HE ARCHITECTURAL

FEBRUARY 1941

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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.

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Editor, Howard Myers; Managing Editor, Ruth Goodhue; Associates, Paul Grotz, Joseph C. Hazen, Jr., C. Theodore Larson, George Nelson, Henry H. Saylor, Henry Wright; Assistands, John Beinert, Anna De Cormis, Richard E, Saunders, Madelaine Thatcher, Nadia Williams, THE AucHTECHTERAL FORTM is published by Time Inc., Henry R. Luce, Chairman; Roy E. Larsen, President; Charles L. Stillman, Vice President and Treasure; Howard Black, Allen Grover, Eric Holgins, P. L Prentice, Vice Presidents; David W. Brumbaugh, Sceretary, Publication and Subscription Office. Eric Ave., F& G Streets, Philadelphia, Pa. Subscriptions may also be sent to 530 Esat 22nd Street, Chicago, Illinois, Executive, Editorial and Advertising Offices, Time & Life Building, Rockefeller Center, New York, Rusiness Manager, H. A. Richter, Advertising Manager, George P. Shutt, Address all editorial correspondence to Time & Life Building, Rockefeller Center, New York, Vearly subscription, payable in advance, U. S. and Possesions, Canada, Cuba, Mexico, South America, \$4.00. Elsowhere \$6.00. Single issues, including Reference Numbers, \$1.00. All copies Pan American Copyright Convention. Copyright, 1941, by Time Inc. Printed in U. S. A. VOLUME 74-NUMBER TWO

THE MONTH IN BUILDIN

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 cost 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 116.3 per cent). PERMITS

(Source: U. S. Department of

| | N | Ionthly Dat | ta | First Elev | ven M |
|--------------------|------------------------|--------------------|-----------------------|--------------------|------------|
| N | lov. 1940 millions) | Compar Oct. '40 | ison with Nov. '39 | 1940 (millions) | Com wit |
| Residential | \$97.1 | -39% | - 8% | \$1172.4 | |
| Non-residential | 139.8 | -14 | +222 | 783.7 | |
| Additions, repairs | 22.3 | -24 | <u> </u> | 315.0 | - |
| Total | 259.2 | -22 | + 51 | 2271.1 | 1 |

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 Los Angeles project, a similar amount in San Francisco. While plans for the Los Angeles development are nearer crystallization, progress has been tied up by petty legal difficulties. Mrs. Mabel K. Ostbye, owner of an apartment adjacent to the site on which the Met wants to build its 2,400 dwelling units, has been granted a temporary restraining order. She has questioned the constitutionality of legislation permitting insurance companies to invest directly in housing, has branded the tax provisions unjust, has claimed discrimination against smaller insurance companies and has argued that there is already a sufficient supply of housing in the neighborhood. The Met and most impartial observers believe that the lady has no case. Construction will probably start this year.

To be completed late this spring, the Met's \$50 million, 12,000-family Parkchester in New York City's Borough of the Bronx has every available apartment (5,200) occupied and promises to be filled up after the October renting season. It is the unchallenged claimant of the world's record for project size.

Unlike its Bronx prototype which was directed by a seven-man board of design chairmanned by Architect Richmond H. Shreve, Los Angeles' "Parkchester II" will be designed by New York Architect Leonard Schultze and Associates (E. V. Meroni, Lloyd Morgan and William Sunderland) whose landmarks include Manhattan's swank Waldorf Astoria Hotel. A local architect will supervise construction, contract for which will be negotiated with Starrett Brothers & Eken, builders of Parkchester I and the Empire State Building. "Parkchester III" at San Francisco will also be designed by Schultze, built by Starrett.

While plans for the Los Angeles project are as yet tentative, it is reported 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, that balance of the 173-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, 309-unit public housing project now abuilding in Washington.

INDUSTRIAL REALTY. Obviously essential to an intelligent industrial expansion program, a comprehensive survey of existing production plants, going as well as ghostly, was not missed until national defenders began to look for it. Also sadly 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



Industrial Realtor Walter S. Schmidt

questionnaires to manufacturers the try over, asked them to supply vita tistics concerning their plants and cent small and vacant shops which easily be overlooked. Answers to the tions were due back in NAM's off January 25, which President Fulle set aside as "Preparedness Through duction Day." Thence, they were to the Defense Commission in Wa ton. Through this census of itself, Industry hoped to muster into serv factories and facilities "even to every alley machine shop, every obscure try foundry, every hole-in-the-corne shop."

Task of keeping this information date as well as providing similar on industrial sites and warehouse assumed last month by the Society dustrial Realtors, an offshoot of National Assn. of Real Estate created for this purpose. At its January organizational meeting, the trial real estate specialists adopted laws aimed at the "promulgation o founded standards of practice and e pledged cooperation to manufac financiers and Government, received congratulations of RFC-Commerc partment head Jesse Jones and elec first president, prominent Cincinnat tor Walter Seton Schmidt.

White-haired and dark-eyed at a dustrial Realtor Schmidt is an apt He is or has been president of a companies operating in the building alone, including his own Fred'k A. S Co., the Queen City's largest realt, Well known to the entire real esta ternity, he has been president of NAREB and NAREB's research educational subsidiary, the Nationa Estate Foundation. For his local educational and philanthropic ac and those of his ancestors, the Cin Post once knighted him "a civic by heritage." By uniting experience dustrial realtors throughout the c in his most recent presidency, Schmi offer his greatest service.

PULSE UP. At year's end, the tional Assn. of Real Estate Board

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EBRUARY 1941

THE MONTH IN BUILDING

the pulse of the defense-dizzy building industry, month ago announced the returns 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 an actual shortage 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 \$125 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 at the Bureau of Standards 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 Federal 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 have to comply with local codes, 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 intercede 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.

Vetoed 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 re-introduced to 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 business area assessed valuations had dropped \$60 million since 1904, 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. Thus, in the single blighted area selected for detailed analysis by the merchants, assessed values rose from \$68.4 million in 1889 to \$158.9 million in 1909 but, except during the booming Twenties, have declined ever since to a total of \$97.9 million in 1939. Moreover, while the market value for the property was 124 per cent of assessed value in 1919, 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 down for more than a year without any substantial signs of property improvement indicates further that redevelopment corporations should be permitted to come to rescue. Since they could buy most of properties in a given block and and the balance via condemnation, the h existing hurdle in the way of large rehabilitation would be easily clear stubborn property owner who will n sell nor modernize may now disco action on the part of his neighbors.

BUDGET FOR BUILDING.

observers thought that President I velt would submit to Congress budget for the fiscal year ending June, 1942; few thought it would co a whopping \$17.5 billion (up \$4.3 bi but it did. Most observers also th that non-defense spending woul slashed all down the line, but again were wrong. While defense costs a be upped 65 per cent to \$10.8 b non-defense items will drop only cent to \$6.7 billion. The anticipated ing turned out to be only a trim which was editorially described b Press as "petty," "disheartening" "wholly unimpressive."

For Building's various Gover agencies and bureaus the President's budget means but little change:

▶ Chief exception to this rule is the tect of the Capitol whose office w about \$4 million, almost double the total. Repairs and improvements Capitol building and grounds accour most of the boost.

▶ The Federal Home Loan Bank will get \$1.5 million for adminis expenses, up \$150,000 in line with crease in the assets and members member institutions. Most of the fund will foot the cost of additiona examinations and increased supervis the Federal Savings and Loan Ins Corp. This subsidiary will receive a istrative funds totaling about \$3 or some \$90,000 more than this year other FHLBB subsidiary, the Home ers' Loan Corp. will be docked \$2. lion, assumption being that the a \$19.4 million will be sufficient to the decreasing number of HOLC's closed properties.

▶ The Treasury will have to rein the Federal Housing Administration tune of \$13.8 million, only slightly than in the 1941 fiscal year. Clain Title I modernization loan insurance tinue to be FHA's prime and most headache. If, as is expected, Congretends Title I beyond June 30, FH require more money.

▶ The Public Buildings Administra due for a \$4.4 million raise to \$20 lion. Justification for the raise: rent ation, maintenance and repair expen buildings within the District of Col will go up with defense expansion.

▶ Since U. S. Housing Authority ha pleted the primary phases of its clearance and low rent housing pr and will reach its construction pea year, it takes a \$835,000 cut in a istrative expenses to \$3.7 million.

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FORUM OF EVENT

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."



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FORUM OF EVENTS



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(Continued from page 10)

THOSE WERE THE DAYS

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



BOOTH'S THEATRE (1869)—"No such temple consecrated to drama has even been reared before—it was reserved for latter generation and the New World to unite all the as a lasting testimonial and a splendid monument."—New World, Feb. 4, 1869.



THE EQUITABLE BUILDING (1887) — "The architectural treats of the exterior gives the impression that it is of five very stories, with an immense Mansard roof.... Really, the nur of stories is twice as many, as each space is divided by a line."—King: "Handbook of New York."

(Forum of Events continued on page

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

Fig. 1010-6", 8", 10", 12" Total of 14 valves on main beader

Initial Cost (14 Valves) . \$4,923.51 Annual maintenance - \$12.00 (14 Valves) Years of Service . 25

Cost-per-year (per value) . \$14.92 and they're still going strong!

EN WHO BUY VALVES ON Speci COST-PER-YEAR BASIS

FORUM OF EVENTS



AN ENGINEER EXHIBITS HIS HOBBIES

(Continued from page 12)

Among the wall panels allotted last month to members of the Arel tectural League was one that stole the show from the architec designers and decorators. Bassett Jones, electrical engineer, might ha dazzled the audience with the water-steam-sound-light orchestra and other illumination in the New York Fair fountains, or some of H achievements with elevator transportation. Instead he exhibited H hobbies—commercial fishing, boat design, the literature of polar enploration, and pine trees. At the dinner which opened the exhibited he confessed that it was his hobbies rather than his professional labor 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.





Walter B. Lane Photo.

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.



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



His documents on polar exploration transcer the usual collection status, will one day join t treasures of some public museum.

(Forum of Events continued on page 4.



PENBERTHY INJECTOR COMPANY

Manufacturers of Quality Products Since 1886

Canadian Plant: WINDSOR, ONTARIO

DETROIT, MICHIGAN





wére rootin' for Aluminum Windows

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.

The book, "Windows of Alcoa Aluminum," lists the manufacturers and pictures many of their windows. For a copy, write Aluminum Company of America, 2166 Gulf Building, Pittsburgh, Pennsylvania.



DEFENSE COMES FIRST

15

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.

BOOKS

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 smug judgment that all that was very quaint may be merely sophomoric. "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.

DOMESTIC ARCHITECTURE BY H. T. LINDEBERG. Introduction by Royal Cortissoz. William Helburn, Inc., New York. 328 pp., illustrated with photographs and drawings. 11 x 14¹/₄. \$15.

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 man's work during the country's dalliance with eclecticism shows a surprising lack of conformity. Most of the great houses acknowledge the bloodstream of the English Renaissance, but



ENTRANCE FRONT, HOUSE OF MRS. R. BOYER MILLER, WENHAM, MASS.

never fail to assert their own distinct individuality and a dain of borrowed forms. Practically all of them reveal phatically the touch of a master of materials. Brick, s wood, iron come to life under a sympathetic hand. Again again the old materials surprise us in new uses. One senses a affection for materials—the sort of thing that also distingu Lutyens' work.

A graduate of the McKim, Mead & White office, Lind has given the country an alumni group of his own: Wi Warren of Birmingham, John Staub of Houston, Wi Treanor and Maurice Fatio of New York and Palm B William Byers Hays of Cleveland, Herman Brookman and Morin of Portland, George Senseney of Chicago, Roy V and P. R. Wilson of Montreal, Musgrave Hyde, Irving H William Shepherd and the late Penrose Stout of New Yo a distinguished company of architects.

Excepting in the early days of his practice, before the mination of the firm Albro & Lindeberg, comparatively has appeared in the professional journals. The present r of this distinguished office should find a widespread welc

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

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

OLD FURNITURE FOR MODERN ROOMS, by Edw Wenham. The Studio Publications, Inc., New York. 204 illustrated. 5½ x 8¾. \$2.50.

The conventional treatment of period furniture embalmed countless books on the historical styles is given a new thoroughly practical twist in this useful guide for the lay The new approach consists of the author's eminently reable assumption that the great majority of people, who prefer the traditional types of furniture, are more interin its usability in their own homes than its value as pote material for museums. The popular furniture styles, Sher Heppelwhite and Chippendale, are discussed in conside 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 can be found.

For the protection of untrained buyers, there are a num 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 t Photographs which supplement the text and sketches are the most part well selected and show rooms in which piece various periods have been combined.

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





The M. M. Cohn Company, of Little Rock, Arkansas, uses Goodyear Wingfoot Rubber Flooring to good advantage in its new store

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!

Residence of W. H. Wildes, Dallas . . . Thomson & Lanum, Architects

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This KOOLSHADE Screen is completely stopping the full blast of the sun! Hard to believe? Yes, but-

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So you can see the force of the sun that streams in!

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KOOLSHADE STOPS THE SUN HEAT OUTSIDE OF THE WINDOW GLASS... REDUCES SOLAR LOAD AS MUCH AS 80% TO 85%

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SUN

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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.

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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.

Start with a strong foundation

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.

SPECIFY. .. "Aluminum House Paint", made specially for priming wood. Sold by many well-known paint companies and labeled with this Aluminum disc and wood background. Names on request.

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EXTRA THICK and EXTRA TOUGH FOR SUPER SERVICE ON FLOOR OR ROOF

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 $\frac{1}{2}''$ 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

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Approved by Underwriters' Laboratories for "Class A" built-up roofing, when applied in accordance with their instructions, on slopes up to and including I" to the horizontal foot.

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Above—Charles R. Rowan Post 228, American Legion, Altoona, Pa. Alternate red and black sections of Carey Elastite Asphalt Tile Below—Shipping Department of The Hennegan Co. Heavy Duty Asphalt Flooring for industrial use.



LETTERS

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 with FWA Washington, D. C.

Colonel Wilson's praise of PBA appears overgenerous. Latest statistics available in the press at closing time show that to the 25 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 2.8 per cent behind its requirements. If "the Army could do no better itself," perhaps it should borrow the Navy's landing force.— ED.

Tin Cups

Forum:

... For months and years we have listened to the beating of the editorial tom-toms about the high cost of homes and the impossibility of erecting homes within a price range accessible to the small income group. Do you know why, we, contractors, are unable to lower the price of homes without sacrificing quality? Or to modernize and remodel at a price within reach of that large group? Exorbitant wages? Not altogether. Shorter working hours? No. The Damoclean sword above every effort to produce better homes at lower prices is the system of tin cups that beset the way of the builder no matter in which direction he travels....

Go to a lumber merchant. Your client wants a Morgan door, a Curtis cabinet or mantel, a bathroom modernized with Marlite. What does the merchant do? He thumbs through the various catalogues, takes a price list, adds a lot of mysterious looking hieroglyphics to the price in the lists and there you are. He has to send for it. He does not warehouse it, nor assume any risk, but he must have his 40 per cent cut to relay my order and send the check for the goods ordered and received a total cost of two three-cent stamps, plus some stationery and clerical work.

That is one of the greatest obstacles that besets the road to cheaper and better homes. The distribution of the products of mass production is so inefficient that it eats up more than the savings achieved by modern factory techniques. We are burdened with too many cartels, trade asso-

26

ciations, 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.

ROWLAND A. BEENS

Grand Rapids, Mich.

Incomplete is Reader Beens picture. True there are dealers who perform the none-too-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 eash 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.—ED.

