners. Sealed in the same manner as refrigerator insulation.

**DOUBLE Moisture Liners**—Balsam-Wool provides two efficient moisture barriers—two liners, both asphalt saturated, to guard against moisture. Keeps humidity in the house.

**DOUBLE Wind Barriers**—To stop wind infiltration—to protect against chilly drafts and cold floors, thus providing extra protection against winter colds and discomfort.

**DOUBLE Air Spaces**—Balsam-Wool is applied with double air spaces—one on each side of the insulating mat—to increase the "dead" or "still" air space, and thus give greater insulation effectiveness.

**DOUBLE Bonding**—The clean, termite-proof, and highly fire-resistant material of which Balsam-Wool is made doubly bonded to inside of liners to keep material from settling or packing down. An exclusive feature.

**DOUBLE Nailing**—Balsam-Wool does not settle or pack, leaving uninsulated spaces, because Balsam-Wool is doubly and firmly fastened in place—top, bottom and on both sides. No leakage through or around edges.

GET THE FACTS! Get complete information about why Balsam-Wool—tested and approved under all service conditions on the job—is the SURE way to insulate. Additional facts and figures are yours for the asking!
BUILDING FOR DEFENSE
(Continued from page 43)
size: $10 million) and authorize 90 per cent construction loan commitments to defense housing builders. The most builders can presently get is 70 per cent which is much too small to cover the cost of a house and discourages builders from putting up defense houses on speculation. With the authorization of 90 per cent loans, builders will receive from banks enough cash to cover everything but their profits and, since they will then have nothing to lose, will become bolder, build more houses.

The 90 per cent construction loan will also facilitate sale of the houses and will foster the production of rental dwellings—the greatest defense housing need. Thus, with the house completely paid for by an FHA insured loan, the builder may rent it with an option to buy or may sell it under a plan whereby the owner would move in without making an immediate down payment. The latter could be accumulated over a long period of months at the end of which the occupant would take title to the house. This form of installment purchase plan will probably be encouraged by a clause in the proposed FHA Amendments which will extend the builders' loan commitment period beyond the present one-year maximum.

Backers of the amendment—Housing Coordinator Palmer is one—figure that, even if FHA loses an improbable half of the $10 million fund through foreclosure of the defense houses, Government would still come out ahead. Reason: if operating builders did not produce these homes Government would have to assume the task and accomplish it in its habitually slower and more costly way.

To be eligible for the proposed defense loans, operative builders will have to agree, no doubt, to produce houses whose monthly costs are in line with defense workers' budgets as determined by Palmer.

LABOR MAKES A PROMISE
Following a decision by AFL's skilled trades unions to play ball with Industry by guaranteeing no strikes or lockouts on defense projects, leaders of AFL's nine building and construction trades unions last month came out flat-footedly in favor of a similar policy of voluntary arbitration. Also recommended: a maximum limit on the amount any union may charge its respective members as initiation fees.

Time will tell whether these promises are worth their salt. Similar promises have been made and broken before. Agreement made by heads of national unions rarely sound like pious generalities but autonomous locals do as they jolly please and all too frequently fail to live up to half-promises that have been spoken for them.

Prominent in needling the AFL and its high schedule of initiation fees is Mrs. Roosevelt, who publicly champagined a migrant electrical worker when he asked to pay a big fee to work on a defense project, and CIO bigwigs who caustically called AFL's fees a "kickback racket" in that workers are forced to pay for the privilege of employment. That officials, already sensitive to CIO's invasion of the building field, feel these pokes keenly is evident in the fact that for the first time they have agreed to a ceiling on fees. But, like the non-promises, the height of this ceiling is in the hands of local unions.

INDUSTRIAL BUILDING
If anyone should know the cost of building industrial plants, the Austin should. One of the largest (and busily organizations of industrial engineers and builders in the country, Austin has had work on its many defense jobs intermingled with its cost tabs-keeping. At year's end Austin's quarterly cost index stood at 100 per cent of the 1926 average, was 124 points from September, was back to 1937 post-depression peak and within striking distance of the average for the prosperous Twenties.

Successor to the late Wilbert John tin, who crashed to an untimely death at the Chicago airport this winter, Austin President George A. Bryant predicts higher industrial building cost and greater material procurement problems.
WESTINGHOUSE SUPPLIES THE ANSWER

Providing highly specialized engineering services, improved products and a wealth of lighting experience, Westinghouse is daily helping hundreds of American Industries to speed up production... protect plants and property... insure better products.

Why not shift your burden of individualized engineering counsel to Westinghouse? This service is always available to all Architects and Builders... to help you obtain sound lighting systems... quickly and with the least amount of effort.

Westinghouse offers interior lighting equipment and floodlighting for every commercial and industrial need. These highly flexible lines include quality-proved fluorescent... incandescent... and high intensity mercury fixtures. Whatever your lighting requirements may be, there is a Westinghouse product and a Westinghouse plan to improve factory and office illumination.

Start saving valuable time today... consult your Westinghouse Contact Representative, or write for "Descriptive Data Kit"—Department H, Lighting Division, Westinghouse Electric & Manufacturing Company, Edgewater Park, Cleveland, Ohio.
If it isn’t plate glass and it isn’t window glass…

WHAT IS IT?

You can’t call this new Lustraglass a window glass because that “distorting waviness” which is characteristic of all window glass has been almost entirely removed. On the other hand, Lustraglass does sell at window glass prices. Look at a sample. See its beautiful jewel-like luster and “whiteness of metal.” Notice its relative freedom from that greenish cast common to other glass used for regular glazing. Remember that it transmits ultra-violet rays of sunlight and demonstrates amazing tensile strength. Compare these definite advantages of this improved Lustraglass with those of any glass at any price and give us your own opinion of how we should classify it.

AMERICAN WINDOW GLASS CO.

THE SHADOWGRAPH TELLS THE STORY

by amplifying distortion and defects 20 times

(1) This is high quality cylinder drawn window glass. The bent and twisted lines shown by the shadowgraph testing device indicate the presence of considerable distortion. This glass became obsolete in 1928.

(2) Here is what most manufacturers offer today as top quality window glass . . . Made by the sheet drawn process, it shows a characteristic distortion in the waviness of the black lines.

(3) Now look at this “shadowgraphed” sample of the new Lustraglass. Obviously an important improvement. The lines are straight, showing relatively perfect vision—relative freedom from distortion.

Write for the new Windowgraph Slide Rule Chart and a sample of the new Lustraglass. Examine both—then tell us what you think.
Architect Allen had “specs” before his eyes

There’s nothing new about Allen’s clients expecting the most lavish interiors on a limited budget. But Allen’s solution to this problem may be new to you. His “specs” read: “Low-cost Armstrong’s Asphalt Tile Floors” and thereby promised a look of luxury to every room.

The client wanted style. From the 41 rich plain and marble patterns in Armstrong’s Asphalt Tile, Allen had an easy time planning stylish designs. Special factory-cut insets helped him add further distinction to this colorful flooring.

The client wanted durability. Armstrong’s Asphalt Tile provides years of trouble-free service—never needing costly refinishing. Even damp basements and on-grade areas where the subfloor is in direct contact with the ground won’t harm or loosen this material. The through-running colorings can’t scuff or wear off.

How about your clients? Installation of Armstrong’s Asphalt Tile can be made quickly and easily (a block at a time, by hand). Want more information? See “Sweet’s” or send for free booklet—“Low Cost Floors with a Luxury Look.”


---

"Homes Sell Faster When Equipped With General Electric Kitchens"

Install G-E Kitchen Equipment, Make It A "High-Spot" of Your Homes and Spark Your Sales as Scores of Builders are Now Doing!