Design Encroachment

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 constructing 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 material such 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, by by considerations of local laws, the diff of the editors would be increased, and important, work meriting publication m omitted. THE FORUM fully agrees the architectural profession must defend from encroachments, legal or illegal, pr convincing argument by Albert Kahn encroachment trend in its December page 501.—Ep.

Radiant Heating (Cont.)

Forum:

I thought that my experience wi radiant heating system in my (ARCH. FORUM, Sept. 1940, pp. 1 would interest you, especially sin reactions of visitors to the house been quite interesting.

Although we turned the heat on year ago, about December 10, 195 house was not completed and we d actually live in it until early spring winter was a cold one and we kep the floor and ceiling coils operating the house was being finished, wi thermostat set at around 60° to 6 the weather became mild, howeve we were occupying the house mor stantly, I turned the floor coil off in not to be over-heated during the spring weather. Operating under th ing panels alone we found that we reset the thermostat upward cons until we reached a setting of aroun to 75°.

My wife and others assumed from that the system was more or "flop," they not being aware of the that they were living over a relacold floor and that higher air ter tures were necessary only to overcome flects of that cold floor.

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

When the cold snap came, however circulator was kept in action mor quently, so that the floor became remained rather warm, and my wife to her amazement that she had to the thermostat down day after day, now, with temperatures remaining 20° and lower, we find a 60° setti the thermostat the most favorable.

This letter may read as thoug have had a lot of fussing around on the heating system, but in reality has been very little of that, and h what I have done has been not so because it was necessary as because still playing around trying to learn thing about this new toy. Were I exbuild another house, I would cert use radiant heat in it.

JAMES H. HANK

Redding, Conn.

"After 9 months' mill operation, IVANHOE Fluorescent Lighting paid us specific profits..."



and automobile fabrics.

Increase in weaving efficiency on one type automobile fabric from 81% to 84%, with a decrease of 22% in mending costs

Increase in weaving efficiency on another type of auto fabric from 83% to 87.7%, with a decrease of 25% in mending costs

Increase in illumination in many departments to 50 foot candles and more, at a surprisingly low increase in cost

Increase in mill operatives' earnings through easier, quicker and better production

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

The "50 FOOT CANDLER" is the first RLM Continuous Fluorescent Lighting System providing 50 foot canles of general illumination. Outstanding feature is ts "built-in wireway" (each fixture contains its own vireway channel, complete with wiring and all oprating auxiliaries) making possible reductions up to 10% in the wiring system—cutting installation costs rom 30 to 50%.

For full details about this new and better lighting ystem which does not eat up too great a proportion of total building costs, we suggest you send for "50 GOOT CANDLER" Bulletin 1C, and let us make an early ppointment for you with a Miller Lighting Engineer.







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

Higher illumination at no in-

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 installationwith 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—with consistent-dayto-day "best-seeing" conditions for maximum employee efficiency and comfort

Simplified, less expensive maintenance—easy-to-clean porcelainenameled fixtures, reflectors completely removable without disturbing wiring

Allowance for future growthincreases in illumination as high as 45% practical to meet changed lighting needs; lowest possible obsolescence factor

RLM Continuous FLUORESCENT LIGHTING SYSTEM



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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)

TRIBORO HOSPITAL FOR TUBERCULOSIS




MAICA, QUEENS, NEW YORK CITY



EGGERS & HIGGINS, ARCHITECTS



amuel H. Gottscho Photos

he trend toward the treatment of tuberculosis at its point rigin, rather than at high altitudes, receives its final up of approval with the completion of this huge (550) unit serving New York's boroughs of Brooklyn, ens and the Bronx and situated almost at sea level in midst of the area which it serves.* Built on an unoccuportion of the grounds of the older Queens General pital, with which it shares enlarged power, laundry, gue and some administrative facilities, the new buildis nevertheless largely self-contained, with its own hens, pharmacy, offices, social service department, ary and laboratory. These facilities, in addition to the ic, out-patient, admitting, and operating departments, upy the basement, first and second floors; patients' ds the upper seven stories.

he general plan of the building is the result of a com-

promise between an awkward site, which faced west, and the needed length and desirable southernly 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 $13\frac{1}{2}$ 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.

tated mostly by the convenience of both patient and health authoriit is also argued that this reversal of the older practice of "curing" refied atmosphere makes the convalescent's return to normal life in stomed surroundings an easier adjustment.

TRIBORO HOSPITAL FOR TUBERCULOSIS

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.



OUT-PATIENTS' LOBBY



EGGERS & HIGGINS, ARCHITECTS







OPERATING

STERILIZING

FLUOROSCOPY



LABORATORY

TRIBORO HOSPITAL FOR TUBERCULOSIS

EGGERS & HIGGINS, ARCHITE

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.





NURSES' STATION







D WARD



BED WARD

UTILITY ROOM



PNEUMOTHORAX



TRIBORO HOSPITAL FOR TUBERCULOSIS

SERVICE

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.





KITCHEN, DIET KITCHEN









EGGERS & HIGGINS, ARCHITECTS

JOHN KENNEDY & CO. GENERAL CONTRACTORS

CONSTRUCTION OUTLINE

FOUNDATIONS: Reenforced concrete. Waterproofing—Koppers Co. STRUCTURE: Exterior walls—12 in. brick,

1 in. air space, terra cotta and furring and plaster. Interior partitions—terra cotta and metal and glass, Farber-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. SHEET METAL WORK: Flashing—copper. Ducts—galvanized and stainless steel.

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

WINDOWS: Sash—Double hung steel, S. H. Pomeroy Co., Inc. Glass—double strength, Pittsburgh Plate Glass Co. Glass blocks— Pittsburgh-Corning.

STAIRS AND ELEVATORS: Stairs-steel, Wander Iron Works. Elevators-Otis Elevator Co.; doors-Dahlstrom Metallic Door Co. FLOOR COVERINGS: Kitchens-flint tile. Toilets, baths, sterilizing room-ceramic mosaic tile. Corridors, patient's rooms, solarium, offices, library and assembly roomsasphalt tile, Leitch Mfg. Co. Other areas and main lobby-terrazzo.

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

WOOD AND METAL TRIM: Trim-hollow metal and wood. Main doors-bronze, Suburban Bronze Co.; others Superior Fire Door & Sash Co., Metal Door & Trim Co. and Hope's Windows, Inc.

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

PAINTS: By U. S. Gypsum Co. and Pittsburgh Plate Glass Co.

ELECTRICAL INSTALLATION: Fixtures-Cassidy Co.

PLUMBING: Cast iron pipes by Central Foundry Co.; brass pipes by American Brass Co.; wrought iron pipes by A. M. Byers Co.; steel pipes by National Tube Co. Valves Walworth Co. Pumps—Dayton Dowd Co. Sterilizing equipment—Hospital Supply Co. Toilet fixtures—Crane Co. Kitchen equipment—Nathan Straus-DuParquet, Inc. Refrigerators— Jewett Refrigerator Co. Laundry equipment —Troy Laundry Machinery, Div. American Machine & Metals, Inc.

HEATING AND AIR CONDITIONING: Vacuum system. Air conditioning—filtering, dehumidifying, cooling, Carrier Corp., Worthington Pump & Machinery Corp. Boiler— Union Iron Works. Oil burner—Combustion Equipment Corp. Radiators—Pierce Butler Mfg. Co. Grilles—Register & Grille Mfg. Co. Regulators—National Regulator Co., Minneapolis-Honeywell Regulator Co. Vacuum pumps—W. B. Cannon. Filters—American Air Filter Co.

SPECIAL EQUIPMENT: Cubicles around patients' beds—H. L. Judd Co. X-Ray equipment, Scialytic operating lamp and Sterilamps, all by Westinghouse Electric & Mfg. Co., X-Ray Division.

1. BAKERY

2. CART WASHING ROOM

3. NURSES' DINING ROOM

BUILDING FOR DEFENS

HEADWAY AND HEADACHES

STATE OF THE PROGRAM

At year's end, "bottleneck" gave way to "delay" as most overworked word in the national defense vocabulary. Manufacture 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, overoptimistic 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 per cent behind schedule, according to latest available statistics from the Labor Department. The delay amounted to about four days' work.

▶ With most of its \$1.1 billion under contract, the Army had 24.1 per cent of its construction complete—3.1 per cent 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 (p. 54, col. 3).

▶ 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. 1940, 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 per cent complete but only 2.8 per cent shy of expectations at November's end.

▶ To the list of 80 new manufacturing plants for which the Army and Navy at year's end had let contracts totalling about \$700 million, many small additions were made last month and several sizable ones: a \$10.7 million TNT plant to be operated by Trojan Powder Co. at Sandusky, Ohio; a \$11.8 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 abuilding 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).

▶ Sorriest record to date for any section of the defense construction program is that for defense housing. With the exception of the Navy's individual program which has capitalized on prefabrication (pp. 84-86), defense housing is not only behind schedule but has hardly started (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 \$4.2 million worth of bath tubs, 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. 3).

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, cocaptained by Messrs. Knudson and Hillman. Today, after the non-Navy defense housing program has sunk six months deep into a bog of Government red tape, interagency competition and petty jealousies, "Chuck" 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 d mine and measure the need for hou pass his findings on (with the Presid cursory approval) to Federal Works ministrator John Carmody who holds non-Navy defense housing purse str Jealous of Palmer's rank, Carmody not followed his recommendations wit time-consuming arguments and peace rupting bickering concerning the typhousing needed.

With an over abundance of bosses defense housing program has thus suf from divided authority. Hereafter, Pa alone will be responsible for the ad delays and mistakes, and chances are with control vested in one man, action and more houses will be sh seen. While under the new set-up, Pa still has no punitive powers with v to crack down on recalcitrant how agencies and their officials, he is now direct representative of the Presider whom he may squeal when trouble i countered. To the President, as all is reserved the power to make his ho toe the mark, but the fact that they he has a housing trusty in Palmer keep them in line.

Other important duties assigned Palmer include: 1) determination of fense housing standards in which NDAC's Elliot, Hillman and Hende had heretofore kept a finger; 2) coord tion of research data which all hou agencies, although they have held bac the past, are now required to make a able to him; 3) review of all prop housing legislation and the recommention of whatever additional legislation himself may deem necessary.

Looked at in another light, Pal elevation to a position just shy of K sen's is a tremendous vote of confid by the President-a vote which indi that usually well-informed Roosevelt reason to disbelieve many of the challeveled at Mr. Palmer. Columnist Washington's Times-Herald have calle "ministrations . . . one of the biggest] of the defense program," and New Y PM has rebuked him for his desire to upset the private building indus Hope is that this commendable desire now be reflected in more defense how jobs for private architects. The fo article was probably inspired by NDAG missioners who dislike Palmer (the o of both Hillman and Elliot would p to have the defense housing under wings) and the latter, by professional lic housers in USHA who to date

ved only small scraps of the defense ng assignment (p. 83, col. 2). With new authority, Palmer is well above reach of these poison arrows—even which are fired indirectly from C bows.

all (160 lbs., 5 ft. 71/2 in.) and baldt 48, Charles Forrest Palmer has a ob to perform in his new high chair. de of jealous Government circles, private and public housers have cone in his ability to do it right. (By ience Palmer is both a public housing al and a building owner and realtor-RCH. FORUM, Aug. 1940, p. 2.) To he has made a few obvious mistakes, cularly in his staff appointments, but as had neither the power nor the tunity to make many serious, irrele ones. Today, all responsibility for uick and proper administration of efense housing program is his. If it t of the bog by spring, national ders will know whom to credit.

T CONTROL

th housing rents swinging upwards in a defense-pinched community, the nal Defense Advisory Commission month set out to halt any undue eering. Interestingly, the move was , not by Housing Coordinator Palmer, y NDAC's Consumers Division Comoner Harriet Elliot. The move: apment of a committee to draft model and local legislation to maintain "at levels which are not unjustifiably and which at the same time, are fair alty owners."

picking a chairman for the commitf fourteen (including lawyers from ities coast to coast), Madame Elliot d the broad shoulders of Public er Edward Weinfeld, New York State pissioner of Housing, who, for lack cal cooperation, has been able to for a single housing project only a slice of the \$250 million State fund t his disposal a year ago. Chairmanof this committee came to young



controller Edward Weinfeld

(39) but balding 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 disasterous 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 \$500 million and would produce 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 variously estimated for 1941 at from \$3 billion to \$5 billion.

DEFENSE HOUSING

Proof of the need for last month's shakeup in Federal defense housing procedure (p. 82, col. 2) is the miserable record to date of the non-Navy program. While location of 101 projects totaling 31,384 dwelling units had been approved at mid-January-up to that time, Defense Housing Coordinator Palmer'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 23,538 dwelling units—was under contract to the tune of \$48.3 million, and all but three small projects were under construction. (Prefabrication has been called upon to help speed the Navy's program; for prefabricated examples 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" projects 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 FWAdministrator 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 predicted the defense housing stalemate outlined above, the record brings no surprise, but a hope that empowered Coordinator Palmer will decentralize 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 steered clear of all defense-boomed housing markets except those that stand a good chance 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 ... THE NAVY TURNS TO STEEL

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 employes. 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) abuilding. 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.G. L, a subsidiary of huge U. S. Steel Corp., is filling the Navy's biggest individual assignment, the production of parts 100 twelve-family two-story apartment buildings to house shipyard employes 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

and prefabrication to boost its defense housing progr T. C. I. and Stran-Steel lead the field, frame 3, dwelling units.





T. C. I.'s plant at Birmingham, Ala., has an annual capacity of about 25,000 tons-the equivalent of about 4,200 dwelling units like those at Quantico (opposite) which contain about six tons each. Three shifts of 66 men each now operate the equipment day and night to supply the 100-unit Quantico project and the 1,250-unit Newport News project. In the view of the prefabricating shop (top) a power press is seen in the right foreground, a drying oven in the left foreground. After being sprayed with a zinc oxide preparation, panels move through this oven suspended on



hooks, are baked for 45 minutes at : In the background is the assembly I framing and covering jigs where panels of galvanized iron are electricall welded to framing members to form panels. Leaning against a stack of par the T. C. I. warehouse (lower left) ar typical framing members for the two apartments at Newport News. Left to they are: 1) a window panel, 2) a 2 ft. mediate panel used to center regular panels—unlike T. C. I.'s stock design Navy's Newport News project is not

^{*}For past performances, see ARCH. FORUM, Jan. 1939, p. 68; March 1939, p. 221; Jan. 1938, p. 107; Feb. 1938, p. 166.



wall panels go up at the end of a Quantico house after they are d together in a horizontal position. Note that only two men are red to manoeuvre the entire section. Cross-braced panels reend the corners. Floor is concrete. There is no basement.



I.'s job is finished with the laying of the roof. For each twoly house its bill of goods includes 38 wall panels, 24 roof panels, gable ends and trusses. All told they weigh six tons per unit. at 80 man-hours are required to assemble the parts.



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



Black insulating 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 s-braced wall panel used at all corners added strength, 5) a roof panel viewed a the underside. Headed out of the plant a truck load (lower right, opposite) of lpanels and second floor joists for Newinilar, except that the panels are only -story high. Viewed to the right is a rly complete group of the 100 Quantico ses with their steel casement windows steel chimneys in place. Concrete floors finished with 1/8 in. asphalt tile.



STRAN-STEEL DEFENSE HOUS

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 \$336,870, it follows that each of the 100 T.C.I. houses will cost about \$3,369. 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 twostory 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 re of two-story flats. Looking down the second story of one of the rows, the top view shows the extent of the steel work. In addit to all framing members, the forms for the poured concrete sec floor are of metal, the latter being corrugated galvanized in Center view shows insulating board being nailed into the critiing slots in the Stran-Steel studs. Roofs are sheathed with p wood, 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 cament windows. Navy-designed floor plan (left) shows a typ combination of one-bedroom and two-bedroom flats. The o story flat is sometimes added to the end of a two-story building as seen in the center view above.

ILDING FOR DEFENSE ... 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.

s typified by the T.C.I. houses dised on the preceding pages, most mass uction attempts to solve the low cost e problem have involved only a halfted change from tradition. Thus, T.C.I. ly fabricates the frame of steel, erects cording to traditional designs, encloses finishes most of it in the traditional ion and equips it with traditional fixs. Most other prefabricators follow suit ther they work in plywood, concrete or . Their houses are essentially convenal ones, unconventionally produced. their costs are held to about the same of their wholly conventional comors by the tight limitations of tradi-

o traditionalist is Harvard Professor rchitecture Martin Wagner, one-time in town planner, who began earnestly tudy the problem of mass-produced ing for the masses long before he came he United States. Having taken an ptly different approach to the probhis projected solution is unique in its y detail-design, construction, site ning, finance, operation and mainnce. Based on an expandable and contable steel house of individual igloorooms, the Wagner plan may be critd on a few major and obvious counts, it has much to commend it. And, in of the defense-inspired demand for cost, quickly produced houses and ernment's bogged-down attempts to t it by traditional means, the Wagner se is a timely contribution. In fact, ernment housers today are secretly idering a similar steel igloo-like unit ch a mid-west grain bin manufacturer mises to turn out at the rate of 500 day and which will be completely ented in the March FORUM.

ECT

he "MW house," as its inventor has lly nick-named it, was originally deed to serve the devastated regions of hquake-haunted Turkey, and through ew York exporter, Wagner is still purg his original purpose. But, its design construction spring from U.S. as well Turkish needs. Without preconceived as as to what a house should be, Wagner ted from scratch, set out to produce a elling which would be, 1) extremely low cost and therefore, 2) capable of being ss produced, 3) expandable and coutable like the size of a family, 4) vable, also like the modern family, 5) of against practically everythingthquake, hurricane, fire, air raid, insect l vermin, sand and dust storms, inside l outside noise, heat and cold, rain and w, 6) commercially successful. It was



Basic unit of the MW house is a thirteen-sided conoidal room to which a small lavatory and stall shower are attached (below). Interconnected with small halls, these units produce a four-room house (above). "Murphy beds" drop down into the kitchen-living room or into the side-yards for outdoor sleeping. For a less radical variation of the basic plan, see top of next page.



felt that this last objective would be automatically met if the first—low cost—could be attained without sacrificing any of the other desired qualities.

PROJECT

With each move measured by these limitations, development of the MW house finally took the form illustrated on these pages. A circular plan was selected, because a circle encloses the greatest area with the least perimeter. Atop it went a conoidal or hemispherical enclosure, because this form is self supporting and sturdy. Insulated steel panels comprise these walls, because they may be punched out cheaply and quickly like automobile fenders. The finished product is a oneroom house 11 ft. 10 in. high and 16 ft. 9 in. in diameter which harks back in design and general appearance to such primitively simple housing types as the igloos, stupas, mud huts, etc., yet is "streamlined" like the most modern automobile.

Compressed into the basic unit is the minimum space (200 net sq. ft.; 1,500 net cu. ft.) and furniture necessary to a family of two—two beds, a table, three chairs, a range and closets. A shower, lavatory and toilet are contained in two appendages. Once mass production has been achieved, Wagner estimates that this house complete with utilities but excluding detached furniture could be marketed at a profit for about \$670 in place on the lot. As the owner's family grows in size and wealth, it may purchase additional bedroom units, complete kitchen and bathroom units, playroom units, study units,



etc., which would be inter-connected by 4 ft. enclosed "halls." Later as the children marry and the family shrinks in size, the extra room units may be sold; 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)



Cramped but livable is this variation of the basic MW unit, which could be mass produced a estimated cost of about \$329 for parts, \$16 for crating, \$25 for 100-mile delivery, \$30 for et ion, \$40 for profit and royalties, \$50 for retailer margin and \$10 for miscellaneous expe (a total of \$500) plus a total of \$170 for both of the bathroom appendages—a grand tota \$670, exclusive of land.



Construction of a typical wall panel is (outside in) a steel sheet, a layer of glass wool, a cop sheet, another layer of glass wool, a sheet of heat reflecting material, a third layer of gl wool, a moisture barrier (air space) and a sheet of $\frac{1}{4}$ in. plywood as interior finish. Foundat is comprised of seventeen cast iron piers at each "corner" of the structure and one in the cen Atop them go thirteen wedge-shaped steel grating panels and two square panels for the ba room appendages. Then come prefabricated panels of plywood, glass wool, plywood and linolet All metal members are bolted together, their angular shapes assuring tight fits. Metal batt conceal exterior "seams"; wood battens, interior "seams." Practical experience would proba dictate several simplifications in construction details.





ination of the basic units with interconnecting "hall " will produce a house of any size, but will boost its to the point where there is no price advantage over entional design and construction (see text, p. 90, 1). Obvious conclusion: the MW house best serves urpose when limited in size to the one basic room. over, the house above measures about 55×40 ft., d require a larger lot than the average conventional room house which measures only about 25×30 ft. ever, the MW house's decentralized layout affords ased privacy and air raid protection and permits house to be expanded and contracted in line with ges in family size. Bird's-eye view of the model it) shows a subdivision of four-room MW houses and abricated cocoon-like garages on diamond-shaped lots.





MW HOUSE BY MARTIN WAGNER



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 co only about 150 sq. ft. of floor space, the four-man MW room co about 250 sq. ft. And, the MW housing would provide all the a tages of air conditioning, natural light, private bathroom facilitie abundant closet space, etc. Below: a sketch of an MW subdivisi viewed from the driver's seat of a passing automobile. Note the semblance between the streamlined automobile front and the here.

(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 \$670 (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 \$2,490, 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, secondand 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-halfton 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, mer and week-end retreats, farms, r tory workers' camps, etc.

▶ Most important, Martin Wa, projected solution to the housing progives the industry plenty of foor thought which, when digested, may it new energy.

It may take more than a new he pattern, however, to spark this menergy. Thus, Inventor Wagner last submitted his proposals to a top automobile manufacturer, received discouraging reply: "I have held from very beginning . . . that there was one solution (to the housing prol that was economically possible: viz. ting the job in a factory on a mass duction basis. . . . I think it is one of most interesting opportunities that today, but I have never been able t sufficient interest aroused . . . largely due to the fact that . . . everythin been done to discourage the openin of new frontiers of enterprise, espe when it involves the broadening o responsibilities of those already en in big enterprise. . . . Yet, acco to my belief, those are the only ones are in a position to carry the burde



ING 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 domiof the defense design field and to the e profession's lack of gumption, the ect's part in the national defense m has been sadly small. Most of eaders have fought for their rights amning arguments, not with direct Meanwhile, however, a group of architects has quietly developed ram by which their profession will major role in the civilian defense of chusetts and the whole of New Enghas had it officially blessed and l, and has drafted a set of blueto guide their multifarious activities serve as a pattern for the rest of untry. And, thanks to the voluntary of this Committee of Architects, eers and Planners for Civilian Dethe prestige, responsibility and activthese technicians have been upped. y last fall a group of Boston archinet for a bull session on what the e program meant to them and vice Having expounded his theories t and longest, Architect Chester y Churchill was rewarded with the anship of a committee to formulate ram via which architects could help and accomplish the State's share of efense program. Its thesis is that lefense in a military sense must be on a foundation of civilian security norale and that, since Government concentrate on the military phases ense, civilian cooperation is essential

to the non-military phases. Moreover, this cooperation must be directed by technicians, for like modern war, modern defense is a technical business.

With this sensible reasoning, Chairman Churchill persuaded Massachusetts Governor Leverett Saltonstall that his committee of technicians should become an integral and dominant part of the State's Committee on Public Safety-a political organization of district representatives which the Governor traditionally "calls out" at the least sign of an emergency. Thus recognized, the technicians planned on paper the division of the State among district groups and the delegation of responsibilities among a coordinated network of sub-committees. Covering thinly 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 flow charts of State and district organization. While still in their preliminary form, these charts fortnight ago were being studied by architectural leaders in New York, Pennsylvania and all New England.

More important, in Massachusetts, 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 blackout details; study of enemy deception by glare; research in paint and color as they pertain to camouflage; disguise of objects by confusion and covering.

▶ 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 for contracts.

▶ 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



IN ARCHITECTS' BLUEPRINT OF NATIONAL DEFENSE ORGANIZATION

STATE ORGANIZATION AND FUNCTION OF COMPONENTS



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.

DISTRICT OR LOCAL ORGANIZATION



OUSES

USE IN PASADENA, CALIF. ROBERT TRASK COX, DESIGNER



HOUSE IN PASADENA, CALIF.



NORTH ELEVATION



Designed for a steeply sloping plot embraced a hairpin bend in the approach roadway, a single-story house has its garage located bene a portion of the bedroom wing which project over the low side of the site. A similar project at the opposite downhill corner is occupied advantage by dropping the living room to steps below the rest of the house, thus produce a somewhat higher ceiling for this room. For entrance is by a set of steps from the down frontage, service entrance from the continuat of the same roadway on the uphill side, fre which it is also possible to reach living and d ing rooms by way of the dining terrace. T ERT TRASK COX, DESIGNER











VIEW 2.

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.





KITCHEN





V 3.



CONSTRUCTION OUTLINE

STRUCTURE: Exterior walls-Riverside Portland cement, ex-terior plaster, 15 lb. felt, studs; inside-U. S. Gypsum Co. rocklath and plaster. Floor construction-pine or oak finish floor. FIREPLACE: Damper-Superior Fireplace Co.

SHEET METAL WORK: Flashing and leaders-Armco galvanized iron, American Rolling Mill Co. WINDOWS: Sash-steel casement, Soule Steel Co. Weather-

stripping-Chamberlin Metal Weatherstrip Co. Glass-single and double strength, quality A, Libbey-Owens-Ford Glass Co. Glass blocks-Owens-Illinois Glass Co.

FLOOR COVERINGS: Living room and halls-Chinese matting. Bedrooms, kitchen and bath-linoleum, Armstrong Cork Co. WALL COVERINGS: Living room-grass cloth wallpaper; re-mainder-plaster. Bathrooms-Linowall, Armstrong Cork Co.

WOODWORK: Trim-white pine. Interior doors-"Sturdibilt,"

M. & M. Woodworking Co. Hardware—Schlage Lock Co. PAINTS: By Duro-Tone Co. and General Paint Co. ELECTRICAL INSTALLATION: Wiring system—knob and tube. Switches-Square D. Co. and Rhodes Mfg. Co. Fixtures-Pryne Co.

KITCHEN EQUIPMENT: Range—Estate Stove Co. Refrigerator and dishwasher—General Electric Co. Sink—Crane Co. BATHROOM EQUIPMENT: Lavatory—Kohler Co. Tub and toilet—Crane Co. Seat—Brunswick-Balke-Collender Co. Shower -Mueller Brass Co. fittings. Cabinets-Hall-Mack, Hallenscheid & McDonald. Bidet-Crane Co.

PLUMBING: Hot and cold water pipes-galvanized steel, Beth-

lehem Steel Co. Pressure regulator—Mueller Brass Co. HEATING: Gravity warm air, full return system. Grilles—In-dependent Register Co. Valves and thermostat—General Con-trols Co. Water Heater—Ruud Mfg. Co.

HOUSE IN WEST ISLIP, LONG ISLAND, N. Y.







SOUTH ELEVATION



VICK W. WALL, ARCHITECT





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 bounding 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-andeast exposure as well as an unobstructed view of the boat inlet.

2.



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.

INSULATION: Attic floor—Red Top wool, U. S. Gypsum Co. Weatherstripping—Accurate Metal Weather Strip Co., Inc. Windows: Sash—double hung, Curtis Cos; casement—Andersen Frame Corp. Glass—Pennvernon single strength, quality A, Pittsburgh Plate Glass Co.

FLOOR COVERINGS: Kitchen and bathrooms—linoleum, Armstrong Cork Co. WALL COVERINGS: Bathrooms—Linowall,

Armstrong Cork Co. WOODWORK: Cabinets and doors-Curtis

Cos. 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.

Fixtures—Mutual Lighting Fixture Co. KITCHEN EQUIPMENT: Range—Smoothtop, 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 circu-

lator, boiler, radiators, and water heater, Crane Co. Thermostat—Minneapolis-Honeywell Regulator Co.

HOUSE IN LOS ANGELES, CALIF.

INTERIOR DESIG



R EASTON AND ALYNE WHALEN, INTERIOR DESIGNERS



INTERIOR FINISHES: FLOOR COVERINGS: Main rooms—Oak blocks set in mastic on concrete, Wood Mosaic Co. Rugs—Moroc wool, Klearflax Linen Looms, Inc. Kitchen and bathrooms—linoleum, Armstrong Cork Co. WALL COVERINGS: Living and dining room—grass cloth; study—Douglas fir plywood. WOODWORK: Living and dining room trim and cabinets—Philippine mahogany; remainder—Douglas fir. Interior doors —Douglas fir. HARDWARE: By Schlage Lock Co. PAINTS: By Columbia Varnish Co., National Lead Co. and National Chemical Mfg. 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).

HOUSE IN MYSTIC, CONN.



LIVING ROOM, VIEW 1.

All photos, F.





2.

N WARE LINCOLN, DESIGNER



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 livingroom 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

ROOF: Covered with built-up 6 ply mineral surface. Deck—covered with canvas, William L. Barrell Co.

FIREPLACE: Damper-Donley Bros. Co. SHEET METAL WORK: Flashing and lead-

ers-copper. Gutters-fir. INSULATION: Outside walls-felt blanket. Roof-J-M. insulation board and rockwool.

Johns-Manville. WINDOWS: Sash—wood casement. Glass—

single strength. STAIR: Treads—oak. Risers and stringers—

redwood.

FLOOR COVERINGS: Living room and halls —oak. Kitchen—linoleum, Armstrong Cork Co. Bathrooms—marble; some linoleum.

WALL COVERINGS: Main rooms—insulation board, Johns-Manville. Kitchon and bathroom (upstairs)—Homasote Co.

WOODWORK: Trim—Idaho pine. Cabinets —California redwood. Doors—fir and oak.

HARDWARE: By P. & F. Corbin Co. PAINTS: By U. S. Gypsum Co. ELECTRICAL INSTALLATION: W

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.

cold water pipes—brass. HEATING: Warm air, gravity, coal fired system. Water heater—American Radiator-Standard Sanitary Corp.

¥ 3.



STUDIO IN NOANK, CONN. JOHN WARE LINCOLN, DESIGNER



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.





CONSTRUCTION OUTLINE

STRUCTURE: Exterior walls-red cedar bev ing, sheathing, studs.

ROOF: Covered with Vapor-Seal sheathing, C Corp., and cedar shingles. FIREPLACE: Damper—Heatilator Co.

WINDOWS: Sash-double hung, Brasco Mf Glass-(skylight) Blue Ridge ribbed dif Libbey-Owens-Ford Glass Co. FLOOR COVERINGS: Studio-edge grain fir.

rooms-linoleum.

HARDWARE: By Russell & Erwin Mfg. Co. BATHROOM EQUIPMENT: All fixtures by

can Radiator-Standard Sanitary Corp. PLUMBING: Soil pipes—cast iron. Hot an water pipes-copper, Chase Brass & Copper C

OUSE IN BOALSBURG, PENNA. RAYMOND VINER HALL, ARCHITECT





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; Insulite 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 & Hegeman.

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 colls under slab; composed of $1\frac{1}{2}$ in. A. M. Byers wrought iron pipes welded. Water heater-General Electric Co.