Women THRILL to the gleaming white beauty of General Electric Kitchen Cabinets and the G-E Electric Sink. They WANT all their time-saving, work-saving conveniences. Builders who "high-spot" General Electric Kitchens are capitalizing on these sales appeals!

G-E All-Steel Kitchen Cabinets are competitively priced and are easy and inexpensive to install. Features include Adjustable Sliding Shelves of Steel Wire — Concealed Spring-Action Hinges — Automatic Interior Lighting — Roller Bearing Drawer Slides — 2-Coat Glyptal Enamel Finish — and dozens of time and work-saving accessories that women cheer for!

You'll Want The New G-E Kitchen Catalog

Illustrates and describes the entire line of G-E Cabinets, with detailed drawings and specifications. Includes information and data on the G-E Electric Sink and on complete G-E "Packaged" Kitchens for small homes and apartments. Phone your G-E Distributor for a copy or mail the handy coupon below.

No Kitchen Is COMPLETELY Modern Without This

General Electric Co.
Appliance & Mfg. Dept. S1212
Bridgeport, Conn.

Please send me your new G-E Kitchen Catalog.

Name__________________________
Firm___________________________
Address_______________________
ARCHITECT'S QUIZ!

SUPPOSE YOU WERE ASKED THESE QUESTIONS

...HOW WOULD YOU ANSWER THEM?

QUESTIONS:
1. Does insulation cause condensation?
2. To avoid condensation difficulties, how would you construct a wall?
3. How would you prevent moisture accumulation within the stud spaces?
4. On which side of a wall should a vapor barrier be installed?
5. What simple wall construction will scientifically solve condensation problems?

ANSWERS:
1. "In itself, insulation does not create moisture, but condensation of moisture can and does take place if conditions cause it, regardless of whether or not insulation is present."* Scientific Section, Circular No. 560, National Paint, Varnish & Lacquer Assn., Inc., Washington, D.C.

2. "It is desirable to construct a wall which... will resist the entrance of (moisture) vapor through the warm interior surface and... permit the free passage (of vapor) through the exterior part of the wall."* Prof. F. B. Roseley, Director, Engineering Experiment Station, University of Minnesota.

3. "To prevent accumulation the permeability of the cold side of the wall to moisture vapor must be many times that of the warm side."* Professor H. J. Barro, Iowa State College of Engineering and Agriculture.

4. "It is recommended that a suitable vapor barrier be installed on the interior of all exposed walls and...any sheathing paper used should be water resistant, but permeable to vapor."* L. V. Teeddale, Sr. Engineer, Forest Products Laboratory, Madison, Wisconsin.

5. The Insulite Wall of Protection—because Sealed Graylite Lok-Joint Lath, with an effective vapor barrier on the stud side, retards vapor travel, and Bildrite Insulating Sheathing outside permits whatever vapor that may escape the vapor barrier to pass harmlessly to the outside air.*

*A transcription of these and other experts' opinions on the condensation problem will be sent you on request. Address Insulite, Department AF20, Minneapolis, Minnesota.

INSULITE
THE ORIGINAL WOOD FIBRE STRUCTURAL INSULATING BOARD
MINNEAPOLIS MINNESOTA
MARCH 1941
FEBRUARY 1941
57
When your scheme calls for black, we suggest that you consider Alberene Black Serpentine. This natural, quarried stone has become very popular, because outstanding designers and architects have found it ideal, both structurally and from the standpoint of design, for the black masses and accents of black which are features in modern exterior design. Having great toughness and density, Black Serpentine can be cut into sections as thin as 7/8", which makes it even more economical for panels, bulkheads, facing and spandrels. The stone will retain its color, and will maintain its polish, but it is neither reflective nor mirror-like. A request on your business letter-head will bring you samples, conveniently boxed, showing the range of stones, including black and mottled dark blues and greens. Please address Alberene Stone Corporation of Virginia, 419 Fourth Avenue, New York. Quarries and Mills at Schuyler, Va. Sales offices in principal cities.

Alberene
BLACK SERPENTINE

Moderate in cost . . . Negligible in upkeep
STEARMAN can concentrate on SPEEDING PRODUCTION for Air Defense

...Their Plant Heating Problem is Solved with MODINE UNIT HEATERS

- Stearman Aircraft, Wichita, Kansas, a division of Boeing Aircraft Company, is stepping up production and expanding plant facilities for air defense. They know that adequate, effective plant heating is vital to production. They have the proved precision heating of Modine Unit Heaters!

Protect your clients' production and profits in that new plant that's being built ... or the one you're modernizing or expanding. Modines warm up faster, keep temperatures even, insure continuous operation, and employee efficiency and comfort. Modine's fuel savings are larger; maintenance is lower.

Time is all-important—prompt delivery is a part of Modine preparedness. And Modine-patented direct-from-branch-supply-pipe suspension means speedier, easier installation, at less cost. Modines are made in both horizontal delivery, and vertical delivery models, in the widest range of types and sizes, to meet your every need. Get new Modine catalogs now!

MODINE MANUFACTURING COMPANY
1736 RACINE STREET  RACINE, WISCONSIN

WRITE FOR LITERATURE

THE UNIT HEATER WITH THE DIRECT-FROM-PIPE SUSPENSION
The heating system which satisfies the architect and best serves its owner, functions without drawing attention to itself; with no excess of heat...no lack of heat...no opening or closing of valves or windows...no excessive fuel cost.

Such a system is Dunham Sub-atmospheric Steam Heating.

The accumulated experience of the entire Dunham organization is put at the disposal of architects and consulting engineers through “Dunham Heating Service” which can be reached by telephone in more than sixty cities, or by correspondence to C. A. Dunham Co., 450 E. Ohio St., Chicago, Ill.

---

What is YOUR Preference in Casein Paints?

Opinions differ, jobs differ, conditions differ—in the matter of choosing between a casein powder and a casein paste paint. But whatever the difference—the answer is “Muralo Products”.

Get the facts about Mural-tone (paste) and Muralo Casein Paint (powder) and you'll be ready to specify either type. Both are made in the same plant—up to the high standards of quality architects have learned to expect of any paint product bearing the name “Muralo”.

Write for illustrated folders.

Mural-tone (paste) and Muralo Casein Paint (powder) are high grade paints made according to scientifically balanced formulae. The principal pigments used are remarkable for their extraordinary opaqueness and brilliance. The clear, colorless binders compounded from casein, are characterized by toughness of film, strong adhesive qualities and non-yellowing properties—insuring clarity and permanence of color.

THE MURALO COMPANY, Inc.
574 RICHMOND TERRACE • STATEN ISLAND • NEW YORK
CHICAGO • LOS ANGELES • SAN FRANCISCO
Based on a quarter of a century of accumulated experience in design and construction, the Kramer Trenton Company is contributing advanced ideas in heating and air conditioning for the home, office and factory.

Scientifically designed for top efficiency, the mechanical assemblies are housed in beautifully finished cabinets, that are Bonderized for a long, rust-free life.

Bonderizing supplies an extra quality. Applied under the enamel it provides an absorbent foundation to which the finish will cling. It neutralizes the effects of humidity and protects against rust. Its effectiveness on this type of equipment proves its value on any product where corrosion is a problem.

Send for the latest book on Bonderizing. It describes what it is—what it does—how it is applied and lists some of the hundreds of manufacturers who use it. In this list you will find some of the greatest names in American industry.
Wolmanized Lumber* has that plus value: ability to withstand decay and termite attack. It is *enduring* lumber—made enduring by pressure treatment with Wolman Salts* preservative.

SubJECTED to alternate vacuum and hydraulic pressure in large steel cylinders, the wood becomes deeply saturated with these preservatives. Washing-out or leaching is prevented by "fibre-fixation." The finished lumber is clean, odorless and easy to handle. It can be painted.

Wolmanized Lumber is produced at many plants throughout the country. Strict technical control and exacting specifications assure uniformity of product. It is sold through lumber dealers under the one identifying name. AMERICAN LUMBER & TREATING COMPANY, 1647 McCormick Building, Chicago, Illinois.

*Registered Trade-Mark
Cleopatra exercised a smart bit of strategy when she concealed herself in a rug in order to gain an audience with an emperor.

Now that building is on the rise, some electrical equipment salesmen complain that it's almost as difficult to see an architect.

Our men haven't found it so—especially since we established Westinghouse Clearing House Service. For architect-builders have already learned that this new arrangement saves them a lot of time, simplifies enormously the job of rounding up essential data on Westinghouse products, services and supplies.

Instead of interviewing several of our men to get all the material needed, they now find that they can obtain everything from a single source.

Naturally, the particular Westinghouse representative that calls on an architect doesn't profess to be a specialist on the 30,000 different electrical products we manufacture. But without any lost motion he knows exactly where to put his finger on everything required in connection with the electrical end of a job.

You'll find this service just as alert and responsive whether your immediate problem concerns a few wiring devices or complete electrical equipment for a multiple-house project.

The full resources of this Clearing House Service are as close as your telephone—so if you need some help, just dial the nearest local Westinghouse office.
ANSWER AMERICA'S DEMAND FOR BETTER LIVING

This mass Multiple-Housing Program offers a new opportunity for the Architect

- Homes "Designed for Happiness"—with glass, are meeting the demand of American home owners for better, more livable homes. And they're giving the architect an opportunity to profitably engage in small home designing. Design for Happiness homes are not just scattered single houses. Almost always, they are built in multiple units of from 10 to 300 or more—giving the architect a worthy incentive to profitably provide these houses with good design and sound construction.

In all of these Design for Happiness homes glass is working miracles... dramatic examples of the results architects have achieved by the deft and generous use of modern glass. Wide windows, built-in mirrors, decorative glass partitions lend their beauty and usefulness to these homes... make them brighter, gayer, more spacious—homes that invite better living.

"Design for Happiness" is more than just a house. It is a nation-wide building program devoted to better and lower cost homes for the home owner of America. It's getting recognition from an appreciative public too—from coast to coast. Design for Happiness homes are springing up. Already about 11,000 of these homes designed by many architects and erected by local builders, are already scheduled for construction in every section of the country. More are being planned every day. For full information about these new homes "Designed for Happiness"—with glass, write Libbey-Owens-Ford Glass Company, Toledo, Ohio.
We Make Our Own Weather

In the Pittsburgh Research Laboratories there are dozens of devices which, with almost devilish ingenuity, rack and torture test panels of our products. Shown above is an accelerated-weather test wheel which sprays each panel with salt water and bombards it with ultra-violet rays.

Pittsburgh Paints Are Tested By Ingenious Mechanical Devices, Some Of Which Simulate Actual Weather Conditions, To Assure Uniform High Quality

Nothing is taken for granted in the manufacture of Pittsburgh Paints. Every finish must be checked and rechecked at each step in its manufacture... then subjected to many exacting mechanical tests plus actual exposure in our chain of Proving Grounds. No matter what climatic condition it may be called to face, the architect will know that the paint has already proved its ability to "take it!"

This scientific control not only inspires the confidence of architects who specify durable Pittsburgh Paints, but also assures many additional years of satisfaction for clients. Furthermore, clients will readily accept these fine, nationally advertised finishes which are backed by an 82-year record of brilliant performance.

See Sweet's Catalog You'll find a complete list of addresses of all the Pittsburgh Branches and detailed information about Pittsburgh Paints in our section in Sweet's Catalog. Pittsburgh Plate Glass Company, Paint Division, Pittsburgh, Pa.

Pittsburgh Plate Glass Company, Paint Division, Pittsburgh, Pa.

Copr. 1941 Pittsburgh Plate Glass Co.

We Make Our Own Weather

Pittsburgh Paints Are Tested By Ingenious Mechanical Devices, Some Of Which Simulate Actual Weather Conditions, To Assure Uniform High Quality

Nothing is taken for granted in the manufacture of Pittsburgh Paints. Every finish must be checked and rechecked at each step in its manufacture... then subjected to many exacting mechanical tests plus actual exposure in our chain of Proving Grounds. No matter what climatic condition it may be called to face, the architect will know that the paint has already proved its ability to "take it!"

This scientific control not only inspires the confidence of architects who specify durable Pittsburgh Paints, but also assures many additional years of satisfaction for clients. Furthermore, clients will readily accept these fine, nationally advertised finishes which are backed by an 82-year record of brilliant performance.

See Sweet's Catalog You'll find a complete list of addresses of all the Pittsburgh Branches and detailed information about Pittsburgh Paints in our section in Sweet's Catalog. Pittsburgh Plate Glass Company, Paint Division, Pittsburgh, Pa.

Pittsburgh Plate Glass Company, Paint Division, Pittsburgh, Pa.

Copr. 1941 Pittsburgh Plate Glass Co.
All convectors are not alike. That's why it pays to specify a product that's pre-tested . . . whose quality is assured and maintained through controlled production. Young STREAMAIRE Convec-tors can be depended upon to deliver High Efficiency heating. Their performance, their sensitivity to heat control, their economy and their appearance will justify their selection for your most particular clients. A wide variety of sizes, capacities and styles assures you of meeting any type of building requirement. May we send you literature?

YOUNG RADIATOR COMPANY, Dept. 211-B
RACINE, WISCONSIN, U. S. A.
Offices in all principal cities.

Scientific Laboratory tests reveal that LAPIDOLITH LIQUID has at least 100% lower surface tension than any other comparable treatment. This means LAPIDOLITH LIQUID will penetrate quicker and deeper into the concrete, producing a much more thorough chemical hardening result—and this result is permanent!

Write for complete details concerning LAPIDOLITH LIQUID "on the job" performance. Also see data on LAPIDOLITH LIQUID in Sweet's Catalog, page 5/24.

LAPIDOLITH LIQUID is flushed on finished concrete.

* U. S. Patent #2205362

THE ARCHITECTURAL FORUM
100%-Modern Homes are Being Built in "Comfort Street"

...made Warmer in Winter, Cooler in Summer

with

KIMSUL INSULATION

"Comfort Street" is any street where homes are insulated with KIMSUL®. Where every home is modern in comfort as well as construction. KIMSUL can cut fuel bills, of course. But leading architects and builders are also employing KIMSUL to assure an acceptable standard of year-round comfort in every home they build. KIMSUL is their choice because it is one of the most effective insulations ever developed. KIMSUL's conductivity is .27 B.t.u./hr./sq. ft./°F./inch (Peebles).

KIMSUL can also lower installation costs. Delivered compressed, it saves shipping, storage, and handling charges. KIMSUL is one of the easiest of all insulations to install. Usually one man does the job unaided. Once in place, KIMSUL does not settle or pack down inside walls. Moreover, KIMSUL is lasting, moisture-resistant, and non-burning.

Consider KIMSUL for your new homes. Users are enthusiastic about its many advantages. Investigate. Send coupon for all the facts. No obligation.

How Does Standard KIMSUL Compare With Thicker Insulations?

Heat Loss Stopped in Walls

<table>
<thead>
<tr>
<th>Insulation</th>
<th>Heat Loss Stopped by Standard (Approx. 1 in. thick)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum heat loss</td>
<td>Standard KIMSUL stops the greatest proportion of heat losses in winter and of heat infiltration in summer.</td>
</tr>
<tr>
<td>Heat loss stopped by Standard KIMSUL</td>
<td>Approx. 1 in. thick</td>
</tr>
<tr>
<td>Standard KIMSUL stops 54% of the heat which would normally be lost through an uninsulated wall. Double Thick KIMSUL stops 65% of the heat loss. Wall-thick insulation stops 73%.</td>
<td></td>
</tr>
</tbody>
</table>

The first inch of insulation does the most work. Taking the maximum heat stoppage through walls as 100%, it is readily calculated that Standard KIMSUL stops 74% of all the heat that can be stopped with any insulation.