All photos, Ben Schnall





CONSTRUCTION OUTLINE

FOUNDATION: Reenforced 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.

FIREPLACE: Damper—H. W. Covert Co. SHEET METAL WORK: Flashing—16 oz. copper. Gutters—wood.

INSULATION: Outside walls and attic floor -rockwool.

WINDOWS: Sash—wood, top-hinged and casement. Glass—quality A, double strength. STAIR: Treads—oak. Risers—pine and linoleum.

WALL COVERINGS: All rooms—plywood, U. S. Plywood Corp.; bedrooms—part wallpaper. Bathrooms—Flexboard, Johns-Manville Co. ELECTRICAL INSTALLATION: Wiring

ELECTRICAL INSTALLATION: Wiring system—BX cable. Switches—Despard, Pass & Seymour.

KITCHEN EQUIPMENT: Range and dishwasher—Westinghouse Electric Co. Refrigerator—General Electric Co.

LAUNDRY EQUIPMENT: Washing machine —Bendix Home Appliance Co. BATHROOM EQUIPMENT: All fixtures—

BATHROOM EQUIPMENT: All fixtures— American Radiator-Standard Sanitary Corp. HEATING: Hot water system. Boiler, radiators and regulators—American Radiator-Standard Sanitary Corp. Water heater—Taco Heaters, Inc.

NG ISLAND, N. Y.

WILLIAM HAMBY, GEORGE NELSON, ARCHITECTS





VIEW 3.

EW 2.



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.

HOUSE IN CHESTNUT HILL, MASS. ELEANOR RAYMOND, ARCHITECT



All photos, Paul J. Weber

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.

STAIR HALL



CONSTRUCTION OUTLINE

FOUNDATION: Waterproofing-R.I.W., T Bros.

STRUCTURE: Exterior walls—16 in. We ern red cedar shingles over building paunderboarding and studs; inside—plaster wood studs. Florors—select oak. ROOF: Covered with asphalt shingles. FIREPLACE: Damper—H. W. Covert Co SHEET METAL WORK: Flashing—16 copper. Gutters and leaders—Toncan

gauge, Republic Steel Corp. INSULATION: Outside walls and ro

Cabot's Quilt, Samuel Cabot, Inc. STAIRS: Risers and treads—oak. Att Bessler Disappearing Stairway Co.

FLOOR COVERINGS: Kitchen and be rooms—linoleum, Congoleum-Nairn, Inc. HARDWARE: By W. C. Vaughan Co. PAINTS: By Samuel Cabot, Inc. and C Richardson.

ELECTRICAL INSTALLATION: Wi system—BX. Switches—flush toggle. Fixt —Bigelow Kennard Co.

BATHROOM EQUIPMENT: All fixtures American Radiator-Standard Sanitary C PLUMBING: Hot and cold water pipes per.

HEATING: Model 102 Tempered-Aire of Gar Wood Industries; filtering and hum fying; thermostat, humidistat, electric of control. Water heater—Motor Wheel Cor





FOR

ARCHITECTURAL

THE

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.



SECOND FLOOR

BED RM: BED

TCHEN-DINING



CONSTRUCTION OUTLINE

STRUCTURE: Exterior walls—frame covered with shingles. Interior partitions—plaster on Celotex Corp. lath. Floor construction—wood joist, oak finish. Ceilings—plaster on lath. ROOF: Covered with red cedar shingles.

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. WALL COVERINGS: Bedrooms and halls—

WALL COVERINGS: Bedrooms and hallswallpaper. Bathrooms-Linowall dados, Armstrong Cork Co.

KITCHEN EQUIPMENT: Range and refrigerator—Westinghouse Electric & Mfg. Co. Cabinets—Kitchen Mald Corp.

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

PLUMBING: Hot and cold water pipesbrass. Pump-Gould Pump Co.

HEATING: Forced warm air system. Grilles —Tuttle & Bailey Mfg. Co. Thermostat— Minneapolis-Honeywell Regulator Co. Water heater—Westinghouse Electric & Mfg. Co.

HOUSE IN LOS ANGELES, CALIF.



All photos, Luckhaus Studio


RICHARD J. NEUTRA, ARCHITECT

PETER PFISTERER, ASSISTANT



arge house, once again demonstrating this architect's eptional talent for providing a maximum number and iety of thoughtfully designed features for comfortable ing within an almost standardized structural shell, this thas been planned with a lavish hand and evident care. ticularly noteworthy is the masters' suite on the second r, with its separate sleeping and dressing areas, studied rage facilities, and generous bath; and the huge den, plementing an already large living area on the ground r. As always in Mr. Neutra's work, the window area remendous, and in this instance is made to seem still ater by the use of a large mirror on the solid end-wall the living room.

4 1





VIEW 2.



HOUSE IN LOS ANGELES, CALIF. RICHARD J. NEUTRA, ARCHITECT; PETER PFISTERER, ASSISTANT



NORTHEAST ELEVATION







asphaltic, The Paraffine Cos. Inc. STRUCTURE: Exterior walls—unit type chassis, milled and rebated, kiln-dried Dour posts, into which Truscon Steel Co. sash is Interior—gyrsum plaster on U. S. Gypsu Sheetrock. Exterior—3 coats cement plaste double waterproof coating. Interior parti Philippine mahogany, plywood or gypsum of U. S. Gypsum Co. Sheetrock. Floor const —Douglas fir joists, Cabot's Quilt, Samuel Inc., Celotex Corp. lath, wire netting, gypsum coat.

ROOF: Covered with Pabco composition roofing, Paraffine Cos. Inc. Deck-redwo movable grille over roofing. WINDOWS: Sash-Truscon Steel Co. We

WINDOWS: Sash—Truscon Steel Co. We stripping—Monarch Metal Weather Strip Co —Double strength, Libbey-Owens-Ford Gla Glass blocks—Owens-Illinois Glass Co.

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

Marsh Wall Products Co. WOODWORK: Cabinets — Philippine mah Doors—"Sturdibilt," M. & M. Woodworkir Garage doors—Wread Overhead Door Co. HARDWARE: By Schlage Lock Co.

PAINTS: By National Lead Co., E. L. Bru and Aluminum Co. of America. ELECTRICAL INSTALLATION: Wiring sys

flexible conduit. Switches—General Electri Fixtures—Pryne Co.

PLUMBING: Toilet fixtures—Crane Co. C. F. Church Mfg. Co. Kitchen equipment—A can Stove Co. Magic Chef range; Kelvinato refrigerator.

HEATING: Forced draft air furnace, Pacifi Furnace Co. Water Heater—General Water er Co.



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.



SCHOOL FOR CRIPPLED CHILDREN, DENVER, COLO.



ENTRANCE

LOBBY

Hedrich-Blessing H





LDREN'S HOSPITAL, 1936

DOWNING

HOME ARTS

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, and 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. 511-16.





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SCHOOL FOR CRIPPLED CHILDREN, DENVER, COLO.



COURT

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.





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LIBRARY

Hedrich-Blessing Photos

RIDOR AND RAMPS





SCHOOL FOR CRIPPLED CHILDREN **BURNHAM HOYT, ARCHITECT**





AUDITORIUM

CONSTRUCTION OUTLINE

FOUNDATIONS: Reenforced concrete. Wa ter-proofing-emulsified asphalt and mem brane.

STRUCTURE: Exterior curtain walls-con crete blocks; inside-tile and plaster. Col umns-concrete cast in steel forms. Floo construction-joists, concrete poured into re movable steel pan forms.

ROOF: Concrete, cork insulation and Bar rett Co. 20-yr. tar and gravel. Decks—hollow tile insulation, membrane and quarry tile. SHEET METAL WORK: Flashing-copper Ducts-galvanized iron.

INSULATION: Walls-2 in. hollow air spac and hollow tile interior blocks. Roofs-cork Mundet Cork Co. Sound insulation-indus trial cork.

WINDOWS: Sash-folding type and station ary. Glass-crystal sheet. Glass blocks-In sulux, Owens-Illinois Glass Co. STAIRS AND ELEVATORS: Stairs and

slopes—concrete, alundum surface, aluminum rails. Elevator—Westinghouse Electric & Mfg. Co. Elevator doors-Metal Door & Trin Co.

FLOOR COVERINGS: Linoleum-Sloane Blabon Corp. Cork carpet and asphalt tile-Armstrong Cork Co. Playroom—maple blocks, E. L. Bruce Co. Entrance lobby terrazzo, Martina Mosaic Co.

WALL COVERINGS: Library-Flexwood

REST ROOM

U. S. Plywood Co., Inc. FURNISHINGS: By American Seating Co. WOOD AND METAL TRIM: Blackboard trim—metal, Knapp Bros. Mfg. Co. Interior

doors-"Sturdibilt," M. & M. Woodworking Co. Exterior doors-aluminum, Internationa Revolving Door Co.

HARDWARE: By. P. & F. Corbin, Oscar C. Rixson Co. and Vonnegut Hardware Co. PAINTS: By Schreiber, Hartman, U. S. Gypsum Co. and American Radiator-Standard Sanitary Corp.

ELECTRICAL INSTALLATION: Wiring system-concealed conduit. Switches and circuit breakers-General Electric Co. Fix-tures-Albert Secrist & Co. Clock and procontrol-International Business Magram chines.

PLUMBING: Soll pipes-cast iron. Hot and cold water pipes-copper, Bridgeport Brass Co., Mueller Brass Co. fittings. Toilet fixtures-American Radiator-Standard Sanitary Corp. Kitchen equipment-Wrought Iron Range Co., Duke Kitchen Equipment Co. Refrigerators-General Electric Co. and Frigidaire Corp.

HEATING: Steam system, John J. Nesbit unit ventilators. Boiler and water heater Prox Boiler Co. Stoker-Iron Fireman Mfg. Co. Radiators-American Radiator-Standard Sanitary Corp. Thermostats-Johnson Service Co. Valves-Warren Webster & Co. Smoke stack-Transite, Johns-Manville Co.

GENERAL CONTRACTOR: Brown & Schrepferman.

IGH SCHOOL, COLORADO SPRINGS, COLO.





URNHAM HOYT DWARD L. BUNTS RCHITECTS 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.

STRUCTURE: Exterior walls—brick, terra cotta trim; inside—salt glazed tile and plaster. Columns—structural steel. Floor construction —composite tile and concrete slab.

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-

WINDOWS: Sash—wood, Silentite, double hung, Curtis Companies, Inc. Glass blocks— Insulux, Owens-Illinois Glass Co.

STAIR: Terrazzo, alundum surface.

FLOOR COVERINGS: Asphalt tile.

WALL COVERINGS: Auditorium—imitation leather.

FURNISHINGS: Auditorium seats—American Seating Co.

WOOD AND METAL TRIM: Door bucksmetal. Interior doors-"Sturdibilt," M. & M. Woodworking Co.

HARDWARE: By Russell & Erwin Mfg. Co. PAINTING: Lead and oil throughout.

ELECTRICAL INSTALLATION: Wiringconcealed conduit.

PLUMBING: Soil pipes—cast iron. Hot and cold water pipes—copper. Toilet fixtures— American Radiator-Standard Sanitary Corp. Kitchen equipment—Grauman Co.

HEATING: Vacuum steam system, Nesbit unit ventilators, John J. Nesbit, Inc. Boller— Heggie Simplex. Stokers—Iron Fireman Mfg. Co. Radiators—American Radiator-Standard Sanitary Corp. Grilles—Tuttle & Bailey Mfg. Co. Regulators—Johnson Service Co. Valves and unit heaters—Trane Co. Water heater— Simms Domestic Heater.

GENERAL CONTRACTOR: Platt Rogers, Inc.



BURNHAM HOYT & EDWARD L. BUNTS, ARCHITECTS





SROOM

LIBRARY

Hedrich-Blessing Photos



CORRIDOR



COLORADO SPRINGS HIGH SCHOOL

BURNHAM E EDWARD L. BU ARCHIT



CAFETERIA

AUDITORIUM

The windowless auditorium, seating 1.5 built on two levels, and so arranged the 600 seats on the upper level can be sh by a steel curtain for smaller functions. T are supported by a double row of column inner row on each side being exposed for d tive effect. A large and fully equipped with a proscenium opening 44 ft. wide vides for every type of entertainment ac Location of the 500 person cafeteria ato auditorium is explained by the fact that affords an excellent view of the neight mountains and by the desire to provid commodations for outdoor eating in weather. For this purpose a sunken roof to at the same level as the cafeteria floo affording equal space for dining, is pro Surrounded on all four sides by glass, th race is protected from the wind but op the sun, and may therefore be used the g part of the year.



ANY HOTEL, DENVER, COLO.

BURNHAM HOYT, ARCHITECT







BURNHAM HOYT, ARCHITECT



BBY

ile entirely new, this hotel building (like Colorado Springs High School) replaces older structure built for the same purpose the same site, and adjoins a later addition ch is still in use. The exterior is an outnding example of the architect's approach, n its emphasis on sober, workmanlike lysis of a particular problem and construcmethod, rather than reliance on any of established design-clichés-modern or traonal-which masquerade under the name Style. The public interiors, while not so inal as the exterior, are admirably suited a medium-sized hotel building-and outnding in a field where bizarre taste is the rather than an exception. The main stair-(above) leads to a mezzanine lounge (ht), located a floor above the street to serve valuable ground-floor space.

MEZZANINE LOUNGE











PRIVATE ROOMS are exceedingly colorful and attractive, with carefully integ finishes and furnishings. Drape-like panels at sides of windows are actually a sp form of fabric-covered trim which covers the ends of the venetian blinds.

CONSTRUCTION OUTLINE

FOUNDATIONS: Reenforced concrete, Dampproofing-V ern Elaterite Roofing Co.

STRUCTURE: Fireproofed steel column and panel b Junior steel sub-beam, concrete slabs, 8 in. brick, 8 in. insulated duct space; inside-4 in. tile and plaster. S tural 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-ga

ized iron, Cork Insulation Co. INSULATION: Walls, roofs and sound insulation—cor WINDOWS: Sash—folding type, Richey Browne; store f -extruded bronze, Kawneer Co. Glass and glass blo Owens-Illinois Glass Co.

STAIRS AND ELEVATORS: Stairs-terrazzo and alu cement. Elevators-Westinghouse Electric & Mfg. Co. FLOOR COVERINGS: Public spaces and bathroom-terr

Dining spaces—cork tile, Armstrong Cork Co. WALL COVERINGS: Public spaces—cork tile and lino

Armstrong Cork Co. Mezzanine-wallpaper. Bar and c

bedroom—Flexwood, U. S. Plywood Corp. WOOD AND METAL TRIM: Trim—metal, Kawneer Doors—Overly Metal Door & Buck Co., Roddis Lumb Veneer Co. and International Revolving Door Co.

HARDWARE: By Yale & Towne and Oscar C. Rixson. ELECTRICAL INSTALLATION: Wiring system-conc conduit. Fixtures-Albert Secrist Co. Radio-RCA Mfg PLUMBING: Hot and cold water pipes-copper. Toilet tures-Crane Co. Kitchen equipment-stainless steel, A Pick Co.

HEATING AND AIR CONDITIONING: Steam system, f ing, humidifying and cooling. Grilles, U. S. Radiator Thermostats—Johnson Service Co. Valves—Crane Co. W ers and fans—American Blower Co.

GENERAL CONTRACTOR: Mead & Mount Constr. Co.