GOING TO NEW YORK? Visit the KIMSUL insulated "House of Ideas," Rockefeller Center, New York City. Also see KIMSUL at the Architects' Permanent Exhibit, Architects' Samples Corporation, Park Avenue and Fortieth Street.

KLMBERLY-CLARK CORPORATION
(Building Insulation Division)
Established 1872 Neenah, Wisconsin
Please send a representative
Please send free book, "Guide to Efficient Insulation"

Name
Address
City State County
FEBRUARY 1941
An exclusive Case development—the fixture one-piece, non-overflow, quiet-flush ing T/N Water Closet. Only 18½" high.

The WILMINGTON Lavatory features a raised shelf, concealed front overflow, splash control and chrome-plated fittings.

Let us send you this useful new handbook containing complete plans and fixture specifications for 12 modern bathrooms, planned by Case with the assistance of architectural advice.


Name: ____________________________

Address: __________________________

City and State: ____________________

#### STANLEY

**DISTINCTIVE PLUMBING FIXTURES**

Whatever Your Specification—Stanley Makes It

Stanley Blind And Shutter Hardware

A complete line of blind and shutter hardware to meet the needs of every installation.

WRITE FOR FREE GUIDE to good hardware—Stanley Catalog No. 61 is an invaluable reference book—a time-saver in writing specifications. The Stanley Works, New Britain, Conn.

STANLEY

REMEMBER . . . 3 BUTTS TO A DOOR

CASE

DISTINCTIVE PLUMBING FIXTURES
What steels to specify for different uses

STEEL INSIDE AND OUT. That’s what to look for in a furnace. A firebox of U-S-S Copper Steel is smoke-tight, resists corrosion from flames and moisture.

STEEL AIR DUCTS should last as long as the house. Make sure of yours by using U-S-S Galvanized Copper Steel and accept no “just as good” substitutes.

GUTTERS and downspouts made of U-S-S Galvanized PAINTBOND can be painted immediately, saving a return trip by painters.

A SURE GUIDE to better steel products is the U-S-S Label. It’s your assurance that the manufacturer has used the highest quality steel for the purpose.

THIS IS THE KIND OF A LAUNDRY EVERY WOMAN WANTS

THE dingy cellar room that masques as a laundry in most homes is on the way out. Steel is helping to transform it into a cheerful, convenient place to work.

Notice how the work flows in this efficient laundry—from clothes chute to sorting table to tubs without a wasted step. There’s plenty of hot, soft water to make work easier—and the furnace keeps the room warm and comfortable.

Today, you can get porcelain enamel tubs that wipe clean in an instant—just like the sleekest washing machine. They owe their beauty to a glass-like surface fused on a special steel—U-S-S VitréNAMEL. Water heaters and water softeners, too, are made from this same material—permanently clean and free from rust.

Now look at the new all steel furnace, and the neat square duct work. The steel that gives most lasting service for both these uses is U-S-S Copper Steel—galvanized for the duct work, plain for the furnace.

No laundry is complete without a sorting table. The top should be porcelain enamel or stainless steel for easy cleaning, but the storage cabinet for soaps and supplies can be of ordinary sheet steel or U-S-S PAINTBOND—a galvanized, Bonderized steel that holds paint better.

We’ll gladly furnish you with the names of manufacturers making any of these products. Just address one of the companies shown below.

Carnegie-Illinois Steel Corporation, Pittsburgh and Chicago
Columbia Steel Company, San Francisco
Tennessee Coal, Iron & Railroad Company, Birmingham
SeALLY Steel Products Company, Chicago, Warehouse Distributors
United States Steel Export Company, New York

UNITED STATES STEEL

February 1941
Sixteen Pages
Packed with Information on Modern Door Control

On the cover of our 1941 catalog in Sweet's the little co-ed is using a typical LCN up-to-date door closer installation in one of the past year's finest buildings. You'll find it in Section 16/27

Here are sixteen pages full of useful data on door control, to show you a practical answer to any current problem in this field. An outline of the contents:

- Page 2 Where to Put the Door Control
- 3-7 Control Concealed Overhead
- 8-11 Control Concealed in Floor
- 12-12 Pivots and Their Use
- 12-13 Exposed Closers for Certain Doors
- 14 Brackets, Sometimes Needed
- 14-15 Closers Dimensions, Specifications
- 16 List of LCN Representatives

Because it's more important than ever, nowadays, to conceal operating devices such as door closers . . . and because you have to provide for this equipment in your working drawings . . . it pays to know about the latest ideas. Why not turn to Section 16/27 in your new Sweet's right now?

"If that isn't handy, or if you'd like a separate copy of the LCN catalog for individual use, just drop us a line; we'll be happy to send it."
—Elsie N., Norton Lasier Company, 466 West Superior Street, Chicago.

Many architects, builders and maintenance men have found a simple way to end painting worries. Their paint specification for all properties is the same—Eagle White Lead mixed with linseed oil.

This pure white lead paint has been preserving the beauty of American homes since 1843. It is economical. Its performance is uniform, dependable. Time between paintings is lengthened. And because Eagle White Lead doesn't crack or scale, a perfect surface is left for repainting.
BENDS CONCAVELY AND CONVEXLY

FOR INDOOR AND OUTDOOR USE

A STIMULANT TO FRESH DESIGN

Flexglass is new, exciting, exotic . . . real glass in 30 different colors and patterns. In the hands of skillful architects, its design possibilities are unlimited, particularly where interior or exterior schemes require vivacity and charm. For store-front use its attention-getting value is important.

Says Architect Spitznagel: “Due to the reflective quality of the material, color changes from silver to deep copper to black, depending upon lighting and atmospheric conditions.” Installation is simple and speedy because Flexglass can be cemented to any smooth, hard surface. You will find Flexglass an intriguing, decorative material with which to transform existing structures, or to express your ideas in plans now on the boards. Please write for samples and information.

UNITED STATES PLYWOOD CORPORATION, 103 PARK AVENUE, NEW YORK
Manufacturers of Flexwood and Flexglass

Flexwood and Flexglass are manufactured and marketed jointly by The Mengel Co., Louisville, Ky., and the United States Plywood Corp., New York
TELEPHONE OUTLETS MARKED ON YOUR PLANS
WILL REMIND YOU TO SPECIFY BUILT-IN CONDUIT
FOR CARRYING CONCEALED TELEPHONE WIRES
IN THE WALLS AND AVOIDING THE NECESSITY
OF EXPOSED WIRES. IF YOU INCLUDE THEM DURING
CONSTRUCTION, TELEPHONE OUTLETS COST LITTLE
AND MEAN A LOT IN CLIENT SATISFACTION.

A NEW KIND OF CABINETRY

NOT ALL WOOD—
NOT ALL METAL—
BUT BOTH, AND MORE

YOU will find today's kitchens much easier to plan and build
(and much more satisfactory to the home owners) when you
work with Kitchen Maid Cabinetry. For this is an entirely new
 cabinetry of Composite Construction... combining all the advan-
tages of the best materials available. It's remarkably flexible...
with standard units to fit perfectly in any arrangement. Beautiful and
efficient, too; gives the most ex-
acting housewife every feature
her heart could desire. Get all the
facts. Write today for full-color
catalog and details.

Send new catalog and details on Standard Unit Kitchen Cabinetry.

Name
Address

ARCHITECTURAL FORUM
Adequate Toilet Facilities REQUIRE MORE THAN THE INSTALLATION OF FIXTURES

Fixtures, pipe, and fittings, alone, provide nothing more than the bare essentials of required convenience. Adequate toilet facilities require much more according to modern standards. Toilet facilities are an important part of industrial building. The surroundings in which they are located exert a powerful influence on the mental attitude of employees.

Consider the stimulating influence for well being, orderliness, and cleanliness which may be imparted to employees by modern toilet room treatments. A toilet room treatment that is in keeping with toilet conveniences in stores, schools, public buildings, etc., will enhance the effect of other provisions that make for good working conditions in factories.

Strikingly modern designs and unusual finishes of Sanymetal Toilet Compartments, particularly "Porcena" (cellulose enamel) finish, provide unlimited possibilities for the creation of modern toilet room treatments in all types of industrial buildings. Sanymetal offers five distinct types of toilet compartments, all of which are suitable to a wide variety of installation requirements in every type of building. Three of these five types are available in three different finishes, two types are available in two different finishes. Sanymetal Toilet Compartments provide sound, simple, exclusive construction features, matchless quality of materials and workmanship, and protection against obsolescence for the years to come. These features are the result of 25 years of engineering and manufacturing experience in making toilet compartments for over 48,000 installations.

The Sanymetal Representative in your territory possesses a wide and varied experience in developing modern toilet room treatments for all types of buildings. Consult him. Write for new Catalog No. 78.
ARISTOCRAT WINTER
AIR CONDITIONER
DELUXE LONG LIFE FURNACE

Please All With Their
Appearance and Efficiency

- You can confidently depend on Moncrief units providing every quality required to make homes more attractive and comfortable and keep fuel costs low. Moncrief style appeals to the woman's eye, advanced engineering design and sturdy construction are points that look good to the man; priced to give outstanding values. The Moncrief line is most complete in every particular, units for small and large homes specially designed for burning oil, gas or coal, hand or stoker fired. Investigate the comfort efficiency features that Moncrief gives, and the attractive prices that enable you to give the owner the most for his money.

Write for illustrated catalogs.

THE HENRY FURNACE & FOUNDRY CO.
3485 E. 49th Street, Cleveland, Ohio

Send me complete literature as follows.
- Cast Furnaces
- Steel Furnaces
- Stoker-Fired Furnaces
- Winter Air Conditioners
- For Coal; Gas; Oil.

Give me the name of Moncrief Dealer near me.

NAME
STREET
CITY
STATE

"Quilt" insulated house, Hingham, Mass.
Architect: George R. Paul, Hingham

Cabot's "Quilt"
The Time Tested Insulation

Air space on each side of the "Quilt" permits air circulation and prevents harmful moisture condensation in the walls. Cabot's "Quilt" is rot-proof, vermin-proof, stays permanently in place and does not settle. Write for free booklet, "Build Warm Houses." Samuel Cabot, Inc., 1271 Oliver Building, Boston, Mass.

Specify
Underground
Steam
Conduit

Which Fits
Your
Exact
Needs

RIC-WIL Standard Tile Systems are furnished with exclusive Dry-
pac Waterproof Asbestos Insulation, or with choice of other insulations, including sectional pipe covering. RIC-WIL SuperTile Conduit insulated as desired, is a heavy duty system for lines run beneath traffic or laid in extra deep and wide trenches. RIC-WIL Cast Iron Conduit is built to railway specifications for use under rail traffic. RIC-WIL Insulated Pipe Units of pre-fabricated Armeo Iron are delivered complete and prescaled, including insulation, pipes, and all accessories. RIC-WIL Catalog sent on request.

Agents in principal cities
SPECIFY "PENNVERNON"

. . . NOT JUST "WINDOW GLASS"

- What makes good window glass? Primarily, two qualities: good vision and surface beauty. Pennvernon Window Glass provides these two advantages in high degree. For a sheet glass, it is remarkably free from the defects which frequently tend to distort vision. And it has a brilliant, reflective surface finish on both sides of the sheet. Look through Pennvernon Window Glass . . . or look at it . . . and in either case, you know immediately that it is a glass thoroughly worthy of quality windows.

PENNVERNON WINDOW GLASS
PITTSBURGH PLATE GLASS COMPANY

"PITTSBURGH" stands for Quality Glass and Paint

FEBRUARY 1941
HERE'S the way to get the great advantages of stainless steel on your jobs! Ludlite Bord is Allegheny Stainless in economical, easy-to-install panels, available in satin and pebbled finishes. Handles like ordinary wallboard—ideal for new work or modernizing, for inside or outside surfaces. Write for specification and data sheets. Address Dept. S-106.

HENDRICK FIXED LOUVRE GRILLE

Ideal for hospitals, hotels, bathroom doors, etc., is the Hendrick Fixed Louvre Grille. Built of a series of strips, bent to a fixed angle and rigidly fastened into a band frame, this unique door grille permits free circulation of air but prevents vision from any angle through the grille. Easil...
Economical buildings, as modern as air transport with
ARCHITECTURAL CONCRETE

The vigorous, growing aviation industry has been quick to capitalize the advantages of concrete as a combined architectural and structural medium. Typical is the Grand Rapids Airport Administration Building, designed for concrete.

Adaptable to almost any shape or form, concrete permits walls, frame, floors and roofs to be cast as a unit in one firesafe, enduring material. First cost is moderate, maintenance low.

Ask your architect or engineer about concrete’s possibilities for your public, commercial or industrial building. Literature will be sent free on request in the United States and Canada.

See Sweet’s Catalog, Section 4-49

PORTLAND CEMENT ASSOCIATION
Dept. A2-7, 33 West Grand Avenue, Chicago, Illinois

A national organization to improve and extend the uses of concrete...through scientific research and engineering field work

Architectural Concrete...combining architectural and structural functions in one firesafe, enduring material
**Safeguard NEW BUILDING WITH TECO TERMITE SHIELDS**

Effective protection in areas where termites are a problem. TECO shields are stamped metal interfitting protectors with self-sealing joints, used at foundation points of termite entry. Get data and details.

Request Literature NOW!

**TIMBER ENGINEERING CO. INC.**
Dept. O-2, 1337 Connecticut Avenue
Washington, D. C.

---

**VICTOR In-Bilt SAYS:**

"I SOLD THIS HOUSE"

In the kitchen, in the bathstall, in every room where the quick, quiet removal of fume-laden air makes living more comfortable — Victor In-Bilt Ventilators make homes truly modern — add that "buy" appeal that sells.

The Victor In-Bilt is essential in modern homes, particularly in kitchens where fresh air is always needed to remove stale air, smoke, and fumes. The round sleeve can be adapted to any wall thickness. Builders like the easy-to-install 2-unit construction.

**VICTOR VS 50-U**

Here is a ceiling type ventilating fan that can be installed with air duct between floors. Two self-acting louvers open and close automatically.

Listed and approved by Underwriters Laboratories

For further information on Victor In-Bilt, write for free catalog illustrating the complete line.

**VICTOR ELECTRIC PRODUCTS, Inc.**
Dept. 19-112
2550 Robertson Avenue - Cincinnati, Ohio

---

**COVERT dampers**

Since 1896, "Covert Dampers" have meant Quality and Dependability to architects, contractors and home-builders. The iron throat relieves the mason of forming the most critical part of the fireplace. Operating mechanism is simple . . . expertly designed . . . and strongly made. The time-proven formula for fireplace comfort and satisfaction is the specification, and use, of Covert Dampers and Covert Smoke Chambers. Please write for helpful literature.

(Thermosaire Fireplace is the Covert complete fireplace that circulates heated fresh air . . . no drafts . . . no smoking . . . moderate in cost. Shall we include facts about it?)