THE ARCHITECT'S WORLD

BUILDING FOR DEFENSE

By William Lescaze

are rightly proud of the strength of the resources of our nation. We to ourselves, "Boy, if and when the comes we'll show them." And it is we will show them, even if at first y blunders are made. We are all coned of it: At the end we'll come out on But would it not be much better if idn't make any blunders at all, not at the start? Is it not obvious that is business of preparation for defense, as in any other business, the best and the one to be less likely to cost lunders is to *plan* and to *organize* y detail.

t us look back a few years:

Ve built a powder plant at Nitrol, Va., for \$70 million; a plant at Nash-Tenn., for \$90 million, and nitrate s at Sheffield, Ala.; Muscle Shoals, Toledo, Ohio; Perryville, Md., and nnati costing \$116 million, and all of produced not one pound of powder trates for use in the war. After the these plants were sold for a salvage which was a crime against the Amertaxpayer."—From an editorial, New Herald-Tribune, June 2, 1940.

e also know that we built houses for ers in Bath, Me.; Portsmouth, N. H.; geport, Conn.; Camden, N. J., where of these cost from \$4,000 to \$5,000. we sold them after the war for somes as little as \$900 to speculators who d them a little later at a substantial t, as soon as population shifts had ed.

e need not repeat the frightful waste ur 1917 experience.

t then we must start right away. Too a time has gone by already. We must a at the beginning: Revamp our enbuilding industry. Today, in the midst be of the gravest of world crises, one not be a master of military tactics knowledge the fact that technicians more especially, organizations of techns are winning this war; and that of technicians is losing it. We must hize our building technicians: archiand engineers; and plan with them igently, systematically—our Defense itecture.

there a plan regarding construction ared for our defense?

nousands of men, thousands of techns-draftsmen, engineers, architects, lers-are anxious to be useful. But are spending the days, week after week, month after month, trying to find out what will be built, who will build it, when it will be built.

If there is a plan, let's have it.

*

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 wholebuilding 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 or jeopardizing the progress of the other's work and probably endangering the resources of the entire building industry. Each does just its work without consideration to or relation with the work of the other. Each purchases the required amount of land to build on without consultation with 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 established 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 allow 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 Municipal 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 other 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 of all kinds 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 undertake a definite project, for which the Department may have prepared preliminary studies, or it may also request the private architect to

prepare these. In other cases it will commission a private architect to head a group of say ten architects in several cities of one region, who in turn will as-sign work to each of them in their respective localities, direct them, assume the responsibility for all of them 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 be divided into ten, twelve or more 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 Arch ture would first establish a model of types of surveys desired. All the info tion obtained from every one of the gions would thus become immedi comparable. From such informati again in consultation with the Arm Navy—locations of new manufact facilities or development of existing could be plotted with just consider of all relevant factors such as availad of resources, of labor, of housing fi ties, of transportation, etc.

In addition to these surveys of f ties, surveys of means of transport must be begun. Again with the collation of other groups of citizens w in certain cities, may be later formed Evacuation Boards, the members of Regional Architects' Defense Council to outline in advance the necessary r ures which will permit an efficient y ing of possibile evacuation schemes.

Then also in particularly exposed leties, plans are drawn up for the prote of existing key buildings. As little as sible should be left to be improvise the last minute. Now is the time to pare....

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

How much do we know about m hospital units? About Rest Centers Information Bureaus for the fan whose homes have been destroyed? I our manufacturers developed a metho protect glass against the effect of bon Is wired glass the best? What surface plications to existing glass have any va Have we developed a safer methoholding glass inside of its frame?

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

All these and many more our Reg Architects' Defense Councils must out, must patiently and in detail pre under the guidance of a properly funcing Department of Defense Architec

A single authority, as the one veste the Department of Defense Architec does not necessarily imply centraliza On the contrary, to be effective it r stimulate individual initiative scatt far and wide across our country. Probl climate, resources vary greatly with region. Talent and ability too. But cause of the ultimate goal—our Defen and because of the urgency, a single thority must direct and coordinate all a initiatives and abilities.

AUTOMOBILE AND CITY

By J. T. McGavin

YALE UNIVERSITY BUREAU FOR STREET TRAFFIC RESEARCH.

Excerpts from an address to the 18th Annual Convention, American Institute of Steel Construction, White Sulphur Springs, W. Va.

ng the past year I have traveled of miles and have taken 4,000 photos which illustrate parking conditions ypes of parking facilities in many of arger cities....

e parking problem has become so d in most cities that it may evenbe the final bottleneck of congestion, limiting factor, in cities, of the autoe and its valuable contribution as a of transportation. Lack of adequate nal facilities places limitations on the ent advantages of elevated highways ther roadway improvements. Indeed, arking problem has become so serious t no longer is just a matter of innience and frustration to the motorhas actually become an economic em involving losses to business estabents located in congested areas, losses perty owners in that area, and consely losses to city government through ciated property values.

*

order to reduce these losses, it will cessary to create new parking facilwithin the inner core of the central ess districts. Available sites within mer core area have placed certain tions on the type parking design can be used. Sites in central core have high property values, they are well occupied by building developand the lands available for satisy parking developments have relasmall plot sizes.

etration of this inner core area of I business districts can only be done altiple floor parking structures. That enetration can be made has already established. Our studies reveal that is economic justification for the on of these new facilities. We believe to predict that we now stand at eginning of a period in which rapid sion of multiple deck parking can robably will take place within the I core areas of business districts.

would like to draw a careful dison here between two types of parker. he worker who is employed within ea. 2) The person who comes to the as a patron of business establish. The new facilities must fill the of the second group and they must ared to handle adequately the rements of short time parking, a "turntype of trade....

ing the past year the Yale Bureau treet Traffic Research has had a wide study of the parking problem way. Twenty-nine cities have been ed for special analysis with the ht that conditions in these cities In order to have a clearer understanding of this undeveloped market, it is best to review some of the background relating to parking location. As you well know, the history of parking garage business is largely a history of financial difficulty. It is therefore important to know what caused those difficulties.

Parking garage buildings of the past have had financial trouble because of unsatisfactory location, inability to synchronize the capacity to the available market, high investment costs per car space, inability to get or to satisfactorily serve turnover type of business, reversal of trends which were acting during the period when this type building was expanding.

Studies of garage and parking lot locations in most cities show that these facilities follow closely the same general pattern of location. The typical pattern is a doughnut shape ring of parking facilities surrounding a central core within which the major portion of retail sales are transacted. During the period 1925-30, when the central business districts were expanding, the new garage buildings were then generally located around the periphery of the business district. These buildings were generally constructed for greater capacity than the immediate neighborhood would justify at that time....

This provision of overcapacity resulting from desire to build higher is now generally considered an error.

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The creation of new parking lots by the wrecking of buildings is not to be considered as harmful to the well being of the district. Occasionally, we find some who confuse the cause with the effect. Creation of parking lots is sometimes interpreted as *causing* blight conditions. We cannot find evidence to support this belief, and to the contrary there is some indication that parking lots tend to stabilize values. . . .

The rapid expansion of parking lots has proven two major points relative to design. 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. Millor McClintoch

Some years ago Dr. Miller McClintock

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 fact. Much of these time losses result from time spent searching for a suitable parking space (either at the curb or offstreet.) A sizable proportion of the delays are caused indirectly 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. McClintock 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 fact supports the accuracy of that prediction . . . In Los Angeles census data show that in 1930 central business district transacted 34 per cent of the retail sales in the country. In 1935 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 location 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 increase construction cost.

10) Investment cost per car space should be low, preferably in neighborhood of \$200 (except mechanical).

11) A relatively short life for the structure assumed (preferably fifteen years).

12) Possibility for a flexible building which can be built in standard units, dismantled and later reassembled on another site....

13) Proper design to permit merchandising of ground floor space on best possible basis without handicapping parking operations.

THEY SAY-

"In art, what is ugly is what is false or artificial; whatever tries to be pretty instead of expressive; whatever smiles without cause or is mannered without reason; whatever is without soul, without sincerity; whatever is semblance of beauty or shamming of grace; whatever lies."— AUGUSTE RODIN.

"The country is architecturally prostrated by money donors who dictate terms."— FRANK LLOYD WRIGHT.

"I wish to express my disagreement with the theory held by some people that if a thing be perfectly adapted to its use it is entitled to be called beautiful. Those who talk of the 'beauty' of machinery ought to rave about the beauty of the best-designed machinery in the world—the liver and the stomach. But they don't; or at least I've never heard them do so."—H. S. GOOD-HART-RENDEL.

THE TEMPLE

By John Bland

ACTING HEAD OF THE ARCHITECTURAL DEPARTMENT, MCGILL UNIVERSITY, MONTREAL

Abbreviated from the Journal, Royal Architectural Institute of Canada, November, 1940

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 elusive, too easily destroyed 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 real understanding and without any success. This environment 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. Law Libraries developed in them. 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 geometrically 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 sooty 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

aural. The narrow passage from the widens. The space expands. They trees. The buildings are geometric pasuperimposed upon the free pattern paths. There are courts, terraces pleasant rows of buildings. They flights of steps, arcades and pools. are not composed to give emphasome pretentious feature. The arment is complementary to moveme leads one on. There is no archite crescendo. The Temple is more than It is a civilized group of buildings men may work and move about in su in quietness among trees and flower with the visual satisfaction of order

In the twelfth century the Knights plars built the little circular Temple c It is supposed to be a model of th tunda of the Holy Sepulchre in Jeru In the fourteenth century it was exito the east by the addition of a beoblong chapel with tall pointed win The early church and the addition n delightful composition of cylinder, and prism. On fine days art students to draw it.

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

The remaining buildings in the I

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contain offices and small flats called bers. They are four to five floors usually in brick. Very nicely detail trances lead to the stairways. On th landings there are doors to the cha right and left and a window over t trance below. The chamber doors ways double. The outer one is a fastened with strap hinges and be usually stands open and on it are p the names of the members who live When the members do not wish to turbed they close their outer do strangers can possibly find them and know they are not wanted. The inne is sometimes mahogany with gli brass. Inside there are three or rooms with small kitchen and batl The Wren apartments, now over tw dred years old, are models of efficient There are a few little Georgian shop veniently placed where one can bu tionery and odd things like legal win

The Temple was much loved by younger generation of British arch They saw it as an expression of a munity and perhaps a glimpse of the future could be.

* Recently damaged by bombing.—Ed.

Stenny Sc! Saylor

lay, December 17.-New York Chap-.I.A., was called together today for x which its officers thought might out the riot squad. A committee d by stormy petrel Lescaze had spending \$4,000 from the reserve -yes, the Chapter has \$12,000 salted -in an effort to put the architect s rightful place. Argument which otherwise have lasted all day was o the point by Merrill Prentice, anmember of the committee, who ana lot of questions before they could ked. Adroitly sidestepping any such tic moves as lobbying in Washington, ing to make \$4,000 tell the world good we are, the Chapter put the at the disposal of a committee of igation. Point to be investigated: he architect can best serve the pubd thereby clear his own mind as to ofession's proper status in the social Instead of a riot call, a vote of val unmarred by a dissenting voice!

ther project of the Chapter, unaniv approved, is herewith spread before er audience. It makes its own poignpeal:

SOLVED that William Lescaze towith the President of the Chapter thorized to organize a fund to be as the U.S. Architects' Fund for A. Children, and for that purpose d out an appeal to all architects.

T FURTHER RESOLVED that all s received from this appeal be del in a separate account, which shall sed before February 28, 1941, by g the total amount, less expenses ed, to the R.I.B.A. to be used in their ion for children of their members.

, December 20.—Leadership of the sion—subject of much exhortation, tion, accusation, but very little acsumption, scores a clean hit in Bos-Pointing out the fact that the City er satellite towns are approaching a of ruinous deterioration, Dana Somes Boston Chapter committee sounds rm and offers a remedy. It is prothat a non-profit, non-political, nonan private association be formed to age, through study, discussion and ty, a widening area of agreement divergent points of view. In the tion would be organizations repreg taxation, real estate, business,

ton's batting average is still further by the Diary item under January 11. finance, transportation, labor, building, housing, social and civil welfare. All such interests are trying to keep the City on an even keel, but their efforts are without coordination and lack the power that unification could give. For a beginning it is proposed to tackle a few of the major needs—traffic regulation, zoning, building law revision, rehabilitation, defense housing. Money for expert research is already available, but being dribbled out in unrelated individual efforts. Brought together in one well directed stream it could wash away a mass of silt and clear the way to a better city.

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Saturday, December 21.—Good news from St. Louis. Adler & Sullivan's Wainwright Building, finished in 1891, 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 facelifting process this, fortunately, for what has become out of date is merely the equipment that was most nearly up to the minute 49 years ago—elevator service, plumbing, mail chute, hall lighting. Louis Sullivan's architecture marches proudly on.

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Monday, December 23 .- Judgment 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 Garnsey'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 painting, but rather for an inviting wall treatment of a difficult basement location. Ungainly in shape, filled with columns, tables lining the walls and covering much of the floor, the cafeteria cried out for thought first and paint afterwards. Thought, however, was neglected in many of the offerings in the student's eagerness to show what he could do with a brush. As for instance, in carrying a composition down to the floor behind the tables, or in ignoring the fact that the walls must be viewed by most of the patrons through a forest of structural columns. Since the cafeteria was intended for telephone company employes, most of the competitors thought it merciful to spare them further

reminder of standard equipment, even in free abstractions, and for this the judges were grateful.

Tuesday, December 24 .- To an accompaniment of Christmas carols 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 Architectural 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 Effect" but Leon found too 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, peculiarly of 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.

Thursday, December 26 .- 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 3 per cent of the rents. Of the other nine cities the rents also form the basis of fees, but in percentages varying from $2\frac{1}{2}$ to 5. Houston figures that if she could get 5 per cent of the rentals from her own housing 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 mate-rials, 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. Co-operation 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.

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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.

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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 none 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. If they could, we would 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 87). 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 M land, interior decoration; and B Jones, his hobbies. The latter en rather stole the show with a big glas full of polar exploration literature, photographs of commercial fishing drawings of boat design, and some see of various ages from a strain of Japanese pine he and his father had during half a century as the trees fitted to the Nantucket sandy, salt-sp soil. (See p. 14.) The man who is cr with the teaming together of water, s sound and light to produce the World's Fair lagoon fountains, takes pride in his pine trees than in a cr that fascinated many millions of the evening visitors.

Saturday, January 11 .- National d is certainly putting a mark on the architectural practices. Names of in uals and widely known partnership sinking beneath the surface of a spre tide of impersonal construction effor Trinidad group of Army bases, for ins is being designed by "Caribbean Arc Engineer," a freshly minted corpo which, before we forget, is a combi of Voorhees, Walker, Foley & Smith, tects, and Parsons, Klapp, Brincker Douglas, engineers. A whole floor of offices will bear the new name and with a growing drafting force. Ther be 150 men in it in time, for the whole city to be built-houses, se hospitals, cinemas, stores and all th The drafting room will not be one in you apply for a job, are hired, and up your coat within the hour; Gover is going to scrutinize the applicar his past before he becomes part machinery of National Defense.

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Chester Lindsay Churchill in from ton, telling us of the progress being in his city's civilian defense program best pattern revealed to date for mobilization of the technicians. (Se 91.) The function of planning set be getting back into the hands of trained to plan. Nor was the job I to the architects and engineers—the out and took it.

Tuesday, January 14.-Roger Allen come a columnist. He can now spen of his time writing funny words of designing funny architecture. No I've ever seen any of his architectu with humor oozing out of him at pour (stet), it seems as if it mu its way into what he draws. Here's ple from his column in The Grand Press (subscription rates on rec "Frank Lloyd Wright, the eminent tect, has designed a house in Ca with a stream running through the room. This will be old stuff to speculative builders to whom a lake basement is standard equipment."

WISH COMMUNITY CENTER, LOS ANGELES, CALIF.