**H. W. COVERT CO.**
339 EAST 48TH STREET, NEW YORK, N. Y.

---

**AUER GRILLES**

Long experience with the needs of architects makes Auer service of special value to you in specifying and detailing metal grilles for air conditioning, ventilating, radiator enclosures, and concealment. Auer makes a varied line of attractive designs, from which you may easily choose those appropriate to your purpose. Write for complete Grille Catalog "G" with full size details and range of dimensions—and specify Auer Grilles by name and number.

**THE AUER REGISTER COMPANY**
3608 Payne Ave. Cleveland, O.
When a flooring is first choice of the leaders, it must be the best. Big builders can pick from the entire field after thorough testing. And, on a project like Rockefeller Center, they can afford anything selected. For asphalt tile Rockefeller Center used KENTILE. Go and see how marvelous these 16 miles of corridors look after 500,000,000 feet have tread on them (to date) and you'll know one reason why. Then question the contractors and maintenance men. You'll learn these facts:

- Kentile is made from the finest grades of American asphalt and asbestos. Its durability is so great that heavy traffic areas laid 14 years ago are still perfect.
- Kentile is completely moisture proof. It can be laid directly on concrete at ground levels and won't rot, mould or disintegrate.
- Kentile's 44 colors can't rub off. They are in the pigmentation right through to the back.
- Kentile floors are cleaned by simple washing and just an occasional waxing. Ordinary acids and alkalis will not harm their smooth surfaces and Greaseproof Kentile (available in 20 colors) isn't even stained by animal or vegetable fats.
- Kentile's design possibilities are unlimited—you create your own patterns with its many sized tiles and 44 marbleized or plain colors.
- Kentile is one of the lowest cost floors you can buy—low in material cost—low because of its fast and easy hand-set, tile-by-tile installation—and lowest when figured in years of perfect wear and easy maintenance.

Know all the facts and technical details about Kentile. See the beautiful range of plain and marbleized colors it offers. Look at our catalogue in Sweet's... and mail the coupon to the right, now!

DAVID E. KENNEDY, INC.
Manufacturers of resilient tile since 1899

DAVID E. KENNEDY, Inc., Dept. B
58 Second Ave., Brooklyn, N.Y.
Please send your 16 page full color book about Kentile.

Name: ____________________________
Address: ____________________________
City: ______________________ State: ____________

Without obligating me in any way, please have your local representative call to give me detailed facts and figures.
WHEN an architect writes specifications, he is underwriting with his reputation the items he specifies. That is why architects generally so definitely specify — "windows to be hung with Samson Spot Sash Cord ..." — they know that sash hung with weight, pulley and Spot Cord give long trouble free service — permanently satisfactory.

SAMSON CORDAGE WORKS
BOSTON, MASS.

SAMSON SPOT
SASH CORD

Specify this New-Type
FIREPLACE

to end the
Heating Problem
in Basement Rooms ...

Circulates Heat to every corner . . .

Heats rooms quickly . . . WILL NOT SMOKE!

Basement game rooms are usually the most difficult in the house to heat. But specify a Heatilator Fireplace and assure yourself that the fireplace not only will do the job . . . not only will be built exactly the way you want it . . . but will assure your clients of quick, evenly-distributed, low-cost heat. Ugly pipes and ceiling radiators are eliminated. Cost is but little more than for an old-fashioned fireplace.

WILL NOT SMOKE

Surrounded by the decorative masonry, the Heatilator is a double-walled steel form around which any style of fireplace is correctly built. It is scientifically proportioned to eliminate the usual causes of smoking and to provide efficient heating of all living rooms, recreation rooms, dens, camps, etc. Write for complete specification data TODAY.

HEATILATOR COMPANY
762 E. Brighton Ave, Syracuse, N. Y.

HEATILATOR Fireplace

PHOTOMURALS

Enhancing the Entrancement

Southbound, these beautiful K. & F. Photomurals will arouse delightful anticipations, revive charming recollections coming back, and create the desire to repeat the experience. Photomurals are infinitely adaptable, lastingly impressive, invariably acceptable. They are illustrated and explained in our brochure, "From Blank Walls to Pictorial Epics," mailed on request. Write today.

KAUFMANN & FABRY CO.
Originators and World's Largest Producers of Photomurals
425 South Wabash Avenue
CHICAGO, ILLINOIS

SWEET'S CATALOG for

BILT WELL WOOD WORK

Nationally Advertised and Distributed
FOR INFORMATION WRITE DEPARTMENT Al
CARR, ADAMS & COLLIER CO.
Dubuque, Iowa

PIVOTED WINDOW for all types of industrial and commercial buildings. Provides maximum daylight and fresh air; improves working conditions; helps increase output. Quickly joined by steel mullions to form bays or Window-Walls.

SECURITY WINDOW gives break-in protection without sacrificing daylight and fresh air ... a fixed steel grille, with an open-in steel ventilator superimposed on the inside.

INDUSTRIAL DOOR for industrial, commercial buildings; for employees' entrances, storerooms, furnace and boiler rooms, fire exits, etc. Swing or slide, single or double.

HOLORIB ROOF DECK, a rigid, extremely lightweight steel deck, self reinforced by triangular ribs. Combined with insulation and waterproofing, it forms an unusually durable, fire-resisting, leak-proof roof.

RESIDENCE CASEMENT for various housing needs. Provides more daylight, better ventilation, easy opening, safe washing, extraordinary weather-tightness, better screens, fire-safety. Quickly, easily installed.

IN EVERY TYPE of industrial, transportation, and utility building ... in military and naval buildings and in housing projects ... Fenestra is prepared to help speed up construction. Quick shipments can be made of the Standard Prefabricated Products shown opposite.

FENESTRA SERVES YOU FASTER AND BETTER

1 You get rush delivery from factories in Detroit, Michigan, and Oakland, California, and from factory warehouses strategically located to make overnight deliveries.

2 You save installation time, labor, materials. Prefabricated Fenestra products are delivered to your jobs already fitted, assembled, even Bonderized (if desired) and prime-painted—COMPLETE.

3 You get top quality—quality that for years has met the exacting specifications of the U. S. Army and Navy ... quality protected from rust by Fenestra's Bonderizing Process.

4 Maximum savings in first cost are the result of maximum manufacturing economies in the shops of America's oldest and largest manufacturer of solid section steel windows.

... For the latest complete catalog information, also engineering data on Airation and Daylighting, mail the coupon below. For quick catalog information, see the Fenestra Blue Book in SWEET'S (32nd consecutive year) ... Fenestra offices are located in 200 principal cities—for immediate, personal service, call a local Fenestra engineer; or telephone Detroit—Madison 7680.
Your most complete source of metal trims for floor and wall covering installations. Nearly 600 types, designs, sizes. Trims for every interior use—in aluminum, brass, white metal, stainless steel, rubber. Also wood cove, tools, accessories. Valuable supplement of architectural drawings, detailed instructions. Get details on Metal Trims trademarked—

SEND FOR YOUR FREE COPY TODAY

THE B & T FLOOR COMPANY
COLUMBUS OHIO

WHEN BUYING FLOOR MATTING 

Ask a—

MATTING ENGINEER!

America's Largest Manufacturers and Distributors Specializing in Matting, offer the most complete matting service in the United States, through a trained staff of engineers who will cooperate in solving your problems.

Write for new complete catalog on "A MAT FOR EVERY PURPOSE"

AMERICAN MAT CORPORATION
Main Offices: 1708 Adams St.
TOLEDO, OHIO, U. S. A.

Save money with these substantial, well made steel louver attic ventilators that are low in first cost, easy to install and make a neat appearance. Large free area permits smaller size ventilator for an equal amount of air flow. Complete with bronze fly screen at back of louvers, made of 20 ga. steel electrically welded, finished with 2 coats of high grade paint. Made in 10 sizes, from 8 7/8" x 11 3/4" to 18" x 36".

For further information, see your local building material dealer or write direct for descriptive folder.

The DONLEY Brothers Co.
13945 MILES AVENUE • CLEVELAND, OHIO

The New Youngstown Pressed Steel Kitchen Book for Architects

EVERYTHING the architect needs to save planning time is included in our new Architects' Book which is yours for the asking.

Yourstowon Pressed Steel
Dpt. 70
Warren, Ohio

Please send me copy of the Architects' Book.

Name
Firm
Street
City
State

THE ARCHITECTURAL FORUM
SCIENCE COMES TO THE AID OF "DIRT-SHACKLED" BUSINESS WITH ELECTROSTATIC AIR CLEANING

For years Building Management has had to accept the costly inroads of D-I-R-T. Dirt that discolors and destroys decorations and fixtures. Dirt that slashes the sales value of fine merchandise. Dirt that is circulated again and again through heating and ventilating systems.

Estimates place this dirt damage at many millions of dollars each year. Damage in the shape of frequent, soaring cleaning costs ... continuous soilage of goods ... ruined displays ... and lost production from delicate operating machines.

NOW—PRECIPITRON* ELIMINATES THIS TOLL . . . With the Precipitron, the architect can offer his clients a positive escape from the invisible yet extremely costly dirt particles. This simple electrostatic air cleaner, developed by Westinghouse, is installed in heating and ventilating air ducts. All air-borne foreign matter, regardless of size, is given an "ionizing" charge and presto—all dirt is whisked out of the air as if by magic.

In Stores, Restaurants, Steel Mills, Telephone Exchanges, Hospitals, Office Buildings, Tool and Die plants and Laboratories the Precipitron is successfully eliminating the damaging effects of dirt, dust and soot.

Why not investigate Precipitron electrostatic air cleaning for your building plans? Full details from your local Westinghouse Sales Office, or write the Precipitron Department, Westinghouse Electric & Manufacturing Company, Edgewater Park, Cleveland, Ohio.

*Trade mark registered in U. S. A.
The advertising pages of THE ARCHITECTURAL FORUM have become the recognized market place for architects and all others engaged in building. Each month these pages offer the most complete guide to materials, equipment and services to be found in any magazine. A house or any other building could be completely of products advertised in THE FORUM. While it is not possible for a magazine to certify building products, it is possible to open its pages only to those manufacturers whose reputation merits confidence. This THE FORUM does.

<table>
<thead>
<tr>
<th>Company Name</th>
<th>Page Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albemarle Stone Corporation of Virginia</td>
<td>58</td>
</tr>
<tr>
<td>Allegheny Ludlum Steel Corp.</td>
<td>78</td>
</tr>
<tr>
<td>Aluminum Company of America</td>
<td>16, 17, 24, 38</td>
</tr>
<tr>
<td>American Air Filter Co., Inc.</td>
<td>29</td>
</tr>
<tr>
<td>American Brass Company, The</td>
<td>87</td>
</tr>
<tr>
<td>American Lumber &amp; Treating Co.</td>
<td>62</td>
</tr>
<tr>
<td>American Metal Corporation</td>
<td>23</td>
</tr>
<tr>
<td>American Rolling Mill Company, The</td>
<td>19</td>
</tr>
<tr>
<td>American Telephone &amp; Telegraph Co.</td>
<td>74</td>
</tr>
<tr>
<td>American Window Glass Co.</td>
<td>56</td>
</tr>
<tr>
<td>Anchor Post Fence Company</td>
<td>46</td>
</tr>
<tr>
<td>Armstrong Cork Company</td>
<td>opp. p. 56</td>
</tr>
<tr>
<td>Auer Register Company, The</td>
<td>80</td>
</tr>
<tr>
<td>B &amp; T Floor Co., The</td>
<td>84</td>
</tr>
<tr>
<td>Bigelow-Sanford Carpet Co., Inc</td>
<td>50</td>
</tr>
<tr>
<td>Borg-Warner Corporation</td>
<td>20</td>
</tr>
<tr>
<td>Brasco Manufacturing Company</td>
<td>31</td>
</tr>
<tr>
<td>Bruce Co., E. L.</td>
<td>66</td>
</tr>
<tr>
<td>Burnham Boiler Corporation</td>
<td>74</td>
</tr>
<tr>
<td>Cabot, Samuel, Inc.</td>
<td>76</td>
</tr>
<tr>
<td>Carey, Philip Company, The</td>
<td>25</td>
</tr>
<tr>
<td>Carnegie-Illinois Steel Corporation</td>
<td>71</td>
</tr>
<tr>
<td>Carr, Adams &amp; Collier Company, Inc.</td>
<td>82</td>
</tr>
<tr>
<td>Case &amp; Son, W. A. Manufacturing Co.</td>
<td>70</td>
</tr>
<tr>
<td>Celotex Corporation, The</td>
<td>11</td>
</tr>
<tr>
<td>Certain-Teed Products, Inc.</td>
<td>78</td>
</tr>
<tr>
<td>Columbia Steel Company</td>
<td>71</td>
</tr>
<tr>
<td>Covert Co., E. W.</td>
<td>80</td>
</tr>
<tr>
<td>Detroit Steel Products Co.</td>
<td>83</td>
</tr>
<tr>
<td>Donley Bros. Co.</td>
<td>84</td>
</tr>
<tr>
<td>Dunham Co., C. A.</td>
<td>60</td>
</tr>
<tr>
<td>Eagle-Picher Lead Company, The</td>
<td>72</td>
</tr>
<tr>
<td>Eljer Co.</td>
<td>9</td>
</tr>
<tr>
<td>Federal-American Cement Tile Co.</td>
<td>7</td>
</tr>
<tr>
<td>Fitzgibbons Boiler Company, Inc.</td>
<td>51</td>
</tr>
<tr>
<td>Formica Insulation Company, The</td>
<td>45</td>
</tr>
<tr>
<td>General Electric Company</td>
<td>32, opp. p. 57</td>
</tr>
<tr>
<td>Gooddyer Tire &amp; Rubber Company, The</td>
<td>19</td>
</tr>
<tr>
<td>Grasselli Chemical Company, Inc., The</td>
<td>34</td>
</tr>
<tr>
<td>Grinnell Company, Inc.</td>
<td>33</td>
</tr>
<tr>
<td>Haskellite Manufacturing Corporation</td>
<td>42, 43</td>
</tr>
<tr>
<td>Heatilator Co.</td>
<td>82</td>
</tr>
<tr>
<td>Hendrick Manufacturing Co.</td>
<td>62</td>
</tr>
<tr>
<td>Henry Furnace &amp; Foundry Company, The</td>
<td>76</td>
</tr>
<tr>
<td>Iz Electric Ventilating Co.</td>
<td>66</td>
</tr>
<tr>
<td>Ingersoll Steel &amp; Disc Division</td>
<td>20</td>
</tr>
<tr>
<td>Insultite Company, The</td>
<td>57</td>
</tr>
<tr>
<td>Jenkins Bros.</td>
<td>13</td>
</tr>
<tr>
<td>Kaufmann &amp; Fabry Co.</td>
<td>82</td>
</tr>
<tr>
<td>Kawneer Company, The</td>
<td>11</td>
</tr>
<tr>
<td>Kennedy, David E., Inc.</td>
<td>81</td>
</tr>
<tr>
<td>Kimberly-Clark Corporation</td>
<td>69</td>
</tr>
<tr>
<td>Kitchen Maid Corporation, The</td>
<td>74</td>
</tr>
<tr>
<td>Kohler Co.</td>
<td>22</td>
</tr>
<tr>
<td>Lead Industries Association</td>
<td>Libbey-Owen-Ford Glass Co.</td>
</tr>
<tr>
<td>Marsh Wall Products, Inc.</td>
<td>Masonite Corporation</td>
</tr>
<tr>
<td>Masonite Corporation</td>
<td>Meda Portland Cement Co.</td>
</tr>
<tr>
<td>Mengel Co., The</td>
<td>Messer Bros.</td>
</tr>
<tr>
<td>Miami Cabinet Divisions</td>
<td>opp. pp. 40 a</td>
</tr>
<tr>
<td>Midco Steel Company</td>
<td>Miller Company, The</td>
</tr>
<tr>
<td>Modine Manufacturing Company</td>
<td>Monarch Metal Weatherstrip Corporation</td>
</tr>
<tr>
<td>National Terrazzo and Mosaic Association, The</td>
<td>(Youngstown Pressed Steel Division)</td>
</tr>
<tr>
<td>Norton Laser Company</td>
<td>Overhead Door Corporation</td>
</tr>
<tr>
<td>Overhead Door Corporation</td>
<td>Cov.</td>
</tr>
<tr>
<td>Parker Rust-Proof Company</td>
<td>Penberthy Injector Company</td>
</tr>
<tr>
<td>Peoria Paint Company, Inc.</td>
<td>Pittsburgh Plate Glass Co.</td>
</tr>
<tr>
<td>Permitherm Harvest Company</td>
<td>Pittsburgh Plate Glass Company, Paint Division</td>
</tr>
<tr>
<td>Pratt &amp; Lambert, Inc.</td>
<td>Portland Cement Association</td>
</tr>
<tr>
<td>RCA Manufacturing Co., Inc.</td>
<td>Regal Radiator Company</td>
</tr>
<tr>
<td>Red Cedar Shingle Bureau</td>
<td>Rich-Will Co., The</td>
</tr>
<tr>
<td>Ric-Will Co., The</td>
<td>Rowe Manufacturing Co.</td>
</tr>
<tr>
<td>Samson Cordage Works</td>
<td>Roofing Radiator Company</td>
</tr>
<tr>
<td>Sanymetal Products Co., Inc., The</td>
<td>(Youngstown Pressed Steel Division)</td>
</tr>
<tr>
<td>Service, Inc.</td>
<td>Tylac Company</td>
</tr>
<tr>
<td>Somers, John, Inc.</td>
<td>United States Plywood Corporation</td>
</tr>
<tr>
<td>Sonneman Sons Inc., L</td>
<td>United States Steel Corporation</td>
</tr>
<tr>
<td>Stanadyne Products Co., Inc., The</td>
<td>Universal Atlas Cement Co.</td>
</tr>
<tr>
<td>Stanadyne, Inc.</td>
<td>(United States Steel Corporation Subsidiary)</td>
</tr>
<tr>
<td>Stanley Works, The</td>
<td>Uvalde Rock Asphalt Company</td>
</tr>
<tr>
<td>Tennessee Coal, Iron &amp; Railroad Company</td>
<td>Van Range, John, Co., The</td>
</tr>
<tr>
<td>(United States Steel Corporation Subsidiary)</td>
<td>Victor Electric Products, Inc.</td>
</tr>
<tr>
<td>Tile Manufacturers Association</td>
<td>Westinghouse Electric &amp; Manufacturing Co.</td>
</tr>
<tr>
<td>Timber Engineering Company</td>
<td>Wood Conversion Company</td>
</tr>
<tr>
<td>Truscon Steel Company</td>
<td>(Youngstown Pressed Steel Division)</td>
</tr>
<tr>
<td>Youngstown Pressed Steel Division</td>
<td>(Mullins Mfg. Corp.)</td>
</tr>
</tbody>
</table>
Here is the durable protection of copper at low cost!