HAEL S. SORIANO, DESIGNER

d entirely in light-weight steel and d on the outside with cement plasis neighborhood recreation center ler-privileged children was designed sloping site, has its entrance and al rooms on the second floor. The assembly hall, at the front of the g, is under a raised portion of the hich permits a high ceiling and onally large windows for this room. d play area, adjoining the building side, is at an intermediate level a floors; committee rooms, toilets, combined music rehearsal and rafts room are on the first floor.



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JEWISH COMMUNITY CENTER

RAPHAEL S. SORIANO, DESIGNER

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.



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VIEW 2.
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VIEW I.

E2



UILDING MONEY

ITENTS:

S FOR HOUSING 135 AMPED TENEMENT 138 TS VS. UPKEEP 139 USTED RENTS 140 SS-LADEN HOUSES 142





R. Harold Denton

Peter A. Stone

DUSING'S AILMENTS ARE DIAGNOSED

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

ect committee to make a full and ete study and investigation with t to the concentration of economic in, and financial control over, tion and distribution of goods and s"-such are the high sounding with which Congress has defined emporary National Economic Com-. In layman's lingo, its purpose is out what is the trouble with U.S. ry and business. To this illusive end, 's nineteen Governmental trouble rs, chairmanned by Wyoming's ratic Senator Joseph C. O'Mahoney, pent considerably more than \$1 milave put hundreds of industrial and ss bigwigs on the mat during the wo years, have peppered them with ng and sometimes embarrassing ons, have obtained expert testimony on what makes the wheels of the economic machinery go round and ong.

g one of the New Deal's pet probnildren, Housing was long on the mat. Its representatives talked and frankly until the stenographic is bulged with housing facts and as. But, in its existing form, the ony was too voluminous, too diszed to assist TNEC in the preparaits long-awaited recommendations 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 230-page Stone-Denton report is as meaty 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- and collusion-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 rea-

sons 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-340,000 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 (guestimate: 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 1938 production only 19 per cent cost less than \$4,000 per unit which is the ceiling for the 76 per cent of the non-farm families who earn less than \$2,000 per year—see pictorial chart, p. 136. On the other hand, 35 per cent of the units, costing more



than \$6,000 each went to the 9 per cent of the families who earn more than \$3,000. 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 a majority of financiers who consider FHA's 25-year period long enough). As shown in the chart on page 137 reductions in other individual components of the monthly housing cost have but a small effect on the total. Thus, a 25 per cent interest rate reduction knocks only 9 per cent off the monthly cost; a 25 per cent tax reduction lowers it only 6 per cent and a 25 per cent maintenance saving reduces it less than 5 per cent. While any or all of these changes would be helpful, their individual effects would be brightly outshone by a similar change in the construction cost of the original house. Thus, a 25 per cent reduction in this big item would chop 21 per cent off the total monthly or annual cost. Here, then, is the target at which cost reduction efforts should logically be aimed. And, since overhead and profit average 5-10 per cent of the total construction cost and labor 25-45 per cent, material costs at 45-70 per cent will be the bull's-eye.

It is at this target that Marksmen Stone and Denton have leveled their sights, fired their seven recommendations "Toward More Housing":

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 techniques (it) offers the greatest immediate promise for substantially increasing productivity . . . thereby reducing costs to the levels necessary for adequate housing. . . ." Products of the laboratory might be new machinery to replace handicraft assembly methods, reliable production standards for the crafts, efficient methods of performing each site operation, schedules 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 replace the ten individual layers of materials which now comprise the conventional exterior 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 disappear through the pressure of public demand 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 Denton: "In agriculture the Federal Government has for many years conducted the essential laboratory work. A total of more than \$20 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 laboratory 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 rea period of time." Several experi TNEC that adequate industrial r might cut costs in half.

Standardization is the second major lower costs and increased volum wide variety of designs, materia methods used to accomplish a sing pose boosts costs all along the line the manufacturer to the site Thus, analysis of only sixteen USH jects has revealed the use of not le 56 different sizes of casement windo different varieties of interior doc hundreds of molding designs. A twenty different types of lock co applied to each type of door. Co tions of these items run into astrototals, unnecessarily burdening the facturers, warehousers, distributor ers, designers and builders.

While windows with their fram stitute one of the few mass produce of a house, the expected econ limited by the small variations size of window openings from on munity to another. Thus, for seve ern localities it was discovered that different sizes of glass must be orde the same type of double hung v Other examples of wasteful mult in stock material dimensions: th 76 varieties of brass lavatory an traps (reduced from 1,114 at the mendation of the Bureau of Stan 500 sizes of slate rooling (after a cent reduction). A single manuf boasts 82 different kinds and s double hung windows ready for a as stock items in its regional ware

Concluded TNEC's Housing Denton: "Until an adequate prog industrial research is provided above), active encouragement sho given the National Bureau of Sta the American Standards Assn. in the ardization of building materials and tural dimensions."

and collusion-busting is the third preson for Housing's ailment. High costs aintained or raised still higher, 1) by facturers' control over jobbing outvhereby jobbers who sell directly to onsumer and thus sidetrack the conor's mark-up are disallowed the orditrade discounts; 2) by manufacturers cancel their discounts if a distributor nd guilty of handling a lower priced etitive product; 3) by sub-contracwho, via bid depositories and so-"fair practice codes," require that ds carry a uniform charge for overthus penalizing the small sub-conors who have but little actual over-4) by labor unions which police codes by refusing to work with any ontractor who fails to meet the renents and, 5) by the sub-contractors who repay labor for its support by g into the "fair practice codes" such s as the one in New York City rules that no member may bid on project in which the (poured conceilings are to be painted without being plastered.

o in this category fall such labor tions as tend unnecessarily to spread vailable work, maintain tradition at xpense of invention, efficiency and my and discourage expansion of ranks by unreasonable apprenticeraining and entrance requirements. Butte carpenters will not install jambs that are morticed in the mill op for locks and hinges; Baltimore ittsburgh plumbers will not install es which are delivered with the nings" in place until they have been ed and replaced by members of the union; Houston plumbers must cut e shop threaded end of a pipe, rel it themselves; and Los Angeles cars "found to be excessively rushre ruled off the job.

le the report to TNEC recommends if successful in its present scope, Buster Thurman Arnold's program receive "vigorous prosecution," it that the cost-pegging restraints that e knocked down by the present antiaws "probably do not influence costs extent that is commonly believed." in: local collusive activities cannot iced for lack of sufficient intra-state ction. Recommendation: broadenthe anti-trust laws and a wider intation of their coverage.

g code revision is essential to the reof another jack from under the ng cost level. Most codes were writecades ago, and the failure of muniofficials to keep them abreast of fic developments in building tals and techniques renders them te barriers in the way of lower cost ag. Example: a plywood or steel and house is outlawed by Washington, 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 amply demonstrated the product's merits. Result: it is cheaper to use an old, accepted material than 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 FWA, the Department of Justice, the FHA, and the Office of the Defense Housing Coordinator to secure revisions of the most serious restrictions contained in existing codes of the larger cities." (Denton was undoubtedly delighted when the Bureau of Standards released its model plumbing code for adoption the country over. See p. 2.)

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 employes of the Michelin Tire Factories in France. Responsibility for



COST REDUCTION. Net effect on total annual cost of a house and lot of identical reductions in each component. Example: a 25 per cent cut in taxes shaves total 2.4 per cent.

preparing and organizing the work on the first houses was entrusted to construction foremen and labor supervisors, and production required 11,643 working hours per house. By 1937 these functions were assigned to engineers in a planning department and the working hours 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 \$20 kit, the carpenter's \$90 tool chest, the painter's overalls and putty knife and the contractor's few power tools and other equipment. In 1929 the average residential contractor's operating plant entailed an investment of only \$1,276, or about \$175 per employe.

The house building industry has much to learn from its sister industry, highway construction, whose contractors in 1929 had an equipment investment of more than \$1,000 per employe-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. AFLsters 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, bought the buildings for their Chasro Properties, Inc., by planking out \$19,000 in cash and negotiating a \$31,000 sevenyear loan at 3½ per cent from the bank. Architect F. P. Platt and Brother were

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 \$60,000. 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 \$40 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 \$20 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



Skillful remodeling by Architects F. P. Platt and Brother explains, in large measure, the eff salvage of realty values in this old New York City blockfront. Exterior was simplifie painted to give a cleaner, more modern appearance; interior was completely replanned and service equipment introduced to provide more up-to-date living accommodations. Result: previously the outmoded, rundown, railroad-type flats were unrentable, the new apar suites have been quickly snapped up. Many tenants work in nearby factories and wareh Averaging about \$10 per room per month, rents are substantially below those charg private enterprise in the cheapest new apartment buildings, but are almost double the subs rents for local public housing projects.

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 reenforced architecturally by recessed spandrels in the brickwork and by small panes in the windows. The facade was also stripped of its heavy scrolled e and painted a pleasant gray white. changes include a central steam h system, new wiring and new plux throughout.

Modernization of old tenements i fitable, say the Rosens, if 30 or units are handled at a crack. Conalso that housing for the lower r class means high stability of rents, are now seeking other realty wree put in working order.

HE CASE FOR HIGH QUALITY HOUSE EQUIPMENT

l lots of it is argued by a manufacturer. GE balances dishwashers against

wder puffs, claims that by spending an extra \$20 the house buyer saves \$40 a year.

ulders and buyers of small houses fiably pinch their pennies. But, many hem jump too hastily at conclusions, that a penny pinched during the contion of a house frequently expands a dollar once the house is finished. s, a house whose construction cost has shaved to the bone may be more exive to operate, less attractive to look ess comfortable to live in and more ult to sell than a house which origicost a little more. Over-all operating are more indicative of a house's true omy than its sale price.

e increasing acceptance of the monthayment mortgage and the trend tosmaller, lower cost houses have asized the relative importance of cost pkeep. Buyers of today's houses are et conscious and are as much interin total monthly housing costs as are in initial cash down payments. to trends within the industry, some facturers of building materials and oment have recently capitalized on fact by studying and publicizing the onship between the original and hly costs of their products. When ped of the sales propaganda that logienters into such publicity, their docted findings comprise a strong argufor the inclusion of quality products en the lowest cost houses. And they d, therefore, prove of as much intero alert speculative builders as to the uming public for which they are ined.

ATION. One of the latest and most ncing plugs for a product comes from National Mineral Wool Assn. which ar's end reported the results of heatests conducted in two Long Island, . houses. The walls and roof of one were fully insulated; the second was ut insulation; otherwise the two s were identical. On the basis of fuel mption at 7 cents per gallon, the r cost \$35.84 less to heat during the month heating season-a saving of per month for the full year. Imporof this saving is readily grasped when ealized that it amounts to about 15 ent of the monthly mortgage payon the test house and is about five as large as the cost of the insulation spread over the 25-year term of the rage.

ATING EQUIPMENT. A much bigger job anslating initial prices into monthly and savings has been tackled by the al Electric Co. Completed fortnight GE's research indicates that, while lation of ten "high quality" items of operating equipment in a \$4,000 structure would cost about \$620 more than an average installation, it would produce a gross saving in monthly operating expenses of about \$7 and a net saving, including taxes, insurance, maintenance and mortgage interest and amortization on the more expensive property, of more than \$3 per month. Meanwhile, the cash down payment would jump only \$20-see tabulation below.

Derivation of these somewhat startling totals is necessarily based on a series of broad assumptions and averages which probably would not hold true for any particular house. Nevertheless, the reasoning and generalities are valid-not only for GE's wares but for any other high quality house parts-and may prompt builders to erect better houses more completely equipped. Moreover, GE's findings may help these builders merchandise their houses. As such, the findings merit individual analysis:

Furnace and water heater. To build up the case for high quality equipment, two identical lots and structures were assumed to cost \$4,000 each. To one (which for simplicity's sake will be referred to as "A") operating equipment of an average quality is added; while the other (B) will be fitted with higher quality equipment. House A

gets a furnace and water heater costing \$350 which may conceivably be only 50 per cent as efficient as the \$495 unit installed in house B. Assuming the monthly fuel bill for the cheaper unit is \$8 and that it is only about 65 per cent as efficient as its higher priced competitor (still a somewhat rash assumption) house B could be heated for close to \$6 per month.

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 \$3 for lighting, radios and small appliances in house A whose 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 refinishing, repair and replacement allowances. If the latter runs to \$24

\$61.80

SUMMARY OF INITIAL AND OPERATING COSTS

(see test, p. 140), GE comfortably wins its case.

| | INIT | TAL COSTS | MONTHLY COSTS | | |
|------------------------------------|---------|-----------|---------------|---------|--|
| | House A | House B | House A | House B | |
| Lot, structure, etc. | \$4,000 | \$4,000 | | 18 | |
| Furnace and water heater | 350 | 495 | \$8.00 | \$6.00 | |
| Wiring | 100 | 115 | 3.00 | 2.85 | |
| Kitchen cabinets | 60 | 90 | .50 | | |
| Sink, dishwasher, garbage disposal | 60 | 375 | 3.75 | .68 | |
| Cooking | 75 | 130 | 3.30 | 2.40 | |
| Refrigeration | 115 | 135 | 1.50 | 1.00 | |
| Kitchen fan and clock | | 40 | | .12 | |
| Sub-total | \$4,760 | \$5,380 | \$20.05 | \$13.05 | |
| Mortgage | 4,200 | 4,800 | | | |
| Down Payment | 560 | 580 | | | |
| Mortgage interest and amortization | | | 24.40 | 27.89 | |
| Taxes, ins., maint., depreciation | | | 17.35 | 17.48 | |
| | | | | | |

Total monthly outlay 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 \$7 per month less to operate than A's. Result: a net monthly saving of \$3.38 per month

for house B. Even without one or two stretched points in favor of its "electric sink" and range

\$58.42

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-a-month pickups of paper, bottles, cans, etc.;* 50 cents more for dish breakage; 35 cents more for dish towel investment and laundrying-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 \$1 more for doctor bills-the mechanical means are said to be that much more hygienic. Exclusive of their estimated time-saving qualities (55 min. per day at 30 cents an hour equals \$8.25 per month), the two kitchen robots claim a total monthly saving of \$3.75 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 \$375 "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 type range at \$75; house B, an electric one at \$130 and that the gross monthly operating cost of each would be the same \$2.40.* But, to 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: 50 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 50 per cent between two pieces of equipment of the same general type. Having reasonably assumed that the \$135 unit in house B costs \$1 per month to operate, this ratio is applied to the cheaper (\$115) unit in house A, resulting in a monthly cost of \$1.50.

Ventilating fan and clock were installed only in house B and at costs of \$35 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 the foregoing items) up to \$13.05, as compared with \$20.05 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 \$6,000, 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 \$4,800 for B. Cash down payments of \$560 and \$580 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 274 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 per year*, would come to 83 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, figured on the \$3,200 valuations of the structures would add another \$5.33 per month to each house. (Maintenance 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 \$20 could be owned and operated at \$58.42 per month-\$3.38 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 only half 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 38 cents a month. Moreover, no account has been taken of the values of comfort, convenience, time-saving and salability which an abundance of high quality equipment adds to any house but which cannot be translated into dollars and cents.

RENT SUBSIC

ent public housing. A sug tion: rents adjusted to dwel not dwellings.

With 330 projects accommodating 114,000 families completed or abui the present U. S. Housing Authority struction program is well past the hal mark. Therefore, until more Federal are forthcoming, public housing emp has logically shifted from productio operation. With this shift has comneed for a re-examination of cooperating polices established several ago when their importance was shadowed by USHA's more immoproblem of building something to op

Several eye-opening facts that has veloped in its brief history indicate USHA's rental policies, in parti should again go under the micro Thus, a survey has shown that, d Government's income-to-rent elig rules, about half of Pittsburgh's ill-h low income families are too poor to h by public housing and another 20 pe are "too rich." In Boston, Chicago Milwaukee scores of families have evicted from public housing project cause their incomes have inched up the statutory maximum. To get und line in New York City, one prosp tenant refused a boost in wages, a stay under the line, another refuse daughter permission to take a part job. Again in New York City, about the families displaced by the constr of a public housing project on a slu were ineligible for accommodations new buildings, and those forced to have had to pay one-third more ren

Increasingly pressing as more and USHA projects are opened to the p this problem has not gone unrecog Last month, Dr. Edwin S. Burdell, tor of Cooper Union College too stump via the press for a three-poi vision of the Government housing gram: 1) rehabilitation of existing tures, 2) efforts toward cost reduct attract private capital into the field 3) greater flexibility in the applicat Federal housing subsidies. Elaborati Point No. 3, Educator Burdell note "the present method of applying sul on a flat rate to the buildings . . . ca stratification of families of the sam income group . . . (and) it forces into the slums many families whose ings increase."

More than mere recognition of the lem came at year-end when the Com on Housing of New York City's Co nity Service Society in a compreh report to the public housing frat documented the dilemma's many d then offered a reasoned solution. In

^{*} If a municipality foots the garbage collection bill—and it frequently runs to \$3 per month large scale use of house disposal units might contribute to tax reduction.

^{*} Basis: 80 kwh 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.

ROSCOPED

Committee recommends that public ers adjust their rents to family needs, particularly to income, instead of fixthe rent subsidies in accordance with size of a project's dwelling units. The nittee argues that existing USHA ects would better serve their purpose "adjusted rents" and that the responty of future projects to rehouse the families they replace would, for the time, be possible of fulfillment. Public ers will do well to examine the Comee's findings and conclusions.*

noor or rich. Since New York City suffrom the biggest housing headache in U.S. and has been given the biggest c pill (\$50 million of Federal funds to , the local Community Service So-'s Housing Committee has observed problem at its worst. Including heat, and gas, subsidized rents in New York USHA projects run about \$5.40 per per month. A small family can afford ent a three-and-a-half room unit at 22 per month if it earns at least \$15 per . But, of the 523 wage earners in selforting slum families recently displaced he construction of USHA's Vladeck ses, 151, or about 29 per cent, earned than \$15 per week. Moreover, close 5 per cent of the surveyed slumites not eligible because their annual ins were above the \$1,400 limit set by ocal housing authority.

acovering similar information for 56 e 72 slum families displaced last year JSHA's South Jamaica Houses, the mittee found that one-quarter of them d have had to pay more than 30 per of their income (the accepted economaximum) for accommodations in the project and were therefore forced to elsewhere. About one-third of them over the eligible income level.

hile it has less public housing than York, Pittsburgh has more compreve information on the problem. The sy City's Housing Authority and sing Association have surveyed 28,828 lies living in substandard dwellings, on the basis of family incomes and and USHA's local rents and national to-income eligibility rules (maxima: to one for families with less than three ndents; otherwise, six to one) have d that less than 31 per cent of the illed families may benefit by Governhousing, thus:

| me | | | j | F | amilies | Per cent | | | | |
|--------|--|----|---|---|---------|----------|--|---|--------|------|
| gular | | | | | | | | | 2,824 | 9.8 |
| small | | | | | | | | , | 11,068 | 38.4 |
| ble | | | | | | | | | 8,820 | 30.6 |
| large | | | | | | | | | 5,908 | 20.5 |
| report | | .* | | | • | • | | | 208 | 0.7 |

e report: "Adjusted Rents," Committee on ing, Community Service Society, 105 East treet, New York City. Price: 25 cents.

reveal a paradox: slum families too poor and too rich for pres-

Analysis of these and other samplings has led the Committee to conclude that "between one-third and one-quarter of the various groups of potential tenants for public housing cannot afford public housing" because they are too poor. On the same side of the fence, but for a quite different reason, are those ill-housed families which are "too rich" to be eligible for public housing but are too poor to afford new privately financed accommoda-tions.* Into this "too rich" group falls from 20 to 30 per cent of all potential public housing tenants. Together, the two classes of ineligibles account roughly for 45 to 65 per cent of the potential public housing "market."

Displaced families. But, that is only part of the problem. Many of these ineligible families occupy the substandard dwellings which more than half of the USHA projects are replacing. While it is generally recognized that displaced families should receive preferential treatment in the tenant selection for new projects, adherence to USHA's rigid income-to-rent limitations frequently renders this rehousing policy impotent. Thus, about half of the 523 slum families who formerly lived on the site of a public housing project and

* In New York, the lowest rental achieved by private capital—with the aid of tax exemption —is \$9.50 per room per month, \$40 for a fourroom unit with utilities, and above the eco-nomic reach of a family of four earning less than \$1,920 per year. In a few small communities, unassisted private enterprise has gone as low as \$8 per room per month.

who were surveyed by the Committee failed to meet the income eligibility requirements of the new project.

Further analysis of this convincing case history revealed that, of 35 of these ineligible displaced families (those who volunteered information about their "new" homes), 30 were forced to pay higher rents. A janitor who formerly lived rent free was obliged to shell out \$27 per month for the apartment to which he moved. Other moves involved rent boosts ranging from \$1 to \$12 per month; all told they averaged \$5.34, or 33 per cent of the average \$16.12 monthly rent formerly paid by the 35 surveyed families. And, the difference in rent, entailing some deft budget juggling, did not reflect a general improvement in housing conditions. Moreover, the families were faced with the added inconvenience of moving costs and of making new educational, religious and social ties.

Finally, those who are privileged to move into public housing projects face the certainty of eviction once their income exceeds by only \$1 the arbitrarily established maximum. As mentioned above, there is already evidence that this condition tends to stifle the incentive of wage earners to better their positions. To this extent, the current public housing program is actually augmenting the slum clearance and low rent housing problem, for it can be completely solved at present building costs only by a general boost in national income.

(Continued on page 36)

ADJUSTED MONTHLY RENT SCALE (including utilities)

| Annual Income | 2 Persons 2½ Rooms | 3 Persons 3 ½ Rooms | 4 Persons 4½ Rooms | 5 Persons 5 ½ Rooms | $6 Persons 6 \frac{1}{2} Rooms$ | 7 Persons 6½ Rooms |
|------------------|-----------------------|------------------------|-----------------------|------------------------|---------------------------------|-----------------------|
| Under \$400 | \$8.33 | \$8.33 | \$8.33 | \$8.33 | \$8.33 | \$8.33 |
| \$500- 599 | 10.40 | 10.20 | 10.00 | 9.50 | 9.00 | 8.33 |
| \$700- 799 | 14.50 | 13.75 | 13.33 | 12.50 | 12.00 | 11.50 |
| \$900- 999 | 17.50 | 17.00 | 16.66 | 16.00 | 15.25 | 14.60 |
| \$1100-1199 | 21.25 | 20.50 | 20.00 | 19.00 | 18.00 | 17.00 |
| \$1300-1399 | 24.16 | 23.66 | 23.33 | 21.50 | 20.75 | 20.00 |
| \$1500-1599 | 27.50 | 27.00 | 26.66 | 25.00 | 24.00 | 22.50 |
| \$1900-1999 | | 34.00 | 33.33 | 31.00 | 29.75 | 28.25 |
| \$2300-2399 | | | 40.00 | 38.00 | 36.00 | 40.00 |
| \$2700-2799 | | | | 43.50 | 41.50 | 39.50 |
| \$3100-3199 | | | | | | 45.00 |

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 low income 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 year, irrespective of size. In no case does income exceed five times the adjusted rent for families of five or less and six times for larger families —the present USHA maxima. 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 dwell-ing units of different sizes. Thus, sometimes an extra room raises the rent only \$1.





Variations in window design and exterior treatments give each house in the group an individualized appearance, disguise the fact that all are based on a single standard plan.

TEN GLASS-PACKED HOUSES in Tol subdivision introduce new marketing idea. Brisk sales at \$3,9 each, with lot, set pace for nation-wide program.

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 glassgood-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 FHAinsured houses have been sold before they were finished at a fixed price of \$3,990 -\$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 higherpriced 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 the dealers to local builders at a prior about \$75 in lots of ten or more.

Advertisements, a barrage of pub in trade and consumer magazines, Su afternoon broadcasts on a nationhookup, and an FHA-sponsored te color movie, "Design for Happiness," the company's four-point approac propagandizing the glass packages addition, company representatives fo past three months have been touring country, preaching better housing and effectiveness of glass "extras" to g meetings of builders and lumber de No stock plans or specifications are off each builder is expected to have his subdivision designed by a local arch

As the first convert to the glass pace evangelism, Builder Garnsey become first to demonstrate its potency in schouses. Although tabbed "Design for piness" Houses, the ten Homedale bear scant resemblance to the model in the movie—or, for that matter, to other. Designed by Toledo's architec quartet of Mills, Rhines, Bellman Nordhoff, Inc., they all follow a un plan but vary considerably in the size arrangement of windows as well as i terior treatments and roof colorings variety, lot placements are also stagg

Each house boasts full use of the package:

 Polished plate glass mirrors appe 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.



Mirror in Living Room





LIVING ROOM

Interiors, Hedrich-Blessing Photos



II'-IS IO'DIA. 2. JOIST SPACES USED AS DUCT FOUNDATION PLAN AT





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.





BEDROOM



Hedrich-Blessing Photos

CONSTRUCTION OUTLINE

STRUCTURE: Exterior walls—4-sq. yellow pine framing, Weyerhaeuser Sales Co., wood sheathing on some houses, others U. S. Gypsum Co. Weatherwood insulating board; inside—rocklath and plaster. Floor construction —joists; Red Top Fiberglas blanket, U. S. Gypsum Co. and Owens-Corning Corp.; plywood and oak finish flooring, Perfection Oak Flooring Co.

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.

WALL COVERINGS: Bathrooms—Vitrolite around tub, Libbey-Owens-Ford Glass Co. Remainder of rooms—paint, Sherwin-WIIliams Co.

BATHROOM EQUIPMENT: All fixtures-Briggs Beautyware, Briggs Mfg. Co. Cabinets --Miami Cabinet Div., Philip Carey 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.

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

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, fronts 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 alcove-when 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 22 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: 20 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: 19 sq. ft.

The new marketing program's efficacy in boosting the sale of glass 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 each opening is fitted with both s sash and copper screens. The larger dows assure well-lighted, cheerful inte ample cross-ventilation in every roor all cases horizontal sliding sash are

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

Not all the Toledo "Design for features are glass, how piness' Nationally advertised building mate erected with union labor, appear three out. And in the attic-installed gas fu prospective home owners find a well space-saver which, in combination the kitchen's utility room, eliminates need for an expensive basement. pended from the roof rafters, the he unit feeds into a plenum chamber wi ducts extending over the ceiling the warm air to directional flow type registers at the 6 ft. level in each n Return air is gathered through floor s into ducts that run under the floor back up to the heater through the tition between kitchen and utility n Temperature is controlled by a thermo-

With the Toledo subdivision blazin, way, a spate of other "Design for H ness" houses are expected soon to be the country over. L-O-F officials all report that builders in 35 cities have s fied their intention to build from s several hundred such houses each b the year runs out. All will make us the glass package.



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PILLS FOR HOUSING

(Continued from page 137)

in interest rates would swell the v of rental housing. Supporting evid Similar changes in another part of 1 program boomed the production of houses. Comments TNEC's Stone: per cent loan may be just as safe fr insurance point of view as a 75 pe loan carrying a higher interest rate.

Another Stone suggestion which ' may wisely champion: Instead of ing the return on a rental project sor's equity investment to 6 per FHA should limit the rents that m charged. "The act should be amend cordingly, so that reward to the ing which can achieve the low rent go not be restricted."

All seven recommendations to TNE Messrs. Stone and Denton, it has noted, involve Government coope if not complete Government action son: the housing industry is recogni being one of many, small, decent parts which have neither the organi nor the capital to undertake the mended actions. In this respect, H is like Agriculture-an industry for Government has shouldered almost entire research burden. And, housi search, along with standardization would logically result, is the only the seven recommended actions which there would be any question the advisability of Government dir This question is readily dismissed facts that builders themselves cann ford to undertake costly research; I research foundations are too few, and financially poor to complet colossal job that must be done; and facturers, the only wealthy comp of the industry, have thus far concen their research on the improvemen promotion of their own productsthe improvement and promotion of cost housing.

Thus, to Government, which ha time, money, facility, and response and no axe to grind, is entrusted the for a continuing program of housi search-the foremost finding of Th thorough investigation. Concludes ton: "The most important single app to the problem (of excessive bu costs) is through the immediate exp. upon an adequate scale of scientific trial research under the leadership Federal Government." And, Stone curs: "The fact that the Federal G ment has either constructed or supe the construction of approximately 1 dwelling units since 1933 and is com to the financing of (180,000 more, i ing the defense housing program) is self sufficient justification for the a priation of a substantial sum for re in finding methods of lowering costs
...and this material is just as good as

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GOMPARISONS 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 *Stein*way 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?"

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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.

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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 \$3,200, this tabulation is based on a minimum rent of \$8.33 per apartment and USHA'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 (Continued on page 40)

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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 setup 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



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adjusted upward in proportion to wage increases.

Although it believes that the heavily outweigh the cons, the Comm is mindful of the many objections will be raised to its adjusted rent proand has fortified its report with counter-arguments:

▶ "There is nothing in law to preven adjustment of rents in public housi this country to family income."

▶ In no English case history has the ber of families whose rent is adj below the "standard" rent been so that it has been necessary to offset by packing the balance of the project "high incomers" able to pay the economic rent.

 One comparatively "rich" tenant not pay a poorer tenant's rent, for u no circumstances would a family's exceed the economic rent of the dwe
 Periodical examination of a far financial status, on which any adj rent program would necessarily be h is already required for the present gram.

▶ "The increase in administrative in order to conduct a rent adjust system . . . may be estimated at a r mum of 5 per cent. . . ."

In the use of adjusted rents the mittee sees a means of rectifying a s coming of the current program 'it describes in no uncertain terms: ". family in the U.S. should be consi ineligible for a subsidized public ho project merely because of arbitrary in restrictions unrelated to the needs o family. The pressing need is to adjust program so that the anomalous situ of families too poor to live in pu subsidized housing will not be conti and so that families will not be expl in appeals for public support for a clearance project which, when put effect, excludes them." A timely foo to this argument is the Committee's ment that "the systematic adjustme rent and subsidies to income will faci the greatest usefulness of (the de housing) program."

To this footnote, famed Housing dent and Author Catherine Bauer month added "Amen." But, with conclusions and recommendations of Committee she voiced less agreen While Houser Bauer believes that justed rents would serve a useful put in defense projects built to house fan from a wide range of income levels, holds that the potential difficultie administration and management w offset any advantages that might be tained by adjusted rents in regular lic housing projects. To settle the con versy, which will undoubtedly include in intensity as more projects are op to the public, it appears prudent for (ernment to launch a large scale adju rent experiment in its defense hou program, a small one in its regular US program.

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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* 35% more quality. The Merit Meter, while detailing only Industrial Pivoted Sash features, is indicative of the extra value built into all Mesker products.

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now the FACIS on Steel Saa

MAIL THE COUPON ON THE OTHER SIDE

12 BUG REASUNS why men who know

Prefer

MESKER

STEEL

SASH

PATENTED RUST-PROOF BRONZE BEARING MALLEABLE CUP-PIVOTS

Mesker exclusive! Two square inches of never-rusting, bronze-toiron bearing that assures perfect alignment, smoother action, tighter Never weathering. wears out!