Reinforced "Electro-Sheet" Copper makes a non-porous, long-lasting flashing for spandrel beams.

It's admirably suited, too, to low cost, efficient, concealed flashing around doors and windows.

Concealed flashing of reinforced "Electro-Sheet" Copper...

A positive seal against air infiltration and moisture penetration

Anaconda "Electro-Sheet" Copper is rustproof, windproof and impervious to water penetration. Bonded to high-grade building papers, fabric or asphaltic compounds, "Electro-Sheet" Copper is extremely flexible and easy to install. The copper is supplied in thicknesses of .0013", .0027" and .004" (1 oz., 2 oz. and 3 oz. per square foot).

The moderate price of Reinforced "Electro-Sheet" makes it ideal for use in solving many varied problems in water and damp-proofing. It affords a new way to achieve positive and durable protection at low cost.

Free samples on request

Examine Reinforced "Electro-Sheet" Copper products for yourself. Just ask for free samples and names of manufacturers who supply this material in rolls of various lengths and in widths up to 60".

"Electro-Sheet"
Anaconda Copper
THE AMERICAN BRASS COMPANY
General Offices: Waterbury, Connecticut
In Canada: Anaconda American Brass Ltd., New Toronto, Ont.
Subsidiary of Anaconda Copper Mining Company
During this past year, something big has happened in the building world! The Mengel Company, one of the world's very largest wood-working companies, has aggressively entered the building-materials industry. Backed by years of research—armed with important new patents and licenses—our tremendous plants are running night and day to make highest-quality, lowest-cost production really come true to the building industry!

**MENGEL FLUSH DOORS**

Mengel Gum Flush Doors list at little more than soft-wood panel doors—Birch at only slightly more—and Mengel Mahogany Flush Doors retail at the same price as Birch! But make no mistake about it—despite these low prices, Mengel Flush Doors are the finest on the market—built on the famed Johns-Manville patents and backed by this unique guarantee:

If any Mengel Flush Door warps in service, and does not straighten out within a reasonable time, it will be replaced free of charge, including the installation cost.

Get all the facts today! Ask your supplier, or mail the coupon below!

**MENGEL FLUSH DOORS**

**MENGEL BORD**...3/4", 48"x96" panels of hot-plate, resin-bonded, hardwood plywood—made in two types, Regular and DeLuxe. Regular is built with one-piece Gum faces, in No. 1 and No. 2 Grades...DeLuxe is available with pieced faces of Gum, Birch, Mahogany, Walnut, Oak...Both types immediately available—and sell at amazingly low prices. Mark coupon for details!
THE OWNER WANTED
Natural Light and Adequate Ventilation
so...
THE ARCHITECT SPECIFIED
TRUSCON COMMERCIAL PROJECTED STEEL WINDOWS

A new world of industrial architecture is in process of development. Today, wherever possible or practicable, factories are designed to aid industrial management in its far-reaching program of improving working conditions as they affect the mental and physical fitness of employees. Running parallel with this trend in factory design and construction is the constantly improving utilization of natural light and ventilation. The almost unlimited scope of Truscon Steel Windows provides the industrial building designer with a free range of selection to meet any and every window requirement. In the new "home" of the Pepsi­dent Company, Chicago, Illinois, Clearing Industrial District of Chicago, Inc., Architect, Truscon Commercial Projected Steel Windows provide the desired efficiency of daylighting, ventilation control, ease of operation, and adequate screening and shading. Refer to Truscon's 80-page catalog in "Sweet's" or ask us for an individually bound catalog which explains the respective advantages of all types of Truscon Steel Windows.

TRUSCON
Steel company

56 SALES ENGINEERING OFFICES • 29 WAREHOUSES
YOUNGSTOWN • OHIO
SUBSIDIARY OF REPUBLIC STEEL CORPORATION
Home-owners will sacrifice the size of their house, when building, before quality or convenience. That is one reason why The "OVERHEAD DOOR" is used on small homes as well as large ones. Give your clients The "OVERHEAD DOOR" with the MIRACLE WEDGE... the door that wedges tightly yet opens easily in any kind of weather. The action is up—never out at an awkward angle. Tracks and hardware of Salt Spray Steel are standard equipment. Each door is built as a complete unit and sold installed by a nationwide sales-installation-service.

OVERHEAD DOOR CORPORATION
HARTFORD CITY, INDIANA, U.S.A.