ALL-WEATHERING MEMBERS HOT-ROLLED '8" ANGLES

Exclusive double-thick weathering bars, solidly riveted on, preserve original factory fit. The extra strength means more rigidity and dur-ability. 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 11/2 INCHES DEEP

Heavier frame bars give greater strength, in-creased durability, resistance to high wind pressure. Also minimizes shipping damage ... keeps window in alignment during installation.



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.

- CASEMENT WINDOWS • DETENTION WINDOWS
- INDUSTRIAL WINDOWS
- INDUSTRIAL DOORS
- METAL SCREENS
- MONUMENTAL WINDOWS

SINCE 1879



10015- 40 ST. LOUIS, MO.

MUNTIN OF 11/2 INCHES L



Extra deep Muntit contribute much reputation Meske dows have for able to "take it.' give all-'round st assure maximum and greater dur

VENTILATOR BARS MI OF 158 INCHES IN



Deep ventila bers assure per ment of vents, freedom from distortion or r give greater : and preserve the factory fit of the

ALL FRAME CORNERS ARE RIVETED AND W



Two methods of at every frame means freedo damage while in a lot more stu... and, very in the sash stays i during insta

MUNTIN JOINTS INTERLOCKE

AND W



MESKER'S in ing and weldin added rigidi deflection from pressure. No or loose joint MESKER Sash

CAM LOCK IN ADDITION TO THE PUSH

Cam lock permits tight closing of the w can lock permits fight closing of the w enabling you to take advantage of the lative fit of Mesker ventilators. Bor Lock and Push Bar are standard equ



MINIMUM 58" ANCHORAGE IN MAS



Large windows ally, benefit MESKER'S %" age! There's mo for caulking, mo ing of window against wall..giv a tighter job all

ONE PIECE HOT ROLLED FRAME SECTION FOR OUTSIDE GLAZ

An outstanding fe developed exclusiv MESKER! Her outside putty glaze dow that ISN'T shift. No twobuilt-up outside Easier, safer to



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. Chermak, 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.



CHANGE TO SILENCE CHANGE TO SERVEL

Different from all others...

NO MOVING PARTS in its freezing system

- ► PERMANENT SILENCE
- CONTINUED LOW OPERATING COST
- MORE YEARS OF SATISFACTORY SERVICE
- SAVINGS THAT PAY FOR IT





This is a reproduction of Haskelite Oak Block

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.

 \rightarrow \rightarrow \rightarrow \rightarrow Eyes Right for More Facts on Haskelite \rightarrow \rightarrow \rightarrow

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 FERRISS of New York and to LEON V. SOLON 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 Gouvernment 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. STULB of Princeton University, a gold medal and \$50, 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.

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 \$24,000; 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)

FORUM OF EVENTS

(Continued from page 42)

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 27 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 22-April 6. Tenth Annual Pilgrimage to Natchez, Miss.

June 16. Semi-annual meeting of the American Society of Heating and Ventilating Engineers, Palace Hotel, San Francisco.

June 16-20. Pacific Heating and Air Conditioning Exposition in the Exposition Auditorium, Civic Center, San Francisco.

DIED

CHESTER HOLMES 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 Carrère & Hastings, he went to the École 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,

(Continued on page 46)



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





Central unit of nine buildings in the new U.S. Naval Medical Center, Washington, D. C. Architectural Concrete Slabs are starting up the twenty-two-story structure. Naval Medical Center designed by Bureau of Yards and Docks, U. S. Navy, Washington, D. C. Contractor: John McShain, Inc., Philadelphia. Slabs manufactured by Federal Seaboard Terra Cotta Corp., Perth Amboy, N.J.



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. .

.

Backbone of a slab . . . Reinforcing mesh 2. 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.

Removing the wood form . . . The slab 3. 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:

- Architectural Concrete Slabs are factorymade 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.
- High structural strength comes from factory fabrication, scientific proportioning, low water-cement ratio, vibration, reinforcing with adequate galvanized steel fabric, and careful curing.
- III Permanent, unfading color effects are the result of exposing selected aggregates, colored or white, such as crushed, graduated quartz, marble, granite, ceramics, or vitreous enamels—in a matrix of Atlas White Cement.

Ask for further information about the adaptability and versatility of Architectural Concrete Slabs. Or see Sweet's Building File, Section 4. Universal Atlas Cement Co. (United States Steel Corp. Subsidiary), Chrysler Building, New York. Offices: New York, Chicago, Phila., Boston, Albany, Pittsburgh, Cleveland, Minneapolis, Duluth, St. Louis, Kansas City, Des Moines, Birmingham, Waco.



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.

AF-ACS-29



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, anglesand allarchitectural 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.



ARCHITECTURAL CONCRETE SLABS



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

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 Eli 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 Socièté des Architects Diplomés 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 housing committee, National Civic Federation, in 1926. He was a member of the American Institute of Architects.

ERNEST 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 Rijsoord," 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 after 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 1926. 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)



FOR STRENGTH, specify Welded Joints. chor-Weld Iron Fence is electrically we under high pressure to insure perma inseparable joints. Pickets and rails w loosen, warp or sag.

FOR PERMANENCE, specify welded const tion plus rails as heavy as pickets. Anc Weld Iron Picket Fence has rails of same weight as the pickets, assuring per nent alignment, freedom from sagg under heavy loads, stresses and strains FOR BEAUTY, specify construction we eliminates center supports or ugly cr bracing. Anchor-Weld Iron Fence Pa require no center support or cross-brac to mar the beauty of design, yet each pe will support one ton of distributed loa Learn how Anchor-Weld Iron Picket Fe lives up to these ideal Fence Specification Mail the coupon below for catalog an Sample Weld (makes an attractive pa weight). No obligation, of course.



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FOR MODERN WOOD TREATMENT



Ribbon Prima Vera Flexwood treatment, Main Auditorium, Kleinhans Music Hall, Buffalo, N. Y.; F. J. and W. A. Kidd, Architects; Eliel Saarinen, Associate.

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, Zebrawood 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.



East Indian Rosewood, Zebrawood and Ribbon Prima Vera Flexwood treatment, Chamber Music Hall, Kleinhans Music Hall, Buffalo.

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

Flexwood and Flexglass are manufactured and marketed jointly by The Mengel Co., Louisville, Kentucky, and the United States Plywood Corporation, New York, N. Y.



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.

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

LIENTS 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



WITH COLOR ?"-You'll find the answer to this and other interesting paint questions in a booklet, "WHAT TO EXPECT

ROM WHITE LEAD PAINT." t's free. Send for it now.

NEW FORM FOR OLD FAVORITE. In addi-tion 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.

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 lasts, 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.



(Continued from page 46)

FORUM OF EVENTS

"Through the French Provinces," "Romantic California," "Pacific Shores From Panama," "Our Hispanic Southwest," "A Revolutionary Pilgrimage."

He was decorated as a Chevalier of the French Legion of Honor in 1921, and made an Officier 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

BUILT FOR CHAIN STORE TRAFFIC



walk on it, the better the TERRAZZO floor in this Liggett Store will like it. TERRAZZO will take all the tramping and look better than ever afterward. And what a relief to keep on ringing up sales and be able to forget floor maintenance, repairs and possible replacement.

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.

*5 Reasons for Using Terrazzo

1. ECONOMY. Initial cost plus no repairs... no replacement... 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 scalk or. It is less slippery than any waxed surface. Furthermore, Terrazzo can save you enough money to acousticate your ceiling, thus giving you a very low noise level.

3. CLEANLINESS. Terrazo can be sealed so as to be practically non-absorbent. Its smooth, jointless surface *cleans easily...* can harbor no accumulation of macroscopic or microscopic germs. It is aseptic.

4. COLOR AND DESIGN. Terrazzo has warmth and beauty. You may specify any design you wish-pictorial or geometric- in virtually any combination of colors.

of course.
5. DEPENDABLE INSTALLATION. This Association's objective is to see that your Terrazzo installations turn out exactly as your want them. Write us to day for complete information on the above points or see our advertisement in Sweet's Catalog for basic technical data.

known were the Alvarado Hotel and way station at Albuquerque, the El Hotel at the Grand Canyon, the Hu ton Hotel in Pasadena, the Philhar Auditorium in Los Angeles, the J Building, San Francisco. After the quake and fire in San Francisco in he established an office there and aid reconstruction.

ORGANIZATIONS

AMERICAN GROUP OF THE SOCIET ARCHITECTES DIPLOMÉS par le Gou ment Francaise for 1941. Julian C. of New York has been elected pres Dean Leopold Arnaud of Columbia versity, vice president; Seth Talco New York, secretary; and Alexand Morgan of New York, treasurer. An utive Committee for three years: Edu Denby and Henry O. Millikin of New and Professor Shepherd Stevens of

DESIGNERS FOR INDUSTRY. The Soci Designers for Industry was form promote better understanding betwe manufacturer and designer; to estab forum where subjects of interest reto design for industry may be disc to promote ways and means to ma sign more productive of profit for inc to protect and advance the standard professional interests of industrial of ers; to sponsor exhibits; to recogniz reward meritorious services. Office Martin Ullman, president; Frank ninoto, vice president; George Blow, urer; and William O'Neil, secretar Rockefeller Plaza, New York.

FLORIDA ASSOCIATION OF ARCHITECT present officers were unanimously elected at a recent meeting: Elli Hadley, president, St. Petersburg; I Law Weed, vice president, Miami; De La Haye, secretary and trea Daytona Beach. New directors r were: R. Daniel Hart, Pensacola; A. Stripling, Tallahassee; Sanford W. Gainesville; Frederick W. Bucky, Jac ville; Francis Craig, Daytona I Arthur Beck, Orlando; Archie G. P. St. Petersburg; F. Duane Fullerton, land; Richard Rummell, Jr., Cocoa ford Soumate, Palm Beach; Robe Hansen, Fort Lauderdale; Rober Little, Miami Beach; Upton C. H Coral Gables.

MASSACHUSETTS ASSOCIATION OF A TECTS. Sixty architects from various of the State met recently in Bost organize this State Association, appe a committee to draft bylaws ar formulate a policy. Further details m had from Raphael A. Elcock, 326 land Street, Quincy, Mass.

THE NATIONAL TERRAZZO AND MOSAIC ASSOCIATION

NOTHER ISTANDING USING DJECT DYS HEAT BY

DIECT DYS HEAT BY FITZGIBBONS STEEL BOILERS

MULFORD HOUSING PROJECT

at 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.

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JLFORD HOUSING PROJECT JNICIPAL HOUSING AUTHORITY CITY OF YONKERS, N. Y. Architects: Thorn Wm. P. Katz, Inc. Frank A. Carr Wm. W. Schwartz, P.E. ting Engineer: Chauncey Matlock ng Contractor: A. B. Barr & Co. Contractor: Psaty & Fuhrman, Inc. Boilers: E 7. II Einstitute P. Jac (2000)

5 R.Z.U. Fitzgibbons Boilers 42,500 Steam Rating each Oil Burning.



TZGIBBONS for STEEL BOILER ECONOMY ON LARGE JOBS and SMALL



MAHANOY TOWNSHIP HIGH SCHOOL, MAHANOY CITY, PA. H. F. EVERETT & ASSOCIATES, Architects and Engineers, Allentown, Pa. : WRUBLE PAINTING CO., Painting Contractors, Kingston, Pa. : Illustrations: cafeteria, exterior of school; gymnasium; auditorium.

HE planning of the Mahanoy 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 Mahanoy 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.



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BUILDING FOR DEFENSE

(Continued from page 83)

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 dwellingsthe 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 FHAmendments 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,



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Home, Office or Industrial . . there



Home

is a Proven AZROCK Tile to Serve You!

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even if FHA loses an improbable has the \$10 million fund through forecle of the defense houses, Government still come out ahead. Reason: if oper builders did not produce these ho Government would have to assume task and accomplish it in its habit slower and more costly way.

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

LABOR MAKES A PROMI

Following a decision by AFL's a trades unions to play ball with Ind by guaranteeing no strikes or lockou defense projects, leaders of AFL's nin building and construction trades u last month came out flat-footedly in of a similar policy of voluntary arbitra Also recommended: a maximum lim the amount any union may charge spective members as initiation fees.

Time will tell whether these proare worth their salt. Similar promises been made and broken before. Agreen made by heads of national unions n sarily sound like pious generalities beautonomous locals do as they jolly please and all too frequently fail to up to half-promises that have been n for them.

Prominent in needling the AFL : its high schedule of initiation fees Mrs. Roosevelt, who publicly champ a migrant electrical worker when he asked to pay a big fee to work defense project, and CIO bigwigs who caustically called AFL's fees a "kickracket" in that workers are forced to for the privilege of employment. That officials, already sensitive to CIO's sion of the building field, feel these r keenly is evident in the fact that the the first time they have agreed to I ceiling on fees. But, like the no-s promises, the height of this ceilingis in the hands of local unions.

INDUSTRIAL BUILDING

If anyone should know the cost of h ing industrial plants, the Austin should. One of the largest (and bus organizations of industrial engineers builders in the country, Austin has no work on its many defense jobs inte with its cost tabs-keeping. At year's Austin's quarterly cost index stood a per cent of the 1926 average, was points from September, was back to 1937 post depression peak and within ing distance of the average for the perous Twenties.

Successor to the late Wilbert John tin, who crashed to an untimely deat the Chicago airport this winter, Au President George A. Bryant predicts higher industrial building cost and gr material procurement problems.

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N^{OW}... when time is at a premium ... 117 local Distributors offer individualized engineering counsel and complete lighting equipment stocks.

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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.

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If it isn't plate glass and it isn't window glass...



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.

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THE SHADOWGRAPH TELLS THE STORY by amplifying distortion and defects 20 times





 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.
 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 "shadow-graphed" sample of the new Lustraelass. Obviously an important

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traglass. 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

"HERE'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 Arm-



strong'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 ongrade areas where the subfloor is in direct

Every budget dollar does double duty in the Cocktail Lounge of the Ray-Ott Club, Niagara Falls, N. Y., thanks to Armstrong's Asphalt Tile. Field of cinnabar. Inset bands of Malay brown, saddle tan, and buff. Architects: W. A. Cannon and C. R. Phelps; Contractor: W. S. Johnson Bldg. Co.; Designer: J. Ullmann, Jr.; Floor Contractor: Niagara Linoleum Company.

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." Armstrong Cork Company,

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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?

INSWERS: I "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. Rowley, 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. Barre, 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. Teesdale, 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



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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-branchsupply-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!

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Che 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.

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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.



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DESIGN FOR HAPPINESS HOMES-



Architect, B. W. Crain, Jr., Houston, Texas.

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• 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.

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"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 toofrom 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.



• A built-in plate glass mirror in the living room forms a focal point of interest—pushes the wall back—increases the apparent size of the room. For what they add in beauty and utility, the cost of mirrors is small.



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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

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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.



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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!

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LAPIDOLITH LIQUID is flushed on finished concrete. *U. S. Patent # 2203302


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• "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).

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KIMSUL Quickly, Easily Installed Usually a one-man job. KIMSUL fits standard stud spacing, can be easily cut for narrow spacing, corners, etc.



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KIMSUL is available in three thicknesses: Commercial (nominally ½ in. thick), Standard (nominally 1 in.), and Double Thick (nominally 2 in.). Standard KIMSUL stops the greatest proportion of heat losses in winter and of heat infiltration in summer.

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FEBRUARY 1941



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4

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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.

(A)

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Mengel Bord

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THE OWNER WANTED Natural Light and Adequate Ventilation 50... THE ARCHITECT SPECIFIED

TRUSCON COMMERCIAL PROJECTED STEEL WINDOWS

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MIRACLE WEDGE

OR SMALL HOMES

FOR LARGE HOMES

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